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Agency Conflicts and Accounting Conservatism: Evidence from Exogenous Shocks to Analyst Coverage

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Agency Conflicts and Accounting Conservatism: Evidence from Exogenous Shocks to Analyst Coverage

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Abstract:

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JEL classification: G17; M41
Keywords: Analyst coverage, accounting conservatism, agency conflicts, corporate governance

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1. Introduction

Even though conservatism has influenced accounting practices for centuries (Basu 1997), there remain heated debates whether it is a desirable property of accounting. Advocates argue that conservatism helps improve contracting efficiency (e.g., Basu 1997; Watts 2003a and 2003b; Ball and Shivakumar 2005), reduce information asymmetry (e.g., LaFond and Watts 2008) and lower the cost of capital (e.g., Ahmed, Billings, Morton and Stanford-Harris 2002; García Lara, Osma and Penalva 2011). Opponents of conservatism, on the other hand, contest that it distorts accounting data (Hendriksen and Van Breda 1992) and even decreases the efficiency of contracts (e.g., Gigler, Kanodia, Sapra and Venugopalan 2009; Li 2013).

Capital market regulators and standard setters have increasingly leaned toward the opponent camp in recent years. The Financial Accounting Standards Board has become so concerned about conservatism conflicting with "significant qualitative characteristics, such as representational faithfulness, neutrality, and comparability" that it has eliminated conservatism from the joint conceptual framework with IASB (FASB 2010). However, as Watts (2003a) warns, if conservatism arises as "*part of the efficient technology employed in the organization of the firm and its contracts with various parties,"* the elimination of conservatism in order to achieve "neutrality" of information may impose a considerable cost on investors and corporations and may lead to social welfare loss.

In this paper, we attempt to shed light on this debate by examining how companies voluntarily change their financial reporting conservatism in response to an exogenous decrease in analyst coverage resulting from broker closures and mergers. Coverage terminations due to broker closures or mergers are largely exogenous shocks to affected firms (e.g., Hong and Kacperczyk 2010; Kelly and Ljungqvist 2012). We contend that these exogenous shocks lead to deteriorated

agency problems between the affected firms and their contracting parties. First, a decrease in analyst coverage exacerbates the information asymmetry between insiders and outsiders (e.g., Kelly and Ljungqvist 2012; Wu 2013; Li and You 2015). Analysts are important information intermediaries who collect, analyze, and distribute useful information to external investors. A drop in analyst coverage reduces the information available to investors (including outside directors), hindering their ability to monitor managers and intervene immediately when managers misbehave (e.g., Jensen 1993; Armstrong et al. 2010).

Second, a drop in analyst coverage also weakens external monitoring by analysts (e.g., Yu 2008; Chen, Harford and Lin 2015). Analysts' information advantage allows them to detect managers' misconduct more effectively. For example, Dyck, Morse and Zingales (2010) show that analysts detect more corporate fraud than the SEC and auditors. To forecast future earnings and stock prices accurately, analysts need to carefully evaluate significant managerial decisions, corporate strategies and firm performance. When they identify certain areas of concern about a company, they often discuss them in their reports or even raise questions directly with managers in public events, such as conference calls and investor days. These activities increase the reputational and career costs for managers to take self-serving actions at the expense of shareholders.

Under the contracting explanation of conservatism (e.g., Ball 2001; Watts 2003a), conservative accounting emerges as a means of addressing agency problems between a firm and its contracting parties. Watts (2003a) nicely summarizes how conservatism facilitates various contracts. For example, due to both limited liabilities and tenure, managers often have incentives to engage in value-detrimental activities, such as earnings management to maximize personal compensation, and overinvestment to build an "empire." Due to this information asymmetry

between managers and outside shareholders, such activities may be undetectable to shareholders, preventing them from taking timely and immediate actions in response. Conservatism requires more verification to recognize good news into earnings, which constrains management's opportunistic behavior in earnings management, and therefore reduces the opportunity for managers to overstate earnings to increase their compensation (e.g., Gao 2013). Furthermore, by recognizing bad news more timely, conservatism not only discourages managers from investing in negative NPV projects, but also provides timely information necessary for outside directors to effectively monitor them.[1] A natural prediction of the contracting explanation is that accounting conservatism should increase after the exogenous termination of analyst coverage because the exacerbated agency conflicts would create a greater demand for accounting conservatism.

