REAL EARNINGS MANAGEMENT, HABITUALLY MEETING/CLOSELY BEATING ANALYSTS' FORECASTS AND FIRMS' LONG-TERM ECONOMIC PERFORMANCE

by

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Abstract

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Real earnings management (REM) has gained more attention due to its more extensive application than that before the enactment of Sarbanes-Oxley Act (SOX). Analysts' earnings forecast is an important benchmark for both the investors and the managers. Gunny (2010) finds that the signaling of future prospects overcomes the possibility of opportunism in firms that occasionally use REM to meet/closely beat benchmarks. However, the effect of repeatedly using REM to meet/beat earnings benchmarks has not been explored. This paper examines the long-term economic performance (Tobin's Q) of firms that utilize REM to habitually meet/closely beat analysts' earnings forecasts (HabitMBE). The results suggest that in equilibrium, while HabitMBE firms in general enjoy a market premium, HabitMBE firms that use REM repeatedly are penalized by investors, and the market premium disappears. Not surprisingly, I find that HabitMBE firms that have already used REM repeatedly try to

curtail its use – a finding that is not found for occasional REM meeting/close beating firms.

Another interesting finding of this study is that analysts' downward forecast revision in the long-run has a significantly negative effect on firms' economic performance, which prior studies have not clearly documented.

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Chapter 1

Introduction

In this study, I examine the association between using real earnings management (REM) to habitually meet/closely beat[1] earnings benchmarks (HabitMBE) and firms' long-term economic performance. Benchmark is defined as a standard, a point of reference for measurement of performance. In this study, I use the analysts' consensus earnings forecast as the earnings benchmark.

Incentives with penalties for failing to achieve pre-set benchmarks and rewards for meeting or beating them (step function) have been shown to induce higher levels of effort/skills, which improve performance, and in turn, create more value. Corporate managers are often evaluated and compensated based on whether they meet/beat certain earnings benchmarks (Antle and Smith 1986). Managers' compensation levels are usually contingent on whether they reach different levels of industry-wide and economy-wide financial benchmarks (Healy 1985). These compensation functions with steps at the benchmarks are referred to in the literature as "Bang-bang" contracts. Bang-bang contracts are shown to be optimal under many circumstances (Harris and Raviv 1979; Mirrlees 1976; Demski and Feltham 1978).

[1] "Closely beat" is exceeding the benchmark by not more than one cent.

When benchmarks reflect effort with little uncertainty, they induce higher levels of effort[2], which result in better performance. Investors reward better performance by attributing it to managers' higher levels of effort. In the context of a firm, the economic income – the economic value added – can be increased (stochastically) only with effort and is not subject to manipulation. However, economic income is not observable and therefore cannot be used for benchmarking to induce higher levels of effort. The accounting earnings, which are typically used to proxy for managers' performance are, however, subject to managers' manipulation through earnings management that is not reflective of managers' effort. Therefore, investors may not rely solely on accounting earnings as benchmarks to evaluate managers' performance. In order to attribute accounting earnings properly to effort they are interested in assessing the likelihood that the performance is achieved through earnings manipulation.

Earnings can be managed through accruals earnings management (AEM), REM, earnings expectation guidance, and other egregious non-GAAP methods. The enactment of Sarbanes-Oxley Act (SOX) in 2002 has increased the scrutiny of auditors and regulators on AEM, which has made it costlier to use as an opportunistic management device (Brown and Pinello 2007). As an alternative, managers have increased the usage of REM since SOX (Cohen, Dey, and Lys 2008). Managers' flexibility to use AEM to

[2] They can also act as screening devices to screen out lower-skilled agents. I treat skills and effort as substitutes in producing economic value. In effect, I use the term "effort" to denote a combination of skills and effort.

manage earnings is also restricted because accruals reverse and repeated AEM is not sustainable. Unlike managers dealing with AEM, managers have direct control over operations to make real economic choices, with the full knowledge that economic choices are not subject to the scrutiny of the auditors and regulators (Gunny 2010). There is evidence that managers take real economic actions to manage earnings (Graham, Harvey, and Rajgopal 2005). Given that REM is likely to irreversibly destroy long term value, it is not surprising that there has been a significant focus on REM in the post-SOX period.

Real earnings management represents departures or deviations from normal operational practices, intended by managers to mislead some stakeholders so that certain earnings benchmarks are achieved (Roychowdhury 2006). Due to information asymmetry, managers might have private information that they can credibly convey through signaling to the market by using REM. In this case, REM can be used occasionally to cross the benchmark to signal the capital market firms' foresight about better future performance.[3] In some other cases, REM can be used opportunistically by the managers.

Managers can occasionally use REM to meet/closely beat benchmarks to jointly signal their private insight about better future performance to the market (Gunny 2010).

[3] For instance, due to information asymmetry, a manager believes that the firm is worth $1000, more than what investors believe $800. In order not to disappoint the investors, the manager occasionally has to use REM of $20 to meet the earnings benchmark. In this case, the value of the firm drops to $980 due to the value-reducing nature of REM. Investors see through the REM actions, update their information about the firm, and adjust the market value to $900 from $800, attributing the signal more to the manager's effort than to opportunism.

Investors and financial analysts can see through managerial myopic actions (Gunny 2005). Bang-bang contracts are still optimal in this case based on the infrequent recourse to REM, where managers are rewarded for meeting/beating the benchmarks (Bartov, Givoly, and Hayn 2002; Gunny 2010). If managers occasionally use REM to meet/beat earnings benchmarks, investors are still likely to attribute the signal to managers' higher levels of effort (Gunny 2010). However, if managers habitually use REM to do so, the likelihood of investors' attributing the signal to effort will drop, and the likelihood of investors' attributing the signal to managers' opportunism will go up. In effect, while the market response to the occasional use of REM for MBE is positive as documented in the literature, I expect a reduction in that positive "reward" when REM is persistently or habitually used for MBE. The literature is silent on whether and to what extent the investors look back at the past use of REM for MBE in their valuation of the firm. This study addresses this empirical research question by examining the association between using REM to habitually meet/closely beat analysts' earnings forecasts and firms' long-term economic performance.

My choice of analysts' earnings forecast as the earnings benchmark is based on prior findings. Accounting literature documents several earnings benchmarks such as avoiding zero earnings, avoiding earnings decrease from previous quarter or year, and meeting/beating analysts' earnings forecasts (Burgstahler and Dichev 1997; Burgstahler and Eames 2006; Degeorge, Patel, and Zeckhauser 1999). Financial analysts are important information intermediaries to investors whose reputation and in fact, the value

of their profession depends on their ability to forecast firms' future prospects. Investors rely heavily on analysts' forecasts about firms' earnings for their investment activities.

Analysts' earnings forecast as a measure of earnings benchmark has been shown to be superior to time-series models in predicting earnings (Brown, Hagerman, and Griffin 1987). Equally important, it cannot be directly manipulated by the managers. Not surprisingly, investors use analyst forecasts as benchmarks to assess managerial performance. Investors reward firms that meet/beat analysts' forecasts (Bartov, Givoly, and Hayn 2002; Kasznik and McNichols 2002) and penalize those that fail to do so (Skinner and Sloan 2002). Managers also regard analysts' forecast as an important benchmark to meet or beat since their compensation and reputation in the executive labor market are often tied to whether they achieve the goal (Graham, Harvey, and Rajgopal 2005).

This study aims to address a research question that has not been empirically addressed earlier. Capital markets reward firms that meet/beat analysts' earnings forecasts, and penalize those that fail to do so. Prior research documents that even though the market seems to know that managers' goal is achieved through earnings management, it still rewards those meeting/beating managers. The market also attributes the meeting/beating behavior as an indicator of better future earnings. However, most accounting literature documents the value-destroying nature of REM. One explanation of why the market seems to deviate from the documented value reduction in the literature is that managers can use REM to signal firms' foresight about future performance (Gunny

2010). The question therefore is when the value destruction by REM gets recognized by investors. This study contributes by providing the context – Habitual MBE – when investors recognize such value reduction. In effect, this study provides insights about how and when the markets discipline managers who use REM.

This study is also potentially valuable to regulators. Regulators have expressed their concerns about the expectation games played between corporate managers and financial analysts. Former SEC Chairman Arthur Levitt (1998) and former SEC commissioner Norman S. Johnson (1999) both addressed their concerns about the management' pressure to meet/beat analysts' earnings forecasts. It seems that analysts are not effectively monitoring managers' actions, and managers are not exerting effort to improve performance (Sankaraguruswamy and Sweeney 2005). The results of this study shed some light on these concerns.

Using yearly data for the period of 1987 to 2011, inclusive, I examine the association between using REM to HabitMBE and firms' long-term economic performance. I identify HabitMBE firms based on a frequency of at least 50% of times meeting/beating analysts' forecasts by one cent in the immediate prior history. The starting base period is the period from 1987 to 1993, inclusive. I also identify habitual beating firms (HabitBEATERS) that beat analysts' forecasts by more than one cent at least 50% of the times in the immediate prior history. After controlling for non-REM HabitBEATERS, REM-using HabitBEATERS, AEM, analysts' downward forecast revision, size, growth, risk, and financial health, the results indicate that non-REM

HabitMBE firms are bigger and more transparent firms, and they are strong performers. The market assigns them a much higher value. Since they are more transparent, they use less REM that that of the control group. If they resort to REM repeatedly to meet/closely beat analysts' earnings forecasts, the results suggest that investors will update their information and penalize firms myopic managerial actions. The results also indicate that analysts' downward forecast revision has a significant negative effect on firms' market value, which prior literature has not documented.

The organization of the thesis is as follows: Chapter 2 discusses the related literature and describes the hypothesis development. Chapter 3 describes the data sources, variable measurement, and research methodology. Descriptive statistics and empirical results are presented in Chapter 4, and Chapter 5 concludes.

Chapter 2

Literature Review and Hypothesis Development

This chapter reviews related accounting literature about management' reporting behavior and real earnings management, and develops the hypotheses of this study. Since REM is only one part of earnings management literature, the motivation literature for earnings management also applies to REM.

2.1 Managers' Financial Reporting Behavior

This section describes managers' financial reporting behavior. Managers have incentives to meet/beat different benchmarks as their priorities. Managers can modify their reporting behavior according to regulations enacted at different periods of time. Related accounting literature captures this phenomenon.

2.1.1 Benchmark Hierarchy Shift

A large body of accounting literature documents a trend shift of managers' reporting behavior in meeting or beating certain benchmarks. Benchmark is a standard, a point of reference for measurement of performance. Benchmarks are set to induce higher levels of effort. Managers' earnings benchmarks include avoiding losses, avoiding earnings decreases, and meeting/beating analysts' forecasts. The following discussion describes the hierarchy shift of the mentioned benchmarks.

2.1.1.1 Avoiding losses and earnings decreases

Burgstahler and Dichev (1997) document that managers would like to avoid negative earnings and earnings decreases. They find a single-peaked, bell-shaped

distribution with an irregularity near zero to support the concept that managers manage reported earnings to avoid earnings decreases and losses. Degeorge et al. (1999) conduct some research and find that there is a hierarchy of firms' target to meet certain benchmarks. They document that firms take positive earnings as the most important benchmark to achieve, the second is meeting/beating the previous year's earnings number, and the last is meeting/beating analysts' forecasted earnings.

Graham et al. (2005) collect some direct evidence by surveying and interviewing more than 400 chief executive officers (CFO)s and find that CFOs prioritize the accounting numbers to beat the prior quarter's earnings numbers, followed by meeting/beating analysts' forecasts. CFOs admit that meeting or exceeding benchmarks is very important.

2.1.1.2 Avoiding negative earnings surprises

Analysts' earnings forecast is an important earnings benchmark. Accounting earnings are somewhat in the direct control of corporate managers. They can manage accruals and earnings expectations to meet/beat last reporting period's earnings or to avoid zero or negative earnings. However, financial analysts are independent information intermediaries. Their career hinges on the reputation and accuracy of their earnings forecasts. Lopez and Rees (2002) conduct a study and they attribute the increasing frequency of positive forecast errors to market-related rational incentives. Therefore, analysts' earnings forecast is an important benchmark.

However, regulators and the academic have expressed their concerns about managers' reporting behavior in meeting/beating analysts' forecasts. Arthur Levitt, the Former Chairman of Securities and Exchange Commission (SEC), made a speech titled "The 'Numbers Game'" on September 28, 1998 at New York University (NYU) Center for Law and Business. He states in this speech that

> I have become concerned that the motivation to meet Wall Street earnings expectations may be overriding common sense business practices. Too many corporate managers, auditors, and analysts are participants in a game of nods and winks. In the zeal to satisfy consensus earnings estimates and project a smooth earnings path, wishful thinking may be winning the day over faithful representations.

SEC Commissioner Norman S. Johnson (1999) also expressed his concerns over managers' incentives to meet/beat analysts' earnings forecasts. He states that management treats the pressure to meet analysts' earnings estimates as the most important reason for earnings management.

Some empirical studies in the accounting literature substantiate the concerns of the accounting regulators. As a timely response to the increased attention from the SEC and academics with regard to the earnings surprise management, Brown (2001) conducts a temporal analysis and finds evidence that median earnings surprise has shifted rightward from small negative (miss analysts' estimates by a small amount) to zero (meet analysts' estimates exactly) to small positive (beat analysts' estimates by a small amount) during the 16 years of study from 1984 to 1999.

Dechow et al. (2003) indicate that avoiding negative earnings surprises is the most important threshold in the years they study. Jensen et al. (2004) argue that "the pressure to meet analysts' expectations was the driver behind the accounting shenanigans of the early 2000s." Brown and Caylor (2005) document a benchmark change in their study period of 1985 – 2002. They show that since mid-1990s, managers prioritize meeting/beating analysts' earnings forecasts over the other benchmarks documented in other studies. Managers state that they take meeting/beating analysts' earnings forecasts as the most important benchmark because they want to build their reputation in the capital markets, and therefore to maintain or increase firms' stock prices.

2.1.1.3 Regulation Fair Disclosure (FD)

Empirical evidence in accounting literature documents that earnings quality increases with tighter regulatory standards. On Oct. 23, 2000, the SEC implemented Regulation FD[4], which requires that firms simultaneously disclose value-relevant information to the public and selected security market professionals to mitigate the information asymmetry that might cause otherwise.

Heflin et al. (2003) conduct a study and do not find any evidence the Regulation FD deteriorates the information flow in the capital markets before the earnings announcements. On the contrary, they find that after the implementation of the regulation the information efficiency has improved. They do not find reliable evidence that

[4] Regulation FD, Fair Disclosure, available at http://www.sec.gov/answers/regfd.htm.

Regulation FD changes financial analysts' forecasting behavior in terms of accuracy, but they find a significant increase in firms' voluntary disclosures.

2.1.1.4 Sarbanes-Oxley Act[5]

The U.S. financial markets witnessed the turmoil in the early 2000s when Enron collapsed and international public accounting firm Arthur Andersen was disbanded. The demise of some other high-profile firms such as WorldCom, Xerox, Merck, Adelphia Communications, and others, and the increased public anger over the scandals prompted the government to enact law to restore investors' confidence in the financial markets. Public Company Accounting Reforms and Investor Protection Act of 2002, also known as the Sarbanes-Oxley Act (SOX) was promulgated as a result.

The SOX is comprehensive in governing all key players in the financial reporting process. Auditors for public firms must register with the Public Company Accounting Oversight Board (PCAOB) and they can only provide certain types of services to the clients. The act is very stringent in governing the accountability of corporate executives. The CEO and CFO must personally certify that all financial statements are prepared in accordance with Generally Accepted Accounting Principles (GAAP), and they are also responsible for the design and implementation of effective and efficient internal control system to ensure the integrity of the financial statements. Auditors are responsible for collecting sufficient evidence to provide reasonable assurance of the financial statements,

[5] Sarbanes-Oxley Act of 2002, available at https://www.sec.gov/about/laws/soa2002.pdf.

and they are also required to test the assertions of the management regarding the system of the internal control, and express a second opinion on whether the company has maintained effective internal control over financial reporting. The SOX also addresses conflicts of interest for security analysts, and provides for severe criminal penalties for violators.

Empirical accounting literature documents the effects of Sarbanes-Oxley Act. For instance, Cohen et al. (2008) show that firms switched from accrual-based earnings management in the pre-SOX period to REM in the post-REM period. Firms that just achieved important earnings benchmarks used less accruals earnings management and more REM after SOX than before.

Koh et al. (2008) conduct a study of managers' meeting or beating analysts' expectations in the post-SOX period. Their results seem to suggest that the SOX resulted in some changes in the managerial reporting behavior and some changes in the perceptions of the capital markets about this managerial reporting behavior. It seems that since the SOX firms have started utilizing more expectations management and less accruals earnings management to meet/closely beat analysts' forecasts. Managers appear to have taken actions to meet/closely beat earnings expectations. However, the capital markets have become more suspicious of the actions taken by managers to avoid missing analysts' expectations.

2.1.1.5 Section 401 (b) of Sarbanes-Oxley Act

Managers' non-GAAP/pro forma earnings disclosers caused some concerns to the investors. On the one hand corporate managers often claimed that non-GAAP earnings disclosures helped them convey private information about permanent earnings. On the other hand there had been concerns that managers also use non-GAAP earnings to opportunistically mask their performance.

SEC established rules under Section 401 (b) of the SOX on March 28, 2003 to regulate the pro forma/non-GAAP earnings disclosures. SEC issued a cautionary advice on December 4, 2001 stating that "non-GAAP financial information carries no defined meaning and no uniform characteristics, may mislead investors if it obscures GAAP results, and could violate the anti-fraud provisions of existing SEC laws." [6]

The new rules include Regulation G[7], amendments to Item 10 of Regulation S-K, and the addition of Item 12 to Form 8-K. Regulation G requires that,

> if a firm discloses non-GAAP earnings in any public communication, it must also (i) disclose the most directly comparable GAAP earnings numbers, (ii) disclose a reconciliation of the non-GAAP numbers to the GAAP numbers, and (iii) furnish, within five days, a Form 8-K containing an explanation of why management believes that the non-GAAP number is useful to investors.

