



MONASH University

**Does Corporate Ownership Structure Matter In
Market Expectations Adjustment:
U.S. Evidence**

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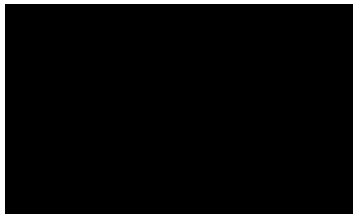
Abstract

This study investigates the impact of ownership structure and concentration, and the identity of the blockholder, otherwise known as the largest shareholder, on the issuance, the precision (point forecasts as opposed to range forecasts and open-ended forecasts) as well as the accuracy (ex-post) of management earnings forecasts within the context of *expectations adjustment*. Using 4,210 firm-years from 2003 to 2013 gathered from *Thomson Guidance* and *OSIRIS* databases, the results show that all blockholders (largest shareholders), except family members, are more likely to issue management earnings forecasts. Firms with other large shareholders owning five per cent (5%) of shares, except the largest one, are also found to be more inclined to issue management earnings forecasts. The results also show that lower (higher) ownership concentration results in more (less) precise and accurate earnings forecasts but the sign reverses for accuracy when the level of market expectation deviation reaches the 75th percentile and above suggesting that the perceived benefits gained from rent-seeking activities overshadow the associated potential litigation costs. Family firms have less incentive to issue earnings forecast. However, for those who issue forecasts, the forecasts are more precise and accurate. Firms with institution investors, foreign investors, and other substantial shareholders as the largest shareholders are more likely to issue forecasts, and the forecasts are more accurate, but as the level of market expectation deviation moves beyond the 75th percentile, for substantial shareholders, this relationship reverses thereby exacerbating the adverse effect on corporate transparency by the largest controlling shareholder. Government/State-owned firms, in general, issue earnings forecasts, and the forecasts are more precise but less accurate. However, when the market expectation deviation level is beyond the 50th percentile, the relationship is reversed for accuracy suggesting that government ownership supports better disclosure policies.

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Keywords

- Information Asymmetry
- Voluntary Disclosure
- Expectations Adjustment Hypothesis
- Management Earnings Forecasts
- Corporate Governance
- Ownership Structure and Concentration
- Blockholder
- Largest Shareholder
- Alignment Theory
- Entrenchment Theory
- United States

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CHAPTER 1

INTRODUCTION

This chapter reports the summary of the research background in Section 1.1, followed by the research objectives in Section 1.2. Section 1.3 presents the research motivations and research questions in Section 1.4. Lastly, Section 1.5 discusses the research contributions, and Section 1.6 shows the chapter layout.

1.1 Research Background

Information about a firm is very important for market participants in their decision-making process. Market participants update their beliefs about underlying firm profitability after receiving managers' disclosures of the firms' financial figures (Rogers et al., 2009; Patton and Verardo, 2012). It is also well documented that information disclosures can affect asset pricing and investor uncertainty (Verrecchia, 2001; Rogers et al., 2009). Hence, information disclosure has become an integral part of the financial system where the exchange of information between the insiders (e.g., managers, shareholders, and stakeholders) and the outsiders (e.g., investors, financial analysts, and other market participants) takes place.

Publicly listed firms are required to disclose all value-relevant information to the public as soon as it becomes available. For example, all publicly listed firms are mandated by regulations to disclose their annual returns and financial reports within the allowable time frame upon their financial year-end. This financial information can then be made readily available and accessible to the public.

However, what is of greater importance here is the voluntary disclosure of financial information, such as management earnings forecasts (MEF), which matters more as it goes beyond the disclosure requirements of the standard accounting rules and regulations. This is because a more transparent information environment, such as frequent voluntary disclosure of financial information, can have a profound effect on investors' investment decision-making and also the efficiency of the capital market as a whole (Das et al., 2011). More importantly, it can mitigate agency problems between management, shareholders, and stakeholders (Coller and Yohn, 1997; Lang and Lundholm, 1999; Verrecchia, 2001; Das et al., 2011), prevent insider trading, and also the misappropriation of corporate assets by insiders with privileged access to internal information (Leventis and Weetman, 2004; Kraft et al., 2014).

Firms with frequent voluntary disclosure have a lower magnitude of periodic surprises about firm's performance and share price volatility, higher stock liquidity, and management credibility, which results in higher firm valuation coupled with more long-term investors and analyst following (Lang and Lundholm, 1999; Hsieh et al., 2006; Han, 2013). Conversely, firms with less voluntary disclosure could provide a "red flag" to stakeholders, such as regulators, especially when there are drastic changes in firms' share prices (Haat et al., 2008; Ahmad-Zaluki and Wan-Hussin, 2010). This has heightened global awareness of the importance of information transparency and accountability. To this end, regulators around the world have emphasized the disclosure of all price-sensitive information (both mandatory and voluntary) to market participants as soon as the information becomes available.

For example, the Regulation Fair Disclosure (FD) promulgated by the U.S. Securities and Exchange Commission (SEC) in August 2000 requires all publicly traded firms to disclose all material information to all investors at the same time to limit superior trading opportunities for recipients of firms' selective disclosures at the expense of the less informed traders. This is further accompanied by SEC Rule 10b-5 of the Code of Federal Regulation which prohibits anyone with superior material information, such as insiders, to trade on inside information unless the information is disclosed beforehand. More specifically, the enactment of the Private Securities Litigation Reform Act of 1995 enforces the practice of voluntary earnings forecast disclosure to protect the interests of all market participants. Also, with effect from 2nd April 2013, the SEC allows firms to use social media platforms, such as Facebook and Twitter, to share information, as long as they comply with FD and investors are informed about which social media outlet will be used to announce the information.

In the U.K., the Financial Services Authority (FSA) was introduced in 1997 to reform the corporate voluntary disclosure practices by re-emphasizing the importance of price-sensitive information disclosure, and abuses like misuse of information, false or misleading impression, and market distortion. Consequently, the Code of Market Conduct was implemented in 2001. This Code requires all listed firms to disclose to the market all price-sensitive information sufficiently and accurately, and they must not mislead market participants, whether it comes from the firms themselves, their advisors, and/or their agents to avoid market abuse and to boost investor confidence. There are severe civil and criminal penalties mandated for those firms that deviate from this requirement where the burden of proof is lower than for the previous regulation.¹

¹ For more details on the FSA's enforcement policies, see <http://www.fsa.gov.uk/Pages/doing/regulated/law/focus/>

Likewise, the European Commission emphasizes speedy dissemination of information to market participants at the same time and prohibits private briefings and other forms of selective disclosure. This is enforced by the Transparency Directive, which was enacted in 2004 and revised in 2013, which emphasizes the transparency requirements for listed firms. It requires all listed firms within the European Union to have an appropriate transparent environment through the regular flow of information including any ad-hoc material information according to the Market Abuse Directive. The Market Abuse Directive was adopted in 2003, and requires all inside information to be made public as soon as possible to market participants.²

The timely and accurate disclosure also forms the basis of the Australian Stock Exchange, with a world-class technological platform (CAP) that enables listed companies to make simultaneous and rapid dissemination of disclosure. Even China passed its first national Securities Law in 1998 to protect the interests of investors by requiring listed companies to disclose information that is likely to influence the share price (Anderson, 2000). Although all these regulations are in place, publicly listed firms often only disclose such information as is mandated. This practice is also observed in the U.S. even though these publicly listed firms are supposed to adhere to the stringent regulatory framework of the U.S. Securities and Exchange Commission (Cadwalader et al., 2005; Rogers and Buskirk, 2009). So, the question here is why are managers willing or reluctant to disclose more private information? And, what determines their voluntary disclosure practices to disclose or to withhold this information?

² For more details on Transparency Directive and Market Abuse Directive, see http://ec.europa.eu/internal_market/securities/abuse/index_en.htm and http://ec.europa.eu/internal_market/securities/transparency/index_en.htm, respectively.

Hence, there is a deep and continuing interest in the research area of voluntary disclosure. One of the most prominent pieces of information that a firm voluntarily discloses is management earnings forecasts. Management earnings forecasts reflect the expectation about firms' earnings that are value-relevant and up-to-date information that is not entirely reflected in the historical earnings reported in the periodic financial statements of publicly listed firms (Ajinkya and Gift, 1984; Collier and Yohn, 1998).³ Past studies show that management earnings forecasts are relatively more accurate and not optimistically biased compared to the contemporaneous analysts' earnings forecasts and actual earnings reported, respectively (Hassell and Jennings, 1986; Waymire, 1986; Frankel et al., 1995; Gift and Yohn, 1997). Hence, it is an important source of information to both investors and analysts in analysing the firm's value (Das et al., 2011). Besides its widely acknowledged credibility in forming investors' decision-making (Healy and Palepu, 2001, Das et al., 2011), the disclosure of management earnings forecasts can also affect firms' equity pricing (Baginski et al., 1993 & 2002; Hsieh et al., 2006), analysts' expectations (Cotter et al., 2006), and market responses (Rogers and Stocken, 2005; Han, 2013).

A good example would be IBM. In 2016, IBM released its management earnings per share forecast of \$13.50 for the fiscal year 2016. However, this forecast missed Wall Street's average expectation of about \$15.00. Albeit having its Quarter 4 2015 earnings topping the analyst's forecasts, this shortfall of \$1.50 caused IBM's share price to fall more than 10% on the day of earnings announcement (CNBC, 2016). The opening share price was at \$130.11, and the closing share price (after adjustment for dividends and splits) was down to \$117.64 on 19th January 2016. This presents anecdotal evidence that

³ For a review of voluntary disclosure literature, see Healy and Palepu (2001); Verrecchia (2001); Hirst et al. (2008); Han (2013).

management earnings forecasts are an important source of financial information, and the issuance of management earnings forecasts can affect firm's share price, or in other words, shareholders' net worth.

However, economic theories offer conflicting views of whether insiders/managers will suppress private information for personal gain or voluntarily reveal private information such as management earnings forecasts (Spence, 1974; Ross, 1979; Gonedes et al., 1976; Verrecchia, 2001). The issuance of management earnings forecasts can reduce information asymmetry among market participants (Ajinkya and Gift, 1984). It reduces the differential information advantage between informed investors who have material, firm-specific information related to future public announcements, and uninformed investors who do not have access to such information. This is because information asymmetry creates costs by introducing adverse selection (hidden information) into transactions between buyers and sellers of firms' shares. It also induces moral hazard (hidden action) as it opens up the opportunity that informed traders might gain an advantage over uninformed traders by using insider information. Hence, it is the trade-off between whether to withhold private information to conceal rent-seeking activities, or to voluntarily disclose more private information to reduce the potential litigation risk associated with selective disclosure (Skinner, 1994 and 1997). This motivates scholars to examine the underlying motives of managers to provide such forecasts voluntarily.

Scholars have analysed why managers voluntarily issue management earnings forecasts. The motivations, amongst others, include to align market expectation with manager's expectation, to mitigate potential litigation risk, to prove managerial incentives and creditability for signalling managers' ability to keep up with management expectations, and to guide analysts in their consensus estimates (Hirst et al., 2008, Han, 2013). There

are two schools of thought in the research approach. Early studies focused on using archival methods to test the economic theories while recent studies employed the experimental method to test the psychology/behaviour theories of management earnings forecasts.⁴

This study focuses on one of the methods explored – *expectations adjustment* – which is, managers are motivated to issue management earnings forecasts voluntarily when they wish to align market expectations with their own (Ajinkya and Gift, 1984). This action rests on the premise that managers want to minimize the potential problems associated with allowing unrealistic market expectations to persist. These potential problems include the dramatic swing in firm’s share prices when the actual earnings released are inconsistent with the prevailing expectations (Ajinkya and Gift, 1984), the potential litigation risk associated with withholding private information (Skinner, 1997), and also affecting market participants’ future beliefs about the firms (Zhou, 2017). Such an action is also undertaken with the assumption that managers’ and shareholders’ interests are aligned. That is, when the managers and shareholders have the same interests, aligning unrealistic market expectation with manager’s expectation will maximize the firm’s value, which, eventually, will also maximize the shareholder’s wealth. However, it also draws attention to the fact that if the managers and shareholders have different interests, then *expectations adjustment* alone may no longer be applicable in determining the disclosure decision of management earnings forecasts (Bamber and Cheon, 1998). This leads to the potential competing hypotheses and therefore motivates the interaction between the blockholders and the management earnings forecast decision in the context of *expectation adjustment hypothesis*.

⁴ For the archival method, see Ajinkya and Gift (1984), King et al. (1990), Coller and Yohn (1998), Ajinkya et al. (2005), Karamanou and Vafeas (2005) for reviews. For the experimental approach, see Hirst et al. (2008) and Han (2013) for a review of all methodologies adopted in the literature.

King et al. (1990) have extended this concept by introducing *agency theory* and signalling the importance of information asymmetry in their study – *expectations adjustment hypothesis*. They hypothesize that “managers are motivated to issue management earnings forecasts to align market expectations with their own only *when the prevailing market expectation is unrealistic*.” In other words, when the market expectation (proxied by analysts’ earnings forecasts) deviates away from the management earnings forecast, it signals the existence of information asymmetry between the insiders and outsiders (Ajinkya, 1984, King et al., 1990). Hence, the firm's management will then voluntarily issue management earnings forecasts to narrow the deviation between management expectations and the prevailing market expectations. At the same time, it also reduces the necessity for other market participants to search for private information (King et al., 1990). The reduction in information asymmetry will reduce the trading cost, and, at the same time, reduce the probability of market penalization (King et al., 1990). Nevertheless, this hypothesis has been largely neglected despite the growing research in this area given that more recent studies focus on the experimental approach, i.e., behaviour theory (see Hirst et al., 2008 and Han, 2013). This study attempts to close this gap.

On the same note, *expectations adjustment* hypothesizes that "managers" are the ones motivated to issue management earnings forecasts (Ajinkya and Gift, 1984). However, past literature shows that managers work at the discretion of the blockholders (largest shareholders) in their daily operations (Holderness and Sheenan, 1988), including disclosure practices (Lim et al., 2014). Hence, there is every reason to expect that it is the blockholders of the firm that matter in the *expectations adjustment*, instead of managers *per se*. More specifically, it is the channel of block ownership that is interesting in explaining

the manager's incentive to disclose management earnings forecasts. This study, therefore, endeavours to integrate *agency theory* in explaining the *expectations adjustment hypothesis*.

1.2 Research Objectives

This study aims to further develop the *expectations adjustment hypothesis* by incorporating *agency theory* to examine the relationship between the corporate ownership structure and the characteristics of its management earnings forecasts. This research tests whether blockholders and the identity of the blockholders matters in the issuance of management earnings forecast, the precision (point forecasts as opposed to a range and open-ended forecasts) and the accuracy (ex-post) of the forecast, by using market expectation deviation as a proxy for information asymmetry.

Using U.S. listed firms from 2003 to 2013, this study investigates whether firms with concentrated ownership are more likely to issue management earnings forecasts. This study also further examines whether the forecasts issued are both more precise and accurate in order to reduce market expectation deviation (unrealistic prevailing market price)⁵ among market participants. Furthermore, since large shareholders differ in their objectives, power, investment horizon, and access to financing, this study further posits that the incentive to reduce information asymmetry (proxied by market expectation deviation) and the characteristic of the forecast varies according to the identity of the blockholders. More precisely, this study examines:

- (i) whether there is a relationship between ownership concentration, the issuance of management earnings forecasts, the precision and the accuracy of firms' forecasts when the prevailing market prices are unrealistic; and

⁵ Information asymmetry, unrealistic prevailing market price, market expectation deviation, and high market error are used interchangeably throughout the thesis.

- (ii) the relationship between the identity of the blockholders, otherwise known as largest shareholder (family/institution/government/foreigner), the issuance, the precision, and the accuracy of the firms' earnings forecasts in market expectations adjustment.

Hence, this study could shed some light on whether corporate ownership structure, particularly the identity of the blockholders, has any effect on the issuance of management earnings forecasts, as well as the precision and the accuracy of the management earnings forecasts in the effort of market expectations adjustment. This study thus develops and integrates the literature on the *expectations adjustment hypothesis* and *agency theory*.

1.3 Research Motivations

Although extensive research has been carried out in the area of voluntary disclosure, the concept of whether or not managers will voluntarily disclose private information, such as management earnings forecasts, when the level of market expectation deviation is high is still a question unaddressed. This sets the primary motivation for this study.

Unrealistic prevailing market expectation signals the existence of information asymmetry (King et al., 1990). Since publicly listed firms are required to disclose all price sensitive information, and given that the public provision of management earnings forecasts can reduce the public incentive in acquiring private information and the level of information asymmetry among market participants (Healy and Palepu, 2001), the interesting question here is whether firms will credibly disclose more precise (i.e., point forecast) and more accurate forecasts to reduce market expectation deviation, or strategically reveal less precise (i.e., range forecast and open-ended forecasts) and less

accurate forecasts to cover their ill-gained benefits when the prevailing market expectation is unrealistic. The former argues that firms' managers want to maintain their credible reputation, to exert their quality effort, and to avoid the potential litigation risks associated with inadequate disclosure; the latter is possibly due to expropriation activities, the free-riding among other blockholders and the minority shareholders, and the potential proprietary costs (Burkart et al., 1997; Healy and Palepu, 2001). This is suggestive of a plausible trade-off between the advantages and disadvantages of having a more transparent information environment. It is, therefore, important to look at the underlying motivations of firms in forming their forecast disclosure decisions.

This study also integrates another renowned theory – *agency theory*. Managers are inclined to pursue their own interests at the expense of the shareholders (Jensen and Meckling, 1976). This leads to the rise of the free-rider problem as shareholders with diffused ownership are unable to control the managers due primarily to the separation of ownership from control, i.e., distant and diffused stockholders, with concentrated management (Roe, 2005). This dispersed ownership structure leads to agency problems arising from conflicts of interest between principals (shareholders) and agents (managers) (Jensen and Meckling, 1976). To overcome this issue, large shareholders will increase their shareholding so that they can have more control and ownership over the firms. This will eventually lead to another form of agency problem, which is the conflicts of interest between the blockholders and the minority shareholders (Jensen and Meckling, 1976).

Indeed, concentrated ownership is more common around the world including the United States, with the blockholders often serving as the chief executive officer or chairman of the boards, and actively involved in the business (Claessens et al., 2000; Faccio and Lang, 2002; Faccio et al., 2001; Holderness, 2010). Therefore, it is no surprise

that empirical studies show that managers are being controlled and influenced by large shareholders in their daily activities which includes disclosure practices (Holderness and Sheehan, 1988; Lim et al., 2014). This study disagrees with the conjectured common belief that shareholders are uniform in their preference for voluntary disclosure. It is argued that large shareholders will influence manager's forecast decisions according to their preferences on disclosure practices, that is, either to increase or to decrease the firm's transparency for the sake of their benefits through the alignment of market expectation. Since large shareholders differ in their objectives, power, investment horizon, and access to financing, we further posit that the incentive to reduce market expectation deviation and the characteristics of the forecast vary according to the identity of the blockholders. Given that there could be single blocks that are alone able to exert control or could also be the large shareholders that are collectively able to exert control, in this study, blockholder here refers to the largest shareholder.

1.4 Research Questions

The research questions of this study are as below.

- (i) Does ownership concentration and the identity of the blockholders affect the issuance of firms' management earnings forecasts?
- (ii) Does ownership concentration affect the precision, and the accuracy of firms' management earnings forecasts when the level of market expectation deviation is high (i.e., prevailing market prices are unrealistic)?
- (iii) Does the identity of the blockholders, otherwise known as largest shareholders (family/institution/government/foreigner) affect the precision, and the accuracy of the firms' management earnings forecasts when the level of market expectation deviation is high?

1.5 Research Contributions

There are several significant contributions from this study. First, the results of this study further develop the literature on the *expectations adjustment hypothesis*. According to the *expectations adjustment hypothesis*, it is only when the asymmetry of information between the insiders and outsiders is huge that the firm's management will voluntarily issue management earnings forecasts to narrow the market expectation deviation gap. It is also reasonable to assume that the forecasts issued will be more precise and more accurate so that the information asymmetry gap will be narrowed. However, this study finds that the precision and the accuracy of management earnings forecasts *per se* do not vary according to the level of market expectation deviation. That is, regardless of the level of information asymmetry, the precision of the management earnings forecasts is not significant, and the management earnings forecasts are less accurate across all levels. The former could be due to the fact that there is no legislation mandated for the precision of the forecasts, and the latter could be simply due to the fact that it is indeed a challenging task to assess unforeseen market information and situations. This could be one of the reasons why researchers have swiftly changed from using the archival method to the experimental approach in their studies. Nonetheless, this study reveals one of the promising links to this gap, that is, ownership structure and concentration.

Second, this study indeed proves that it is the ownership structure and concentration that affect the firms' forecast disclosure practices when the level of market expectation deviation is high. That is, blockholders can pressure managers to issue earnings forecasts, and whether to credibly disclose more precise (i.e., point forecast) and more accurate forecasts, or strategically reveal less precise (i.e., range forecast and open-ended forecasts) and less accurate forecasts depending on the level of market expectation

deviation. Specifically, the study finds a reversed relationship between concentrated ownership and the accuracy of management earnings forecasts when the level of market expectation deviation is high. This suggests that both the level of ownership concentration and the level of market expectation deviation play a vital role in determining the firms' forecasts disclosure decisions. That is, at different levels of information asymmetry, the degree of ownership concentration (so does the degree of its risk exposure) matters in the trade-off between the litigation risk exposed for withholding value-relevant private information and the personal gain from entrenchment. This finding is very important as it provides the missing link for supporting the *expectations adjustment hypothesis*. It also sends a powerful signal to the regulators about the plausible trade-off observed of large shareholders, across the different levels of market expectation deviation.

Third, this study contributes to the corporate governance literature. It reveals that the incentive to correct market expectation deviation (to reduce information asymmetry) and the characteristic of management earnings forecasts varies according to the identity of the blockholders. It also reveals that the efficacy of independent directors and audit committees are insignificant in affecting the characteristic of the forecasts in contrast to prior findings. The former shows that the percentage shareholding of the blockholders speaks louder than just the identity of the blockholders. This suggests that when the percentage of shareholding increases, the potential litigation risk associated with poor disclosure practices also increases and that this litigation risk may supersede the potential entrenchment benefits. The latter suggests that independent directors and audit committees are inefficient in monitoring, either because they are being appointed by, or have allegiance to the managers, or simply because board culture discourages conflict, or due to the fear of litigation and reputation costs for providing more precise forecasts (Jensen, 1993; Ajinkya et al., 2005). This is further supported by the fact that the efficiency

of the firm's governance can be negated when the blockholders have the utmost control over the firms (Bebchuk and Hamdani, 2009).

Fourth, using annual management earnings forecasts instead of quarterly earnings forecasts contribute to the voluntary disclosure literature. In a recent Wall Street Journal article wrote by the billionaire investor Warren Buffett and JPMorgan Chase Chief Executive Jamie Dimon, that U.S. publicly listed firms who focus on short-term goals are hurting the economy because these firms are pressured to meet their short-term management earnings forecasts (The Wall Street Journal, 2018). These firms often hold back spending on research and development in order to meet their quarterly management earnings forecasts. As such, quarterly management earnings forecasts would lead to an unhealthy focus on short-term profits at the expense of long-term strategy, growth and sustainability of the firms, as well as the capital market as a whole. Due to the above potential noisy factors, future research on voluntary disclosure should focus on annual earnings forecasts rather than quarterly earnings forecasts. At the same time, this commentary sends a very strong signal to the U.S. Securities and Exchange Commission to consider legislating the issuance of precise and accurate annual management earnings forecasts for all publicly listed firms, and do away with quarterly management earnings forecasts which promote short-termism instead of corporate sustainability in the long term.

Fifth, although the U.S. practices strong investor investment protection, especially for the minorities, this study reveals that the minorities (*Other Owners*) pose a challenge in their investing firms by only demanding more accurate management earnings forecasts when the level of market expectation deviation is lower. This finding suggests that the investor protection for the minorities in the U.S. can alleviate the potential agency

problems. However, when the level of market expectation deviation is higher, the earnings forecasts issued are significantly less accurate suggesting that the minorities do not have enough decisive votes to counteract the blockholders, which exacerbates the adverse effect on corporate transparency by the largest controlling shareholder. Hence, bringing together point number four and five, using a relatively well-regulated country like the U.S. in this study can offer a significant insight for the regulators around the world in their voluntary disclosure and corporate governance policies transformation. This is especially critical for short-term oriented capital market and also where concentrated ownership is the prominent feature of the market.

Apart from those established motivations of why managers voluntarily issue management earnings forecasts, this study offers a more detailed analysis by developing the *expectations adjustment hypothesis* literature and incorporating *agency theory* in enlightening that corporate ownership is another form of managers' "motivations". This study also provides an insight into the precision and the accuracy of the forecast that the blockholder is willing to disclose at different levels of market expectation deviation. The finding that concentrated ownership and the identity of blockholders matter to the precision and the accuracy of management earnings forecasts further supports the elusive standard of corporate governance. All the above contributions have significant implications for future corporate governance and voluntary disclosure research for regulators around the world in the reform of their information disclosure policies, as well as for other market participants like the analysts and investors in their estimation and investment decision-making.

1.6 Thesis Layout

The remainder of the thesis is organized as follows. Chapter 2 summarizes the prior literature on management earnings forecast. The hypotheses are discussed in Chapter 3, followed by a detailed discussion of data and research methodologies in Chapter 4. Chapter 5 presents the detailed discussion of the empirical results, and Chapter 6 summarizes and concludes.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Research on voluntary disclosure began in the early 1960s with the work of Cerf (1961), and, since then, management earnings forecasts have been recognized as one of the most significant forms of voluntary disclosure (Hirst et al., 2008). Prior research has shown that management forecasts are an important source of information for investors, analysts, and the capital market as a whole, and their credibility have been widely acknowledged (Patell, 1976; Penman, 1980; Waymire, 1984; Pownall and Waymire, 1989; Hirst et al., 2008; Das et al., 2011; Han, 2013). Early studies have looked at the archival methods promulgated by Ajinkya and Gift (1984), and King et al. (1990) that employ the *expectations adjustment hypothesis*, followed by more recent studies that use experimental approaches to test the behaviour theories of management earnings forecasts (Han, 2013). Since this study focuses on the *expectations adjustment hypothesis*, the review of past literature will focus on the same.

This section first outlines the motivations of managers in their earnings forecast disclosures practices in Section 2.2. Section 2.3 explains the market expectations adjustment, followed by the main characteristics of management earnings forecasts examined in past studies in Section 2.4. It then discusses the firm-level determinants of the characteristics of management earnings forecasts in Section 2.5. Section 2.6 describes the industry-level determinants of the characteristics of management earnings forecasts. Section 2.7 concludes, followed by a summary of past literature in Table 2.3.

2.2 Managers' Disclosure Motivations

Early studies on management earnings forecasts look at the underlying motives for managers to voluntarily provide the forecasts. The motivations include aligning market expectation with manager's expectations, mitigating potential litigation risk, and managerial incentives for signalling managers' ability to keep up with management expectations (Hirst et al., 2008).

Prior research is indicative of the support for the concept of *expectations adjustment*, which explains why managers are motivated to issue credible forecasts in an attempt to align market expectations with their own. Using 259 annual earnings forecasts over an eight-year period (1970-1977) for 191 firms obtained from the *Wall Street Journal Index*, Ajinkya and Gift (1984) test the "*expectations adjustment*" by examining market reactions to the release of management earnings forecasts. They conclude that managers are motivated to issue earnings forecasts, regardless of the nature of their news content, in order to minimize the potential problem (e.g., litigation risk) of allowing unrealistic expectations to prevail. This motivation is congruent with the urge to lower the information asymmetry between the managers and outside stakeholders including shareholders, analysts, and potential investors (Ajinkya and Gift, 1984; Verrecchia, 2001).

Hassell and Jennings (1986) test the *expectations adjustment* concept by comparing management and analyst forecast accuracy for a sample of 247 annual earnings per share retrieved from the *Dow Jones News Retrieval Service (DJNRS)* from June 1979 to December 1982. They find that managers are more inclined to issue a forecast, and the forecasts issued subsequent to, coincidentally on the same day with, and up to four weeks prior to

analyst forecasts are more accurate than the analyst forecasts. This also supports the notion that managers do have incentives to signal their credibility.

Coller and Yohn (1997) employ the bid-ask spread as the proxy for information asymmetry to investigate the role of management earnings forecasts in market expectations adjustment across market participants. Using a sample of 179 matching forecasting and non-forecasting firms from 1988 to 1992 obtained from *Dow Jones News Retrieval Service (DJNRS)*, they find that the bid-ask spreads of forecasting firms are significantly higher than those of the matched non-forecasting firms in the period before the management forecast is being issued. However, they find no difference in the bid-ask spread between the matched firms after a management forecast, thereby confirming that management earnings forecasts are effective in aligning market expectation.

On the other hand, Das et al. (2007) examine the *expectations adjustment* concept by looking at the daily returns in three different periods, i.e., at the time the management earnings forecast is made, in the period subsequent to the forecast and leading up to the announcement of actual earnings, and at the time actual earnings are announced. The results show that there is a significant drift following the management earnings forecasts, implying that the market does not correctly impute the forecast into prices, or there is a delay in the price discovery process. Nonetheless, they find stronger evidence that management earnings forecasts reduce the magnitude of the market response to earnings surprises at the time of the actual earnings announcement.

Another motivation for managers to issue management earnings forecasts is to mitigate the potential litigation risk. Management earnings forecasts have proven to be an effective tool in managing litigation risk. For example, Skinner (1994) attempts to answer

why firms voluntarily disclose bad news using a random sample of 93 NASDAQ National Market System (NMS) firms from 1981 to 1990. His result shows that, generally, firms are infrequent in issuing management earnings forecasts. In particular, firms with good news tend to issue point or range forecasts of annual earnings per share, while firms with bad news tend to issue qualitative quarterly earnings per share, and those with larger negative earnings surprises are pre-empted in advance to the public beforehand. This evidence supports the notion that managers face an asymmetric loss function in their disclosure decisions because they may bear potential lawsuits from the shareholders for withholding adverse earnings news and incur a reputational cost for failing to disclose bad news in a timely manner (Skinner, 1997).

The next prevalent motivation is managerial incentives. Trueman (1986), under certain assumptions, develops an economic model to examine the reasons managers voluntarily provide earnings forecasts. The central assumptions are, for example, one manager in each firm; a risk-free asset is available with a return set to zero without loss of generality; investors and managers are risk neutral; managers are assumed to refrain from trading or holding shares in their own firms or those of competitors, amongst others. He concludes that if managers' objectives are to maximize firm value and have control over production decisions, then providing management earnings forecasts signals the managers' ability to anticipate and access economic environment changes to firms' operations and to adjust production accordingly in order to keep up with management expectations. Hence, releasing earnings forecasts gives market participants a more favourable assessment of the managers' ability and also increases firm value. A summary of the motivations is presented in Table 2.1.

Table 2.1: Management Earnings Forecast Disclosure Motivations

Archival Approach / Method	
Motivations	Summary
Aligning market expectation (Ajinkya and Gift, 1984)	Managers are motivated to issue voluntary earnings forecasts when they wish to align market expectations with their own.
Mitigate litigation risks (Skinner, 1994)	Disclosure of material information on a timely basis can mitigate the potential litigation risk.
Managerial incentives to signal credibility (Trueman, 1986)	Managers are motivated to issue voluntary earnings forecasts to signal their credibility and ability to anticipate and assess economic environment changes to firms' operations.

Since then, scholars have extensively extended the investigation of management earnings forecasts by examining the firm-level, industry-level, and country-level determinants of the voluntary provision of management earnings forecasts and the forecasts characteristics, such as frequency, accuracy, precision, biasness, forecast horizon, as well as the timing and venue of the forecast disclosure. This study discusses them in Section 2.4, after the detailed explanation of the *expectations adjustment* in Section 2.3, which is the crux of this study.

2.3 Expectations Adjustment

This study focuses on one of the motivations discussed, which is the *expectations adjustment*. This is because economic theories, often under conflicting assumptions, indicate that managers will suppress or reveal all private information voluntarily to the public (Ross, 1979; Gonedes et al., 1976; Verrecchia, 2001; Hirst et al., 2008; Han, 2013, Zhou, 2017). This could be due to several reasons. For example, firms are concerned about the potential litigation risk associated with the firms (and thus shareholders) for conditioning the market (Cadwalader et al., 2005). Market conditioning is a behavioural theory whereby rewards are given for the responses in a preset situation (Gray, 2011).

Another concern is that firms may fear that more voluntary disclosure could reveal proprietary information about the company to their competitors (Ali et al., 2014). Managers are also concerned about establishing a disclosure precedent that is difficult to maintain or deviate from a long-standing policy (Graham et al., 2005). Other concerns include managers lack of confidence in the ability to predict future earnings, or managers fear of legal repercussions if their forecast proves to be inaccurate and thus results in price volatility and a lower price-earnings ratio (Ajinkya and Gift, 1984). Hence, a firm manager's decision to incur a cost for truthfully disclosing private information about unrealized forthcoming earnings depends on the effect on its share price (Zhou, 2017), and, subsequently, the effect on the welfare of the firm and its shareholders.

Given the above concerns, and because it is not feasible to directly measure the incentives or motivations of the managers in their voluntary disclosure practices, Ajinkya and Gift (1984) have adopted a different approach to test the motivation of the managers. They hypothesise that (1) forecasts are issued by managers in an effort to move prevailing market expectations (analysts' forecasts) towards management beliefs about their future earnings, and (2) conditional on the management forecast signal, the capital market revises its expectations (and the equilibrium value of firms' common shares) in an unbiased fashion. They reason that the triggering condition here is that managers have private information which indicates that the prevailing market expectations (analysts' earnings forecasts) are unrealistic. Since analysts' earnings forecasts are the determinants of market expectations and can affect market share prices, they posit that managers are motivated to correct the market expectations accordingly to avoid dramatic swings in share prices when the actual earnings announced deviate significantly away from the market expectations. Although the results support their hypotheses, King et al. (1990) extend the *expectations adjustment* concept by using agency theory as the foundation for their

hypotheses. They argue that the disclosure of management earnings forecasts to align prevailing market expectation can reduce the market expectation deviation among analysts and other market participants. This reduces their costs in spending time and money to come out with their own forecasts. Managers may benefit from helping these parties in saving their time and money (Metcalf, 2005).

Expectations adjustment hypothesis is under the assumption that managers' and shareholders' interests are aligned. However, if the managers and shareholders have different interests, then *expectations adjustment* alone may no longer be applicable in determining the disclosure decision of management earnings forecasts (Bamber and Cheon, 1998). In this situation, largest shareholder may exercise his/her power to influence the disclosure of the firm's management earnings forecasts, weighing the advantages and disadvantages of such disclosure.

Having said this, not many have explored this area, and, to the best of the author's knowledge, none have examined the agency theory and *expectations adjustment hypothesis* in detail. Given that large shareholders are pervasive worldwide including the U.S. (Holderness, 2010), and given their power in controlling the manager's daily operations (Holderness and Sheehan, 1988) including disclosure practices (Lim et al., 2014), it spurs the author's interest to examine this long overdue gap.

2.4 Characteristics of Management Earnings Forecasts

Researchers have looked at many characteristics of management forecasts (Hirst et al., 2008; Han, 2013). The most common characteristics examined are occurrence, frequency, accuracy, specificity (precision), biasness, forecast horizon, as well as the

timing and venue of the forecast disclosure. The definitions of these characteristics are summarized in Table 2.2 below.

Table 2.2: Definitions of Management Earnings Forecast Characteristics

Characteristics	Definitions
Occurrence	The probability of occurrence of forecasts of firms
Frequency	The total incidence of forecasts issued by firms
Accuracy	The difference between the management forecast of earnings per share compared to the actual reported earnings per share for the same period. A smaller number indicates a more accurate forecast.
Specificity / Precision	The specificity of the forecasts, either the forecasts are point forecasts, interval (range) forecasts, open-ended forecasts, or qualitative forecasts
Bias	The difference between the management forecast of earnings per share compared to the actual reported earnings per share for the same period. A number less (greater) than zero indicates that the management earnings forecast is optimistically (pessimistically) biased
Forecast Horizon	The number of days between the forecast date and the fiscal period end date of that forecast
Timing	The time when the management earnings forecast is being issued, for example, before or after a particular event, such as capital offering, earnings announcement, or merger and take-over
Venue	The venue where the management earnings forecast is being issued, for example, during press conferences, or during annual general meetings

Consistent with past studies, this study applies the same management earnings forecast characteristic definition for ease of comparability. The characteristics used in this study are occurrence, precision, and accuracy, and other characteristics not stated herein and that will be adopted in this study will be defined.

2.5 Firm-Level Characteristics

Previous studies show that firm-level characteristics do matter to the voluntary provision and the characteristics of management earnings forecasts (Ajinkya et al., 2005; Cheng and Courtenay, 2006; Karamanou and Vafeas, 2005; Ruland et al., 1990; Frankel

et al., 1995; Baek et al., 2009; Chin et al., 2006). The relevant firm-level characteristics include ownership structure, board structure, audit committee, firm age, firm size, board experience, the number of analysts following, type of news disclosed, capital offering, and growth opportunity, which are discussed below.

2.5.1 Ownership Structure

One of the earliest studies that examine the factors affecting management earnings forecasts is by Ruland et al. (1990). Using a U.S. sample retrieved from the Dow Jones News Retrieval Service (DJNRS) from January 1980 to December 1985, the authors look at five factors, of which ownership structure has the most significant impact on the characteristics of management earnings forecasts. They measure ownership structure in terms of the percentage of voting stock owned by officers and directors, i.e., insider ownership. Their result shows that insider ownership is lower for firms that release forecasts at the one per cent significance level, suggesting that outside shareholders have successfully expanded their resources in monitoring managerial behaviour when the insider ownership is low. A similar result is observed in Karamanou and Vafeas (2005) in their sample of 275 Fortune 500 firms, from 1995 to 2000 whereby firms with low insider ownership are more likely to issue forecasts, and their forecasts are more accurate, more precise, and less optimistic. These results suggest that the entrenchment effect may be rampant in firms with high insider ownership.

An equivalent finding is also documented in another developed country – Singapore. Cheng and Courtenay (2006) investigate the relationship between voluntary disclosure and insider ownership of firms listed on the Singapore Exchange (SGX) in 2000. The former is proxied by a self-constructed voluntary index that includes forward-looking information, such as earnings forecasts, and the latter is measured by a dummy

variable of one if there is a presence of inside block owner, defined as any person who is either in the management team, board of directors, or is a corporation whose shareholding is more than 5%, or is ranked in the top five blockholders (largest shareholders). They find that firms with the presence of an inside block owner have lower voluntary disclosure, which is consistent with the argument that when management becomes entrenched as a result of inside block ownership, they are more inclined to maximize the private benefits associated with being an inside block owner. Consequently, these firms are more likely to disclose less information to maintain significant information asymmetry between themselves and outside shareholders in order to avoid external monitoring.

This characteristic is also prevalent in other developing countries, such as Taiwan, for which Chin et al. (2006) find a negative relationship between concentrated ownership and management earnings forecasts. The authors investigate 528 earnings forecasts made by Taiwanese-listed firms from 1999 to 2001; their ownership variable is defined as the divergence between the ultimate owner's control and the equity ownership level. They report that firms with greater divergence between the ultimate owner's control and the equity ownership level are more likely to issue inaccurate and optimistically biased forecasts. Furthermore, they also find that these firms tend to revise their forecasts more frequently to reduce forecasts error and/or bias to avoid violating the allowed twenty per cent forecast error threshold.

Given that numerous studies show that concentrated ownership is significantly prevalent in many developed and developing countries (Holderness, 2010; Claessens et al., 2000; Anderson and Reeb, 2003; Faccio and Lang, 2002; Villalonga and Amit, 2006; Lim et al., 2014; Edmans and Holderness, 2017), the above studies may have overlooked the potential problem that arises from block ownership. This is because the potential

agency problem arises between the blockholder and minority shareholders could be more serious than the agency problem between principal and manager, whereby the blockholder may effectively control the firm's managerial personnel (Shleifer and Vishny, 1997), accounting information (Fan and Wong, 2002), as well as disclosure practices. Hence, it is important to determine whether the key agency conflict in public listed firms is between diffused shareholders and managers, or between blockholders and minority shareholders. For this reason, focusing on firm-level characteristics, such as insider ownership, may miss nuances offered by taking a closer look at ownership. Having said so, to the best of our knowledge, only a handful of studies have emphasized research on block ownership and the identity of the blockholder. Moreover, the interpretation of the results from these studies and their contributions may be limited, as explained below.

Using a sample of 275 U.S. firms from the Fortune 500, from year 1995 to 2000, Karamanou and Vafeas (2005) study the relationship between institutional ownership and voluntary financial disclosure practices proxied by management earnings forecasts. They find that U.S. firms with higher institutional ownership are more likely to issue forecasts and that these forecasts are more precise. A similar result is also documented by Baik and Jiang (2006) using U.S. firm-quarters from the year 1995 to 2002, whereby firms with high transient institutional ownership, a vector measured using the Spectrum database, are more likely to issue pessimistic forecasts. The finding is consistent given that institutional investors are generally perceived as short-term investors. Therefore, firms with high institutional ownership are more likely to have a long history of meeting or beating expectations, in other words, these firms focus on short term.

Ajinkya et al. (2005) provide a more insightful narrative about the association between institutional ownership and the characteristics of management earnings forecasts,

i.e., accuracy, precision, frequency, and biasness, using 1,467 firms covered by First Call – Company Issued Guidance (CIG), from 1997 to 2002. On the one hand, the authors show that U.S. firms with greater institutional ownership are more likely to issue forecasts more frequently, with those forecasts being more accurate and precise, and less optimistic. On the other hand, they find that firms with concentrated institutional ownership, measured by (1) the total percentage of common stock held by the five largest institutional owners of the firm, and (2) a Herfindahl index of institutional ownership concentration, are negatively associated with forecast characteristics at the 1% significant level, citing that concentrated institutional ownership inherently has the ability to generate private benefits and thus has an adverse effect on disclosure properties. Although the inverse is found in the post-Regulation of Fair Disclosure period, statistically significant at 10% level, this result implies that the negative effect of concentrated institutional ownership is less prevalent after the implementation of the Fair Disclosure policy.

