RedFame

Applied Finance and Accounting
Vol. 10, No. 1, August 2025
ISSN 2374-2410 E-ISSN 2374-2429
Published by Redfame Publishing
URL: http://afa.redfame.com

A Succinct Survey of Informative Perspectives on Financial Analysts

Chi-Keung Man[1]

[1]University of Aberdeen, Aberdeen, United Kingdom

Correspondence: Chi-Keung Man, University of Aberdeen, Aberdeen, United Kingdom. E-mail: ckman34@gmail.com

Received: June 19, 2025 Accepted: July 29, 2025 Available online: August 6, 2025

doi:10.11114/afa.v9i1.7875 URL: https://doi.org/10.11114/afa.v9i1.7875

Abstract

This paper structure is as follows. Because this study investigates the impact of corporate social responsibility measured by disclosures on financial analyst behavior, this paper will review prior literature regarding the role of financial analysts, the demand for financial analyst service, the reasons for financial analysts following a firm, factors affecting analyst forecast properties and the impacts of non-financial and financial information on analyst coverage and forecast properties. This paper's purpose aims to provide some institutional background related to financial analysts so that it can help us later examine the relationship between CSR disclosures and financial analyst behavior in different countries and how that relationship changed after the global financial crisis. This paper provides insights for future research to examine nonfinancial information on analyst behavior.

Keywords: Financial Information, Non-Financial Information, Financial Analysts, Literature Review

1. Introduction

From Katherine Schipper's (1991) perspective, analysts' job is only to provide buy-hold-sale recommendations and generate analysis research reports for gauche general analysts, gauche and unwary users, or weakling investors. Based on her explanation, the analysis research report includes one important piece of information: earning expectation. Katherine Schipper (1991) suggests that the research regarding analysts' earnings forecasts focuses too narrowly on the statistical properties of the forecasts, without considering the full decision context and economic incentives affecting these properties. Analysts engage in the decision process through evaluating, assessing and analyzing information from various sources, including earnings and other financial and non-financial information from SEC filings (e.g. Form 10K, 8K, etc.); corporate proxy statements and annual, semi-annual, and quarterly financial reports; the industry environment, the competitor environment, and macroeconomic conditions such as interest rates and the government-related rules and regulations; corporate conference calls; corporate press releases, corporate news in different media devices; and other management conversations. From analyzing such information, analysts would produce analyst forecasts, target share prices, forecasted corporate financial statements and stock recommendations and also provide qualitative inductive research reports describing corporate prospects. Some large investment banks would even provide qualitative research reports describing industry prospects, such as a juxtaposition of different companies within an industry and market share distribution. Then, investors would use such analyst corporate and industry research reports to make trading decisions, affecting share price and trading volume. On the reverse, many weakling investors are diffident, debonair and flinch to invest into corporations without full disclosure of corporate accounts. The primary contribution of financial analysts is to enhance the efficiency of capital markets. This paper structure is as follows. Because this study investigates the impact of corporate social responsibility measured by disclosures on financial analyst behavior, this paper will review prior literature regarding the role of financial analysts, the demand of financial analyst service, the reasons for financial analysts following a firm, factors affecting analyst forecast properties, and the impacts of non-financial and financial information on analyst coverage and forecast properties. This paper's purpose aims to provide some institutional backgrounds related to financial analysts so that it can help us later examine the relationship between CSR disclosures and financial analyst behavior in different countries and how it relationship changed after the global financial crisis. It is instructive here to succinctly and disintegratively consider four overarching (and progressively more inclusive) perspectives as to the roles of financial analysts and the financial and nonfinancial information pronging on their properties.

2. Financial Analyst backgrounds

2.1 Demand for Financial Analyst Services

Agency theory indicates that when the ownership and management of a firm *are* separated, paradoxical agency problems *are* created and shareholders must pay agency costs[1]. That idea is framed by Shleifer and Vishny (1997), including monitoring costs, to align manager and shareholder interests. A conflict of interests exists because languid and insatiate greed managers seek to expropriate or opportunistically splurge shareholders' funds (e.g., receive excess compensation)[2]. However, managers, but not shareholders, who are less likely to possess the expertise and resources to manage firms, *have* surreptitious or insider information. Firms' managers typically *have* more information about the expected profitability of the firm current and future investments than shareholders, creating information asymmetry that makes it difficult for shareholders to assess firm profitability of investment; shareholders likely prefer to delegate their powers to managers, who in turn operate the firm under company law. In this situation, shareholders would face an incongruous agency problem, that of adverse selection and moral hazard. If shareholders cannot assess firm profitability of investments, they will underprice firms with high profitability and overprice firms with low profitability. Indeed, at the extremity, the whole capital market will be collaterally collapsed by those poisonous and venomous, or rancid apples; the governor connives at such yucky, dreadful, and hazardous behavior deceive or con most of the market markers, including the gullible and sophisticated, taperingly and notoriously corrupting the market efficiency (known as the Lemon problem[3] in Akerlof (1970)). One of the approaches to relent this envenoming problem is for shareholders to rely on corporate disclosure[4] (Kreps, 1990; Ali, Chen, and Radhakrishnan, 2007; Beyer, Cohen and Walther, 2010), thereby more truly reflecting firm value in security markets as investors can pay a fair price for shares (Verrecchia, 1983; Dye, 1986) and deduce capital costs[5] through the reduction of information asymmetry between insiders and outsiders (Berle and Means, 1932)[6]. In this circumstance, loose environmental disclosure rules would be more likely supported by outsiders and opposed by insiders (Fishman and Hagerty, 2003). Accounting information can play this stewardship role[7] to allow capital providers (including shareholders and creditors) to more efficiently monitor the use of capital (Beyer, Cohen and Walther, 2010; Beyer, Cohen and Lys, 2011). Healy and Palepu (2001) conceivably hypothesize that accounting information can impede the efficient allocation of resources in a capital market economy through reduction in information asymmetry (G¨ox and Wagenhofer, 2009). Vociferous opponents slam the firms as more likely to have no full disclosures as they examine the securities market with costly disclosure in which there are positive externalities (i.e., one firm's disclosure can convey information about another firm, especially in the same industry), thus reducing the likelihood of disclosure and disclosure levels. Most importantly, callow investor do not have enough time and resources or the ability to access and evaluate corporate performance, or they possibly lack the knowledge to trudge through understanding detailed financial statements. Thus, it raises the demand for information intermediaries to provide analyses about future performance (Healy and Palepu, 2001). Financial analysts can collect financial and nonfinancial information from public sources, evaluate the current performance of firms that they follow, then make forecasts about their future prospects, and also recommend that investors buy, hold, or sell the stock. Fishman and Hagerty (2003) also suggest that financial analysts can fully process firm disclosures, but investors can merely observe value- relevant information that has already been made, thereby implying that analyst forecasts can play a role in mitigating market inefficiency (Barth and Hutton, 2000; Hong et al., 2000; Abarbanell and Lehavy, 2003; Cohen and Lys, 2003; Zhang, 2008; Lo, 2012). Furthermore, they also conclude mandatory disclosure benefits some investors and benefits also the firms but this results may not fully apply in today's market conditions due to changes in regulatory frameworks. As Livnat and Zhang (2012) state, analysts are an integral part of capital markets, and prior works also find that financial analysts can add value in the capital market since they more timely and deeply embed firm news into their forecasts (Brown and Rozeff, 1978; Brown et al., 1987; Givoly, 1982). Francis et al. (2002) and Frankel et al. (2006) manifest that earnings announcements and equity research are complementing each other. Lang and Lundholm (1996) are affirmative that in addition to individual shareholders, brokers, money managers, and institutional investors also use financial analyst forecasts in making investment decisions, but much financial analyst assessment of corporate performance still depends on corporate provisions since in forecasting future earnings, analysts face the company's economic uncertainties (Lees, 1981)[8]. There is a large amount of evidence indicating that nonfinancial performance measures can be useful in predicting a firm's future earnings. Lees (1981), who studies what information is important for them, finds that the contents in 10-K, annual, and interim stockholder reports, management forecasts (Kramer and Liao, 2012), and interview information from top managers are important for financial analysts in evaluating corporate performance. Therefore, it can be said firm information is not only critical for individual investors but also for financial analysts because financial analysts need to assess such information to make forecasts and recommendations to investors. This encourages me to delve deeper into the matter of how information affects their following and forecast properties.

2.2 Roles of Financial Analysts

Regarding the role of financial analysts in capital markets, clever academic scholars state financial analysts *have* two critical roles in the capital market namely as the information discovery (Ivkovic and Jegadeesh, 2004; Ramnath et al., 2008; Chen et al., 2010) and an information interpretation roles (Francis et al., 2002 and Frankel et al., 2006), Livnat and Zhang (2012) provide more recent evidence to support those roles of them in the security markets. Information-discovery role, financial analysts would acquire private information from the followed companies through attending conference calls (Dyck et al, 2010), interviewing top corporate management, and discussing corporate business partners. Mayew (2013) hypothesizes to conjecture that financial analysts who actively participate in quarterly and annual earnings conference calls by asking senior management questions obviously possess superior private information, which they incorporate into earnings forecasts, even after controlling for financial analysts' characteristics. They would use such private information incorporated in analyst forecasts so that they can predict corporate future earnings and cash flow more accurately than counterparties. In information interpretation role, financial analysts would assess and evaluate corporate publicly released corporate information (e.g. annual reports, social and environmental reports, corporate press releases, and public announcements), or pressure the managers to enhance efforts to increase disclosure and transparency and then incorporate it in their forecasts. Some researchers conjecture that financial analysts as whistleblowers or regulatory watchdogs to unveil and deter any corporate reporting misrepresentation, tunneling of precious corporate assets and misconduct, deceptions, and frauds (i.e. real earnings management techniques via changes in sticky cost structure, R&D investments, and real operational decisions: Irani and Oesch, 2013 or accrual earnings management via manipulation in discretionary accruals: Dechow, 2000; Cohen, 2008) and managers' unethical behavior rather than traditional internal corporate governance and common law shareholding protection (Yu, 2008; Dyck et al, 2010). Earlier studies are inconsistent and even theoretically, propositionally and empirically contradictory to each other. Ivkovic and Jegadeesh (2004) find that markets react more to analyst revisions made before earnings announcements than to those made afterward, implying that the information discovery role—where financial analysts search for corporate information rather than relying solely on annual reports—is better supported because these earlier revisions accurately reflect analysts' acquisition of private information. This finding is subject to the validity of the assumption of whether revisions issued before earnings announcements fully reflect the acquisition of private information by analysts. Their findings may not fully apply in today's market conditions due to changes in regulatory frameworks. However, other information can be released before earnings announcements; thus, this method is rigid and formal and does hardly distinguish between the interpretative and discovery roles, both of which are important in analyst revisions. Livnat and Zhang (2012) provide a richer data set and fixate on a broader range of corporate disclosures from different disclosure vehicles. They find that investors place a higher value on the interpretative ability of analysts, who digest corporate financial and nonfinancial information for general investors (30% higher), who use a proxy of market reactions on the forecast revisions that are issued promptly after corporate information[9], than on their ability to discover private information. Therefore, financial analysts are very important in the capital markets, since they can acquire private information from followed companies through interviewing corporate top management, attending conference calls and murmuring with corporate business partners and interpret corporate public information, thus increasing information efficiency. Further, financial analysts play another important role sharpening the market expectations as many weakling investors are more reliant on their forecasts and recommendations in making investment decisions. For information role of financial analysts, Hilary and Shen (2013) posit that whilst a firm issues a management forecast, analysts who have observed more forecasts from this firm since covering it subsequently improve their forecast accuracy more, and also those can provide timelier earnings forecasts for other (non-issuing) firms in the same industry. Thus, numerous studies in accounting and finance employ consensus forecasts by analysts as a proxy for the market expectations. Besides, recent studies suggest that firms are tremendously concerned about meeting the market expectations, implying that managers also care about the analyst forecasts and recommendations (Bartov et al., 2002; Lopez and Rees, 2002). They may even change their accounting policies, manipulate accruals, opportunistically define non-GAAP earnings[10] and manipulate real activities in order to beat and meet analysts' expectations (Kasznik and Lev, 1995; Bradshaw and Sloan, 2002; Matsumoto, 2002; Abarbanella and Lehavy, 2003; Dechow et al., 2003; Doyle et al., 2003; Bhattacharya et al., 2003; Bowen et al., 2005; Burgstahler and Eames, 2006; Roychowdhury, 2006; Black and Christensen, 2009; Gunny, 2010; Brown et al., 2011; Doyle, Jennings and Soliman, 2013).