However, managers have at least two reasons to disclose non-GAAP earnings. First, managers can improve performance perceptions through non-GAAP earnings disclosures by excluding expenses analysts do not exclude from their forecasts. Second,

[6] Source information is from Sarbanes-Oxley Act of 2002 https://www.sec.gov/about/laws/soa2002.pdf.
[7] Regulation G, available at http://www.nysscpa.org/cpajournal/2003/1203/nv/nv3.htm.

firms may also disclose non-GAAP earnings to more effectively communicate permanent earnings as claimed by the managers.

Heflin and Hsu (2008) conduct a study on the impact of Section 401 (b) of the SOX. Their results suggest that Regulation G has moderated the usage of non-GAAP/pro forma earnings. It seems that managers have focused more on GAAP earnings disclosures than non-GAAP disclosures since the Regulation G. They also suggest that before the regulations, managers used more exclusions than analysts did to meet/beat analysts' forecasts, and the regulations seem to have mitigated this managerial behavior.

2.1.1.6 Dodd-Frank Wall Street Reform and Consumer Protection Act[8]

In the late 2000s, the U.S. witnessed the financial crisis concomitant with the housing market. Responding to the financial crisis, on July 21, 2010, President Barack Obama signed into federal law Dodd-Frank Wall Street Reform and Consumer Protection Act (also known as Dodd-Frank).

> The act is to promote the financial stability of the U.S. by improving accountability and transparency in the financial system, to end "too big to fail", to protect the American taxpayers by ending bailouts, to protect consumers from abusive financial services practices, and for some other purposes. The act has brought the most significant changes to financial regulation in the U.S. since the regulatory reform that followed the Great Depression. It made changes in the American financial regulatory environment that affect all federal financial regulatory agencies and almost every part of the nation's financial services industry.

Transparency and accountability of the capital markets have gained much attention. Title VII of the sixteen titles of the Dodd-Frank act is called the Wall Street

[8] Source is available at https://www.sec.gov/about/laws/wallstreetreform-cpa.pdf.

Transparency and Accountability. It requires that various derivatives known as swaps, which are traded over the counter, be cleared through exchanges or clearing houses.

2.1.1.7 Consequences of negative earnings surprises

A concomitant large body of accounting literature documents the negative effects of firms' missing certain benchmarks. Former SEC chairman Arthur Levitt (1998) states that one major U.S. firm failed to meet its benchmark by one penny, and lost more than six percent of its stock value in one day. Matsunaga and Park (2001) find that CEOs annual cash bonuses are negatively affected by failing to meet/beat the consensus analysts' forecast after controlling for the general pay-for-performance relation. Skinner and Sloan (2002) state the capital markets penalize firms that do not meet/beat analysts' earnings forecasts, and the magnitude is most severe at the missing point, substantiating the notion that analysts' earnings forecast is an important earnings benchmark.

Accounting literature from the opposite point of view documents the positive effects of managers' meeting/beating analysts' earnings forecasts. Bartov et al. (2002) conduct a study and document that firms are rewarded for meeting or beating analysts' earnings expectations. They find that after controlling for similar quarterly earnings forecast errors, meeting/beating firms benefit from a higher return over the quarter than losing firms. They also find that habitual beaters, based on frequency, enjoy higher rewards than occasional beaters. Kasznik and McNichols (2002) document that after controlling for firms' fundamental values, firms that consistently meet analysts' earnings forecasts on a continuous basis are rewarded with a higher value.

2.1.2 The Phenomenon of Consistency in Meeting/Beating Analysts' Forecasts

Consistency in meeting/beating analysts' forecasts rather than accuracy has become a research subject in the accounting literature. Brown (2001) mentions that I/B/E/S (2000) documents positive earnings surprises for S&P 500 firms in every quarter beginning in 1993. Bartov et al. (2002) suggest that future studies should examine the characteristics of habitual beaters by questioning "how could analysts continue to underestimate Microsoft's quarterly earnings 41 times in a row?"

Managers are active participants in the expectation games. Ajinkya and Gift (1984) indicate that there is a symbiotic relationship between managers and analysts in the capital markets. The career of the analysts and the career of the managers are tied up together in the expectation games. Levitt (1998) states that managers strive to meet/beat analysts' earnings forecasts in an attempt to increase the value of firms' equity. During this process, managers provide some guidance to the analysts while analysts are trying to gain access to firms' inside information. The end of the game results in beatable earnings expectations so that managers achieve their goal and the analysts do not lose their face by significantly falling short of the reported earnings.

Financial analysts are also active players in the expectation games. Lim (2001) shows that security analysts are rational in trading off forecast bias to acquire more management access and forecast accuracy. Lin and McNichols (1998) suggest that analysts working for investment banks are reluctant in downgrading the buy/hold

recommendations. Liu (2003) suggests that analysts are aware of earnings management practices, and incorporate such behavior into their earnings forecasts.

Matsumoto (2002) finds that managers meet/beat analysts' earnings forecasts by either managing earnings upward or guiding analysts' forecasts downward. She also identifies some incentives for managers to avoid negative earnings surprises. These firms tend to have higher short-horizon institutional ownership that would trade on momentum to maximize profits; these firms tend to have stakeholders that pay much attention to the financial health of the firms; these firms tend to have higher value-relevance of earnings.

Consistent with Matsumoto (2002), Sankaraguruswamy and Sweeney (2005) suggest that managers manipulate both earnings and expectations at the same time, and they model earnings management and expectation management as jointly determined. They build a model in which managers and analysts have a symbiotic relationship. Analysts understand that managers want to meet/beat analysts' forecasts on average, and they implicitly allow the managers to achieve their goals. They state that "firms achieve their aims partly by using earnings management and guidance. But firms implicitly agree to use earnings management and guidance in ways that lead to tolerable forecast errors that do not embarrass analysts. Both sides aim at a stable modus Vivendi."

Jensen (2005) clearly states

> Corporate managers and the financial markets have been playing a game similar to the budgeting game. Just as managers' compensation suffers if they miss their internal targets, CEOs and CFOs know that capital markets will punish the entire firm if they miss analysts' forecasts by as much as a penny…Generally, the only way for managers to meet those expectations

> year in and year out is to cook their numbers to mask the inherent uncertainty in their business. And that cannot be done without sacrificing value.

Kross et al. (2011) conduct a study of the relationship between the consistency in firms' meeting/beating analysts' forecasts and the characteristics of firms' voluntary disclosures. They find that firms that are more consistent in meeting/beating analysts' forecasts provide more frequent and more pessimistic management's earnings forecasts. Hilary and Hsu (2013) find that more consistent analysts, not necessarily more accurate analysts, have greater ability to move stock prices. They imply that more consistent analysts have brighter career than those who are not consistent in forecasting firms' earnings, substantiating in part at least the symbiotic relationship between the managers and the analysts.

2.1.3 Suspicious Meeting/Beating Behavior

Prior accounting literature identifies suspect firm-years. Brown (2001) shows that the median earnings surprises shift in his study period from a small negative to zero and to small positive. It seems that there is a growing trend of small positive earnings surprise. However, this temporal trend does not apply to firms' profits or losses. The median profit surprise shows a temporal shift from zero to one cent per share, showing a little bit of improvement in earnings. However, the median loss surprise shifts a proportionately larger span from zero to about negative 33 cents per share, showing an extreme drop of performance. He also finds significant positive temporal trends in both meeting and beating analyst estimates for both profits and losses, but there is a greater

frequency of profits that either meet or beat analysts' estimates in every year, substantiating the notion that meeting/closely beating analysts' forecasts has become an important benchmark.

Degeorge et al. (1999) conduct a study of managers' benchmark hierarchy shift and identify the meeting firms and one-cent beating firms as suspect firm-years. In a similar context, Roychowdhury (2006) recognizes those firm-years just right to the zero earnings are suspect observations. In the same study, he identifies the one-cent beaters of analyst forecasts as suspect firm-years in testing the hypothesis that suspect firm-years utilize REM to achieve the goal.

Gunny (2005) and Gunny (2010) adopt the zero earnings and meeting last year's earnings as benchmarks to identify suspect firm-years. In her studies, she states two reasons why she does not utilize meeting/closely beating analysts' forecasts as a benchmark to identify suspect firm-years.

> One reason is that managers must take REM actions before the end of the year and they are unlikely to know what the analysts' forecasts of earnings will be just before the earnings announcements; the other reason is that forecast guidance takes precedence over accruals manipulation as a mechanism for avoiding negative surprises. She concludes that it is not clear whether using firms that just meet/closely beat analysts' forecasts would increase the power of correctly identifying bench firms in her studies.

However, Roychowdhury (2006) finds some weak evidence that closely beating analysts' consensus forecast by one cent just before the earnings announcement date is an effective means to identify suspect firm-years that utilize REM. Zang (2012) adopts the

consensus forecast before the fiscal year end as an identification criteria for suspect firm years.

Bhojraj et al. (2009) suggest a way to address the concerns mentioned by Gunny (2010). Instead of using the final analysts' consensus forecasts just before the earnings announcement date as a target for managers to manipulate REM, they choose analysts' consensus forecasts about one to two months before the fiscal year end as the target for the mangers, so that managers would have at least one month to manage REM.

2.2 Earnings Management

This section talks about various definitions of earnings management in the accounting literature and their connotations. Generally speaking, earnings management is understood negatively as a means of management to manipulate earnings. However, as noticed in the nuances of the definitions, earnings management can be interpreted from different perspectives.

Schipper (1989) defines earnings management as "disclosure management, which is a purposeful intervention in the external financial reporting process intended to obtain some private gain." Watts and Zimmerman (1990) describe earnings management as "occurring when managers exercise their discretion over the accounting numbers with or without restrictions. Such discretion can be either firm value maximizing or opportunistic." Healy and Wahlen (1999), from standard setters' point of view, state that

> earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of

> the company or to influence contractual outcomes that depend on reported accounting numbers.

Fields et al. (2001) review some empirical research on accounting choice. The definition they provide to accounting choice is also significantly related to the concept of earnings management:

> An accounting choice is any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way, including not only financial statements published in accordance with GAAP, but also tax returns and regulatory filings.

Ronen and Yaari (2008) after considering the means to manage earnings, define earnings management as "a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earnings as known to management."

As categorized by Ronen and Yaari (2008), the beneficial/white earnings management is "earnings management that is taking advantage of the flexibility in the choice of accounting treatment to signal the manager's private information on future cash flows." The pernicious/black earnings management involves "complete misrepresentation and fraud." The gray earnings management is "the manipulation of earnings reports within the boundaries of compliance with bright-line norms, which could be interpreted as either opportunism or efficiency enhancement."

2.2.1 Motivations for Earnings Management

Accounting literature categorizes motivations for earnings management in different ways and from different perspectives. The following discussion about the motivations for earnings management is based on the opinions from Holthausen and

Leftwich (1983), Watts and Zimmerman (1986), Healy and Wahlen (1999), Fields et al. (2001), and Ronen and Yaari (2008).

2.2.1.1 Capital markets motivations

Financial analysts and investors use accounting information extensively. Healy and Wahlen (1999) state that investors and financial analysts value a stock primarily based on its accounting numbers. Financial analysts are important information intermediaries in the capital markets. They utilize accounting information to provide an independent benchmark for managers to achieve, and they also guide investors in their investments. The extensive use of accounting information by investors and financial analysts can generate an incentive for managers to manipulate earnings to influence stock price performance. Ball and Brown (1968) pioneer the seminal work supporting the concept that accounting numbers have information content. The capital markets can be divided roughly into equity market and debt market. The capital markets motivations for earnings management can be illustrated as follows, to name just a few.

Managers may manage earnings in the directions they want the equity prices to move to. On the one hand, for the initial public offerings (IPOs) and the seasonal equity offerings (SEOs), Teoh et al. (1998) examine some IPO firms and find evidence that around IPOs, relative to a matched sample of non-IPO firms, these IPO firms are more likely to have income-increasing depreciation policies and bad debt allowances in the IPO year and for several subsequent years. They find that the median discretionary accruals of the IPO firms in the offer year are 5.5 percent of total assets. They also find

that approximately 62 percent of IPO firms have positive discretionary accruals, consistent with the idea that IPO firm use income-increasing accruals earnings management aggressively to boost earnings. Houmes and Skantz (2010) state that managers in overvalued equity firms tend to use more income-increasing accruals to sustain the overvaluation status, hence to increase their wealth from the stock holdings and option grants.

For the banking and insurance firms, Beaver et al. (1989), Collins et al. (1995), and Liu and Ryan (1995) find that banks and insurers link some key accounts directly at their discretion such as loan loss reserves and claim loss reserves to their most critical assets and liabilities so that they can manage reported earnings.

On the other hand, for leveraged management buyout (LBO) transactions, DeAngelo (1988) hypothesizes that managers of these firms have an incentive to understate earnings so that they can benefit from the LBO. The above-mentioned examples support the notion that managers can manage earnings in the way they desire.

Managers may also manage earnings to avoid the negative reactions the capital markets respond to firms' stock prices. Skinner and Sloan (2002) document an asymmetric market response to the failure to meet/beat analysts' earnings forecasts. Graham et al. (2005) surveyed some executive financial officers, and these officers admit that the pressures and overreactions from the financial markets push them to make decisions that sometimes sacrifice long-term value to meet earnings target.

Debt market is the second component of the capital markets where managers can manage earnings. Sweeney (1994) examines 130 accounting-based loan covenants violations and finds that firms apply to income increasing accounting changes when defaults draw near. DeFond and Jiambalvo (1994) document some evidence that firms approaching debt covenant violations tend to choose accounting choices and accruals to lower expected violation costs.

Executive labor market is different from the capital markets where managers have intentions to manage earnings for a prosperous flow of human capital in the managerial labor market. The reputation of the management team will enhance the marketability of the team for future better career. DeFond and Park (1997) show that for job security reasons, managers smooth income by borrowing from the future or saving for the future. Graham et al. (2005) surveyed executives and find that managers want to meet or beat earnings benchmarks to build credibility with the capital markets, to maintain or increase stock prices, to improve external reputation of the management team, and to convey future growth prospects.

Accounting literature also documents the downside of earnings management for the managerial labor market. Desai et al. (2006) conduct a study of 146 firms for the years of 1997 and 1998 that restated their financial statements due to violations of GAAP. Contrary to previous studies (Beneish, 1999; Agrawal, Jaffe, and Karpoff 1999), they find earnings restatements are very costly for the managers of the restating firms. Not only are the rates of job dismissal significantly higher and the rehire rates

significantly lower than the control firms, but also the prospects of subsequent employment are significantly poorer for displaced managers of restating firms. Their results suggest that, on average, managers of restating firms suffer significant losses in their reputation and very likely in their personal wealth.

Karpoff et al. (2008) conduct a study that traces managers who are responsible for all 788 SEC and Department of Justice enforcement actions for financial misrepresentations from January 1, 1978 through September 30, 2006. The results show that 93 percent of these managers are fired by the end of the regulatory enforcement period. The likelihood of being terminated is directly associated with the severity of their misconducts. Most of them incur severe financial loss due to restrictions on future employments, their shareholdings in the firm, and SEC fines. Twenty eight percent of these managers face criminal charges and penalties, including jail sentences that average 4.3 years.

The SOX enacted in 2002 has strengthened the penalty for GAAP violations. Besides SOX, firms' internal governance and the SEC's and Department of Justice's oversight worked to penalize much financial misrepresentation even before SOX. Karpoff et al. (2008) clearly document this phenomenon. One of the key provisions of SOX stipulates corporate executives' accountability. Corporate CEO and CFO must personally certify the financial statements and company disclosures with severe financial penalties of up to five millions dollars and the possibility of imprisonment for up to twenty years in prison for fraudulent financial reporting.

2.2.1.2 Contracting motivations/agency costs

Agency theory (Jensen and Meckling 1976) predicts that corporate agency problems arise when an agent, such as a CEO, has interests at odds with stockholders' interests. To mitigate these problems, a contract is drawn between the agent and the principal (shareholders), and the agent's actions can be best monitored through the use of incentives that link goals of the agent to those of the principal. According to the theory, because managers are self-serving, formal mechanisms such as monitoring and reward structures may serve to align incentives of top management with interests of the stockholders.

In particular, Jensen and Meckling (1976) suggest that corporations should provide compensation packages to attract and retain management talent while balancing such compensation with expected increases in shareholders' wealth resulting from managerial performance. As long as executive pay is backed up by performance that increase shareholders' wealth, high executive pay is justified.

Agency theory models the firm as a nexus of contracts – both implicit and explicit. Both implicit and explicit contracts are enforceable, either partially or fully. Accounting data are used to help monitor and regulate the contracts between the firm and its many stakeholders.

Management compensation contracts are used to align the incentives of management and external stakeholders. Agency theory proposed by Watts and Zimmerman (1978, 1986) suggests that these contracts create incentives for earnings

management because it is likely to be costly for compensation committees and creditors to undo earnings management.

Healy (1985) conducts a landmark study and shows that firms with caps on bonus awards are more likely to report income-decreasing accruals when that cap is reached than firms that have comparable performance but do not have bonus caps. In a similar vein but from different perspective, Guidry et al. (1998) find that divisional managers from a large multinational firm are likely to defer income for future use when the earnings target in their bonus plan will not be met and when they are entitled to the maximum bonuses permitted under the plan.