Ali et al. (2007) examine the relationship between 177 S&P500 family firms and their corporate disclosure, from 1998 to 2002. Family firms are identified using *Business Week* where a firm is classified as a family firm if the founder and/or their descendants hold positions in the top management, or are on the board, or are among the firms' blockholders, consistent with the classification adopted in Anderson and Reeb (2003). The result shows that family firms are more likely to disclose bad news voluntarily through management earnings forecasts. Likewise, Chen et al. (2008) study the voluntary disclosure of 1,311 family firms in the S&P1500 from 1996 to 2000. They define family firms using three proxies, i.e., (1) firms in which founders or their family members (by either blood or marriage) are key executives, directors, or blockholders; (2) firms with continuous family ownership; and (3) firms where the members of the founding family have an equity ownership of 5% or higher. The authors find that family firms provide

fewer earnings forecasts but more earnings warnings. The former is consistent with family owners having a longer investment horizon, better monitoring of management, and lower information asymmetry between owners and managers. The latter is consistent with family owners having greater litigation and reputation cost concerns.

Given that the provision of management earnings forecasts can mitigate information asymmetry, none of these studies examine (1) the interaction between ownership concentration and the *expectations adjustment hypothesis* in an effort to reduce market expectation deviation (align market expectations when the prevailing market prices are unrealistic, i.e., information asymmetry exists among market participants). Other limitations include the (2) data sample, for example, a relatively short sample period (between 1995 and 2002), and/or having a relatively small sample size. Given that the Regulation of Fair Disclosure was enacted in 2000, firms may have over- and/or under-reacted to the regulation around this period. Subsequently, this may have undue influence on firms' forecasts disclosure decisions. In order to capitalize and to better understand firms' voluntary disclosure practices, (3) a more detailed examination of the identity of blockholders, their percentage shareholding, and the characteristics of management earnings forecasts should be conducted; these are somehow lacking in the above studies.

2.5.2 Board Structure

Empirical evidence shows that outside directors can reduce financial fraud and earnings management (Beasley, 1996; Klien, 2002). It, therefore, suggests that outside directors can monitor the quality of financial information and firm's voluntary disclosure policy. Consistent with this proposal, past evidence shows that board independence (outside director) is positively associated with the characteristics of management earnings forecasts. For example, Ajinkya et al. (2005) show that firms with more outside directors,

measured by the percentage of the board of directors that are not also officers of the firm, are more likely to issue forecasts more frequently, and that the forecasts are more accurate and less optimistically biased. Nonetheless, they do not find a significant relationship between outside director and forecast precision, of which they reasoned that outside directors fear greater litigation exposure that might result from providing more specific forecasts.

Similarly, Karamanou and Vafeas (2005) find that firms with more outside directors are more likely to issue or update earnings forecasts. Although the forecasts are less likely to be precise, they are more accurate. Overall, these results confirm the monitoring role played by outside directors in mitigating managerial self-interest and influencing the characteristics of management earnings forecasts by actively reviewing and participating in the firm's financial reporting procedures and earnings releases to promote greater transparency (Skinner, 1994; Kasznik and Lev, 1995; Williams, 1996). Likewise, a similar result is also found in Singaporean firms, albeit only when the proportion of independent directors is above the Singaporean regulatory, i.e., minimum 33% (or one-third) of independent directors on the board (Cheng and Courtenay, 2006).

However, the above studies assume that the ownership of U.S. firms is widely dispersed, which is contrary to the findings of Holderness. Therefore, blockholders may exercise their superior power to influence and control the board's decisions. This is consistent with the alternative views that (1) outside directors may be inefficient in monitoring, either because they are being appointed by, or have allegiance to the managers, or simply because board culture discourages conflict (Jensen, 1993); (2) the effectiveness of outside directors and the extent to which they represent the shareholder interests can be influenced by the fear of litigation and reputation costs for providing

more precise forecasts (Ajinkya et al., 2005). This is also further supported by Bebchuk and Hamdani (2009) who contend that the efficiency of the firm's governance can be affected when the blockholders have the utmost control over the firms. Unfortunately, no attention is given to this potential issue.

Moreover, public listed firms are mandated by law to have a majority of independent directors on the board. For example, Section 303A.01 Independent Directors of the New York Stock Exchange Listed Company Manual mandates that all U.S. listed firms must have a majority of independent directors on the board (NYSE); and NASDAQ Rule IM-5605, Rule 5605(b)(1) also mandates that all listed firms have a majority of independent directors on the board (NASDAQ). Hence, the results presented in these studies could be biased since they are using the proportion of independent directors on the board instead of the percentage of equity ownership owned by the independent directors as the voting rights may provide more explanatory power. Earlier researchers did not investigate whether these independent directors are "grey directors".⁶ Furthermore, when a firm makes multiple forecasts during a fiscal period, only the latest forecast is used in the study. Given that managers can stage-manage their earnings forecast during the forecasting period up to the actual earnings announcement date, managers are capable of revising their earnings forecast so that the forecast is close to the actual earnings to avoid overreaction from the public. This could possibly affect the reliability of their findings.

⁶ Grey directors are defined as outside directors who have some non-board affiliation with the firm and who are a potential source of violation of board independence because of their other affiliations with management (Beasley, 1996). Therefore, grey directors' independence may be impaired by being the relatives of management, consultants, and suppliers of the firm, outside attorneys who perform legal work for the firm, retired executives of the firm and investment bankers (Gilson, 1990; Shivdasani, 1993).

2.5.3 Audit Committee

The literature on the effectiveness of the audit committee in monitoring financial reporting process has become more intensive. For example, audit committee independence is associated with a lesser degree of earnings management (Klien, 2002) and financial reporting restatement and fraud (Abbott et al., 2004), but a higher degree of forecast accuracy (Bédard et al., 2008; Ahmad-Zaluki and Wan-Hussin, 2010). However, the empirical results for the characteristics of management earnings forecasts are mixed.

For instance, with a sample of 235 Malaysian IPO firms from 1999-2006, Ahmad-Zaluki and Wan-Hussin (2010) find that firms with a higher percentage of non-executive directors in the audit committee and larger audit committee size have greater forecast accuracy. On the other hand, no evidence is found in a sample of 246 IPOs issued in the Canadian province of Québec over the period 1982 to 2002 (Bédard et al., 2008). Although Karamanou and Vafeas (2005) posit that audit committees play an important role in voluntary disclosure, surprisingly, among the audit committee variables used, only committee size is significantly associated with management earnings forecasts. Their result shows that firms with larger audit committee size are less likely to issue earnings forecasts, and that their forecasts are less likely to be precise, contrary to their prediction.

2.5.4 Firm Size

Larger firms may want to disclose more regularly because they can benefit from economies of scale in disclosure or because they may face greater litigation risk. Consistently, previous studies show a positive relationship between firm size and the characteristics of management earnings forecasts. For instance, using a sample of 2,070 firms from First Call Historical Database (FCHD) over the 1998 to 2002 period, Lennox and Park (2006) find that larger firms are more likely to issue earnings forecasts. A similar

result is also documented by Baik and Jiang (2006) in the U.S. firms. Trueman (1986) also notes that firms with low competitive costs of disclosure, i.e., firms either in a monopoly position or having a large market share – a signature characteristic of a large firm – are more likely to issue forecasts. Furthermore, in fact, larger firms are more likely to forecast more frequently (Kasznik and Lev, 1995; Frankel et al., 1995; Ajinkya et al., 2005) with the forecasts being more accurate and more pessimistic (Karamanou and Vafeas, 2005; Ajinkya et al., 2005).

2.5.5 Good News / Bad News

Past literature shows that firms with poor performance are more likely to delay the disclosure of negative financial information in an attempt to delay a drastic fall in stock price (Haw et al., 2000), and/or increase their disclosure of unfavourable news to avoid lawsuits by investors by issuing more optimistic forecasts (Frankel et al., 1995), or perhaps pre-empt the public beforehand (Skinner, 1994). In contrast, good performing firms may want to disclose good news perhaps to raise capital on the best available funding terms and conditions (Foster, 1986) and to maximize firm value (Trueman, 1986). Managers of good performing firms may also want to disclose the information for personal gains, such as the continuation of their positions and compensation justification (Haniffa and Cooke, 2002), by showing that they can access new changes to firm's operations through the release of earnings forecast (Trueman, 1986).

Using a random sample of 93 NASDAQ firms from 1981 to 1990, Skinner (1994) finds that firms with extreme negative earnings changes are more likely to announce their forecasts prior to the actual earnings announcement date. Baik and Jiang (2006) find that U.S. firms that are expecting losses are less likely to issue pessimistic forecasts, but U.S. firms with a long string of positive earnings surprises are more likely to issue pessimistic

forecasts. In Taiwan, Chin et al. (2006) notice that firms with losses tend to announce less accurate forecasts. Furthermore, Karamanou and Vafeas (2005) show that firms with bad news are more likely to issue forecasts, but that their forecasts are less likely to be precise, but more accurate and more pessimistic. A similar result is also observed by Kasznik and Lev (1995) in their study examining managers' discretionary disclosures prior to large earnings surprises. They find that managers with disappointing news are significantly more likely to issue forecasts and larger disappointments are preceded by more quantitative forecasts. These results are supported by Cao and Narayanamoorthy (2011) who use directors' and officers' liability insurance premiums as ex-ante litigation risk and find that managers with bad earnings news are more inclined to issue management earnings forecasts when faced with high ex-ante litigation risk. They also document that managers with good earnings news are less likely to provide management earnings forecasts regardless of the ex-ante litigation risk.

On the other hand, using analysts' forecast errors as an indication of good news, Ruland et al. (1990) do not find any significant result. Therefore, the content of the forecasts, i.e., the magnitude of either positive or negative earnings, has an impact on the characteristics of management earnings forecasts given that managers have a fear of legal liability and their reputation in the event of under/over-estimating their earnings forecasts compared to the actual earnings. This has support in the study by Brown et al. (2005) who investigate the influence of the litigation risk on managers' decisions to issue management earnings forecasts, and also find that litigation risk is positively associated with the likelihood of issuing management earnings forecasts in both good and bad news firms. However, they commented that litigation risk is unlikely to explain the observed preponderance of bad news forecasts mainly because their result shows that the association is marginally higher for firms with bad news.

2.5.6 Growth Opportunity

High growth firms, in general, are perceived to have a higher risk. Therefore, firms may want to disclose earnings forecasts in order to reduce the expected litigation risks (Skinner, 1994). However, since the market will penalize firms that miss their own earnings forecasts, managers may be reluctant to forecast at all (Graham et al., 2005). For these contrary reasons, the empirical results are mixed. For instance, Lennox and Park (2006) find that high-growth firms are more likely to issue earnings forecasts, but Baik and Jiang (2006) find no significant relationship between growth opportunity and the biasness of earnings forecast in U.S. firms.

2.5.7 Capital Offering

Ruland et al. (1990) are among the earliest papers that investigate the relationship between capital offering and management earnings forecasts. Obtaining data from the Directory of Corporate Financing from 1980 to 1985, they find that U.S. firms that want to raise new debt or new stock are more likely to release earnings forecasts, at the one per cent significance level. Likewise, using firms listed on the American or New York Stock Exchange (NYSE) from 1980 to 1983, Frankel et al. (1995) also find that firms that access capital markets are significantly more likely to issue unbiased earnings forecasts, which is in line with the proposition of reducing the cost of capital and enhancing firm value. These results are consistent with the survey done by Lees (1981) that earnings forecasts can alleviate adverse selection and moral hazard due to information asymmetry between the managers and the outsiders.

However, the above studies did not control for the content of the forecasts as in Lennox and Park (2006). In Lennox and Park's paper, the authors document that this

significant positive relationship only happens in their good news model, i.e., when the forecast contains good news.⁷ It therefore suggests that the relationship between capital offering and management earnings forecast is also subject to the nature of news released in the forecasts, which act as an incremental factor in determining this association.

2.5.8 Analyst Following

Theory suggests that a firm that is followed by a larger number of analysts should have stronger incentives to forecast earnings in order to maintain a reputation for credible communication (Graham et al., 2005). However, the results are mixed. For example, Lennox and Park (2006) document that firms in the U.S. with greater analyst following are more likely to issue forecast earnings. The result obtained by Karamanou and Vafeas (2005) shows that although firms with more analyst following are associated with disclosure of earnings forecasts, the forecasts are less accurate and more optimistic. Nonetheless, Ajinkya et al. (2005) find that U.S. firms with greater analyst following are more likely to issue forecasts, but they do not find any evidence that these firms have more accurate, more precise and less optimistic forecasts.

The above results imply that other factors, such as litigation and reputation costs, could have more impact on managers' decisions in announcing earnings forecasts. Trueman (1986) documents that legal liability and reputational costs can potentially deter managers from issuing forecasts. It therefore suggests that the threat of litigation, such as anti-fraud statutes or/and reputation costs, can increase the cost of a management forecast, and offset the benefit of disclosure.

⁷Lennox and Park (2006) classify the quarter's management forecast news as good (bad) if at least one management forecast is good (bad) and there are no bad (good) forecasts when there are multiple forecasts during that quarter. They also classify the quarter's management forecast news as "mixed" if the manager issues multiple forecasts that convey both good news and bad news during that quarter.

2.5.9 Volatility

Past evidence shows that the association between volatility and the characteristics of management earnings forecasts is mixed. On the one hand, Lennox and Park (2006) find that firms with higher return volatility, measured by the variance in daily raw stock returns over 250 trading days prior to the beginning of the quarter, are more likely to issue earnings forecasts. They also discover that earnings volatility is significantly positive in their bad news model but insignificant in their good news model. Ajinkya et al. (2005) using the standard deviation of quarterly earnings as a proxy for earnings volatility find that firms in the U.S. with higher earnings volatility issue forecasts less frequently, and that their forecasts are less accurate and more optimistically biased; significant at the 5% level. Another study, done by Waymire (1985), finds a significant negative relation between earnings volatility and the frequency of forecast for good news firms but not for bad news firms. Therefore, these studies suggest that the impact of earnings or return volatility on management earnings forecasts is prejudiced by the nature of the news.

2.6 Industry Level Characteristics

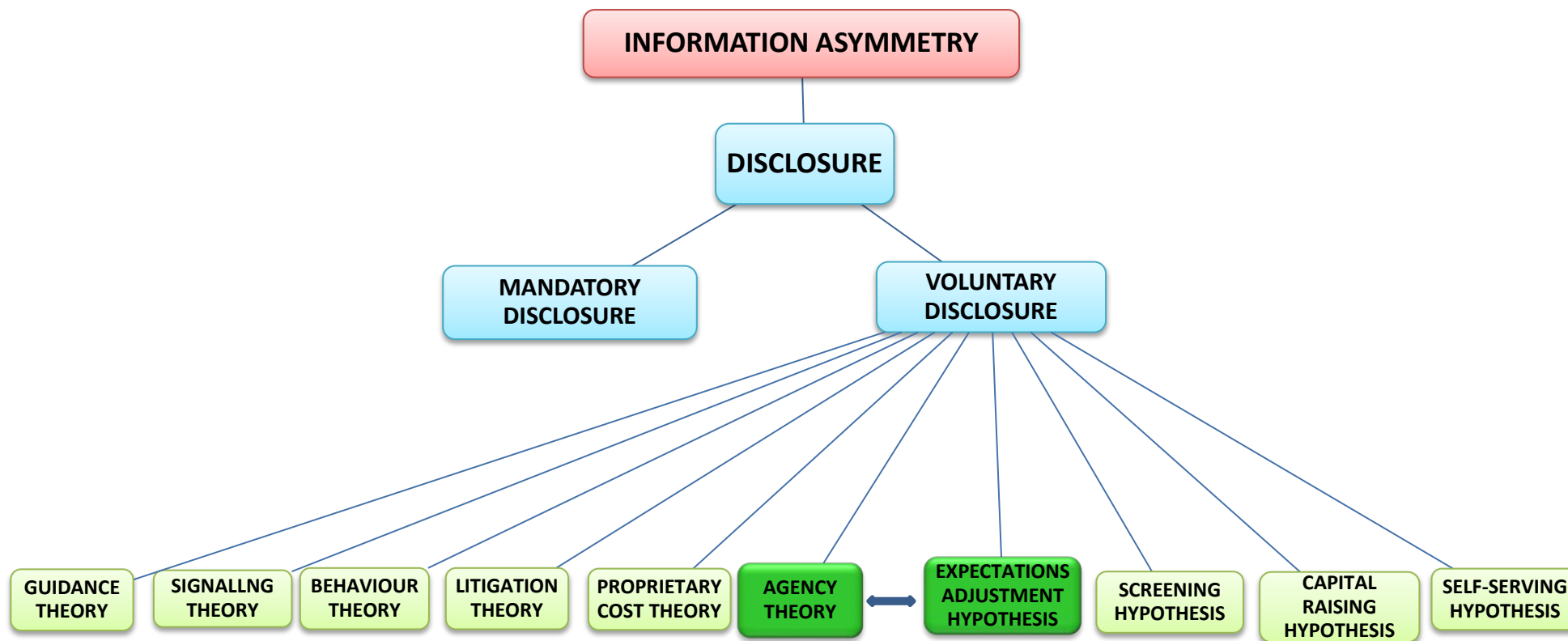
Some industry sectors, for example, the financial sector (e.g., banks, financial companies, and insurance companies), and the utility sector are subject to more stringent disclosure rules and regulations. Past evidence finds that since utility firms are more highly regulated than other sectors, they issue more forecasts (Patell, 1976). Firms in the high-technology sector, generally have higher risks. Therefore, these firms may want to disclose earnings forecasts in order to reduce expected litigation risks (Skinner, 1994; Skinner, 1997). This is supported by Kasznik and Lev (1995) who find that firms in a high technology sector are indeed more likely to issue management earnings forecasts.

Therefore, it is important to control for the type of industry when designing the methodology so that the results will not be driven by the industry-effect.

2.7 Summary

Voluntary disclosure of management earnings forecasts is crucial for market participants in their investment decision-making (Das et al., 2011). This is because management earnings forecasts reveal the expectations about firms' earnings that are value-relevant and up-to-date information, which are not fully reflected in the reported historical earnings and affect firm's equity pricing (Baginski et al., 1993 & 2002; Hsieh et al., 2006), analysts' expectations (Cotter et al., 2006), and market responses (Rogers and Stocken, 2005; Han, 2013). The provision of management earnings forecasts can reduce the public incentive to acquire private information (Healy and Palepu, 2001) as well as to reduce market expectation deviation among the market participants (Ajinkya and Gift, 1984). It then follows that management earnings forecasts are well accepted as an important source of financial information, and their creditability have been well acknowledged by investors, analysts, and the capital market as a whole (Patell, 1976; Penman, 1980; Waymire, 1984; Pownall and Waymire, 1989; Healy and Palepu, 2001; Das et al., 2011). A summary of the theoretical background is presented in Figure 2.1, highlighting in darker green the area of this study. A summary of forecast antecedents, forecast characteristics, and forecast consequences is also depicted in Figure 2.2 which shows what past studies have done so far, and also identifying the gap to be addressed in this study. While this study focuses on the archival method – *expectations adjustment* – it also includes the experimental approach in the summary of past literature, which is tabulated in Appendix A.

Figure 2.1: Theoretical Background

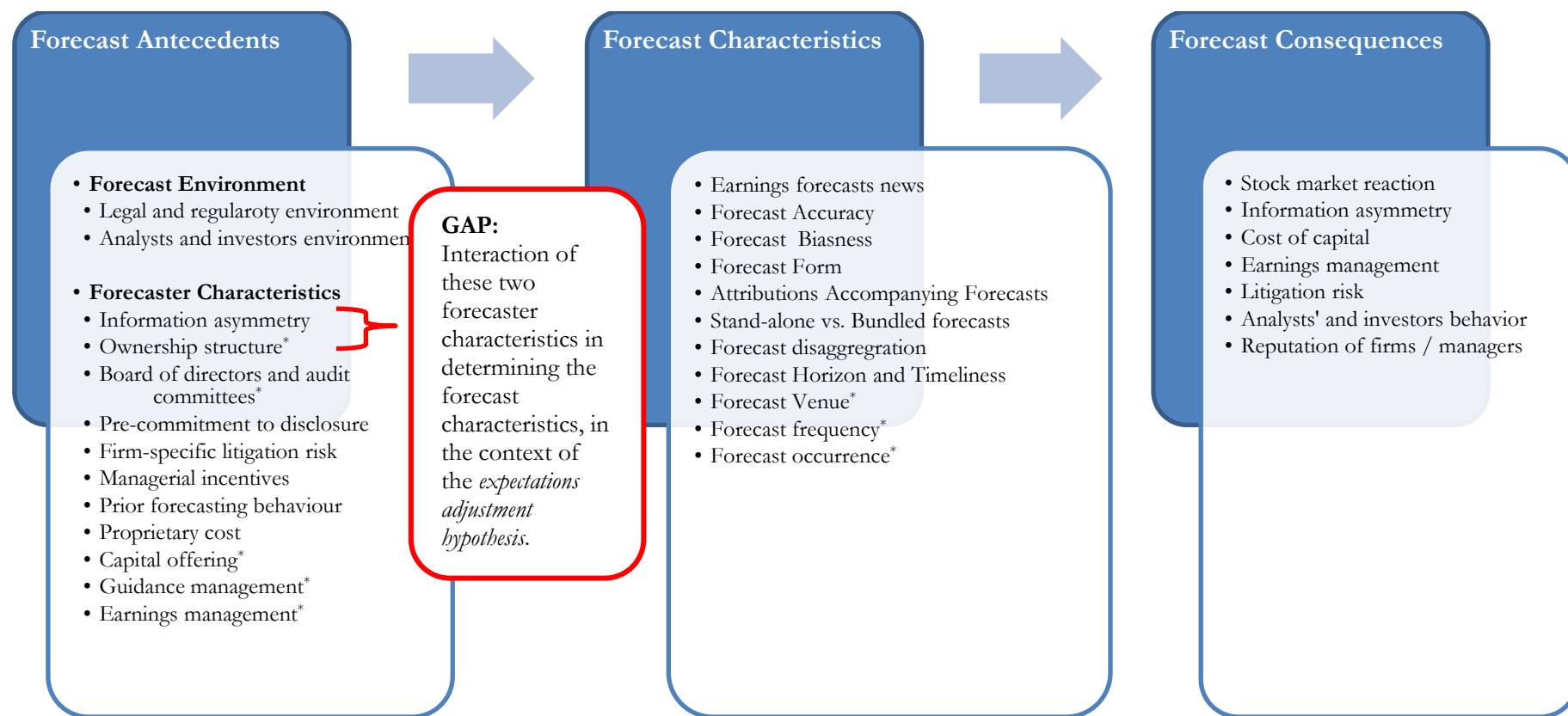


Note:

1. The Agency Theory here refers to Agency Theory II.

2. The darker green boxes (Agency Theory and Expectations Adjustment Hypothesis) are the focal points in this thesis. That is, to develop and integrate the *expectations adjustment hypothesis* and *agency theory*.

Figure 2.2: Framework of Management Earnings Forecast



Source: Hirst et al. (2008), and updated by the author (*).

Indeed, extensive work has been done to-date, but very limited studies have incorporated market expectation deviation while examining these firm-level and industry-level characteristics. Past studies have looked at why managers voluntarily issue management earnings forecasts as well as the characteristics of the management earnings forecasts, such as forecast frequency, accuracy, specificity, biasness, and the time and venue of the forecasts disclosure (Hirst et al., 2008; Han, 2013). Among the numerous factors studied, some find a significant relationship between ownership structure and the characteristics of the management earnings forecasts (Ruland et al., 1990; Ajinkya et al., 2005; Karamanou and Vafeas, 2005; Cheng and Courtenay, 2006; Ali et al., 2007; Chen et al., 2008). However, very limited research has addressed this relationship within the context of the *expectations adjustment hypothesis*. To the best of the author's knowledge, none have incorporated information asymmetry when investigating the relationship between ownership structure and the characteristics of management earnings forecasts, such as the precision and the accuracy of the forecasts.

Given that market expectation deviation signals the existence of differential information between informed investors who have inside information and uninformed investors who do not, it therefore attracts litigation risk (Skinner, 1994 and 1997) that affects firm's equity pricing (Baginski et al., 1993 & 2002; Hsieh et al., 2006), analysts' expectations (Cotter et al., 2006), and market responses (Rogers and Stocken, 2005; Han, 2013). Since large shareholders possess inside information and can influence manager's disclosure practices (Holderness and Sheehan, 1988), this study aims to shed light on this vague area by introducing the *expectations adjustment hypothesis* in examining the relationship between ownership structure and the characteristics of management earnings forecasts. More specifically, this study attempts to fill this long overdue gap by incorporating the

expectations adjustment hypothesis and *agency theory* in finding out whether corporate ownership matters in reducing asymmetry in the U.S. firms.

This chapter presents and discusses past studies in the scope of voluntary disclosure, and particularly, in the context of *expectations adjustment hypothesis*. The next chapter will discuss the proposed hypotheses, examines the relationship between ownership concentration, and the identity of the blockholders (largest shareholders), and the characteristics of management earnings forecasts.

CHAPTER 3

HYPOTHESES DEVELOPMENT

3.1 Introduction

This section develops the testable hypotheses. Section 3.2 begins with a discussion of the hypotheses concerning how corporate ownership structure and concentration can affect the characteristics of management earnings forecasts; namely, the occurrence, the precision, and the accuracy of the forecasts. Occurrence refers to the issuance of management earnings forecast; precision refers to whether the management earnings forecast is point forecast, ranged forecast or open-ended forecast; while accuracy refers to the accuracy of the management earnings forecast relative to the actual earnings reported.

It then explores how the identity of the blockholders (largest shareholders) matters to the characteristics of management earnings forecasts in Section 3.3. Specifically, it discusses in sub-sections how blockholder, i.e., families, financial institutions, government, and foreigners relates to the occurrence, the precision, and the accuracy of management earnings forecasts. Section 3.4 hypothesizes the relationship between the other large shareholders except the largest one and the characteristics of the management earnings forecasts. The section concludes with a summary of the hypotheses in Section 3.5.

3.2 Ownership Concentration

The *Expectations adjustment hypothesis* states that managers are motivated to voluntarily issue earnings forecasts to correct market expectations with their own forecasts when the prevailing market price (proxied by analyst earnings forecasts) diverges significantly from management expectation (proxied by management earnings forecasts) (Ajinkya and Gift, 1984; King et al., 1990). This is because the existence of an unrealistic prevailing market price signals the presence of information asymmetry that may lead to potential litigation risk (Ajinkya and Gift, 1984). A significant higher prevailing market price than management expectation may trigger the potential litigation risk to the firm, especially when there is a big stock price decline (Francis et al., 1994). A significant lower prevailing market price than the management expectation may also trigger the potential litigation risk to the firm mainly due to the possibility of withholding value-relevant information. Either way, the shareholders are the ones that will bear the litigation costs. Hence, one would expect that shareholders will always prefer that the market price be more aligned with the management expectation by pressuring managers to disclose more value-relevant information. However, one may also argue that the potential entrenchment benefits gained from the expropriation of the minority shareholders may supersede the potential litigation costs, and therefore, a more opaque information environment is preferred to conceal substantial shareholders rent-seeking activities.

Given that publicly listed firms are required to disclose all price-sensitive information to all market participants at the same time, disclosure *per se* may seem rather vague. This study, therefore, conjectures that it is the precision and the accuracy of the earnings forecasts issued by a firm's management that substantial shareholders might influence in order to minimize their perceived riskiness and/or to achieve their personal gains. Hence, this study posits that ownership structure and concentration do matter to

the *expectations adjustment hypothesis*. This study begins by first looking at why ownership structure and concentration are among the fundamental corporate governance problems.

Berle and Means's (1932) classic book "The Modern Corporation and Private Property" has inspired scholars to examine the fundamental governance problem of modern corporations, that is, managers are inclined to pursue their own interests at the expense of the shareholders. This is known as the free-rider problem as shareholders with diffused ownership are unable to control managers. Roe (2005) makes this even more specific: the core fissure of American corporate governance is the separation of ownership from control, i.e., distant and diffused stockholders, with concentrated management. Indeed, modern-day corporations are commonly perceived to have widely dispersed ownership and separation of ownership and control, with control delegated to professional managers. However, this diffused ownership structure leads to agency problems arising from conflicts of interest between principals (shareholders) and agents (managers) (Jensen and Meckling, 1976).

In reality, concentrated ownership is more common around the world, with the blockholders playing an active role in running firms and often serving as the chief executive officer or chairman of the boards with decisive voting power in major corporate decisions (Claessens et al., 2000; Faccio and Lang, 2002; Faccio et al., 2001; Holderness, 2010; Edmans, 2014; Edmans and Holderness, 2017). The United States is no exception. In fact, Holderness (2010) rejects the conventional belief that the ownership of U.S. firms is widely dispersed. He shows that 96% of U.S. firms have large shareholders (blockholders), defined as shareholders who own 5% or more of the firm's common stock; blockholders as a group own 39% of the average firm; and 53% of the firms are family-owned firms (also see Anderson and Reeb (2003), Villalonga and Amit (2006)).

Furthermore, 57% of the blockholders are identified as having board representation. Given how widespread blockholders are, their voting power, and their incentives both to increase firm's transparency and to expropriate rent at the expense of the minority shareholders, there is every reason to expect that blockholders matter to forecast disclosure practices. Hence, it is important to determine whether the key agency conflict in public listed firms is between diffused shareholders and managers or between controlling shareholders and minority shareholders. For this reason, studies focusing on firm-level characteristics, such as board independence and insider ownership, may miss nuances offered by a closer look at the ownership structure and concentration. This is because the efficiency of the firm's governance can be indistinguishable when the blockholders have the utmost control over the firms (Bebchuk and Hamdani, 2009; Edmans and Holderness, 2017). Also, it is because the impact of major corporate governance measures and arrangements such as disclosure practices depends on the firm's largest controlling shareholder (Bebchuk and Hamdani, 2009).

Ownership theory indicates that ownership concentration is a concave function where the *alignment theory* dominates at low levels of ownership, and the *entrenchment theory* dominates at high levels of ownership. At low levels of ownership, the *alignment theory* suggests that increased ownership in the hands of a few substantial shareholders makes it more cost effective to monitor managerial disclosure decisions, which leads to a more transparent information environment (Shleifer and Vishny, 1997). Empirical evidence shows that greater voluntary disclosure, such as the provision of management earnings forecasts can lead to lower market expectation deviation (Ajinkya and Gift, 1984; Coller and Yohn, 1997), and also a reduction in the transaction costs arising from private information acquisition (King et al., 1990). This subsequently improves stock liquidity (Diamond and Verrecchia, 1991), lowers capital costs (Botosan and Plumlee, 2002;

Sengupta, 1998), and reduces both periodic surprises and stock price volatility (Healy et al., 1999). It also minimizes the potential litigation risks associated with the prevailing unrealistic market expectation (i.e., analysts' forecasts) in the market. This is because the prevailing unrealistic market expectation signals the existence of information asymmetry (Ajinkya and Gift, 1984), such as selective disclosure, which can trigger the potential litigation risk to shareholders. As such, this study argues that large shareholders, in order to minimize their perceived risks, will emphasize more value-relevant disclosure to avoid short-term drastic price movement that is detrimental to shareholders (Lees, 1981) and also reduces the likelihood of a lawsuit, especially when there is a big stock price decline due to bullish forecasts (Francis et al., 1994). This, in return, will reduce the market expectation deviation among market participants, and, subsequently, leads to greater alignment of market prices and management expectations.

Hence, under the *alignment theory*, the study posits that firms with concentrated ownership have more incentive to issue management earnings forecasts. The earnings forecasts issued are expected to be more precise and more accurate in order to align market expectations when the prevailing market prices are unrealistic (i.e., when the level of market expectation deviation is high).

However, when ownership is highly concentrated, the *entrenchment theory* indicates that the largest substantial shareholder can gain full control of the firm to generate private benefit at the cost of the minority shareholders (Shleifer and Vishny, 1997; Bebchuk and Hamdani, 2009). It therefore suggests that the largest substantial shareholders would prefer a more opaque information environment in order to conceal their rent-seeking activities (Villalonga and Amit, 2006). Given their sheer size, the largest substantial shareholders can influence and control managerial personnel, board decisions, as well as

financial reporting and accounting information in achieving personal gains (Shleifer and Vishny, 1997; Fan and Wong, 2002; Bebchuk and Hamdani, 2009). All else equal, this study expects that a firm with largest substantial shareholders has less incentive to align market expectations. However, in the event that they do provide earnings forecasts due to the potential litigation risk for withholding price sensitive information, it posits that the forecasts are less precise and less accurate to cover their expropriation activities. Furthermore, large substantial shareholders can always influence managers to manage reported earnings (Leuz et al., 2003) and to guide analysts' expectations (a common proxy for market expectation) (Brown and Higgins, 2001 and 2005) so that the accounting figures would appear to be aligned with the earlier announced management earnings forecasts. This is further supported by the fact that concentrated ownership is associated with lower earnings informativeness (Fan and Wong, 2002; Francis et al., 2005), optimistically biased earnings forecasts (Chin et al., 2006), and earnings management to conceal opportunistic behaviour and avoid adverse consequences, such as disciplinary action (Sarkar et al., 2008).

Hence, under the *entrenchment theory*, the study posits that firms with concentrated ownership have less incentive to align market expectations when the prevailing market prices are unrealistic. That is, these firms are less likely to disclose management earnings forecasts. However, in the event that they do, the earnings forecasts are more likely to be less precise and less accurate.

Consequently, due to the above contrary views, an inverse relationship is predicted, that is, at low (high) levels of ownership concentration, firms are more likely (less likely) to issue management earnings forecasts to reduce market expectation deviation, and the

management earnings forecasts are more precise (less precise) and more accurate (less accurate).

H1a: There is an inverse relationship between ownership concentration and the occurrence of earnings forecasts.

H1b: There is an inverse relationship between ownership concentration and the precision of earnings forecasts when the level of market expectation deviation is high.

H1c: There is an inverse relationship between ownership concentration and the accuracy of earnings forecasts when the level of market expectation deviation is high.

3.3 Identity of the Blockholder (Largest Shareholder)

This study further conjectures that forecast disclosure decision varies according to the identity of the blockholders. It identifies the following four groups of blockholders: family/individual, domestic financial institution, government/state, or foreigners. Since these groups of blockholders differ in their corporate objectives, power, investment horizon, and access to financing, the study expects that the forecasts characteristics differ according to who is the blockholder. The reasons are as follows.

3.3.1 Family Ownership

Studies show that family firms are widespread throughout the world (La Porta et al., 1999; Claessens et al., 2000; Anderson and Reeb, 2003; Ali et al., 2007). A family firm is defined by members of the founding family continuing to hold positions in top management, such as boards of directors, or as blockholders of the firm. Family firms usually have fewer shareholders and a higher proportion of board members who are also

shareholders (Gallo et al., 2004). Family members not only appoint and supply their preferred top managers (Claessens et al., 2000; Faccio et al., 2001), they also facilitate in getting family members on the board without much interference from outside minority shareholders (Ali et al., 2007). Furthermore, the family members are typically actively involved in the firms' management, and they have significant control over the firm in excess of their cash flow rights through the use of dual-class structures, pyramidal ownership and cross-shareholdings (La Porta et al., 1999; Claessens et al., 2000; Anderson and Reeb, 2003; Hagelin et al., 2006; Ali et al., 2007; Villalonga and Amit, 2010). These distinguishing features can potentially affect family firms' financial disclosure choices. On the one hand, it allows the family members to effectively increase the firm's transparency for the benefit of the firms. On the other hand, it facilitates the expropriation of minority shareholders whereby a more opaque information environment is preferred.

Following this, there are two different views in the literature concerning disclosure in family firms. In one perspective, family firms are a unique class of shareholders that hold poorly diversified investment portfolios long-term (multiple generations) and have greater reputation concerns that stress firm survival over strict adherence to wealth maximization (Anderson and Reeb, 2003; Anderson et al., 2003). Family firms normally do not dilute their ownership to fund growth or create wealth, and thus family firms are limited to family's scarce resources. It therefore suggests that the wealth of the family owners is tied directly to the welfare of their firms given their highly concentrated equity holdings. As such, the study expects that family firms are more likely to practice greater voluntary disclosure to lower market expectation deviation among market participants because family members are more concerned about the associated litigation risk that involves monetary settlements and the time and effort taken in the litigation process.

The study also argues that family firms have motives to acquire and maintain a reputation for credible disclosure. This is because when a firm establishes a forecasting reputation based on the accuracy of prior earnings forecasts, that accuracy serves as an indicator about the believability of a current management forecast (Williams, 1996), which also reveals management competency (Tan et al., 2002). It is therefore expected that family firms are more likely to disclose more precise and accurate forecasts to align market expectations when the prevailing market prices deviate from the management expectations.

Hence, under this view, the study predicts that family firms would prefer to disclose management earnings forecasts to foster a more transparent information environment. Family firms are also more likely to issue precise and accurate management earnings forecasts to reduce information asymmetry among the market participants when the prevailing market prices are unrealistic.

The second perspective on disclosure in family firms draws attention to the entrenchment effect. Specifically, family members have a greater attachment to control and thus greater incentive to pursue private benefits at the expense of minority outside shareholders (Hagelin et al., 2006; Villalonga and Amit, 2010). For example, controlling shareholders can freeze out minority shareholders at a price well below the value of their shares (Gilson and Gordon, 2003), retain cash inside the firm to facilitate empire-building (Choy et al., 2011), and also engage in related-party transactions (Anderson and Reeb, 2003). The last is where family members often have groups of business affiliates under their control with significant business transactions that provide them with a means to divert firm's resources without adequate disclosure (Khanna and Palepu, 2000). Furthermore, this feature suffers from a lack of transparency as equity holdings are

interlocked among the affiliate firms that are typically not publicly traded and thus less susceptible to external pressures and monitoring (Khanna and Palepu, 2000).

The active involvement of family members in the firm's management and daily operations leads to lower information asymmetry between managers and themselves, which results in the substitution relationship between direct monitoring and public disclosure (Bushman et al., 2004). This suggests that family firms face less demand for information disclosure from the minority outside shareholders. Hence, family firms would prefer a more opaque information environment to deliberately defraud minority outside shareholders. Moreover, the litigation risk can potentially deter managers from issuing forecasts (Trueman, 1986) as the threat of litigation, such as anti-fraud statutes, can increase the cost of a management forecast, and offset the benefit of disclosure. As a result, firms are advised not to provide forecasts or may be reluctant to forecast at all (Graham et al., 2005). It is also expected that the potential proprietary costs can deter family members from issuing forecasts because such disclosure can be detrimental as it reveals proprietary information to competitors. The study therefore posits that family firms have less incentive to align market expectation to reduce information asymmetry among market participants. However, in the event that they issue forecasts in light of the potential litigation risk associated with inadequate disclosure, it is expected that the forecasts are less accurate and less precise as family members can engage in earnings management so that the forecasts reflect the actual earnings.

Hence, under this view, the study predicts that family firms prefer an opaque information environment by withholding earnings forecasts. However, even if they do provide earnings forecasts, it is expected that the forecasts are less precise and less accurate when the prevailing market prices are unrealistic.

Because of the conflicting views on family firms' disclosure decisions, the study does not predict a sign for this relationship:

H2a: There is a relationship between family ownership and the occurrence of earnings forecasts.

H2b: There is a relationship between family ownership and the precision of earnings forecasts when the level of market expectation deviation is high.

H2c: There is a relationship between family ownership and the accuracy of earnings forecasts when the level of market expectation deviation is high.

The evidence concerning the information environment of family firms is mixed. Dechow et al. (1996), Fan and Wong (2002), and Yeo et al. (2002) find that family firms are more likely to engage in earnings management, have lower earnings quality and earnings informativeness, respectively. Likewise, for timeliness in reporting and price discovery, Lim et al. (2014) find that family firms are less timely compared to non-family firms. In contrast, Wang (2006), Ali et al. (2007), and Chen et al. (2008) report that family firms are associated with better quality reported earnings and greater earnings informativeness, have lower abnormal accruals, greater ability of earnings components to predict cash flows, less persistent transitory negative earnings, and are more likely to warn the market for a given magnitude of bad news.

3.3.2 Institutional Ownership

The next group of blockholders is institutional investors, i.e., financial institutions. Institutional investors are usually large in size (Jennings, 2005), suggesting that they have

the resources (Shleifer and Vishny, 1997) and the expertise to analyse financial information (Hand, 1990). Their sheer size enables them to exert pressure on the firm to act in the interests of shareholders through the media (Wu, 2004) and through withholding a substantial number of votes when they are dissatisfied with management performance or the firm's corporate governance structures (Del Guercio et al., 2008). Their substantial market power, influence, and sophistication in gathering and interpreting information about the firm (Agrawal and Mandelker, 1990; Grier and Zychowicz, 1994; Wahab et al., 2007) suggest that institutional investors have a considerable advantage in monitoring corporate activities compared to other investors (Dyck et al., 2010).

Institutional investors have to comply with stringent rules and regulations due to their fiduciary responsibilities to their investors (Hawley and William, 1997). One would expect that institutional investors who are mindful of their obligation would influence firms' disclosure practices by providing precise and accurate information that should not mislead the market. Indeed, they often adopt a more active role in corporate governance issues (Karpoff, 2001; Conover et al., 2008), including monitoring firms' disclosure practices. The effectiveness of institutional investors as a monitoring body has also been recognized by governments that incorporate institutional monitoring duties into regulations in order to ensure adequate oversight (Starks, 2000). This is further supported by previous studies showing that institutional investors tend to reduce the incidence of earnings management (Chung et al., 2002; Koh, 2003; de Bos and Donker, 2004; Liu, 2014), and can mitigate earnings management and act as a compensating control mechanism in the presence of controlling shareholders on corporate boards (Sarkar et al., 2008). Hence, the study expects that firms with institutional investors as their blockholders have more incentive to pressure firms to reduce market expectation

deviation by aligning market expectation with their own, i.e., to issue earnings forecasts and to ensure that the forecasts issued are more precise and more accurate.

However, prior work suggests that institutional investors are not a homogenous group. Institutional investors can be insufficiently oriented and are ineffective monitors (Khanna and Palepu, 2000). Their incentives can be determined by their concentrated ownership, which enables them to generate private information and benefits (Agrawal and Mandelker, 1990). As a result, the institutional investors behave like insiders and may have an undue influence over the management to secure private benefits that are detrimental to other stakeholders (Ajinkya et al., 2005). Khanna and Palepu (2000) indicate that institutional investors are more likely to invest in the group of affiliated firms with a high level of “internal capital market” activities where ownership stakes are acquired among the affiliates. Hence, under this view, institutional investors are expected to prefer a more opaque information environment, and, therefore, have less incentive to pressure firms to issue management earnings forecasts to reduce information asymmetry among market participants. This is further supported by the fact that institutional investors are sensitive to corporate disclosure practices if disclosure influences potentially profitable trading opportunities as profit opportunities can be eroded if more forthcoming disclosure provides a substitute for the collection of private information (Bushee and Noe, 2000).