2.3 Factors affect Financial Analysts follow a company?

The hither and thither issue of analyst following is actually related to the theoretical literature regarding information demand and supply (Grossman, 1978; Grossman and Stiglitz,1980; Hellwig, 1980; Diamond and Verrecchia,1981; Verrecchia,1982; Admati, 1985; Admati and Pfleiderer, 1986 and Bhushan, 1989), amongst many others. The number of analysts following a firm depends on the extent of demand for financial analyst services for that firm[11] or the number of analysts following a firm can also be viewed as the equilibrium point of both aggregate demand for and

supply of analyst services for that firm. It states that higher demand for analysis service for a company leads to more analysts following that company because they can generate profit from the service. The equilibrium point for financial analysts following a company is where the marginal utility to overall customers equals the marginal cost for the financial analysts providing services. Prior studies find out some corporate characteristics, namely ownership structures, firm size and complexity of business, will affect analysts coverage for a firm, as those factors would affect aggregate demand and aggregate supply for financial analysis services. To name a few, Bhushan (1989b); O'Brien and Bhushan (1990); Brennan and Hughes (1991); Lang and Lundholm (1996); Barth et al. (2001) and Frankel et al. (2006).

The ownership structure of a firm is likely to affect both the aggregate demand for and supply of analyst services. A greater concentration of ownership would suggest a decrease in demand for analyst services from other market participants. Because the demand for analyst services mainly comes from non-insiders, an increase in the percentage of shares held by insiders (i.e. blockholding) will then result in a decline in aggregate demand for analyst services, resulting in lower analyst following. On the contrary, firms with higher institutional holdings are more likely to attract financial analysts to follow (Frankel et al., 2006).

Furthermore, the aggregate demand for analyst services is likely to be an increasing function of firm size that means analysts likely follow large firms, and vice versa. Another reason that larger firms *have* greater analyst following is suggested that those firms can disclose more information to the outside resulting in better information environments, thereby attracting more analysts to make forecasts on those firms due to the lower cost of providing services. Furthermore, for firms with more complex operations, "hoity-toity" investors are likely greater demand for investment advice because they lack such knowledge and expertise. However, more complicated firms will also affect the aggregate supply. For instance, for firms with more business lines, analysts may face higher costs of information acquisition to provide investment analysis and services, resulting in a lower analyst following (Barth et al., 2001; Barron et al., 2002). Then private information is more valuable for firms with higher earnings variability as a measure of information uncertainty because the fact that weakling investors face higher uncertainty with the firms, attracts them to seek analyst advice, and in turn, higher analyst following. Growth firms tend to attract greater analyst following due to investor interest and the potential for future investment banking IPO listings (Barth et al, 2001), resulting in high demand of analyst service and, in turn, high analyst coverage.

2.4 Factors affect analysts forecasting?

Analysts use corporate publicly disclosed information and their private information garnered from the companies they follow with different valuation models, such as dividend discounted, discounted cash flow, and residual income models to forecast corporate future earnings. So, the forecasting process is mainly influenced by corporate information level and quality[12] and analysts' abilities. Firstly, the ownership structure can affect analysts' forecasting abilities because different types of shareholding influence the quality of corporate disclosures, which in turn affects the accuracy of analyst forecasts. Financial analyst forecast accuracy depends on corporate public disclosure quality. That means while corporate information is credible and reliable, analysts can use such credible information to accurately forecast corporate future earnings and target share price. Igan and Pinheiro (2004) provide circumstantial evidence of how insider ownership may affect corporate decisions to manage earnings and, in turn, impact analysts' and institutions' behavior. Corporate characteristics (e.g. firm size, firm structures, number of business lines, and profitability) can also affect the corporate information disclosure level and its quality, influencing analysts to make their forecasts accurate and sporadically provide scattered forecasts. For instance, Lang and Lundholm (1996) document a positive association between firm size and forecast accuracy, indicating that large firms can provide more reliable information for analysts during their forecasting process. This results in analysts having richer information environments, which leads to higher forecast accuracy. Further, for firms with less complex businesses (e.g. fewer numbers of businesses, fewer products), analysts can be more easily to analyze and evaluate company performance, in turn resulting in higher forecast accuracy. However, their results cannot apply today capital market as market behavior has changed over thirty years. Corporate profitability can also affect analyst forecasting; for example, Hwang et al. (1996) and Heflin et al (2003) find that on average analyst forecasts for loss-reporting firms are less accurate than the analysts' forecasts for profit-reporting firms because the information quality of those firms is relatively poor as they are likely engaging earnings management. Eames and Glover (2003) also document that earnings level is closely related to forecast accuracy (e.g. for firms with more persistent earnings, analysts can easily predict corporate future earnings and target share price). Further, Kross et al. (1990) have reported that analysts' earnings forecasts are less accurate for firms with higher non-ephemeral earnings volatility, as they are relatively difficult. Forecast properties may also affect analysts in forecasts. Brown (2001), for example, spitefully quarrels that the forecast horizon can influence forecast accuracy because it is expected that a forecast announced closer to the actual earnings announcement date is more accurate than a forecast announced in the earlier period that mainly resulted from the forecast made by the analyst close to the actual earnings announcement date, which can incorporate more additional information retrieved from firms and other sources (e.g. industry reports, government statistics, etc) (Brown et al, 1987; Brown, Richardson, and Schwager, 1987;

O'Brien and Bhushan, 1990; Brown, 1993).

3. The Impact of Financial Information on Financial Analyst Behavior

3.1 Experimental studies

In earlier studies, a trio of researchers are spotlighting classical qualitative research methods such as interviews, and questionnaires (Bouwman, Fishoff and Firishoff, 1995; Hopkins, Houstons and peters, 2000) to examine what information financial analysts use (Anderson, 1988) and how they incorporate it into their decision-making (Bouwman, Frishoff and Frishkoff, 1995; and Anderson, 1988). Anderson (1988) conducts a distinct experimental study to investigate how professionals utilize such information in screening firms for their IPO investments in an initial stage. They were given the prospectus of a case firm, discussed their solution (investment decision) process, and completed debriefing questionnaires. It can be argued that the information utilized in IPO investment analysis and in second-hand market investment analysis functions differently in the decision process, but both are required to gather, access and evaluate financial information on firm value relative to listed or current stock prices. Therefore, understanding what information financial analysts use and how they often employ the following financial information for IPO investment decisions: sales net income, growth in net income, profit margins and debt levels.

Backer, who interviewed 72 financial analysts, indicates that they need segmental information for their decision-making. Bouwman, Frishkoff and Frishoff (1995) observe the screening of stocks for IPO investments by security analysts and fund managers at the initial stage. These Professionals were given a real set of current NYSE corporate data, including accounting information (e.g. annual reports, 10K, and quarterly reports) and non-accounting information (e.g. proxy statements, S&P stock reports and Wall Street Journal stock information) for their evaluations and selections of firms for investment. The decision process normally involves four stages - familiarization, exploration, scanning, and selection. Bouwman, Frishkoff and Frishkoff find that during the familiarization process, the percentage of financial analysts using sales information, order income statement items, segmental accounting information, balance sheet information, quarterly reports, net income, footnote information, and cash flows were 11%, 11%, 8%, 7%, 4%, 2%, 2%, and 1%, respectively. During the exploration process, the most frequently used information was that of segmental accounting and balance sheets, which equaled 16% and 8%, respectively. During the scanning process, 17%, 9%, 7% and 7% of financial analysts indicated they used footnotes, cash flows, other income statement items and quarterly information, respectively. To sum up all four stages, the most frequently used information was segmental and the least frequently used information was net income. This finding has two implications. First, financial information is useful for financial analysts' decision-making. Second, the claim of researchers that net income is very useful is not supported by the evidence. Furthermore, most financial reports present different corporate financial ratios. Researchers also find that analysts are more likely to use performance ratios, including profit margins, returns on assets and returns on equity, than liquidity, leverage, and turnover ratios, which suggests that they focus more on firm performance than firm liquidity. In the final stage of their investment decision-making process, they are more prone to employ balance sheets, segmental accounting information, quarterly information and other income statement items to support and justify their investment choices[13]. Hopkins (1996), Hopkins et al (2000) and Hirst et al. (2004) provide the analogy of the experimental evidence with that classification of accounting items, accounting method choices and items recognized in financial statements or disclosed in footnotes can also influence analysts' judgement. However, Ramnath, Rock, and Shane (2008) argue this approach is limited in its ability to look into the analysts' actual decision process.

The empirical study of the influence of financial information on financial analysts can be traced back to Lev and Thiagarajan's (1993), which includes 12 different components of financial statements-change in unexpected inventory[14], unexpected accounts receivable[15], capital expenditures, gross profit, allowance for doubtful debts, various expenses, effective tax rate order backlog, labor force[16], adoption of LIFO and audit opinion[17] – in a regression with stock returns. They find that all components, except for the adoption of LIFO and audit opinion, align with predictions in an unconditional/non-contextual model, indicating that analysts utilize this financial information in their decision-making processes. However, after controlling for the macroeconomic environment, which includes changes in the CPI and variables such as capital expenditure and labor force, they find that the results show only a 10% level of statistical insignificance within the same confidence interval. Therefore, according to this article, financial information actually influences the behavior of financial analysts and, in turn affects capital markets In terms of the overall effect on the perception of investors, researchers assign a value of 1 for a positive signal on earnings (bad news) and 0 for a negative signal on earnings (bad news) for each of the above 12 variables; they then aggregate all into 5 groups and each group is regressed with return-earnings (Earnings Persistence) so as to examine the usefulness of disclosures and to what extent current earnings can predict future earnings. They document that firms with higher overall scores have higher earnings response coefficients, suggesting that such firms enjoy positive abnormal returns. In addition, markets may respond more strongly to firms with higher overall scores, implying that analysts consider

different items in financial statements and that such information affects capital markets[18].

3.2. Analyst Coverage[19]

Expanded financial disclosures can potentially enable financial analysts to provide more valuable information, such as superior forecasts, thus increasing demands for their services and, in turn, greater analyst following (i.e. large numbers of analysts to follow that firm) (Healy and Palepu, 2001). Bhushan (1989a, b) and Lang and Lundholm (1996) show that increased disclosure levels lower the cost of information acquisition for financial analysts and hence increase their supply of analytical information, thereby increasing analyst coverage. Lang and Lundholm (1993) conclude that firms with more informative financial disclosures have larger analyst coverage. Weiss (2010) provides theoretical conjecture on financial and management accounting by linking the cost structures of firms to the impact on analyst coverage. The researcher classifies cost behavior[20] into sticky cost and anti-sticky cost, suggesting that firms with stickier cost[21]have more volatile future earnings (after controlling for the amount of available firm-specific information) and the inherent uncertainty in the operational environment[22], resulting in lower analyst coverage because their earnings are less predictable for analysts. Ali et al. (2005) utilize industry concentration as a proxy for disclosure and conclude that firms in more concentrated industries (implying a lower disclosure level) have fewer analysts to follow. Both the U.S. and international studies find a positive relationship between analyst following and the extent of corporate financial disclosures. Lang and Lundholm (1996) and Ali et al. (2005) document this relationship in the U.S. and Eng and Teo (2000) document it for Singapore firms. Furthermore, using a global sample, Hope (2003c) demonstrates that analyst following is positively correlated with the extent of annual report disclosures in annual reports. Lang et al. (2003) reveal that non-U.S. companies cross-listed on U.S. exchanges (proxy for better disclosure quality) have greater analyst coverage than non-U.S. companies not cross-listed (proxy for vague and gloomier disclosure quality) due to the superior information environment of cross-listed companies. In a similar tendency, analysts are more likely to follow a firm when insider trading is restricted since it can encourage firms to provide more public information (Bushman, Piotroski, and Smith, 2005). Collectively, prior research suggests that analysts have more incentives to follow firms that decide to disclose financial information or firms with the tendency to disclose more financial information. What is more, the quality of financial reporting is also an important factor in determining the usefulness of information for financial analysts (Lang and Lundholm, 1996; Williams, 1996; Healy et al., 1999), in turn influencing analyst follow-up. Additionally, previous studies indicate that the quality of a firm's financial disclosures is the most significant factor in attracting analysts to follow those firms (Botosan and Harris, 2000). Characteristics of the analysts following the firm also appear to be associated with the quality of the firm's disclosures. In summary, analysts are more likely to follow firms that provide financial disclosures, increase their financial disclosures, or have higher quality financial disclosure. Since CSR activities can influence the firms' revenue, expenses and earnings (e.g. engaging employee right protection and enhancing employee relations can increase their productivity and in turn foster firm performance), it can be expected that analysts are more likely to use CSR disclosures supplemented with financial information in their forecasting process (i.e. increase in forecast coverage).