Lambert (1984) and Dye (1988) both demonstrate that efficient compensation contracts can incentivize risk-averse managers to smooth reported earnings. Dechow and Sloan (1991) find that CEOs with shorter tenure tend to reduce R&D spending to increase short-term earnings. Bens at al. (2002) find that managers repurchase stocks to avoid EPS dilution due to employee stock option grants and exercises, and that managers partially finance these transactions by reducing R&D expenditures.

Lending contracts are written to curtail managers' actions that benefit the firm's stockholders at the expense of its creditors. DeFond and Jiambalvo (1994) find that debt covenant violating firms essentially start earnings management one year earlier before the violations. Bowen et al. (1995) develop and test the hypothesis that firms choose income-increasing accounting methods with stakeholders to secure better contract terms, hence to lower the implicit costs.

Sweeney (1994) finds that firms that violate debt covenant constraints are more likely to liquidate LIFO layers than firms that do not violate those constraints. These firms tend to use income-increasing accounting changes to avoid future violations of loan covenant constraints. Hunt et al. (1996) find that LIFO firm managers smooth earnings to lower debt-related costs by giving up incremental tax savings. These managers adjust inventories and current accruals to achieve smoothed earnings.

2.2.1.3 Regulatory motivations

The earnings management literature has explored the effects of two forms of regulations: industry-specific regulations and others. As for the industry-specific regulations, some industries in the U.S. such as banking, insurance, and utility sectors, face regulatory monitoring that is explicitly tied to accounting data. Banking regulations require that banks satisfy certain capital adequacy requirements that are written in terms of accounting numbers. Beatty et al. (1995) and Collins et al. (1995) indicate that banks that are close to these minimum capital adequacy requirements overstate loan loss provisions and understate loan write-offs to stay in compliance. Insurance regulations require that insurance companies meet conditions for minimum financial health.

Many regulatory changes in accounting and auditing are intended, at least in part, to curtail earnings management. The shifts toward fair value accounting and increased risk-related disclosures caught the attention in the aftermath of the financial turmoil in the savings and loan industry in the 1980s. Brown and Pinello (2007) state that because annual reporting process is subject to an independent audit and more rigorous expense

recognition rules than interim reporting process, it provides managers with fewer opportunities to manage earnings upward. Therefore, managers apply to more techniques in guiding analysts' forecasts downward to achieve the goal of meeting/beating analysts' forecasts.

Other regulations also have some impacts on managers' earnings manipulation behaviors. Jones (1991) finds that firms in industries seeking import relief tend to defer income in the years of application to save for the future. Cahan (1992) shows that firms under investigation for anti-trust violations report income-decreasing discretionary accruals in the years of investigation to lower the reported earnings.

In the early 2000s, following the major accounting scandals such as Enron, WorldCom, Global Crossing, and others, SOX was enacted on July 30, 2002, which has changed the financial reporting environment significantly.

Accounting literature documents the effects of SOX on managers' financial reporting behavior. Lobo and Zhou (2006) investigate the changes in managers' discretion over financial reporting following SOX. They find and document an increase in conservatism in financial reporting. Cohen et al. (2008) find that accruals-based earnings management increased steadily in the pre-SOX period, but decreased significantly thereafter, while real earnings management was low in the pre-SOX period and increased significantly in the post-SOX period. Cohen and Zarowin (2010) show that firms choose accruals-based earnings management and real earnings management according to their ability/flexibility and costs of applying accruals. If they are constrained

in the application of accruals and the costs of doing so are very high, they would choose real earnings management as a makeshift, since real earnings management is non-GAAP related managerial choice, and not subject to the independent audit and SEC inspections.

Badertscher (2011) suggests that the duration and magnitude of firms' equity overvaluation are important factors of managements' choice of alternative earnings management mechanisms. In the beginning, firms utilize accruals more. As time passes, they are constrained to do so, and they would switch to real earnings management to sustain the overvaluation of their equity. If real earnings management comes to an end, they would apply more egregious accounting actions to maintain the status. Consistent with Cohen and Zarowin (2010), Zang (2012) states that managers choose between real earnings management and accruals-based earnings management based on their relative costs. Managers decide the magnitude of accruals in accordance with the real earnings management already materialized.

2.2.1.4 Information asymmetry/asset pricing motivations

The existence of information asymmetry may prompt managers to take accounting choices to signal their private information about firms' foresight. Fields et al. (2001) categorize information asymmetry/asset pricing as motivations for accounting choice. Information asymmetry arises when capital markets do not perfectly aggregate individually held information. In this case, accounting choice may provide a mechanism by which better informed insiders/managers can signal less well-informed parties about the timing, magnitude, and risk of future cash flow.

For example, Srinidhi et al. (2001) argue that information asymmetry could cause managers to smooth income to convey their privately held information about firms' future. Vermaelen (1981) examine some firms repurchasing their own common stock, and find that these firms offer some premiums for their own shares in order to signal positive information. Dye and Verrecchia (1995) state that firms' reporting flexibility leads to a more informative signal about firm performance.

2.2.2 Research Approaches to Earnings Management

Empirical research in the accounting literature has explored various approaches to earnings management. Statistical models have been developed to estimate the direction and the magnitude of earnings management. Earnings distribution has been examined to substantiate the phenomenon of earnings management. Meeting/beating various benchmarks has also been studied in a similar vein to support the idea of earnings management.

2.2.2.1 Accrual-based earnings management

Jones (1991) examines some firms in industries that seek import relief and finds that these firms tend to defer income in the years of application. Jones (1991) model to detect accrual-based earnings management has been extensively used in the accounting literature. The model is as follows:

$$TA_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_{1jt}\left(1/A_{ijt-1}\right) + \alpha_{2jt}\left(\Delta S_{ijt}/A_{ijt-1}\right) + \alpha_{3jt}\left(PPE_{ijt}/A_{ijt-1}\right) + \varepsilon_{ijt} \quad (1)$$

where,

i = specific firm;

j = specific industry;

t = year;

TA_{ijt} = industry-firm-year total accruals at year t, calculated as the difference between income before the extraordinary items (COMPUSTAT data #IB) and cash flow from the operating activities (CFO) (data #OANCF);

A_{ijt-1} = industry-firm-year specific total assets at year t-1(data # AT);

ΔS_{ijt} = industry-firm-year specific change in sales at year t (data #SALE);

PPE_{ijt} = industry-firm-year specific gross property, plant, and equipment at year t (data # PPEGT);

$\alpha_1, \alpha_2, \alpha_3$ = industry-year specific parameters, and

ε_{ijt} = the residual of the equation, and also the discretionary accrual (DA).

The Jones (1991) model assumes that all revenues are non-discretionary. However, Dechow et al. (1995) argue that earnings could be managed through the abnormal revenues by recording these revenues at year end when cash has not yet been received. Therefore, they propose the modified Jones (1991) model, and it is also customarily called the DSS (1995) model. The DSS (1995) model incorporates the change in accounts receivables in the Jones (1991) model illustrated as below:

$$TA_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_{1jt}\left(1/A_{ijt-1}\right) + \alpha_{2jt}(\Delta S_{ijt} - \Delta REC_{ijt})/A_{ijt-1}$$

$$+\alpha_{3jt}\left(PPE_{ijt}/A_{ijt-1}\right) + \varepsilon_{ijt} \quad (2)$$

where,

ΔREC_{ijt} = industry-firm-year specific change in receivables (data #RECT), and all other variables have been defined in previous Jones (1991) model.

Kothari et al. (2005) argue that the discretionary accruals as estimated by both Jones (1991) model and the DSS (1995) model may result in severe measurement errors in discretionary accruals when these models fail to control for firm performance. Therefore, they further propose another version of modified Jones (1991) model by incorporating one-year lagged industry-firm-year specific return on assets (ROA) illustrated as below:

$$TA_{ijt}/A_{ijt-1} = \alpha_0 + \alpha_{1jt}\left(1/A_{ijt-1}\right) + \alpha_{2jt}(\Delta S_{ijt} - \Delta REC_{ijt})/A_{ijt-1} + \alpha_{3jt}\left(PPE_{ijt}/A_{ijt-1}\right) + \alpha_{4jt}ROA_{ijt-1} + \varepsilon_{ijt} \quad (3)$$

where,

α_{4jt} = industry-year specific parameter, and

ROA_{ijt-1} = industry-firm-year specific return on assets at t-1, calculated as income before extraordinary items (data #IB) divided by total assets (data #AT).

The three statistical models mentioned above are extensively used in the accounting literature to compute/estimate the discretionary accruals by subtracting the

expected industry-year total accruals from the industry-firm-year specific total accruals, i.e., the industry-firm-year specific error term values.

The accrual-based earnings management can be evaluated by the sign and the absolute value of the error terms. A positive sign of the error term indicates that accruals have been managed to increase the reported earnings, and a negative sign, otherwise, indicates that accruals have been managed to decrease the reported earnings. Since accruals reverse, the magnitude/degree of the manipulation is manifested by the absolute value of the error terms.

For instance, Teoh et al. (1998) examine some IPO firms and find evidence that these firms seem to resort to income-increasing earnings management techniques to inflate earnings in the IPO year and for several years afterwards. Specifically, they utilize less estimated depreciation and bad debt expenses to increase earnings. These firms have an average median unexpected accruals equaling to 5.5 percent of total assets, and approximately 62 percent of these firms have income-increasing discretionary accruals. However, for leveraged management buyout (LBO) transactions, DeAngelo (1988) hypothesizes that managers of these LBO firms have an incentive to understate earnings by utilizing income-decreasing discretionary accruals.

2.2.2.2 Achieving earnings benchmark

Myers et al. (2007) argue that existing discretionary accruals models have low power in many settings and can yield biased results, especially for firms that have extreme earnings performance. Instead of studying the statistical models, another stream

of accounting literature examines the distribution of reported earnings in order to identify any evidence of earnings management. These studies hypothesize that corporate managers have incentives to achieve various earnings benchmarks such as avoiding reporting losses, avoiding earnings declines, and avoiding negative earnings surprises.

For instance, Burgstahler and Dichev (1997) document a distribution discontinuity at zero in the single-peaked bell-shaped distribution of earnings. To the right of zero, they show an unusually high frequency of firm-year observations with small profits, and to the left of zero they find an unusually low frequency of firm-year observations with small losses. This evidence is consistent with the claim that managers exercise discretions to avoid losses. Degeorge et al. (1999) find that earnings are managed to avoid losses, to avoid earnings decreases, and to avoid negative earnings surprises in the order of priority.

Accounting literature, however, indicates that meeting/beating analysts' earnings forecasts is the most important benchmark. For example, Dechow et al. (2003) show that avoiding negative annual earnings surprises is the most important benchmark managers seek to achieve in the last three years of their sample 1999-2001. Brown and Caylor (2005) further indicate that meeting/beating quarterly analysts' earnings forecasts is the most important benchmark in every year for the period of 1996-2002, inclusive.

Brown (2001) documents a significant temporal shift in the distribution of earnings surprises from small negative to zero to small positive during the 16 years of his study 1984-1999, inclusive. Specifically, profitable firms are more likely to meet/beat

analysts' forecasts than are losing firms, and they are more likely to meet/beat analysts' forecasts by a small margin. On the contrary, losing firms are more likely to report larger negative earnings surprises.

There are advantages and disadvantages of studies of achieving different earnings benchmarks. Healy and Wahlen (1999) state that these studies do not have to estimate abnormal accruals, which are potentially noisy measures of earnings management, and are likely to contain measurement errors. Instead, these studies examine the distribution of reported earnings for abnormal discontinuities at certain thresholds. This method captures the effects of earnings management through cash flows that may not be captured by abnormal accruals measures. However, this approach may not be able to capture the magnitude of earnings management or the specific methods by which earnings are managed.

2.2.2.3 Income smoothing

Managers smooth earnings to avoid the fluctuations in earnings over periods of time. Graham et al. (2005) find from the surveyed financial executives that managers think that investors prefer predictable and smooth earnings. Income smoothing is one way that managers manage earnings over time. Real earnings management can also be used to achieve the goal of incoming smoothing.

Income smoothing is defined in many ways. Copeland (1968) states that "smoothing moderates year-to-year fluctuations in income by shifting earnings from peak years to less successful period." Beidleman (1973) defines income smoothing as

"intentional dampening of fluctuations about some level of earnings that it currently considered normal for a firm." Ronen and Sadan (1981) define income smoothing as a "deliberate attempt by management to signal information to financial information users." Givoly and Ronen (1981) state that "smoothing can be viewed as a form of signaling whereby managers use their discretion over the accounting choices within generally accepted accounting principles so as to minimize fluctuations of earnings over time." However, Fudenberg and Tirole (1995) mention that income smoothing is the "process of manipulating the time profile of earnings or earnings reports to make the income stream less variable, while not increasing reported earnings over the long run."

Accounting literature documents the following motivations of income smoothing. Income smoothing can improve investors' perception of firms' risks, increase the persistence/informativeness of earnings, convey future growth prospects to investors, maintain a steady compensation scheme over time for management, protect managers' jobs, help escape restrictive debt covenants, help gain tax advantages, help avoid political costs, and help firms negotiate better terms of trade with customers and suppliers.

For instance, Srinidhi et al. (2001) argue that due to information asymmetry, managers can smooth earnings to signal private information to the market about future prospect. Lambert (1984) and Dye (1988) show, in agency settings, that a risk-averse manager who is precluded from borrowing and lending in the capital markets has an incentive to smooth his firm's reported income. Trueman and Titman (1988) reason that managers smooth earnings to reduce the fluctuations in earnings, hence to reduce the

perception of risks from different stakeholders. Such action could have a positive effect on stakeholders' perceptions of the firm, and increase firms' market value.

DeFond and Park (1997) find that concerns with job security incentivize managers to smooth earnings in anticipation of both current and future relative performance. Specifically, managers achieve income smoothing by borrowing from the future or saving for the future in the form of discretionary accruals. Former SEC Chairman Levitt (1998) makes some remarks about the "cookie jar" schemes and shows his concerns about income smoothing.

Tucker and Zarowin (2006) examine whether income smoothing improves the information content of current earnings about future earnings by investigating the association between current earnings and future earnings. They state that if income smoothing is merely misleading or deceiving, future earnings response coefficients (FERC) should be less informative. Conversely, if income smoothing is used to signal firms' private information, the FERC should be enhanced and more meaningful.

2.2.2.4 Earnings surprise management

Earnings surprise management is another technique that managers apply to manage earnings. Dechow et al. (2003) and Brown and Caylor (2005) indicate that avoiding negative earnings surprises is the most important threshold in the years they study. Specifically, managers resort to this method to achieve meeting/beating analysts' earnings forecasts.

Analysts' forecast is an important benchmark managers seek to achieve. Brown (2001) indicates that managers have strong incentives to avoid negative earnings surprises because negative market reactions are generally associated with negative earnings surprises. Skinner and Sloan (2002) document an asymmetric market reaction to earnings surprises. Specifically, firms that report negative earnings surprises suffer large negative market response compared to the positive market response associated with firms that report positive earnings surprises.

Managers are active participants in earnings expectation games (Bartov, Givoly and Hayn 2002). There are primarily three mechanisms that managers apply to manage earnings surprise games. One way is through earnings management, the use of accounting discretion by managers either to smooth reported earnings or to mask unfavorable earnings.

The second way of managing expectation games is through earnings forecast guidance, the process by which managers guide analysts' earnings expectations downward to improve the chances they meet/beat analysts' forecasts conditional on that firms have zero or positive earnings. For instance, Matsumoto (2002) investigates managements' propensities to avoid negative earnings surprises, engage in upward earnings management by reporting positive discretionary accruals, and engage in downward forecast guidance.

Brown and Pinello (2007) show circumstances where managers use earnings management and forecast guidance as substitute mechanisms to avoid negative earnings

surprises. Managers use more accruals earnings management during the interim reporting periods. However, due to the stringent scrutiny from the independent auditors at year end, managers use less earnings management but more earnings expectation downward guidance to achieve the goal of meeting/beating analysts' earnings forecasts. Koh et al. (2008) find that in the post-SOX period, the pressure to meet/closely beat analysts' forecasts through expectation games has been strengthened even though the premium to meet/closely beat analysts' forecasts has been eliminated.

The third way to manage earnings surprise games is through enhancing firms' performance. Analysts' earnings forecasts serve as a benchmark. Benchmark is a standard, a point of reference for measurement of performance. It generally induces higher levels of effort. Capable managers can perform better than expected targets. Investors can be fooled by earnings management or expectations earnings management, but they have confidence in capable managers who perform better than expected targets.

2.2.2.5 Real earnings management

Real earnings management occurs when managers take real economic actions to manage earnings. The following section 2.3 deals with accounting literature related to real earnings management.

2.2.3 Non-GAAP Earnings Management

Mentioned above are several techniques firms use to manage earnings within the boundaries of GAAP if managers follow the guidance from the regulators and the

professionals. Managers may also desperately resort to non-GAAP resources to manipulate earnings for financial reporting purposes.

Previous research documents stronger and more consistent earnings response coefficients (ERC) for core operations than for non-core operations (Kormendi and Lipe, 1987). In addition, the capital markets react more sensitively to surprises in on-going operating income than to one-time special items (Elliot and Hanna 1996; Elliot, Hanna, and Shaw 1988; Strong and Meyer 1987). Palmrose and Scholz (2004) document that core/revenue restatements are positively associated with shareholder litigation, while non-core restatements are not, suggesting that investors take restatements of core accounts more seriously.

McVay (2006) documents the use of another earnings management tool, account classification shifting, a deliberate misclassification of items within the income statement. She documents that managers opportunistically shift expenses from core expenses to special items. This shift does not change the bottom-line earnings, but it increases the core earnings, on which the financial analysts base for their analyses and forecasts. Hence, managers use this earnings management tool to meet/beat analysts' forecasts.