However, given that the profit-making ability of institutional investors can lie in their superior ability to interpret the implications of public signals, indicating that greater disclosure can enhance profit opportunities (Kim and Verrecchia, 1994), it is therefore argued that the legal framework and the fiduciary responsibility supersede the contrarian view. Hence, this study posits that firms with the institutional investor as the blockholders

(largest shareholders) are more likely to issue earnings forecasts, and the forecasts will be more accurate but less precise (i.e., range and open-ended forecasts). The latter, due mainly to their exposure to more stringent rules and regulations, is consistent with the fact that firms are less likely to issue specific forecasts when exposure to legal liability is high (Bamber and Cheon, 1998). The hypotheses are:

H3a: Firms with the institutional investor as the largest shareholder are more likely to issue earnings forecasts.

H3b: Firms with the institutional investor as the largest shareholder are more likely to issue less precise earnings forecasts when the level of market expectation deviation is high.

H3c: Firms with the institutional investor as the largest shareholder are more likely to issue more accurate earnings forecasts when the level of market expectation deviation is high.

3.3.3 Government/State Ownership

Our third group of blockholders is the government/state. Government ownership is a political decision as their actions are very much driven by political expediency and the economics of the situation rather than maximizing firms' value (Kahan and Rock, 2010). Past studies show that there are inadequate legal tools to address the problems posed when the government is the controlling shareholder as the legal basis for challenging conduct is very weak (Kahan and Rock, 2010).⁸ These firms are also less affected by the

⁸ For example, the General Motors Company's Form S-1 Registration Statement clearly indicates that any attempt to assert a claim against the U.S. Treasury or any of its officers, agents or employees alleging any other complaint, including as a result of any future action by the U.S. Treasury as a stockholder of the firm is limited under the U.S. Securities Laws, and would also likely be barred under sovereign immunity unless specifically permitted by an Act of Congress (US Securities and Exchange Commission, 2010).

discipline of the market or by other shareholders who coalesce into large blocks in order to effect organizational change. It therefore suggests that firms with the government/state as the blockholders usually lack the necessary incentive to engage in effective monitoring that may affect their disclosure practices. This has support in past studies that government ownership is associated with less monitoring activities and thus is less efficient than other firms (Kole and Mulherin, 1997). This rests on the premise that the costs-rewards system impinges differently for government-owned and non-government-owned firms regardless of whether or not they have the common explicit corporate objectives (Alchian, 1996).

Indeed, the involvement of the government/state in the economy and financial system has a significant impact on agency problems mainly because governments can use their ownership or influence to favour certain parties and expropriate rents from minority shareholders (Choy et al., 2011). These blockholders have substantial influence and voting rights which allow them to nominate their own management team that sets the corporate policy (Kole and Mulherin, 1997). These firms act in the interests of the powerful government-owners at the expense of the minority shareholders in return for special treatment, such as easier access to “soft” loans, subsidies and funding priorities (Backman, 1999; Gul, 2006; Kahan and Rock, 2010); securing business contracts and buying privatized assets (Johnson and Mitton, 2003); bailout preferential (Faccio et al., 2006; Kahan and Rock, 2010); preferential regulatory pressures (Stigler, 1971); and increased hurdles for new entrants or competitors (Choy et al., 2011). As a result, this relationship-based system forms a shield for these firms, which protects them from scrutiny (Johnson and Mitton, 2003). This is further supported by the fact that firms with government/state blockholders have experienced huge losses that drain the country’s treasuries (Kikeri et al., 1992).

Given that the government has virtually complete power over these firms, it is no surprise that the information environment of these firms may be less transparent in order to cover-up their inefficiency. This statement is consistent with the finding that the incorporation of value-relevant information into the share price of government-owned firms is more limited, i.e. synchronous share price (Gul et al., 2010). Furthermore, the study argues that seeking external funding at a lower cost of capital as a result of the greater disclosure may not be an issue because the government will always support and finance these firms. Along with inadequate legal tools and less discipline from the market, it is therefore argued that these firms will have less necessity to align with market expectations. Hence, under this view, firms with government/state as the blockholders are less likely to issue management earnings forecasts. In the event that they do, the forecasts issued are expected to be less precise and less accurate.

However, recent studies also draw attention to some cases that do not fit the typical caricature of government/state ownership. For example, Cheng and Courtenay (2006) find that government-owned firms in Singapore are associated with greater transparency, reflecting the government's support for better disclosure policies. Similarly, in the context of a highly politically connected country like Malaysia, Lim et al. (2014) show that government-owned firms are quicker in releasing their financial reports and have a timelier price discovery process. This evidence implies that the government/state encourages firms to disclose more material information in a timely manner to improve transparency and to achieve a more efficient market, thereby rejecting the common belief that government/state ownership is associated with poor disclosure practices. One would therefore expect that the U.S. government would support information transparency because of its highly regulated capital market and stringent investor protection regulation. As such, the study predicts that firms with the government/state as a blockholder are

more likely to issue management earnings forecasts, and the forecasts issued are more precise and more accurate.

H4a: Firms with the government/ state as the largest shareholder are more likely to issue earnings forecasts.

H4b: Firms with the government/ state as the largest shareholder are more likely to issue more precise earnings forecasts when the level of market expectation deviation is high.

H4c: Firms with the government/ state as the largest shareholder are more likely to issue more accurate earnings forecasts when the level of market expectation deviation is high.

3.3.4 Foreign Ownership

The last group of blockholders we investigate is foreign investors. Foreign investors are geographically separated from the managers of the firms in which they invest. This setting complicates managerial monitoring and access to material information. However, foreign investors are typically sophisticated investors and are efficient processors of public information with superior skills to access and analyse value-relevant information (Kim and Yi, 2009; Jiang and Kim, 2004). Foreign investors usually demand higher standards of governance and protection of minority rights (Khanna and Palepu, 2000), both formally, through a proxy system where they can initiate and vote on proposals, and informally, through negotiations with management (Davis and Thompson, 1994). Foreign investors can therefore use their comparative advantages to exert pressure on the firm to act in the interests of shareholders, for example, pressuring firms to disclose material information, such as management earnings forecasts, to foster a more transparent information environment.

Foreign investors are more careful in selecting their investments to minimize their risk (Haat et al., 2008). They prefer firms with low market expectation deviation and avoid those firms with high cross-corporate holdings⁹ (Jiang and Kim, 2004) and group affiliates where equity ownership is interlocked among the member firms that facilitate private information sharing and fund-transferring without adequate monitoring (Khanna and Palepu, 2000). The reason being that a higher level of information asymmetry imposes greater estimation risks on return distribution uncertainty (Coles et al., 1995), and, subsequently, increases the perceived riskiness borne by foreign investors. Similarly, when the prevailing market prices are unrealistic, it signals market expectation deviation that may trigger potential litigation risk, which, in return, affects the shareholders' return distribution. Greater voluntary provision of private information can reduce stock price volatility and the periodic surprises about firm performance, which improves stock liquidity (Diamond and Verrecchia, 1991; Healy et al., 1999). Hence, it is no surprise that foreign investors will demand more information disclosure to ensure that managerial actions can be adequately monitored and to protect them against any adverse managerial selection (Diamond and Verrecchia, 1991; Botosan and Plumlee, 2002).

Past studies consistently show that firms with substantial foreign shareholders are associated with higher corporate transparency, lower information asymmetries (Kang and Stulz, 1997; Khanna and Palepu, 2000; Jiang and Kim, 2004), greater earnings informativeness (Cho and Rui, 2009), higher voluntary earnings disclosure (Lakhal, 2005),

⁹ Cross-corporate holdings allow firms to share value-relevant (inside) information about firm's prospects and business strategies exclusively within the cross-owned network through direct communications between managers and cross-corporate shareholders (Jiang and Kim, 2004).

and a greater amount of firm-specific information incorporated into stock price (Gul et al., 2010).

Hence, the study posits that firms with foreign investors as the blockholders (largest shareholders) are more likely to issue management earnings forecasts. The forecasts issued are more precise and accurate in order to reduce information asymmetry.

H5a: Firms with a foreign investor as the largest shareholder are more likely to issue earnings forecasts.

H5b: Firms with a foreign investor as the largest shareholder are more likely to issue more precise earnings forecasts when the level of market expectation deviation is high.

H5c: Firms with a foreign investor as the largest shareholder are more likely to issue more accurate earnings forecasts when the level of market expectation deviation is high.

3.4 Other Large Shareholders

Evidence shows that the U.S. is one of the few countries that have a strong investor protection legislation system, which gives the minority shareholders strong protection against dominant shareholders in the corporate decision-making process (La Porta et al., 2000). For example, shareholders can cast their votes through *Proxy by Mail*, making the voting process easier and convenient; and both the *Cumulative Voting/Proportional Representation* and the *Class Action/Derivative Lawsuits* give minority shareholders more power to put their representatives on the board of directors, to challenge directors' opportunistic decisions in court, and to force the firm to repurchase shares at the market price of minority shareholders who object to certain corporate decisions. Under this

setting, inevitably, other substantial (minority) shareholders in the firm can form coalitions to oppose blockholders' opportunistic behaviour. It further argues that these shareholders have more incentive to express dissatisfaction by suing rather than by simply selling their shares. It therefore suggests that the presence of other substantial shareholders can moderate the adverse effect on corporate transparency by the blockholders. All else equal, the study predicts that firms with a higher concentration of shares held by other substantial shareholders have more incentive to disclose management earnings forecasts. It is also posited that the forecasts issued are more precise and more accurate.

H6a: Firms with a higher concentration of shares held by substantial shareholders other than the largest shareholder are more likely to issue earnings forecasts.

H6b: Firms with a higher concentration of shares held by substantial shareholders other than the largest shareholder are more likely to issue more precise earnings forecasts when the level of market expectation deviation is high.

H6c: Firms with a higher concentration of shares held by substantial shareholders other than the largest shareholder are more likely to issue more accurate earnings forecasts when the level of market expectation deviation is high.

3.5 Summary

This section develops the testable hypotheses for this study. It postulates that both the percentage shareholding and identity of the blockholders (largest shareholders) are important determinants to the issuance, the precision, and the accuracy of management earnings forecasts when the level of market expectation deviation is high. Specifically, at

low (high) levels of ownership, the incentive to issue management earnings forecast is high (low), and the management earnings forecasts issued are more precise (less precise) and more accurate (less accurate) when the level of market expectation deviation is high. This indicates an inverse relationship between ownership concentration and the characteristics of the earnings forecasts due mainly to the alignment of interests between the blockholders and the managers, and the trade-off between the entrenchment benefits gained from the minorities and the potential litigation risk associated with poor disclosure.

Differences in corporate objectives, power, and access to external funding suggest that the precision and the accuracy of management earnings forecasts are also expected to vary according to the identity of the blockholders. Due to the mixed views of family firms on their disclosure practices, the study does not predict the relationship direction for these firms. This study hypothesizes that firms with institutional investors as their blockholders are more likely to issue earnings forecasts. It also hypothesizes that the forecasts are less precise but more accurate, which is mainly due to the stringent regulation and their fiduciary responsibility. Firms with the government or foreigners as their blockholders are more likely to issue management earnings forecasts and the forecasts issued are more precise and more accurate. A similar relationship is also expected for firms with a higher concentration of shares held by substantial shareholders other than the largest shareholder.

Table 3.1 below shows the summary of the expected sign for each hypothesis to conclude this chapter.

Table 3.1: Summary of Hypotheses

Hypotheses	Occurrence (a)	Precision (b)	Accuracy (c)
H1: Ownership Concentration (Low)	+ve	+ve	+ve
Ownership Concentration (High)	-ve	-ve	-ve
H2: Family Ownership	?	?	?
H3: Institutional Ownership	+ve	-ve	+ve
H4: Government/State Ownership	+ve	+ve	+ve
H5: Foreign Ownership	+ve	+ve	+ve
H6: Other Owners	+ve	+ve	+ve

The next chapter will explain the data sampling and collection, as well as the research methodology used in this study.

CHAPTER 4

DATA AND METHODOLOGY

4.1 Introduction

This section explains the sample selection, data analysis, variables measurements, and research methods used in this thesis. It begins with the sampling procedure and the data analysis in Section 4.2, followed by a discussion of the characteristics of the management earnings forecasts used as the dependent variables in Section 4.3. It then specifies the measures for market expectation deviation in Section 4.4. A detailed discussion of the research method and variable definitions are presented in Section 4.5. Section 4.6 examines the robustness testing followed by Section 4.7, which concludes this chapter.

4.2 Sample Selection and Data Analysis

The sample consists of all U.S. incorporated firms listed on the *New York Stock Exchange* (NYSE) and *National Association of Securities Dealers Automated Quotations* (NASDAQ). To avoid the spill-over effect from the enactment of Regulation FD in 2001, which mandates all public listed companies to disclose material information to all investors at the same time, the sample data used in this study starts from 2003 to 2013. More specifically, the ownership data used starts from 2003 to 2012, and the management earnings forecasts data used are one year forward, from 2004 to 2013, given that earnings forecast is a forward looking process. Hence, this study consists of 4,559 unique firms and 34,842 firm-years.

4.2.1 Ownership Data

The ownership data on shareholders and their identity are retrieved from the *Bureau van Dijk's Osiris* database, from 2003 to 2012. Following Claessens et al. (2000), and Holderness (2010) who define block ownership as 5% and above, this study then hand-collects the fraction of percentage shareholding held by the substantial shareholders with at least a five per cent shareholding. Using the collected ownership data, this study classifies the blockholders (largest shareholders) into five different groups. The groups are (i) individuals/families; (ii) domestic financial institutions (e.g., Citigroup Inc., Morgan Stanley, Wells Fargo, Black Rock Inc., and other financial companies); (iii) local government/state (e.g., the State of Texas, State of Ohio, and the State of California)¹⁰; (iv) foreigners (all foreigners including individuals, banks/financial companies, and government/state); and (v) others, which consists of industrial companies, mutual and pension fund/nominee/trust/trustees, hedge funds, private equity fund, venture capital, publicly listed companies, unnamed private shareholders and other unnamed shareholders. The last group “others” forms the base case in this study since there are no resources to precisely pinpoint who they represent.¹¹

Table 4.1 presents the summary of largest shareholding for U.S. firms from 2003 to 2012. Consistent with Holderness (2010), the ownership of U.S. firms is indeed highly concentrated. It reveals that 94% of U.S. firms have blockholders owning more than 5% shares. Similar finding is reported by Holderness (2010) with 96% of U.S. firms having a

¹⁰ Example of firm/trust in which the government holds block shareholding are RLJ LODGING TRUST (State of California owns 8.63%), and CANTEL MEDICAL CORP (State of New York owns 3.37%). Source from OSIRIS database, year 2006 and 2012.

¹¹ This study focuses on the largest shareholders, not managerial block owners. Also, there is no ownership data available to trace who is the ultimate shareholder of the hedge funds and mutual funds

blockholder owning more than 5% shares. The number of U.S. firms with blockholders owning between 5% to 10% is 567 (12%), followed by 1,677 U.S. firms (37%) having blockholders owning between 10% and 20% of shares, 606 U.S. firms (13%) having blockholders owning between 20% and 30% of shares, 310 U.S. firms (7%) with blockholders owning between 30% and 40% of shares, and 443 U.S. firms (10%) with blockholders owning between 40% and 50% of shares. Finally, 14% of the U.S. firms (660 firms) have blockholders owning more than 50% shareholding.

Table 4.1: Summary of Largest Shareholding for U.S. Firms from 2003 to 2012

Percentage Shareholding (%)	Number of firms	(%)
(50% - 100%]	660	14%
(40% - 50%]	443	10%
(30% - 40%]	310	7%
(20% - 30%]	606	13%
(10% - 20%]	1677	37%
(5% - 10%]	567	12%
[0 - 5%)	286	6%
>5%	4273	94%

Source: *Bureau van Dijk's Osiris* database, 2003 to 2012.

Table 4.2 reveals the pattern of shareholdings for U.S. firms ranging from 2003 to 2012. On average, 14.7% of the shareholders have at least 5% of shares, followed by 32.4% of the shareholders owning between 5% and 10% of shares, 30.2% of the shareholders owning between 10% and 20% of shares, 6.6% of the shareholders owning between 20% and 30% of shares, 3.4% of the shareholders owning between 30% and 40% of shares, and 6.5% of the shareholders owning between 40% and 50% of shares. Lastly, at least 6.2% of the shareholders own more than 50% of shares.

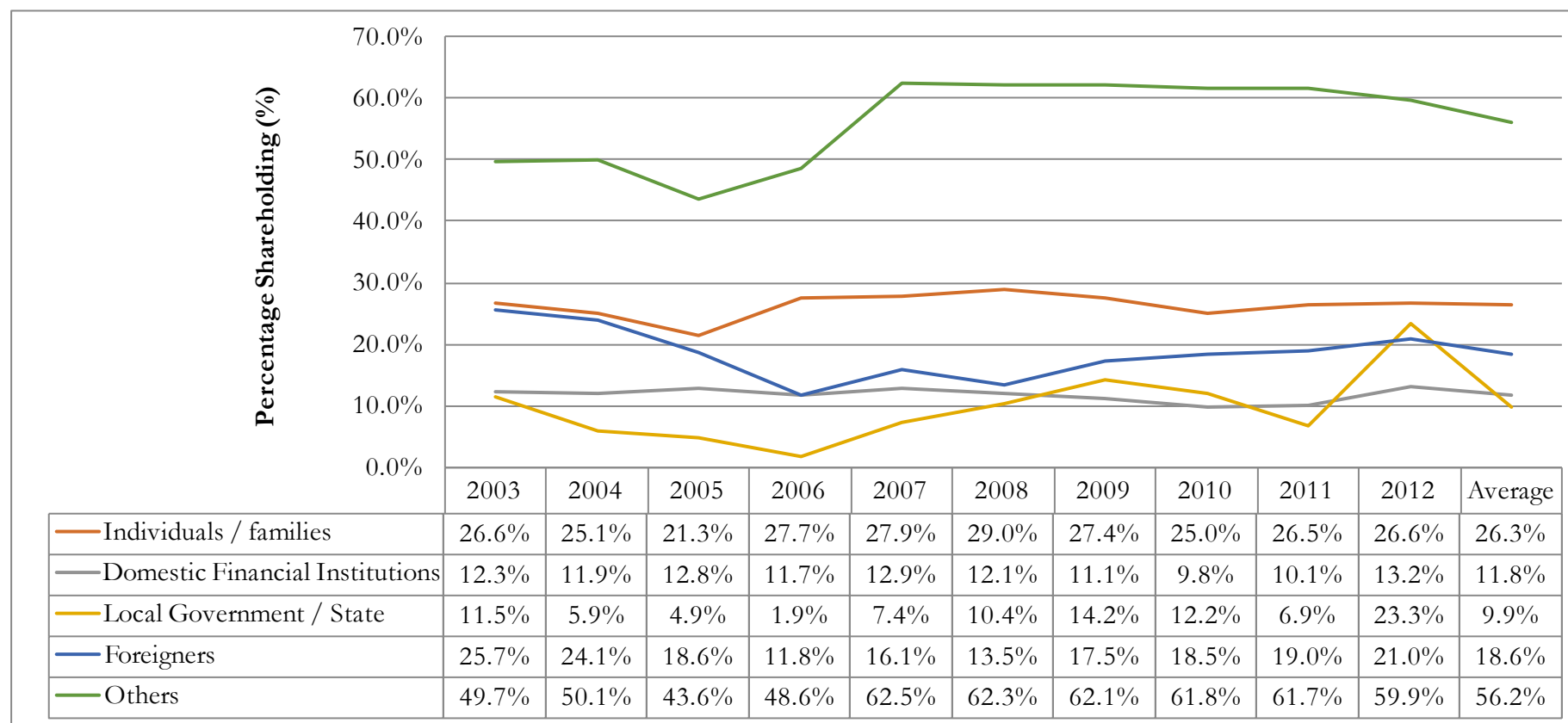
Table 4.2: Pattern of Shareholdings for U.S. Firms from 2003 to 2012

	(50% - 100%)		(40% - 50%)		(30% - 40%)		(20% - 30%)		(10% - 20%)		(5% - 10%)		(0% - 5%)		Total
2003	202	8.8%	103	4.5%	118	5.2%	236	10.3%	732	32.0%	638	27.9%	256	11.2%	2285
2004	108	9.3%	59	5.1%	42	3.6%	55	4.7%	302	26.1%	348	30.1%	244	21.1%	1158
2005	115	8.1%	159	11.2%	44	3.1%	86	6.1%	307	21.6%	336	23.6%	374	26.3%	1421
2006	171	6.1%	209	7.5%	104	3.7%	174	6.2%	742	26.6%	691	24.8%	696	25.0%	2787
2007	195	5.6%	258	7.4%	136	3.9%	254	7.3%	1188	34.0%	1080	31.0%	378	10.8%	3489
2008	144	4.1%	240	6.8%	93	2.6%	209	5.9%	1140	32.1%	1278	36.0%	445	12.5%	3549
2009	160	4.4%	246	6.7%	108	3.0%	207	5.7%	1124	30.8%	1307	35.8%	496	13.6%	3648
2010	103	2.7%	208	5.5%	64	1.7%	157	4.2%	1096	29.2%	1537	41.0%	588	15.7%	3753
2011	130	3.3%	235	6.0%	88	2.2%	157	4.0%	1149	29.3%	1596	40.7%	565	14.4%	3920
2012	302	7.0%	270	6.3%	181	4.2%	366	8.5%	1478	34.3%	1459	33.9%	249	5.8%	4305
2013	372	8.2%	224	4.9%	172	3.8%	428	9.5%	1630	36.0%	1454	32.1%	247	5.5%	4527
Total	2002		2211		1150		2329		10888		11724		4538		34842
Average	182	6.2%	201	6.5%	105	3.4%	212	6.6%	990	30.2%	1066	32.4%	413	14.7%	

Source: *Bureau van Dijk's Osiris* database, 2003 to 2012.

Figure 4.1 shows the average percentage shareholding for each identity group from 2003 to 2012. The percentage shareholding by individuals/families is fairly consistent over the past ten years with an average of 26.3%. This observation is supported by the fact that the family ownership structure in U.S. firms is highly concentrated, consistent with Anderson and Reeb (2003), Hagelin et al. (2006), and Holderness (2010). A similar pattern is also found in domestic financial institutions with an average of 11.8%. However, both government and foreign ownership show a sharp fall in the year 2006. The percentage shareholding by local government/state falls from 11.5% in 2003 to 1.9% in 2006, and foreign ownership drops by more than 50% from 25.7% in 2003 to 11.8% in 2006. This situation may be due to the brewing global financial crisis whereby foreigners exit at the first sign of uncertainty. Although local government/state ownership gradually increases to 14.2% in 2009, it again falls to 6.9% in 2011 followed by a sudden hike of 3.5 times to 23.3% in 2012. This is due to the changes in the monetary and fiscal policies in order to boost the U.S. economy after the global financial crisis. Foreign ownership has gradually increased over time to 21.0% in 2012 with an average of 18.6%. The percentage shareholding by other owners except

Figure 4.1: Average Percentage Shareholding by the Identity of the Blockholders (Largest Shareholders) from 2003 to 2012



Source: Bureau van Dijk's Osiris database, 2003 to 2012.

the largest shareholder ranges from 43.6% to 62.5% with an average of 56.2% over the past ten years.

Table 4.3: Frequency Distribution of Listed Firms per Industry, 2003 – 2012

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total	Total in Percentage (%)
Trading	320	197	345	342	564	583	668	666	682	902	5269	19.67%
Business Services	261	96	108	304	363	373	380	398	424	456	3163	11.81%
Electronic Equipment	154	52	66	165	193	190	197	202	206	212	1637	6.11%
Retail	115	61	61	137	155	156	156	161	166	173	1341	5.01%
Petroleum and Natural Gas	72	34	43	94	116	116	121	127	143	153	1019	3.80%
Utilities	92	60	50	103	111	115	117	118	121	124	1011	3.77%
Pharmaceutical Products	74	42	53	93	112	114	119	121	125	133	986	3.68%
Medical Equipment	61	27	32	81	96	100	102	103	105	105	812	3.03%
Insurance	74	71	38	72	88	89	91	93	94	94	804	3.00%
Machinery	71	32	27	80	84	86	86	89	89	89	733	2.74%
Transportation	57	26	43	73	81	82	83	84	88	91	708	2.64%
Wholesale	58	34	39	70	78	77	78	78	82	87	681	2.54%
Chemicals	48	21	30	57	67	69	71	74	77	81	595	2.22%
Telecommunications	43	29	25	55	62	67	66	70	71	74	562	2.10%
Measuring and Control Equipment	56	17	28	51	63	65	65	67	67	69	548	2.05%
Computers	47	15	23	56	63	63	63	65	64	65	524	1.96%
Restaurants, Hotel, Motel	41	21	24	50	52	53	54	54	58	62	469	1.75%
Banking	27	19	26	35	48	50	52	56	62	68	443	1.65%
Automobiles and Trucks	35	23	23	43	47	48	49	51	51	52	422	1.58%
Constuction Materials	41	15	15	43	44	45	45	46	46	48	388	1.45%
Food Products	32	19	22	39	43	45	46	46	46	46	384	1.43%
Healthcare	32	13	13	39	43	44	45	46	48	49	372	1.39%
Consumer Goods	36	15	11	37	43	42	44	46	47	47	368	1.37%
Construction	28	10	14	31	38	39	39	40	40	42	321	1.20%
Steel Works, etc	31	11	10	31	37	38	38	39	40	41	316	1.18%
Entertainment	22	11	15	26	35	37	36	37	36	38	293	1.09%
Personal Services	20	16	10	25	32	34	37	37	38	39	288	1.08%
Electrical Equipment	26	6	9	29	31	32	33	35	36	36	273	1.02%
Real Estate	19	10	11	22	29	30	30	34	39	40	264	0.99%
Printing and Publishing	21	10	9	20	24	24	24	25	25	27	209	0.78%
Business Supplies	15	9	7	22	23	24	24	24	24	24	196	0.73%
Apparel	19	7	7	18	21	21	21	21	21	22	178	0.66%
Aircraft	13	9	6	17	18	19	19	19	19	19	158	0.59%
Recreational Products	16	2	9	15	18	18	18	18	19	19	152	0.57%
Coal	8	3	3	11	13	13	15	16	16	16	114	0.43%
Nonmetallic Mining	10	4	3	12	14	13	13	13	13	15	110	0.41%
Candy and Soda	11	7	7	10	11	12	12	12	12	13	107	0.40%
Rubber and Plastic Products	9	4	1	10	11	11	12	13	13	15	99	0.37%
Shipping Containers	9	3	2	9	11	11	11	12	12	12	92	0.34%
Alcoholic Beverages	6	3	2	5	7	7	7	7	7	7	58	0.22%
Textiles	5	1	2	5	6	6	6	6	6	6	49	0.18%
Tobacco Products	4	5	4	5	5	5	5	5	5	5	48	0.18%
Shipbuilding, Railroad Equipment	3	0	3	5	5	5	5	6	6	6	44	0.16%
Defense	4	2	2	4	5	5	5	5	5	5	42	0.16%
Agriculture	3	3	2	3	3	4	4	5	5	5	37	0.14%
Precious Metals	3	2	3	4	4	4	4	4	4	4	36	0.13%
Miscellaneous	3	2	0	4	4	4	4	4	4	4	33	0.12%
Fabricated Products	3	1	1	3	3	3	3	4	3	4	28	0.10%
Total	2158	1080	1287	2465	3024	3091	3223	3302	3410	3744	26784	100%

Source: *Bureau van Dijk's Osiris* database, 2003 to 2012.

Table 4.3 above shows the frequency distribution of the final sample across different industries from 2003 to 2012. Close to one-fifth of the sample firms belong to the trading businesses, followed by business services (11.81%), electronic equipment (6.11%), and retail businesses (5.01%). The fabricated products industry is the least

represented, with only 0.1% of sample firms. Industries such as biotechnology, computers, electronics, and retails, are legislated with more stringent disclosure rules, which will be used as control variables in the model.

4.2.2 Earnings Forecast Data

The annual management and analysts' forecast earnings per share are gathered from the *Thomson Reuters I/B/E/S Guidance* database. The forecasts come in the form of point forecasts, range forecasts, and open-ended forecasts, based on published management and analysts' earnings forecasts. The study then collects the occurrences and the precision of management earnings forecasts, and the ex-post accuracy of these forecasts compared to the actual published earnings per share.

Table 4.4 presents the summary of occurrences and the precision of management earnings forecasts from 2004 to 2013, which are forecasted one year before – forecasting year from 2003 to 2012. The number of firms issuing earnings forecasts has increased over the years, whereby the number of firms in the forecasting year 2012 has increased nearly 100% since 2003. The occurrence of management earnings forecasts has also grown, with an average of 699 forecasts issued yearly. Most firms prefer to release range forecast with an average of 567 forecasts compared to point or open-ended forecasts with an average of 63 and 69 forecasts, respectively. However, given that the security rules and regulations do not mandate the disclosure of management earnings forecasts, it is therefore not surprising to see that a firm, on average, will only issue a forecast 23.1% of the time. From these forecasts issued, only 2.1% of the time are point forecasts, followed by 2.3% of the time are open-ended forecasts, and 18.7% of the time are range forecasts.

Table 4.4: Summary of the Management Earnings Forecast Features for U.S. Firms, from Forecasting Year 2003 to 2012

Forecasting Year	No. of Firms	Occurrence	Precision					
			1 = Point		2 = Range		3 = Open-ended	
2003	2285	748 32.7%	93	4.1%	531	23.2%	124	5.4%
2004	1158	364 31.4%	47	4.1%	267	23.1%	50	4.3%
2005	1421	388 27.3%	38	2.7%	295	20.8%	55	3.9%
2006	2787	815 29.2%	85	3.0%	623	22.4%	107	3.8%
2007	3489	788 22.6%	76	2.2%	632	18.1%	80	2.3%
2008	3549	675 19.0%	53	1.5%	571	16.1%	51	1.4%
2009	3648	702 19.2%	52	1.4%	567	15.5%	83	2.3%
2010	3753	758 20.2%	54	1.4%	630	16.8%	74	2.0%
2011	3920	834 21.3%	63	1.6%	733	18.7%	38	1.0%
2012	4305	919 21.3%	70	1.6%	823	19.1%	29	0.7%
Total	30315	6991 23.1%	631	2.1%	5672	18.7%	691	2.3%
Average	3032	699 23.1%	63	2.1%	567	18.7%	69	2.3%

Source: Thomson Reuters I/B/E/S Guidance data, forecasting year from 2004 to 2012.

4.2.3 Financial Data

To be included in the final sample, firms are required to have financial data, such as market capitalization, leverage, actual annual earnings, volatility, beta, standard deviation, and median of analysts' earnings forecasts, book-to-market, capital offering, forecast horizon, and daily share prices. It also requires the sample to have information about independent directors, independent audit committee members and the number of analysts following. These data are obtained from the *DataStream*, *Compustat*, and *Worldscope* databases. This study eliminates the outlying observations (outliers) in order to ensure that the regression parameters are unbiased and that a few outliers do not drive the results. Removing these outliers allows this study to show the effect on the “average” firm.

The outliers are defined as those with the absolute value of the difference between MEF and AEF, scaled by AEF is lesser than five ($MF\ Signal < 5$); the fractional ownership of the largest substantial shareholder is lesser or equal to hundred per cent ($Largest\ Shareholding \leq 100$); the natural log of the price-to-book ratio at the beginning of the fiscal

year is between negative one hundred to one thousand ($-100 < Growth < 1,000$); the total long term debts divided by total assets is between zero and five hundred ($0 < Leverage < 500$); the number of days between management earnings forecast announcement date and end of the fiscal year to which the forecast pertains ($0 < Forecast Horizon \leq 365$); and the absolute difference between management earnings forecast and actual earnings scaled by the price of the beginning of the fiscal year is greater or equal to zero but lesser or equal to 5.5 ($0 \leq Accuracy \leq 5.5$). This gives a final sample of 4,210 firm-year observations, as presented in Table 4.5.

Table 4.5 Sample Selection and Observation

Data Source	Variables		No. of Observation
Thomson	Annual management earnings forecast, from 2004 to 2013	(a)	6163
Reuters	Data Loss:		
I/B/E/S	Missing shareholding data (from OSIRIS)*	(b)	(603)
Guidance	Shareholding 5% and above and with annual management earnings forecast	(a-b)	5560
DataStream, Compustat, and Worldscope	Other financial data		
	Minus Outliers:		
	$MF Signal < 5$; $0 < Growth < 1,000$; $0 < Leverage < 500$; $0 < Forecast Horizon \leq 365$; and $0 \leq Accuracy \leq 5.5$	(c)	(1350)
	Final Sample	(a-b-c)	4210

* Ownership data for New York Stock Exchange (NYSE) and National Association of Securities Dealers Automated Quotations (NASDAQ), from 2003 to 2012, are obtained from OSIRIS Database.

A full definition of the testable variables is presented in Table 4.6(a) and Table 4.6(b) for easy reference.

Table 4.6(a): Definition of Variables

Test Variables	Definition
<u>Dependent Variables</u>	
<i>Occurrence</i>	1 if the firm issued management earnings forecast, zero otherwise.
<i>Precision</i>	1 if the firm issued a point forecast during a fiscal period, 2 if a range forecast, and 3 if an open-ended forecasts.
<i>Accuracy</i>	the absolute difference between management earnings forecast and actual earnings scaled by the price of the beginning of the fiscal year. A smaller number indicates more accurate.
<u>Independent Variables</u>	
<i>MF Signal</i>	the absolute value of the difference between MEF and AEF, scaled by AEF, where MEF is the management annual earnings per share forecast and AEF is the analyst's annual earnings per share forecast just prior to the related MEF.
<i>MF Signal</i> ^{^2}	the squared term of the absolute value of the difference between MEF and AEF, scaled by AEF, where MEF is the management annual earnings per share forecast and AEF is the analyst's annual earnings per share forecast just prior to the related MEF.
<i>Dispfor</i>	the standard deviation of analysts' forecasts divided by the median of analysts' forecasts.
<i>Dispfor</i> ^{^2}	the squared term of the standard deviation of analysts' forecasts divided by the median of analysts' forecasts.
<i>Market Error Dum</i>	<i>Market Error</i> is then distributed into quartiles, with a vector of 1 for each quartiles, i.e., 25%, 50%, 75%, and above 75%, 0 otherwise.
<i>Largest Shareholding</i>	the fractional ownership of the largest substantial shareholder.
<i>Largest Shareholding</i> ^{^2}	the squared term of the fractional ownership of the largest substantial shareholder.
<i>Family Dum</i>	a vector of 1 if the largest shareholder is a family member, 0 otherwise.
<i>Institution Dum</i>	a vector of 1 if the largest shareholder is a financial institution, 0 otherwise.
<i>Government Dum</i>	a vector of 1 if the largest shareholder is a government/state, 0 otherwise.
<i>Foreign Dum</i>	a vector of 1 if the largest shareholder is a foreigner, 0 otherwise.
<i>Family Ownership</i>	the fractional ownership of the largest shareholder who is a family member.
<i>Institution Ownership</i>	the fractional ownership of the largest shareholder who is a financial institution.
<i>Government Ownership</i>	the fractional ownership of the largest shareholder who is a government/state.
<i>Foreign Ownership</i>	the fractional ownership of the largest shareholder who is a foreigner.
<i>Other Owners</i>	a Herfindahl-type index that measures the concentration of shares held by other substantial shareholders excluding the largest one. The sum of the squared percentage shareholding of each substantial shareholder, excluding the largest shareholder.

Table 4.6(b): Definition of Variables

Test Variables	Definition
<u>Control Variables</u>	
<i>Size</i>	the natural logarithm of firm's market capitalization at the beginning of the fiscal year.
<i>Leverage</i>	the total long term debts divided by total assets.
<i>Growth</i>	the natural log of the price-to-book ratio at the beginning of the fiscal year.
<i>Good News</i>	a vector of 1 if the current annual actual earnings per share is greater than the previous fiscal year, 0 otherwise.
<i>Volatility</i>	the standard deviation of daily return over the fiscal year.
<i>Loss</i>	a vector of 1 if the firm reported losses in the fiscal year, 0 otherwise.
<i>Beta</i>	equity beta for the fiscal year.
<i>Capital Offering</i>	a vector of 1 if the firm is raising external capital within three months after the announcement of their earnings forecast, 0 otherwise.
<i>Forecast horizon</i>	the number of days between management earnings forecast announcement date and end of the fiscal year to which the forecast pertains.
<i>Analyst Following</i>	the total number of analysts following the firms.
<i>Independent Director</i>	the total percentage shareholding of independence outside directors on the board.
<i>Independent Audit Committee</i>	the percentage of independence audit committees on the board.

Table 4.7 tabulates the descriptive statistics of the final sample. It shows that the average *Occurrence* is 0.203 and the standard deviation is 0.402. The mean *Precision* is 2.024 with a standard deviation of 0.432. *Accuracy* has an average (median) of 0.218 (0.070), and a standard deviation of 0.509.

Two measures for the level of market expectation deviation are used in this study, namely *MF Signal* and *Dispfor*. *MF Signal* is the ex-ante management earnings forecast signal, and *Dispfor* is the error in analysts' earnings forecast. The average (median) *MF Signal* is 0.326 (0.218), and the standard deviation is 0.400. *Dispfor* has an average (median) of 0.051 (0.030), with a standard deviation of 0.209. The full definition and the selection criteria of these measures are discussed in the next section, Section 4.4.

Table 4.7: Descriptive Statistics of Variables

Occurrence is 1 if the firm issued a forecast. *Precision* is 1 if the firm issued a point forecast, 2 if ranged forecast, 3 if open-ended forecast, and 0 otherwise. *Accuracy* is the absolute difference between management earnings forecast and actual earnings scaled by the price. *MF Signal* is the absolute value of the difference between MEF and AEF, scaled by AEF, where MEF is the management annual earnings per share forecast and AEF is the analyst's annual earnings per share forecast just prior to the related MEF. *Dispfor* is the standard deviation of analysts' forecasts divided by the median of analysts' forecasts. *Largest Shareholding* is the fractional ownership of the largest substantial shareholder. *Family Dum*, *Institution Dum*, *Government Dum*, and *Foreign Dum*, respectively, equal 1 if the blockholder (largest shareholder) is a family, institution, government, or foreigner and 0 otherwise. *Dum* is the short form for dummy. *Family Ownership*, *Institution Ownership*, *Government Ownership*, and *Foreign Ownership*, respectively, is the fractional ownership of the largest shareholder who is a family member, financial institution, government/state, or foreigner. *Other Owners* is a Herfindahl-type index that measures the concentration of shares held by other substantial shareholders excluding the largest one. *Size* the natural logarithm of firm's market capitalization. *Leverage* is the total long term debts divided by total assets. *Growth* is the natural log of the price-to-book. *Good News* is a vector of 1 if the current annual actual earnings per share is greater than the previous fiscal year, 0 otherwise. *Volatility* is the standard deviation of daily return. *Loss* is a vector of 1 if the firm reported losses in the fiscal year, 0 otherwise. *Beta* is equity beta for the fiscal year. *Capital Offering* is a vector of 1 if the firm is raising external capital within three months after the announcement of their earnings forecast, 0 otherwise. *Forecast Horizon* is the number of days between management earnings forecast announcement date and end of the fiscal year to which the forecast pertains. *Analyst Following* is the total number of analysts following the firms. *Independent Director* is the total percentage shareholding of independence outside directors on the board. *Independent Audit Committee* is the percentage of independence audit committees on the board.

Test Variables	Mean	Median	Std. Dev.	Min	Max
Panel A: Dependent Variables					
<i>Occurrence</i>	0.203	0.000	0.402	0.000	1.000
<i>Precision</i>	2.024	2.000	0.432	1.000	3.000
<i>Accuracy</i>	0.218	0.070	0.509	0.000	5.352
Panel B: Independent Variables					
<i>MF Signal</i>	0.326	0.218	0.400	0.000	4.952
<i>Dispfor</i>	0.051	0.030	0.209	0.000	3.860
<i>Largest Shareholding</i>	0.148	0.098	0.164	0.001	1.000
<i>Family Dum</i>	0.080	0.000	0.271	0.000	1.000
<i>Institution Dum</i>	0.335	0.000	0.472	0.000	1.000
<i>Government Dum</i>	0.005	0.000	0.070	0.000	1.000
<i>Foreign Dum</i>	0.097	0.000	0.296	0.000	1.000
<i>Family Ownership</i>	0.270	0.192	0.213	0.011	0.966
<i>Institution Ownership</i>	0.099	0.085	0.080	0.001	0.980
<i>Government Ownership</i>	0.021	0.004	0.043	0.001	0.168
<i>Foreign Ownership</i>	0.154	0.086	0.200	0.001	1.000
<i>Other Owners</i>	0.699	0.771	0.197	0.001	0.937
Panel C: Control Variables					
<i>Size (in million)</i>	10.019	2.391	25.957	0.006	386.402
<i>Leverage</i>	25.684	24.225	18.086	0.010	197.470
<i>Growth</i>	3.764	2.160	21.750	0.000	759.590
<i>Good News</i>	0.626	1.000	0.484	0.000	1.000
<i>Volatility</i>	26.415	25.945	11.814	0.000	68.240
<i>Loss</i>	0.019	0.000	0.136	0.000	1.000
<i>Beta</i>	0.003	0.000	0.087	0.000	4.285
<i>Capital Offering</i>	0.062	0.000	0.241	0.000	1.000
<i>Forecast Horizon</i>	281.710	314.000	80.886	1.000	364.000
<i>Analyst Following</i>	12.627	11.000	7.269	1.000	45.000
<i>Independent Director</i>	0.400	0.000	0.416	0.000	1.000
<i>Independent Audit Committee</i>	0.492	0.000	0.500	0.000	1.000

The average *Largest Shareholding* in our sample firms is 14.8%, and the median *Largest Shareholding* is 9.8%. The standard deviation of *Largest Shareholding* is 16.4% and the highest shareholding of a blockholder is 100%. Foreign investors tend to dominate in our sample, with a maximum of 100% shareholding (average of 15.4% shareholding), followed closely by institutions at 98.0% shareholding (average of 9.9% shareholding) and then family firms at 96.6% shareholding (average of 27.0% shareholding). Government-owned firms appear to be the bottom of the chart with a maximum shareholding of only 16.8%. *Other Owners* has a reasonably high average and median (69.9% and 77.1%, respectively) suggesting the possibility of posing challenges to the largest shareholders in our sample.