We test this prediction by comparing the change in accounting conservatism between firms losing analyst coverage due to broker closures or mergers to a sample of control firms with similar characteristics. Consistent with this prediction, we document a significant increase in accounting conservatism, as measured by Basu (1997), following an exogenous decrease in analyst coverage. In contrast, we observe no significant change in accounting conservatism for the matched sample of control firms. The results are robust to several alternative proxies for accounting conservatism. Specifically, we document similar results using the persistence of negative non-operating accruals

[1] Debt contracts also create a demand for conservative financial reporting. The asymmetric payoff function of debt-holders creates an intrinsic conflict between debt-holders and shareholders. Shareholders often have the incentive to take certain actions that benefit themselves at the expense of debt-holders. Due to information asymmetry, these actions are not always observable to debt-holders. Debt contracts protect debt-investors by setting a certain level of the lowest net asset below which technical defaults will be triggered, and the loan can be called. By recognizing bad news more quickly, accounting conservatism provides debt-holders with an early warning signal regarding the safety of the debt, and thus helps transfer the control rights to debt-holders in the case of covenant violations. Besides, the understatement of net income and book value under accounting conservatism restrains dividend payments to shareholders, and thus increases the likelihood of debt repayment. In other words, accounting conservatism helps improve debt-contracting efficiency by facilitating the timely transfer of control rights to debt-holders when a firm prospect turns sour, thereby reducing the likelihood of expropriation from shareholders.

(e.g., Givoly and Hayn 2000; Beatty et al. 2008) and the measure proposed by Ball and Shivakumar (2006) as alternative proxies for accounting conservatism.

We also develop and test several hypotheses regarding cross-sectional variation in the effect of an exogenous drop in analyst coverage on accounting conservatism. Our first set of cross-sectional predictions concerns the magnitude of the impact on information asymmetry and analyst monitoring. Other things being equal, the impact of an exogenous drop in analyst coverage should be greater when the terminated analysts are more informed or when the affected firms are followed by fewer analysts. Accounting conservatism should increase to a larger extent to mitigate the larger increase in agency conflicts for these cases. Our empirical results are largely consistent with these predictions. We document that the increase in accounting conservatism is larger when the past earnings forecasts issued by the terminated analysts are more informed, and when the affected firms have lower existing analyst coverage (especially among small firms).

In our second set of cross-sectional predictions, we examine the impact of debt contracting on the change in accounting conservatism caused by an exogenous decrease in analyst coverage. We predict that firms should increase accounting conservatism to a greater extent in response to the exogenous shock to analyst coverage when debt-holders' interests are more vulnerable to the agency problems of debt, such as risk overtaking and direct wealth transfer. The results are uniformly consistent with this set of predictions. Specifically, we find that the increase in accounting conservatism is significantly larger for firms with higher financial leverage and for firms with unfavorable credit ratings.

Our final cross-sectional prediction is related to the use of accounting conservatism in compensation contracting. Agency problems tend to be more severe if a firm pays its executives more in the form of bonuses (instead of equity-based compensation). A larger proportion of bonus-

based compensation may motivate managers to pay excessive attention to short-term performance, at the expense of long-term shareholder value. Furthermore, it is more difficult for the firm to recover the bonus once it is paid to the executives. Hence, the increase in agency conflicts following a decrease in analyst coverage should be greater for firms with a higher proportion of bonus-based executive compensation. These firms would therefore demand a greater increase in accounting conservatism in order to tackle the exacerbated agency conflicts. Empirical evidence supports this prediction, and we document a larger increase in accounting conservatism among a subsample of firms where bonuses represent a relatively higher fraction of the total executive compensation.