Heflin and Hsu (2008) document the effect of Section 401 (b) of SOX on managers' non-GAAP financial reporting behavior. Before the enactment of Section 401 (b) of SOX on March 28, 2003, managers could disclose non-GAAP/pro forma earnings by excluding more expense items than did the financial analysts. Heflin and Hsu (2008) suggest that managers utilized this technique to meet/beat analysts' forecasts. After the

regulations, they notice a decline in the GAAP-non-GAAP earnings difference, indicating the effectiveness of the regulations in curtailing managers' financial reporting behavior.

2.3 Real Earnings Management

This section discusses definitions of real earnings management and its measurements. Schipper (1989) defines real earnings management together with earnings management as

> a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain….a minor extension of this definition would encompass 'real' earnings management, accomplished by timing investment or financing decision to alter reported earnings or some subset of it.

Fields et al. (2001) include real earnings management in their definition of accounting choice. They state that managerial intent is key to the definition of real decisions made primarily for the purpose of affecting the accounting numbers. The example they provide is whether a firm reduces its R&D expenditures primarily in order to alter accounting disclosures or primarily because of lower expected future returns to the R&D investment.

Roychowdhury (2006) defines real activities manipulation (REM in this paper) as

> departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations. These departures do not necessarily contribute to firm value even though they enable managers to meet reporting goals. Certain activities manipulation methods, such as price discounts and reduction of discretionary expenditures, are possibly optimal actions in certain economic circumstances. However, if managers engage in these activities more extensively than is normal given their economic circumstances, with the

objective of meeting/beating an earnings target, they are engaging in real activities manipulation.

Roychowdhury (2006) develops three measures of REM. The first measure is REM_CFO. He finds that after controlling for sales levels, the suspect firm-years that apply REM have unusually low cash flow from operations. The second measure is REM_DISEXP. He finds that after controlling for sales levels, suspect firm-years exhibit unusually low discretionary expenses. The last measure of the three is REM_PROD. He finds that after controlling for sales levels, suspect firm-years exhibit unusually high production costs. He also finds that suspect firm-years in manufacturing industries exhibit higher abnormal production costs than other suspect firm-years.

Gunny (2010) develops four measures of REM in her papers and finds evidence that firms that utilize REM to achieve meeting zero earnings and last year's earnings exhibit joint signaling effects to the capital markets and enjoy better economic performance than firms that do not utilize REM and miss the benchmarks. Specifically, REM measures have significant negative effects on firms' economic performance, but firms that utilize REM to meet/closely beat the earnings benchmarks (the interaction term) are significantly positive. The most important finding is that the F-test of the REM and the interaction term still shows a significant positive effect on firms' long-term performance, hence the joint signaling effect of using REM to meet/beat earnings benchmarks.

REM could have negative effects on firms' long-term economic performance. Graham et al. (2005) conduct a study by surveying and interviewing more than 400 CFOs and document some direct evidence of managers' financial reporting and disclosing behavior. Managers admit that they would apply REM to achieve certain benchmarks. Managers confirm that their first priority is to beat previous quarter's earnings numbers, followed by beating analysts' earnings expectations. They find that "managers would rather take economic actions that could have negative long-term consequences than make within-GAAP accounting choices to manage earnings."

In their study, most executives prefer smooth and predictable earnings. Seventy-eight percent of the CFOs would give up economic value in exchange for smooth earnings, and most executives feel that they are making an appropriate choice when sacrificing economic value to hit a target. They are afraid of the short-term turmoil caused by a negative earnings surprise, because it could be very costly from the severe market over-reaction to the failure to meet/beating earnings benchmarks. Therefore, they would choose to sacrifice the long-term value to avoid the short-term turmoil.

2.4 REM Versus Other Earnings Management Techniques

The above mentioned thresholds are achieved through different earnings management techniques. Healy (1985) documents some evidence that managers manipulate accruals to benefit from the bonus schemes. Guidry et al. (1999) substantiate Healy's findings by studying business-unit managers' behaviors in planning earnings-based bonus games. Matsumoto (2002) documents that managers take actions of both

managing earnings upward and guiding analysts' forecasts downward to win the earnings expectation games. McVay (2006) concludes that it seems that managers utilize classification shifting earnings management technique to meet analysts' earnings forecasts. Roychowdhury (2006) documents some evidence that firms seek to avoid losses and negative earnings surprises through manipulation of real activities.

As Gunny (2010) mentions, on the one hand, managers may prefer REM to accruals earnings management due to the fact that SEC's scrutiny is more stringent on accruals earnings management and there is some risk for class action litigation, that the firms may not have the flexibility of managing accruals, that accruals management must take place at the end of the fiscal year or quarter, and that managers face uncertainty as to which accounting treatments the auditors will allow at that time.

On the other hand, managers may prefer accruals earnings management to REM due to the fact that REM decisions must be made before the fiscal year or quarterly end and the effect of doing so is not certain, while accruals earnings management can take place after the fiscal year or quarterly end when the need for earnings management is the most certain.

Earnings management techniques through accruals and forecast guidance are not easily identifiable by financial statement users, and both techniques do not seem to have negative effects on firms' long-term economic performance. Due to the reversal nature of accruals, earnings management through accruals will terminate itself in a cycle. However, REM is different from accruals earnings management or forecast guidance management

in that REM has direct and immediate effect on firms' economic performance, and it is identifiable by financial statement users (Gunny 2005).

Graham et al. (2005) survey and interview some CFOs and find that a reasonably high proportion of CFOs admit that they would apply real activities to manage earnings. Roychowdhury (2006) finds evidence that managers manipulate real activities to avoid reporting annual losses. Stein (1989) demonstrates that in a rational stock market, myopic managers may forgo good investment projects to boost current earnings.

Managers manage different earnings techniques accordingly. Koh et al. (2008) suggest that investors are becoming more suspicious of managerial behavior in meeting/closely beating analysts' earnings forecasts. They find that the premium associated with meeting/closely beating analysts' forecasts has vanished, and the premium to the big beat has dwindled. They also find that post-SOX period witnessed a smaller portion of close beating, a reduction in income-increasing accruals earnings management, and an increase in expectations earnings management. Cohen et al. (2008) document some evidence that firms apply to accrual-based earnings management more extensively pre-SOX than post-SOX, and firms apply to REM more extensively post-SOX than pre-SOX.

Badertscher (2011) conducts a study of how overvalued firms sustain their overvalued status. His results suggest that the degree and duration of overvaluation determine managements' choice of alternative earnings management mechanisms. He finds that overvalued firms initially engage in accruals management, and then after three

years switch to REM, especially those that are restricted in their ability to engage in further accruals earnings management. Zang (2012) finds some evidence on the trade-off between REM and accrual-based earnings management. She states that managers use REM and accrual-based earnings management as substitutes in managing earnings based on their relative costs.

2.5 Different Perspectives of REM

2.5.1 Value-Reducing Argument

Most accounting literature documents a value-destroying effect of REM. Dechow and Sloan (1991) find that CEOs with shorter tenure tend to reduce R&D expenditures to increase short-term earnings. Evans and Sridhar (1996) state managers can manage earnings through either accruals or real economic actions to have some impact on their compensation. However, due to the reversal nature of accruals, manipulating earnings through real economic activities will result in greater loss to shareholders. Bens et al. (2002) find that managers cut R&D expenditures to partially finance the repurchase of stocks in order to mitigate the EPS dilution due to employee stock option grants and exercises.

Bhojraj et al. (2009) examine the performance consequences of cutting discretionary expenses and managing accruals to beat analysts' forecasts. They find that firms that cut discretionary spending to beat analysts' forecasts one to two months in advance of the announcement date are more likely to sacrifice long-term shareholder value. Cohen and Zarowin (2010) show that SEO firms exhibit some evidence of real

earnings management. The performance reduction due to real earnings management is much worse than that due to accruals earnings management. The post-SEO economic underperformance reflects not only the effect of accrual reversals, but also the real consequences of REM.

2.5.2 Signaling Argument

Managers may also use REM to signal private information to financial statement users. Graham et al. (2005) survey over 400 financial executive officers and 80 percent of them admit that they prefer smooth and predictable earnings, and they would take REM actions to achieve this goal.

REM is a way to signal firms' superior future value. Givoly and Ronen (1981) view smoothing as a form of signaling whereby managers use their discretion over the accounting choices within GAAP so as to minimize fluctuations of earnings over time. The actual earnings with REM can improve investors' perception of firm risks, increase the persistence or information content of earnings, and convey future growth prospects to investors. Vermaelen (1981) conducts a study of stock repurchases announced in the Wall Street Journal from 1962 to 1977, and concludes that firms offer a premium for their own common shares mainly in order to signal positive information. Trueman and Titman (1988) reason that managers are rational in that they smooth earnings in order to give claim holders a perception of a stable firm, hence reduce the risk of the firm, and have a positive effect on firms' market value.

Beneish (2001) states that under the information perspective of earnings management, managerial discretion is a means for managers to reveal to investors their private expectations about the firm's future cash flows. Gul et al. (2002) find that managers of firms with greater investment opportunities use earnings management to signal future opportunities for growth. Tucker and Zarowin (2006) argue that if income smoothing is simply deceptive, earnings of firms with high degree of smoothing should be less informative. However, if income smoothing is used to convey firms' private information, the information content of earnings should be enhanced.

Gunny (2010) demonstrates the signaling function of REM. She examines four types of REM: cutting discretionary investment in R&D to decrease expense, cutting discretionary investment of SG&A to decrease expense, selling fixed assets to report gains, and cutting prices or extending more lenient credit terms to boost sales and/or overproduce to decrease COGS expense. In her setting, she examines firms that just meet/beat two earnings benchmarks, i. e., zero earnings and last year's earnings. In the first step, she exhibits some evidence that the "bench" firms, zero and immediate to zero up to 0.01 of earnings scaled by total assets apply REM to meet these two benchmarks. In the second step, she examines the extent to which using REM to meet these two benchmarks is associated with these firms' future performance.

Her results exhibit a joint signaling effect of REM on firms' future economic performance. Specifically, she indicates that after controlling for size, performance, and market-to-book ratio, REM alone is negatively associated with firms' economic

performance. However, firms that use REM to just meet/closely beat the benchmarks (the interaction term) have significantly higher industry-adjusted one-year to three-year ahead ROA than non-REM bench firms. Above all, the F-test on REM and the interaction term still shows a significantly positive effect on firms' long-term economic performance, hence the joint signaling effect. The results suggest that using REM to meet/closely beat certain benchmarks is not opportunistic, but it is consistent with the statement that it signals better future performance.

2.6 Hypothesis Development

2.6.1 HabitMBE Firms and REM

Managers prefer smooth and predictable earnings. Using agency theory, Lambert (1984) shows that the optimal compensation scheme offered by the principal causes the manager to smooth the firm's income. DeFond and Park (1997) find that managers can achieve smooth and predictable earnings by borrowing earnings from the future or by saving earnings for the future. Skinner and Sloan (2002) state that failure to meet/beat analysts' forecasts, even by a small amount, triggers a disproportionately large negative stock price response. Graham et al. (2005) state that pressures and over-reactions from the financial market encourage CFOs to make decisions that at times sacrifice long-term value to meet earnings targets.

Graham et al. (2005) state that executives pay much attention to stock prices, personal and company reputation, and predictability. Agency concerns urge them to focus on personal reputation to deliver predictable earnings and a stable firm. They also point

out that earnings are not considered to be stable or predictable if they are volatile or if the firm under-performs earnings benchmark.

Smooth and predictable earnings can be achieved through different approaches. Accounting manipulation through accruals is limited by the nature that accruals reverse. In addition, the procedure is detectable by independent auditors, especially at the year-end audit. Barton and Simko (2002) state that firms may have limited flexibility to manage accruals. Brown and Pinello (2007) state that because annual reporting process is subject to an independent audit and more rigorous expense recognition rules than interim reporting, it provides managers with fewer opportunities to manage earnings upward. Hence, managers apply more techniques in guiding analysts' forecasts downward to achieve the goal of MBE.

Meeting and closely beating analysts' earnings forecasts and consistency have become a trend in recent years, and it seems that managers and analysts are playing games in which they both want to be winners. Brown (2001) conducts a temporal analysis and find that firms prefer to report "a little bit of good news" over time. Sankaraguruswamy and Sweeney (2005) develop a model in which managers and analysts have a symbiotic relationship. Managers have incentives to adopt a package that generates earnings surprises they want at minimum costs. An analyst might try to make smaller forecast errors by "seeing through" managers' intentions, but over time these games might weaken or destroy the symbiotic relationship, damaging both sides.

Consistency in analysts' forecasts seems to be more important than accuracy. Kross et al. (2011) find that firms with more consistent pattern of meeting/beating analysts' forecasts provide more frequent and pessimistic management earnings forecasts. Hilary and Hsu (2013) find that more consistent analysts have greater ability to move stock prices. They also imply that more consistent analysts are "less likely to be demoted to less prestigious brokerage houses, and are more likely to become All Stars."

Previous accounting literature labels those firms that meet/closely beat analysts' forecasts as suspect firms of using REM. Roychowdhury (2006) provides some weak evidence that firms beating analysts' forecasts by one cent exhibit some evidence of REM. Degeorge et al. (1999) also label the similar firms as suspect firms.

However, these studies do not consider the behavior of habitual MBE, they only consider the situation on occasional basis. Gunny (2010) documents a joint signaling effect of using REM to meet/closely beat certain benchmarks. In her study, the bench firms are large firms. According to Barth et al. (2001), large firms on average get more analysts' coverage, leading to more transparent firms. Gunny (2005) suggests that analysts and investors can see through managerial REM actions. Due to the limitations of accruals management and the severity of being detected by the independent auditor and the SEC, REM may become the expediency of managers. On occasional basis, these actions may work in the short term for these bench firms, because these actions may be used to communicate managerial private information about firms' future performance. The investors would forgive their REM behavior, or they would give managers the

benefits of the doubt. However, in the long term, if these bench firms habitually meet/closely beat analysts' forecasts by taking REM actions, analysts will communicate that information to the market, and investors will update their information about the signal, and attribute more of it to managerial opportunism rather than to managerial effort/skills, causing a severe negative market reaction to firms' value. Therefore, if a firm habitually meets/closely beats analysts' forecasts, it is likely that it cannot rely on REM persistently to achieve the goal of meeting/closely beating analysts' earnings forecasts. Hypothesis one is stated in the alternative form as follows:

H1: HabitMBE Firms use less REM than that used by the control group including occasional MBE firms, occasional beating firms, and firms that miss analysts' forecasts.

2.6.2 Using REM to HabitMBE and Firms' Long-term Economic Performance

Accounting literature suggests that using REM to occasionally meet/closely beat analysts' forecasts signals firms' brighter future (Gunny 2010). Graham et al. (2005) state that managers would rather take some real economic actions to achieve certain reporting goals than make some within-GAAP choices since they are not subject to independent auditors and regulators' inspections. Zang (2012) concludes that firms take REM and accruals earnings management as substitutes after considering the costs associated with the technique they choose. Badertscher (2011) studies the overvaluation of firms and finds that to sustain the overvalued equity, firms first apply accrual earnings management in the early stages before moving into the REM in the later stages. With the

extended length of overvaluation, managers in these firms may engage in more egregious forms of earnings management, i.e., non-GAAP earnings management.

REM could destroy firms' long-term economic performance (Roychowhury 2006). Analysts and investors can see through managerial REM actions (Gunny 2005). While using REM to occasionally MBE could signal firms' brighter future performance (Gunny 2010), utilizing REM to HabitMBE could signal some negative information to the capital markets so as to incur some penalty to firms' long-term economic performance. Therefore, Hypothesis two is stated (in the alternative form) as follows:

H2: *Ceteris paribus, there is a negative association between using REM to HabitMBE and firms' long-term economic performance.*

Chapter 3

Data, Variable Measurement, and Methodology

This chapter elaborates the sources of data used in the study, how the variables are measured, and the methodology.

3.1 Data

In order to test the hypothesis, I collect the related data from two sources. According to Bhojraj et al. (2009) yearly data make more sense than quarterly data in the analysis of earnings management since majority of accruals adjustments occur in the fourth quarter, and quarterly reporting of R&D and advertising expense is sparse. Therefore, I collect yearly data for the period of 1987-2011 for this study. Yearly financial data are from COMPUSTAT-North America. As mentioned by Roychowdhury (2006), since CFO data were not available from COMPUSTAT before 1987, I collect the financial data for the period of 1987 through 2011. The Institutional Brokers' Estimate System (I/B/E/S) database provides with the information I need for analysts' forecasts' and actual earnings' data.[9]

One major concern about applying REM to meet/beat analysts' forecasts is that REM has to be taken before the fiscal year-ends, and analysts' forecasts change as they become closer to the actual earnings announcements. Bhojraj et al. (2009) provide for the solution to this potential problem. They conduct a study of firms' closely beating

[9] To avoid the potential problems using stock-split adjusted data, I use actual EPS and analysts' forecasts from I/B/E/S. See Payne and Thomas (2003).

analysts' forecasts by one cent. To avoid the potential problem of not capturing the effect of REM in meeting/beating analysts' forecasts, they treat as managers' targets analysts' forecasts forty-five to sixty days before the fiscal year-ends. The argument is that this forecast will be close to the final consensus forecasts before the earnings announcements, and the forty-five to sixty days will provide for the managers the opportunity to resort to some real activities to achieve the reporting goal. Therefore, I collect the one-year ahead consensus analysts' forecasts that are forty-five to sixty days before the fiscal year-end, the actual earnings per share (EPS), and the most recent consensus analysts' forecasts just before the earnings announcements. The forecasts that are forty-five to sixty days before the fiscal year-end are treated as the targets for managers to manage earnings. I take the difference between the actual EPS and the forecasts that are forty-five to sixty days before the fiscal year-ends as the earnings surprise figure.