4.3 Characteristics of Management Earnings Forecasts (Dependent Variables)

This study focuses on three of the main characteristics of management earnings forecasts; namely, occurrence, precision, and accuracy as the dependent variables. Following Ajinkya et al. (2005), this study defines occurrence, precision, and accuracy of management earnings forecasts, which are defined as followed.

Occurrence = 1 if the firm issued management earnings forecast, zero otherwise

Precision = 1 if the firm issued a point forecast, 2 if range forecast, and 3 if open-ended forecast during a fiscal period.

Accuracy = the absolute difference between management earnings forecast and actual earnings scaled by the price of the beginning of the fiscal year.
A smaller (bigger) number indicates more (less) accurate.

4.4 Measures of Market Expectation Deviation

There are numerous testable variables used in the past studies. For example, ex-ante management earnings forecasts signal, errors in analysts' earnings forecasts, bid-ask spread, stock price volatility, among others (Ajinkya and Gift, 1984; Krishnaswami and Subramaniam, 1999). In this study, two measures are used in defining the level of market expectation deviation. They are *MF Signal* and *Dispfor*, as explained below.

4.4.1 Ex-ante Management Earnings Forecast Signal (*MF Signal*)

Two measures of market expectation deviation are used in this study. The first measure is the ex-ante management earnings forecasts signal. Following Ajinkya and Gift (1984), and King et al. (1990), this study uses analyst earnings forecasts (AEF) as the proxy for the prevailing market expectation, under the assumption that management earnings forecasts are relatively more accurate than the analyst earnings forecasts.¹²

For range forecasts, this study uses the mean of the upper and lower bounds of the forecasts. If more than one analyst provided a forecast, the arithmetic mean of the analyst earnings forecasts is then employed as the measure of the prevailing market expectation. The deviation between management earnings forecast and the prevailing market expectation, i.e., ex-ante management forecast signal (*MF Signal*), is then computed as below in line with Ajinkya and Gift (1984), and King et al. (1990):

$$MF\ Signal = (MEF - AEF) / AEF \quad (1)$$

¹² See Ruland (1978) who finds that analysts' earnings forecasts announced before management earnings forecasts are less accurate. Also, see Jaggi (1980) who concludes that management earnings forecasts are more likely to be accurate, especially when the forecasts are published after analysts' forecasts. Similarly, Ajinkya and Gift (1984) find that the relative accuracy of management earnings forecasts and analysts' earnings forecasts is consistent with Ruland and Jaggi in that the average absolute management forecast error is 0.115, while the average absolute analyst forecast error is 0.135. Waymire (1986) has the same conclusion using a larger sample set.

MF Signal is the absolute value of the difference between MEF and AEF, scaled by AEF, where *MEF* is the management's annual earnings per share forecast and *AEF* is the analyst's annual earnings per share forecast just before the release of the said *MEF*. The expectations adjustment *hypothesis* emphasizes that managers are motivated to correct the prevailing analysts' forecasts (market expectation), which are either *too high* or *too low*. Given that it is a motivation of the managers, or rather the largest shareholders in this case, the motivation to correct the prevailing analysts' forecasts may be subject to the degree of market expectation deviation. Hence, this study first tested for non-linearity by introducing $MF\ Signal^2$ in the regressions, the same concept adopted in testing non-linearity in the ownership concentration literature (Jensen and Meckling, 1976; Lim et al. 2014). Given that forecast precision is assigned as a vector of 1, 2, or 3, this study employs the Ordered Logit (OL) regression¹³ model with fixed industry and time effects for testing the non-linearity relationship between *Precision* and $MF\ Signal^2$. For *Accuracy*, Ordinary Least Squares (OLS) with fixed industry and time effects is adopted to test the non-linearity relationship between *Accuracy* and $MF\ Signal^2$. The models are depicted as followed.

Ordered Logit (OL) regression:

$$Precision_{it+1} =$$

$$\begin{aligned} & \beta_0 + \beta_1 MF\ Signal_{it} + \beta_2 MF\ Signal^2_{it} + \beta_3 Size_{it} + \beta_4 Leverage_{it} + \beta_5 Growth_{it} + \\ & \beta_6 Good\ News_{it} + \beta_7 Volatility_{it} + \beta_8 Loss_{it} + \beta_9 Beta_{it} + \beta_{10} Capital\ Offering_{it} + \\ & \beta_{11} Forecast\ Horizon_{it} + \beta_{12} Analyst\ Following_{it} + \beta_{13} Independent\ Director_{it} + \end{aligned}$$

¹³ Ordered Logit Method only applies to data that meet the proportional odds assumption, our dataset might not meet this assumption. So we also run Ordered Probit model which does not require the proportional odds assumption. The results are qualitatively similar.

$$\beta_{14} \text{Independent Audit Committee}_{it} + \beta_{15} \text{Industries}_i + e_{it} \quad (2)$$

Ordinary Least Squares (OLS) regression:

$$\begin{aligned} \text{Accuracy}_{it+1} = & \beta_0 + \beta_1 \text{MF Signal}_{it} + \beta_2 \text{MF Signal}^2_{it} + \beta_3 \text{Size}_{it} + \beta_4 \text{Leverage}_{it} + \beta_5 \text{Growth}_{it} + \\ & \beta_6 \text{Good News}_{it} + \beta_7 \text{Volatility}_{it} + \beta_8 \text{Loss}_{it} + \beta_9 \text{Beta}_{it} + \beta_{10} \text{Capital Offering}_{it} + \\ & \beta_{11} \text{Forecast Horizon}_{it} + \beta_{12} \text{Analyst Following}_{it} + \beta_{13} \text{Independent Director}_{it} + \\ & \beta_{14} \text{Independent Audit Committee}_{it} + \beta_{15} \text{Industries}_i + e_{it} \end{aligned} \quad (3)$$

4.4.2 Error in Analysts' Earnings Forecast (*Dispfor*)

Following Krishnaswami and Subramaniam (1999), the second measure is the errors in analysts' earnings forecasts, i.e., the standard deviation of analysts' forecasts (*Dispfor*). This represents the dispersion among analysts about the consensus estimate of their forecasts. The disagreements among analysts are an indication of the lack of available information about a firm. Hence, *Dispfor* is measured as the standard deviation of analysts' forecast divided by the median of analysts' forecast, as an alternative to *MF Signal*.

In line with the *expectations adjustment hypothesis*, the same approach is adopted for *Dispfor*. Dispfor^2 is introduced in testing the non-linearity relationship between analysts' forecasts errors and the characteristics of management earnings forecasts, as shown below:

Ordered Logit (OL) regression:

$$Precision_{it+1} =$$

$$\begin{aligned} & \beta_0 + \beta_1 Dispfor_{it} + \beta_2 Dispfor^2_{it} + \beta_3 Size_{it} + \beta_4 Leverage_{it} + \beta_5 Growth_{it} + \\ & \beta_6 Good\ News_{it} + \beta_7 Volatility_{it} + \beta_8 Loss_{it} + \beta_9 Beta_{it} + \beta_{10} Capital\ Offering_{it} + \\ & \beta_{11} Forecast\ Horizon_{it} + \beta_{12} Analyst\ Following_{it} + \beta_{13} Independent\ Director_{it} + \\ & \beta_{14} Independent\ Audit\ Committee_{it} + \beta_{15} Industries_i + e_{it} \end{aligned} \quad (4)$$

Ordinary Least Squares (OLS) regression:

$$Accuracy_{it+1} =$$

$$\begin{aligned} & \beta_0 + \beta_1 Dispfor_{it} + \beta_2 Dispfor^2_{it} + \beta_3 Size_{it} + \beta_4 Leverage_{it} + \beta_5 Growth_{it} + \\ & \beta_6 Good\ News_{it} + \beta_7 Volatility_{it} + \beta_8 Loss_{it} + \beta_9 Beta_{it} + \beta_{10} Capital\ Offering_{it} + \\ & \beta_{11} Forecast\ Horizon_{it} + \beta_{12} Analyst\ Following_{it} + \beta_{13} Independent\ Director_{it} + \\ & \beta_{14} Independent\ Audit\ Committee_{it} + \beta_{15} Industries_i + e_{it} \end{aligned} \quad (5)$$

4.5 Research Methods

The study first tested for the occurrence of management earnings forecasts using the Logit regression model. Secondly, given that forecast precision is assigned as a vector of 1, 2, or 3, this study employs the Ordered Logit (OL) regression model with fixed industry and time effects to investigate the relationship between the ownership structure and concentration, and the precision of management earnings forecasts. As for the accuracy, this study uses Ordinary Least Squares (OLS) with fixed industry and time effects to test the accuracy of management earnings forecasts as the data deployed in this study is not panel structured. The standard errors are then adjusted for heteroscedasticity using the Huber-White sandwich estimators. This study also tests the relationship within

each quartile. Below are the proposed regression models, followed by the detailed descriptions of all the independent and control variables.

Logit regression:

$$\begin{aligned}
Occurrence_{it+1} = & \beta_0 + \beta_1 Largest\ Shareholding_{it} + \beta_2 Largest\ Shareholding_{it}^2 + \beta_3 Owner\ Type_{it} + \\
& \beta_4 Other\ Owners_{it} + \beta_5 Size_{it} + \beta_6 Leverage_{it} + \beta_7 Growth_{it} + \beta_8 Good\ News_{it} + \\
& \beta_9 Volatility_{it} + \beta_{10} Loss_{it} + \beta_{11} Beta_{it} + \beta_{12} Capital\ Offering_{it} + \beta_{13} Forecast\ Horizon_{it} + \\
& \beta_{14} Analyst\ Following_{it} + \beta_{15} Independent\ Director_{it} + \beta_{16} Independent\ Audit\ Committee_{it} + \\
& \beta_{17} Industries_i + e_{it}
\end{aligned} \tag{6}$$

Ordered Logit (OL) regression:

$$\begin{aligned}
Precision_{it+1} = & \beta_0 + \beta_1 MF\ Signal_{it} + \beta_2 Largest\ Shareholding_{it} + \\
& (\beta_3 Largest\ Shareholding_{it} \times MF\ Signal\ Dum_{it}) + \\
& \beta_4 Largest\ Shareholding_{it}^2 + \\
& (\beta_5 Largest\ Shareholding_{it}^2 \times MF\ Signal\ Dum_{it}) + \\
& \beta_6 Owner\ Type_{it} + (\beta_7 Owner\ Type_{it} \times MF\ Signal\ Dum_{it}) + \\
& \beta_8 Other\ Owners_{it} + (\beta_9 Other\ Owners_{it} \times MF\ Signal\ Dum_{it}) + \\
& \beta_{10} Size_{it} + \beta_{11} Leverage_{it} + \beta_{12} Growth_{it} + \beta_{13} Good\ News_{it} + \beta_{14} Volatility_{it} + \\
& \beta_{15} Loss_{it} + \beta_{16} Beta_{it} + \beta_{17} Capital\ Offering_{it} + \beta_{18} Forecast\ Horizon_{it} + \\
& \beta_{19} Analyst\ Following_{it} + \beta_{20} Independent\ Director_{it} + \beta_{21} Independent\ Audit\ Committee_{it} + \\
& \beta_{22} Industries_i + e_{it}
\end{aligned} \tag{7}$$

Ordinary Least Squares (OLS) regression:

$$\begin{aligned}
Accuracy_{it} = & \beta_0 + \beta_1 MF\ Signal_{it} + \beta_2 Largest\ Shareholding_{it} + \\
& (\beta_3 Largest\ Shareholding_{it} \times MF\ Signal\ Dum_{it}) + \\
& \beta_4 Largest\ Shareholding_{it}^2 + \\
& (\beta_5 Largest\ Shareholding_{it}^2 \times MF\ Signal\ Dum_{it}) + \\
& \beta_6 Owner\ Type_{it} + (\beta_7 Owner\ Type_{it} \times MF\ Signal\ Dum_{it}) + \\
& \beta_8 Other\ Owners_{it} + (\beta_9 Other\ Owners_{it} \times MF\ Signal\ Dum_{it}) + \\
& \beta_{10} Size_{it} + \beta_{11} Leverage_{it} + \beta_{12} Growth_{it} + \beta_{13} Good\ News_{it} + \beta_{14} Volatility_{it} + \\
& \beta_{15} Loss_{it} + \beta_{16} Beta_{it} + \beta_{17} Capital\ Offering_{it} + \beta_{18} Forecast\ Horizon_{it} + \\
& \beta_{19} Analyst\ Following_{it} + \beta_{20} Independent\ Director_{it} + \beta_{21} Independent\ Audit\ Committee_{it} + \\
& \beta_{22} Industries_i + e_{it}
\end{aligned} \tag{8}$$

4.5.1 Independent Variables

The ownership concentration is proxied by *Largest Shareholding*, the fractional ownership of the largest substantial shareholder. The squared term ($Largest\ Shareholding^2$) is included to capture the non-linearity in the relationship between management earnings forecast properties and ownership concentration. Following Lim et al. (2014) that the identity of the largest shareholder does speak louder than its percentage shareholding, this study deploys the same with *Owner Type* is a vector of the four blockholder (largest shareholder) identity groups: *Family Dum*, *Institution Dum*, *Government Dum*, and *Foreign Dum*, which, respectively, take a value of 1 if the blockholder (largest shareholder) is a family, financial institution, government, or foreigner and 0 otherwise. As an alternative to the dummy variable, this study also uses the fractional ownership of each of these

blockholder (largest shareholder) groups (*Family Ownership*, *Institution Ownership*, *Government Ownership*, and *Foreign Ownership*) in the regressions. *Other Owners* is a Herfindahl-type index that measures the concentration of shares held by other substantial shareholders excluding the largest one. Following Liu and Lu (2007), it is the sum of the squared percentage shareholding of each substantial shareholder, except the largest shareholder:

$$Other\ Owners = \sum_{i=2}^{i=n} \left(\frac{S_i}{S} \right)^2 \quad (9)$$

where S_i is the number of shares held by the i th largest substantial shareholder; S is the total number of shares, n is the number of other substantial shareholders. A low index value implies that other substantial shareholders pose less of a challenge to blockholders.

4.5.2 Control Variables

Consistent with past studies, some control variables that may influence the results are included in the tests so that the regression results are unbiased. For example, prior study shows a positive association between firm size and the issuance of management earnings forecasts (Kasznik and Lev, 1995). Therefore, this study controls for firm size. The reason to control for firm size is that it can help to control for the differences in the direct costs involved in preparing the earnings forecast as larger firms have more resources and capacities, and richer information environment with a better-equipped accounting system to ensure timely and accurate financial information disclosure (Bushman et al., 2004). We define *Size* as the natural logarithm of firm's market capitalization at the beginning of the fiscal year measured in US Dollars (USD).

Firms with poor performance are more likely to withhold the disclosure of negative financial information in order to avoid a drastic fall in share price (Haw et al., 2000). Conversely, good performing firms may want to disclose good news perhaps to raise

capital on the best available funding terms and conditions (Foster, 1986) or to distinguish themselves for managers' personal advantages, such as the continuation of their positions and compensation justification (Haniffa and Cooke, 2002). On the other hand, both Bergman and Roychowdhury (2008), and Zhou (2017) document that profitable firms do not necessarily disclose more while firms with lower profitability disclose more when investors' pessimism is sufficient to justify more disclosure. Due to past mixed results, this study controls for both good news and growth opportunity. The latter is also an indicator of proprietary information where it reveals the availability of profitable investments to the competitors (Bamber and Cheon, 1998). *Good News* takes a value of 1 if the current annual actual earnings per share are greater than the previous fiscal year, 0 otherwise. *Growth* is proxied by the natural log of the price-to-book ratio at the beginning of the fiscal year.

Firms wanting to raise external funding are more likely to issue management earnings forecasts (Ruland et al., 1990). Therefore, this study controls for the capital offering. *Capital Offering* takes a value of 1 if the firm is raising external capital within three months after the announcement of their earnings forecast, 0 otherwise.

Given that longer-horizon forecasts tend to be less specific due to the greater uncertainty associated with longer horizon predictions, and vice versa (Baginski and Hassell, 1997), this study thus controls for the forecast horizon in the tests. *Forecast horizon* is measured as the number of days between the management earnings forecast announcement date and the end of the fiscal year to which the forecast pertains.

Firms that are followed by a larger number of analysts tend to have stronger incentives to forecast earnings in order to maintain a reputation for credible

communication (Graham et al., 2005). Consistently, past study shows that the number of analysts following is associated with a higher quality of disclosure (Lang and Lundholm, 1999). As such, *Analyst Following*, which is defined as the total number of analysts following the firm, is being controlled in the tests.

This study also controls for leverage since highly leveraged firms are associated with greater disclosure in order to meet their creditors' demand (Abdulla, 1996). However, highly levered firms tend to be more closely monitored by their bankers who can access corporate information before it is publicly disseminated (Conover et al., 2008). Hence, these firms have less incentive to disclose earnings forecasts. To control this effect in the tests, *Leverage* is included in the model, and it is defined as total debts divided by total assets.

Past study shows a significant association between volatility and the frequency of management earnings forecasts (Waymire, 1985; Ajinkya et al., 2005). Hence, *Volatility* is included as one of the control variables, and it is defined as the standard deviation of daily return over the fiscal year.

Prior evidence reveals that there are significant differences between the analysts' forecasts error for loss and profit-making firms whereby analysts have greater problems in predicting their estimates for loss-making firms (Brown, 2001). This also suggests that the management's ability to forecast earnings would be similarly circumscribed to firms making losses (Ajinkya et al., 2005). To control for loss-making firms that may exhibit potential issues in forecasting, this study controls for firms that reported losses in the current period, represented by a vector of 1 if the firm reported losses in the fiscal period (*Loss*).

Since equity beta is one of the determinants of litigation risk (Jones and Weingram, 1996) and a proxy for market risk (Bushee and Noe, 2000), which may affect the disclosure of management earnings forecasts, this study thus controls for this variable, *Beta*.

Empirical evidence also shows that the percentage of outside (independent) directors and independent audit committee are associated with greater disclosure (Karamanou and Vafeas, 2005). We control for these factors in our tests. *Independent Director* is the total percentage shareholding of independent outside directors on the board. *Independent Audit Committee* is the percentage of independent audit committee members on the board.

Finally, this study controls for industry characteristics given that certain industries, such as biotechnology, computers, electronics, and retail, are legislated with more stringent disclosure rules or exposed to higher litigation risk.

4.6 Robustness Test Methods

To test the robustness of the results, two methodologies are deployed in this study. First, a structural break is introduced in the model to eliminate the potential effect from the Global Financial Crisis (GFC), which happened in the year 2008. Second, this study also addresses the potential endogeneity issue that may arise from the model. Below presents the detailed discussion for each approach.

4.6.1 Structural Break – Global Financial Crisis in 2008

Besides having an alternative measure for the level of market expectation deviation, *Dispfor*, which also serves to test the robustness of the result, this study also takes into consideration the possible variations during the GFC period. The rationality of incorporating structural break for GFC is discussed as below.

GFC, the worst financial crisis since the Great Depression in the 1930s, originates from the U.S. subprime mortgage market that led to the liquidity crisis with far-reaching repercussions in the U.S. economy as well as cross-border economic activity. It led to a worldwide market crash when consumer confidence hit rock bottom. Thus, this study adopts a structural break in the time series analysis for the GFC in 2008. Given that warnings of the crisis were evident in 2007, the data are split into two groups, (1) Pre-GFC, which is the period from 2003 to 2006, and (2) Post-GFC, which is the period from 2010 to 2013, leaving 2009 to avoid any spillover effect.

4.6.2 Endogeneity Issue

Endogeneity is often a major challenge in the robustness of corporate finance research. Like most empirical work, this study might suffer from endogeneity problems. The issue of whether a loop of causality can happen between the management earnings forecasts' error (*Accuracy*), the ex-ante management forecast signal, and the analysts' earnings forecasts' error (*MF Signal* and *Dispfor*) is because these two variables might be codetermined and thus affect each other. It is also arguable that the ownership structure and concentration of a firm can influence the firm's information environment, and good corporate governance, such as the good practice of disclosure, can affect and attract different types of investors (Foerster and Huen, 2004; Picou and Rubach, 2006).

Therefore, this study employs two-stage least squares (2SLS) regression to address the potential endogeneity problems.

In order to successfully control for endogeneity, in the two-stage least squares regression, at least one instrumental variable needs to be identified that is correlated with the dependent variable in the first-stage model. However, this instrumental variable should not be associated with the dependent variable in the second-stage model (Larcker and Rusticus, 2010; Lennox et al., 2012). Therefore, at least one of the instrumental variables used in this study should be correlated with the *MF Signal* but uncorrelated with *Accuracy*. *Beta*, *Loss*, and *Growth* are good instrumental variables since previous studies show that market expectation deviation is associated with factors, such as systematic risk or *Beta* (Beaver, 1968), recent earning loss or *Loss* (DeBondt and Thaler, 1990; Abarbanell, 1991), and book-to-market ratios or *Growth*, used in this study (Lakonishok et al., 1994; Doukas et al., 2002). Hence, in the first stage, these three instrumental variables are used to predict both proxies for market expectation deviation, i.e., *MF Signal* and *Dispfor*, for each observation. The predicted values of *MF Signal* and *Dispfor* are then regressed on the *Accuracy* in the second stage.

4.7 Summary

This chapter outlines the sample selection criteria, the measures of the market expectation deviation, the characteristics of management earnings forecasts and the research methodology and variables used. The final data consist of 4,559 unique U.S. listed firms on the *NYSE* and *NASDAQ*, with 4,210 firm-year observations from 2003 to 2013. The data show that the ownership concentration of U.S. firms remains extremely high with 96% of the firms having shareholders owning five per cent or more of the

shares in line with previous studies. Foreign ownership tops the chart, followed by domestic financial institutions and family ownership.

Following Ajinkya and Gift (1984), King et al. (1990), and Krishnaswami and Subramaniam (1999), two measures for the level of market expectation deviation are used in this study. They are (1) the error in management earnings forecasts, and (2) the error in analysts' earnings forecasts. The former is the deviation between management earnings forecast and the prevailing market expectation (*MF Signal*), and the latter is the standard deviation of analysts' forecasts (*Dispfor*) as it represents the dispersion among analysts about the consensus estimate of their forecasts. This study specifically incorporates the *expectations adjustment hypothesis* in its methodology. Hence, quartiles are introduced as the cut-off levels for different levels of information asymmetry, i.e., quartile 1, quartile 2, quartile 3 or quartile 4.

Three characteristics of management earnings forecasts are identified as the dependent variables in this study. They are (1) the occurrence of management earnings forecasts; (2) the precision of management earnings forecasts; namely, point forecasts, range forecasts, and open-ended forecasts; and (3) the ex-post accuracy of the management earnings forecasts.

This study deploys Logit regression, Ordered Logit regression, and Ordinary Least Squares regression with fixed industry and time effects to investigate the relationship between the ownership structure and concentration, the occurrence, and the precision and the accuracy of management earnings forecasts. In addition to the largest percentage shareholding, this study also examines how the identity of the blockholder (largest shareholder) relates to the occurrence, the precision, and the accuracy of management

earnings forecasts. The four largest direct shareholder groups are individuals/families, domestic financial institutions, local government/state, and foreigners. All other test variables are also discussed.

This study then discusses the robustness testing methods used. Besides adopting an alternative measure for the market expectation deviation (*Dispfor*), the study includes structural breaks for the GFC by splitting the data into Pre-GFC and Post-GFC. The study further tests the potential endogeneity issue to avoid the loop of causality.

The next chapter discusses the empirical results. Starting from the discussion on the non-linearity result, followed by the univariate and multivariate results.

CHAPTER 5

EMPIRICAL RESULTS

5.1 Introduction

This section provides the test results for the relationship between the characteristics of management earnings forecasts; namely, the occurrence, the precision, and the accuracy (ex-post), and ownership concentration and structure, as the main explanatory variables. It begins with testing the non-linearity relationship between the characteristics of management earnings forecasts and the different level of market expectation deviation in Section 5.2. This is followed by univariate analysis in Section 5.3, and empirical multivariate regression results in Section 5.4. It then discusses the robustness testing and its results in Section 5.5. Section 5.6 addresses the potential endogeneity, and Section 5.7 summarizes and concludes.

5.2 Results for Non-Linearity Relationship

The *Expectations adjustment hypothesis* emphasizes that managers are motivated to correct the prevailing analysts' forecasts (market expectation), which are either *too high* or *too low*. Hence, this study first tested for non-linearity by introducing $MF\ Signal^2$ in the regressions, and the result shows that there is a significant non-linear relationship between *Accuracy* and *MF Signal*, as reported in Table 5.1 (specification 2). This result gives support to the idea of segregating *MF Signal* into four quartiles. Therefore, this study deploys the 25th, 50th, and 75th percentiles of the *MF Signal* distribution as the cut-off to the differing levels of *MF Signal*. *MF Signal Dum* is a vector of 1 to represent each quartile, namely quartile 1, quartile 2, quartile 3, or quartile 4, and 0 otherwise.

Table 5.1: Results for Non-Linear Relationship between the Characteristics of Management Earnings Forecasts (*Precision* and *Accuracy*) and *MF Signal*

	<i>Precision</i> (1)	<i>Accuracy</i> (2)	<i>Precision</i> (3)	<i>Accuracy</i> (4)
<i>MF Signal</i>	-0.176 (0.385)	0.039 *** (0.000)		
<i>MF Signal</i> ^{^2}	-0.016 (0.789)	-0.011 *** (0.000)		
<i>Dispfor</i>			0.381 ** (0.021)	0.219 *** (0.000)
<i>Dispfor</i> ^{^2}			-0.072 (0.211)	0.087 *** (0.000)
<i>Size</i>	0.028 (0.596)	-0.004 *** (0.005)	0.037 (0.478)	-0.003 ** (0.048)
<i>Leverage</i>	-0.002 (0.545)	-2.19E-05 (0.752)	-0.002 (0.506)	-2.84E-05 (0.681)
<i>Price-to-book</i>	0.001 (0.243)	6.48E-05 (0.207)	0.001 (0.229)	5.86E-05 (0.252)
<i>Good News</i>	-0.026 (0.752)	-0.007 *** (0.003)	-0.025 (0.764)	-0.006 *** (0.007)
<i>Volatility</i>	-3.26E-04 (0.933)	0.001 *** (0.000)	-0.002 (0.653)	0.001 *** (0.000)
<i>Loss</i>	-0.326 (0.262)	0.040 *** (0.000)	-0.378 (0.192)	0.102 *** (0.000)
<i>Beta</i>	0.254 (0.338)	-0.009 (0.585)	0.278 (0.276)	-0.010 (0.509)
<i>Capital Offerring</i>	-0.248 (0.107)	0.004 (0.364)	-0.246 (0.109)	0.004 (0.385)
<i>Forecast Horizon</i>	0.001 * (0.092)	1.15E-04 *** (0.000)	0.001 (0.109)	9.44E-05 *** (0.000)
<i>Analyst Following</i>	-0.004 (0.626)	-0.001 ** (0.047)	-0.004 (0.619)	-0.001 ** (0.028)
<i>Independent Director</i>	-0.123 (0.824)	0.019 (0.150)	-0.107 (0.847)	0.021 (0.116)
<i>Independent Audit Committee</i>	0.251 (0.348)	0.004 (0.573)	0.245 (0.360)	0.004 (0.572)
<i>Constant</i>		0.088 *** (0.000)		0.078 *** (0.000)
<i>N</i>	4210	4156	4209	4155
<i>R-Squared</i>	0.029	0.195	0.029	0.184

The same approach is adopted for *Dispfor*. *Dispfor*^{^2} is introduced in testing the non-linearity relationship between analysts' forecast errors and the characteristics of management earnings forecasts. The results, tabulated in Table 5.1 (specifications 3 and 4) are consistent with the *expectations adjustment hypothesis*, i.e., there is a significant non-linear relationship between *Dispfor* and the precision and the accuracy of management

earnings forecasts. Hence, *Dispfor* is also segregated into four quartiles, i.e., quartile 1, quartile 2, quartile 3, or quartile 4, the same as *MF Signal*.

5.3 Univariate Results

This section discusses the univariate tests and its results. The tests include the correlation matrix, and the univariate tests of differences for forecast occurrence (*Occurrence*), forecast precision (*Precision*), forecast accuracy (*Accuracy*), market expectation deviation (*MF Signal*), ownership concentration, and the identity of the largest shareholders.

5.3.1 Correlation Matrix

Table 5.2 reports the Spearman correlation matrix of the test variables. The correlation between the various test variables is low, suggesting that multicollinearity is unlikely to be a major problem in the multivariate regressions.

The result shows that *Precision* and *Accuracy* are not significantly correlated. At the significance level of 1%, *MF Signal* is negatively correlated with *Precision* but positively correlated with *Accuracy* with the correlation coefficients of 0.038 and 0.284, respectively. The result suggests that as the level of market expectation deviation increases, the management forecasts issued are likely to be more precise, but that the forecasts are very inaccurate. The latter suggests that when there is an uncertainty of information, the forecasting of earnings becomes less predictable.

Largest Shareholding is significantly positively correlated with *Accuracy* and *MF Signal*. This result suggests that as ownership concentration increases, so does the level of market expectation deviation, and that the management earnings forecasts are less accurate. There

is no significant correlation between family ownership, forecast precision, and accuracy, as well as the level of market expectation deviation. Institutional ownership is significantly negatively correlated with *Accuracy*, thereby providing some initial supporting evidence that institutional investors are concerned about their fiduciary responsibilities and their exposure to litigation risks. Government-owned firms are significantly negatively correlated to *Precision* but positively correlated with *Accuracy*. This result suggests that the earnings forecasts for firms with the government/state as their blockholders (largest shareholders) are less precise and less accurate. For firms with foreigners as their blockholders, the result shows no significant correlation between foreign ownership, forecast precision and accuracy, and the level of market expectation deviation. Finally, the result indicates that *Other Owners* is positively correlated with *MF Signal*.

Table 5.2: Spearman Correlation Matrix

	Precision	Accuracy	MF Signal	Largest Shareholding	Family Ownership	Institution Ownership	Government Ownership	Foreign Ownership	Other Owners	Size	Leverage	Growth	Good News	Volatility	Loss	Beta	Dispfor	Capital Offering	Forecast Horizon	Analyst Following	Independent Director
Accuracy	0.003																				
MF Signal	-0.038 ***	0.284 ***																			
Largest Shareholding	-0.013	0.084 ***	0.062 ***																		
Family Ownership	-0.016	0.025	0.013	0.243 ***																	
Institution Ownership	0.008	-0.035 **	0.000	-0.121 ***	-0.202 ***																
Government Ownership	-0.028 *	0.029 *	-0.014	-0.099 ***	-0.020	-0.048 ***															
Foreign Ownership	0.011	-0.015	-0.012	-0.040 ***	-0.095 ***	-0.226 ***	-0.023														
Other Owners	-0.016	-0.011	0.069 ***	-0.435 ***	-0.204 ***	0.189 ***	-0.105 ***	0.011													
Size	0.056 ***	-0.279 ***	-0.184 ***	-0.184 ***	-0.130 ***	0.019	-0.023	-0.011	-0.033 **												
Leverage	0.011	-0.029 *	-0.026 *	-0.014	-0.070 ***	-0.017	0.026 *	0.065 ***	0.001	0.084 ***											
Growth	0.002	-0.118 ***	-0.071 ***	-0.034 **	-0.005	-0.005	0.002	-0.035 **	-0.100 ***	0.350 ***	-0.023										
Good News	0.012	-0.162 ***	-0.060 ***	-0.022	0.011	0.004	-0.004	-0.003	-0.054 ***	0.147 ***	-0.070 ***	0.212 ***									
Volatility	-0.044 ***	0.273 ***	0.335 ***	0.155 ***	0.105 ***	-0.054 ***	-0.006	-0.029 *	0.143 ***	-0.366 ***	-0.125 ***	-0.128 ***	-0.050 ***								
Loss	-0.045 ***	0.135 ***	0.203 ***	0.017	0.019	-0.032 **	-0.010	-0.010	-0.038 **	-0.133 ***	-0.022	0.032 **	-0.026 *	0.134 ***							
Beta	-0.003	0.020	0.030 *	0.020	0.008	0.007	-0.003	0.025	0.006	0.003	-0.026 *	-0.002	0.000	0.019	0.034 **						
Dispfor	0.015	0.227 ***	0.264 ***	0.067 ***	-0.044 **	0.007	0.022	-0.008	0.075 ***	-0.143 ***	0.048 ***	-0.160 ***	-0.133 ***	0.208 ***	-0.123 ***	-0.015					
Capital Offering	-0.031 **	0.023	0.022	-0.007	-0.014	-0.032 **	-0.003	0.011	-0.095 ***	-0.031 **	0.096 ***	0.002	-0.016	-0.056 ***	0.090 ***	0.012	0.017				
Forecast Horizon	0.039 **	0.029 *	-0.035 **	-0.058 ***	-0.055 ***	0.051 ***	0.023	-0.025	-0.009	0.173 ***	0.082 ***	0.031 **	0.006	-0.084 ***	-0.046 ***	-0.048 ***	0.200 ***	0.018			
Analyst Following	0.023	-0.189 ***	-0.073 ***	-0.120 ***	-0.110 ***	0.007	-0.048 ***	0.001	0.158 ***	0.611 ***	-0.034 **	0.243 ***	0.066 ***	-0.109 ***	-0.101 ***	0.088 ***	0.167 ***	-0.051 ***	0.160 ***		
Independent Director	0.056 ***	-0.153 ***	-0.086 ***	-0.126 ***	-0.135 ***	-0.002	-0.025	0.066 ***	0.153 ***	0.720 ***	0.090 ***	0.170 ***	0.045 ***	-0.190 ***	-0.087 ***	-0.040 **	-0.066 ***	-0.087 ***	0.148 ***	0.541 ***	
Independent Audit Committee	0.054 ***	-0.119 ***	-0.045 ***	-0.085 ***	-0.106 ***	-0.010	-0.014	0.040 ***	0.166 ***	0.603 ***	0.083 ***	0.120 ***	0.040 **	-0.127 ***	-0.073 ***	-0.036 **	-0.039 **	-0.075 ***	0.110 ***	0.475 ***	0.812 ***

Note:

MS Signal and Dispfor used in Spearman correlation matrix are full sample data, not quartiles.

5.3.2 Univariate Tests

The primary objective of this study is to examine whether the *expectations adjustment hypothesis* plays an important role in determining the relationship between ownership concentration and the identity of the blockholder (largest shareholder), and the characteristics of management earnings forecasts, i.e., precision and accuracy of management earnings forecasts. To test the relationship of this hypothesis, the study runs univariate tests of differences.

The results from the univariate tests of differences for forecast precision (*Precision*), forecast accuracy (*Accuracy*), and the market expectation deviation (*MF Signal*) are presented in Table 5.3. P-values for both the t-test and Mann-Whitney test are included in the table. The result shows no significant effect for *Precision* (Panel A). This finding could be due to no legislation mandated for the precision of management earnings forecasts.

However, Panel B of Table 5.3 shows that there are significant findings for the accuracy of management earnings forecasts. When the level of market expectation deviation is at the 25th percentile and below (Quartile 1), the management earnings forecasts issued are significantly less accurate at the mean (median) of 0.216 (0.488). When the level of market expectation deviation goes higher at the 50th percentile (Quartile 2), the management earnings forecasts issued remain significantly less accurate at the median of 0.461, although the mean is not significant. At Quartile 4 (75th percentile and above), the results still show that the management earnings forecasts issued are less accurate at the mean (median) of 0.834 (0.287); both are significant at the 1% level. Hence, these results suggest that the accuracy of the management earnings forecasts can be deterred in the existence of market expectation deviation. This could possibly be due to the entrenchment effect that an opaque information

environment is preferred to cover expropriation activities, or simply due to macroeconomic uncertainty.

Table 5.3: Univariate Tests of the Precision and Accuracy of Management Earnings Forecast for the Level of Market Expectation Deviation

MF Signal is determined using the quartile as the cut-off. Quartile 1 for 25% and below, Quartile 2 is above 25% to 50%, Quartile 3 is above 50% to 75%, and Quartile 4 is above 75%. *Precision* is 1 if the firm issued a point forecast, 2 if ranged forecast, 3 if open-ended forecast, and 0 otherwise. *Accuracy* is the absolute difference between management earnings forecast and actual earnings scaled by the price. P-values for the t-test of difference in means and Mann-Whitney test for difference in medians are reported in the last two columns. *, ** and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Mean	Median	Mean	Median	t-test	Mann-Whitney
<i>MF Signal</i>					
<u>Panel A: Precision</u>					
Quartile 1 = 1		Quartile 1 = 0			
2.023	2.015	2.000	2.000	0.542	0.679
Quartile 2 = 1		Quartile 2 = 0			
2.019	2.016	2.000	2.000	0.780	0.846
Quartile 3 = 1		Quartile 3 = 0			
2.016	2.017	2.000	2.000	0.960	0.978
Quartile 4 = 1		Quartile 4 = 0			
2.008	2.019	2.000	2.000	0.395	0.556
<u>Panel B: Accuracy</u>					
Quartile 1 = 1		Quartile 1 = 0			
0.216	0.488	0.056	0.088	0.026 **	0.000 ***
Quartile 2 = 1		Quartile 2 = 0			
0.294	0.461	0.060	0.086	0.174	0.000 ***
Quartile 3 = 1		Quartile 3 = 0			
0.352	0.441	0.078	0.078	0.466	0.916
Quartile 4 = 1		Quartile 4 = 0			
0.834	0.287	0.180	0.065	0.000 ***	0.000 ***

Table 5.4 reports the results of the univariate tests of differences for *Occurrence* (Panel A), *Precision* (Panel B), and *Accuracy* (Panel C) between different levels of ownership concentration and identity groups. P-values for both the t-test and Mann-Whitney test are also reported.

Panel A shows that the *Low Largest Shareholding* are more likely to issue management earnings forecast with an average (median) of 0.210 (0.000), compared to *High Largest Shareholding* with a mean (median) of 0.196 (0.000). A similar result is also observed for the *Low Largest Shareholding*² and *High Largest Shareholding*². Family firms are less likely to issue management earnings forecasts with an average of 0.215 compared to other firms with 0.138; significant at the 1% level. This provides initial support for the entrenchment effect or the potential proprietary costs for being too transparent.

Firms with institutional investors as their blockholders are more likely to issue management earnings forecasts with an average of 0.231 compared to other firms with an average of 0.192; significant at the 1% level. This finding is consistent with the fact that institutional investors are subject to more stringent regulations, such as its fiduciary responsibilities towards their shareholders.

The result also shows that firms with other substantial large shareholders are more likely to issue management earnings forecasts (average of 0.282) compared to other firms (average of 0.124); significant at the 1% level, thereby providing initial support that these other large shareholders can pose challenges to the largest shareholder in pursuing a transparent information environment.

For *Precision*, the results show that only government/state-owned firms are likely to issue less precise management earnings forecasts with an average (median) of 0.200 (0.000) compared to other firms with an average (median) of 0.081 (0.000), respectively (Panel B). This provides further support for the entrenchment effect that firms with the government/state as their blockholders are likely to issue less precise forecasts, such as range

forecasts and open-ended forecasts, as opposed to point forecasts. The result further supports the notion that the legal challenge against the government/state is weak or simply that there is no necessary incentive to provide more precise forecasts.

Panel C of Table 5.4 shows that both family firms and government/state-owned firms are more likely to issue less accurate management earnings forecasts, which again provide further support for the entrenchment theory. Family firms have an average (median) of 0.219 (0.072) compared to other firms with an average (median) of 0.172 (0.067), respectively. Government/state-owned firms are reported with an average (median) of 0.386 (0.125) compared to other firms with an average (median) of 0.176 (0.068), respectively.

As expected, firms with higher institutional ownership are more likely to issue more accurate earnings forecasts, which is statistically significant at the 1% level for both the mean and median test of differences. Firms with institutional investors as their blockholders have an average (median) of 0.151 (0.063) compared to other firms with an average (median) of 0.190 (0.071), respectively. Again, this is consistent with the fact that institutional investors have more stringent rules and regulations to comply with due mainly to their fiduciary responsibilities and the potential litigation risks.