3.3 Forecast Properties

Expanded financial disclosures can potentially enable financial analysts to provide more valuable information, such as superior forecasts, Lang and Lundholm (1996) conclude that companies with more financial disclosures exhibit higher forecast accuracy, lower forecast dispersion, and less volatility in forecast revisions. They, who utilize another proxy for corporate disclosure policy, namely, the report of the Financial Analysts Federation Corporate Information Committee, find that firms with increased financial disclosure have less dispersion in analyst forecasts[23]; when the latter place the same weight on private information in earnings[24]forecasting, they have fewer forecast errors[25] and less volatility in forecast revisions[26]. Piotroski (1999) evinced that the expanded financial disclosure is positively associated with analysts' forecast accuracy and a decline in dispersion. Moreover, financial analysts tend to revise their forecasts in response to information reflected in management's forecasts, which include much predicted financial information such as future earnings, cash flow, and dividends (see Hassell et al., 1988). Ali et al. (2005) utilize the industry concentration as a proxy for the extent of financial disclosure and observe that firms in more concentrated industries (less financial disclosure) have higher dispersion in analysts' forecasts, lower forecast accuracy, and higher volatility in forecast revisions. Eng and Teo (2000) document that the level of annual report disclosures is positively related to analyst forecast accuracy and negatively related to forecast dispersion in Singapore. Using a cross-country sample, Hope (2003c) finds a positive correlation between analyst forecast accuracy and the level of annual report disclosure. A recent highly regarded paper by Fu, Kraft, and Zhang (2012) investigates how increased disclosures affect analysts. They conclude that increased frequency of interim financial reporting can encourage fair and efficient resource allocation as well as reduce information asymmetry. Financial analysts likely benefit from these changes because more public disclosures can reduce their need to acquire private information (Diamond, 1985; Bushman, 1991; Lundholm, 1991; Leuz and Verrecchia, 2000). Thereby, due to fewer private information withheld by management and less private information acquisitions by analysts, it can reduce forecast dispersions among analysts.

Although more information disclosed to the public can reduce forecast dispersions, other researchers emblazon that sophisticated analysts still have incentives to acquire more private information from corporations because they have more opportunities to profit from private information acquisitions. Information transparency could increase information asymmetry due to more private information acquisitions by analysts. Gigler and Hemmer (1998) also strongly argue that increased mandatory disclosures may actually lead to a reduction in voluntary disclosures. Therefore, it is uncertain whether increasing the level of disclosure can reduce forecast dispersions. Prior research shows that more frequent reports can both encourage and discourage information production by financial analysts (Bhushan, 1989a, 1989b; Lang and Lundholm, 1993; Healy and Palepu, 2001). On the one hand, if firms increase their disclosure levels and analysts acquire more private information from them, this can lead to greater forecast dispersions among analysts. On the other hand, as other savants (Diamond, 1985; Bushman, 1991; Lundholm, 1991; Leuz and Verrecchia, 2000) suggested, it is also likely to reduce forecast dispersions when the firms increase their disclosure levels. Thus, the effect of increased disclosure levels on forecast dispersions is uncertain. Other studies document evidence of the usefulness of corporate financial disclosures (disclosure quality) to analyst forecasts (Brown, 1993). This paper provides consistent evidence that the quality of disclosures can benefit analysts, who utilize them in the forecasting process[27].Hence, these prior works are critical for this research because all of them can justify that financial information affects analyst forecast properties. Due to CSR activities possibly influencing firm profitability performance (e.g. engaging employee right protection and enhancing employee relations can increase their productivity and in turn impetus to firm performance), it can be expected that analysts are likely to use CSR disclosures supplemented with financial information in their forecasting process, in turn influencing forecast accuracy and dispersions.

Some researchers seek to examine the impact of individual items such as revenue, expenses, and earnings in the financial statements on analyst forecast properties. Regarding revenues, Ertimur et al. (2003) and Ghosh et al. (2005) evince that revenues are more difficult to be manipulated than expenses; thus, revenue information is more informative for analysts in forecasting. Jegadeesh and Livnat (2006) also argue that a change in earnings is driven by a change in revenue rather than by a change in expense. Revenue information is more useful for analysts because earnings are more persistent and easier to predict. These classical scholars provide consistent evidence that analysts are more likely to use revenue information, since they consider revenue surprise [28] (change in revenue) in their forecasting process, controlling for earnings surprise. Their Pearson correlation results indicate that compared with value-firms, earnings surprises for growth-firms are less correlated with revenue surprises. Regarding the incremental effect of revenue surprise on analyst forecasts, the magnitude of change is utilized by analysts in forecast revisions[29]; the coefficients are positive and statistically significant for both growth firms and value firms, implying that analysts revise their previous forecasts after receiving firm revenue information. With regard to the relation between the forecast errors and revenue surprise in growth, value, teensy-weensy and bewether firms, a positive relation exists for both at the 1% significance level in all types of firms, thereby suggesting that analysts consider such information.

Weiss (2010) offers an entirely novel view of financial and management accounting by linking the cost structures of firms to the impact on analyst forecasts. Cost behaviors are actually related to current and future earnings of corporations, making it easier for financial analysts to forecast future earnings. The researcher classifies cost behaviour[30] into sticky cost and anti-sticky cost, suggesting that firms with stickier cost[31]have more volatile future earnings and less forecast accuracy and dispersions because their earnings are less predictable for analysts. Thus, the researchers continue to examine how this cost behavior information[32] affects financial analyst forecasts. They document that for firms with total sticky costs--the cost of goods sold, sticky cost and selling, and administrative and general sticky costs--analyst forecast accuracy is less significant than for firms with all types of anti-sticky costs in all model specifications. Scholars conclude that firms with different cost behavior can influence analyst forecast accuracy and dispersions.

Analysts' earnings forecasts usually rely more on disaggregated information. One of the most commonly used sources of information is earnings (Previts et al., 1994; Lang and Lundholm, 1996; Bowen et al., 2002). Earnings information is widely discussed in earlier studies. Jegadeesh and Livnat (2006) provide evidence of the relationship between earnings surprise and future forecast accuracy and revisions. They conclude that the degree of earnings surprise is positively associated with the extent of forecast revisions in different time periods for small, giant[33], value, and growth firms, implying that analysts incorporate earnings information during the forecast revision process. Furthermore. They document that the coefficients of earnings surprises are larger than those of revenue surprises in all testing periods (for instance, in all sample firms, coefficients for earnings surprises are 0.0681, 0.0503, 0.0396, and 0.05, larger than coefficients for revenue surprises (0.0268, 0.0217, 0.0155, and 0.0207) at one-quarter, two-quarter, three-quarter and four-quarter ahead forecast horizons, respectively). Furthermore, the impact of earnings surprises is more statistically significant than that of revenue surprises in all sample groups (e.g. in the two-year quarter-ahead horizon, the impact of earnings surprise on forecast revision is 1% significant, whereas the effect of revenue surprise on forecast revision is

only 5% significant), suggesting that earnings information is more useful for analyst in forecasting future earnings than revenue information. Regarding the relation between analyst forecast errors and earnings information, Jegadeesh and Livnat (2006) examine whether earnings surprise (change in earnings just as a blip) is incorporated in future analyst forecasts. If analysts cast this information down, the coefficient of earnings surprise on forecast errors will drop to nearly zero. If the coefficient is positive and significant, it means analysts are more likely to delay incorporating this information in their forecasts, resulting in forecast errors. They find that earnings surprise is statistically positive[34] and associated with forecast errors for full samples and all subsamples, implying that analysts consider such information. This finding is indicative of the concept of "incandescence" because it aligns with the findings of Elgers and Lo (1994). In conclusion, analysts consider and incorporate financial information about revenues, costs, and earnings in their forecasts. These prior works are very critical for my research because all of them can justify that financial information affects analyst forecast properties. Due to CSR activities possibly influencing firm revenue, expenses and earnings, it can be expected that analysts are likely to use CSR disclosures supplemented with financial information in their forecasting process, in turn influencing forecast accuracy and dispersions. The next section will get a glimpse of some empirical evidence on nonfinancial information-financial analyst behavior relation.

4. The Impact of Non-financial Information on Financial Analyst Behaviour

4.1 Experimental studies

Anderson (1988) reveals that professionals more often use non-financial information in evaluating firm performance, including product lines, competition, customer size, customer type, and market conditions. Boueman, Frishkoff and Frishkoff (1995) also provide evidence of how non-financial information has utility for financial analysts. When analysts consider corporations for investments, they are more likely to use general company, segmental, and stock information in their decision process; these sources represent 10%, 9% and 7% of their observations, respectively. In the reasoning stage of investment decisions, they are more prone to employ general company and general segmental information, management projects, corporate stock prices and overall economic data to support and justify their investment choices[35]. Furthermore, in their research, 42% of analysts requested that researchers provide more prospective segmental accounting information, especially specific products for each segment – technology, nature of competition, expected segment sales and planned capital expenditure – for decision-making, implying that they are not satisfied with the information provided by management. Instead, they want additional information and prefer to interpret it themselves.

4.2 Analyst Coverage

Lang and Lundholm (1996) suggest that one of the potential benefits from the increased disclosure level includes increased investor following. Lang and Lundholm (1993) find that firms with more informative disclosures have larger analyst followings. In addition, Francis et al. (1998) find that there is an increase in analyst coverage for firms making conference calls (one of non-financial information disclosures). Eccles et al. (2001) report that 75% of financial analysts agree that firms' increased disclosure levels increase analyst coverage. Hope (2003c) reports that analyst coverage is highly associated with the extent of note disclosure. In summary, based on the empirical evidence presented above, analysts are more likely to follow firms that disclose non-financial information and increase their overall disclosure levels. Due to CSR disclosure also being one type of non-financial information, it can be expected that analysts are likely to use CSR disclosures supplemented with financial information in their forecasting process, in turn increasing forecast coverage.

4.3 Forecast Properties

The decision to disclose non-financial information can also influence the analyst's forecast properties. For instance, Rajgopal et al. (2003) find that financial analysts fully incorporate the implications of order backlog into their earnings forecasts and therefore suggest that order backlog, as a non-financial disclosure, is value relevant to financial analysts. Vanstraelen et al. (2003) find that higher levels of forward-looking non-financial disclosures are associated with lower dispersion and higher accuracy in financial analysts' earnings forecasts. The study that has specifically documented the impact of the governance disclosure decision (one of the non-financial disclosures) on analyst forecast properties is Bhat et al. (2006), who find that governance disclosure is positively associated with analyst forecast accuracy incremental to transparency. Jones (2007) provides circumstantial evidence that research and development information can reduce analysts' forecast accuracy but not forecast dispersion. Dhaliwal et al. (2012) also provide evidence that if firms decide to disclose stand-alone CSR information, such information can help analysts to predict future three-year earnings with current earnings. However, in additional tests, some countries do not show consistent evidence (or even contradict each other)[36]. I spitefully criticize that this may be affected by the biased database of I/B/E/S. Alas, they have not controlled this factor in their regressions. So, their results are not valid. Furthermore, Dhaliwal, Radhakrishnan, Tsang, and Yang (2012) do not fully examine the impact of CSR disclosures on financial analyst behavior and they ignore the inherently potentially obnoxious problem of the biased IBES database. To sum up, non-financial disclosure

decisions likely affect analyst forecasts in terms of accuracy, dispersions and revisions. Due to CSR disclosure also being a type of non-financial information, it can be expected that the CSR disclosure decision may also influence the analyst forecast properties.

As indicated, Lang and Lundholm (1996) examine the relationship between the level of disclosures and forecast errors and dispersion. They measure disclosure level by the FAF report, which discloses the rating of the firm's disclosure level rated by financial analysts. Juxtaposed with Lang and Lundholm (1996), Barron, Kile and O'Keefe (1999) use a proxy of MD&A level ratings from the SEC. It seems that the disclosure quality ratings of the SEC are more important than those of financial analysts, since LL's research (1996) uses the degree of disclosure compliance with analyst standards, which differ from those of the SEC[37], to measure disclosure quality. Their findings are consistent with those of Clarkson, Kao, and Richardson's (1999), who demonstrate that the level of forward-looking information in MD&A is the most important for financial analysts; it affects their forecast accuracy and forecast dispersions. They then classify 18 MD&A disclosure items into five different categories, including liquidity, capital resources, operational results, and regress these variables with dependent variables after controlling for firm-specific information environment variables[38].Overall, they find that firms with higher MD&A overall ratings can significantly reduce dispersions in financial analyst forecasts[39]. Meanwhile, they regroup 18 components corralled into three historical subcomponents and three forward-looking operational subcomponents, capital expenditures, and liquidity. Except for historical and forward-looking liquidity components, other MD&A components are likely to improve the analyst' forecast dispersion. In an additional test, only components of forward-looking capital expenditures, historical capital expenditures, and forward-looking operations were negatively associated with forecast dispersions[40]. This result provides evidence that the non-financial disclosure level, especially having forward-looking content, can influence financial analyst behavior. CSR disclosures can also reveal certain forward-looking information like MD&A (e.g. future environment costs (Stevens, 1984), future potential product recall costs, and potential costs arising from consumers' legal actions). With regard to the determination of analyst forecasts, Aerts and Cormier (2009) observe that environmental disclosure level is negatively associated with analysts' forecast dispersion both in continental Europe and in North America. Therefore, it can encourage analysts to use CSR information supplemented with accounting information to forecast future earnings, in turn increasing analyst forecast accuracy and reducing dispersions. One recent study uses a proxy of corporate social responsibility disclosures for the non-financial information of firms to examine the relation between such information and analyst forecast accuracy (Dhaliwal, Radhakrishnan, Tsang, and Yang, 2012)[41]. They make a proxy of firms disclosing CSR for the increased disclosure level to examine this effect on analyst forecast errors. This study finds that firms issuing stand-alone CSR, especially in stakeholder-oriented countries, can incrementally reduce analyst forecast errors[42], after controlling for firm-specific transparency and other institutional factors[43].In short, the increase in non-financial disclosure level also likely affects analyst forecasts in terms of accuracy, dispersions and revisions. . These prior works are very critical for my research as all of them can justify that the non-financial disclosure level affects analyst forecast properties. Due to CSR disclosure also being a type of non-financial information, it can be expected that the increased CSR disclosures can also influence the analyst forecast properties.