Management downward forecast guidance is another factor to consider in this study. Matsumoto (2002) finds that firms resort to analysts' downward forecast guidance as a technique to achieve certain reporting goals. Bhojraj et al. (2009), however, state that although earnings forecast guidance shifts the timing of the earnings surprise, it does not affect future profitability of firms since no economic construct has changed and is therefore strictly a reporting strategy. Therefore, in order to avoid not capturing the effect of management's downward earnings forecast guidance, I take the difference between the final consensus analysts' forecast just before the earnings announcements and the forecasts forty-five to sixty days before the fiscal year-end as the earnings forecast

revision. If the value is negative, I interpret this phenomenon as downward forecast guidance. After deleting missing values, I have a total number of observations from I/B/E/S of 82,443.

The COMPUSTAT North America database provides for the other financial data needed for the analyses of this study. Following Roychowdhury (2006), I reduce standard industrial classification (SIC) codes to the first two digits. I delete the utilities industries (SIC codes between 44 and 50) and the banks and financial institutions (SIC codes between 60 and 70) because their financial statements tend to be very different from those of other firms. After deleting missing values on needed variables, I have a total number of observations of 146,055 from COMPUSTAT.

The two data sets are merged to allow for further analyses. After deleting missing values and winsorizing at the 1 and 99 percentile on continuous variables, I have total observations of 29,355. Following Roychowdhury (2006), the models for normal or expected CFO, production costs, discretionary expenses, and accruals are estimated by every year and industry. I also require at least 15 observations for each industry-year group. After imposing this restriction, I have total observations of 25,341 for the Fama-MacBeth estimation process, covering 3,725 firms and 509 industry-year groups.

The next step is to identify the habitual observations. To get a reasonable number of observations, I use a frequency of at least 50 percent in identifying my groups of interests. For HabitMBE groups, they are the observations that have met/closely beaten analysts' forecasts based on the immediate prior meeting/beating history. The base

starting evaluation period is 1987 – 1993, inclusive. For instance, based on the meeting/beating history for these seven years, if a firm meets or beats analysts' forecasts by one cent for at least 4 times, it will be identified as a HabitMBE in the next year, 1994, in this case. For the later years, the similar procedure applies until the end of the study period of 2011. The similar procedure follows for the identification of HabitBEATERS. After these steps, for the period of 1994 to 2011, inclusive, I have a total number of observations of 19,877 covering 3,324 firms, including 1,292 HabitMBE firm-year observations covering 171 firms, and 772 HabitBEATERS firm-year observations covering 172 firms.

3.2 Variable Measurements

This section deals with how I measure the variables used in this dissertation.

3.2.1 Earnings Management

I use Fama-MacBeth regression in the estimation process. To increase the comparability of my results to prior studies, following Roychowdhury (2006) I apply the Jones Model (1991) to calculate the expected total accruals. Discretionary accruals (DA) are the residuals of the following regression. I use DA as a control variable in testing my hypothesis.

$$TA_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(\Delta S_t/A_{t-1}) + \alpha_3(PPE_t/A_{t-1}) + \varepsilon_t \quad (4)$$

Where:

TA_t = total accruals at year t, calculated as the difference between income before the extraordinary items (COMPUSTAT data #IB)and cash flow from the operating activities (CFO) (data #OANCF);

A_{t-1} = the total assets at year t-1(data #AT);

ΔS_t = the change in sales at year t (data #SALE);

PPE_t = the gross property, plant, and equipment at year t (data #PPEGT);

$\alpha_1, \alpha_2, \alpha_3$ = firm specific parameters, and

ε_t = the residual of the equation, and also the discretionary accrual (DA).

3.2.2 Real Earnings Management

Following Roychowdhury (2006) I use the equations listed below to determine the real earnings management measures.

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_t/A_{t-1}) + \varepsilon_t \quad (5)$$

$$PROD_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_t/A_{t-1}) + \alpha_3(\Delta S_t/A_{t-1}) + \alpha_4(\Delta S_{t-1}/A_{t-1}) + \varepsilon_t \quad (6)$$

$$DISEXP_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_{t-1}/A_{t-1}) + \varepsilon_t \quad (7)$$

where:

CFO_t = cash flow from operations at year t (data #OANCF);

$PROD_t$ = the sum of cost of goods sold (data #COGS) and the change in inventories (data #INVT) at year t;

$DISEXP_t$ = the discretionary expense, the sum of advertising expense (data #XAD), research and development expense (data #XRD), and selling and general administrative expense (data #XSGA);[10]

S_t = total sales at year t (data #SALE);

ΔS_t = change in total sales at year t;

ΔS_{t-1} = change in total sales at year t-1;

α_1 , α_2 , α_3, α_4 = firm specific parameters, and

ε_t = the residual of the equations, and also the real earnings management amount.

REM measures are the residuals from the equation (5), (6), and (7). In order to ease the interpretation of the results, I multiply the residuals from equation (5) and (7) by -1 to get the sign-adjusted REM measures for REM_CFO and REM_DISEXP, so that the higher the value, the higher the magnitude of REM, respectively. Following Gunny (2010), Cohen and Zarowin (2010), and Zang (2012), I create three aggregate measures of real earnings management. REM1 is the sum of sign-adjusted REM_DISEXP and REM_PROD, REM2 is the sum of sign-adjusted REM_DISEXP and REM_CFO, and REM is the sum of sign-adjusted REM_CFO, REM_DISEXP, and REM_PROD.

In order to capture the incremental effect of the REM on firms' economic performance, I create dummy variables for REM. DREM_CFO is equal to 1 if

[10] To be consistent with Roychowdhury (2006), as long as SG&A exists, Advertising and R&D expenses are set to zero if missing.

REM_CFO is greater than zero, otherwise it is equal to zero. DREM_DISEXP is equal to one if REM_DISEXP is greater than zero, otherwise it is equal to zero. DREM_PROD is equal to one if REM_PROD is greater than zero, otherwise it is equal to zero. The DREM1 is the first aggregate dummy REM measure. It is equal to one if the sum of REM_DISEXP and REM_PROD is greater than zero, otherwise it is equal to zero. The DREM2 is the second aggregate dummy REM measure. It is equal to one if the sum of REM_DISEXP and REM_CFO is greater than zero, otherwise it is equal to zero. The DREM is the third aggregate dummy REM measure. It is equal to one if the sum of REM_CFO, REM_DISEXP, and REM_PROD is greater than zero, otherwise it is equal to zero.

3.2.3 Habitual Meeting/Beating Firms

Analysts' forecasts are a reasonable proxy for earnings. Brown et al. (1987) demonstrate that security analysts' forecasts are superior relative to univariate time-series models in predicting firms' quarterly earnings due to analysts' better utilization of information existing on the date that time-series models can be initiated, a contemporaneous advantage, and their use of information acquired between the date of initiation of time-series model forecasts and the date when the analysts' forecasts are published, a timing advantage. O'Brein (1988) states that the most current analyst forecasts dominates the mean and median forecasts in accuracy, weakly though.

Following Bhojraj et al. (2009), I use the analysts' consensus estimates forty-five or sixty days before the fiscal year end as a proxy for expected earnings. They state that

by using this analysts' consensus forecast, managers could have at least one month to manage REM before the fiscal year end.

The suspect firms are those that habitually meet/closely beat analysts' forecasts. Following Zang (2012), I identify HabitMBE firms as those that habitually meet/closely beat analysts' forecasts by one cent, and I identify HabitBEATERS as those that habitually beat analysts' forecasts by more than one cent.

3.3 Methodology

The research design of this study is consistent with that in prior studies (Bartov, Givoly, and Hayn 2002; Gunny 2005; Gunny 2010). Since this study deals with the association between using REM to habitually meet/closely beat analysts' forecasts and firms' long-term economic performance, the group of interest is the HabitMBE firms. To be consistent with prior literature, I also identify and specifically control for the HabitBEATERS. However, using the same frequency to denote "habitual" results in very few habitual losers. Therefore, the control group in this study consists of all other firm-year observations that do not belong to HabitMBE and HabitBEATERS, including occasional beating firms by big margin, occasional meeting/close beating firms, and losing firms.[11]

Even though the control group consists of a myriad of categories of firm-year observations, the interpretation of the results should not be problematic. The intercept

[11] I mean firm-year observations when I say firms.

represents the average market value (TQ) of the control group. Since the control group consists of different categories of firm-year observations, the same firm could be listed in different categories, but each firm-year is unique, belonging to only one of the three categories: HabitMBE, HabitBEATERS, or Others.

In addition, the REM measures for HabitBEATERS firms may not be appropriate due to their specific characteristics.[12] HabitBEATERS are strong performers by beating analysts' forecasts consistently by big margins. The REM measures may not be appropriate measures for this group of firms, because their optimum[13] may have changed due to higher demand than that to other categories in this study.

3.3.1 HabitMBE Firms and Evidence of REM

In order to test H1 and H2, I follow Gunny (2010) and use the following regression:

$$REM_t = \alpha_0 + \alpha_1 HabitBEATERS_t + \alpha_2 HabitMBE_t + \alpha_3 SIZE_{t-1} + \alpha_4 MTB_{t-1} + \alpha_5 ROA_{t-1} + \varepsilon_t \quad (8)$$

where:

[12] Presumably these firms are not under pressure to use REM to beat the analyst forecast because they beat the forecast by a large margin. That they beat the analyst forecasts persistently reveals that the analyst forecast is neither very accurate nor does it form a good benchmark for these firms. It is likely that the information asymmetry between the analysts and the manager might be so high that the analysts cannot properly assess the future earnings. All in all, the measures of REM might not be appropriate for these firms.

[13] For instance, if certain R&D projects prove futile, a firm may eliminate these projects to be optimal in the operations. In this case, the R&D expenditure will be below industry-year benchmark, resulting in the REM measures from Roychowdhury (2006) not appropriate.

REM_t = represents the six individual REM measures;

$HabitBEATERS_t$ = a dummy variable that is equal to one if earnings surprise (actual eps – analysts' consensus forecasts one to two months before the fiscal year end) is greater than one cent, and it is categorized as a habitual beater based on immediate prior beating behavior; otherwise it is equal to zero;

$HabitMBE_t$ = a dummy variable that is equal to one if earnings surprise (actual eps – analysts' consensus forecasts one to two months before the fiscal year end) equals zero or one cent, and it is categorized as a habitual meeter/close beater based on immediate prior meeting/beating behavior; otherwise it is equal to zero;

$SIZE_{t-1}$ = industry-year adjusted size (natural log of market value of equity), calculated as firm-year specific size minus industry-year mean;

MTB_{t-1} = industry-year adjusted market to book (MTB) ratio, calculated as firm-year specific MTB minus industry-year mean of MTB ratio;

ROA_{t-1} = industry-year adjusted ROA calculated as firm-year specific ROA minus industry-year mean of ROA.

3.3.2 Long-term Economic Performance

Following prior literature (Yermack 1996; Anderson and Reeb 2003), I utilize Tobin's Q as a market performance measure for firm's long-term economic performance.[14] Following Kaplan and Zingales (1995), I calculate Tobin' Q as market value of assets (book value of assets data #AT + market value of common equity data #PRCC_F x data #CSHO – book value of common equity data #CEQ – balance sheet deferred taxes data #TXDB)/book value of assets data #AT.

In order to examine the long-term effects on firms' economic performance, following prior accounting literature (Zang 2012, Gunny 2010), I control for the effects of concurrent abnormal accruals (DA), growth (market to book ratio, MTB), SIZE (log of total assets), leverage (LEV), and firms' financial health (Z_SCORE).

I use the following regression to test my third hypothesis, i.e.,

H2: *Ceteris paribus, there is a negative association between using REM to habitually meet/closely beat analysts' earnings forecasts and firms' long-term economic performance.*

$$TQ_{t+1} = \beta_0 + \beta_1 HabitBEATERS_t + \beta_2 HabitMBE_t + \beta_3 DREM_t + \beta_4 DREM_t * HabitBEATERS_t + \beta_5 DREM_t * HabitMBE_t + \beta_6 DA_t + \beta_7 DOWN_t + \beta_8 SIZE_{t-1} + \beta_9 MTB_{t-1} + \beta_{10} LEV_{t-1} + \beta_{11} Z\_SCORE_t + \varepsilon_t \quad (9)$$

[14] Tobin's Q is widely used as a long-term market performance measure. There are some problems with using abnormal return as a long-term market measure. See Barber and Lyon (1996).

where:

TQ_{t+1} = calculated as market value of assets (book value of assets data #6 + market value of common equity data #199 x data #25 – book value of common equity data #60 – balance sheet deferred taxes data #74)/book value of assets data #6, at year t + 1;

Betas = firm specific parameters.

Chapter 4

Empirical Results

4.1 Comparison to Roychowdhury 2006

In order to increase the comparability of the result to previous study (Roychowhury 2006), I follow Jones (1991) model in estimating discretionary accruals. The REM measures are from Roychowdhury (2006). Table 1 presents the Fama-MacBeth regression parameter estimates from Roychowdhury (2006).

Table 1. Fama-MacBeth Regression Parameter Estimation

	CFO/A_{t-1}		$DISEXP/A_{t-1}$		$PROD/A_{t-1}$		$Accruals/A_{t-1}$	
Intercept	0.0693	***	0.1321	***	-0.1792	***	-0.0315	***
	(23.22)		*(17.75)*		*(-27.82)*		*(-15.55)*	
$1/A_{t-1}$	-2.2377	***	4.6339	***	-0.8187	*	0.0763	
	(-9.02)		*(11.31)*		*(-1.75)*		*(0.49)*	
S_t/A_{t-1}	0.0352	***			0.8067	***		
	(13.95)				*(133.25)*			
$\Delta S_t/A_{t-1}$	0.0549	***			-0.0503	***	0.0583	***
	(9.47)				*(-3.97)*		*(12.21)*	
$\Delta S_{t-1}/A_{t-1}$					-0.0308	***		
					(-2.75)			
S_{t-1}/A_{t-1}			0.1459	***				
			(25.27)					
PPE_t/A_{t-1}							-0.0495	***
							(-18.04)	

This table presents the results from Fama-MacBeth estimation. The total observations for this step are 25,341. The dependent variables are cash flow from operations (CFO) deflated by total assets at year t-1, A_{t-1}, discretionary expense (DISEXP) deflated by total assets at year t-1, production costs (PROD) deflated by total assets at year t-1, and total accruals (TA) deflated by total assets at year t-1, where PROD is the sum of costs of goods sold and the change in inventories, discretionary expense are the sum of advertising expense, research and development expense, and selling, general, and administrative expense, and total accruals equal the difference between net income and CFO. St is the net sales at year t, ΔS_t is the change in net sales at year t, and ΔS_{t-1} is the change in net sales at year t-1. PPE_t is the gross property, plant, and equipment at year t. There are 509 separate industry-years over the period of 1987 – 2011.

These coefficients in Table 1 are the mean of the estimates from Fama-MacBeth regressions. Most of the coefficients are consistent with those from Roychowdhury (2006).

4.2 Descriptive Statistics

Table 2 presents descriptive statistics for the entire sample covering the period of 1987 through 2011, including 3,725 firms.

Table 2. Descriptive Statistics

Variable	N	Mean	Median	Std Dev	Lower Quartile	Upper Quartile
AT	25341	1561.41	329.87	3685.91	110.60	1202.43
SALE	25341	1552.15	361.49	3546.85	116.76	1221.98
ACCR/AT	25341	-0.0524	-0.0505	0.0878	-0.0937	-0.0096
CFO/AT	25341	0.1051	0.1061	0.1086	0.0525	0.1634
DISEXP/AT	25341	0.4085	0.3389	0.2980	0.1914	0.5542
PROD/AT	25341	0.8437	0.7147	0.6049	0.4155	1.1148
REM_CFO	25328	0.0000	-0.0003	0.0935	-0.0507	0.0493
REM_DISEXP	25328	0.0000	0.0212	0.2188	-0.0928	0.1268
REM_PROD	25086	0.0000	0.0091	0.1780	-0.0906	0.1003
REM1	25086	0.0003	0.0319	0.3692	-0.1693	0.2134
REM2	25328	0.0000	0.0229	0.2354	-0.1085	0.1401
REM	25086	0.0002	0.0312	0.3970	-0.1926	0.2314
DA	25328	0.0000	0.0032	0.0744	-0.0338	0.0386
TQ	24035	1.9533	1.5356	1.3486	1.1608	2.2559
ROA	25341	0.0527	0.0613	0.1124	0.0169	0.1069
SIZE	25341	6.0609	5.9739	1.7913	4.7535	7.2654
MTB	25341	2.8391	2.1300	2.4039	1.3958	3.4072
LEV	25341	0.2055	0.1739	0.1952	0.0220	0.3223
Z_SCORE	25341	2.3534	2.3920	1.5005	1.5960	3.2005
DOWN	25341	0.3084	0.0000	0.4619	0.0000	1.0000

As noted in Table 2, the mean of total assets is $1.56 billion, with a median of about $330 million. The mean of the sales is about $1.55 billion with a median of about $360 million. The mean of total accruals is about a negative 5 percent of total assets. The

average CFO is about 10.5 percent of total assets. The mean of DISEXP is about 41 percent of total assets, and the mean of PROD is about 84 percent of total assets. These values are also comparable to those in Roychowdhury (2006). The means of all three individual REM measures are all zeroes. The median of REM_CFO is – 0.0003, the median of REM_DISEXP is 0.0212, and the median of REM_PROD is 0.0091. The three aggregate measures of REM are still close to zeroes, but the medians are about 2 to 3 percent of the total assets higher than expected industry-year average, suggesting the usage of income-increasing REM. DA has an average of zero and a median of 0.0032, meaning the average DA is about 0.32 percent of total assets, higher than the industry-year average. The average TQ is 1.95, with a median of 1.54. The average ROA is 5.27 percent, with a median of 6.13 percent. The SIZE is measured as the natural log of market value of equity. The mean is 6.06 (about $428 million of market value of equity), with a median of 5.97 (about $392 million of market value of equity). The MTB has a mean of 2.84, with a median of 2.13. The mean of LEV is 0.21, with a median of 0.17. The mean of Z_SCORE is 2.35, with a median of 2.39, above the cutoff point (1.81, Altman 2000) of being healthy firms.