Table 5.4: Univariate Tests of the Occurrence, Precision, and Accuracy of Management Earnings Forecast for Ownership Concentration and Identity Groups

Occurrence is 1 if the firm issued a forecast. *Precision* is 1 if the firm issued a point forecast, 2 if ranged forecast, 3 if open-ended forecast, and 0 otherwise. *Accuracy* is the absolute difference between management earnings forecast and actual earnings scaled by the price. “High” and “Low” *Largest Shareholding*, *Largest Shareholding*², and *Other Owners* are determined using the median as the cut-off. *Family Dum*, *Institution Dum*, *Government Dum*, and *Foreign Dum*, respectively, equal 1 if the blockholder (largest shareholder) is a family, institution, government, or foreigner and 0 otherwise. P-values for the t-test of difference in means and Mann-Whitney test for difference in medians are reported in the last two columns. *, ** and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Mean	Median	Mean	Median	t-test	Mann-Whitney
Panel A: Occurrence					
<i>High Largest Shareholding</i>		<i>Low Largest Shareholding</i>			
0.196	0.000	0.210	0.000	0.002 ***	0.031 **
<i>High Largest Shareholding</i> ²		<i>Low Largest Shareholding</i> ²			
0.197	0.000	0.210	0.000	0.008 ***	0.064 *
<i>Family Dum = 1</i>		<i>Family Dum = 0</i>			
0.138	0.000	0.215	0.000	0.000 ***	0.000 ***
<i>Institution Dum = 1</i>		<i>Institution Dum = 0</i>			
0.231	0.000	0.192	0.000	0.000 ***	0.000 ***
<i>Government Dum = 1</i>		<i>Government Dum = 0</i>			
0.214	0.000	0.203	0.000	0.759	0.831
<i>Foreign Dum = 1</i>		<i>Foreign Dum = 0</i>			
0.206	0.000	0.203	0.000	0.765	0.835
<i>High Other Owners</i>		<i>Low Other Owners</i>			
0.282	0.000	0.124	0.000	0.000 ***	0.000 ***
Panel B: Precision					
<i>High Largest Shareholding</i>		<i>Low Largest Shareholding</i>			
0.082	0.000	0.000	0.000	0.504	0.777
<i>High Largest Shareholding</i> ²		<i>Low Largest Shareholding</i> ²			
0.082	0.000	0.089	0.000	0.732	0.945
<i>Family = 1</i>		<i>Family = 0</i>			
0.094	0.000	0.081	0.000	0.393	0.685
<i>Institution = 1</i>		<i>Institution = 0</i>			
0.076	0.000	0.085	0.000	0.324	0.640
<i>Government = 1</i>		<i>Government = 0</i>			
0.200	0.000	0.081	0.000	0.053 *	0.359
<i>Foreign = 1</i>		<i>Foreign = 0</i>			
0.063	0.000	0.084	0.000	0.138	0.477
<i>High Other Owners</i>		<i>Low Other Owners</i>			
0.082	0.000	0.075	0.000	0.766	0.888
Panel C: Accuracy					
<i>High Largest Shareholding</i>		<i>Low Largest Shareholding</i>			
0.177	0.068	0.273	0.303	0.503	0.109
<i>High Largest Shareholding</i> ²		<i>Low Largest Shareholding</i> ²			
0.176	0.067	0.194	0.085	0.485	0.167
<i>Family = 1</i>		<i>Family = 0</i>			
0.219	0.072	0.173	0.067	0.014 **	0.067 *
<i>Institution = 1</i>		<i>Institution = 0</i>			
0.151	0.063	0.190	0.071	0.000 ***	0.000 ***
<i>Government = 1</i>		<i>Government = 0</i>			
0.386	0.125	0.176	0.068	0.004 ***	0.051 *
<i>Foreign = 1</i>		<i>Foreign = 0</i>			
0.188	0.068	0.176	0.068	0.459	0.475
<i>High Other Owners</i>		<i>Low Other Owners</i>			
0.177	0.068	0.180	0.063	0.911	0.945

5.4 Multivariate Results

The dataset gathered in this study allows performing Logit regression for testing the probability of issuance of management earnings forecasts (*Occurrence*). It then deploys Ordered Logit regression (OL) and Ordinary Least Squares regression (OLS) with robust standard errors to test the hypotheses in a multivariate setting. The former is mainly because *Precision* is assigned to a vector of 1, 2, or 3 and the latter is due to the unbalanced/unstructured data sample for *Accuracy*.

The result for *Occurrence* is presented in Table 5.5. Other multivariate results are then tabulated into six tables (Table 5.6 to Table 5.11), and each table has part (a), and part (b) whereby part (a) presents the results for *Precision*, and part (b) presents the results for *Accuracy*. Table 5.6 shows the relationship between the characteristics of the management earnings forecasts and the largest shareholding at different levels of market expectation deviation. The relationships between the characteristics of management earnings forecasts and the level of market expectation deviation for different owner types are presented in Table 5.7 to Table 5.10, followed by Table 5.11 for other substantial shareholders.

In Table 5.5, the result shows that family firms, regardless of their percentage shareholding, are less likely to issue management earnings forecasts. The result is significant at the 1% level. This finding is consistent with the fact that family firms are concerned about firm survival rather than proprietary risk, or possibly because they prefer an opaque information environment to conceal their rent-seeking activities.

Table 5.5:
Logit Regression Results for the Relationship between Ownership Concentration, Identity Groups and the *Occurrence* of Management Earnings Forecast

<i>Occurrence</i>	(1)	(2)
<i>Largest Shareholding</i>	-0.393 (0.366)	
<i>Largest Shareholding</i> ^{^2}	0.781 (0.106)	
<i>Family Ownership</i>	-0.214 (0.386)	
<i>Family Dum</i>		-0.343 *** (0.000)
<i>Institution Ownership</i>	1.111 *** (0.001)	
<i>Institution Dum</i>		0.224 *** (0.000)
<i>Government Ownership</i>	-1.410 (0.562)	
<i>Government Dum</i>		0.547 * (0.074)
<i>Foreign Ownership</i>	0.583 ** (0.048)	
<i>Foreign Dum</i>		0.120 * (0.092)
<i>Other Owners</i>	1.514 *** (0.000)	
<i>Size</i>	0.295 *** (0.000)	0.321 *** (0.000)
<i>Leverage</i>	-0.001 (0.235)	-0.001 * (0.086)
<i>Price-to-book</i>	-1.04E-04 (0.912)	-1.05E-04 (0.910)
<i>Good News</i>	0.045 (0.290)	0.042 (0.328)
<i>Volatility</i>	-0.015 *** (0.000)	-0.011 *** (0.000)
<i>Capital Offerring</i>	-0.533 *** (0.000)	-0.635 *** (0.000)
<i>Analyst Following</i>	0.003 (0.540)	0.005 (0.274)
<i>Independent Director</i>	0.171 (0.126)	0.201 * (0.071)
<i>Independent Audit Committee</i>	0.251 * (0.083)	0.234 (0.105)
<i>Constant</i>	-5.428 *** (0.000)	-5.238 *** (0.000)
<i>N</i>	15218	15218
<i>R-Squared</i>	0.237	0.228

Firms with institutional investors as their blockholders and foreign-owned firms are significantly associated with the disclosure of management earnings forecasts; significant at the 1% level and 5% level, respectively. One standard deviation change in institutional ownership results in a higher probability of *Occurrence* by 0.089. Similarly, one standard deviation change in foreign ownership results in a higher probability of *Occurrence* by 0.117. The results suggest that these firms comply with their fiduciary responsibility and also the stringent regulation against selective disclosure in order to protect their investment. Both findings are consistent with the proposed hypotheses.

Government firms, statistically significant at the 10% level, are more likely to disclose management earnings forecasts regardless of their percentage shareholding. Consistent with the hypothesis, government firms indeed promote information environment transparency.

The result shows that firms with other large shareholders as their substantial shareholders also significantly associated with the disclosure of management earnings forecasts. One standard deviation change in the ownership of other large shareholders will result in a higher probability of *Occurrence* by 0.298. The result is statistically significant at the 1% level, suggesting that these other large shareholders can challenge the largest shareholder to foster a transparent information environment by issuing management earnings forecasts.

The test results consistently show that there is an economically significant relationship between *MF Signal* and the characteristics of management earnings forecast, i.e., *Precision* and *Accuracy* at all levels of market expectation deviation (Table 5.6 to Table 5.11). *MF Signal* is associated with more precise but less accurate management earnings forecasts regardless of the degree of the market expectation deviation. The results suggest that on the one side, it supports the alignment theory that the management earnings forecasts issued are more

precise in the effort of adjusting market expectation, but on the other side, it supports the potential expropriation activities because the management earnings forecasts issued are less accurate. Given that there is no mandated legislation concerning the precision of the forecasts issued, it appears that the issuance of more precise earnings forecasts *per se* seems rather vague in supporting the alignment of interest between largest shareholder and the minority shareholders. Therefore, it is the entrenchment effect that matters more in the context of market expectations adjustment, which has grave implications for market regulators and market participants.

Tables 5.6(a) and (b) present the relationship between ownership concentration and the characteristics of management earnings forecasts for 4209 firm-observations. The results in Table 5.6(a) show that a lower (higher) level of ownership is significantly associated with more (less) precise management earnings forecasts irrespective of the level of information asymmetry, which is consistent with the alignment of interest between the largest shareholder and the minority shareholders. What is more interesting is that in Table 5.6(b) our results show that there is a significant inverse relationship between ownership concentration and the accuracy of management earnings forecasts in an effort to reduce the unrealistic market expectation deviation gap. Consistent with the hypothesis, a lower level of ownership is associated with more accurate management earnings forecasts when the level of information asymmetry is low (specification 3 of Table 5.6(b), Quartile 3). More specifically, one standard deviation change in the ownership of the largest shareholder will result in higher accuracy of management earnings forecast by 0.087. However, this relationship reverses when the level of market expectation deviation goes beyond the 75th percentile (specification 4 of Table 5.6(b), Quartile 4). That is, when one standard deviation change in the ownership of the largest shareholder, the accuracy of management earnings forecast drops by 0.157. Both results are economically and statistically significant at the 1% level. The former is consistent

with the alignment of interest between the largest shareholder and the minority shareholder, and the latter is in line with the entrenchment or expropriation activities. However, this relationship only applies when the ownership concentration is low.

When the ownership concentration increases ($Largest\ Shareholding^2$), the sign of the relationship reverses. That is, the results show that firms are more likely to issue less accurate management earnings forecasts when the level of market expectation deviation is low (specification 3 of Table 5.6(b), Quartile 3). Specifically, when one standard deviation change in the ownership of the largest shareholder, the accuracy of management earnings forecast will drop by 0.106. However, the management earnings forecasts become more accurate when the level of market expectation deviation goes beyond the 75th percentile (specification 4 of Table 5.6(b), Quartile 4). That is, when one standard deviation change in the ownership of the largest shareholder, the accuracy of management earnings forecast will increase by 0.177. Again, both results are economically and statistically significant at the 1% level.

By interpreting both results together, the economically significant coefficients suggest that at a lower level of shareholding, the potential benefits gained from rent-seeking activities may be more lucrative and supersede the associated litigation costs, thus deterring the blockholders from correcting the gap with more accurate forecasts. But, on the other hand, when the shareholding increases, so does the risk exposure, and the accuracy of the earnings forecasts improves significantly suggesting that the expropriation benefits gained are offset by the associated high litigation risk.

Table 5.6(a):
Ordered Logit Regression Results for the Relationship between Largest Shareholding and the *Precision* of Management Earnings Forecast in Market Expectations Adjustment

<i>Precision</i>	Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)
<i>MF Signal</i>	-0.253 ** (0.045)	-0.236 ** (0.050)	-0.225 * (0.057)	-0.251 * (0.075)
<i>Largest Shareholding</i>	-1.212 (0.165)	-1.405 * (0.098)	-1.655 ** (0.047)	-1.543 * (0.062)
<i>Largest Shareholding x MF Signal Dum</i>	-0.751 (0.420)	-0.294 (0.746)	0.853 (0.347)	0.263 (0.824)
<i>Largest Shareholding^{^2}</i>	1.258 (0.247)	1.641 (0.101)	1.963 ** (0.048)	1.721 * (0.064)
<i>Largest Shareholding^{^2} x MF Signal Dum</i>	1.151 (0.373)	0.162 (0.905)	-1.372 (0.298)	-0.092 (0.963)
<i>Size</i>	0.027 (0.608)	0.027 (0.608)	0.027 (0.616)	0.028 (0.602)
<i>Leverage</i>	-0.002 (0.533)	-0.002 (0.518)	-0.002 (0.517)	-0.002 (0.520)
<i>Price-to-book</i>	0.001 (0.230)	0.002 (0.214)	0.002 (0.213)	0.001 (0.220)
<i>Good News</i>	-0.020 (0.810)	-0.021 (0.803)	-0.020 (0.812)	-0.020 (0.813)
<i>Volatility</i>	-0.001 (0.865)	-0.001 (0.893)	-0.001 (0.868)	-0.001 (0.894)
<i>Loss</i>	-0.225 (0.437)	-0.243 (0.396)	-0.231 (0.422)	-0.240 (0.405)
<i>Beta</i>	0.246 (0.364)	0.258 (0.338)	0.260 (0.337)	0.252 (0.350)
<i>Capital Offerring</i>	-0.221 (0.151)	-0.220 (0.151)	-0.216 (0.160)	-0.221 (0.151)
<i>Forecast Horizon</i>	0.001 (0.119)	0.001 (0.117)	0.001 (0.119)	0.001 (0.118)
<i>Analyst Following</i>	-0.006 (0.534)	-0.005 (0.545)	-0.006 (0.537)	-0.006 (0.538)
<i>Independent Director</i>	-0.195 (0.730)	-0.180 (0.750)	-0.186 (0.742)	-0.173 (0.760)
<i>Independent Audit Committee</i>	0.269 (0.314)	0.272 (0.311)	0.267 (0.320)	0.272 (0.310)
<i>N</i>	4209	4209	4209	4209
<i>R-Squared</i>	0.030	0.030	0.030	0.030

Table 5.6(b):
OLS Regression Results for the Relationship between Largest Shareholding and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment

<i>Accuracy</i>	Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)
<i>MF Signal</i>	0.184 *** (0.000)	0.180 *** (0.000)	0.183 *** (0.000)	0.114 ** (0.032)
<i>Largest Shareholding</i>	-0.005 (0.972)	0.015 (0.910)	0.112 (0.445)	-0.200 (0.146)
<i>Largest Shareholding x MF Signal Dum</i>	0.019 (0.905)	-0.064 (0.657)	-0.528 *** (0.000)	0.958 *** (0.001)
<i>Largest Shareholding^{^2}</i>	-0.014 (0.927)	-0.008 (0.955)	-0.144 (0.343)	0.211 (0.142)
<i>Largest Shareholding^{^2} x MF Signal Dum</i>	0.010 (0.958)	0.007 (0.965)	0.646 *** (0.002)	-1.082 *** (0.002)
<i>Size</i>	-0.098 *** (0.000)	-0.098 *** (0.000)	-0.098 *** (0.000)	-0.096 *** (0.000)
<i>Leverage</i>	0.001 ** (0.024)	0.001 ** (0.025)	0.001 ** (0.023)	0.001 ** (0.021)
<i>Price-to-book</i>	-1.02E-04 (0.566)	-9.73E-05 (0.580)	-1.18E-04 (0.513)	-8.60E-05 (0.622)
<i>Good News</i>	-0.148 *** (0.000)	-0.148 *** (0.000)	-0.147 *** (0.000)	-0.145 *** (0.000)
<i>Volatility</i>	0.001 (0.258)	0.001 (0.270)	0.001 (0.205)	0.001 (0.302)
<i>Loss</i>	0.151 (0.164)	0.153 (0.155)	0.141 (0.189)	0.173 (0.107)
<i>Beta</i>	0.153 (0.425)	0.154 (0.422)	0.148 (0.441)	0.148 (0.433)
<i>Capital Offerring</i>	0.066 (0.130)	0.067 (0.128)	0.064 (0.144)	0.066 (0.129)
<i>Forecast Horizon</i>	4.33E-04 *** (0.000)	4.33E-04 *** (0.000)	4.35E-04 *** (0.000)	4.31E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.000)	0.007 *** (0.000)	0.007 *** (0.000)	0.006 *** (0.000)
<i>Independent Director</i>	0.063 (0.362)	0.064 (0.347)	0.065 (0.346)	0.070 (0.304)
<i>Independent Audit Committee</i>	-0.046 (0.217)	-0.046 (0.220)	-0.044 (0.238)	-0.042 (0.263)
<i>Constant</i>	2.004 *** (0.000)	2.004 *** (0.000)	1.991 *** (0.000)	1.993 *** (0.000)
<i>N</i>	4155	4155	4155	4155
<i>R-Squared</i>	0.194	0.194	0.196	0.198

Table 5.7(a) presents the relationship between the family firm and the precision of the management earnings forecast, while Table 5.7(b) presents the relationship between the family firm and the accuracy of the management earnings forecast. The results show both total firm-observations, under specifications 1(a), 2(a), 3(a), and 4(a), and also for each quartile, as depicted in specifications 1(b), 2(b), 3(b), and 4(b).

Tables 5.7(a) and 5.7(b) show that family firms *per se* issue more precise management earnings forecasts (specification 4(a) of Table 5.7(a)); significant at the 10% level. That is, when one standard deviation change in the family ownership, the precision of management earnings forecast will increase by 0.182. More interestingly, the result shows that when the level of information asymmetry goes beyond the first quartile, both the percentage shareholding and the identity of being a family firm is associated with more precise and more accurate management earnings (specification 2(b) of Table 5.7(a), Quartile 2; and specifications 1(b), 2(a), and 2(b) of Table 5.7(b), Quartiles 1 and 2). For instance, when one standard deviation change in the family ownership, the accuracy of management earnings forecast will increase by 0.071. The results are statistically significant at the 1% and 5% levels. This suggests that family firms are very much concerned about the twenty per cent threshold deviation promulgated by the regulator where severe legal sanctions and penalties are imposed.

Table 5.7(a):
Ordered Logit Regression Results for the Relationship between Family Ownership
and the *Precision* of Management Earnings Forecast in Market Expectations
Adjustment

<i>Precision</i>	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	-0.244 ** (0.038)	6.629 * (0.061)	-0.234 ** (0.048)	-2.411 (0.233)	-0.234 ** (0.047)	-1.235 (0.254)	-0.250 ** (0.034)	-0.131 (0.480)
<i>Family Ownership</i>	-0.239 (0.619)		-0.544 (0.330)		-0.558 (0.200)		-0.856 * (0.084)	
<i>Family Ownership</i> <i>x MF Signal Dum</i>	-1.230 (0.181)		-0.026 (0.972)		0.028 (0.981)		1.349 (0.140)	
<i>Family Dum</i>		-0.098 (0.820)		-0.440 * (0.079)		-0.197 (0.559)		-0.080 (0.815)
<i>Size</i>	0.028 (0.600)	0.199 * (0.090)	0.029 (0.582)	0.074 (0.485)	0.029 (0.583)	-0.041 (0.703)	0.030 (0.567)	-0.036 (0.749)
<i>Leverage</i>	-0.002 (0.526)	-0.012 ** (0.032)	-0.002 (0.504)	-0.001 (0.811)	-0.002 (0.505)	0.006 (0.170)	-0.002 (0.502)	-0.008 (0.222)
<i>Price-to-book</i>	0.001 (0.239)	0.006 ** (0.026)	0.001 (0.227)	-2.42E-04 (0.712)	0.001 (0.227)	0.004 (0.713)	0.002 (0.223)	-0.014 (0.298)
<i>Good News</i>	-0.015 (0.859)	-0.124 (0.471)	-0.018 (0.826)	0.015 (0.931)	-0.018 (0.827)	-0.063 (0.705)	-0.016 (0.842)	-0.012 (0.949)
<i>Volatility</i>	-3.33E-04 (0.931)	0.009 (0.332)	-2.14E-04 (0.956)	-0.011 (0.186)	-2.16E-04 (0.956)	0.012 (0.192)	-2.53E-04 (0.948)	-0.011 (0.110)
<i>Loss</i>	-0.227 (0.426)	-0.286 (0.540)	-0.230 (0.420)	1.347 (0.373)	-0.230 (0.420)	0.313 (0.811)	-0.245 (0.387)	-0.520 (0.122)
<i>Beta</i>	0.258 (0.335)	(omitted)	0.257 (0.336)	-0.173 (0.309)	0.257 (0.336)	1.973 * (0.088)	0.259 (0.335)	0.635 (0.171)
<i>Capital Offerring</i>	-0.232 (0.131)	-0.030 (0.932)	-0.233 (0.130)	-0.709 ** (0.049)	-0.233 (0.132)	-0.246 (0.428)	-0.227 (0.141)	-0.080 (0.790)
<i>Forecast Horizon</i>	0.001 (0.112)	1.64E-04 (0.901)	0.001 (0.116)	0.002 (0.137)	0.001 (0.116)	3.77E-05 (0.973)	0.001 (0.113)	0.002 * (0.094)
<i>Analyst Following</i>	-0.004 (0.633)	-0.011 (0.595)	-0.005 (0.601)	-0.010 (0.588)	-0.005 (0.601)	0.006 (0.725)	-0.005 (0.607)	-0.004 (0.827)
<i>Independent Director</i>	-0.140 (0.801)	-1.380 (0.271)	-0.154 (0.782)	-0.160 (0.831)	-0.153 (0.782)	1.650 ** (0.024)	-0.154 (0.781)	-1.214 (0.444)
<i>Independent</i> <i>Audit Committee</i>	0.252 (0.347)	-0.204 (0.716)	0.256 (0.340)	0.785 (0.115)	0.256 (0.340)	-0.241 (0.675)	0.256 (0.339)	0.601 (0.394)
<i>Constant</i>								
<i>N</i>	4209	1080	4209	1074	4209	1074	4209	981
<i>R-Squared</i>	0.030	0.078	0.030	0.083	0.030	0.058	0.030	0.074

To sum, the result supports the findings of prior studies that family firms have greater concerns about the firm's reputation and survival than strict adherence to wealth maximization (Anderson and Reeb, 2003; Anderson et al., 2003). This could also be due to the associated potential litigation risk of the likelihood of withholding material information (Francis et al., 1994; Skinner, 1994). Hence, it is no surprise to find that family firms are associated with more precise and more accurate earnings forecasts.

Table 5.7(b):
OLS Regression Results for the Relationship between Family Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment

Accuracy	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	0.182 *** (0.000)	0.176 (0.693)	0.181 *** (0.000)	0.474 * (0.069)	0.183 *** (0.000)	0.423 ** (0.014)	0.177 *** (0.000)	0.089 (0.186)
<i>Family Ownership</i>	0.032 (0.800)		0.100 (0.482)		0.007 (0.953)		-0.087 (0.432)	
<i>Family Ownership</i> <i>x MF Signal Dum</i>	-0.085 (0.684)		-0.331 ** (0.031)		0.013 (0.959)		0.486 (0.105)	
<i>Family Dum</i>		-0.077 ** (0.039)		-0.090 *** (0.002)		-0.018 (0.721)		-0.041 (0.649)
<i>Size</i>	-0.061 *** (0.000)	-0.098 *** (0.000)	-0.097 *** (0.000)	-0.076 *** (0.000)	-0.098 *** (0.000)	-0.086 *** (0.000)	-0.098 *** (0.000)	-0.160 *** (0.000)
<i>Leverage</i>	0.001 ** (0.018)	0.001 ** (0.025)	0.001 ** (0.024)	0.001 (0.509)	0.001 ** (0.027)	0.002 * (0.078)	0.001 ** (0.024)	0.001 (0.447)
<i>Price-to-book</i>	-7.23E-07 (0.994)	-1.05E-04 (0.559)	-8.57E-05 (0.596)	9.10E-06 (0.950)	-1.02E-04 (0.566)	0.001 (0.412)	-9.89E-05 (0.565)	-0.004 (0.331)
<i>Good News</i>	-0.091 *** (0.000)	-0.147 *** (0.000)	-0.148 *** (0.000)	-0.132 *** (0.000)	-0.147 *** (0.000)	-0.145 *** (0.000)	-0.147 *** (0.000)	-0.152 *** (0.003)
<i>Volatility</i>	0.002 *** (0.005)	0.001 (0.261)	0.001 (0.260)	0.002 ** (0.024)	0.001 (0.257)	0.004 *** (0.003)	0.001 (0.266)	-0.002 (0.464)
<i>Loss</i>	0.193 ** (0.015)	0.152 (0.155)	0.152 (0.155)	0.156 (0.531)	0.152 (0.156)	-0.147 (0.102)	0.148 (0.165)	0.164 (0.157)
<i>Beta</i>	-0.011 (0.756)	0.152 (0.426)	0.152 (0.426)	-0.076 *** (0.000)	0.152 (0.426)	0.143 (0.195)	0.152 (0.428)	0.837 *** (0.000)
<i>Capital Offerring</i>	-0.010 (0.662)	0.066 (0.131)	0.065 (0.140)	-0.016 (0.812)	0.066 (0.132)	0.013 (0.844)	0.068 (0.122)	0.199 (0.148)
<i>Forecast Horizon</i>	3.14E-04 *** (0.000)	4.33E-04 *** (0.000)	4.31E-04 *** (0.000)	6.54E-05 (0.515)	4.32E-04 *** (0.000)	0.001 *** (0.000)	4.34E-04 *** (0.000)	0.001 *** (0.000)
<i>Analyst Following</i>	0.004 *** (0.001)	0.007 *** (0.000)	0.007 *** (0.000)	0.005 ** (0.018)	0.007 *** (0.000)	0.005 ** (0.045)	0.007 *** (0.000)	0.012 ** (0.013)
<i>Independent Director</i>	0.005 (0.926)	0.067 (0.323)	0.064 (0.346)	-0.058 (0.584)	0.066 (0.329)	0.028 (0.780)	0.065 (0.336)	0.051 (0.781)
<i>Independent</i> <i>Audit Committee</i>	-0.021 (0.267)	-0.046 (0.215)	-0.046 (0.221)	-0.044 (0.198)	-0.046 (0.218)	0.097 (0.116)	-0.047 (0.210)	-1.04E-05 (1.000)
<i>Constant</i>	1.079 *** (0.000)	2.003 *** (0.000)	1.996 *** (0.000)	1.315 *** (0.000)	2.002 *** (0.000)	1.160 *** (0.000)	1.998 *** (0.000)	3.601 *** (0.000)
<i>N</i>	4105	4155	4155	1067	4155	1060	4155	949
<i>R-Squared</i>	0.205	0.194	0.195	0.218	0.194	0.202	0.195	0.227

Table 5.8(a) presents the relationship between institutional ownership and the precision of management earnings forecast, while Table 5.8(b) presents the relationship between institutional ownership and the accuracy of management earnings forecast. The results show both total firm-observations, under specifications 1(a), 2(a), 3(a), and 4(a), and also for each quartile, as depicted in specifications 1(b), 2(b), 3(b), and 4(b).

Table 5.8(a):
Ordered Logit Regression Results for the Relationship between Institution Ownership and the *Precision* of Management Earnings Forecast in Market Expectations Adjustment

<i>Precision</i>	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	-0.228 *	6.594 *	-0.242 **	-2.337	-0.232 **	-1.221	-0.239 **	-0.114
	(0.054)	(0.063)	(0.039)	(0.247)	(0.048)	(0.258)	(0.044)	(0.542)
<i>Institution Ownership</i>	0.554		0.982		0.425		0.529	
	(0.365)		(0.157)		(0.504)		(0.418)	
<i>Institution Ownership</i> <i>x MF Signal Dum</i>	0.161		-1.325		1.244		0.400	
	(0.890)		(0.160)		(0.341)		(0.759)	
<i>Institution Dum</i>		-0.215		-0.085		0.069		0.295
		(0.289)		(0.632)		(0.692)		(0.115)
<i>Size</i>	0.030	0.214 *	0.031	0.080	0.030	-0.042	0.030	-0.033
	(0.575)	(0.069)	(0.555)	(0.449)	(0.574)	(0.700)	(0.566)	(0.772)
<i>Leverage</i>	-0.002	-0.012 **	-0.002	-0.001	-0.002	0.006	-0.002	-0.008
	(0.524)	(0.026)	(0.519)	(0.851)	(0.516)	(0.158)	(0.515)	(0.229)
<i>Price-to-book</i>	0.001	0.007 **	0.002	-2.85E-04	0.001	0.003	0.001	-0.013
	(0.260)	(0.023)	(0.219)	(0.662)	(0.248)	(0.724)	(0.259)	(0.337)
<i>Good News</i>	-0.018	-0.125	-0.017	0.015	-0.017	-0.065	-0.018	-0.010
	(0.824)	(0.463)	(0.833)	(0.931)	(0.837)	(0.695)	(0.828)	(0.957)
<i>Volatility</i>	-2.84E-04	0.009	-2.42E-04	-0.012	0.000	0.011	-2.34E-04	-0.010
	(0.941)	(0.327)	(0.950)	(0.155)	(0.927)	(0.206)	(0.952)	(0.151)
<i>Loss</i>	-0.233	-0.372	-0.226	1.373	-0.222	0.356	-0.226	-0.525
	(0.413)	(0.431)	(0.426)	(0.361)	(0.435)	(0.785)	(0.427)	(0.120)
<i>Beta</i>	0.262	(omitted)	0.262	-0.064	0.267	1.951 *	0.261	0.621
	(0.324)		(0.326)	(0.670)	(0.317)	(0.089)	(0.327)	(0.193)
<i>Capital Offerring</i>	-0.231	-0.069	-0.225	-0.680 *	-0.227	-0.247	-0.233	-0.084
	(0.134)	(0.846)	(0.143)	(0.057)	(0.139)	(0.425)	(0.130)	(0.781)
<i>Forecast Horizon</i>	0.001	2.12E-04	0.001	0.002	0.001	6.44E-06	0.001	0.002
	(0.127)	(0.873)	(0.124)	(0.123)	(0.130)	(0.995)	(0.128)	(0.102)
<i>Analyst Following</i>	-0.004	-0.012	-0.004	-0.009	-0.004	0.007	-0.004	-0.005
	(0.634)	(0.566)	(0.628)	(0.618)	(0.638)	(0.703)	(0.628)	(0.777)
<i>Independent Director</i>	-0.138	-1.312	-0.133	-0.031	-0.132	1.696 **	-0.132	-1.220
	(0.804)	(0.293)	(0.810)	(0.967)	(0.812)	(0.022)	(0.812)	(0.442)
<i>Independent</i> <i>Audit Committee</i>	0.263	-0.168	0.267	0.792	0.265	-0.239	0.264	0.634
	(0.326)	(0.764)	(0.318)	(0.112)	(0.324)	(0.678)	(0.325)	(0.366)
<i>Constant</i>								
<i>N</i>	4209	1080	4209	1074	4209	1074	4209	981
<i>R-Squared</i>	0.030	0.079	0.030	0.081	0.030	0.058	0.030	0.076

Although the results found no significant relationship between *Precision* and institutional ownership, this shows that institutional ownership is significantly positively associated with *Accuracy* (specification 3a of Table 5.8(b), Quartile 3) when the level of market expectation deviation is beyond the 50th percentile. That is, a standard deviation change in the institutional ownership results in higher accuracy of management earnings forecasts by 0.039. The result is economically and statistically significant at the 5% level.

Table 5.8(b):
OLS Regression Results for the Relationship between Institution Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment

Accuracy	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	0.187 *** (0.000)	0.167 (0.708)	0.181 *** (0.000)	0.486 * (0.064)	0.183 *** (0.000)	0.423 ** (0.015)	0.175 *** (0.000)	0.089 (0.186)
<i>Institution Ownership</i>	-0.128 (0.306)		0.007 (0.959)		0.039 (0.726)		-0.106 (0.281)	
<i>Institution Ownership</i> <i>x MF Signal Dum</i>	0.250 (0.164)		-0.160 (0.291)		-0.485 ** (0.036)		0.339 (0.338)	
<i>Institution Dum</i>		-0.004 (0.839)		0.005 (0.797)		0.012 (0.705)		-0.008 (0.873)
<i>Size</i>	-0.098 *** (0.000)	-0.069 *** (0.003)	-0.098 *** (0.000)	-0.076 *** (0.000)	-0.098 *** (0.000)	-0.086 *** (0.000)	-0.097 *** (0.000)	-0.159 *** (0.000)
<i>Leverage</i>	0.001 ** (0.024)	1.31E-04 (0.857)	0.001 ** (0.026)	0.001 (0.470)	0.001 ** (0.024)	0.002 * (0.070)	0.001 ** (0.029)	0.001 (0.414)
<i>Price-to-book</i>	-9.00E-05 (0.617)	2.60E-05 (0.895)	-8.56E-05 (0.635)	-1.06E-05 (0.944)	-1.14E-04 (0.524)	0.001 (0.409)	-9.33E-05 (0.604)	-0.004 (0.314)
<i>Good News</i>	-0.148 *** (0.000)	-0.127 *** (0.000)	-0.147 *** (0.000)	-0.132 *** (0.000)	-0.148 *** (0.000)	-0.145 *** (0.000)	-0.147 *** (0.000)	-0.151 *** (0.003)
<i>Volatility</i>	0.001 (0.260)	0.002 * (0.062)	0.001 (0.260)	0.002 ** (0.034)	0.001 (0.245)	0.004 *** (0.003)	0.001 (0.252)	-0.002 (0.447)
<i>Loss</i>	0.148 (0.169)	1.012 (0.142)	0.152 (0.155)	0.174 (0.482)	0.149 (0.166)	-0.143 (0.111)	0.156 (0.146)	0.162 (0.161)
<i>Beta</i>	0.152 (0.427)	(omitted)	0.152 (0.426)	-0.054 *** (0.003)	0.150 (0.434)	0.141 (0.207)	0.152 (0.430)	0.836 *** (0.000)
<i>Capital Offerring</i>	0.067 (0.126)	0.043 (0.379)	0.067 (0.128)	-0.009 (0.889)	0.064 (0.141)	0.014 (0.836)	0.065 (0.136)	0.199 (0.148)
<i>Forecast Horizon</i>	4.36E-04 *** (0.000)	7.70E-05 (0.558)	4.35E-04 *** (0.000)	7.02E-05 (0.488)	4.35E-04 *** (0.000)	0.001 *** (0.000)	4.33E-04 *** (0.000)	0.001 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.000)	0.004 (0.174)	0.007 *** (0.000)	0.005 ** (0.015)	0.007 *** (0.000)	0.005 ** (0.043)	0.007 *** (0.000)	0.012 ** (0.011)
<i>Independent Director</i>	0.064 (0.342)	0.162 ** (0.044)	0.067 (0.320)	-0.034 (0.740)	0.064 (0.340)	0.033 (0.737)	0.069 (0.303)	0.056 (0.758)
<i>Independent</i> <i>Audit Committee</i>	-0.046 (0.214)	-0.147 ** (0.044)	-0.046 (0.220)	-0.043 (0.207)	-0.047 (0.212)	0.098 (0.117)	-0.046 (0.223)	-0.002 (0.988)
<i>Constant</i>	1.999 *** (0.000)	1.330 *** (0.002)	2.000 *** (0.000)	1.283 *** (0.001)	2.002 *** (0.000)	1.154 *** (0.000)	2.001 *** (0.000)	3.583 *** (0.000)
<i>N</i>	4155	1079	4155	1067	4155	1060	4155	949
<i>R-Squared</i>	0.194	0.288	0.194	0.213	0.195	0.202	0.194	0.227

The former may be due to the fact that no mandated legislation is imposed on the precision of management earnings forecasts, but the latter is consistent with the hypothesis (H3c) that firms with institutional investors as their blockholders (largest shareholders) are more likely to issue more accurate management earnings forecasts. This finding is possibly due to their fiduciary responsibility and to avoid the higher litigation risk associated with a higher level of market expectation deviation.

Table 5.9(a) presents the relationship between government/state firm and the precision of management earnings forecast, while Table 5.9(b) presents the relationship between

government/state firm and the accuracy of the management earnings forecast. The results show both total firm-observations, under specifications 1(a), 2(a), 3(a), and 4(a), and also for each quartile, as depicted in specifications 1(b), 2(b), 3(b), and 4(b).

The results show that government/state-owned firms are significantly associated with more precise but less accurate management earnings forecasts (Table 5.9(a) and Table 5.9(b)). The former is consistent with the fact that the government/states encourage firms to disclose more material information to improve transparency, thus rejecting the common belief that government/state-ownership is associated with poor disclosure practices (Cheng and Courtenay, 2006; Lim et al., 2014). The latter is consistent with the entrenchment theory, possibly due to rent-seeking activities and/or inefficiency given the fact that there are inadequate legal tools to address the problems posed when the government is the controlling shareholder as the legal basis for challenging the Government's conduct is very weak (Kahan and Rock, 2010). Government-owned firms are less affected by the discipline of the market or by other shareholders who coalesce into large blocks in order to effect organizational change.

However, when the level of market expectation deviation is introduced in the regressions, the results show that these firms issue less precise earnings forecasts when the level of market expectation deviation is low (specification 1a of Table 5.9(a), Quartile 1). That is, when one standard deviation change in the government ownership, the precision of management earnings forecasts will drop by 1.025. This result may probably suggest that these firms lack the incentive to correct the market expectations. However, this relationship reverses when the level of market expectation deviation reaches the 75th percentile (specification 4a of Table 5.9(a), Quartile 4). That is, the precision of management earnings

forecasts will increase by 1.018 with every standard deviation change in the government ownership. Both results are statistically significant at the 10% level.

Table 5.9(a):
Ordered Logit Regression Results for the Relationship between Government Ownership and the *Precision* of Management Earnings Forecast in Market Expectations Adjustment

<i>Precision</i>	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	-0.223 *	6.318 *	-0.227 *	-2.276	-0.226 *	-1.210	-0.223 *	-0.130
	(0.058)	(0.075)	(0.053)	(0.260)	(0.053)	(0.261)	(0.058)	(0.481)
<i>Government Ownership</i>	-51.835 ***		-36.025 ***		-36.359 ***		-28.900 ***	
	(0.000)		(0.000)		(0.000)		(0.000)	
<i>Government Ownership</i> <i>x MF Signal Dum</i>	23.840 *		-11.796		-59.136		-23.684 *	
	(0.077)		(0.711)		(0.331)		(0.093)	
<i>Government Dum</i>		-2.215 **		-0.909		-0.089		0.155
		(0.014)		(0.270)		(0.875)		(0.951)
<i>Size</i>	0.024	0.175	0.024	0.077	0.024	-0.039	0.024	-0.035
	(0.646)	(0.136)	(0.653)	(0.466)	(0.651)	(0.720)	(0.644)	(0.755)
<i>Leverage</i>	-0.002	-0.012 **	-0.002	-0.001	-0.002	0.006	-0.002	-0.008
	(0.492)	(0.030)	(0.490)	(0.889)	(0.492)	(0.165)	(0.489)	(0.230)
<i>Price-to-book</i>	0.001	0.006 **	0.001	-3.32E-04	0.001	0.003	0.001	-0.015
	(0.234)	(0.026)	(0.235)	(0.607)	(0.235)	(0.732)	(0.234)	(0.293)
<i>Good News</i>	-0.020	-0.136	-0.020	0.013	-0.020	-0.068	-0.020	-0.011
	(0.812)	(0.426)	(0.810)	(0.943)	(0.813)	(0.683)	(0.811)	(0.952)
<i>Volatility</i>	-6.26E-05	0.010	-8.35E-05	-0.012	-8.80E-05	0.011	-7.16E-05	-0.011
	(0.987)	(0.311)	(0.983)	(0.149)	(0.982)	(0.211)	(0.985)	(0.108)
<i>Loss</i>	-0.264	-0.334	-0.261	1.469	-0.261	0.354	-0.264	-0.525
	(0.354)	(0.489)	(0.359)	(0.328)	(0.359)	(0.787)	(0.354)	(0.120)
<i>Beta</i>	0.267	(omitted)	0.266	-0.058	0.266	1.951 *	0.266	0.634
	(0.317)		(0.319)	(0.698)	(0.318)	(0.087)	(0.317)	(0.170)
<i>Capital Offerring</i>	-0.240	-0.057	-0.239	-0.683 *	-0.240	-0.256	-0.240	-0.078
	(0.119)	(0.872)	(0.120)	(0.054)	(0.120)	(0.407)	(0.120)	(0.795)
<i>Forecast Horizon</i>	0.001 *	1.25E-04	0.001 *	0.002	0.001 *	2.99E-05	0.001 *	0.002 *
	(0.096)	(0.922)	(0.097)	(0.123)	(0.097)	(0.979)	(0.096)	(0.092)
<i>Analyst Following</i>	-0.004	-0.011	-0.004	-0.009	-0.004	0.007	-0.004	-0.004
	(0.633)	(0.621)	(0.634)	(0.616)	(0.632)	(0.715)	(0.631)	(0.843)
<i>Independent Director</i>	-0.128	-1.449	-0.130	-0.051	-0.128	1.681 **	-0.128	-1.205
	(0.818)	(0.242)	(0.816)	(0.946)	(0.817)	(0.023)	(0.817)	(0.449)
<i>Independent</i> <i>Audit Committee</i>	0.264	-0.161	0.263	0.805	0.263	-0.247	0.263	0.603
	(0.327)	(0.773)	(0.327)	(0.108)	(0.329)	(0.671)	(0.327)	(0.393)
<i>Constant</i>								
<i>N</i>	4209	1080	4209	1074	4209	1074	4209	981
<i>R-Squared</i>	0.031	0.081	0.031	0.082	0.031	0.058	0.031	0.074

A similar pattern is also observed for *Accuracy*. The result shows that the accuracy of management earnings forecasts of these firms is less accurate when the level of market expectation deviation is low (specification 2a of Table 5.9(b), Quartile 2). A standard deviation change in the government ownership results in a drop of management earnings forecast accuracy by 0.981. Nonetheless, the relationship reverses when the level of market expectation deviation reaches the 50th percentile and above (specifications 3a and 4a of Table

5.9(b), Quartiles 3 and 4). That is, the accuracy of management earnings forecast will increase by 2.179 with every one standard deviation change in the government ownership. As the level of market expectation deviation increases, so does the level of significance; that is, the result for Q2 is statistically significant at the 10% level, followed by the result for Q3 being statistically significant at the 5% level, and, finally, the result for Q4, which is statistically significant at the 1% level.