Our paper contributes to the literature in several ways. First, we provide robust supporting evidence to the contracting explanation of accounting conservatism (Ball 2001; Watts 2003a, and Beatty et al. 2008). We find that, following an exogenous drop in analyst coverage (which exacerbates agency problems, according to prior literature), firms voluntarily increase their financial reporting conservatism. Furthermore, we also document a larger increase in accounting conservatism when the impact of coverage termination on the information environment is greater, and when the contractual benefit of accounting conservatism is greater. The evidence thus supports Watts' (2003a) argument that "*conservatism arises because it is part of the efficient technology employed in the organization of the firm and its contracts with various parties."*

Second, this paper complements and adds to recent studies showing that the probability of informed trades (PIN), a proxy for information asymmetry, and managerial ownership, a proxy for separation of ownership and control, are *associated with* accounting conservatism (e.g., LaFond and Watts 2008; LaFond and Roychowdhury 2008). One challenge to these studies is that the endogeneity issue of PIN and managerial ownership. Using the lagged change in PIN (LaFond and

Watts 2008) and controlling several proxies for the investment opportunity set (LaFond and Roychowdhury 2008) can only mitigate, but are unlikely to sufficiently address the endogeneity concern.[2] Without properly addressing the endogeneity issue, one cannot rule out the possibility that the documented associations are due to some omitted correlated variables or reverse causality where conservative financial reporting causes a change in information asymmetry. Our study is immune from these concerns, as the analyst coverage terminations due to broker closures and mergers are *exogenous* shocks to the affected companies. This superior identification strategy allows us to draw an unambiguous causal inference as to whether deteriorated agency conflicts *cause* companies to voluntarily adopt more conservative reporting.

Finally, our paper adds to the growing literature on exogenous analyst coverage termination. These studies show that exogenous analyst coverage termination leads to adverse consequences such as depressed stock prices (Kelly and Ljungqvist 2012), increased information asymmetry (Kelly and Ljungqvist 2012; Wu 2013), decreased investor recognition (Li and You 2015) and weakened external monitoring (Chen et al. 2015). These findings raise another important, yet little understood research question, how the affected companies would strategically respond to these shocks. Balakrishnan, Billings, Kelly and Ljungqvist (2014) take *a capital market perspective* and show that *some* companies respond to the deteriorated information asymmetry on the capital market by providing more timely and informative earnings guidance, which mitigates the decrease in information asymmetry, improves stock market liquidity and increases firm value. In this paper, we complement Balakrishnan et al. (2014) by examining how companies respond to the events

[2] LaFond and Watts (2008) do not explicitly discuss endogeneity in the paper. LaFond and Roychowdhury (2008) acknowledge on page 133 of the paper, *"... notwithstanding our numerous controls, however, it is possible that residual ownership and accounting conservatism are still simultaneously affected by a set of correlated omitted variables. To that extent, it is possible that our model is misspecified and our results should be interpreted with caution.*"

from *a contracting perspective*. We hypothesize and find that companies increase their financial reporting conservatism in response to the exogenous shock to the agency conflicts, suggesting that conservative financial reporting is a useful tool companies use to improve their contracting efficiency under information asymmetry. [3]

This paper also has important policy implications. We show that firms *voluntarily* increase their financial reporting conservatism following an adverse shock to its information and external monitoring environment. The findings suggest that at least for some firms, the benefits of conservative reporting exceed the costs. Hence, the recent regulatory trend of eliminating conservatism from financial reporting may prevent firms from using conservative accounting to address their agency problems, and may therefore impose significant costs on corporate America.

The remaining parts of the paper are organized as follows. Section 2 reviews the related literature and develops the hypotheses. Section 3 describes the research design choices. Section 4 presents the empirical results, and Section 5 offers concluding remarks.

2. Literature Review and Hypotheses Development

2.1 Analyst Coverage and Agency Problems

Agency problems often emerge as a result of information asymmetry, where the agent has more information than the principal (e.g., Holmstrom 1979). For example, the principal's lack of information regarding the agent type would result in adverse selection, while poor knowledge about agent actions could lead to moral hazard. Both types of agency problems result in dead-

[3] Voluntary disclosure is unlikely to be very effective in addressing the exacerbated agency conflicts in contracting after the exogenous coverage termination. First, voluntary disclosure is not contractible, and thus is rarely used in contracts. Second, in contracting, the principals are mostly concerned more about bad outcomes. However, managers tend to be quite forthcoming with disclosing good news, but are reluctant to disclose bad news (e.g., Verrecchia 2001; Kothari, Shu and Wysocki 2009). Consequently, companies may not voluntarily release much bad news, which would be useful for contracting principals.

weight losses (Jensen and Meckling 1976; Laffont and Martimort 2002). Financial analysts could help alleviate agency problems in at least two ways: i) by mitigating information asymmetry problems; and ii) by serving as external monitors.