4.3 Correlation Matrix

Table 3 presents the correlation matrix of variables for the entire sample of 25,341 firm-year observation with 3,725 firms. TA, SALE, and TQ are significantly positively associated with ROA. It appears that AT and SALE are significantly negatively associated with REM_CFO. It seems that AT is positively associated with all the other five REM measures. AT and SALE are also positively associated with MTB and LEV, but AT is negatively associated with Z_SCORE, and SALE is not. TQ is significantly negatively associated with all REM measures, indicating the capital market will penalize firms that engage in REM activities. TQ is significantly positively associated with SIZE, MTB, and Z_SCORE, but it is significantly negatively associated with LEV. Accounting performance measure ROA is significantly negatively associated with five of the six REM measures except REM_DISEXP. All REM measures are significantly positively associated with DA, but significantly negatively associated with SIZE, the market measure of size, not by total assets or sales. All REM measures are also significantly negatively associated with MTB and Z_SCORE, but they are all significantly positively associated with LEV, suggesting high leverage firms engage in REM to avoid debt covenant violations.

Worth mentioning is the relation between TQ and DOWN. It appears that TQ is significantly negatively associated with DOWN, indicating that the capital market will assign some penalty to firms that analysts keep adjusting whose earnings forecasts downward.

Table 3. Correlation Matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
AT	**(1)**	1.0000															
SALE	**(2)**	0.9034	1.0000														
		<.0001															
TQ	**(3)**	0.0016	-0.0017	1.0000													
		0.8009	0.7882														
ROA	**(4)**	0.0700	0.0818	0.3024	1.0000												
		<.0001	<.0001	<.0001													
REM_CFO	**(5)**	-0.0380	-0.0246	-0.2666	-0.5561	1.0000											
		<.0001	<.0001	<.0001	<.0001												
REM_DISEXP	**(6)**	0.0289	0.0271	-0.2426	0.0261	-0.0298	1.0000										
		<.0001	<.0001	<.0001	<.0001	<.0001											
REM_PROD	**(7)**	0.0035	0.0157	-0.3165	-0.2786	0.4180	0.7371	1.0000									
		0.5839	0.0131	<.0001	<.0001	<.0001	<.0001										
REM1	**(8)**	0.0185	0.0234	-0.2957	-0.1172	0.1846	0.9455	0.9171	1.0000								
		0.0034	0.0002	<.0001	<.0001	<.0001	<.0001	<.0001									
REM2	**(9)**	0.0117	0.0155	-0.3326	-0.1966	0.3694	0.9179	0.8509	0.9519	1.0000							
		0.0620	0.0139	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001								
REM	**(10)**	0.0083	0.0160	-0.3382	-0.2394	0.4059	0.8724	0.9507	0.9731	0.9719	1.0000						
		0.1879	0.0112	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001							
DA	**(11)**	0.0226	0.0144	-0.0169	0.3537	0.3671	0.1261	0.1030	0.1257	0.2630	0.2025	1.0000					
		0.0003	0.0219	0.0089	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001						
DOWN	**(12)**	-0.0155	-0.0147	-0.1633	-0.1258	0.1017	0.0413	0.0740	0.0592	0.0788	0.0789	-0.0079	1.0000				
		0.0136	0.0193	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.2065					
SIZE	**(13)**	0.6157	0.5954	0.3370	0.3064	-0.2045	-0.0853	-0.1556	-0.1260	-0.1605	-0.1654	0.0274	-0.1194	1.0000			
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001				
MTB	**(14)**	0.0963	0.1057	0.8272	0.2271	-0.2108	-0.2313	-0.2916	-0.2774	-0.2988	-0.3073	-0.0477	-0.1547	0.3931	1.0000		
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001			
LEV	**(15)**	0.1186	0.0995	-0.2532	-0.0820	0.1541	0.1315	0.1785	0.1623	0.1834	0.1872	0.0236	0.1069	0.0228	-0.0106	1.0000	
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0002	<.0001	0.0003	0.0927		
Z_SCORE	**(16)**	-0.0412	0.0449	0.1690	0.6925	-0.3286	-0.0034	-0.1552	-0.0737	-0.1336	-0.1461	0.1494	-0.0586	0.1115	0.0852	-0.1016	1.0000
		<.0001	<.0001	<.0001	<.0001	<.0001	0.5875	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	

Table 4 shows the yearly distribution of Habitbeaters and HabitMBE groups. Since I use the period of 1987 through 1993 as the base evaluation period for identification of HabitMBE and HabitBEATERS, the year reported in this table starts from 1994.

Table 4 Yearly Distribution of HabitBEATERS and HabitMBE

	HabitBEATERS			HaibtMBE		
Year	Obs.	Freq.	Cum. Freq.	Obs.	Freq.	Cum. Freq.
1994	116	0.15	0.15	127	0.10	0.10
1995	69	0.09	0.24	89	0.07	0.17
1996	94	0.12	0.36	112	0.09	0.25
1997	55	0.07	0.43	85	0.07	0.32
1998	70	0.09	0.52	97	0.08	0.39
1999	44	0.06	0.58	77	0.06	0.45
2000	46	0.06	0.64	84	0.07	0.52
2001	24	0.03	0.67	65	0.05	0.57
2002	35	0.05	0.72	79	0.06	0.63
2003	25	0.03	0.75	63	0.05	0.68
2004	31	0.04	0.79	75	0.06	0.74
2005	24	0.03	0.82	61	0.05	0.78
2006	30	0.04	0.86	62	0.05	0.83
2007	20	0.03	0.88	50	0.04	0.87
2008	26	0.03	0.92	48	0.04	0.91
2009	20	0.03	0.94	42	0.03	0.94
2010	25	0.03	0.98	46	0.04	0.98
2011	18	0.02	1.00	30	0.02	1.00
Total	772			1292		

On average, in the earlier years there are more observations in both categories. For instance, in year 1994, based on the prior meeting/beating history (at least 4 times) in

the period of 1987 – 1993, there are 116 firms identified as HabitBEATERS, and 127 firms identified as HabitMBE. In year 2011, based on the prior meeting/beating history (at least 12 times) of firms in the period of 1987 to 2010, there are 18 firms identified as HabitBEATES, and 30 firms identified as HabitMBE, respectively.

Table 5 presents the Frequency distribution of HabitBEATERS and HabitMBE by industries based on 2-digit Standard Industrial Codification (SIC) code. Certain industries have more observations in the two categories identified as groups of interests. For example, in the HabitBEATERS category, SIC 35 (Industrial Machinery and Equipment) has the most observations of 109. The other groups that have many observations are SIC 36 (Electronic & Other Electric Equipment), SIC 27 (Printing & Publishing), SIC 38 (Instruments & Related Products), and SIC 37 (Transportation Equipment). Based on the classification by the U.S. Department of Labor, all these sub-industries belong to the MANUFACTURING group.

Table 5. Industry Distribution of HabitBEATERS and HaibtMBE

		1994 - 2011					
		HabitBEATERS			HabitMBE		
SIC	Industry	Obs.	Freq.	Cum. Freq.	Obs.	Freq.	Cum. Freq.
13	Oil & Gas Extraction	34	0.044	0.04	4	0.003	0.003
20	Food & Kindred Products	27	0.035	0.08	119	0.092	0.095
22	Textile Mill Products	8	0.010	0.09	0	0.000	0.095
23	Apparel & Other Textile Products	7	0.009	0.10	9	0.007	0.102
25	Furniture & Fixtures	5	0.006	0.10	0	0.000	0.102
26	Paper & Allied Products	52	0.067	0.17	0	0.000	0.102
27	Printing & Publishing	71	0.092	0.26	8	0.006	0.108
28	Chemical & Allied Products	65	0.084	0.35	187	0.145	0.253
30	Rubber & Misc. Plastic Products	16	0.021	0.37	23	0.018	0.271
33	Primary Metal Industries	55	0.071	0.44	17	0.013	0.284
34	Fabricated Metal Products	46	0.060	0.50	2	0.002	0.286
35	Industrial Machinery & Equipment	109	0.141	0.64	159	0.123	0.409
36	Electronic & Other Electric Equipment	89	0.115	0.76	177	0.137	0.546
37	Transportation Equipment	66	0.085	0.84	69	0.053	0.599
38	Instruments & Related Products	71	0.092	0.93	193	0.149	0.748
39	Misc. Manufacturing Industries	1	0.001	0.94	7	0.005	0.754
54	Food Stores	3	0.004	0.94	0	0.000	0.754
56	Apparel & Accessory Stores	8	0.010	0.95	12	0.009	0.763
58	Eating & Drinking Places	0	0.000	0.95	51	0.039	0.803
59	Misc. Retail	24	0.031	0.98	40	0.031	0.834
73	Business Services	15	0.019	1.00	188	0.146	0.979
79	Amusement & Recreation Services	0	0.000	1.00	1	0.001	0.980
80	Health Services	0	0.000	1.00	10	0.008	0.988
87	Engineering & Management Services	0	0.000	1.00	16	0.012	1.000
	Total	772			1,292		

For the HabitMBE category, SIC 38 (Instruments & Related Products) has the most observations of 193. The other groups that have many observations are SIC 20

(Food & Kindred Products), 119 observations, SIC 28 (Chemical & Allied Products), 187 observations, SIC 35 ((Industrial Machinery and Equipment), 159 observations, and SIC 36 (Electronic & Other Electric Equipment), 177 observations. Based on the classification by the U.S. Department of Labor, all these sub-industries belong to the MANUFACTURING group. Different from HabitBEATERE category, HabitMBE has one SIC group that has many observations, SIC 73 (Business Services), 188 observations.

Table 6 presents the comparison of the three categories: HabitBEATERS, HabitMBE, and Others (the control group). From the size point of view (AT, SALE, and SIZE), HabitMBE firms are the largest among the three categories, with HabitBEATERS in the middle in all cases. In case of accounting performance measure ROA, HabitMBE firms are the best performers, and the second best are the HabitBEATERS. For market performance measures, HabitMBE firms have the highest TQ and the highest MTB, but the HabitBEATERS have the lowest among the three groups. In terms of LEV, HabitMBE firms seem to be the least risky, and the HabitBEATERS are the most risky. In terms of financial health of firms, HabitMBE are the financially healthiest, and the HabitBEATERS are the second healthiest.

Table 6. Comparison of HabitMBE, HabitBEATERS, and Others

	(1)	(2)	(3)	(1) - (2)		(1) - (3)		(2) - (3)	
	HabitMBE	HabitBEATERS	Others	T test	Wilcoxon	T test	Wilcoxon	T test	Wilcoxon
Variable	Mean	Mean	Mean	p-value	p-value	p-value	p-value	p-value	p-value
AT	4094.90	2142.90	1537.00	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
SALE	3937.60	2422.20	1470.30	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
TQ	2.9600	1.5000	1.9700	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
ROA	0.1121	0.0606	0.0450	<.0001	<.0001	<.0001	<.0001	0.0003	0.0113
REM_CFO	-0.0461	0.0028	0.0032	<.0001	<.0001	<.0001	<.0001	0.9158	0.3075
REM_DISEXP	-0.0175	0.0388	-0.0004	<.0001	<.0001	0.0054	<.0001	<.0001	<.0001
REM_PROD	-0.0667	0.0295	0.0036	<.0001	<.0001	<.0001	<.0001	<.0001	0.0007
REM1	-0.0841	0.0682	0.0033	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
REM2	-0.0635	0.0416	0.0028	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
REM	-0.1302	0.0711	0.0065	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
DA	-0.0009	0.0026	-0.0001	0.1996	0.0154	0.7003	0.0318	0.3374	0.1868
DOWN	0.1765	0.3385	0.2850	<.0001	<.0001	<.0001	<.0001	0.0013	0.0007
SIZE	8.1300	6.7300	6.0900	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
LEV	0.1857	0.2140	0.2013	0.0001	<.0001	0.0067	0.4386	0.0837	<.0001
MTB	4.6140	2.1534	2.8701	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Z_SCORE	2.9012	2.6141	2.1787	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Obs.	1,292	772	17,814						

Substantiating Hypothesis One, it appears, in Table 6, that HabitMBE firms have the lowest REM magnitude of all three categories, and they are all below the industry-year average (negative values). However, except REM_CFO measure, HabitBEATERS have the highest REM magnitude, and they are all above the industry-year average (positive). Previous studies (Bartov et al. 2002, Kasznik & McNichols 2002, Gunny 2010) document that firms that beat analysts' forecasts by a big margin are better performers than firms that just meet/closely meet analysts' forecasts. The findings in this study on HabitBEATERS could be misleading because the REM measures from Roychowdhury (2006) may not be applicable to these HabitBEATERS due to their specific characteristics, which are beyond the scope of this study.

Similarly, HabitMBE firms have the highest figure in DA (0.0026), but the differences between any two of the three categories are largely not statistically significant.

Table 7 presents the evidence whether HabitMBE exhibit REM behavior. It appears that HabitMBE firms do not exhibit any evidence of income-increasing REM activities, since five of the six REM measure coefficients are significantly negatively associated with HabitMBE, supporting Hypothesis One. However, it appears that HabitBEATERS do exhibit some evidence of income-increasing REM activities, since five of the six REM measure coefficients are significantly positively associated with

HabitBEATERS. As mentioned earlier, the interpretation of the results for HabitBEATERS could be misleading.

The signs and significance of other variables are also consistent with the results from the correlation matrix table. Since SIZE is a market measure of equity, all coefficients of SIZE are negative, and five of the six coefficients are statistically significant at the 0.01 significance level. MTB is also a market measure of growth, and all six coefficients are all statistically negatively significant at the 0.05 significance level. Consistent with the results from the correlation table, REM_DISEXP is statistically positively associated with industry-year adjusted ROA, and all the other five REM measures are all statistically negatively associated with industry-year adjusted ROA.

Preliminary evidence seems to suggest that investors and financial analysts can see through managerial REM actions. Gunny (2005) states that it appears that investors can recognize the future earnings implications of myopic investment in SG&A and cutting prices and/or overproducing to increase current period income, but they are not able to recognize the future earnings implications of myopic investment in R&D and the strategic timing of asset sales. It seems that financial analysts are able to recognize the future earnings implications of all four types of REM actions in her study.

Table 7. HabitMBE Firms and REM

	Dependent Variables											
	REM_CFO		REM_DISEXP		REM_PROD		REM1		REM2		REM	
Intercept	0.0009		-0.0002		0.0011		0.0007		0.0007		0.0016	
	(1.56)		(-0.15)		(0.89)		(0.26)		(0.39)		(0.57)	
HabitMBE	-0.0171	***	-0.0062		-0.0322	***	-0.0384	***	-0.0233	***	-0.0555	***
	(-9.11)		(-1.05)		(-6.40)		(-3.65)		(-3.59)		(-4.94)	
HabitBEATERS	0.0034		0.0449	***	0.0326	***	0.0777	***	0.0483	***	0.0811	***
	(1.48)		(6.62)		(5.85)		(6.60)		(6.65)		(6.54)	
SIZE_adj	-0.0006		-0.0118	***	-0.0063	***	-0.0179	***	-0.0124	***	-0.0186	***
	(-1.49)		(-11.46)		(-7.71)		(-10.35)		(-11.50)		(-10.21)	
MTB_adj	-0.0001	**	-0.0001	**	-0.0001	**	-0.0001	**	-0.0001	**	-0.0001	**
	(-2.17)		(-2.07)		(-2.14)		(-2.14)		(-2.18)		(-2.23)	
ROA_adj	-0.4904	***	0.1733	***	-0.4131	***	-0.2406	***	-0.3171	***	-0.7309	***
	(-69.80)		(8.63)		(-29.77)		(-7.59)		(-15.80)		(-22.54)	
SIC dummy	Yes		Yes		Yes		Yes		Yes		Yes	
YEAR dummy	Yes		Yes		Yes		Yes		Yes		Yes	
Obs.	19,470		19,470		19,433		19,433		19,470		19,433	
R-square	0.3493		0.0138		0.0909		0.0199		0.0447		0.0667	

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

Analysts' ability to see through is related to their inclination to cover a firm and their effort to follow a firm. Barth et al. (2001) predict and find that analysts have greater incentives to cover firms with more intangible assets. They also find that analyst coverage is increasing in firm size, growth, trading volume, equity issuance, and perceived mispricing, and is decreasing in the size of firm's analysts' brokerage houses and the effort analysts expend to follow the firm. Duru and Reeb (2002) find that greater corporate international diversification is associated with less accurate and more optimistic forecasts. They suggest that international diversification increases the difficulty in analysts' forecasts, and the forecast process becomes more complex.

Gunny (2010) finds a joint signaling effect from the bench firms. The joint signaling effect states that those bench firms utilize REM actions to signal the capital market firms' bright future performance. In her study, the bench firms are much bigger than any other categories by size. Consistent with her findings, the HabitMBE firms in this study are much bigger firms than any other two categories in terms of AT, SALE, and SIZE. Following the discussion from Barth et al. (2001), size is positively associated with analyst following and coverage, and these firms' earnings should be more stable and more predictable. These analyses will further substantiate the results from the correlation table that HabitMBE firms have the lowest analysts' downward forecast revision.