5. Private Information and Financial Analyst Behaviour

Beyond earnings announcements, 10-Qs, 8-Ks, and key development events, a financial analyst can access corporate information through earnings-related conference calls. Bowen et al. (2002) provide evidence that earnings-related conference calls offer new information[44] for investors. Therefore, they hypothesize that when firms use conference calls, forecast dispersions can be reduced and forecast accuracy can be increased after earnings are released. These changes persist to the next earnings announcement quarter. For the past several decades, more and more corporations have employed conference calls. According to the National Investor Relation Institute, 517 of 530 firm respondents (98%) have used conference calls[45] for their earnings announcements. Approximately 15% of firms host a conference call within nine days of earnings announcements in the 1995 – 1998 quarters (Brown et al, 2002). In cross-sectional regression, firms utilizing conference calls significantly reduce analyst forecast errors[46], both short term and long term. From this result, researchers infer that firms hosting conference calls are more likely to provide new information to financial analysts, thereby slashing forecast errors[47].

6. Online Reporting and Financial Analysts

In recent decades, the SEC has either encouraged or required that listed firms disclose more financial and non-financial information on the internet. One of the important regulations is entitled "Interactive Data to improve Financial Reporting" (SEC Final Rule, Release No. 33-9002[48]); it requires public companies and foreign private insurers to provide their financial and non-financial information, including periodic and current reports, transition reports, registration statements, as well as Form 8-K or Form 6-k, to the SEC and to post this information on their firm websites in an interactive data format, using eXtensible Business Reporting Language (XBRL). By doing so, the SEC

thinks it can improve the usefulness of financial information for investors. This interactive data format allows investors and financial analysts to more easily analyze corporate performance because of timely information release due to significantly reduced information processing and digesting costs compared to the traditional disclosure approaches (Peng, 2005; Li et al, 2012) and more usable and more accurate information and likely more financial analysts following, especially in the phase I adoption of the eXtensible Business Reporting Language (XBRL) (Liu et al, 2014). Furthermore, this interactive data forecast allows corporations to reduce their preparation cost of such information. Adoption of XBRL can reduce the information processing costs of financial analysts because different corporations prepare their financial information in the same interactive forecast, making it simpler for financial analysts to analyze and compare performance among firms. In turn, it can reduce the delay of incorporating information into stock prices. Furthermore, it can also diminish uncertainty for investors, thereby reducing the firm cost of capital (Sims[49] 2006; Li, Lin ,and Ni, 2012) and improve market awareness of the firm's latest information (Li et al, 2012). L, Lin and Ni (2012)[50] provide additional evidence that firms that have adopted XBRL can lessen information processing costs for financial analysts, resulting in a larger financial analyst following[51]. It can also mitigate the informational asymmetry of the market participants, thus reducing the cost of capital[52]. Meanwhile, these scholars also examine how the adoption of XBRL for disclosure affects financial analysts behavior, including coverage, forecast accuracy and forecast dispersions[53]. They find that firms that use XBRL significantly increase analyst coverage, reduce forecast errors and decrease forecast dispersion. Therefore, how to disclose information to financial analysts can influence their forecasts, dispersions and stock recommendations.

7. Readability of Information and Financial Analyst Behavior

As previously mentioned, many scholars have investigated the impact of firm information on financial analyst behavior. Before that, many scholars had already investigated the complementary relationship between financial statement complexity and voluntary disclosures, suggesting that firms adopting more convoluted financial statement standards will increase the high-velocity information environment, and firms will migrate this uncertainty, most likely by voluntarily disclosing other information (Lang and Stice-Lawrence, 2015; Guay et al, 2016). However, Hirshleifer and Teoh (2003) affirm that financial analysts and other professionals possess bounded rationality because they have limited cognitive abilities and cannot consider all available information (Casey, 1980 and Simnett, 1996). These observations explain why the capital market reflects post-earnings announcement drifts. Thus, except for information content itself, other reasons explain the lesser information content of firm disclosures. One factor is the readability of reports. Many scholars hypothesize that the extent of readability of annual reports can undermine or overmine the analysts' cognitive dissonance of financial disseminating processes such as the degree of financial analysts' following and forecast properties (Lehavy, Li, and Merkley, 2011; Lawrence, 2013; Loughran and McDonald, 2014). some comprehensive totality of evidence of how the analysts' following, forecast accuracy and dispersion and market reactions are susceptible to the complexity of languages used and context coherence flowing in financial information. Coherence emphasizes the structural organization of succinct sentences, idea flows, and the dependency of sentences on previous sentences. First, it seems investors are vexatious and suffering from the utility loss arising from the increasing cost of disseminating information that results from the low readability of financial information and tendency to seek more information through various channels, one of which is professional services, namely brokerage advice produced by qualified sales-side financial analysts but nonetheless, financial analysts are also vulnerable from the poor readability (e.g. difficult words, more complex syntactic, length of sentences) of such information, increasing the cost of processing information and the cost of seeking private information, and then impounded in analysts' forecast accuracy and those forecasts are likely unevenly scattered and dispersed (Hong and Kubik, 2003; Li et al, 2009) but the influential effect seems idiosyncratic arising from variation of cognitive dissonance of personals and environmental uncertainty (Barron et al, 1998). Lee (2012)[54] and Li (2008)[55] indicate that PEAD may result from the lesser readability[56] of reports. According to Bloomfield's (2002) incomplete revelation hypothesis, investors analyze information until the equilibrium point of the return and cost of analyzing data. Because the murky readability of reports can increase the cost of analyzing data for financial analysts, it is likely to influence them in forecasting future earnings. Readability analysis is writingly emanating from 90's in language and linguistics journals and many research works continue working and extend the analysis of readability to nonfinancial reports and narrative information in annual reports or other communication vehicles in contexts. Li and Merkley (2011) testify that more sell sides of financial analysts to disseminate and produce intermediate reports follow those firms with better readability of form 10-Ks, suggesting the readability seems add-on the analysts' analysis of the opacity of the financial reports. Hwang and Kim (2016) provide more fascinating research to find out that the higher readability of financial reports can undermine the Tobin-Q firm valuation ratios and also to estimate that a one-minor-standard- deviation decrease in readability of financial reports can shed light on the firm value by roughly 2.5% or maybe indirectly through sales-side or buy-side financial analysts before, not to mention their another important result of the add-on effect of more reliant-report investors. Lee finds that for firms with long quarterly reports or those with textual complexity, earnings information is

less reflected in share price during three-day 10-Q filings. Furthermore, in subsequent tests, it provides evidence that firms with poor 10-Q readability are adversely influenced by financial analyst' forecasts[57]. However, the impact of poor readability is less pronounced for financial analysts than other investors[58]. Li (2008) also finds that poor readability and longer reports are linked to low earnings persistence, suggesting that earnings become less useful for analysts in forecasting future earnings due to the limited readability of these reports.

8. Others

One recent study uses a proxy of corporate social responsibility for the non-financial information of firms to examine the relationship between such information and analysts forecast accuracy (Dhaliwal, Radhakrishnan, Tsang and Yang, 2012)[59]. This study finds that firms issuing stand-alone CSR, especially in stakeholder-oriented countries, can incrementally reduce analyst forecast errors[60], after controlling for firm-specific transparency and other institutional factors[61]. They also provide evidence that if firms disclose stand-alone CSR, they help analysts to predict future three-year earnings with current earnings, i.e. CSR disclosure is more informative for investors[62]. However, in additional tests, some countries do not show consistent evidence (they even contradict each other)[63]. Future research can investigate the reasons for the differential impact of firm CSR disclosures on analyst forecast errors. Recently, more and more customers are concerned with environmental issues. When they buy products, they are more likely to look at their effect on the environment. Meanwhile, a firm's performance is highly dependent on such products; these CSR are useful information for financial analysts to predict future firm financial performance. More importantly, firms that implement stand-alone CSR initiatives are more likely to achieve higher firm value by reducing risk and lowering the cost of capital (Plumlee et al. 2008; Dhaliwal et al, 2011). The improved reputation of CSR disclosures can induce more positive media coverage, thereby generating sales. Those analysts are likely to use this type of non-financial information in their decision-making. However, Dhaliwal, Radhakrishnan, Tsang and Yang (2012) do not fully examine the impact of stand-alone CSR on financial analyst behavior. Therefore, my paper delves more deeply into this area and especially into analyst forecast dispersion, coverage, and forecast revision, since Dhaliwal et al (2012) have not investigated these areas. Hwang, Liberti and Strurgess (2017) engage in niche (in- house)-analysis of broker-dealer reaction to M&A informativeness that is the within-brokerage financial analysts who cover the acquirer firms but not the target (type 1 financial analysts), compared with the forecast accuracy reaction after the post-M&A announcement for the brokerage financial analysts who cover the acquirer firms but do the target within the same brokerage house (type II). Type III analysts are those who cover prior M&A announcements. They utilize a two-year window time period within which the most recent quarter's earnings forecast minus the actual quarter earnings forecast before quarter earnings announcement has been used to estimate the forecast accuracy. They find out the brokerage's institutional factors can influence the forecast accuracy of financial analysts (i.e. the group of financial analysts who the cover acquirer and target) and that they perform better than the group of financial analysts who cover the acquirer but not the target.

9. Estimation of Analysts' Coverage and Analysts Properties

Analyst following is frequently used to proxy for the informativeness of a firm's information environment (Walther 1997; Ayers and Freeman 2003). The prior studies commonly use the following standardized measurements (e.g. Bhushan, 1989b ; Rock, Sedo and Willenborg, 2001; Afshad J. Irani and Karamanou, 2003) to compute Analyst Coverage, including the number of financial analysts using the one-year-ahead/one-quarter-ahead the most recent EPS forecast for a firm at year a period starting any time frame before any event occurred. Numerous studies examine the determinants of forecast dispersions or the impact of different concerned variables on the forecast dispersions by analysts (e.g. Lang and Lundholm., 1996; Ang and Ciccone, S., 2001; Cooper et al., 2001; Irani and Karamanou, 2003; Byard and Shaw., 2003; Hope, O. K., 2003; Agrawal et al., 2006; Kross and Suk, 2012; Kramer and Liao., 2012; Behn, Choi and Kang, 2008). Most of the prior studies commonly use standardized approaches to measure the forecasts scattering, including Natural log or without natural log of analyst forecast dispersion estimated as the standard deviation of analysts' one-year-ahead/ quarter the most recent EPS forecasts for a firm at any time frame before any events occurred, then scaled by the share price at the beginning of the period or scaled by the mean of value of EPS forecast dispersion. Forecast Accuracy is one of the most important aspects of analyst forecast performance. Further, numerous studies examine the determinants of forecast accuracy or the impact of different concerned variables on the forecast accuracy (e.g. Chaney, Hogan and Jeter, 1999; Gu and Wu, 2003). Most of the prior studies commonly use standardized approaches to measure the forecasts scattering, including the absolute value or natural log of the individual analyst's the most recent earnings forecast using one-year-ahead/ the a quarter the most recent EPS forecast for a period starting a year/ a quarter before any events occurred and minus the mean of EPS forecasts, scaled by the mean of EPS forecasts or scaled by the price at the beginning the period for a firm.