Table 5.9(b):
OLS Regression Results for the Relationship between Government Ownership and the *Accuracy* of Management Earnings Forecast in Market Expectations Adjustment

<i>Accuracy</i>	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	0.183 *** (0.000)	0.193 (0.662)	0.183 *** (0.000)	0.478 * (0.070)	0.182 *** (0.000)	0.424 ** (0.014)	0.184 *** (0.000)	0.090 (0.182)
<i>Government Ownership</i>	3.944 ** (0.048)		6.061 *** (0.010)		6.460 *** (0.004)		7.977 *** (0.000)	
<i>Government Ownership</i> <i>x MF Signal Dum</i>	3.581 (0.206)		22.819 * (0.071)		-50.686 ** (0.014)		-5.346 *** (0.006)	
<i>Government Dum</i>		0.183 (0.489)		0.106 (0.534)		-0.075 (0.667)		-0.050 (0.779)
<i>Size</i>	-0.096 *** (0.000)	-0.068 *** (0.003)	-0.096 *** (0.000)	-0.076 *** (0.000)	-0.096 *** (0.000)	-0.085 *** (0.000)	-0.096 *** (0.000)	-0.159 *** (0.000)
<i>Leverage</i>	0.001 ** (0.023)	1.40E-04 (0.844)	0.001 ** (0.024)	0.001 (0.490)	0.001 ** (0.022)	0.002 * (0.073)	0.001 ** (0.023)	0.001 (0.413)
<i>Price-to-book</i>	-1.04E-04 (0.558)	2.70E-05 (0.890)	-1.05E-04 (0.556)	-8.19E-06 (0.957)	-1.06E-04 (0.554)	0.001 (0.420)	-1.04E-04 (0.560)	-0.004 (0.320)
<i>Good News</i>	-0.147 *** (0.000)	-0.127 *** (0.000)	-0.147 *** (0.000)	-0.131 *** (0.000)	-0.147 *** (0.000)	-0.145 *** (0.000)	-0.147 *** (0.000)	-0.151 *** (0.003)
<i>Volatility</i>	0.001 (0.280)	0.002 * (0.061)	0.001 (0.285)	0.002 ** (0.033)	0.001 (0.283)	0.004 *** (0.003)	0.001 (0.280)	-0.002 (0.452)
<i>Loss</i>	0.156 (0.146)	1.016 (0.141)	0.156 (0.145)	0.168 (0.503)	0.157 (0.144)	-0.142 (0.119)	0.155 (0.147)	0.162 (0.162)
<i>Beta</i>	0.152 (0.426)	(omitted)	0.152 (0.426)	-0.055 *** (0.002)	0.152 (0.426)	0.141 (0.214)	0.152 (0.425)	0.837 *** (0.000)
<i>Capital Offerring</i>	0.067 (0.128)	0.045 (0.354)	0.067 (0.128)	-0.010 (0.888)	0.066 (0.129)	0.012 (0.855)	0.066 (0.129)	0.199 (0.148)
<i>Forecast Horizon</i>	4.26E-04 *** (0.000)	8.47E-05 (0.525)	4.23E-04 *** (0.000)	6.82E-05 (0.499)	4.24E-04 *** (0.000)	0.001 *** (0.000)	4.26E-04 *** (0.000)	0.001 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.000)	0.004 (0.178)	0.007 *** (0.000)	0.005 ** (0.015)	0.007 *** (0.000)	0.005 ** (0.044)	0.007 *** (0.000)	0.012 ** (0.012)
<i>Independent Director</i>	0.067 (0.318)	0.167 ** (0.030)	0.067 (0.320)	-0.032 (0.755)	0.067 (0.315)	0.033 (0.738)	0.067 (0.316)	0.056 (0.759)
<i>Independent</i>	-0.047 (0.211)	-0.151 ** (0.041)	-0.047 (0.207)	-0.045 (0.194)	-0.047 (0.205)	0.095 (0.120)	-0.047 (0.212)	-0.001 (0.995)
<i>Audit Committee</i>	1.984 *** (0.000)	1.308 *** (0.002)	1.985 *** (0.000)	1.286 *** (0.001)	1.985 *** (0.000)	1.152 *** (0.000)	1.983 *** (0.000)	3.582 *** (0.000)
<i>Constant</i>								
<i>N</i>	4155	1079	4155	1067	4155	1060	4155	949
<i>R-Squared</i>	0.196	0.289	0.196	0.214	0.196	0.202	0.196	0.227

These significant results support the hypotheses (H4b and H4c) that government/states are supporting a more transparent information environment to reduce market expectation deviation when the prevailing market expectation is unrealistic.

Table 5.10(a) presents the relationship between foreign ownership and the precision of the management earnings forecast, while Table 5.10(b) presents the relationship between foreign ownership and the accuracy of the management earnings forecast. The results show both total firm-observations, under specifications 1(a), 2(a), 3(a), and 4(a), and also for each quartile, as depicted in specifications 1(b), 2(b), 3(b), and 4(b).

The results show that the identity of being a foreigner rather than its percentage shareholding has a significant positive coefficient, i.e., less precise earnings forecasts when the level of market expectation deviation is above the 50th percentile (specification 3b of Table 5.10(a), Quartile 3). The result is statistically significant at the 5% level. This could possibly be due to the difficulties in observing the earnings forecasts when the information gap is huge.

On the other hand, foreign-owned firms are associated with more accurate management earnings regardless of the levels of market expectation deviation (Table 5.10(b)). More specifically, these firms issue more accurate management earnings forecasts when the level of market expectation deviation is beyond the 25th percentile (specifications 2a and 2b of Table 5.10(b), Quartile 2). More precisely, the accuracy of management earnings forecast increases by 0.035 with every one standard deviation change in the foreign ownership. The results are statistically significant at the 1% and 5% levels, which is consistent with the hypothesis (H5c). The reason is that a higher level of market expectation deviation imposes greater estimation risks on return distribution uncertainty (Coles et al., 1995), and,

subsequently, increases the perceived riskiness borne by the foreign investors. Hence, when the prevailing market prices are unrealistic, it signals market expectation deviation that may trigger potential litigation risk, which, in return, affects the return distribution of the foreign investors.

Table 5.10(a):
Ordered Logit Regression Results for the Relationship between Foreign Ownership and the *Precision* of Management Earnings Forecast in Market Expectations Adjustment

<i>Precision</i>	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	-0.231 *	6.637 *	-0.230 *	-2.302	-0.232 **	-1.201	-0.218 *	-0.127
	(0.051)	(0.061)	(0.051)	(0.254)	(0.049)	(0.265)	(0.067)	(0.494)
<i>Foreign Ownership</i>	0.548		0.512		0.220		0.713	
	(0.437)		(0.402)		(0.694)		(0.159)	
<i>Foreign Ownership</i> <i>x MF Signal Dum</i>	-0.138		-0.087		1.377		-1.118	
	(0.881)		(0.926)		(0.199)		(0.439)	
<i>Foreign Dum</i>		-0.185		0.272		0.538 **		-0.094
		(0.486)		(0.289)		(0.035)		(0.790)
<i>Size</i>	0.034	0.198 *	0.034	0.080	0.032	-0.045	0.033	-0.037
	(0.524)	(0.091)	(0.526)	(0.452)	(0.549)	(0.678)	(0.535)	(0.746)
<i>Leverage</i>	-0.002	-0.012 **	-0.002	-0.001	-0.002	0.005	-0.002	-0.008
	(0.456)	(0.038)	(0.458)	(0.809)	(0.420)	(0.221)	(0.437)	(0.230)
<i>Price-to-book</i>	0.001	0.006 **	0.001	-3.11E-04	0.001	0.003	0.002	-0.015
	(0.231)	(0.028)	(0.231)	(0.630)	(0.233)	(0.752)	(0.231)	(0.293)
<i>Good News</i>	-0.022	-0.127	-0.022	0.012	-0.023	-0.055	-0.022	-0.009
	(0.787)	(0.458)	(0.787)	(0.944)	(0.785)	(0.743)	(0.786)	(0.963)
<i>Volatility</i>	0.000	0.009	-3.82E-04	-0.011	-4.27E-04	0.012	-1.43E-04	-0.011
	(0.922)	(0.339)	(0.921)	(0.178)	(0.912)	(0.193)	(0.970)	(0.110)
<i>Loss</i>	-0.227	-0.313	-0.228	1.436	-0.227	0.265	-0.245	-0.535
	(0.426)	(0.514)	(0.422)	(0.338)	(0.425)	(0.845)	(0.392)	(0.117)
<i>Beta</i>	0.246	(omitted)	0.250	-0.132	0.255	1.999 *	0.259	0.671
	(0.357)		(0.347)	(0.414)	(0.339)	(0.081)	(0.340)	(0.174)
<i>Capital Offerring</i>	-0.234	-0.044	-0.234	-0.690 **	-0.230	-0.252	-0.229	-0.078
	(0.128)	(0.902)	(0.129)	(0.050)	(0.136)	(0.420)	(0.136)	(0.795)
<i>Forecast Horizon</i>	0.001	1.24E-04	0.001	0.002	0.001	-1.45E-05	0.001	0.002 *
	(0.114)	(0.926)	(0.113)	(0.109)	(0.119)	(0.990)	(0.111)	(0.090)
<i>Analyst Following</i>	-0.005	-0.011	-0.005	-0.009	-0.004	0.009	-0.005	-0.004
	(0.592)	(0.591)	(0.593)	(0.638)	(0.618)	(0.621)	(0.616)	(0.835)
<i>Independent Director</i>	-0.094	-1.366	-0.095	-0.058	-0.081	1.575 **	-0.102	-1.210
	(0.867)	(0.274)	(0.866)	(0.938)	(0.884)	(0.031)	(0.855)	(0.445)
<i>Independent</i> <i>Audit Committee</i>	0.257	-0.193	0.255	0.818	0.256	-0.238	0.254	0.606
	(0.339)	(0.729)	(0.343)	(0.102)	(0.340)	(0.680)	(0.343)	(0.391)
<i>Constant</i>								
<i>N</i>	4209	1080	4209	1074	4209	1074	4209	981
<i>R-Squared</i>	0.030	0.078	0.030	0.082	0.030	0.061	0.030	0.074

Table 5.10(b):
OLS Regression Results for the Relationship between Foreign Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment

Accuracy	Level of Market Expectation Deviation							
	Quartile 1		Quartile 2		Quartile 3		Quartile 4	
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(4a)	(4b)
<i>MF Signal</i>	0.184 *** (0.000)	0.163 (0.717)	0.182 *** (0.000)	0.479 * (0.067)	0.183 *** (0.000)	0.426 ** (0.014)	0.183 *** (0.000)	0.091 (0.180)
<i>Foreign Ownership</i>	-0.186 ** (0.011)		-0.101 (0.117)		-0.140 ** (0.017)		-0.136 *** (0.007)	
<i>Foreign Ownership x MF Signal Dum</i>	0.123 (0.201)		-0.175 ** (0.041)		0.013 (0.915)		-0.007 (0.967)	
<i>Foreign Dum</i>		0.030 (0.623)		-0.059 *** (0.002)		0.063 (0.273)		-0.040 (0.515)
<i>Size</i>	-0.098 *** (0.000)	-0.069 *** (0.003)	-0.099 *** (0.000)	-0.076 *** (0.000)	-0.098 *** (0.000)	-0.086 *** (0.000)	-0.098 *** (0.000)	-0.160 *** (0.000)
<i>Leverage</i>	0.001 ** (0.017)	8.33E-05 (0.915)	0.001 ** (0.018)	0.001 (0.409)	0.001 ** (0.019)	0.002 * (0.087)	0.001 ** (0.019)	0.001 (0.411)
<i>Price-to-book</i>	-1.14E-04 (0.523)	4.41E-05 (0.812)	-1.16E-04 (0.516)	-1.29E-05 (0.930)	-1.15E-04 (0.519)	0.001 (0.447)	-1.15E-04 (0.520)	-0.004 (0.320)
<i>Good News</i>	-0.147 *** (0.000)	-0.127 *** (0.000)	-0.147 *** (0.000)	-0.131 *** (0.000)	-0.147 *** (0.000)	-0.145 *** (0.000)	-0.147 *** (0.000)	-0.150 *** (0.004)
<i>Volatility</i>	0.001 (0.263)	0.002 * (0.058)	0.001 (0.280)	0.002 ** (0.045)	0.001 (0.268)	0.004 *** (0.003)	0.001 (0.266)	-0.002 (0.458)
<i>Loss</i>	0.149 (0.165)	1.018 (0.142)	0.151 (0.159)	0.171 (0.494)	0.151 (0.160)	-0.152 (0.115)	0.151 (0.162)	0.159 (0.172)
<i>Beta</i>	0.158 (0.411)	(omitted)	0.158 (0.406)	-0.039 ** (0.022)	0.156 (0.416)	0.145 (0.207)	0.156 (0.416)	0.851 *** (0.000)
<i>Capital Offerring</i>	0.066 (0.130)	0.045 (0.355)	0.066 (0.132)	-0.007 (0.913)	0.066 (0.131)	0.013 (0.849)	0.066 (0.131)	0.201 (0.146)
<i>Forecast Horizon</i>	4.31E-04 *** (0.000)	8.42E-05 (0.536)	4.29E-04 *** (0.000)	5.25E-05 (0.602)	4.29E-04 *** (0.000)	0.001 *** (0.000)	4.29E-04 *** (0.000)	0.001 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.000)	0.004 (0.174)	0.007 *** (0.000)	0.005 ** (0.018)	0.007 *** (0.000)	0.005 ** (0.035)	0.007 *** (0.000)	0.012 ** (0.012)
<i>Independent Director</i>	0.056 (0.408)	0.161 ** (0.041)	0.058 (0.391)	-0.030 (0.771)	0.057 (0.398)	0.019 (0.848)	0.057 (0.398)	0.053 (0.771)
<i>Independent Audit Committee</i>	-0.046 (0.218)	-0.148 ** (0.046)	-0.046 (0.219)	-0.048 (0.164)	-0.045 (0.225)	0.097 (0.115)	-0.045 (0.225)	-2.21E-04 (0.999)
<i>Constant</i>	2.007 *** (0.000)	1.325 *** (0.002)	2.011 *** (0.000)	1.294 *** (0.001)	2.009 *** (0.000)	1.157 *** (0.000)	2.009 *** (0.000)	3.585 *** (0.000)
<i>N</i>	4155	1079	4155	1067	4155	1060	4155	949
<i>R-Squared</i>	0.194	0.288	0.194	0.216	0.194	0.203	0.194	0.227

Table 5.11(a) presents the relationship between *Other Owners* and the precision of management earnings forecast, while Table 5.11(b) presents the relationship between *Other Owners* and the accuracy of the management earnings forecast. The results show a total of 4209 firm-observations.

Although *Other Owners* does not seem relevant to *Precision*, it does matter for *Accuracy*. Firms with a higher concentration of shares held by other substantial shareholders other than the largest shareholder are associated with more accurate management earnings forecasts

when the level of market expectation deviation is above the 50th percentile (specification 3 of Table 5.11(b), Quartile 3) at the 5% significance level. This suggests that the presence of other substantial shareholders can alleviate agency problems.

Table 5.11(a):
Ordered Logit Regression Results for the Relationship between *Other Owners* and the *Precision* of Management Earnings Forecast in Market Expectations Adjustment

<i>Precision</i>	Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)
<i>MF Signal</i>	-0.207 (0.108)	-0.247 ** (0.038)	-0.232 ** (0.048)	-0.138 (0.349)
<i>Other Owners</i>	0.092 (0.700)	0.136 (0.562)	0.070 (0.767)	0.155 (0.513)
<i>Other Owners x MF Signal Dum</i>	0.076 (0.578)	-0.103 (0.438)	0.145 (0.260)	-0.200 (0.226)
<i>Size</i>	0.029 (0.585)	0.030 (0.564)	0.029 (0.580)	0.026 (0.626)
<i>Leverage</i>	-0.002 (0.523)	-0.002 (0.517)	-0.002 (0.518)	-0.002 (0.529)
<i>Price-to-book</i>	0.001 (0.240)	0.001 (0.228)	0.001 (0.231)	0.001 (0.248)
<i>Good News</i>	-0.019 (0.815)	-0.018 (0.832)	-0.017 (0.835)	-0.020 (0.806)
<i>Volatility</i>	-0.001 (0.884)	-0.001 (0.842)	-0.001 (0.811)	-0.001 (0.894)
<i>Loss</i>	-0.249 (0.387)	-0.223 (0.433)	-0.205 (0.472)	-0.259 (0.366)
<i>Beta</i>	0.266 (0.318)	0.271 (0.308)	0.272 (0.310)	0.270 (0.316)
<i>Capital Offerring</i>	-0.230 (0.135)	-0.229 (0.137)	-0.230 (0.134)	-0.232 (0.132)
<i>Forecast Horizon</i>	0.001 (0.117)	0.001 (0.121)	0.001 (0.125)	0.001 (0.119)
<i>Analyst Following</i>	-0.005 (0.615)	-0.005 (0.609)	-0.005 (0.616)	-0.004 (0.635)
<i>Independent Director</i>	-0.158 (0.777)	-0.152 (0.786)	-0.152 (0.786)	-0.164 (0.769)
<i>Independent Audit Committee</i>	0.259 (0.334)	0.259 (0.335)	0.258 (0.337)	0.257 (0.338)
<i>Constant</i>				
<i>N</i>	4209	4209	4209	4209
<i>R-Squared</i>	0.029	0.030	0.030	0.030

Table 5.11(b):

OLS Regression Results for the Relationship between *Other Owners* and the *Accuracy* of Management Earnings Forecast in Market Expectations Adjustment

<i>Accuracy</i>	Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)
<i>MF Signal</i>	0.189 *** (0.000)	0.180 *** (0.000)	0.183 *** (0.000)	0.137 ** (0.013)
<i>Other Owners</i>	-0.038 (0.364)	-0.029 (0.492)	-0.018 (0.667)	-0.052 (0.191)
<i>Other Owners x MF Signal Dum</i>	0.020 (0.420)	-0.015 (0.400)	-0.053 ** (0.018)	0.094 ** (0.041)
<i>Size</i>	-0.097 *** (0.000)	-0.097 *** (0.000)	-0.097 *** (0.000)	-0.096 *** (0.000)
<i>Leverage</i>	0.001 ** (0.027)	0.001 ** (0.027)	0.001 ** (0.028)	0.001 ** (0.030)
<i>Price-to-book</i>	-1.00E-04 (0.576)	-9.48E-05 (0.596)	-1.14E-04 (0.524)	-9.32E-05 (0.606)
<i>Good News</i>	-0.148 *** (0.000)	-0.148 *** (0.000)	-0.149 *** (0.000)	-0.147 *** (0.000)
<i>Volatility</i>	0.001 (0.215)	0.001 (0.238)	0.001 (0.199)	0.001 (0.269)
<i>Loss</i>	0.146 (0.177)	0.152 (0.157)	0.142 (0.185)	0.164 (0.127)
<i>Beta</i>	0.153 (0.422)	0.154 (0.420)	0.148 (0.440)	0.149 (0.435)
<i>Capital Offerring</i>	0.065 (0.139)	0.065 (0.139)	0.065 (0.141)	0.065 (0.136)
<i>Forecast Horizon</i>	4.34E-04 *** (0.000)	4.32E-04 *** (0.000)	4.39E-04 *** (0.000)	4.32E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.000)	0.007 *** (0.000)	0.007 *** (0.000)	0.007 *** (0.000)
<i>Independent Director</i>	0.074 (0.277)	0.075 (0.271)	0.073 (0.285)	0.078 (0.253)
<i>Independent Audit Committee</i>	-0.047 (0.209)	-0.047 (0.209)	-0.046 (0.214)	-0.046 (0.222)
<i>Constant</i>	2.001 *** (0.000)	2.006 *** (0.000)	1.999 *** (0.000)	2.013 *** (0.000)
<i>N</i>	4155	4155	4155	4155
<i>R-Squared</i>	0.194	0.194	0.195	0.196

However, when the level of market expectation deviation goes beyond the 75th percentile, the management earnings forecasts issued are significantly less accurate (specification 4 of Table 5.11(b), Quartile 4) at the 5% significance level. One standard deviation change in the ownership of the other large shareholders will reduce the accuracy of

management earnings forecast by 0.019. This is possibly due to the fact that they simply do not have enough decisive votes to counteract the decisions made by the largest shareholders or they might exacerbate the adverse effect on corporate transparency by the largest controlling shareholder.

5.5 Robustness Test Result

The below section presents and discusses the robustness testing results using an alternative measure for information asymmetry (*Dispfor*), the structural break for GFC, followed by using an effective instrumental variable in the endogeneity test.

5.5.1 Using Alternative Measure for Information Asymmetry (*Dispfor*)

Following Krishnaswami and Subramaniam (1999), the study tests the robustness of the models using the standard deviation of analysts' forecasts (*Dispfor*) as another proxy for market expectation deviation. It represents the dispersion among analysts about the consensus estimate of their forecasts. This disagreement among analysts is an indication of the lack of available information about a firm or the existence of asymmetry of information among the market participants. Hence, *Dispfor* is measured as the standard deviation of analysts' forecast divided by the median of analysts' forecast as an alternative to *MF Signal*.

Overall, the results, as shown in Table 5.12, remain robust with further enrichment to the findings for ownership concentration, the identity of the blockholders (largest shareholders), and the characteristics of management earnings forecasts. The results show that a lower (higher) level of ownership is associated with more (less) precise management earnings forecasts, similar to the earlier findings. This is consistent with the agency theory.

Table 5.12:

Robustness Test Results for the Relationship between Ownership Concentration and the Characteristics of Management Earnings Forecast in Market Expectations Adjustment, using *Dispfor* as an alternative measure for *MF Signal*

	Precision				Accuracy			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Dispfor</i>	-0.468	0.107	-0.048	-0.049	0.750	0.760	0.744	0.554
	(0.450)	(0.863)	(0.938)	(0.943)	(0.000) ***	(0.000) ***	(0.000) ***	(0.000) ***
<i>Largest Shareholding</i>	-0.637	-1.971	-1.749	-1.462	-0.031	-0.029	0.070	-0.206
	(0.462)	(0.019) **	(0.037) **	(0.084) *	(0.839)	(0.837)	(0.652)	(0.105)
<i>Largest Shareholding</i> <i>x Dispfor Dum</i>	-3.166	2.275	0.887	-0.237	-0.035	-0.047	-0.369	0.727
	(0.001) ***	(0.015) **	(0.323)	(0.826)	(0.808)	(0.745)	(0.008) ***	(0.006) ***
<i>Largest Shareholding</i> ^{^2}	0.641	2.225	2.203	1.636	0.041	-0.010	-0.063	0.166
	(0.530)	(0.026) **	(0.027) **	(0.094) *	(0.796)	(0.948)	(0.689)	(0.206)
<i>Largest Shareholding</i> ^{^2} <i>x Dispfor Dum</i>	3.965	-2.325	-1.755	0.540	-0.069	0.121	0.294	-0.599
	(0.004) ***	(0.079) *	(0.175)	(0.746)	(0.695)	(0.473)	(0.100) *	(0.083) *
<i>Family Ownership</i>	-0.577	-0.802	-0.035	-0.845	0.108	-0.049	0.059	-0.135
	(0.321)	(0.096) *	(0.939)	(0.095) *	(0.458)	(0.694)	(0.649)	(0.107)
<i>Family Ownership</i> <i>x Dispfor Dum</i>	0.051	1.056	-2.423	1.229	-0.343	0.166	-0.319	0.609
	(0.952)	(0.337)	(0.013) **	(0.173)	(0.036) **	(0.440)	(0.055) *	(0.087) *
<i>Institution Ownership</i>	0.890	0.196	0.662	0.540	-0.170	-0.043	-0.015	-0.034
	(0.130)	(0.765)	(0.367)	(0.427)	(0.093) *	(0.718)	(0.902)	(0.736)
<i>Institution Ownership</i> <i>x Dispfor Dum</i>	-1.423	1.494	-0.287	0.152	-0.418	-0.094	-0.166	-0.159
	(0.361)	(0.187)	(0.780)	(0.896)	(0.065) *	(0.500)	(0.318)	(0.564)
<i>Government Ownership</i>	-35.324	-36.910	-53.408	-28.559	3.332	6.937	7.918	7.638
	(0.001) ***	(0.000) ***	(0.000) ***	(0.000) ***	(0.134)	(0.000) ***	(0.000) ***	(0.000) ***
<i>Government Ownership</i> <i>x Dispfor Dum</i>	-253.962	-204.708	-48.059	-20.139	5.851	10.667	-12.494	-2.287
	(0.322)	(0.025) **	(0.000) ***	(0.105)	(0.009) ***	(0.362)	(0.000) ***	(0.390)
<i>Foreign Ownership</i>	1.009	0.392	0.493	0.540	-0.175	-0.137	-0.105	-0.189
	(0.064) *	(0.463)	(0.423)	(0.336)	(0.001) ***	(0.047) **	(0.053) *	(0.000) ***
<i>Foreign Ownership</i> <i>x Dispfor Dum</i>	-2.014	0.592	0.462	0.552	0.112	-0.043	-0.176	0.238
	(0.039) **	(0.531)	(0.620)	(0.629)	(0.361)	(0.612)	(0.051) *	(0.249)
<i>Other Owners</i>	0.280	0.008	0.077	0.183	-0.035	-0.018	-0.014	-0.039
	(0.239)	(0.972)	(0.746)	(0.442)	(0.390)	(0.671)	(0.724)	(0.343)
<i>Other Owners</i> <i>x Dispfor Dum</i>	-0.573	0.419	0.205	-0.274	0.036	-0.027	-0.044	0.072
	(0.000) ***	(0.001) ***	(0.112)	(0.087) *	(0.133)	(0.119)	(0.047) **	(0.044) **
<i>Constant</i>					2.017	2.012	2.004	2.006
					(0.000)	(0.000)	(0.000)	(0.000)
<i>N</i>	4172	4172	4172	4172	4122	4122	4122	4122
<i>R-Squared</i>	0.031	0.030	0.029	0.028	0.187	0.187	0.189	0.191

However, when the level of market expectation deviation is introduced, the results unfold that when the ownership concentration is low, the management earnings forecasts are more precise when the level of information is low (specification 1 of Table 5.12, Quartile 1). Again, this relationship reverses when the level of market expectation deviation is higher (specification 2 of Table 5.12, Quartile 2). More interesting, is that the results show an inverse relationship when ownership concentration increases at the 1% significance level. That is, when the ownership concentration is high (*LargestShareholding*^{^2}), the management earnings

forecasts are less precise when the level of market expectation deviation is low (specification 1 of Table 5.12, Quartile 1). But again, this relationship reverses when the level of information asymmetry is higher (specification 2 of Table 5.12, Quartile 2).

A similar relationship is also observed for *Accuracy*. The results show that at lower (higher) levels of ownership, the management earnings forecasts issued are more (less) accurate when the level of market expectation deviation is lower (specification 7 of Table 5.12, Quartile 3). However, this association reverses when the level of market expectation deviation goes beyond the 75th percentile (specification 8 of Table 5.12, Quartile 4). Again, the results show a significant inverse relationship between the accuracy of management earnings forecasts and the largest shareholding. When the ownership concentration is high ($LargestShareholding^{\wedge 2}$), the management earnings forecasts are less accurate when the level of market expectation deviation is low (specification 7 of Table 5.12, Quartile 3), but again this relationship reverses when the level of market expectation deviation is higher (specification 8 of Table 5.11, Quartile 4). Both coefficients are significant at the 10% level.

To summarize the above findings, the results suggest that when both shareholding and the level of market expectation deviation are low, the potential benefits gained from expropriation of minorities may not be so attractive compared to the potential litigation risk associated with withholding material information. Therefore, more precise and accurate management earnings forecasts are preferred. But when the level of market expectation deviation increases (shareholding remains low), so does the potential benefits that may gain from entrenchment activities, the blockholders would then prefer an opaque information environment since their exposure to the potential litigation risk is low due to their lower shareholding. Therefore, less precise and inaccurate management earnings forecasts are issued.

On the other hand, when the shareholding is high, but the level of market expectation deviation is low, the potential entrenchment benefits may be more lucrative than the associated risk. Hence, blockholders will prefer an opaque information environment to conceal their ill-gained benefits. But when the level of information asymmetry increases (shareholding remains high), so does the potential litigation risk associated with the selective disclosure; blockholders (largest shareholders) may be more concerned about their risk exposure (due to high shareholding) than the benefits gained. Hence, more precise and accurate management earnings forecasts are preferred. This explanation is consistent with the fact that market expectation deviation can create costs due to adverse selection (hidden information) and moral hazard (hidden action), which leads to higher litigation risk (e.g., Skinner, 1994 and 1997; Healy and Palepu, 2001).

Apart from the similar findings obtained for *Precision* and *Accuracy*, the results reveal that family firms only provide less accurate management earnings forecasts when the level of market expectation deviation goes beyond the 75th percentile (specification 8 of Table 5.12, Quartile 4), at a significance level of 10%. This relationship was only captured in the earlier result with an insignificant level of 10.5% (specification 4a of Table 5.7(b), Quartile 4). This suggests that the potential benefits gained from rent-seeking activities may be more lucrative and supersede the associated litigation costs, thereby supporting the notion that family members have greater control and thus greater incentive to pursue private benefits at the expense of minority shareholders (Hagelin et al., 2006; Villalonga and Amit, 2010).

Although a similar inverse relationship is observed for firms with other substantial owners and the accuracy of management earnings forecasts, the results show that these firms are associated with more precise earnings forecasts when the level of market expectation

deviation is low (specification 1 of Table 5.12, Quartile 1). This relationship, however, reverses when the level of market expectation deviation goes beyond the 25th percentile (specification 2 of Table 5.12, Quartile 2). It then reverses back again when the level of market expectation deviation reaches the 75th percentile and above (specification 4 of Table 5.12, Quartile 4). In sum, firms with other substantial shareholders as their largest shareholding have more precise but less accurate management earnings forecasts when the level of information asymmetry is high, thereby exacerbating the adverse effect on corporate transparency by the largest controlling shareholder.

All other findings remain the same as in the earlier results using *MF Signal*. The accuracy of management earnings forecasts is positively associated with the level of market expectation deviation, significant at the 1% level, i.e., less accurate management earnings forecasts are issued in the existence of market expectation deviation (specifications 5 to 8 of Table 5.12, Quartiles 1 to 4). Firms with institutional investors as their blockholders (largest shareholders) are more likely to issue more accurate management earnings forecasts (specification 5 of Table 5.12). Government or state-owned firms are more likely to issue more precise but less accurate forecasts. However, the management earnings forecasts become more accurate when the level of market expectation deviation goes beyond the 50th percentile (specification 7 of Table 5.12, Quartile 3), consistent with past empirical evidence that government supports a more transparent information environment (Lim et al., 2014). Foreign firms are associated with more accurate management earnings forecasts, similar to the earlier results.

5.5.2 Using Structural Break – Global Financial Crisis

The Global Financial Crisis (GFC) has taken the most prominent role in the U.S. market since the Great Depression in the 1930s. It originated from the U.S. subprime

mortgage that led to the market liquidity crisis not just in the U.S. but also in the U.K., Europe, and Asia Pacific countries. Thus, this study adopts structural break in time series analysis for the GFC in the year 2008. Given that warnings of the crisis were evident in 2007 and to avoid the spillover effect in 2009, the data are split into two groups, (1) Pre-GFC, which is the period from 2003 to 2006, and (2) Post-GFC, which is the period from 2010 to 2013. The results are presented in Table 5.13 to Table 5.18 whereby part (a) is for *Precision*, and part (b) is for *Accuracy*, respectively.

Table 5.13(a) shows the relationship between *Largest Shareholding* and the precision of management earnings forecasts in both the Pre-GFC and Post-GFC periods. A similar result is observed for the Pre-GFC period. That is, at lower (higher) levels of shareholding, the management earnings forecasts issued are more (less) precise. However, there is no significant relationship after the GFC. For *Accuracy*, although there is no significant result in the Pre-GFC period, the result revealed in the Post-GFC has the same result as the main result. That is, when the level of market expectation deviation is lower, a lower (higher) level of shareholding is associated with more (less) accurate management earnings forecasts (specification 7 of Table 5.13(b), Quartile 3). Consistently, this relationship reverses when the level of market expectation deviation goes beyond the 75th percentile. That is, when the level of information asymmetry is higher, a lower (higher) level of shareholding is associated with less (more) accurate management earnings forecasts (specification 8 of Table 5.13(b), Quartile 4).

Table 5.13(a):

Robustness Test Results for the Relationship between *Largest Shareholding* and the Precision of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC

<i>Precision</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	-0.186 (0.404)	-0.130 (0.529)	-0.141 (0.492)	-0.064 (0.801)	-0.259 (0.333)	-0.196 (0.425)	-0.213 (0.371)	-0.212 (0.504)
<i>Largest Shareholding</i>	-1.130 (0.251)	-1.600 * (0.090)	-1.869 ** (0.046)	-1.486 (0.109)	-1.563 (0.393)	-1.618 (0.364)	-1.529 (0.385)	-1.679 (0.328)
<i>Largest Shareholding</i> <i>x MF Signal Dum</i>	-1.265 (0.281)	0.189 (0.873)	1.352 (0.270)	-0.488 (0.757)	-0.160 (0.930)	0.417 (0.798)	0.157 (0.920)	-0.811 (0.707)
<i>Largest Shareholding</i> ^{^2}	1.029 (0.389)	1.883 * (0.088)	2.192 * (0.054)	1.790 * (0.096)	2.285 (0.251)	1.910 (0.309)	2.032 (0.275)	1.692 (0.338)
<i>Largest Shareholding</i> ^{^2} <i>x MF Signal Dum</i>	2.074 (0.193)	-0.457 (0.798)	-1.767 (0.285)	-0.055 (0.980)	-1.010 (0.634)	-0.190 (0.930)	-0.987 (0.660)	3.008 (0.280)
<i>Size</i>	-0.016 (0.822)	-0.019 (0.794)	-0.019 (0.785)	-0.022 (0.762)	0.052 (0.557)	0.050 (0.572)	0.053 (0.556)	0.059 (0.512)
<i>Leverage</i>	0.003 (0.352)	0.003 (0.366)	0.003 (0.358)	0.003 (0.348)	-0.010 ** (0.041)	-0.010 ** (0.045)	-0.009 * (0.055)	-0.010 ** (0.048)
<i>Price-to-book</i>	-0.002 (0.257)	-0.002 (0.249)	-0.002 (0.268)	-0.002 (0.239)	0.003 * (0.053)	0.003 * (0.057)	0.003 * (0.054)	0.003 * (0.054)
<i>Good News</i>	0.002 (0.988)	0.003 (0.982)	0.001 (0.993)	0.004 (0.973)	-0.244 * (0.084)	-0.249 * (0.076)	-0.249 * (0.078)	-0.252 * (0.076)
<i>Volatility</i>	-0.001 (0.825)	-0.001 (0.826)	-0.001 (0.787)	-0.001 (0.818)	-0.002 (0.816)	-0.002 (0.786)	-0.002 (0.771)	-0.001 (0.832)
<i>Loss</i>	-0.744 * (0.077)	-0.786 * (0.057)	-0.748 * (0.073)	-0.792 * (0.059)	-0.319 (0.548)	-0.362 (0.491)	-0.353 (0.502)	-0.336 (0.526)
<i>Beta</i>	omitted	omitted	omitted	omitted	0.434 (0.220)	0.428 (0.225)	0.437 (0.214)	0.429 (0.227)
<i>Capital Offerring</i>	-0.143 (0.471)	-0.151 (0.446)	-0.144 (0.467)	-0.156 (0.431)	-0.399 (0.187)	-0.409 (0.175)	-0.413 (0.171)	-0.413 (0.170)
<i>Forecast Horizon</i>	0.001 (0.419)	0.001 (0.424)	0.001 (0.419)	0.001 (0.415)	0.001 (0.231)	0.001 (0.209)	0.001 (0.200)	0.001 (0.209)
<i>Analyst Following</i>	-0.011 (0.412)	-0.010 (0.451)	-0.010 (0.453)	-0.010 (0.477)	-1.64E-04 (0.991)	3.94E-04 (0.979)	3.28E-06 (1.000)	-0.001 (0.924)
<i>Independent Director</i>	0.011 (0.987)	0.042 (0.953)	0.040 (0.955)	0.033 (0.963)	-1.341 (0.225)	-1.391 (0.207)	-1.401 (0.203)	-1.281 (0.243)
<i>Independent</i> <i>Audit Committee</i>	0.285 (0.390)	0.294 (0.378)	0.286 (0.390)	0.294 (0.377)	0.547 (0.278)	0.548 (0.278)	0.548 (0.280)	0.515 (0.314)
<i>N</i>	1906	1906	1906	1906	1783	1783	1783	1783
<i>R-Squared</i>	0.037	0.036	0.037	0.037	0.068	0.068	0.068	0.069

In sum, all the test results confirmed that there is an inverse relationship between ownership concentration and the characteristics of management earnings forecasts, which, to some extent, is consistent with the hypotheses. More importantly, the results suggest those blockholders (largest shareholders) are aware of the potential litigation risk associated with inadequate disclosure of valuable financial information, and, therefore, use their discretion to justify the trade-off against the potential benefits gained from their rent-seeking activities.

This is mainly due to the fact that a higher level of ownership is, of course, associated with a higher level of litigation risk, which will affect their net worth.

Table 5.13(b):

Robustness Test Results for the Relationship between *Largest Shareholding* and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC

Accuracy	Pre-GFC				Post-GFC			
	Level of Information Asymmetry				Level of Information Asymmetry			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	0.209 *** (0.000)	0.206 *** (0.000)	0.214 *** (0.000)	0.117 * (0.078)	0.116 ** (0.023)	0.113 ** (0.023)	0.104 ** (0.029)	0.011 (0.847)
<i>Largest Shareholding</i>	0.071 (0.732)	0.077 (0.675)	0.096 (0.628)	-0.176 (0.296)	-0.084 (0.737)	-0.046 (0.836)	0.120 (0.637)	-0.211 (0.409)
<i>Largest Shareholding</i> <i>x MF Signal Dum</i>	-0.125 (0.556)	-0.126 (0.510)	-0.292 (0.179)	1.081 (0.018)	0.165 (0.446)	0.125 (0.641)	-0.669 *** (0.002)	0.973 *** (0.006)
<i>Largest Shareholding</i> ^{Δ2}	-0.114 (0.602)	-0.025 (0.903)	-0.109 (0.622)	0.219 (0.238)	0.070 (0.760)	-0.032 (0.893)	-0.162 (0.492)	0.222 (0.329)
<i>Largest Shareholding</i> ^{Δ2} <i>x MF Signal Dum</i>	0.268 (0.327)	-0.048 (0.840)	0.405 (0.149)	-1.224 (0.016)	-0.198 (0.453)	0.015 (0.956)	0.725 ** (0.017)	-1.338 *** (0.005)
<i>Size</i>	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.098 *** (0.000)	-0.090 *** (0.000)	-0.091 *** (0.000)	-0.091 *** (0.000)	-0.091 *** (0.000)
<i>Leverage</i>	0.001 * (0.082)	0.001 * (0.089)	0.001 * (0.083)	0.001 * (0.079)	0.001 (0.426)	0.001 (0.431)	0.001 (0.342)	0.001 (0.332)
<i>Price-to-book</i>	-0.001 (0.222)	-0.001 (0.217)	-0.001 (0.212)	-0.001 (0.201)	9.19E-05 (0.366)	7.89E-05 (0.424)	6.87E-05 (0.499)	9.82E-05 (0.341)
<i>Good News</i>	-0.202 *** (0.000)	-0.203 *** (0.000)	-0.201 *** (0.000)	-0.199 *** (0.000)	-0.109 *** (0.000)	-0.108 *** (0.000)	-0.109 *** (0.000)	-0.105 *** (0.000)
<i>Volatility</i>	0.002 * (0.095)	0.002 * (0.097)	0.002 * (0.089)	0.003 * (0.075)	0.002 (0.172)	0.002 (0.178)	0.002 (0.152)	0.001 (0.209)
<i>Loss</i>	0.091 (0.473)	0.089 (0.481)	0.083 (0.514)	0.111 (0.373)	0.139 (0.441)	0.143 (0.433)	0.134 (0.458)	0.185 (0.307)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.140 (0.463)	0.138 (0.474)	0.132 (0.493)	0.140 (0.467)
<i>Capital Offerring</i>	0.061 (0.380)	0.061 (0.376)	0.057 (0.410)	0.061 (0.373)	0.127 * (0.079)	0.126 * (0.078)	0.123 * (0.087)	0.126 * (0.081)
<i>Forecast Horizon</i>	3.61E-04 *** (0.005)	3.59E-04 *** (0.005)	3.61E-04 *** (0.005)	3.57E-04 *** (0.005)	4.27E-04 *** (0.000)	4.18E-04 *** (0.000)	4.32E-04 *** (0.000)	4.10E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.004)	0.007 *** (0.003)	0.007 *** (0.004)	0.007 *** (0.007)	0.006 ** (0.011)	0.006 *** (0.010)	0.006 *** (0.009)	0.006 *** (0.009)
<i>Independent Director</i>	-0.060 (0.519)	-0.052 (0.568)	-0.053 (0.565)	-0.046 (0.612)	0.188 * (0.075)	0.180 * (0.081)	0.196 * (0.067)	0.188 * (0.070)
<i>Independent</i> <i>Audit Committee</i>	-0.046 (0.277)	-0.045 (0.285)	-0.042 (0.315)	-0.041 (0.327)	-0.072 (0.422)	-0.074 (0.412)	-0.074 (0.410)	-0.065 (0.467)
<i>Constant</i>	2.003 *** (0.000)	2.011 *** (0.000)	2.001 *** (0.000)	1.971 *** (0.000)	1.596 *** (0.000)	1.607 *** (0.000)	1.604 *** (0.000)	1.630 *** (0.000)
<i>N</i>	1879	1879	1879	1879	1764	1764	1764	1764
<i>R-Squared</i>	0.224	0.225	0.224	0.228	0.179	0.179	0.183	0.183

Table 5.14(a) and Table 5.14(b) reveal the relationship between family-owned firms and the characteristics of management earnings forecasts. No significant result is found in the precision of management earnings forecasts. However, in the Pre-GFC period, the results consistently reveal that family firms do provide more accurate management earnings forecasts when the level of information is lower (specification 2 of Table 5.14(b), Quartile

2). However, the results also show that these family firms only provide less accurate management earnings forecasts when the level of market expectation deviation goes beyond the 75th percentile (specification 4 of Table 5.14(b), Quartile 4), at a significance level of 10%. This relationship is consistent with the prior robustness test result (using *Dispfor* as the proxy for market expectation deviation). Therefore, it suggests that the potential benefits gained from rent-seeking activities may be more lucrative and supersede the associated litigation costs. Again, the results support the notion that family members have greater control and thus greater incentive to pursue private benefits at the expense of minority shareholders (Hagelin et al., 2006; Villalonga and Amit, 2010).