One of the important tasks of analysts is to collect and process information about their followed firms and distribute it to investors. Consistent with analysts producing information about followed firms, prior literature finds that more analyst coverage is associated with a reduction in the bid-ask spread (Brennan and Subrahmanyam 1995; Bowen, Chen and Cheng 2008; Amiram, Landsman, Owens and Stubben 2013), an increase in stock synchronicity (Piotroski and Roulstone 2004; Chan and Hameed 2006) and an acceleration of price discovery (Hong, Lim and Stein 2000; Gleason and Lee 2003; Frankel and Li 2004). By generating and disseminating the information to the public, analysts reduce the information gap between management and outside stakeholders of the followed companies, and therefore alleviate the information asymmetry (e.g., Kelly and Ljungqvist 2012; Wu 2013; Li and You 2015).

Information asymmetry is one of the ultimate reasons for the existence of agency problems. As Jensen (1993) argues, information disadvantages hinder the ability of even highly talented board members to effectively monitor and evaluate managers and their decisions. Armstrong et al. (2010) go even further and suggest that "in the absence of information asymmetries, boards can likely mitigate many, or most, agency conflicts with managers, particularly since boards retain considerable discretion in their monitoring of managers and therefore take immediate action upon receiving new information." Hence, by providing valuable information, especially unfavorable information to shareholders and outside contracting parties, analysts help them detect the opportunistic behaviors of managers, and therefore mitigate agency problems.[4]

[4] While analysts catering to capital market needs should provide both positive and negative information to their audience, the negative/unfavorable information is particularly useful for mitigating agency problems. First, such

Analysts may also help alleviate agency problems by serving as external monitors. Jensen and Meckling (1976) suggest that "*monitoring activities … become specialized to those institutions and individuals who possess comparative advantages*…." Financial analysts' comparative advantages lie in the in-depth knowledge and information they gain from their coverage activities (e.g., Piotroski and Roulstone 2004; Chan and Hameed 2006; Crawford, Roulstone and So 2012). In order to develop earnings forecasts and stock recommendations, analysts need to constantly evaluate corporate strategies, managerial decisions and firm performance. Their assessments are often publicized in their research reports and are sometimes further circulated by public media, such as newspapers. Furthermore, analysts frequently raise critical questions about firm performance and corporate decisions at public events, such as conference calls and investor days. Negative opinions made by analysts are likely to have an adverse impact on the reputation, and even the career prospects of the executives, and therefore can be regarded as a direct monitoring mechanism that reduces managers' incentives to take self-serving actions at the expense of a firm's value.

Consistent with the role that analysts play in external monitoring, Chen, Harford and Lin (2015) find that as a firm experiences an exogenous decrease in analyst following, CEOs have greater excessive executive compensation, and are more likely to make value-destroying acquisitions, among other actions. This finding suggests that analysts help reduce firms' agency problems. Furthermore, analysts' information advantage allows them to detect managers' misconduct more effectively. For example, Dyck, Morse and Zingales (2010) show that analysts play a much more important role in detecting corporate fraud than the SEC and auditors. Facing a

information allows principals to take timely action to protect their interests. Second, publicizing negative information about a firm may affect managers' reputation and career prospects, which discourages them from engaging in self-serving activities in the first place.

greater probability of being exposed by analysts, managers are less likely to engage in earnings management. Consistent with this conjecture, Yu (2008) documents that analysts help curb costly opportunistic earnings management.

2.2 Agency Problems, Contracting and Accounting Conservatism

As discussed above, most agency conflicts are rooted in the information asymmetry between insiders and outsiders. This asymmetry occurs partially because managers have more information about the firms and do not always report it to outside contracting parties. Naturally, managers are rather forthcoming with information about good news, but are reluctant to disclose bad news that is detrimental to their personal interests (e.g., Verrecchia 2001; Kothari, Shu and Wysocki 2009). Thus, the information asymmetry problem is more severe for information concerning bad news. Furthermore, the asymmetry in information regarding bad news is more important in agency conflicts, as the principals are mostly concerned about bad outcomes.