10. Analyst Forecasts of Market Reactions

As mentioned above, analysts provide information to investors to help them make decisions. Some prior research provides evidence that the market reacts to analyst forecasts. Kothari (2001) states that investors consider analyst forecasts when they make investors decisions, implying that they are likely to use analyst earnings forecasts in different valuation models because they may not have the knowledge or resources to accurately forecast future firm earnings. For instance, Fama and Miller (1972) that, with some adjustments, forecasted earnings can be used as a proxy for future cash flow in the discounted cash flow model to predict firm values. Furthermore, for the residual earnings model, firm value is computed through book value, adding discounted residual earnings (i.e. discounted from the forecasted earnings minus normal earnings), including that forecasts are easily available in the market[64] and more accurate than self-prediction (Ohlson, 1995; Feltham and Ohlson, 1995). Therefore, markets react to the announcement of analyst earnings forecasts[65]. Many prior studies already provide evidence to support the contention that analyst forecasts affect stock prices (Francis and Soffer, 1997; Lys and Sohn, 1990). Welker (1995) and Healy et al. (1999) document that such forecasts as a proxy for firm private information can significantly reduce the bid-ask spread. Abarbanell and Bernard (1992) demonstrate that markets underreact to analysts forecasts because analysts underreact to earnings information provided by management, resulting in post-earnings announcement drifts. What is more, improvement in the information environment by financial analysts can reduce the corporate cost of capital (Li, 2010).

11. Conclusion

Interpreting corporate information, discovering corporate private information, and applying valuation models to determine security price is a very onerous task. Analysts may fudge this obstinate problem by collecting relevant corporate financial and non-financial information, industry data, and macroeconomic conditions that may influence corporate future prospects; evaluating such data; analyzing such data to provide some analysis research outputs, such earning forecasts, target share price, forecasted financial statements, and stock recommendations with qualitative reports describing corporate prospects. Financial information such as periodic financial reports and industry data and non-financial information such as conference calls, CSR reports, MD&A, chairman reports and press news can affect financial analyst coverage and analyst forecast properties, including accuracy, dispersion, revisions, and recommendations. Overall, companies that maintain a high level of disclosure and quality are likely to attract analyst attention because they provide more reliable information, achieve higher forecast accuracy due to a richer information environment, experience lower forecast dispersion among analysts, and require fewer revisions.

Acknowledgments

Not applicable

Authors contributions

Dr. Man Chi Keung was responsible for the study design and revisions.

Funding

Not applicable

Competing interests

The author declares that i have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Abarbanell, J., & Bernard, V. L. (1992). Tests of analysts' overreaction/underreaction to earnings information as an explanation for anomalous stock price behavior. *The Journal of Finance, 47*(3), 1181–1207. https://doi.org/10.2307/2328960

Abarbanell, J., & Lehavy, R. (2003). Biased forecasts or biased earnings? The role of reported earnings in explaining apparent bias and over/underreaction in analysts' earnings forecasts. *Journal of Accounting and Economics, 36*(1–3), 105–146. https://doi.org/10.1016/j.jacceco.2003.10.002

Admati, A. R. (1985). A noisy rational expectations equilibrium for multi-asset securities markets. *Econometrica, 53*(3), 629–657. https://doi.org/10.2307/1911660

Admati, A. R., & Pfleiderer, P. (1986). A monopolistic market for information. *Journal of Economic Theory, 39*(2), 400–438. https://doi.org/10.1016/0022-0531(86)90035-1

Aerts, W., & Cormier, D. (2009). Media legitimacy and corporate environmental communication. *Accounting, Organizations and Society, 34*(1), 1–27. https://doi.org/10.1016/j.aos.2007.11.002

Irani, A. J., & Karamanou, I. (2003). Regulation Fair Disclosure, analyst following, and analyst forecast dispersion. *Accounting Horizons, 17*(1), 15–29. https://doi.org/10.2308/acch.2003.17.1.15

Agrawal, A., Chadha, S., & Chen, M. (2006). Who is afraid of Reg FD? The behavior and performance of sell-side analysts following the SEC's Fair Disclosure rules. *The Journal of Business, 79*(6), 2811–2834. https://doi.org/10.1086/507112

Akerlof, G. A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics, 84*(3), 488–500. https://doi.org/10.2307/1879431

Ali, A., Klasa, S., & Yeung, E. (2005). *Industry concentration, analysts' earnings forecasts and bid-ask spread* (Working Paper). The University of Texas at Dallas.

Ali, A., Chen, T.-Y., & Radhakrishnan, S. (2007). Corporate disclosure by family firms. *Journal of Accounting and Economics, 44*(1–2), 238–286. https://doi.org/10.1016/j.jacceco.2007.01.001

Anderson, M. J. (1988). A comparative analysis of information search and evaluation behaviour of professional and non-professional financial analysts. *Accounting, Organizations and Society, 13*(5), 431–446. https://doi.org/10.1016/0361-3682(88)90002-9

Ang, J. S., & Ciccone, S. (2001). *International differences in analyst forecast properties* (Working Paper). Florida State University.

Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics, 50*(2–3), 296–343. https://doi.org/10.1016/j.jacceco.2010.08.001

Ayers, B. C., & Freeman, R. N. (2003). Evidence that analyst following and institutional ownership accelerate the pricing of future earnings. *Review of Accounting Studies, 8*(1), 47–67. https://doi.org/10.1023/A:1023900414994

Barron, O. E., Byard, D., Kile, C. A., & Riedl, E. J. (2002). High-technology intangibles and analysts' forecasts. *Journal of Accounting Research, 40*(2), 289–312. https://doi.org/10.1111/1475-679X.00042

Barron, O. E., Byard, D., Kim, O., & Stevens, D. E. (1998). Using analysts' forecasts to measure properties of analysts' information environment. *The Accounting Review, 73*(4), 421–433.

Barron, O. E., Kile, C. A., & O'Keefe, T. B. (1999). MD&A quality as measured by the SEC and analysts' earnings

forecasts. *Contemporary Accounting Research, 16*(1), 75–109. https://doi.org/10.1111/j.1911-3846.1999.tb00579.x

Barth, M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value-relevance literature for financial accounting standard setting: Another view. *Journal of Accounting and Economics, 31*(1–3), 77–104. https://doi.org/10.1016/S0165-4101(01)00018-4

Barth, M. E., Cram, D. P., & Nelson, K. K. (2001). Accruals and the prediction of future cash flows. *The Accounting Review, 76*(1), 27–58. https://doi.org/10.2308/jar.2001.76.1.27

Barth, M. E., & Hutton, A. P. (2000). *Information intermediaries and the pricing of accruals* (Working Paper). Stanford University.

Bartov, E., Givoly, D., & Hayn, C. (2002). The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics, 33*(2), 173–204. https://doi.org/10.1016/S0165-4101(01)00026-3

Behn, B. K., Choi, J. H., & Kang, T. (2008). Audit quality and properties of analyst earnings forecasts. *The Accounting Review, 83*(2), 327–349. https://doi.org/10.2308/accr.2008.83.2.327

Berle, A. A., & Means, G. C. (1932). *The modern corporation and private property*. Macmillan.

Beyer, A., Cohen, D. A., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics, 50*(2), 296–343. https://doi.org/10.1016/j.jacceco.2010.08.001

Bhat, G., Hope, O.-K., & Kang, T. (2006). Does corporate governance transparency affect the accuracy of analyst forecasts? *Accounting and Finance, 46*(4), 715–732. https://doi.org/10.1111/j.1467-629X.2006.00185.x

Bhattacharya, N., Black, E., Christensen, T., & Larson, C. (2003). Assessing the relative informativeness and permanence of Street earnings and GAAP operating earnings. *Journal of Accounting and Economics, 36*(1–3), 285–319. https://doi.org/10.1016/j.jacceco.2003.10.004

Bhushan, R. (1989a). Collection of information about publicly traded firms: Theory and evidence. *Journal of Accounting and Economics, 11*(2–3), 183–206. https://doi.org/10.1016/0165-4101(89)90002-7

Bhushan, R. (1989b). Firm characteristics and analyst following. *Journal of Financial Economics, 23*(2), 255–274. https://doi.org/10.1016/0304-405X(89)90049-3

Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics, 48*(2–3), 112–131. https://doi.org/10.1016/j.jacceco.2009.09.001

Black, D., & Christensen, T. (2009). US managers' use of 'pro forma' adjustments to meet strategic earnings targets. *Journal of Business Finance & Accounting, 36*(3–4), 297–326. https://doi.org/10.1111/j.1468-5957.2009.02123.x

Bloomfield, R. J. (2002). The incomplete revelation hypothesis and financial reporting. *Accounting Horizons, 16*(3), 233–243. https://doi.org/10.2308/acch.2002.16.3.233

Botosan, C. A., & Harris, M. S. (2000). Motivations for a change in disclosure frequency and its consequences: An examination of voluntary quarterly segment disclosures. *Journal of Accounting Research, 38*(2), 329–353. https://doi.org/10.2308/jarc.2000.38.2.329

Bouwman, M. J., Frishkoff, P. A., & Frishkoff, P. A. (1995). The relevance of GAAP-based information: A case study exploring some uses and limitations. *Accounting Horizons, 9*(2), 22–47.

Bowen, R. M., Davis, A. K., & Matsumoto, D. (2005). Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention, and market reactions. *The Accounting Review, 80*(3), 1011–1038. https://doi.org/10.2308/accr.2005.80.3.1011

Bowen, R. M., Davis, A. K., & Matsumoto, D. (2002). Do conference calls affect analysts' forecasts? *The Accounting Review, 77*(2), 285–316. https://doi.org/10.2308/accr.2002.77.2.285

Bradshaw, M. T., & Sloan, R. G. (2002). GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research, 40*(1), 41–65. https://doi.org/10.1111/1475-679X.00041

Brennan, M. J., & Hughes, P. J. (1991). Stock prices and the supply of information. *The Journal of Finance, 46*(5), 1665–1691. https://doi.org/10.1111/j.1540-6261.1991.01665.x

Brown, L. D. (1993). Earnings forecasting research: Its implications for capital market research. *International Journal of Forecasting, 9*(4), 295–320. https://doi.org/10.1016/0169-2070(93)90001-K

Brown, L. D., Richardson, G., & Schwager, P. (1987). An information interpretation of financial analyst superiority in forecasting earnings. *Journal of Accounting Research, 25*(Supplement), 49–67. https://doi.org/10.2308/jarc.1987.25.s.49

Brown, L. D., Hagerman, R. L., Griffin, P. A., & Zmijewski, M. E. (1987). Security analyst superiority relative to univariate time-series models in forecasting quarterly earnings. *Journal of Accounting and Economics, 9*(2), 61–87. https://doi.org/10.1016/0165-4101(87)90001-3

Brown, L. D., & Rozeff, M. S. (1978). The superiority of analyst forecasts as measures of expectations: Evidence from earnings. *The Journal of Finance, 33*(1), 1–16. https://doi.org/10.1111/j.1540-6261.1978.tb04838.x

Brown, P., Beekes, W., & Verhoeven, P. (2011). Corporate governance, accounting and finance: A review. *Accounting & Finance, 51*(1), 96–172. https://doi.org/10.1111/j.1467-629X.2010.00375.x

Burgstahler, D., & Eames, M. (2006). Management of earnings and analysts' forecasts to achieve zero and small positive earnings surprises. *Journal of Business Finance & Accounting, 33*(5–6), 633–652. https://doi.org/10.1111/j.1468-5957.2006.00612.x

Bushman, R. M. (1991). Public disclosure and the structure of private information markets. *Journal of Accounting Research, 29*(2), 261–276. https://doi.org/10.2308/jarc.1991.29.2.261

Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2005). Insider trading restrictions and analysts' incentives to follow firms. *The Journal of Finance, 60*(1), 35–66. https://doi.org/10.1111/j.1540-6261.2005.00722.x

Casey, C. J. (1980). Variation in accounting information load: The effect on loan officers' predictions of bankruptcy. *The Accounting Review, 55*(1), 36–49.

Chaney, P. K., Hogan, C. E., & Jeter, D. C. (1999). The effect of reporting restructuring charges on analysts' forecast revisions and errors. *Journal of Accounting and Economics, 27*(3), 261–284. https://doi.org/10.1016/S0165-4101(99)00004-5

Chen, X., Cheng, Q., & Lo, K. (2010). On the relationship between analyst reports and corporate disclosures: Exploring the roles of information discovery and interpretation. *Journal of Accounting and Economics, 49*(3), 206–226. https://doi.org/10.1016/j.jacceco.2009.11.001

Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of Accounting Research, 38*(3), 91–124. https://doi.org/10.1111/1475-679X.00073

Clarkson, P. M., Kao, J. L., & Richardson, G. D. (1999). The quality of management discussion and analysis (MD&A): A voluntary disclosure perspective. *Contemporary Accounting Research, 16*(1), 111–134. https://doi.org/10.1111/j.1911-3846.1999.tb00580.x

Claus, J., & Thomas, J. (2001). Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets. *The Journal of Finance, 56*(5), 1629–1666. https://doi.org/10.1111/0022-1082.00385

Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley periods. *The Accounting Review, 83*(3), 757–787. https://doi.org/10.2308/accr.2008.83.3.757

Cohen, D. A., & Lys, T. Z. (2003). A note on analysts' earnings forecast errors distribution. *Journal of Accounting and Economics, 36*(1–3), 147–164. https://doi.org/10.1016/j.jacceco.2003.10.003

Cooper, D. R., & Schindler, P. S. (2001). *Business research methods* (7th ed.). McGraw-Hill.