**Table 5.14(a):
Robustness Test Results for the Relationship between Family Ownership and the Precision of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC**

<i>Precision</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	-0.166 (0.420)	-0.136 (0.504)	-0.145 (0.477)	-0.136 (0.510)	-0.231 (0.334)	-0.228 (0.340)	-0.216 (0.366)	-0.245 (0.311)
<i>Family Ownership</i>	-0.279 (0.582)	-0.876 (0.155)	-0.906 (0.068)	-0.630 (0.208)	0.900 (0.278)	0.892 (0.286)	0.541 (0.514)	0.101 (0.915)
<i>Family Ownership x MF Signal Dum Size</i>	-1.359 (0.161)	0.679 (0.358)	0.897 (0.417)	-0.267 (0.837)	-1.493 (0.436)	-1.683 (0.310)	0.348 (0.828)	1.434 (0.328)
	-0.018 (0.796)	-0.018 (0.801)	-0.017 (0.812)	-0.017 (0.815)	0.056 (0.531)	0.058 (0.520)	0.057 (0.528)	0.057 (0.523)
<i>Leverage</i>	0.003 (0.367)	0.003 (0.411)	0.003 (0.380)	0.003 (0.405)	-0.009 (0.056)	-0.009 (0.054)	-0.009 (0.055)	-0.009 (0.054)
<i>Price-to-book</i>	-0.002 (0.233)	-0.002 (0.237)	-0.002 (0.324)	-0.002 (0.289)	0.003 (0.061)	0.003 (0.060)	0.003 (0.060)	0.003 (0.060)
<i>Good News</i>	0.017 (0.885)	0.010 (0.930)	0.009 (0.939)	0.008 (0.947)	-0.252 (0.074)	-0.250 (0.077)	-0.251 (0.075)	-0.254 (0.072)
<i>Volatility</i>	-4.77E-04 (0.929)	-4.26E-04 (0.936)	-5.19E-04 (0.923)	-4.42E-04 (0.934)	-2.41E-03 (0.713)	-2.33E-03 (0.722)	-2.34E-03 (0.721)	-2.48E-03 (0.704)
<i>Loss</i>	-0.753 (0.068)	-0.760 (0.067)	-0.742 (0.074)	-0.756 (0.069)	-0.338 (0.511)	-0.342 (0.506)	-0.343 (0.505)	-0.345 (0.500)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.445 (0.196)	0.439 (0.202)	0.441 (0.198)	0.444 (0.200)
<i>Capital Offerring</i>	-0.158 (0.424)	-0.153 (0.440)	-0.175 (0.382)	-0.163 (0.413)	-0.429 (0.152)	-0.429 (0.152)	-0.426 (0.155)	-0.429 (0.153)
<i>Forecast Horizon</i>	0.001 (0.412)	0.001 (0.422)	0.001 (0.417)	0.001 (0.424)	0.001 (0.188)	0.001 (0.205)	0.001 (0.192)	0.001 (0.192)
<i>Analyst Following</i>	-0.009 (0.517)	-0.010 (0.489)	-0.009 (0.505)	-0.010 (0.488)	0.001 (0.921)	0.001 (0.928)	0.001 (0.929)	0.001 (0.940)
<i>Independent Director</i>	0.077 (0.912)	0.067 (0.924)	0.067 (0.923)	0.061 (0.930)	-1.267 (0.242)	-1.280 (0.237)	-1.276 (0.238)	-1.268 (0.243)
<i>Independent Audit Committee</i>	0.264 (0.429)	0.272 (0.415)	0.267 (0.424)	0.271 (0.416)	0.536 (0.293)	0.536 (0.293)	0.538 (0.291)	0.538 (0.292)
<i>Constant</i>								
<i>N</i>	1906	1906	1906	1906	1783	1783	1783	1783
<i>R-Squared</i>	0.036	0.036	0.036	0.036	0.068	0.068	0.067	0.068

Table 5.14(b):

Robustness Test Results for the Relationship between Family Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC

Accuracy	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	0.213 *** (0.000)	0.209 *** (0.000)	0.213 *** (0.000)	0.193 *** (0.000)	0.106 ** (0.028)	0.107 ** (0.026)	0.106 ** (0.027)	0.103 ** (0.034)
<i>Family Ownership</i>	0.172 (0.387)	0.330 (0.123)	0.151 (0.343)	0.029 (0.850)	-0.149 * (0.063)	-0.176 ** (0.034)	-0.114 (0.117)	-0.239 *** (0.005)
<i>Family Ownership x MF Signal Dum</i>	-0.035 (0.903)	-0.564 ** (0.012)	0.038 (0.926)	1.002 * (0.069)	-0.082 (0.569)	0.052 (0.674)	-0.215 (0.173)	0.204 (0.132)
<i>Size</i>	-0.100 *** (0.000)	-0.099 *** (0.000)	-0.100 *** (0.000)	-0.099 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)
<i>Leverage</i>	0.001 * (0.082)	0.001 * (0.071)	0.001 * (0.087)	0.001 * (0.060)	4.77E-04 (0.470)	4.76E-04 (0.472)	4.71E-04 (0.476)	4.74E-04 (0.473)
<i>Price-to-book</i>	-0.001 (0.209)	-0.001 (0.243)	-0.001 (0.210)	-0.001 (0.205)	9.31E-05 (0.350)	9.39E-05 (0.346)	9.51E-05 (0.339)	9.25E-05 (0.353)
<i>Good News</i>	-0.202 *** (0.000)	-0.204 *** (0.000)	-0.203 *** (0.000)	-0.199 *** (0.000)	-0.108 *** (0.000)	-0.108 *** (0.000)	-0.108 *** (0.000)	-0.108 *** (0.000)
<i>Volatility</i>	0.002 (0.104)	0.002 (0.102)	0.002 (0.104)	0.002 * (0.095)	0.002 (0.175)	0.002 (0.174)	0.002 (0.174)	0.002 (0.177)
<i>Loss</i>	0.087 (0.488)	0.085 (0.496)	0.088 (0.484)	0.066 (0.597)	0.148 (0.412)	0.147 (0.414)	0.147 (0.417)	0.149 (0.410)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.140 (0.468)	0.140 (0.468)	0.140 (0.468)	0.140 (0.469)
<i>Capital Offerring</i>	0.058 (0.400)	0.052 (0.454)	0.057 (0.411)	0.065 (0.345)	0.126 * (0.079)	0.126 * (0.078)	0.127 * (0.077)	0.125 * (0.081)
<i>Forecast Horizon</i>	3.59E-04 *** (0.005)	3.57E-04 *** (0.005)	3.59E-04 *** (0.005)	3.59E-04 *** (0.005)	4.21E-04 *** (0.000)	4.22E-04 *** (0.000)	4.23E-04 *** (0.000)	4.18E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.003)	0.007 *** (0.004)	0.007 *** (0.004)	0.007 *** (0.003)	0.006 ** (0.011)	0.006 ** (0.011)	0.006 ** (0.012)	0.006 ** (0.011)
<i>Independent Director</i>	-0.051 (0.574)	-0.056 (0.537)	-0.051 (0.574)	-0.059 (0.517)	0.185 ** (0.063)	0.185 ** (0.064)	0.184 ** (0.064)	0.184 ** (0.064)
<i>Independent Audit Committee</i>	-0.043 (0.304)	-0.044 (0.298)	-0.043 (0.305)	-0.044 (0.290)	-0.074 (0.407)	-0.074 (0.408)	-0.074 (0.407)	-0.075 (0.403)
<i>Constant</i>	1.994 *** (0.000)	1.984 *** (0.000)	1.994 *** (0.000)	1.981 *** (0.000)	1.604 *** (0.000)	1.604 *** (0.000)	1.603 *** (0.000)	1.603 *** (0.000)
<i>N</i>	1879	1879	1879	1879	1764	1764	1764	1764
<i>R-Squared</i>	0.225	0.227	0.225	0.229	0.180	0.180	0.180	0.180

After the GFC, the results show that family firms issue more accurate management earnings forecasts regardless of the level of market expectation deviation. This may be due to the split-over effect of the GFC, and, therefore, family firms which are basically more risk averse due to their financial wealth mostly tied-up in their businesses, have become more conscious of the litigation risk associated with inadequate disclosure.

The results between the relationship between institutional ownership and the characteristics of management earnings forecasts are presented in Table 5.15(a) and Table 5.15(b).

**Table 5.15(a):
Robustness Test Results for the Relationship between Institution Ownership and the Precision of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC**

<i>Precision</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	-0.143 (0.489)	-0.161 (0.431)	-0.147 (0.470)	-0.209 (0.328)	-0.268 (0.272)	-0.229 (0.338)	-0.227 (0.343)	-0.176 (0.481)
<i>Institution Ownership</i>	0.575 (0.456)	0.975 (0.238)	0.704 (0.322)	0.344 (0.666)	-0.140 (0.905)	-0.246 (0.855)	-1.342 (0.239)	-0.213 (0.855)
<i>Institution Ownership x MF Signal Dum</i>	0.195 (0.886)	-1.191 (0.316)	-0.403 (0.849)	1.707 (0.323)	-2.210 (0.302)	-0.747 (0.670)	3.630 (0.089)	-1.162 (0.617)
<i>Size</i>	-0.014 (0.842)	-0.013 (0.852)	-0.014 (0.844)	-0.009 (0.895)	0.055 (0.539)	0.058 (0.521)	0.059 (0.514)	0.056 (0.531)
<i>Leverage</i>	0.003 (0.388)	0.003 (0.400)	0.003 (0.388)	0.003 (0.406)	-0.009 ** (0.046)	-0.009 ** (0.049)	-0.009 ** (0.048)	-0.009 ** (0.049)
<i>Price-to-book</i>	-0.002 (0.212)	-0.002 (0.204)	-0.002 (0.211)	-0.002 (0.199)	0.003 * (0.064)	0.003 * (0.052)	0.003 ** (0.046)	0.003 * (0.059)
<i>Good News</i>	0.008 (0.944)	0.008 (0.944)	0.009 (0.941)	0.009 (0.938)	-0.248 * (0.079)	-0.250 * (0.076)	-0.240 * (0.089)	-0.251 * (0.075)
<i>Volatility</i>	-5.14E-04 (0.924)	-4.88E-04 (0.928)	-4.60E-04 (0.931)	-1.05E-04 (0.984)	-2.32E-03 (0.723)	-2.29E-03 (0.727)	-2.38E-03 (0.716)	-2.48E-03 (0.704)
<i>Loss</i>	-0.774 * (0.061)	-0.769 * (0.062)	-0.773 * (0.061)	-0.744 * (0.070)	-0.309 (0.553)	-0.339 (0.515)	-0.322 (0.536)	-0.378 (0.467)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.446 (0.201)	0.438 (0.205)	0.463 (0.187)	0.436 (0.206)
<i>Capital Offerring</i>	-0.164 (0.412)	-0.154 (0.438)	-0.167 (0.400)	-0.174 (0.381)	-0.437 (0.145)	-0.432 (0.150)	-0.426 (0.155)	-0.430 (0.151)
<i>Forecast Horizon</i>	0.001 (0.466)	0.001 (0.452)	0.001 (0.468)	0.001 (0.457)	0.001 (0.199)	0.001 (0.186)	0.001 (0.197)	0.001 (0.187)
<i>Analyst Following</i>	-0.009 (0.522)	-0.009 (0.520)	-0.009 (0.518)	-0.009 (0.492)	0.001 (0.936)	0.001 (0.959)	0.001 (0.936)	0.001 (0.948)
<i>Independent Director</i>	0.067 (0.923)	0.073 (0.917)	0.068 (0.922)	0.092 (0.895)	-1.357 (0.205)	-1.320 (0.216)	-1.366 (0.205)	-1.317 (0.219)
<i>Independent Audit Committee</i>	0.282 (0.395)	0.282 (0.395)	0.282 (0.395)	0.282 (0.397)	0.536 (0.292)	0.533 (0.295)	0.558 (0.274)	0.527 (0.299)
<i>Constant</i>								
<i>N</i>	1906	1906	1906	1906	1783	1783	1783	1783
<i>R-Squared</i>	0.036	0.036	0.036	0.036	0.067	0.067	0.068	0.067

Similar findings are observed for both *Precision* and *Accuracy*. The only difference is that institutional ownership is associated with less precise management earnings forecasts in the Post-GFC period (specification 7 of Table 5.15(a), Quartile 3). Consistent with the hypotheses, this is not surprising mainly because financial institutions are more aware of the consequence of issuing a more precise management earnings forecast when the said forecast

is not being materialized. Furthermore, there is no mandated legislation concerning the precision of management earnings forecasts.

So, what is more important here is the accuracy of the management earnings forecast because of the associated litigation risk. Hence, these firms always issue more accurate management earnings forecasts in both the Pre-GFC and Post-GFC periods, and the results are consistent throughout the study.

**Table 5.15(b):
Robustness Test Results for the Relationship between Institution Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC**

<i>Accuracy</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	0.220 *** (0.000)	0.208 *** (0.000)	0.211 *** (0.000)	0.212 *** (0.000)	0.104 ** (0.039)	0.107 ** (0.027)	0.107 ** (0.027)	0.107 ** (0.027)
<i>Institution Ownership</i>	-0.093 (0.602)	0.153 (0.343)	0.040 (0.768)	0.053 (0.696)	-0.084 (0.651)	-0.121 (0.561)	0.100 (0.613)	-0.344 ** (0.023)
<i>Institution Ownership x MF Signal Dum</i>	0.306 (0.192)	-0.395 ** (0.045)	0.087 (0.855)	-0.024 (0.953)	-0.081 (0.675)	0.072 (0.702)	-0.785 *** (0.002)	-1.007 ** (0.032)
<i>Size</i>	-0.102 *** (0.000)	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)	-0.089 *** (0.000)
<i>Leverage</i>	0.001 * (0.069)	0.001 * (0.079)	0.001 * (0.078)	0.001 * (0.077)	0.001 (0.438)	0.001 (0.435)	0.001 (0.433)	0.000 (0.464)
<i>Price-to-book</i>	-0.001 (0.213)	-0.001 (0.206)	-0.001 (0.215)	-0.001 (0.215)	9.58E-05 (0.346)	9.15E-05 (0.376)	6.45E-05 (0.530)	1.18E-04 (0.252)
<i>Good News</i>	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.109 *** (0.000)	-0.109 *** (0.000)	-0.111 *** (0.000)	-0.109 *** (0.000)
<i>Volatility</i>	0.002 * (0.097)	0.002 * (0.092)	0.002 * (0.091)	0.002 * (0.090)	0.002 (0.185)	0.002 (0.188)	0.002 (0.181)	0.002 (0.153)
<i>Loss</i>	0.083 (0.512)	0.089 (0.478)	0.090 (0.477)	0.089 (0.485)	0.148 (0.414)	0.145 (0.420)	0.141 (0.435)	0.168 (0.347)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.139 (0.468)	0.139 (0.469)	0.134 (0.485)	0.140 (0.478)
<i>Capital Offerring</i>	0.063 (0.364)	0.063 (0.359)	0.060 (0.386)	0.059 (0.389)	0.125 * (0.085)	0.125 * (0.085)	0.123 * (0.089)	0.122 * (0.090)
<i>Forecast Horizon</i>	3.64E-04 *** (0.004)	3.68E-04 *** (0.004)	3.62E-04 *** (0.005)	3.61E-04 *** (0.005)	4.23E-04 *** (0.000)	4.24E-04 *** (0.000)	4.31E-04 *** (0.000)	4.23E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.003)	0.007 *** (0.003)	0.007 *** (0.003)	0.007 *** (0.003)	0.006 ** (0.011)	0.006 ** (0.011)	0.006 ** (0.012)	0.006 ** (0.012)
<i>Independent Director</i>	-0.062 (0.497)	-0.057 (0.530)	-0.057 (0.529)	-0.058 (0.525)	0.197 ** (0.050)	0.198 ** (0.049)	0.205 ** (0.041)	0.194 * (0.051)
<i>Independent Audit Committee</i>	-0.044 (0.299)	-0.044 (0.298)	-0.044 (0.297)	-0.044 (0.298)	-0.074 (0.413)	-0.074 (0.409)	-0.079 (0.382)	-0.071 (0.426)
<i>Constant</i>	2.018 *** (0.000)	2.011 *** (0.000)	2.013 *** (0.000)	2.014 *** (0.000)	1.597 *** (0.000)	1.597 *** (0.000)	1.602 *** (0.000)	1.601 *** (0.000)
<i>N</i>	1879	1879	1879	1879	1764	1764	1764	1764
<i>R-Squared</i>	0.224	0.224	0.224	0.224	0.179	0.179	0.182	0.182

Table 5.16(a) and Table 5.16(b) show the relationship between government ownership and the characteristics of management earnings forecasts in the Pre-GFC period.¹⁴

Consistently, these firms issue less precise management earnings forecasts when the level of market expectation deviation is low (specification 1 of Table 5.16(a), Quartile 1) probably due to the lack of incentive to correct the market expectations; however, this relationship reverses when the level of market expectation deviation reaches the 75th percentile and above (specification 4 of Table 5.16(a), Quartile 4).

A similar pattern is also observed in *Accuracy*. The accuracy of the management earnings forecasts of these firms is less accurate when the level of market expectation deviation is low (specification 2 of Table 5.16(b), Quartile 2), but the relationship reverses when the level of market expectation deviation reaches the 75th percentile (specification 3 of Table 5.16(b), Quartile 3).

These significant results suggest that government/states support a more transparent information environment to eliminate information asymmetry among the market participants, consistent with the results found in Lim et al. (2014) who investigate the timeliness of reporting for Malaysian listed firms.

¹⁴ The result for Post-GFC is not available for government ownership due to no management earnings forecast issued after the GFC period.

Table 5.16(a):

Robustness Test Results for the Relationship between Government Ownership and the Precision of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC

<i>Precision</i>	Pre-GFC			
	Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)
<i>MF Signal</i>	-0.097 (0.625)	-0.110 (0.577)	-0.110 (0.577)	-0.096 (0.628)
<i>Government Ownership</i>	-48.253 *** (0.000)	-33.944 *** (0.002)	-34.032 *** (0.001)	-14.556 (0.167)
<i>Government Ownership x MF Signal Dum</i>	38.193 *** (0.005)	-2.720 (0.927)	-25.768 (0.634)	-37.009 ** (0.021)
<i>Size</i>	-0.014 (0.848)	-0.015 (0.838)	-0.015 (0.838)	-0.013 (0.854)
<i>Leverage</i>	0.003 (0.411)	0.003 (0.413)	0.003 (0.413)	0.003 (0.417)
<i>Price-to-book</i>	-0.002 (0.244)	-0.002 (0.238)	-0.002 (0.238)	-0.002 (0.246)
<i>Good News</i>	0.011 (0.923)	0.012 (0.921)	0.012 (0.919)	0.011 (0.924)
<i>Volatility</i>	-4.61E-04 (0.931)	-5.44E-04 (0.918)	-5.43E-04 (0.918)	-4.91E-04 (0.926)
<i>Loss</i>	-0.823 ** (0.045)	-0.809 ** (0.049)	-0.810 ** (0.049)	-0.822 ** (0.045)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)
<i>Capital Offerring</i>	-0.175 (0.379)	-0.175 (0.378)	-0.176 (0.377)	-0.174 (0.381)
<i>Forecast Horizon</i>	0.001 (0.384)	0.001 (0.385)	0.001 (0.386)	0.001 (0.385)
<i>Analyst Following</i>	-0.009 (0.495)	-0.010 (0.492)	-0.010 (0.491)	-0.010 (0.491)
<i>Independent Director</i>	0.088 (0.900)	0.086 (0.902)	0.086 (0.902)	0.088 (0.900)
<i>Independent Audit Committee</i>	0.277 (0.406)	0.279 (0.404)	0.278 (0.405)	0.278 (0.405)
<i>Constant</i>				
<i>N</i>	1906	1906	1906	1906
<i>R-Squared</i>	0.037	0.037	0.037	0.037

Table 5.16(b):

Robustness Test Results for the Relationship between Government Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC

<i>Accuracy</i>	Pre-GFC			
	Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)
<i>MF Signal</i>	0.207 *** (0.000)	0.212 *** (0.000)	0.211 *** (0.000)	0.210 *** (0.000)
<i>Government Ownership</i>	3.576 * (0.054)	0.919 (0.552)	2.046 (0.207)	0.936 (0.868)
<i>Government Ownership x MF Signal Dum</i>	-7.704 *** (0.003)	26.852 ** (0.013)	-35.249 ** (0.018)	1.401 (0.807)
<i>Size</i>	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.101 *** (0.000)
<i>Leverage</i>	0.001 * (0.077)	0.001 * (0.081)	0.001 * (0.075)	0.001 * (0.077)
<i>Price-to-book</i>	-0.001 (0.210)	-0.001 (0.217)	-0.001 (0.213)	-0.001 (0.212)
<i>Good News</i>	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.202 *** (0.000)
<i>Volatility</i>	0.002 * (0.097)	0.002 * (0.096)	0.002 * (0.094)	0.002 * (0.095)
<i>Loss</i>	0.094 (0.457)	0.091 (0.473)	0.091 (0.471)	0.092 (0.467)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)
<i>Capital Offerring</i>	0.060 (0.386)	0.060 (0.387)	0.059 (0.388)	0.060 (0.385)
<i>Forecast Horizon</i>	3.59E-04 *** (0.005)	3.58E-04 *** (0.005)	3.59E-04 *** (0.005)	3.59E-04 *** (0.005)
<i>Analyst Following</i>	0.007 *** (0.004)	0.007 *** (0.004)	0.007 *** (0.004)	0.007 *** (0.004)
<i>Independent Director</i>	-0.057 (0.529)	-0.056 (0.540)	-0.056 (0.540)	-0.057 (0.533)
<i>Independent Audit Committee</i>	-0.044 (0.293)	-0.045 (0.288)	-0.045 (0.284)	-0.044 (0.291)
<i>Constant</i>	2.016 *** (0.000)	2.007 *** (0.000)	2.012 *** (0.000)	2.013 *** (0.000)
<i>N</i>	1879	1879	1879	1879
<i>R-Squared</i>	0.224	0.225	0.224	0.224

Table 5.17(a) and Table 5.17(b) show the relationship between foreign ownership and the characteristics of management earnings forecasts in the Pre-GFC and Post-GFC periods.

The results show that foreign-owned firms are associated with less precise management earnings forecasts in the Pre-GFC (specification 3 of Table 5.17(a), Quartile 3), and less accurate management earnings forecasts in the Post-GFC periods (specification 5 of Table 5.17(b), Quartile 1). Both results are statistically significant at the 10% level.

**Table 5.17(a):
Robustness Test Results for the Relationship between Foreign Ownership and the Precision of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC**

<i>Precision</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1 (1)	Quartile 2 (2)	Quartile 3 (3)	Quartile 4 (4)	Quartile 1 (5)	Quartile 2 (6)	Quartile 3 (7)	Quartile 4 (8)
<i>MF Signal</i>	-0.136 (0.507)	-0.141 (0.488)	-0.145 (0.477)	-0.101 (0.625)	-0.233 (0.329)	-0.210 (0.379)	-0.214 (0.370)	-0.224 (0.347)
<i>Foreign Ownership</i>	0.899 (0.359)	1.102 (0.203)	0.339 (0.712)	1.432 ⁺ (0.059)	1.158 (0.393)	0.355 (0.741)	0.407 (0.700)	0.293 (0.681)
<i>Foreign Ownership x MF Signal Dum Size</i>	0.193 (0.899)	-0.618 (0.676)	2.381 ⁺ (0.078)	-2.619 (0.116)	-1.727 (0.231)	0.784 (0.655)	0.724 (0.661)	0.885 (0.769)
	-0.010 (0.889)	-0.011 (0.880)	-0.015 (0.837)	-0.010 (0.886)	0.061 (0.498)	0.060 (0.505)	0.057 (0.527)	0.059 (0.509)
<i>Leverage</i>	0.002 (0.493)	0.002 (0.491)	0.003 (0.461)	0.002 (0.516)	-0.010 ^{**} (0.041)	-0.010 ^{**} (0.047)	-0.010 ^{**} (0.047)	-0.009 ^{**} (0.049)
<i>Price-to-book</i>	-0.002 (0.237)	-0.002 (0.232)	-0.002 (0.206)	-0.002 (0.239)	0.003 ⁺ (0.055)	0.003 ⁺ (0.059)	0.003 ⁺ (0.058)	0.003 ⁺ (0.058)
<i>Good News</i>	-0.006 (0.962)	-0.005 (0.967)	0.000 (1.000)	-0.005 (0.969)	-0.251 ⁺ (0.075)	-0.251 ⁺ (0.075)	-0.254 ⁺ (0.072)	-0.251 ⁺ (0.075)
<i>Volatility</i>	-6.81E-04 (0.898)	-7.82E-04 (0.883)	-7.54E-04 (0.887)	-3.78E-04 (0.943)	-0.002 (0.730)	-0.002 (0.748)	-0.002 (0.730)	-0.002 (0.708)
<i>Loss</i>	-0.765 ⁺ (0.065)	-0.760 ⁺ (0.065)	-0.756 ⁺ (0.067)	-0.803 ⁺ (0.056)	-0.316 (0.541)	-0.339 (0.512)	-0.336 (0.517)	-0.326 (0.527)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.393 (0.261)	0.411 (0.240)	0.426 (0.220)	0.419 (0.225)
<i>Capital Offerring</i>	-0.164 (0.407)	-0.163 (0.411)	-0.162 (0.415)	-0.163 (0.409)	-0.426 (0.154)	-0.422 (0.159)	-0.421 (0.160)	-0.436 (0.140)
<i>Forecast Horizon</i>	0.001 (0.428)	0.001 (0.439)	0.001 (0.442)	0.001 (0.399)	0.001 (0.207)	0.001 (0.191)	0.001 (0.190)	0.001 (0.193)
<i>Analyst Following</i>	-0.010 (0.483)	-0.010 (0.487)	-0.009 (0.523)	-0.009 (0.499)	2.28E-04 (0.988)	0.001 (0.968)	0.001 (0.946)	4.83E-04 (0.974)
<i>Independent Director</i>	0.080 (0.909)	0.085 (0.903)	0.066 (0.925)	0.050 (0.943)	-1.258 (0.247)	-1.285 (0.240)	-1.227 (0.269)	-1.273 (0.241)
<i>Independent Audit Committee</i>	0.276 (0.408)	0.274 (0.412)	0.286 (0.392)	0.283 (0.396)	0.540 (0.287)	0.522 (0.304)	0.528 (0.300)	0.531 (0.295)
<i>Constant</i>								
<i>N</i>	1906	1906	1906	1906	1783	1783	1783	1783
<i>R-Squared</i>	0.036	0.036	0.037	0.036	0.068	0.067	0.067	0.067

Table 5.17(b):

Robustness Test Results for the Relationship between Foreign Ownership and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC

<i>Accuracy</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	0.212 *** (0.000)	0.212 *** (0.000)	0.212 *** (0.000)	0.213 *** (0.000)	0.110 ** (0.022)	0.106 ** (0.027)	0.106 ** (0.026)	0.108 ** (0.023)
<i>Foreign Ownership</i>	-0.071 (0.538)	-0.054 (0.574)	-0.125 (0.160)	-0.073 (0.367)	-0.144 (0.181)	0.006 (0.954)	-0.026 (0.786)	0.002 (0.982)
<i>Foreign Ownership x MF Signal Dum</i>	-0.027 (0.853)	-0.121 (0.422)	0.183 (0.392)	-0.038 (0.884)	0.287 * (0.088)	-0.201 (0.139)	-0.061 (0.702)	-0.137 (0.585)
<i>Size</i>	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.102 *** (0.000)	-0.101 *** (0.000)	-0.091 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)	-0.090 *** (0.000)
<i>Leverage</i>	0.001 * (0.075)	0.001 * (0.074)	0.001 * (0.071)	0.001 * (0.074)	0.001 (0.373)	0.001 (0.428)	0.001 (0.428)	0.001 (0.451)
<i>Price-to-book</i>	-0.001 (0.212)	-0.001 (0.212)	-0.001 (0.207)	-0.001 (0.213)	9.09E-05 (0.364)	9.07E-05 (0.361)	8.70E-05 (0.379)	8.88E-05 (0.368)
<i>Good News</i>	-0.201 *** (0.000)	-0.201 *** (0.000)	-0.201 *** (0.000)	-0.201 *** (0.000)	-0.109 *** (0.000)	-0.109 *** (0.000)	-0.108 *** (0.000)	-0.109 *** (0.000)
<i>Volatility</i>	0.002 * (0.094)	0.002 * (0.098)	0.002 * (0.095)	0.002 * (0.094)	0.002 (0.185)	0.002 (0.196)	0.002 (0.184)	0.002 (0.177)
<i>Loss</i>	0.089 (0.479)	0.089 (0.479)	0.090 (0.478)	0.089 (0.482)	0.144 (0.428)	0.148 (0.413)	0.147 (0.415)	0.145 (0.423)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.146 (0.449)	0.144 (0.451)	0.140 (0.463)	0.141 (0.464)
<i>Capital Offerring</i>	0.059 (0.391)	0.059 (0.388)	0.059 (0.388)	0.059 (0.390)	0.127 * (0.078)	0.125 * (0.082)	0.126 * (0.080)	0.128 * (0.076)
<i>Forecast Horizon</i>	3.62E-04 *** (0.005)	3.60E-04 *** (0.005)	3.61E-04 *** (0.005)	3.63E-04 *** (0.005)	4.30E-04 *** (0.000)	4.23E-04 *** (0.000)	4.22E-04 *** (0.000)	4.23E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.003)	0.007 *** (0.003)	0.007 *** (0.003)	0.007 *** (0.003)	0.006 *** (0.010)	0.006 *** (0.010)	0.006 *** (0.011)	0.006 *** (0.011)
<i>Independent Director</i>	-0.057 (0.533)	-0.055 (0.541)	-0.058 (0.524)	-0.057 (0.529)	0.189 * (0.062)	0.197 * (0.057)	0.187 * (0.068)	0.192 * (0.060)
<i>Independent Audit Committee</i>	-0.044 (0.294)	-0.044 (0.290)	-0.044 (0.299)	-0.044 (0.293)	-0.075 (0.409)	-0.072 (0.427)	-0.073 (0.422)	-0.073 (0.418)
<i>Constant</i>	2.014 *** (0.000)	2.016 *** (0.000)	2.017 *** (0.000)	2.013 *** (0.000)	1.599 *** (0.000)	1.604 *** (0.000)	1.597 *** (0.000)	1.599 *** (0.000)
<i>N</i>	1879	1879	1879	1879	1764	1764	1764	1764
<i>R-Squared</i>	0.224	0.224	0.224	0.224	0.179	0.179	0.179	0.179

These results suggest that foreigners may have difficulties in assessing firm's operation and performance, especially when they are a distance away. Another plausible explanation could be the flaw in the legislation. That is, there is no specific level of precision required, and the twenty per cent variation is acceptable for the accuracy of the management earnings forecasts.

Table 5.18(a) and Table 5.18(b) present the results of the relationship between other large shareholders except the largest one and the characteristics of management earnings forecasts in the Pre-GFC and Post-GFC periods.

Table 5.18(a):

Robustness Test Results for the Relationship between *Other Owners* and the Precision of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC

<i>Precision</i>	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	-0.086 (0.704)	-0.185 (0.374)	-0.157 (0.443)	0.039 (0.885)	-0.255 (0.346)	-0.182 (0.460)	-0.216 (0.365)	-0.132 (0.677)
<i>Other Owners</i>	0.142 (0.580)	0.239 (0.335)	0.130 (0.602)	0.251 (0.313)	-0.137 (0.793)	-0.177 (0.733)	-0.156 (0.766)	-0.127 (0.809)
<i>Other Owners</i> <i>x MF Signal Dum</i>	0.154 (0.481)	-0.194 (0.356)	0.225 (0.302)	-0.342 (0.255)	-0.078 (0.745)	0.116 (0.588)	0.003 (0.987)	-0.107 (0.707)
<i>Size</i>	-0.019 (0.790)	-0.017 (0.815)	-0.017 (0.807)	-0.023 (0.752)	0.058 (0.522)	0.056 (0.534)	0.058 (0.518)	0.058 (0.519)
<i>Leverage</i>	0.003 (0.408)	0.003 (0.412)	0.003 (0.392)	0.003 (0.382)	-0.009 ** (0.047)	-0.009 ** (0.047)	-0.009 ** (0.048)	-0.009 ** (0.046)
<i>Price-to-book</i>	-0.002 (0.201)	-0.002 (0.215)	-0.002 (0.242)	-0.002 (0.220)	0.003 * (0.061)	0.003 * (0.065)	0.003 * (0.058)	0.003 * (0.058)
<i>Good News</i>	0.010 (0.931)	0.010 (0.934)	0.009 (0.939)	0.010 (0.930)	-0.252 * (0.074)	-0.255 * (0.071)	-0.253 * (0.073)	-0.255 * (0.070)
<i>Volatility</i>	-1.13E-03 (0.833)	-1.18E-03 (0.824)	-1.61E-03 (0.762)	-1.62E-03 (0.761)	-2.05E-03 (0.760)	-1.86E-03 (0.780)	-1.95E-03 (0.770)	-1.83E-03 (0.785)
<i>Loss</i>	-0.797 * (0.058)	-0.734 * (0.075)	-0.708 * (0.088)	-0.820 * (0.051)	-0.314 (0.548)	-0.359 (0.487)	-0.342 (0.511)	-0.380 (0.456)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.437 (0.207)	0.419 (0.226)	0.436 (0.206)	0.432 (0.211)
<i>Capital Offerring</i>	-0.157 (0.427)	-0.155 (0.431)	-0.163 (0.410)	-0.167 (0.400)	-0.437 (0.147)	-0.439 (0.144)	-0.437 (0.147)	-0.438 (0.145)
<i>Forecast Horizon</i>	0.001 (0.443)	0.001 (0.452)	0.001 (0.455)	0.001 (0.448)	0.001 (0.197)	0.001 (0.190)	0.001 (0.192)	0.001 (0.189)
<i>Analyst Following</i>	-0.009 (0.524)	-0.009 (0.509)	-0.009 (0.499)	-0.009 (0.538)	0.001 (0.938)	0.001 (0.933)	0.001 (0.941)	0.001 (0.942)
<i>Independent Director</i>	0.039 (0.956)	0.055 (0.937)	0.054 (0.939)	0.028 (0.968)	-1.286 (0.238)	-1.286 (0.238)	-1.277 (0.241)	-1.279 (0.240)
<i>Independent</i> <i>Audit Committee</i> <i>Constant</i>	0.269 (0.421)	0.271 (0.416)	0.277 (0.406)	0.268 (0.422)	0.523 (0.305)	0.525 (0.303)	0.526 (0.302)	0.529 (0.300)
<i>N</i>	1906	1906	1906	1906	1783	1783	1783	1783
<i>R-Squared</i>	0.036	0.036	0.036	0.036	0.067	0.067	0.067	0.067

Again, similar results are observed. Although precision is not significant, the accuracy of management earnings does matter. In the Post-GFC period, firms with a higher concentration of shares held by other substantial shareholders other than the largest shareholder are associated with more accurate management earnings forecasts when the level of market expectation deviation is above the 50th percentile (specification 7 of Table 5.18(b), Quartile 3), significant at the 1% level. This finding suggests that the presence of other substantial shareholders can alleviate agency problems.

However, when the level of market expectation deviation goes beyond the 75th percentile, the earnings forecasts issued are significantly less accurate (specification 8 of

Table 5.18(b), Quartile 4), significant at the 1% level. The result consistently suggests that these other substantial shareholders do not have enough decisive votes to go against the largest shareholders or might exacerbate the adverse effect on corporate transparency by the largest controlling shareholder.

Table 5.18(b):

Robustness Test Results for the Relationship between *Other Owners* and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment, in the period of Pre-GFC and Post-GFC

Accuracy	Pre-GFC				Post-GFC			
	Level of Market Expectation Deviation				Level of Market Expectation Deviation			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	0.208 *** (0.000)	0.210 *** (0.000)	0.212 *** (0.000)	0.195 *** (0.006)	0.124 ** (0.018)	0.100 ** (0.045)	0.106 ** (0.027)	-0.027 (0.655)
<i>Other Owners</i>	-0.017 (0.714)	-0.018 (0.700)	-0.023 (0.623)	-0.027 (0.540)	-0.120 (0.251)	-0.108 (0.303)	-0.088 (0.403)	-0.153 (0.140)
<i>Other Owners</i> <i>x MF Signal Dum</i>	-0.012 (0.754)	-0.011 (0.729)	0.008 (0.861)	0.032 (0.695)	0.034 (0.247)	-0.020 (0.382)	-0.076 *** (0.004)	0.162 *** (0.001)
<i>Size</i>	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.101 *** (0.000)	-0.100 *** (0.000)	-0.088 *** (0.000)	-0.088 *** (0.000)	-0.089 *** (0.000)	-0.088 *** (0.000)
<i>Leverage</i>	0.001 * (0.078)	0.001 * (0.079)	0.001 * (0.078)	0.001 * (0.080)	4.86E-04 ** (0.464)	4.77E-04 ** (0.472)	0.001 ** (0.432)	0.001 ** (0.421)
<i>Price-to-book</i>	-0.001 (0.225)	-0.001 (0.217)	-0.001 (0.222)	-0.001 (0.217)	1.01E-04 (0.314)	1.07E-04 (0.284)	8.07E-05 (0.426)	1.05E-04 (0.296)
<i>Good News</i>	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.202 *** (0.000)	-0.203 *** (0.000)	-0.111 *** (0.000)	-0.111 *** (0.000)	-0.112 *** (0.000)	-0.108 *** (0.000)
<i>Volatility</i>	0.002 * (0.096)	0.002 * (0.094)	0.002 * (0.095)	0.002 * (0.089)	0.002 (0.110)	0.002 (0.123)	0.002 (0.104)	0.002 (0.145)
<i>Loss</i>	0.091 (0.470)	0.088 (0.487)	0.089 (0.484)	0.093 (0.454)	0.135 (0.455)	0.150 (0.407)	0.136 (0.449)	0.202 (0.261)
<i>Beta</i>	(omitted)	(omitted)	(omitted)	(omitted)	0.137 (0.467)	0.140 (0.460)	0.128 (0.500)	0.142 (0.470)
<i>Capital Offerring</i>	0.058 (0.399)	0.059 (0.394)	0.058 (0.398)	0.059 (0.391)	0.118 (0.103)	0.118 * (0.100)	0.116 (0.105)	0.120 (0.097)
<i>Forecast Horizon</i>	3.64E-04 *** (0.004)	3.63E-04 *** (0.005)	3.63E-04 *** (0.004)	3.65E-04 *** (0.004)	4.33E-04 *** (0.000)	4.26E-04 *** (0.000)	4.37E-04 *** (0.000)	4.15E-04 *** (0.000)
<i>Analyst Following</i>	0.007 *** (0.004)	0.007 *** (0.003)	0.007 *** (0.004)	0.007 *** (0.004)	0.006 ** (0.011)	0.006 ** (0.011)	0.006 *** (0.010)	0.006 *** (0.010)
<i>Independent Director</i>	-0.052 (0.572)	-0.051 (0.579)	-0.052 (0.574)	-0.050 (0.582)	0.238 ** (0.028)	0.235 ** (0.028)	0.240 ** (0.025)	0.232 ** (0.029)
<i>Independent</i> <i>Audit Committee</i>	-0.044 (0.302)	-0.045 (0.287)	-0.044 (0.290)	-0.044 (0.295)	-0.076 (0.397)	-0.077 (0.394)	-0.076 (0.395)	-0.081 (0.367)
<i>Constant</i>	2.014 *** (0.000)	2.015 *** (0.000)	2.014 *** (0.000)	2.014 *** (0.000)	1.631 *** (0.000)	1.644 *** (0.000)	1.637 *** (0.000)	1.679 *** (0.000)
<i>N</i>	1879	1879	1879	1879	1764	1764	1764	1764
<i>R-Squared</i>	0.224	0.224	0.224	0.224	0.180	0.180	0.183	0.186

5.6 Endogeneity Test Results

This study might suffer from endogeneity problems like most empirical studies. The issue of whether there is a loop of causality between the management earnings forecasts' error (*Accuracy*), the ex-ante management forecast signal, and the analysts' earnings forecasts' error (*MF Signal* and *Dispfor*) can happen because these two variables might be codetermined

and thus affect each other. It is also arguable that the ownership structure and concentration of a firm can influence the firm's information environment, and good corporate governance, such as the good practice of disclosure, can affect and attract different types of investors (Foerster and Huen, 2004; Picou and Rubach, 2006). Therefore, this study employs two-stage least squares (2SLS) regression to address the potential endogeneity problems.¹⁵

This study uses *Beta*, *Loss*, and *Growth* as the instrumental variables since previous studies show that market expectation deviation is associated with factors, such as systematic risk or *Beta* (Beaver, 1968), recent earning loss or *Loss* (DeBondt and Thaler, 1990; Abarbanell, 1991), and book-to-market ratios or *Growth*, as used in this study (Lakonishok et al., 1994; Doukas et al., 2002). The test shows that *Loss* is significant in the first-stage model, but that it is not associated with the dependent variable in the second-stage model.¹⁶ Hence, the model and results obtained in this study are not affected by the endogeneity problems.

Table 5.19 presents the coefficients estimates for the 2SLS regression models. Overall, as reported in the tables, the SLS results are consistent with earlier OLS results with some interesting findings. Firstly, the coefficient estimates for both *MF Signal* and *Dispfor* doubled across all quartiles compared to the OLS results (specifications 1 to 8 of Table 5.19). Secondly, the results show that *Largest Shareholding*, *Institution Ownership*, *Foreign Ownership* and *Other Owners* are associated with less accurate management earnings forecasts when the level of market expectation deviation is at the 25th percentile (specification 1 of Table 5.19).

¹⁵ Some study may suffers the potential heteroscedasticity in the context of management earnings forecast that may vary based on the earnings forecast deviation which is one of the primary variables of interest. However, our dataset might not meet this assumption. So, the sub-sample results on quartiles are qualitatively similar to quantile regressions.

¹⁶ Also have performed Hausman test on “*Loss*” and the result is significant, suggesting *Loss* is a valid instrument.

Although these significant coefficients estimates were not captured in the earlier OLS regressions, the signs remain the same.