Consistency is more important than accuracy in analysts' career development (Hilary & Hsu 2013). The symbiotic relationship between analysts and the management teams makes the earnings forecasts more stable and predictable, and both parties prefer

that kind of equilibrium (Sankaraguruswamy & Sweeney, 2005). Income-smoothing literature also supports the idea that management prefers more stable and predictable earnings. Hence, the forecasting process becomes less difficult (Barth et al. 2001), and analysts do not have to spend more effort in following these firms. As a consequence, more analysts will follow these firms, making the "seeing through" more easily, and the firms become more transparent. As Gunny (2005) concludes, analysts can recognize all REM actions of the management teams. Therefore, for these more stable and more predictable firms, if they resort to any REM actions in the reporting process, the market will be able to feel the actions. This argument leads us to the conjecture that these firms will be very cautious in applying REM, and if they ever do so, the market will assign a severe penalty to them.

4.4 Regression Results

Table 8 presents the main results of the study using Ordinary Least Squares (OLS) regression. Most variables have signs consistent with the expectations except HabitBEATERS (β_1) and DREM * HabitBEATERS (β_5), the explanations of which are beyond the scope of this study.

Table 8. Results of Testing H2: Long-term Effect (OLS)

			TQ											
	Pred.Sign		CFO		DISEXP		PROD		REM1		REM2		REM	
Intercept	β_0	?	0.6690	***	0.6521	***	0.7024	***	0.6836	***	0.7092	***	0.7134	***
			(8.87)		(8.79)		(9.42)		(9.21)		(9.53)		(9.57)	
HabitBEATERS	β_1	+	-0.2735	***	-0.3213	***	-0.3179	***	-0.3149	***	-0.3376	***	-0.3277	***
			(-4.64)		(-4.81)		(-5.21)		(-4.87)		(-5.23)		(-5.20)	
HabitMBE	β_2	+	0.3071	***	0.3479	***	0.2929	***	0.3111	***	0.3509	***	0.3183	***
			(8.17)		(7.55)		(7.34)		(7.23)		(8.20)		(7.67)	
DREM	β_3	-	-0.0949	***	-0.1398	***	-0.1677	***	-0.1716	***	-0.1856	***	-0.1855	***
			(-5.38)		(-7.96)		(-9.54)		(-9.77)		(-10.47)		(-10.46)	
DREM * HabitMBE	β_4	-	-0.2919	***	-0.1932	**	-0.1842	**	-0.1568	**	-0.2457	***	-0.2007	***
			(-3.99)		(-3.12)		(-2.79)		(-2.51)		(-3.94)		(-3.16)	
DREM * HabitBeaters	β_5	-	0.0667		0.1322		0.1423	*	0.1306		0.1706	**	0.1567	*
			(0.82)		(1.58)		(1.75)		(1.58)		(2.07)		(1.91)	
DOWN	β_6	?	-0.2019	***	-0.2012	***	-0.2038	***	-0.2014	***	-0.2009	***	-0.2025	***
			(-11.04)		(-11.02)		(-11.17)		(-11.04)		(-11.03)		(-11.11)	
DA	β_7	-	-0.7046	***	-0.6560	***	-0.6585	***	-0.6499	***	-0.6233	***	-0.6316	***
			(-6.17)		(-5.74)		(-5.77)		(-5.69)		(-5.46)		(-5.53)	
$SIZE_{t-1}$	β_8	+	0.0218	***	0.0261	***	0.0238	***	0.0248	***	0.0227	***	0.0233	***
			(3.65)		(4.41)		(4.02)		(4.19)		(3.83)		(3.94)	
MTB_{t-1}	β_9	+	0.3091	***	0.3061	***	0.3039	***	0.3034	***	0.3024	***	0.3022	***
			(78.09)		(76.72)		(75.81)		(75.60)		(75.42)		(75.17)	
LEV_{t-1}	β_{10}	-	-1.5307	***	-1.5051	***	-1.5028	***	-1.4936	***	-1.4702	***	-1.4791	***
			(-33.08)		(-32.44)		(-32.45)		(-32.21)		(-31.61)		(-31.85)	
Z_SCORE_{t-1}	β_{11}	+	0.1024	***	0.1126	***	0.1038	***	0.1095	***	0.1074	***	0.1052	***
			(16.18)		(18.02)		(16.62)		(17.60)		(17.28)		(16.91)	

Table 8 — *Continued*

$\beta_3 + \beta_4$	F test	29.33 p<.0001	31.24 p<.0001	30.08 p<.0001	29.69 p<.0001	51.14 p<.0001	39.57 p<.0001
$\beta_2 + \beta_3 + \beta_4$	F test	1.55 p=0.2135	0.11 p=0.7393	1.16 p=0.2813	0.13 p=0.7197	2.78 p=0.0953	1.81 p=0.1790
Industry dummy		Yes	Yes	Yes	Yes	Yes	Yes
Year dummy		Yes	Yes	Yes	Yes	Yes	Yes
Obs.		14,295	14,295	14,295	14,295	14,295	14,295
Adj. R-Sq.		0.4881	0.4894	0.4903	0.4904	0.4916	0.4912

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

HabitMBE firms enjoy a significant market premium. For instance, in the case of REM_CFO regression, the coefficient of HabitMBE (β_2) is 0.3071, significant at a 0.01 significance level. As discussed earlier, these are much large firms in size, and are likely to have more analyst following, hence less information asymmetry, and more stable analysts forecasts. In other words, analysts can see through the actions of these firms' actions.

REM (β_3) coefficients are all negative and statistically significant across all six regressions. It seems that income-increasing REM activities decrease firms' market value, consistent with the statement from Gunny (2005) that analysts can see through all managerial myopic activities, and also consistent with the statement from Graham et al. (2005) that REM can reduce firms' long-term economic value.

As expected, the interaction terms of all six regressions (β_4) are negative, and statistically significant at a minimum significance level of 0.05, supporting Hypothesis two. For example, in the case of CFO, the coefficient of β_4 is -0.3063, statistically significant at a 0.01 significance level, indicating that a HabitMBE firm that uses REM to achieve this reporting goal incurs such a severe penalty from the market that its TQ will be significantly lower than that of the control firms in this study.

The joint signaling effect documented in Gunny (2010) disappears, but she uses different thresholds for managers to meet/beat, i.e., she uses as thresholds avoiding loss or earnings decrease, she does not cover analysts' forecasts as a benchmark, and most differently her study does not consider the effect of habitual behavior of meeting/beating

benchmarks. In her study, she finds and documents that firms that use REM to meet/beat benchmarks exhibit significantly better performance than non-REM firms that miss the targets, jointly signaling to the market that these firms perform better. In this study, my threshold is analysts' forecast. For instance, in the case of REM_CFO regression, the sum of coefficients β_3 (-0.0949) and β_4 (-0.2919) is -0.3868. The F-test of β_3 and β_4 are significant with an F value of 29.33, and a p-value <.0001, suggesting that if firms use REM to HabitMBE, the capital market can see through managerial REM actions and will assign a severe penalty to these firms.

Interesting and important finding is the sign and statistical significance of the coefficient of DOWN (β_6) all across the six regressions. They are all negative and statistically significant at a 0.01 significance level. Analysts' downward forecast revision could be due to their pessimism about firms' future. Kross et al. (2011) find that firms with consistent MBE provide more frequent and pessimistic management forecasts than other firms. This implies that managers of these firms having achieved consistent MBE are more likely to guide the market's expectations downward to avoid breaking their string of MBE. Following the above argument, it is logical to reason that the market will assign a severe penalty to firms that receive analysts' downward forecast revisions in the long run.

All six DA (β_7) coefficients are negative and statistically significant at a 0.01 significance level. All six SIZE (β_8), MTB (β_9), and Z_SCORE (β_{11}) coefficients are positive and statistically significant at a 0.01 significance level, consistent with the results

from correlation table and prior studies. Since LEV (β_{10}) is a proxy of firms' risk, the market will assign a negative value to the risk. Therefore, it makes sense that LEV is negative and all statistically significant, also consistent with the results from prior studies.

The coefficients for industry dummies and year dummies are not reported in Table 8. All the years are significantly positively associated with the TQ except two years 2002 and 2008, which are significantly negatively associated with the TQ. It is very likely that Sarbanes-Oxley Act in 2002 and the financial crisis in 2008 had some negative impact on firms' TQ. Of all the 27 industries, only SIC 13 (Oil & Gas Extraction), the manufacturing industry(SIC 26, 28, 35, 36, 38), SIC 58 (Eating & Drinking Places), SIC 73 (Business Services), SIC 79 (Amusement & Recreation Services), and SIC 80 (Health Services) are significantly positively associated with the TQ.

To ensure that multi-collinearity does not bias the results of the study, I obtain the variance inflation factors (VIF) for the independent variables. Most independent variables have VIFs that are just above 1.00, with a few above 2.00, and the highest VIF is 2.67, well below the cutoff value of 10, indicating the multi-collinearity is not a problem in this model.

The results from this study have revealed the effective monitoring function of financial analysts. Gunny (2005) documents that analysts can see through all managerial myopic actions. Analysts play an important role in the capital market in guiding investors' investment and monitoring managers' reporting behavior. If REM is detrimental to firms' long-term value as alleged by some executives in Graham et al.

(2005), the market will assign a penalty to firms utilizing REM to meet/beat certain reporting goals, as evidenced in this paper and prior accounting literature (e.g., Bhojraj et al. 2009).

The effective monitoring function of financial analysts can also relieve some concerns of the regulators with regard to the expectation games played between management teams and financial analysts. Sankaraguruswamy and Sweeney (2005) build a model to show a symbiotic relationship between the management teams and the analysts. They state that management and analysts jointly want to build a relationship that will help each other, i.e., analysts will let managers achieve the meeting/beating goals, but not much to the extent that will humiliate the analysts. In case of HabitMBE, it seems that management and the analysts live in harmony. Management teams achieve their goals and the analysts do not lose face by missing too much. In this case, the market interprets firms as less risky, and more predictable. However, if HabitMBE firms resort to REM to achieve the reporting goal, financial analysts will interpret that value-reducing action to the market, breaking the harmony and curbing managerial REM actions.

4.5 Robustness Tests

I perform the following tests to check the robustness of my results:

4.5.1 Fixed Effects Model

Table 9 presents the results from Fixed Effects model. The results in general are consistent with those reported in the OLS regression in Table 8. The only notable

difference is the significance on the coefficients of SIZE (β_8). They are still positive and not significant any longer in the fixed effects model.

Table 9. Robustness Test of H2 - Fixed Effects Model

			TQ					
		Pred. sign	CFO	DISEXP	PROD	REM1	REM2	REM
Intercept	β_0	?	1.2473 ***	1.2214 ***	1.2795 ***	1.2589 ***	1.2829 ***	1.2858 ***
			(32.27)	(33.05)	(33.93)	(33.72)	(33.99)	(34.07)
HabitBEATERS	β_1	+	-0.2655 ***	-0.2917 ***	-0.3145 ***	-0.2982 ***	-0.3271 ***	-0.3179 ***
			(-4.44)	(-4.28)	(-5.08)	(-4.53)	(-4.98)	(-4.96)
HabitMBE	β_2	+	0.3867 ***	0.4121 ***	0.3625 ***	0.3793 ***	0.4199 ***	0.3884 ***
			(10.15)	(8.78)	(8.96)	(8.67)	(9.66)	(9.22)
DREM	β_3	-	-0.1031 ***	-0.1208 ***	-0.1704 ***	-0.1607 ***	-0.1742 ***	-0.1796 ***
			(-5.70)	(-6.71)	(-9.48)	(-8.94)	(-9.62)	(-9.91)
DREM * HabitMBE	β_4	-	-0.3063 ***	-0.1657 **	-0.1579 **	-0.1315 **	-0.2219 ***	-0.1777 ***
			(-4.07)	(-2.61)	(-2.33)	(-2.06)	(-3.47)	(-2.73)
DREM * HabitBeaters	β_5	-	*0.1074*	*0.1265*	*0.1834* **	0.1439 *	0.1934 **	0.1822 **
			(1.29)	(1.47)	(2.19)	(1.69)	(2.28)	(2.16)
DOWN	β_6	?	-0.2399 ***	-0.2402 ***	-0.242 ***	-0.2405 ***	-0.2401 ***	-0.2414 ***
			(-12.96)	(-12.98)	(-13.10)	(-13.01)	(-13.01)	(-13.07)
DA	β_7	-	-0.6354 ***	-0.5924 ***	-0.5882 ***	-0.5821 ***	-0.5566 ***	-0.5630 ***
			(-5.41)	(-5.04)	(-5.01)	(-4.96)	(-4.74)	(-4.80)
$SIZE_{t-1}$	β_8	+	0.0015	0.0059	0.0037	0.0048	0.0028	0.0035
			(0.27)	(1.06)	(0.66)	(0.86)	(0.50)	(0.63)
MTB_{t-1}	β_9	+	0.3199 ***	0.3185 ***	0.3155 ***	0.3159 ***	0.3150 ***	0.3145 ***
			(81.92)	(81.01)	(79.98)	(80.01)	(79.85)	(79.52)
LEV_{t-1}	β_{10}	-	-1.5551 ***	-1.5435 ***	-1.539 ***	-1.5361 ***	-1.5185 ***	-1.5232 ***
			(-35.71)	(-35.34)	(-35.36)	(-35.25)	(-34.77)	(-34.92)
Z_SCORE_{t-1}	β_{11}	+	0.0836 ***	0.0919 ***	0.0851 ***	0.0897 ***	0.0878 ***	0.0861 ***
			(13.96)	(15.59)	(14.43)	(15.26)	(14.94)	(14.63)
Industry dummy			Yes	Yes	Yes	Yes	Yes	Yes
Year dummy			Yes	Yes	Yes	Yes	Yes	Yes
Obs.			14295	14295	14295	14295	14295	14295
R-squared			0.4565	0.4566	0.4584	0.4580	0.4591	0.4590

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

4.5.2 Petersen (2009)

Table 10 presents the results using the method from Petersen (2009). The main results still hold. The two differences from the OLS results (Table 8) are the significances in DREM*HabitBEATERS (β_5) and SIZE (β_8). The significance in β_5 is more pronounced than that in Table 8. As mentioned earlier, the interpretation on β_5 tends to be misleading in this study. The coefficients on SIZE are positive but not significant as in Table 9 but different from Table 8. The coefficients are the same for Table 9 and Table 10. Differences lie in the t-value of each coefficient.

Table 10. Robustness Test of H2 - Petersen (2009)

			TQ					
		Pred. sign	CFO	DISEXP	PROD	REM1	REM2	REM
Intercept	β_0	?	1.2473 ***	1.2214 ***	1.2795 ***	1.2589 ***	1.2829 ***	1.2858 ***
			(30.85)	(29.55)	(31.29)	(30.25)	(30.75)	(30.88)
HabitBEATERS	β_1	+	-0.2655 ***	-0.2917 ***	-0.3145 ***	-0.2982 ***	-0.3271 ***	-0.3179 ***
			(-9.76)	(-9.23)	(-11.17)	(-9.34)	(-10.85)	(-10.93)
HabitMBE	β_2	+	0.3867 ***	0.4121 ***	0.3625 ***	0.3793 ***	0.4199 ***	0.3884 ***
			(8.25)	(7.13)	(7.19)	(6.86)	(7.42)	(7.26)
DREM	β_3	-	-0.1031 ***	-0.1208 ***	-0.1704 ***	-0.1607 ***	-0.1742 ***	-0.1796 ***
			(-6.06)	(-6.61)	(-9.67)	(-8.82)	(-9.52)	(-9.97)
DREM * HabitMBE	β_4	-	-0.3063 ***	-0.1657 **	-0.1579 **	-0.1315 *	-0.2219 ***	-0.1777 ***
			(-4.90)	(-2.28)	(-2.35)	(-1.88)	(-3.26)	(-2.63)
DREM * HabitBeaters	β_5	-	0.1074 ***	0.1265 ***	0.1834 ***	0.1439 ***	0.1934 ***	0.1822 ***
			(2.91)	(3.24)	(4.93)	(3.70)	(5.09)	(4.86)
DOWN	β_6	?	-0.2399 ***	-0.2402 ***	-0.242 ***	-0.2405 ***	-0.2401 ***	-0.2414 ***
			(-15.63)	(-15.62)	(-15.77)	(-15.65)	(-15.62)	(-15.71)
DA	β_7	-	-0.6354 ***	-0.5924 ***	-0.5882 ***	-0.5821 ***	-0.5566 ***	-0.5630 ***
			(-4.05)	(-3.77)	(-3.76)	(-3.71)	(-3.55)	(-3.60)
$SIZE_{t-1}$	β_8	+	0.0015	0.0059	0.0037	0.0048	0.0028	0.0035
			(0.25)	(0.95)	(0.59)	(0.77)	(0.45)	(0.56)
MTB_{t-1}	β_9	+	0.3199 ***	0.3185 ***	0.3155 ***	0.3159 ***	0.3150 ***	0.3145 ***
			(33.82)	(33.69)	(33.19)	(33.23)	(33.20)	(33.03)
LEV_{t-1}	β_{10}	-	-1.5551 ***	-1.5435 ***	-1.539 ***	-1.5361 ***	-1.5185 ***	-1.5232 ***
			(-35.38)	(-35.22)	(-35.16)	(-35.16)	(-34.79)	(-34.93)
Z_SCORE_{t-1}	β_{11}	+	0.0836 ***	0.0919 ***	0.0851 ***	0.0897 ***	0.0878 ***	0.0861 ***
			(9.20)	(10.14)	(9.33)	(9.89)	(9.68)	(9.48)
Industry dummy			Yes	Yes	Yes	Yes	Yes	Yes
Year dummy			Yes	Yes	Yes	Yes	Yes	Yes
Obs.			14295	14295	14295	14295	14295	14295
R-squared			0.4565	0.4566	0.4584	0.4580	0.4591	0.4590

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

4.5.3 Balance Sheet Bloat Measure

Besides accruals earnings management, accounting literature also explores the balance sheet constraints in earnings management. Barton and Simko (2002) predict and find that managers' ability to optimistically bias earnings decreases with the extent to which the balance sheet overstates net assets relative to a neutral application of GAAP. Following Badertscher (2011), I name it BLOAT in this study. Consistent with DA measure, I get the adjusted BLOAT ($BLOAT_{adj}$) by subtracting industry-year mean of BLOAT from firm-year specific BLOAT. In long-term effect test, I substitute $BLOAT_{adj}$ for DA.