Cooper, R., Day, T., & Lewis, C. (2001). Following the leader: A study of individual analysts' earnings forecasts. *Journal of Financial Economics, 61*(3), 383–416. https://doi.org/10.1016/S0304-405X(01)00068-6

Hirst, D. E., Hopkins, P. E., & Wahlen, J. M. (2004). Fair values, income measurement, and bank analysts' risk and valuation judgments. *The Accounting Review, 79*(2), 453–472. https://doi.org/10.2308/accr.2004.79.2.453

Dechow, P. M., & Skinner, D. J. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons, 14*(3), 235–250. https://doi.org/10.2308/acch.2000.14.3.235

Dechow, P. M., Richardson, S. A., & Tuna, I. (2003). Why are earnings kinky? An examination of the earnings management explanation. *Review of Accounting Studies, 8*(2–3), 355–384. https://doi.org/10.1023/A:1025005503907

Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review, 87*(3), 723–759. https://doi.org/10.2308/accr-10303

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review, 86*(1), 59–100. https://doi.org/10.2308/accr-10027

Diamond, D. W. (1985). Optimal release of information by firms. *The Journal of Finance, 40*(4), 1071–1094. https://doi.org/10.1111/j.1540-6261.1985.tb04994.x

Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The Journal of Finance, 46*(4), 1325–1359. https://doi.org/10.1111/j.1540-6261.1991.tb04623.x

Diamond, D. W., & Verrecchia, R. E. (1981). Information aggregation in a noisy rational expectations economy. *Journal of Financial Economics, 9*(3), 221–235. https://doi.org/10.1016/0304-405X(81)90037-7

Byard, D., & Shaw, K. W. (2003). Corporate disclosure quality and properties of analysts' information environment. *Journal of Accounting, Auditing & Finance, 18*(3), 355–378. https://doi.org/10.1177/0148558X0301800303

Doyle, J., Lundholm, R., & Soliman, M. (2003). The predictive value of expenses excluded from 'pro forma' earnings. *Review of Accounting Studies, 8*(2–3), 145–174. https://doi.org/10.1023/A:1025016528783

Doyle, J. T., Jennings, J., & Soliman, M. T. (2013). Do managers define non-GAAP earnings to meet or beat analyst forecasts? *Journal of Accounting and Economics, 56*(1), 40–56. https://doi.org/10.1016/j.jacceco.2013.04.001

Dyck, A., Morse, A., & Zingales, L. (2010). Who blows the whistle on corporate fraud? *The Journal of Finance, 65*(6), 2213–2253. https://doi.org/10.1111/j.1540-6261.2010.01609.x

Dye, R. A. (1986). Proprietary and non-proprietary disclosures. *The Journal of Business, 59*(3), 331–366.

Easton, P. D. (2004). PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital. *The Accounting Review, 79*(1), 73–95. https://doi.org/10.2308/accr.2004.79.1.73

Eccles, R. G., Herz, R. H., Keegan, E. M., & Phillips, D. M. H. (2001). *The value reporting revolution*. John Wiley & Sons.

Eames, M. J., & Glover, S. M. (2003). Earnings predictability and the direction of analysts' earnings forecast errors. *The Accounting Review, 78*(3), 707–724. https://doi.org/10.2308/accr.2003.78.3.707

Eng, L. L., & Teo, H. K. (2000). The relation between annual report disclosures, analysts' earnings forecasts and analyst following: Evidence from Singapore. *Pacific Accounting Review, 11*(2), 219–239.

Ertimur, Y., Livnat, J., & Martikainen, M. (2003). Differential market reactions to revenue and expense surprises. *Review of Accounting Studies, 8*(2–3), 185–211. https://doi.org/10.1023/A:1025097717387

Fama, E. F., & Miller, M. H. (1972). *The theory of finance*. Dryden Press.

Feltham, G. A., & Ohlson, J. A. (1995). Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research, 11*(2), 689–731. https://doi.org/10.1111/j.1911-3846.1995.tb00471.x

Fishman, M. J., & Hagerty, K. M. (2003). Mandatory versus voluntary disclosure in markets with informed and uninformed customers. *The Journal of Law, Economics, and Organization, 19*(1), 45–83. https://doi.org/10.1093/jleo/19.1.45

Francis, J., Schipper, K., & Vincent, L. (2002). Earnings announcements and competing information. *Journal of Accounting and Economics, 33*(3), 313–342. https://doi.org/10.1016/S0165-4101(02)00045-3

Francis, J., & Soffer, L. (1997). The relative informativeness of analysts' stock recommendations and earnings forecast revisions. *Journal of Accounting Research, 35*(2), 193–212. https://doi.org/10.2308/jar.1997.35.2.193

Frankel, R., Kothari, S. P., & Weber, J. P. (2006). Determinants of the informativeness of analyst research. *Journal of Accounting and Economics, 41*(1–2), 29–54. https://doi.org/10.1016/j.jacceco.2005.06.002

Fu, R., Kraft, A., & Zhang, H. (2012). Financial reporting frequency, information asymmetry, and the cost of equity. *Journal of Accounting and Economics, 54*(2–3), 132–149. https://doi.org/10.1016/j.jacceco.2012.08.001

Göx, R. F., & Wagenhofer, A. (2009). Optimal impairment rules. *Journal of Accounting and Economics, 48*(1), 2–16. https://doi.org/10.1016/j.jacceco.2009.06.001

Gebhardt, W. R., Lee, C. M. C., & Swaminathan, B. (2001). Toward an implied cost of capital. *Journal of Accounting Research, 39*(1), 135–176. https://doi.org/10.1111/1475-679X.00007

Ghosh, A., Gu, Z., & Jain, P. C. (2005). Sustained earnings and revenue growth, earnings quality, and earnings response coefficients. *Review of Accounting Studies, 10*(1), 33–57. https://doi.org/10.1007/s11142-005-0636-3

Gigler, F., & Hemmer, T. (1998). On the frequency, quality, and informational role of mandatory financial reports. *Journal of Accounting Research, 36*(1), 117–147. https://doi.org/10.2307/2491391

Givoly, D. (1982). Financial analysts' forecasts of earnings: A better surrogate for market expectations. *Journal of Accounting and Economics, 4*(2), 85–108. https://doi.org/10.1016/0165-4101(82)90014-6

Gode, D., & Mohanram, P. (2003). Inferring the cost of capital using the Ohlson–Juettner model. *Review of Accounting Studies, 8*(4), 399–431. https://doi.org/10.1023/A:1026107703385

Grossman, S. J., & Stiglitz, J. E. (1980). On the impossibility of informationally efficient markets. *American Economic Review, 70*(3), 393–408.

Grossman, S. J. (1978). Further results on the informational efficiency of competitive stock markets. *Journal of Economic Theory, 18*(1), 81–101. https://doi.org/10.1016/0022-0531(78)90050-9

Gu, Z., & Wu, S. (2003). Earnings skewness and analyst forecast bias. *Journal of Accounting and Economics, 35*(1), 5–29. https://doi.org/10.1016/S0165-4101(03)00002-0

Guay, W., Samuels, D., & Taylor, D. (2016). Guiding through the fog: Financial statement complexity and voluntary disclosure. *Journal of Accounting and Economics, 62*(2), 234–269. https://doi.org/10.1016/j.jacceco.2016.08.001

Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research, 27*(3), 855–888. https://doi.org/10.1111/j.1911-3846.2010.01015.x

Hassell, J., Jennings, R., & Lasser, D. (1988). Management earnings forecasts: Their usefulness as a source of firm-specific information to security analysts. *The Journal of Financial Research, 11*(4), 303–320. https://doi.org/10.1111/j.1475-6803.1988.tb00515.x

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics, 31*(1–3), 405–440. https://doi.org/10.1016/S0165-4101(01)00018-0

Healy, P. M., Hutton, A. P., & Palepu, K. G. (1999). Stock performance and intermediation changes surrounding sustained increases in disclosures. *Contemporary Accounting Research, 16*(3), 485–520. https://doi.org/10.1111/j.1911-3846.1999.tb00594.x

Heflin, F., Subramanyam, K. R., & Zhang, Y. (2003). Regulation FD and the financial information environment: Early evidence. *The Accounting Review, 78*(1), 1–37. https://doi.org/10.2308/accr.2003.78.1.1

Hellwig, M. F. (1980). On the aggregation of information in competitive markets. *Journal of Economic Theory, 22*(3), 477–498. https://doi.org/10.1016/0022-0531(80)90056-6

Hilary, G., & Shen, R. (2013). The role of analysts in intra-industry information transfer. *The Accounting Review, 88*(4), 1265–1287. https://doi.org/10.2308/accr-50429

Hirshleifer, D., & Teoh, S. H. (2003). Limited attention, information disclosure, and financial reporting. *Journal of Accounting and Economics, 36*(1–3), 337–386. https://doi.org/10.1016/j.jacceco.2003.10.003

Hong, H., & Kubik, J. D. (2003). Analyzing the analysts: Career concerns and biased earnings forecasts. *The Journal of Finance, 58*(1), 313–351. https://doi.org/10.1111/1540-6261.00524

Hong, H., Lim, T., & Stein, J. C. (2000). Bad news travels slowly: Size, analyst coverage, and the profitability of momentum strategies. *The Journal of Finance, 55*(1), 265–295. https://doi.org/10.1111/0022-1082.00206

Hope, O.-K. (2003a). Disclosure practices, enforcement of accounting standards and analysts' forecast accuracy: An international study. *Journal of Accounting Research, 41*(2), 235–272. https://doi.org/10.1111/1475-679X.00094

Hope, O.-K. (2003b). Accounting policy disclosures and analysts' forecasts. *Contemporary Accounting Research, 20*(2), 295–321. https://doi.org/10.1506/88X3-6222-2Y3Y-J233

Hope, O.-K. (2003c). Analyst following and the influence of disclosure components, IPOs and ownership concentration. *Asia-Pacific Journal of Accounting & Economics, 10*(1), 117–141. https://doi.org/10.1080/16081625.2003.10510773

Hopkins, P., Houston, R., & Peters, M. (2000). Purchase, pooling, and equity analysts' valuation judgments. *The Accounting Review, 75*(3), 257–281. https://doi.org/10.2308/accr.2000.75.3.257

Hwang, B. H., & Kim, H. H. (2016). It pays to write well. *Journal of Financial Economics, 124*(2), 373–394. https://doi.org/10.1016/j.jfineco.2016.10.003

Hwang, B. H., Liberti, J. M., & Sturgess, J. (2017). *Information sharing and spillovers: Evidence from financial analysts* (SSRN Working Paper). https://ssrn.com/abstract=2988337

Hwang, L., Jan, C., & Basu, S. (1996). Loss firms and analysts' earnings forecast errors. *Journal of Financial Statement Analysis, 1*(4), 18–30.

Igan, D., & Pinheiro, M. (2004). *Ownership structure and analysts' forecasts* (IMF Working Paper No. 04/189). https://doi.org/10.5089/9781451871918.001

Irani, R. M., & Oesch, D. (2013). Monitoring and corporate disclosure: Evidence from a natural experiment. *Journal of Financial Economics, 109*(2), 398–418. https://doi.org/10.1016/j.jfineco.2013.02.004

Ivković, Z., & Jegadeesh, N. (2004). The timing and value of forecast and recommendation revisions. *Journal of Financial Economics*, *73*(3), 433–463. https://doi.org/10.1016/j.jfineco.2003.07.002

Jegadeesh, N., & Livnat, J. (2006). Revenue surprises and stock returns. *Journal of Accounting and Economics*, *41*(1–2), 147–171. https://doi.org/10.1016/j.jacceco.2005.08.002

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Jones, D. A. (2007). Voluntary disclosure in R&D-intensive industries. *Contemporary Accounting Research*, *24*(2), 489–522. https://doi.org/10.1111/j.1911-3846.2007.tb00914.x

Kasznik, R., & Lev, B. (1995). To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review*, *70*(1), 113–134.

Kothari, S. P. (2001). Capital markets research in accounting. *Journal of Accounting and Economics*, *31*(1–3), 105–231. https://doi.org/10.1016/S0165-4101(01)00008-3

Kreps, D. M. (1990). *A course in microeconomic theory*. Princeton University Press.

Kross, W., Ro, B. T., & Schroeder, D. (1990). Earnings expectations: The analysts' information advantage. *The Accounting Review*, *65*(2), 461–476.