Table 5.19:
2SLS Results for the Relationship between Ownership Concentration and the Accuracy of Management Earnings Forecast in Market Expectations Adjustment

<i>Accuracy</i>	Level of <i>MF Signal</i>				Level of <i>Dispor</i>			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartile 1	Quartile 2	Quartile 3	Quartile 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>MF Signal</i>	0.404 (0.002) ***	0.403 (0.002) ***	0.384 (0.002) ***	0.421 (0.012) **				
<i>Dispor</i>					1.247 (0.012) **	1.262 (0.011) **	1.225 (0.013) **	1.210 (0.030) **
<i>Largest Shareholding</i>	-0.231 (0.176)	-0.113 (0.405)	0.073 (0.610)	0.034 (0.868)	-0.094 (0.558)	-0.065 (0.641)	0.042 (0.784)	-0.096 (0.550)
<i>Largest Shareholding</i> <i>x MF Signal Dum</i>	0.570 (0.098) *	0.266 (0.236)	-0.558 (0.000) ***	-0.373 (0.618)	0.155 (0.506)	0.082 (0.655)	-0.313 (0.038) **	0.163 (0.760)
<i>Largest Shareholding</i> ^{^2}	0.223 (0.212)	0.139 (0.359)	-0.092 (0.538)	-0.021 (0.921)	0.108 (0.511)	0.032 (0.832)	-0.032 (0.836)	0.049 (0.768)
<i>Largest Shareholding</i> ^{^2} <i>x MF Signal Dum</i>	-0.559 (0.141)	-0.356 (0.165)	0.651 (0.001) ***	0.302 (0.710)	-0.272 (0.299)	-0.019 (0.927)	0.227 (0.232)	0.019 (0.975)
<i>Family Ownership</i>	-0.001 (0.992)	0.082 (0.559)	0.020 (0.854)	-0.032 (0.782)	0.094 (0.510)	-0.044 (0.710)	0.064 (0.613)	-0.096 (0.290)
<i>Family Ownership</i> <i>x MF Signal Dum</i>	0.066 (0.764)	-0.245 (0.118)	-0.016 (0.952)	0.239 (0.473)	-0.274 (0.111)	0.187 (0.385)	-0.299 (0.069) *	0.468 (0.212)
<i>Institution Ownership</i>	-0.256 (0.082) *	-0.063 (0.650)	0.041 (0.712)	0.034 (0.790)	-0.205 (0.057) *	-0.069 (0.573)	-0.029 (0.811)	0.025 (0.828)
<i>Institution Ownership</i> <i>x MF Signal Dum</i>	0.580 (0.027) **	0.059 (0.771)	-0.552 (0.017) **	-0.404 (0.468)	-0.548 (0.037) **	-0.003 (0.987)	-0.130 (0.444)	-0.469 (0.264)
<i>Government Ownership</i>	1.420 (0.578)	5.649 (0.063) *	6.079 (0.036) **	8.586 (0.000) ***	3.123 (0.134)	7.122 (0.001) ***	8.088 (0.000) ***	8.062 (0.000) ***
<i>Government Ownership</i> <i>x MF Signal Dum</i>	6.680 (0.049) **	25.062 (0.049) **	-44.204 (0.000) ***	-8.740 (0.001) ***	6.490 (0.003) ***	11.532 (0.324)	-12.291 (0.000) ***	-3.070 (0.267)
<i>Foreign Ownership</i>	-0.237 (0.002) ***	-0.114 (0.078) *	-0.124 (0.041) **	-0.069 (0.265)	-0.173 (0.001) ***	-0.139 (0.043) **	-0.098 (0.083) *	-0.163 (0.002) ***
<i>Foreign Ownership</i> <i>x MF Signal Dum</i>	0.272 (0.031) **	-0.078 (0.365)	-0.034 (0.788)	-0.288 (0.183)	0.152 (0.250)	-0.013 (0.872)	-0.171 (0.056) *	0.124 (0.573)
<i>Other Owners</i>	-0.063 (0.154)	-0.043 (0.306)	-0.016 (0.689)	-0.011 (0.813)	-0.040 (0.316)	-0.021 (0.607)	-0.014 (0.729)	-0.020 (0.666)
<i>Other Owners</i> <i>x MF Signal Dum</i>	0.112 (0.054) *	0.036 (0.283)	-0.062 (0.005) ***	-0.117 (0.351)	0.063 (0.086) *	-0.006 (0.807)	-0.035 (0.130)	-0.018 (0.841)
<i>Constant</i>	1.758 (0.000) ***	1.758 (0.000) ***	1.748 (0.000) ***	1.769 (0.000) ***	1.922 (0.000) ***	1.933 (0.000) ***	1.921 (0.000) ***	1.920 (0.000) ***
<i>N</i>	4139	4139	4139	4139	4122	4122	4122	4122
<i>R-Squared</i>	0.174	0.172	0.175	0.172	0.183	0.183	0.183	0.183

Consistently, a lower level of ownership is associated with more accurate management earnings forecasts, and a higher level of ownership (*Largest Shareholding*^{^2}) is associated with less accurate management earnings forecasts when the level of market expectation deviation is low (specification 3 of Table 5.19, Quartile 3). As for other owner types, i.e., *Family Ownership*, *Institution Ownership*, *Government Ownership*, and *Foreign Ownership*, the signs and the

significance levels of the coefficients of the predicted values are similar to the earlier OLS results. *Other Owners* still has more accurate management earnings forecasts when the market expectation deviation is lower (specification 3 of Table 5.19, Quartile 3).

5.7 Discussion of Results

This section discusses the findings of the sample data using both univariate and multivariate tests. It also tests and discusses the robustness of the models and the potential endogeneity issues.

The univariate results include the Spearman correlation matrix and the test of differences between the characteristics of management earnings forecasts, market expectation deviation, and ownership concentration and the identity of the blockholders. The correlation between the various test variables is low, indicating that multicollinearity may not pose any significant problem in the multivariate regressions. *MF Signal* is significantly negatively correlated with *Precision* and positively correlated with *Accuracy*. *Largest Shareholding* is significantly positively correlated with *Accuracy* and *MF Signal*. Institutional ownership is negatively correlated with *Accuracy* providing some initial supporting evidence. Government-owned firms are negatively correlated with *Precision* but positively correlated with *Accuracy*, providing some preliminary support towards the entrenchment theory. *Other Owners* is positively correlated with *MF Signal*.

The univariate test of differences shows that higher levels of ownership and family firms are less likely to issue management earnings forecasts. Firms with institutional investors as their blockholders and other large shareholders are more likely to issue management earnings forecasts. For *Precision*, only government/state-owned firms are likely to issue less precise management earnings forecasts. Both family firms and government/state-owned

firms are more likely to issue less accurate management earnings forecasts, which again provide initial support for the entrenchment theory. Firms with higher institutional ownership are more likely to issue more accurate forecasts.

The results show that higher levels of market expectation deviation are associated with more precise but less accurate management earnings forecasts. It also indicates that the level of market expectation deviation does matter to the relationship between ownership concentration and the characteristics of management earnings forecasts. Although the results show that lower (higher) levels of ownership are associated with more (less) precise management earnings forecasts irrespective of the level of information asymmetry, it reveals that there is a significant inverse relationship between ownership concentration and the accuracy of management earnings forecasts in the effort to reduce the unrealistic market expectation deviation gap.

That is, lower levels of ownership are associated with more (less) accurate management earnings forecasts when the market expectation deviation is low (high). The former is consistent with the alignment theory, and the latter conforms to the entrenchment theory. However, when the ownership concentration increases (*Largest Shareholding*²), firms are more likely to issue less (more) accurate management earnings forecasts when the market expectation deviation is low (high). These economically significant coefficients suggest that at a lower level of shareholding, the potential benefits gained from rent-seeking activities may be more lucrative and supersede the associated litigation costs, thus deterring the blockholders from correcting the gap with more accurate forecasts. On the other hand, when shareholding increases, so does the risk exposure, and the accuracy of the management earnings forecasts improves significantly suggesting that the expropriation benefits gained are offset by the associated high litigation risk.

Family firms are less likely to issue management earnings forecasts. However, for those that do issue, the forecasts are more precise and more accurate. This finding supports the notion that family firms have greater concerns about the firm's reputation and survival than strict adherence to wealth maximization (Anderson and Reeb, 2003; Anderson et al., 2003). They also may want to avoid the potential litigation risk associated with withholding material information (Francis et al., 1994; Skinner, 1994).

Firms with institutional investors as their blockholders are more likely to issue management earnings forecasts and are also likely to issue more accurate earnings forecasts when the level of market expectation deviation is high, mainly due to their fiduciary responsibility and to avoid the higher litigation risk associated with asymmetry of information, which is consistent with the hypothesis.

Government/state-owned firms are more likely to issue management earnings forecasts. These firms are associated with more precise but less accurate management earnings forecasts. However, at a lower level of market expectation deviation, these firms have significantly and economically less precise and less accurate management earnings forecasts, which is probably due to the lack of incentive to correct the market expectations. However, the sign reverses when the level of market expectation deviation goes higher; the management earnings forecasts become more precise and more accurate. These results support the hypotheses (H4a and H4b) that government/states support a more transparent information environment to reduce market expectation deviation when the prevailing market expectation is unrealistic. This finding rejects the common belief that government/state-ownership is associated with poor disclosure practices (Cheng and Courtenay, 2006; Lim et al., 2014).

Consistent with H5a and H5c, foreign-owned firms prefer a more transparent information environment. These firms are found to have a significant positive relationship with the occurrences of forecasts, and they are also significantly associated with more accurate management earnings forecasts when the prevailing market prices are unrealistic in order to reduce the estimation risks on return distribution uncertainty (Coles et al., 1995), which subsequently increases the perceived riskiness borne by the foreign investors.

Firms with other large shareholders are also found to have a higher probability of issuing management earnings forecasts. Although *Other Owners* does not seem relevant to *Precision*, it is associated with more and accurate management earnings forecasts when the level of market expectation deviation is above the 50th percentile. This result suggests that the presence of other substantial shareholders can alleviate the agency problems. However, the relationship reverses when the level of market expectation deviation goes beyond the 75th percentile. One possible explanation is that they simply do not have enough decisive votes to counteract the largest shareholders or they might exacerbate the adverse effect on corporate transparency by the largest controlling shareholder.

A summary of these empirical findings is presented in Table 5.20 for easy viewing. H1 shows that there is an inverse relationship between ownership concentration and the accuracy of management earnings forecasts. That is, a lower (higher) ownership concentration is associated with more accurate (less accurate) forecasts when the level of market expectation deviation is at Quartile 3, which is consistent with the hypothesis. However, the relationship reverses when the level of market expectation deviation is at Quartile 4. Family firms are less likely to issue management earnings forecasts. For those who issue forecasts, the forecasts are more precise and more accurate (H2). Consistent with the hypothesis (H3), firms with

financial institutions as their blockholders are more likely to issue management earnings forecasts, and the forecasts are more accurate. Government-owned firms are more likely to issue management earnings forecasts, which is consistent with the hypothesis (H4). However, the forecasts issued are less (more) precise and less (more) accurate when the level of market expectation deviation is in the lower (higher) quartiles. Consistently, foreign-owned firms are more likely to disclose management earnings forecasts. The forecasts issued are less precise but more accurate (H5). Firms with other large shareholders except the largest one are more likely to announce management earnings forecasts, supporting the hypothesis (H6). However, there is a reverse relationship between the accuracy of management earnings forecasts and the level of market expectation deviations. That is, the forecasts issued are more (less) accurate at the lower (higher) quartile.

Table 5.20: Summary of Empirical Results

	Hypotheses	Occurrence	Precision				Accuracy			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
H1	<i>Ownership Concentration (Low)</i>	NS	NS	NS	NS	NS	NS	NS	S (+ve)	S (-ve)
	<i>Ownership Concentration (High)</i>	NS	NS	NS	NS	NS	NS	NS	S (-ve)	S (+ve)
H2	<i>Family Ownership</i>	S (-ve)	NS	S (+ve)	NS	NS	S (+ve)	S (+ve)	NS	NS
H3	<i>Institution Ownership</i>	S (+ve)	NS	NS	NS	NS	NS	NS	S (+ve)	NS
H4	<i>Government Ownership</i>	S (+ve)	S (-ve)	NS	NS	S (+ve)	NS	S (-ve)	S (+ve)	S (+ve)
H5	<i>Foreign Ownership</i>	S (+ve)	NS	NS	S (-ve)	NS	NS	S (+ve)	NS	NS
H6	<i>Other Owners</i>	S (+ve)	NS	NS	NS	NS	NS	NS	S (+ve)	S (-ve)

Note:

NS = no support

S (+ve) = Supported with positive relationship

S (-ve) = Supported with negative relationship

To test the robustness of the main results, another proxy for the market expectation deviation is adopted, that is, the dispersion among analysts about the consensus estimates of their forecasts (*Dispfor*). The results remain robust with some further enrichment. Firstly, the

results unfold that when the ownership concentration is low, the management earnings forecasts are more precise when the level of information is low (Quartile 1), but this relationship reverses when the level of market expectation deviation is higher (Quartile 2). More interesting is that the results show an inverse relationship when ownership concentration increases ($LargestShareholding^2$) and that the management earnings forecasts are less precise when the level of market expectation deviation is low (Quartile 1), but again this relationship reverses when the level of market expectation deviation is higher (Quartile 2). A similar relationship is observed for *Accuracy*. At lower (higher) levels of ownership, the management earnings forecasts issued are more (less) accurate than when the level of market expectation deviation is lower (Quartile 3), but this association reverses when the level of market expectation deviation goes beyond the 75th percentile (Quartile 4).

These results suggest that when both shareholding and the level of market expectation deviation are low, the potential benefits gained from expropriation of minorities may not be so attractive compared to the potential litigation risk associated with withholding material information. But when the level of market expectation deviation increases (shareholding remains low), so does the potential benefits that may gain from entrenchment activities, the blockholders (largest shareholders) would then prefer an opaque information environment since their exposure to the potential litigation risk is low due to their lower shareholding. On the other hand, when the shareholding is high, but the market expectation deviation is low, the potential entrenchment benefits may be more lucrative than the associated risk. Therefore, a more opaque information environment is preferred. But when the market expectation deviation increases (shareholding remains high), so does the potential litigation risk associated with the selective disclosure, hence, blockholders may be more concerned about their risk exposure (due to high shareholding) than the benefits gained. Therefore, a

transparent information environment with more precise and accurate management earnings forecasts is preferred.

Secondly, it reveals that family firms do provide significantly less accurate management earnings forecasts when the level of information asymmetry goes beyond the 75th percentile. This relationship was only captured in the earlier result with an insignificant level of 10.5%. It suggests that the potential benefits gained from rent-seeking activities may be more lucrative and supersede the associated litigation costs.

Thirdly, the results show that firms with other substantial owners are associated with more precise earnings forecasts when the level of market expectation deviation is low (Quartile 1). However, this relationship reverses when the level of market expectation deviation goes beyond the 25th percentile and then reverses back again when the level of market expectation deviation reaches the 75th percentile and above. Hence, these firms have more precise but less accurate management earnings forecasts when the level of information asymmetry is high, exacerbating the adverse effect on corporate transparency by the largest controlling shareholder.

This study also considers the variation during the Global Financial Crisis (GFC) by deploying a structural break in the analysis. Overall, the results remain robust as in the main models (as explained above). However, one interesting aspect that needs to be noted is that the significant findings of the inverse relationships for the blockholders and the other substantial shareholders (*Other Owners*) are very prominent in the Post-GFC period. This suggests that even though sanctions like the Fair Regulation Disclosure were implemented right after the GFC, the transparency of information environment is still somehow lacking as the blockholders can influence the firm's disclosure practices at their own discretion.

The study employed two-stage least squares (2SLS) regression to address the potential endogeneity problems. In the first stage, three instrumental variables, namely, *Beta*, *Loss*, and *Growth* are used to predict both proxies for market expectation deviation, i.e., *MF Signal* and *Dispfor* for each observation. The test shows that *Loss* is significant in the first-stage model, but is not associated with the dependent variable in the second-stage model. Hence, the model and results in this study are not affected by the endogeneity problems.

The SLS results are consistent with the prior OLS results with some interesting findings. Firstly, the coefficient estimates for both *MF Signal* and *Dispfor* doubled across all quartiles compared to the OLS results. Secondly, the results show that *Largest Shareholding*, *Institution Ownership*, *Foreign Ownership* and *Other Owners* are associated with less accurate management earnings forecasts in the first quartile. These significant coefficients estimates were not captured in the OLS regressions, but the signs remain the same.

5.8 Summary

The findings in this study have closed the long-standing gap of the growing management earnings forecasts and corporate governance research that mainly employ experimental approaches to test economic theories of management earnings forecasts but neglect the archival methods promulgated by Ajinkya and Gift (1984), and King et al. (1990) who employ the *expectations adjustment hypothesis*.

Firstly, this study finds that corporate ownership does matter in market expectations adjustment in the U.S. firms by presenting significant empirical evidence that corporate ownership structure “motivates” the occurrence, the precision and the accuracy of manager’s earnings forecasts at different levels of market expectation deviation. That is, the identity of

the blockholders (largest shareholders) plays an important role in determining the issuance of management earnings forecasts, as well as the precision and the accuracy of the said forecasts.

Secondly, this study provides insights into the form and horizon of the management earnings forecasts; a tertiary issue in forecast disclosures as suggested by King et al. (1990). More specifically, at different levels of market expectation deviation, the decision of whether to issue more precise and/or more accurate management earnings forecasts is influenced by the identity of the largest shareholders. The empirical result suggests that there is possible trade-off between the benefits gained from entrenchment activities and the potential associated litigation risks.

Thirdly, this study finds that the identity of the blockholders matter to the precision and the accuracy of management earnings forecasts, instead of the independent directors and the independent audit committee as what documented in the past studies. This evidence supports the elusive standard of corporate governance imposed on publicly listed firms. That is, when the blockholders have the utmost power, he/she can exercise his/her rights to overrule the independent directors and the independent audit committee.

Fourth, using a well-regulated country like the U.S. in this study offers significant insight for regulators around the world in terms of their transformation of disclosure and governance policies, which has important implications for regulators and listing securities exchanges. One of the implications would be to consider legislating the disclosure of more precise, and more accurate annual management earnings forecasts for all publicly listed firms, a way to foster a more transparent and efficient capital market.

Lastly, this study provides impetus for future corporate governance and voluntary disclosure research, especially in the jurisdictions where concentrated ownership is a prominent feature in the capital market. Ownership concentration, or the identity of the blockholders, or the market expectation deviation *per se* may not be able to fully reveal the actual picture of voluntary disclosure practices of publicly listed firms.

CHAPTER 6

SUMMARY AND CONCLUSION

Voluntary disclosure of management earnings forecasts is crucial for market participants in their investment decision-making as it reveals the expectations about firms' earnings that are value-relevant and provide up-to-date information that is not entirely reflected in the reported historical earnings (Verrecchia, 2001; Han, 2013). Since publicly listed firms are required to disclose all price sensitive information, and the public provision of management earnings forecasts can reduce the public incentive to acquire private information (Healy and Palepu, 2001; Zhou, 2017), the question of whether managers will credibly disclose more precise (i.e., point forecast) and more accurate forecasts or strategically reveal less precise (i.e., range forecast and open-ended forecasts) and less accurate forecasts is of particular interest when investigating the underlying motivations of managers in forming their forecast disclosure decisions.

The *expectations adjustment* framework hypothesizes that managers are only motivated to voluntarily issue earnings forecasts to correct unrealistic market expectations on their own when the prevailing market expectations (proxied by analyst forecasts) are either significantly too low or too high (i.e., unrealistic or high market expectation deviation). This conclusion is in line with the notion of avoiding dramatic swings in the stock prices (Ajinkya and Gift, 1984; King et al., 1990). However, this framework has been neglected in the literature probably due to the increasing growth of behavioural theory. On another note, evidence shows that managers are led by the large shareholders in their daily activities including disclosure practices (Holderness and Sheehan, 1988; Lim et al., 2014; Edmans and Holderness, 2017) whereby large shareholders can always

exercise their right to control and influence managers' disclosure practices for their own benefit. Hence, it appears that it may not be the managers *per se* that influence the firm's disclosure practices, it is the blockholders or rather the largest shareholders that use their discretion in the firm's disclosure.

Accordingly, this has set the motivation for this study to examine how ownership concentration and structure relate to the characteristics of the management earnings forecasts. That is the precision (point forecasts as opposed to the range and open-ended forecasts) and the accuracy (ex-post) of the forecast, in the context of *expectations adjustment*. Since large shareholders differ in their objectives, power, investment horizon, and access to financing, the study further posits that the incentive to correct market expectation and the characteristic of management earnings forecasts varies according to the identity of the blockholders (largest shareholders). Using a relatively well-regulated country with strong investor investment protection like the U.S. offers a significant insight for the regulators around the world in terms of their transformation of disclosure and governance policies. This is especially true where concentrated ownership is the prominent feature of the capital market, and the U.S. is no exception.

The result shows that only family firms are found to have less incentive in issuing management earnings forecasts. All other firms like foreign-owned firms, government/state-owned firms, firms with institutional investors as their blockholders (largest shareholders), and firms with other large shareholders are found to have more occurrences of issuing management earnings forecasts.

The result also indicates that a lower (higher) level of ownership is associated with more (less) precise management earnings forecasts irrespective of the level of information

asymmetry, which is consistent with the alignment theory. However, there is a significant inverse relationship between ownership concentration and forecasts accuracy, especially in the effort to correct the unrealistically high level of market expectation deviation. Specifically, a lower (higher) level of ownership is associated with a more (less) accurate forecast, but the sign is reversed when the level of market expectation deviation goes beyond the 75th percentile. This is possibly due to the trade-off between the benefits gained from expropriation activities and the associated potential litigation risk.

Family firms, for those that issue management earnings forecasts regardless of their level of shareholding, generally issue more precise and more accurate forecasts, thereby supporting the belief of preserving firm reputation and survival, as well as avoiding the potential litigation risk associated with poor disclosure. Firms with an institutional investor as the blockholder (largest shareholder) are more likely to issue more accurate forecasts due mainly to their fiduciary responsibility and the potential litigation risk, which is consistent with our hypothesis. Similarly, firms with foreigners as their blockholder are more likely to issue more accurate forecasts to ensure their return distribution is not expropriated. Government-owned firms are associated with more precise but less accurate management earnings forecasts. However, the sign for *Accuracy* is reversed when the level of market expectation deviation goes beyond the 50th percentile (Quartile 3), suggesting that the government does provide support for better disclosure policies, and/or perhaps to avoid market sanction or the potential litigation risks. The study also finds that the presence of other substantial shareholders in the firms is only associated with more accurate forecasts in Quartile 3 of the *MF Signal*. Again, the sign is reversed when the level of market expectation deviation goes beyond the 75th percentile (Quartile 4), thereby suggesting that the presence of these substantial shareholders

exacerbates the adverse effect on corporate transparency by the largest controlling shareholder.

Apart from those established motivations of why managers issue management earnings forecasts, this study offers a more detailed analysis by developing the *expectations adjustment hypothesis* literature that corporate ownership structure is another form of managers' "motivations" in their information disclosure practices. The finding that concentrated ownership and the identity of the blockholder or largest shareholder (rather than the independent directors and audit committees) matter to the precision and the accuracy of management earnings forecasts further supports the elusive standard of corporate governance. This study also shed light on the precision and the accuracy of the forecast in that the blockholder is willing to disclose publicly at different levels of information asymmetry.

The result shows that the association between ownership structure and forecast precision does not change across varying levels of information asymmetry, possibly due to no proper legislation mandated on firms with regards to the precision of their forecasts. This finding may be attributable to the impracticality to provide more precise forecasts, or may be due to technical issues like small sample size. What is more interesting is that the study finds a significant relationship between the ownership structure and forecast accuracy where the sign of association changes in the higher quartiles of market expectation deviation. This could be because U.S. firms are allowed to have 20% deviation in their forecasts compared to market expectation (which happens in Quartile 1), but these firms only react when the level of market expectation deviation goes higher than Quartile 1. This suggests that both the level of ownership concentration and the level of information asymmetry (as proxied by market expectation deviation) play a critical role in

determining the firms' forecasts disclosure decisions. That is, at different levels of market expectation deviation, the degree of ownership concentration (so does the level of its risk exposure) that matters in the trade-off between the litigation risk exposed for withholding value-relevant private information and the personal gain from entrenchment. This finding is very important as it further develops the literature concerning the *expectations adjustment hypothesis* by incorporating agency theory to close the gap. It also sends a powerful signal to the regulators about the plausible trade-off that large shareholders observe across the different levels of information asymmetry.

The result also shows that although the U.S. practices strong investor investment protection, especially for the minorities, this study reveals that the minorities can only pose a challenge against the largest shareholders by demanding more accurate management earnings forecasts when the level of market expectation deviation is lower given that the potential entrenchment benefits for the largest shareholder are less. When the level of market expectation deviation is higher, so are the potential entrenchment benefits; the earnings forecasts issued are significantly less accurate suggesting that the minorities either do not have enough decisive votes to counteract the largest shareholders and thus exacerbate the adverse effect on corporate transparency by the largest controlling shareholder. Hence, using a relatively well-regulated country like the U.S. in this study can offer significant insights for the regulators around the world, especially in terms of the transformation of their disclosure and governance policies.

Using annual management earnings forecasts instead of quarterly earnings forecasts in this study contributes to the voluntary disclosure literature. Short-term oriented U.S. publicly listed firms are pressured to meet their short-term management earnings forecasts by holding back spending on technology, research and development

(The Wall Street Journal, 2018). As such, quarterly management earnings forecasts would lead to an unhealthy focus on short-term profits at the expense of long-term strategy, growth and sustainability of the firms, as well as the capital market as a whole.

To sum, this study has important implications for future corporate governance and voluntary disclosure researchers because agency theory or expectations adjustment *hypothesis per se* may not be able to fully reveal the whole picture in explaining voluntary disclosure. The levels of market expectation deviation should be seriously taken into consideration when conducting research in the areas of corporate governance and voluntary disclosure. It also has consequences for the regulators and listing securities exchanges around the world in terms of the transformation of their disclosure and governance policies. The result in this study highly recommends that the disclosure of private information, such as management earnings forecasts, should be properly legislated for all publicly listed firms in order to foster a more transparent information environment for all market participants. This study also has significant implications for practitioners like analysts and investors in their estimation and investment decision-making, especially in the jurisdictions where concentrated ownership and short-termism are the prominent features of the capital market.

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Appendix A: Summary of Past Literature

Archival Approach / Method				
Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Ajinkya and Gift, 1984	Expectations adjustment Information asymmetry	Ex-ante MEF signal (difference between MEF and analysts' estimate just prior to the related MEF); Ex-post MEF error (difference between actual earnings and MEF, scaled by actual earnings)	Issuance of guidance; Cumulative stock market reaction / Average unexpected return	Managers are motivated to issue MEF to reduce information asymmetry between market participants, in order to minimize the potential problem (e.g., litigation risk) of allowing unrealistic expectations to prevail.
Waymire, 1985	Voluntary disclosure	Earnings volatility; Nature of news	Guidance frequency	Significant negative relation between earnings volatility and the frequency of forecast for good news firms but not for bad news firms.
Hassell and Jennings, 1986	Expectations adjustment Managerial credibility Information asymmetry	Management forecast error; Analysts' forecast error	Issuance of guidance; Guidance accuracy	Managers are more inclined to issue forecasts, and the forecasts issued subsequent to, coincidentally on the same day with, and up to four weeks prior to analyst forecasts are more accurate than the analyst forecasts.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Trueman, 1986	Managerial incentives and voluntary disclosure	Market value of firm (measured by a number of managerial ability variables, e.g., optimal production level)	Issuance of guidance	If managers' objectives are to maximize firm value and have control over production decisions, then providing management earnings forecasts signals the managers' ability to anticipate and access economic environment changes to firms' operations, and to adjust production accordingly in order to keep up with management expectations.
Ruland et al., 1990	Managerial behaviour and voluntary disclosure	Insider ownership; Capital offering	Issuance of MEF	Insider ownership is lower for firms that release MEF, suggesting that outside shareholders have successfully expanded their resources in monitoring managerial behaviour when the insider ownership is low. Firms that want to raise new debt or new stock are more likely to release MEFs.
Skinner, 1994	Litigation and voluntary disclosure	Nature of news	Issuance of guidance; Guidance form	Firms are generally infrequent in issuing management earnings forecasts. Firms with good news tend to issue point or range annual earnings per share forecasts, while firms with bad news tend to issue qualitative quarterly earnings per share, and those with larger negative earnings surprises are pre-empted to the public beforehand. Firms with extreme negative earnings changes are more likely to announce their forecasts prior to the actual earnings announcement date.
Frankel et al., 1995	Voluntary disclosure	Capital offering	Issuance of guidance; Guidance biasness	Firms that access capital markets are significantly more likely to issue unbiased earnings forecasts.
Kasznik and Lev, 1995	Voluntary disclosure	Nature of news	Issuance of guidance; Guidance form	Firms with disappointing news are significantly more likely to issue forecasts, and larger disappointments are preceded by more quantitative forecasts.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Coller and Yohn, 1997	Expectations adjustment	Bid-ask spread	Issuance of guidance	Bid-ask spreads of forecasting firms are significantly higher than those of the matched non-forecasting firms in the period before the management forecast is issued. But there is no difference in the bid-ask spread between the matched firms after a management forecast, thereby confirming that management earnings forecasts are effective in aligning market expectation.
Ajinkya et al., 2005	Voluntary disclosure	Institutional ownership; Board independence (outside directors)	Issuance of guidance; Guidance accuracy; Guidance form; Guidance biasness; Guidance frequency	Firms with greater institutional ownership are more likely to issue forecasts that are more frequent, more accurate and precise, and less optimistic. Firms with concentrated institutional ownership, measured by (1) the total percentage of common stock held by five largest institutional owners of the firm, and (2) a Herfindahl index of institutional ownership concentration, are negatively associated with forecast characteristics, citing that concentrated institutional ownership inherently has the ability to generate private benefits and thus has an adverse effect on disclosure properties. Firms with more outside directors are more likely to issue forecasts that are more frequent, and the forecast is more accurate and less optimistically biased. No significant relationship between outside director and forecast precision may be due to litigation exposure.
Brown et al., 2005	Litigation and voluntary disclosure	Litigation risk; Nature of news	Issuance of guidance	Litigation risk is positively associated with the likelihood of issuing MEFs in both good and bad news firms. However, litigation risk is unlikely to explain the observed preponderance of bad news forecasts mainly because the association is marginally higher for firms with bad news.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Karamanou and Vafeas, 2005	Voluntary disclosure	Insider ownership; Institutional ownership; Board independence (outside directors); Audit committee size; Independent audit committee	Issuance of guidance; Guidance form; Guidance accuracy; Guidance biasness	Firms with low insider ownership are more likely to issue forecasts, and their forecasts are more accurate, more precise and less optimistic. Firms with higher institutional ownership are more likely to issue forecasts and these forecasts are more precise. Firms with more outside directors are more likely to issue or update earnings forecasts. The MEFs are less likely to be precise, but are more accurate. Firms with larger committee size are less likely to issue MEFs, and their forecasts are less likely to be precise.

Experimental Approach				
Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Hirst et al., 1990	Source credibility	Prior MEF accuracy; MEF specificity/precision	Investor confidence and dispersion in earnings estimates	For MEFs with inaccurate prior record, guidance specificity or precision does not matter; For MEFs with accurate prior record, investor confidence (dispersion) is higher (lower) for point than for range MEFs.
Libby and Tan, 1999	Cue consistency	MEF issuance (no issuance / sequential issuance / simultaneous issuance)	Earnings re-estimates after actual earnings announcement	Analysts' earnings re-estimates are lowest in sequential processing condition, followed by no MEF issuance, then by simultaneous processing condition.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Sedor, 2002	Scenario thinking	Information structure (list, scenario); Prior earnings (loss, profit)	Earnings estimates after MEF	Analysts' earnings estimates are more optimistic where a management plan is presented as a scenario than as an unstructured list, and the difference is bigger for prior-loss firms than for prior-profit firms.
Tan et al., 2002	Mental accounting	Total earnings news valence (positive/negative); Guidance news in proportion to total earnings news (50%/100%/150%)	Earnings re-estimates after actual earnings announcement	For positive total earnings news, earnings re-estimates are higher (lower) when the news is understated (overstated) in the MEF than when it is accurately stated in the MEF. For negative total earnings news, earnings re-estimates are lower (higher) when the news is understated (overstated) in the MEF than when it is accurately stated in the MEF.
Lennox and Park, 2005	Voluntary disclosure	Earnings volatility; Nature of news	Issuance of guidance	Firms with higher return volatility are more likely to issue earnings forecasts. Earnings volatility is significantly positive in the bad news model but insignificant in the good news model.
Mercer, 2005	Attribution theory and effective decision theory	Forthcomingness (Issuance of guidance); Nature of news; Assessment horizon (short/long)	Management credibility	For a short-term assessment horizon, management credibility is assessed higher for a guiding firm than for a non-guiding firm, and the difference is larger for negative MEF than positive MEF. For a long-term assessment horizon, management credibility is determined by news valence, i.e., higher credibility for positive news than for negative news, and is not affected by whether there is earnings guidance/MEF.
Baik and Jiang, 2006	Voluntary disclosure	Institutional ownership (transient);	Issuance of guidance; Guidance biasness	Firms with high transient institutional ownership are more likely to issue pessimistic MEFs and are more likely to have a long string of meetings or beating expectations.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Cheng and Courtenay, 2006	Voluntary disclosure	Insider ownership; Board independence (outside directors)	Self-constructed voluntary index	Firms with the presence of an inside block owner have lower voluntary disclosure. Only when the proportion of independent directors is above the regulatory, i.e., minimum 33% (or one-third) of independent directors on the board, are these firms more likely to issue MEF. The forecasts are less precise but more accurate.
Chin et al., 2006	Voluntary disclosure	Ownership concentration	Guidance accuracy; Guidance biasness; Guidance frequency	Firms with greater divergence between the ultimate owner's control and the equity ownership level are more likely to issue inaccurate and optimistically biased forecasts. These firms also tend to revise their forecasts more frequently to reduce forecast error and/or bias to avoid violating the allowed twenty per cent forecast error threshold.
Kadous et al., 2006	Counter-explanation	Number of counter-explanations (no/few/many)	Earnings estimates after MEF	Asking participants to generate a few counter-explanations reduces their optimism in earnings estimates induced by scenario thinking, but asking them to generate many counter-explanations does not reduce optimism.
Libby et al., 2006	Range precision effect	MEF error/bias (downward bias/upward bias); MEF specificity/precision (point/narrow range/wide range)	Earnings re-estimates after actual earnings announcement	When the actual earnings per shares exceeds (misses) the point MEF (the midpoint of the range MEF), investors' earnings re-estimates are higher (lowest) for the narrow range MEF (where the actual EPS fall outside of the range), followed by the point MEF, then by the wide range MEF (where the actual EPS fall within the range).

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Miller, 2006	Diminishing marginal reactions and cue consistency effect	Guidance news in proportion to total earnings news (150%/88.9%/50%/11.1%/-50%)	Earnings re-estimates after actual earnings announcement	Earnings re-estimates are highest when guidance news equals one-half of total earnings news, followed by understated guidance news (guidance news and actual earnings news are consistent in sign), then by overstated guidance news (guidance news and actual earnings news are inconsistent in sign).
Ali et al., 2007	Voluntary disclosure	Family ownership	Issuance of guidance; Nature of news	Family firms are more likely to disclose voluntarily bad news through management earnings forecasts.
Das et al., 2007	Voluntary disclosure Information asymmetry	Issuance of guidance Forecast horizon	Market-adjusted cumulative abnormal return; Abnormal returns in the post-guidance period	Management earnings forecasts can reduce the magnitude of market response to earnings surprises at the time of the actual earnings announcement.
Han and Tan, 2007	Multiple-reference-points theory	Guidance form/Specificity (point/mid/range); Investor knowledge (high/low)	Earnings re-estimates after actual earnings announcement	For high-knowledge participants, earnings re-estimates are highest for range MEF, followed by mid-MEF, then by point MEF, when earnings fall in the lower end (missing the midpoint but above the lower endpoint). For low-knowledge participants, earnings re-estimates are not different between the mid-MEF and point MED conditions, and both are lower than the range MEF condition.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Hirst et al., 2007	Disaggregation enhances management creditability	Earnings manipulation incentives (high/low); Guidance disaggregation (aggregated/disaggregated)	Management credibility	For disaggregated guidance, management incentive to manage earnings does not affect management credibility. For aggregated guidance, management credibility is higher for managers with low (versus high) incentive to manage earnings.
Chen et al., 2008	Voluntary disclosure	Family ownership	Issuance of guidance; Nature of news	Family firms provide fewer earnings forecasts but more earnings warnings.
Libby et al., 2008	Analysts' forecasts are driven by their economic incentives	Analysts' incentive (accuracy / relationship); Guidance timing (early / late)	Earnings re-estimates after actual earnings announcement	Analysts' earnings forecasts exhibit an optimistic-to-pessimistic pattern (being optimistic early then later become pessimistic), and this pattern is more obvious for those analysts who have the relationship incentive.
Venkataraman, 2008	Omission bias theory	Guidance commitment (more/less committed); Prior guidance accuracy (high/low)	Management Credibility	Committed disclosers (those firms with a regular and predictable guidance record) are viewed as more (less) credible than less committed disclosers when prior forecasts are more (less) accurate.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Du, 2009	Ambiguity theory	Guidance news (positive/negative); Guidance form (point/range)	Investors' resource allocation decision	When guidance news is positive (negative), investors allocate more resources to the firm issuing range (point) MEF where there is more (less) ambiguity.
Fleming, 2009	Expectancy violation theory	Guidance disaggregation (disaggregated/aggregated); Guidance form (point/range)	Venture capitalists' initial investment screening decision	Disaggregated guidance leads to a better (worse) screening decision than aggregated guidance for point (range) MEF.
Ahmad-Zaluki and Wan-Hussin, 2010	Voluntary disclosure	Audit committee size; Independent audit committee	Guidance accuracy	Firms with a higher percentage of non-executive directors in the audit committee and larger audit committee size have greater forecast accuracy.
Han and Tan, 2010	Motivated reasoning and elastic justification theory	Investor position (long/short); Guidance news valence (positive/negative); Guidance form (point/range)	Earnings estimates after MEF	Motivated reasoning (long investors make higher earnings estimates than short investors) is more likely to occur for range MEF than for point MEF, and more likely for positive MEF than for negative MEF.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Tan et al., 2010	Elastic justification theory	Analysts' incentive (accuracy / relationship); Management guidance bias record (consistent / inconsistent)	Earnings estimates after MEF	Analysts adjust for guidance bias when they have an accuracy objective but not so for a relationship objective. The difference between these two analyst groups is greater for a consistent guidance record than for an inconsistent guidance record.
Cao and Narayanamoorthy, 2011	Litigation and voluntary disclosure	Nature of news	Issuance of guidance	Managers with bad earnings news are more inclined to issue MEFs when facing high ex-ante litigation risk. Managers with good earnings news are less likely to provide MEFs regardless of ex-ante litigation risk.
Du et al., 2011	Congruity theory and ambiguity aversion theory	Information vagueness (high/low); Guidance form (point/narrow range/wide range)	Investors' preferences for more precise guidance form	Investors prefer more (less) precise point (range) MEF when the information given is less (more) ambiguous. Investors prefer narrow range to wide range MEF.
Elliott et al., 2011	Activation of different knowledge schemes associated with earnings	Guidance disaggregation (aggregated/disaggregated); Actual earnings outcome (favourable/unfavourable)	Investment attractiveness	Earnings fixation is lower for disaggregated than for aggregated guidance.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Hales et al., 2011	Motivated reasoning and vividness effect	Investor position (long/short); Language vividness (vivid/pallid)	Earnings growth	For positive news, short investors who receive a vivid presentation assess higher future earnings growth than those who receive a pallid presentation. Long investors are less affected by presentation vividness. For negative news, long investors who receive a vivid presentation assess lower future earnings growth than those who receive a pallid presentation. Short investors are less affected by presentation vividness.
Holderiness and Hunton, 2011	Strategic information transmission theory and anticipatory obfuscation theory	Earnings management pressure (absent/present); Disaggregated guidance pressure (absent/present)	What income statement items to disclose in their earnings guidance	Managers who are under pressure to manage earnings choose to aggregate information where earnings management takes place (i.e., not to disclose) and disaggregate guidance in other places (i.e., to disclose). Managers who are not under pressure to manage earnings do not exhibit such a guidance disaggregation pattern.
Maletta and Zhang, 2011	Contrast effect	Guidance news in proportion to total news (25%/50%/75%); Guidance provider (own firm/peer firm)	Earnings re-estimates after actual earnings announcement	When there is no difference in the terms of percentage of guidance news relative to total earnings news between the target and peer firms, investor re-estimates for the target firm are higher when 50% of the total earnings news is released in guidance. When there is a difference in terms of the percentage of guidance news relative to total earnings news between the target and the peer firms, investors' re-estimates for the target firm are higher if the target firm releases more positive news in guidance (than the peer firm).

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Nelson and Rupa, 2014	Ratio bias effect	Numerical format (dollar/percentage); Disclosure management opportunity (mandatory/voluntary); Disclosure management incentive (low/high)	Investment risk perception	For the mandatory disclosure format, investor risk assessment is higher for dollar disclosure than for percentage disclosure in the sensitivity analysis. For the discretionary disclosure format, investor risk assessment is not different between dollar and percentage disclosure in the sensitivity analysis.
Rupa, 2017	Attribution theory	Guidance form (point/range); Environmental uncertainty (high/low)	Management credibility; Firm growth expectations; Stock price estimates	Within each uncertainty setting, when management guidance form is aligned with its operating environment uncertainty (i.e., point/range MEF for low/high uncertainty), management credibility is assessed to be higher, which, in turn, leads to higher growth expectations and higher stock price estimates, relative to when management guidance form is misaligned with its operating environment uncertainty (i.e., point/range guidance for high/low uncertainty).
Tan and Koonce, 2011	Affect theory	Guided EPS (low/high); Retraction and correction (both retraction and correction/correction only)	Earnings potential; Investment attractiveness	When guidance news is retracted, investors cannot fully eliminate the impact of previous erroneous disclosure. When guidance news is retracted and corrected, investors tend to over-react by overweighting the new corrected news.

Journal Article	Theory	Main Independent Variables	Main Dependent Variables	Key Research Findings
Libby and Rennekam, 2012	Over-confidence	Task difficulty (easy/difficult)	Commitment to high performance in second round	Overconfident managers (for whom the overconfidence is induced by an easy task) are more likely to provide MEF.
Rennekam, 2012	Processing fluency	News nature (positive/negative); Readability (high/low)	Valuation judgment; Management credibility	More readable disclosures make investors' reaction to positive (negative) guidance more positive (negative) compared to less readable disclosures.
Tan et al., 2014	Readability effect; Message consistency effect	Message consistency (high/low); Language readability (high/low)	Disclosure credibility; Valuation judgment	Readability only matters when messages are inconsistent, but not when messages are consistent. When messages are inconsistent, more readable disclosures lead to higher disclosure credibility, and also higher valuation judgment than less readable disclosures.
Wang and Tan, 2013	Mental accounting and goal setting theory	Guidance frequency (frequent/infrequent) ; Guidance goal (accurate/beat or meet)	Marketing strategy preference and choice	Frequent guiders tend to prefer the marketing strategy with more predictable quarterly earnings (but with lower total expected earnings) than infrequent guiders. Accuracy-goal guiders tend to prefer the marketing strategy with higher predictable quarterly earnings (but with lower total expected earnings) than beat/meet-goal guiders. The difference in preference between guiders with different goals is smaller for frequent guiders than for infrequent guiders.

Note: MEF represents management earnings forecasts

Source: Han (2013) and further updated by the author

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