I define BLOAT as the beginning of net operating assets (NOA) in year t divided by the beginning sales in year t. NOA is equal to the operating assets minus operating liabilities. Operating assets equal total assets (#AT) minus cash and short-term investment (#CHE). Operating liabilities equal total assets (#AT) minus short-term debt (#DLC) minus long-term debt (#DLTT) minus minority interest (#MIB) minus preferred stock (#PSTK) minus common equity (#CEQ).

Table 11 presents the results from long-term effect test using the BLOAT measure instead of the DA measure. The results from this test are in general consistent with the results when using DA as the control variable. However, the coefficients on $BLOAT_{adj}$ are all positive and significant at a 0.01 significance level, different from the results when using DA as a control variable. I was expecting this coefficient to be negative since it is much similar to DA in the sense that the higher the value, the higher the magnitude of

upward earnings management. The positive signs might suggest that the market is not able to see through the BLOAT measure as it is able to see through the accruals earnings management (DA) measure.

Table 11. Robustness Test of H2 - Bloated Balance Sheet Measure

			TQ					
	Pred.	Sign	CFO	DISEXP	PROD	REM1	REM2	REM
Intercept	β_0	?	1.2573 ***	1.2508 ***	1.2979 ***	1.2829 ***	1.3114 ***	1.3097 ***
			(29.54)	(29.18)	(30.50)	(29.70)	(30.28)	(30.26)
HabitBEATERS	β_1	+	-0.2642 ***	-0.3456 ***	-0.3397 ***	-0.3494 ***	-0.3666 ***	-0.3524 ***
			(-8.81)	(-10.50)	(--11.05)	(-10.42)	(-11.69)	(-11.09)
HabitMBE	β_2	+	0.4384 ***	0.4195 ***	0.4149 ***	0.4104 ***	0.4623 ***	0.4292 ***
			(7.80)	(6.13)	(6.76)	(6.15)	(6.74)	(6.60)
DREM	β_3	-	-0.0934 ***	-0.1407 ***	-0.1706 ***	-0.1708 ***	-0.1887 ***	-0.1887 ***
			(-5.06)	(-7.12)	(-8.98)	(-8.71)	(-9.61)	(-9.76)
DREM * HabitMBE	β_4	-	-0.3679 ***	-0.1286	-0.2122 ***	-0.1372	-0.2507 ***	-0.2036 **
			(-4.90)	(-1.47)	(-2.67)	(-1.63)	(-3.08)	(-2.53)
DREM * HabitBeaters	β_5	-	0.0844 **	0.1957 ***	0.2091 ***	0.2111 ***	0.2417 ***	0.2237 ***
			(2.16)	(4.79)	(5.30)	(5.16)	(6.10)	(5.62)
DOWN	β_6	?	-0.2489 ***	-0.2495 ***	-0.2508 ***	-0.2492 ***	-0.2492 ***	-0.2503 ***
			(-14.77)	(-14.78)	(-14.88)	(-14.77)	(-14.78)	(-14.84)
BLOAT_adj	β_7	-	0.1024 ***	0.1259 ***	0.1139 ***	0.1229 ***	0.1239 ***	0.1204 ***
			(4.24)	(5.33)	(4.87)	(5.28)	(5.34)	(-5.18)
$SIZE_{t-1}$	β_8	+	-0.0040	-0.0005	-0.0025	-0.0015	-0.0039	-0.0029
			(-0.62)	(-0.07)	(-0.39)	(-0.23)	(-0.61)	(-0.43)
MTB_{t-1}	β_9	+	0.3328 ***	0.3311 ***	0.3283 ***	0.3285 ***	0.3274 ***	0.3269 ***
			(32.62)	(32.52)	(32.03)	(32.06)	(32.04)	(31.82)
LEV_{t-1}	β_{10}	-	-1.5916 ***	-1.5851 ***	-1.5770 ***	-1.5787 ***	-1.5598 ***	-1.5640 ***
			(-33.06)	(-33.13)	(-32.96)	(-33.07)	(-32.73)	(-32.81)
Z_SCORE_{t-1}	β_{11}	+	0.0843 ***	0.0945 ***	0.0866 ***	0.0919 ***	0.0904 ***	0.0882 ***
			(8.56)	(9.68)	(8.82)	(9.42)	(9.26)	(9.03)
Industry dummy			Yes	Yes	Yes	Yes	Yes	Yes
Year dummy			Yes	Yes	Yes	Yes	Yes	Yes
Obs.			12,706	12,706	12,706	12,706	12,706	12,706
R-squared			0.4532	0.4538	0.4553	0.4550	0.4564	0.4561

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

4.5.4 Forensic Accounting Measure

Beneish et al. (2013) develop a model to calculate a score that predicts firms' probability of earnings manipulation. Hereafter, I call this score M_SCORE. To be consistent with the measure of DA, I take the adjusted M_SCORE (M_SCORE_{adj}) as firm-year specific M_SCORE minus industry-year mean of M_SCORE. In the long-term effect test, I substitute M_SCORE_{adj} for DA as a control variable.

The calculation of M_SCORE is as follows:

M_SCORE = -4.84 + 0.920 (DSR) + 0.528 (GMI) + 0.404 (AQI)
+ 0.892 (SGI) + 0.115 (DEPI) – 0.172 (SGAI)
+ 4.679 (ACCRUALS) – 0.327 (LEVI)

where:

DSR = ($RECEIVABLES_t$ (Data #RECT)/$SALES_t$ (Data #SALE))/
($RECEIVABLES_{t-1}$/$SALES_{t-1}$);

GMI = GROSS MARGIN $_{t-1}$/$GROSS\ MARGIN_t$, where GROSS MARGIN
= 1 – COGS (Data #COGS)/ SALES;

AQI = $[1 – (PPE_t + CA_t)/AT_t]/[1 – (PPE_{t-1} + CA_{t-1})/AT_{t-1}]$, where PPE is net Data (#PPENT), CA is current asset (Data #ACT), and AT is total assets Data (#AT);

SGI = $SALES_t$ (Data #SALE)/$SALES_{t-1}$;

DEPI = $DEPRECIATION\ RATE_{t-1}$/$DEPRECIATION\ RATE_t$,
Where depreciation rate = depreciation (Data #DP -AM)/

(Depreciation + PPE (Data # PPENT);

SGAI = [(SG&A$_t$ (Data #XSGA)/SALES$_t$ (Data #SALE)]/ [SG&A$_{t-1}$/SALES$_{t-1}$];

ACCRUALS = (Income before extraordinary items (Data #IB) – Cash from Operations (Data #OANCF))/AT$_t$;

LEVI = LEVERAGE$_t$/LEVERAGE$_{t-1}$, where LEVERAGE = debt (Data #LCT + Data #DLTT)/AT$_t$;

Table 12 presents the results when M_SCORE$_{adj}$ is used as a control variable instead of DA. The results, in general, are consistent with those when DA is used as a control variable. However, the coefficients of M_SCOREadj are all positive and significant at least at a 0.05 significance level, different from the results when DA as the control variable. I was expecting this coefficient to be at least negative since M_SCORE functions as DA in the sense that the higher the score, the higher the magnitude of the earnings management. The positive signs might suggest that the market is not able to see through the BLOAT measure as it is able to see through the accruals earnings management (DA) measure.

Table 12. Robustness Test of H2 - Forensic Accounting Measure

			TQ					
	Pred.	Sign	CFO	DISEXP	PROD	REM1	REM2	REM
Intercept	β_0	?	1.3032 ***	1.2557 ***	1.3359 ***	1.2973 ***	1.3142 ***	1.3214 ***
			(24.79)	(23.80)	(25.29)	(24.34)	(24.57)	(24.66)
HabitBEATERS	β_1	+	-0.2736 ***	-0.3261 ***	-0.3306 ***	-0.3220 ***	-0.3547 ***	-0.3249 ***
			(-7.27)	(-7.99)	(-8.67)	(-7.52)	(-9.27)	(-7.85)
HabitMBE	β_2	+	0.2912 ***	0.3737 ***	0.2751 ***	0.3149 ***	0.3823 ***	0.3217 ***
			(5.01)	(5.01)	(4.39)	(4.49)	(5.27)	(4.75)
DREM	β_3	-	-0.1266 ***	-0.1149 ***	-0.1949 ***	-0.1582 ***	-0.1634 ***	-0.1762 ***
			(-5.84)	(-4.87)	(-8.53)	(-6.73)	(-6.86)	(-7.52)
DREM * HabitMBE	β_4	-	-0.1898 **	-0.1835 **	-0.0891	-0.1055	-0.2526 ***	-0.1549 *
			(-2.23)	(-1.99)	(-1.04)	(-1.18)	(-2.92)	(-1.81)
DREM * HabitBeaters	β_5	-	0.1126 **	0.1651 ***	0.1989 ***	0.1703 ***	0.2224 ***	0.1804 ***
			(2.26)	(3.21)	(3.97)	(3.25)	(4.47)	(3.50)
DOWN	β_6	?	-0.2357 ***	-0.2354 ***	-0.2365 ***	-0.2351 ***	-0.2359 ***	-0.2378 ***
			(-11.86)	(-11.81)	(-11.89)	(-11.81)	(-11.85)	(-11.93)
M_SCORE_adj	β_7	-	0.0391 **	0.0408 ***	0.0412 ***	0.0401 **	0.0401 **	0.0398 **
			(2.47)	(2.58)	(2.60)	(2.53)	(2.53)	(2.52)
$SIZE_{t-1}$	β_8	+	0.0007	0.0052	0.0025	0.0036	0.0019	0.0026
			(0.09)	(0.63)	(0.31)	(0.45)	(0.23)	(0.32)
MTB_{t-1}	β_9	+	0.3330 ***	0.3323 ***	0.3279 ***	0.3295 ***	0.3288 ***	0.3278 ***
			(27.51)	(27.47)	(26.96)	(27.07)	(27.03)	(26.85)
LEV_{t-1}	β_{10}	-	-1.6535 ***	-1.6402 ***	-1.6311 ***	-1.6337 ***	-1.6176 ***	-1.6191 ***
			(-28.14)	(-27.79)	(-27.88)	(-27.85)	(-27.64)	(-27.72)
Z_SCORE_{t-1}	β_{11}	+	0.0623 ***	0.0731 ***	0.0659 ***	0.0712 ***	0.0697 ***	0.0681 ***
			(5.65)	(6.60)	(5.93)	(6.42)	(6.29)	(6.14)
Industry dummy			Yes	Yes	Yes	Yes	Yes	Yes
Year dummy			Yes	Yes	Yes	Yes	Yes	Yes
Obs.			8,789	8,789	8,789	8,789	8,789	8,789
R-squared			0.4519	0.4548	0.4574	0.4560	0.4570	0.4569

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

4.5.5 Performance-Matching results

Table 13 presents the results using performance-matching technique suggested by Kothari et al. (2005). I match HabitBEATERS and HabitMBE from the Other group based on industry, year, and closest ROA. For the 1,292 HabitMBE observations, I find 1,263 matching observations. For the 772 HabitBEATERS, I find 722 matching observation in the Other group. After lagging variables, I have 2,313 valid observations for the performance-matching regression.

The results, in general, are consistent with the results from OLS regression in Table 8. Notable differences are as follows. The coefficients of DREM (β_3) are still negative but not statistically significant any more. The coefficients of DREM*HabitBEATERS (β_5) are most (four out of six) positive, but not significant any more.

Table 13. Robustness Test of H2 - Performance-matching Method

			TQ											
	Pred.	Sign	CFO		DISEXP		PROD		REM1		REM2		REM	
Intercept	β_0	?	0.4196	*	0.3759		0.4431	*	0.4251	*	0.4584	**	0.4624	**
			(1.83)		(1.56)		(1.92)		(1.81)		(2.00)		(2.02)	
HabitBEATERS	β_1	+	-0.4078	***	-0.3400	***	-0.3814	***	-0.3538	***	-0.4231	***	-0.4084	***
			(-5.89)		(-4.40)		(-5.45)		(-4.70)		(-5.50)		(-5.56)	
HabitMBE	β_2	+	0.3486	***	0.4137	***	0.3583	***	0.3663	***	0.3999	***	0.3615	***
			(4.51)		(4.70)		(4.66)		(4.43)		(4.87)		(4.70)	
DREM	β_3	-	-0.0935		-0.0629		-0.0969		-0.1006		-0.1226		-0.1404	
			(-1.21)		(-0.77)		(-1.18)		(-1.24)		(-1.47)		(-1.65)	
DREM * HabitMBE	β_4	-	-0.3469	***	-0.2737	**	-0.2695	**	-0.2154	**	-0.2853	***	-0.2317	**
			(-2.98)		(-2.61)		(-2.57)		(-2.10)		(-2.84)		(-2.34)	
DREM * HabitBeaters	β_5	-	0.114		-0.0358		0.0483		-0.0069		0.1123		0.0974	
			(1.27)		(-0.38)		(0.54)		(-0.08)		(1.26)		(1.08)	
DOWN	β_6	?	-0.294	***	-0.2900	***	-0.2990	***	-0.2893	***	-0.2899	***	-0.2959	***
			(-6.57)		(-6.39)		(-6.54)		(-6.41)		(-6.43)		(-6.49)	
DA	β_7	-	-1.1007	***	-1.0753	**	-1.1085	***	-1.1019	***	-0.9842	**	-1.0074	**
			(-2.66)		(-2.53)		(-2.67)		(-2.63)		(-2.34)		(-2.40)	
$SIZE_{t-1}$	β_8	+	0.0988	**	0.1045	**	0.0969	**	0.1008	**	0.0979	**	0.0983	**
			(2.17)		(2.24)		(2.14)		(2.20)		(2.16)		(2.15)	
MTB_{t-1}	β_9	+	0.2085	***	0.2097	***	0.2089	***	0.2088	***	0.2077	***	0.2083	***
			(3.34)		(3.35)		(3.34)		(3.33)		(3.33)		(3.33)	
LEV_{t-1}	β_{10}	-	-1.6625	***	-1.6701	***	-1.6682	***	-1.6742	***	-1.6432	***	-1.6528	***
			(-14.59)		(-14.76)		(-14.56)		(-14.84)		(-14.65)		(-14.65)	
Z_SCORE_{t-1}	β_{11}	+	0.3008	***	0.3030	***	0.3013	***	0.3014	***	0.2986	***	0.2987	***
			(6.64)		(6.55)		(6.59)		(6.57)		(6.58)		(6.55)	
Industry dummy			Yes		Yes		Yes		Yes		Yes		Yes	
Year dummy			Yes		Yes		Yes		Yes		Yes		Yes	
Obs.			2,313		2,313		2,313		2,313		2,313		2,313	
R-squared			0.5145		0.5139		0.5138		0.5133		0.5162		0.5150	

Statistical significance levels of 0.01, 0.05, and 0.10 are indicated by ***, **, and * respectively.

Chapter 5

Conclusions

This paper studies the association between utilizing real earnings management to habitually meet/beat analysts' forecasts and firms' long-term economic performance. Results first show that HabitMBE firms use less income-increasing REM. Further analyses reveal that HabitMBE firms are larger firms and are more transparent than any other categories in the study. Capital markets interpret the transparency as less risky and more stable, hence assign a significant premium to these firms for consistently meeting/closely beating analysts' earnings forecasts. However, if these firms engage in value-reducing REM repeatedly to achieve the goal, investors can see through the managerial actions and will assign a severe penalty to these firms.

In addition, the results suggest that in the long-run, analysts' downward forecast revisions have significant and negative effect on firms' economic performance, which prior studies have not documented clearly.

The results are robust to additional tests. However, I cannot exclude the possibility that the measurement errors in the models are driving the results. Specifically, the results for HabitBEATERS tend to be misleading because the REM measures may not be applicable to these firms due to their specific characteristics, which warrant a separate paper for future research.

This paper contributes to the REM literature and the managerial reporting behavior literature. Specifically, this paper studies REM and MBE jointly, filling a gap

by analyzing the relation between using REM to habitually MBE and firms' long-term economic performance (TQ). MBE, even habitual MBE, has been studied in the accounting literature, but has been largely done from the perspectives of accruals earnings management or expectations earnings management. REM has been studied in the accounting literature as well, but has been scarcely examined as a way to MBE, much less Habitual MBE. Several studies, including survey and empirical ones, explore the relation between REM and firms' performance, but the relation between using REM to habitually MBE and firms' long-term market performance has not yet been explored.

This paper has some implications to the regulators, investors, and financial analysts. Regulators have expressed their concerns about the expectation games played between corporate managers and financial analysts. It seems that neither the managers nor the financial analysts are doing their jobs but playing games to stay employed. However, the results of the study suggest that financial analysts are doing their jobs to monitor managers' myopic reporting behavior. If managers repeatedly utilize REM to meet/closely beat analysts' earnings forecasts, analysts will communicate that information to the investors and investors will take punitive actions to warn the managers of their behavior.

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