Kross, W. J., & Suk, I. (2012). Does Regulation FD work? Evidence from analysts' reliance on public disclosure. *Journal of Accounting and Economics*, *53*(1–2), 225–248. https://doi.org/10.1016/j.jacceco.2011.11.003

Lang, M. H., & Lundholm, R. J. (1993). Cross-sectional determinants of analyst ratings of corporate disclosures. *Journal of Accounting Research*, *31*(2), 246–271. https://doi.org/10.2307/2491277

Lang, M. H., & Lundholm, R. J. (1996). Corporate disclosure policy and analyst behavior. *The Accounting Review*, *71*(4), 467–492.

Lang, M. H., & Stice-Lawrence, L. (2015). *Textual analysis and international financial reporting: Large sample evidence* (Working Paper).

Lawrence, A. (2013). Individual investors and financial disclosure. *Journal of Accounting and Economics*, *56*(1), 130–147. https://doi.org/10.1016/j.jacceco.2013.04.002

Lee, C. M. C., Myers, J. N., & Swaminathan, B. (1999). What is the intrinsic value of the Dow? *The Journal of Finance*, *54*(5), 1693–1741. https://doi.org/10.1111/0022-1082.00165

Lee, Y. J. (2012). The effect of quarterly report readability on information efficiency of stock prices. *Contemporary Accounting Research*, *29*(4), 1137–1170. https://doi.org/10.1111/j.1911-3846.2011.01128.x

Lees, F. (1981). *Public disclosure of corporate earnings forecasts*. The Conference Board.

Lehavy, R., Li, F., & Merkley, K. (2011). The effect of annual report readability on analyst following and the properties of their earnings forecasts. *The Accounting Review*, *86*(3), 1087–1115. https://doi.org/10.2308/accr.00000011

Lev, B., & Thiagarajan, S. R. (1993). Fundamental information analysis. *Journal of Accounting Research*, *31*, 190–215. https://doi.org/10.2307/2491312

Li, F. (2008). Annual report readability, current earnings, and earnings persistence. *Journal of Accounting and Economics*, *45*(2–3), 221–247. https://doi.org/10.1016/j.jacceco.2008.01.001

Li, O. Z., Ni, C., & Lin, Y. (2012). *Does XBRL adoption reduce the cost of equity capital?* SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2131001

Li, S. (2010). Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? *The Accounting Review*, *85*(2), 607–636. https://doi.org/10.2308/accr.2010.85.2.607

Li, Y., Rau, P. R., & Xu, J. (2009). *All-star analyst coverage and corporate transparency* (Purdue University Working Paper).

Kramer, L. A., & Liao, C. (2012). *The cost of false bravado: Management overconfidence and its impact on analysts' views*. SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2143223

Liu, C., Wang, T., & Yao, L. J. (2014). XBRL's impact on analyst forecast behavior: An empirical study. *Journal of Accounting and Public Policy*, *33*(1), 69–82. https://doi.org/10.1016/j.jaccpubpol.2013.11.002

Livnat, J., & Zhang, Y. (2012). Information interpretation or information discovery: Which role of analysts do investors value more? *Review of Accounting Studies*, *17*(3), 612–641. https://doi.org/10.1007/s11142-012-9194-8

Lo, K. (2012). What do analysts do? Discussion of "Information interpretation or information discovery: which role of analysts do investors value more?" *Review of Accounting Studies*, *17*(3), 642–648. https://doi.org/10.1007/s11142-012-9195-7

Lopez, T. J., & Rees, L. (2002). The effect of beating and missing analysts' forecasts on the information content of unexpected earnings. *Journal of Accounting, Auditing & Finance*, *17*(2), 155–184. https://doi.org/10.1177/0148558X0201700203

Lundholm, R. J. (1991). Public signals and the equilibrium allocation of information. *Journal of Accounting Research*, *29*, 322–349. https://doi.org/10.2307/2491131

Lys, T., & Sohn, S. (1990). The association between revisions of financial analysts' earnings forecasts and security-price changes. *Journal of Accounting and Economics*, *13*(4), 341–363. https://doi.org/10.1016/0165-4101(90)90003-T

Matsumoto, D. A. (2002). Management's incentives to guide analysts' forecasts. *The Accounting Review*, *77*(3), 483–514. https://doi.org/10.2308/accr.2002.77.3.483

Mayew, W. J., Sharp, N. Y., & Venkatachalam, M. (2013). Using earnings conference calls to identify analysts with superior private information. *Review of Accounting Studies*, *18*(2), 386–413. https://doi.org/10.1007/s11142-012-9215-7

O'Brien, P. C., & Bhushan, R. (1990). Analyst following and institutional ownership. *Journal of Accounting Research*, *28*, 55–76. https://doi.org/10.2307/2491039

Ohlson, J. A. (1995). Earnings, book values and dividends in equity valuation. *Contemporary Accounting Research*, *11*(2), 661–687. https://doi.org/10.1111/j.1911-3846.1995.tb00468.x

Peng, L. (2005). Learning with information capacity constraints. *Journal of Financial and Quantitative Analysis*, *40*(2), 307–329. https://doi.org/10.1017/S0022109000002084

Piotroski, J. D. (1999). *Discretionary segment reporting decisions and the precision of investor beliefs* (University of Chicago Working Paper).

Plumlee, M., Brown, D., & Marshall, S. (2008). *The impact of voluntary environmental disclosure quality on firm value* (University of Utah Working Paper).

Previts, G. J., Bricker, R. J., Robinson, T. R., & Young, S. J. (1994). A content analysis of a sell-side financial analyst firm report. *Accounting Horizons*, *8*(2), 55–70.

Rajgopal, S., Shevlin, T., & Venkatachalam, M. (2003). Does the stock market fully appreciate the implications of leading indicators for future earnings? Evidence from order backlog. *Review of Accounting Studies*, *8*(4), 461–492. https://doi.org/10.1023/A:1027367002540

Ramnath, S., Rock, S., & Shane, P. (2008). The financial analyst forecasting literature: A taxonomy with suggestions for further research. *International Journal of Forecasting*, *24*(1), 34–75. https://doi.org/10.1016/j.ijforecast.2007.08.003

Rock, S., Sedo, S., & Willenborg, M. (2001). Analyst following and count-data econometrics. *Journal of Accounting and Economics*, *30*(3), 351–373. https://doi.org/10.1016/S0165-4101(00)00021-5

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*(1–2), 335–370. https://doi.org/10.1016/j.jacceco.2006.01.002

Schipper, K. (1991). Analysts' forecasts. *Accounting Horizons*, *5*(2), 105–131.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737–783. https://doi.org/10.1111/j.1540-6261.1997.tb04085.x

Sim, J. W. (2006). *Uncertainty, irreversible investment, and general equilibrium* (Unpublished doctoral dissertation). Boston University.

Simnett, R. (1996). The effect of information selection, information processing and task complexity on predictive accuracy of auditors. *Accounting, Organizations and Society*, *21*(7), 699–719. https://doi.org/10.1016/0361-3682(96)00003-0

Stevens, W. G. (1984). Market reaction to corporate environmental performance. *Advances in Accounting*, *1*, 41–61.

Vanstraelen, A., Zarzeski, M. T., & Robb, S. W. (2003). Corporate nonfinancial disclosure practices and financial analyst forecast ability across three European countries. *Journal of International Financial Management & Accounting*, *14*(3), 249–278. https://doi.org/10.1111/j.1467-646X.2003.00082.x

Verrecchia, R. E. (1982). Information acquisition in a noisy rational expectations economy. *Econometrica*, *50*(6), 1415–1430. https://doi.org/10.2307/1913385

Verrecchia, R. E. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, *5*(1), 179–194. https://doi.org/10.1016/0165-4101(83)90013-4

Walther, B. R. (1997). Investor sophistication and market earnings expectations. *Journal of Accounting Research*, *35*, 157–179. https://doi.org/10.2307/2491458

Weiss, D. (2010). Cost behavior and analysts' earnings forecasts. *The Accounting Review*, *85*(4), 1441–1471. https://doi.org/10.2308/accr.2010.85.4.1441

Welker, M. (1995). Disclosure policy, information asymmetry, and liquidity in equity markets. *Contemporary Accounting Research*, *11*(2), 801–827. https://doi.org/10.1111/j.1911-3846.1995.tb00473.x

Williams, P. M. (1996). The relation between a prior earnings forecast by management and analysts' response to a current management forecast. *The Accounting Review*, *71*(1), 103–116.

Yu, F. (2008). Analyst coverage and earnings management. *Journal of Financial Economics*, *88*(2), 245–271. https://doi.org/10.1016/j.jfineco.2007.06.004

Zhang, Y. (2008). Analysts' responsiveness and the post earnings announcement drift. *Journal of Accounting and Economics*, *46*(1), 201–215. https://doi.org/10.1016/j.jacceco.2008.07.002

Notes

1. More details refer to pay without performance by Lucian Bebchuk and Jesse Fried, Harvard University Press 2004.
2. See Jensen and Meckling (1976).
3. It arises from different information and incentives between managers and investors.
4. This is the reason why SEC set minimum disclosure requirements for all publicly traded firms such as form 8-K, 10-K,10-Q.
5. Diamond and Verrecchia (1991) were the first to investigate this area and provide consistent evidence with this relationship.
6. Another potential solution to the information asymmetry refractory problem is regulation that requires angelic or sordid and filthy managers to fully disclose their private information.
7. Another role of accounting information is to allow capital providers to evaluate the potential returns of different investment opportunities.
8. It provides evidence through surveys what information financial analysts would be useful from asking them ordering in term of importance.
9. Market reactions to financial analysts' revisions promptly after corporate disclosure but prior to earnings announcement is still significantly positive conditional on revision promptness until a week before earnings announcement, compared with market reactions to financial analysts' revisions not promptly after corporate disclosure. A week prior earnings announcement is still significantly positive for role of information discovery of financial analysts.

	6 weeks	5 weeks	4 weeks	3 weeks	2 weeks	1 week
RREV	0.105***	0.088***	0.153***	0.163***	0.162***	0.029
RREV*PROMPT	0.032***	0.032***	0.045***	0.050***	0.046***	0.047

10. Non-GAAP earnings are also known as Pro Forma, Street, core, or operating earnings. Managers classifying earnings as GAAP and non-GAAP mainly intend to create the higher quality measure of earnings that is more persistent and easier for analysts and investors valuing the firm. Brown et al. (2011) support that income-increasing non-GAAP earnings increase with investors' sentiment. It supports managers opportunistically define non-GAAP to influence the perception of investors toward the firm future.
11. [11]The relation between the number of analysts following a firm and the total expenditure by investors on analyst services about that firm is likely positively related. Therefore, it is proxied for the demand of analyst service, resulting in FA following the firms.

12. [12]It is likely that analysts' forecastingability increases with the quality of corporate financial and non-financial information that analysts use such to predict future earnings.
13. [13] More than 50% of analysts are observed to have used such information. However, their research methods are still subject to various disadvantages such as not enough respondents, selective respondents and biased responses and so on.
14. [14] Using actual amount of inventory minus expected inventory, computed by average opening and ending inventory levels of two years, scaled by expected inventory level.
15. [15] Similar to measure of change in unexpected inventory.
16. [16] Measured in sales per employee, a proxy for change in labour efficiency.
17. [17] However, change in capital expenditure, doubtful debts effective tax, labour force, audit opinions and adoptions in LIFO are not statistically significant in a restricted regression model. Full sample compares with restricted samples is better r-square. Furthermore, when the measurement of earnings change with drift rather than measurement of change in earnings, both accounts receivable and capital expenditure variables are not statistically significant in full sample regression model, After using raw returns instead of excess returns, audit opinion variables turns to be significant.
18. [18] However, in a subsequent test with relation between change in current earnings of firms with different earnings qualities and future earnings surprises, their results are not obvious (for instance, firms with higher earnings quality, measured by aggregated fundamental scores, have never significant correlation between change in current earnings and change in future earnings at the 5% significant level). This seems contradict to previous results because firms with better scores shall have higher earnings persistent, significant level.
19. [19] Analyst following is frequently used to proxy for the informativeness of a firm's information environment (Walther 1997; Ayers and Freeman 2003). prior studies commonly use a standardized measurement (e.g. Bhushan, 1989b ; Rock, Sedo and Willenborg, 2001; Afshad J. Irani and Karamanou, 2003) to compute Analyst Coverage.
20. [20]The researcher uses the industrial firm cost behavior because it allows the researcher to test the effect of variations in COST as well as SA&G on analysts' forecast accuracy. However, I think he uses industrial firms as samples because managers of these firms are controllable for these costs, whereas, for other firm managers are less extent controlling these costs.
21. [21]This paper uses an alternative approach to estimate the extent of sticky cost, a function of the cost slope when decrease in activities minus the cost slope when increase in activities, namely sales level, in current quarter of firms compared with that of last quarter, suggesting that mangers of firms are less inclined to reduce costs in respond to decline in sales.
22. [22]Using proxies of coefficient of variation in sales as well as forecast dispersion.
23. [23]However, Healy et al (1999) cannot find consistent evidence relation between firm disclosure policies (using a proxy of analysts' rating of firm disclosure from association of investment management and research) and change in forecast dispersion.
24. [24]They argue that because firms changes disclosure policy, namely increased disclosure, as they measure higher score in FAF reports, analysts will place less weight on private information.
25. [25]They argue that firms with information provided are informative for future earnings. According to their results, it shows that "investor relations" and "total disclosure score" variables are positively significant as increase in overall disclosure and improvement in investors' relations with financial analysts can reduce forecast errors. Annual report and other publications variables are less significant in their results after controlling size, profitability volatility, earnings surprise and % of new forecasts. (see table 3)

26. [26]They argue FAF considers the timeliness of disclosure and whether information disclosure as on-going basis. This is one of the reasons they use FAF report as a proxy of disclosure policy. Analysts revise their forecast less magnitude when firms with more timely released information. They show all disclosure variables including annual report, other publications, investor relations and overall score are negatively significant with revision volatility and standard deviations of forecasts.
27. However, they only provide association but not causality because the direction of causality can be opposite. Therefore, their results are subject to the omitted correlation problem. To alleviate this obnoxious problem, they apply an approach is to run regression between change in disclosure informativeness and change in numbers of analysts. This approach is arguable since (1) FAF committee does not compare the firm disclosures in different time and the committee may change their criteria or the weighting among criteria in different time; (2) it needs to have a non-ephemeral time to trace how the change in disclosures affects change in analyst following. Otherwise, it cannot accurately find out their relations. Anyways, they provide the insights for future research.
28. [28]Using the value of current quarter revenue per share minus expected quarterly revenue per share prior earnings announcement, scaled by standard deviation of quarterly revenues growth (controlling for grow effects in different firms). The researchers apply this approach similar to the approach of measuring earnings surprise.
29. [29]Quarter EPS after earnings announcement less Quarter EPS before earnings announcement, deflated by share price on the last day of the last fiscal quarter.
30. [30]The researcher uses the industrial firm cost behaviour because it allows the researcher to test the effect of variations in COST as well as SA&G on analysts' forecast accuracy. However, I think he uses industrial firms as samples because managers of these firms are controllable for these costs, whereas, for other firm managers are less extent controlling these costs.
31. [31]This paper uses an alternative approach to estimate the extent of sticky cost, a function of the cost slope when decrease in activities minus the cost slope when increase in activities, namely sales level, in current quarter of firms compared with that of last quarter, suggesting that mangers of firms are less inclined to reduce costs in respond to decline in sales.
32. [32]He also separates the total cost cleave into two components, namely the cost of goods sold as well as selling, administrative and general expenses to regress with financial analysts' forecast accuracy and coverage.
33. [33]Researchers classify firms as small firms when market capitalization of equity small than median of all samples, vice versa. Growth firms are firms with book to market value lower than median of all samples, vice versa.
34. [34]Significant at 1% level.
35. [35] More than 50% of financial analysts responded to have used such information.
36. [36]For instance, Hong Kong, South Africa, Mexico, India, and Thailand and so on, as compared to other countries, including Brazil, Korea, Japan, Spain and so on, have same direction of coefficient and similar t-statistic values but in such countries firms disclosure stand-alone CSR are not informative for analysts.
37. They measure forecast dispersion of financial analysts EPS of a firm from each individual analyst minus mean in between 30 days and 60 days after being released MD&A review by SEC so that t can have sufficient time to impound MD&A information into analyst forecasts and not reflect the amended MD&A information requested by SEC. They measure forecast error as standard deviation of forecast of all firms from individual analyst minus actual earnings, scaled by actual earnings.
38. [38]*LN(SURPRISE, SD-ROE, LN(ASSETS) ($millions), LN(M-EQUITY), LN(#ANALYSTS), #DPR, mews-ART* and *%NEW*
39. [39](p-value = -4.43) and forecast errors (p-value =-2.07 for ERROR; p-value =-1.45 for ERRORM)

40. [40]They interpret that the result supports with hypothesis but I think these results are too marginal because p-values of *MDACAP-H* [-], MDACAP- F [-], *MDAOP-H* [-], and *MDAOP-F [-]*are only -1.47, -2.04, -0.45 and -2.08, respectively. They use a more relaxing 90% confidence interval rather than 99% or 95%. Worse still, this situations exist in overall MD&A rating results (i.e. p-values of (SEC Rating) [-] in *LN(DISPRESSION),LN(ERROR)* and *LN(ERRORM) specifications* are -4.43, -2.07 and -1.45). I think these results are relatively sensitive to sample sizes and outliers. It also seems their results have corrigible self-selection bias problem inas much as it is likely SEC may biasedly select certain characteristics of corporations for reviewing, which can be supported by the fact that as compared to non-sample firms, their sample firms are more profitable (11.9% vs. 14.1%) and greater systematic risk, measured by equity betas (1.04 Vs. 1.36) or measured by greater median ratios of book-to-market value of equity (0.551 vs 0.705). After they incorporate some possible omitted variables into regressions, their results are even less significant and more marginal, especially a previous strong result of *LN(DISPRESSION)* (i.e. p-values of (SEC Rating) [-] in *LN(DISPRESSION),LN(ERROR)* and *LN(ERRORM)* model specifications declines to -1.91, -2.17 and -1.48). Anyways, in theory, forward looking information is more useful for financial analysts than historical information (supported by the fact that I try to use Barron, Kile and O'Keefe's results to calculate sum of absolute values for forward looking information and historical information = 5.78 vs. 2.17). The information content of forward looking information is larger than that of historical information.
41. [41]They measure forecast errors using 3 alternatives, including NONFIN (whether firms have issued stand-alone CSR), ASSURANCE (whether CSR has been audited by third party), and HIPAGE (whether pages of the firm CSR have more than median CSR pages of all sample firms).
42. [42]They find most of the results in 9 model specifications are negatively statistically significant at 1% level, implying that CSR disclosures can reduce financial analysts' forecast errors, firms with CSR disclosures in stakeholder oriented countries can benefit financial analysts' forecasts more, and non-financial information can migrate the financial opaqueness. However, one result is not obvious and significant when replacing a proxy for stakeholder-oriented countries measured by public awareness in environmental issues, suggesting that the incremental effect of firms with CSR disclosures in stakeholder-oriented countries on analysts' forecast errors is not effective.
43. [43]These include countries level variables and firm level variables, namely CFIN, ENFORCE, STAKELAW, CSRLAW, PUBAWARE, PUBAWARE1, STAKE, IFRS, RATIO, FFIN, ANANO, SIZE, VAREARN, LOSS, STKEXCH, ADR, and FHORIZON.
44. [44] US SEC concerns the conference calls to be used as selective disclosure of new information to certain groups of audience So, SEC passed Regulation for Fair Disclosure to request to make promptly disclosure of the information.
45. [45] See NIRI Survey Reveals the Latest Earnings Call Practices.
46. [46] According to their method, forecast error ity for firm I for quarter t at year of y is denoted as absolute value of consensus analyst forecast less actual earnings for firm I for quarter t at year y.
47. [47] They also provide additional pair test for the magnitude effect of firms with hosting conference calls on high ability analysts and low ability analysts' forecast errors, suggesting that low ability analysts can benefit more from firms hosting conference calls in the long term period (z score of ERROR2 hi-lo =2.322 > z score of ERROR1 hi-lo = 2.16) and (p-value of ERROR2 (2) hi-lo =0.031, two tailed) is less significant than (p-value of ERROR1(2) hi-lo =0.014, two tailed). Furthermore, this result is high valid inas much as r square in long window has roughly 70%. However, this article seems subject to an cofounding effect in ERROR1 specification, namely the magnitude of the impact earnings announcement on analyst forecasts on 20th day after earnings announcement in quarter t of year y for firm I minus actual earnings in quarter t of year y for firm

I j, and estimate pre-conference call forecast errors (FE ity pre) by [absolute value of consensus analyst forecast on the 1st day in quarter t of year y for firm I minus actual earnings in quarter t of year y for firm i]. (see following figure 1). It is because some factors such as earnings management itself(Burgstahler, D and M Eames, 2006) can affect both firm earnings surprise and the analyst' forecast errors at the same time but authors ignore to incorporate those variables in ERROR1. What is more, the r square of ERROR1 regression is on 0.3126, compared with that of ERROR 2 regression, 0.707. Hopefully, researchers provide ERROR2 results with the main results. So, the overall results are still conclusive. One more question, I thought whether is exists reversal relation between forecast accuracy/error and firms with hosting conference calls or not. It seems the extent of forecast accuracy can also affect firms whether to choose to host conference calls or not.

48. [48] It is applied to public companies and foreign private issuers.
49. [49] The researcher argues that as investors and financial analysts have limited information processing capacity, therefore, information processing cost could lead to the delay for incorporating information into asset prices.
50. [50] They also provide additional evidence firms with voluntary adoption of XBRL are weaker effect on cost because voluntary problem allows firms much flexibility to generate less accurate information.
51. [51] Firms using XBRL can standardize all information in same interactive data format and financial analysts can use commercially technological software application to process and analyze such information without entering date into suits of statistical analysis manually and reading information manually.
52. [52] To estimate cost of capital, they apply the measurement approaches from Gebhardt, Lee and Swaminathan (2001), Claus and Thomas (2003), Gode and Mohanram (2003) and Easton (2004).
53. [53] They also provide an additional test to find the impact of voluntary adoption of XBRL on analyst forecast, coverage and dispersion. They find that compared with mandated adoption of XBRL, firms with voluntary adoption of XBRL are weaker effect on analysts following specification (XBRL.VOLUNTARY p-value =-4.02)
54. [54] The researcher measures readability by using LENGTH (numbers of words in an annual report of firm) and FOG (number of words in a sentence plus the numbers of 3 syllables words). Biddle et al. (2009) defines Fog as a measure of Financial statement readability. Either technique does sheathe this study research question.
55. [55] They find earnings of firms with annual reports that are easier to read are more persistent in stock markets.
56. [56] So, US SEC encourage corporate to use plain English in their reports (see A plain English Handbook: How to create clear SEC Disclosure Documents. In introduction section, Chairman argues that because many investors are not lawyers, bankers and accountants, they need plain English to understand the corporate reports and other documents.
57. [57] The results also provide they are more likely to alleviate information asymmetry and enhance information efficiency (as UE . HIGHANA, p- value =-4.04).
58. [58] However, it is more likely the fact that there are other omitted variables to explain the impact of information efficiency on stock price. Thus, it may influence the validity of results if all those are incorporated. Researchers also separates the effects of 10-Q readability impounded into stock prices into different subsections, namely MD&A and NOTES. What is more, as researcher mentions the readable problem (measured in numbers of words in reports, numbers of words in sentences and complex words in sentences) in 10-Q comes from certain items. My curious question is whether the effect of 10-Q information efficiency on stock prices does not result from e=readability itself but result from the contents of those items. I think those items are relatively difficult for some investors to understand (e.g. settlement of litigation disputes), resulting less extent of information efficiency reflected on stock prices. Anyways, the results can prove that financial and non-financial information are still useful for financial analysts, measured by change in coverage, forecasts and stock recommendations.

59. [59] They measure forecast errors using 3 alternatives, including NONFIN (whether firms have issued stand-alone CSR), ASSURANCE (whether CSR has been audited by third party), and HIPAGE (whether pages of the firm CSR have more than median CSR pages of all sample firms).
60. [60] They find most of the results in 9 model specifications are negatively statistically significant at 1% level, implying that CSR disclosures can reduce financial analysts' forecast errors, firms with CSR disclosures in stakeholder-oriented countries can benefit financial analysts' forecasts more and non-financial information can migrate the financial opaqueness> however, one result is not obvious and significant when replacing a proxy for stakeholder-oriented countries measured by public awareness in environmental issue, suggesting, that the incremental effect of firms with CSR disclosures in stakeholder-oriented countries on analysts' forecast errors is not effective.
61. [61] These include countries level variables and firm level variables, namely CFIN, ENFORCE, STAKELAW, CSRLAW and so on.
62. [62] However, after controlling firm size, number of analysts and dividends, current earnings can only successfully predict next earnings if firms disclosure CSR.
63. [63] For instance, Hong Kong, South Africa Mexico, India and Thailand and so on, as compared with to other countries, including Brazil, Korea, Japan, Spain and so on, have same direction of coefficient and similar t -statistic values but in such countries firms disclosure stand-alone CSR are not informative for analysts.
64. [64] Lee (1999) also argues that for practice research considerations, forecast analysts make FO model to be easier to measure firm value.
65. [65] Kothari (2001) also argues that manay use management forecasts or analysts' forecasts because they are highly correlated with share returns.