By requiring companies to recognize bad news more timely (than good news), accounting conservatism forces managers to incorporate bad news into earnings earlier, which helps mitigate agency conflicts (e.g., Gao 2013).[5] For example, managers often have incentives to overinvest or to continue negative NPV projects for personal benefit, such as the prestige or perks of managing larger firms (i.e., empire-building). Information asymmetry between managers and outside shareholders prevents outside investors from quickly detecting such misconduct. By recognizing bad new more timely, conservatism forces the economic losses from these projects to be incorporated into earnings more quickly, which not only provides timely warning signals for

[5] While conservatism requires more timely bad news recognition, which may reduce the information gap between managers and outsiders with respect to the bad news, we are agnostic with respect to whether accounting conservatism helps reduce the general information asymmetry in the capital market. For example, if the requirement of more verification delays the recognition of good news into earnings, other things being equal, more conservatism could even reduce the information contained in the earnings that is publicly available to investors.

outside directors to take necessary actions, but also discourages managers from investing in negative NPV projects in the first place (e.g., Balakrishnan, Watts and Zuo 2015).

Furthermore, conservatism constrains management's opportunistic behavior in earnings management, and therefore reduces the opportunity for managers to overstate earnings to increase their compensation. Executive compensation, in particular the bonus component, is often based on accounting numbers. As a result, managers have incentives to overstate accounting performance so as to increase their compensation. With limited liabilities, it is difficult to recover the pay, even if the overstatement is subsequently exposed. Conservatism requires more verification to recognize good news into earnings and more timely bad news recognition, which curbs managers' tendency to overstate performance, and therefore enhances the compensation contracting efficiency (Ball 2001; LaFond and Roychowdhury 2008). [6]

Accounting conservatism also helps mitigate agency conflicts between debt-holders and shareholders. Debt-holders tend to pay more attention to the downside risk of the firm, since they cannot enjoy the upside benefit beyond some threshold (i.e., the face value of debt). In contrast, shareholders can reap all of the benefits beyond the threshold while being shielded from the downside risk. Due to the difference in their payoffs, managers, as representatives of the shareholders, often have incentives to take actions that benefit shareholders at the expense of debt-holders, such as taking on excessively risky projects and directly transferring wealth via the overpayment of dividends (e.g., Jensen and Meckling 1976). To protect their interests, debt-

[6] The discretion that companies have in their choice of accounting conservatism and financial reporting would not necessarily render conservatism to be ineffective as part of the monitoring/contracting mechanism to address agency problems. First, financial reporting is closely monitored and overseen by the board of directors (specifically the auditing committee) and auditors. Potential intervention from the board of directors and auditors may deter managers from deviating substantially from the desired level of conservatism. Second, career and reputational concerns may also help prevent managers from abusing their discretion to deviate from the desired level of conservatism.

holders often impose certain covenants in debt contracts to limit managers' ability to take such actions.

Accounting conservatism helps mitigate agency conflicts, and therefore improves the efficiency of debt contracting in several ways. First, many, or most debt covenants are based on accounting numbers, and therefore require conservative accounting to function more effectively (e.g., Beatty et al. 2008; Nikolaev 2010). By recognizing bad news more quickly, conservatism provides debt-holders with an early warning signal regarding the safety of the debt, which helps trigger covenant violations and transfers the control rights to debt-holders in a more timely manner. Second, prior studies find that companies have incentives to manipulate earnings when approaching covenant violations (DeFond and Jiambalvo 1994; Sweeney 1994; Franz, HassabElnaby and Lobo 2014). Hence, conservatism may also help improve the efficiency of debt contracts by constraining the opportunities of upward earnings manipulations (e.g., Gao 2013). Third, the understatement of net income and book value under accounting conservatism also restrains dividend payments to shareholders, and thus increases the likelihood of debt repayment. Consistent with the notion that accounting conservatism helps mitigates agency conflicts in debt contracting, prior literature documents that firms with more severe agency conflicts tend to use more conservative accounting (e.g., Ahmed et al. 2002; Beatty et al. 2008), and that firms with more conservative accounting policies enjoy more favorable interest rates (e.g., Zhang 2008; Haw, Lee and Lee 2014).[7]

2.3 Hypotheses Development

[7] Conservatism may also help mitigate the agency problem of adverse selection. By adopting a conservative accounting policy, firms of a good type could signal their robustness when conducting external financing (Göx and Wagenhofer 2009; Chen and Deng 2010). Managers could also signal their type by following a conservative accounting policy. On the one hand, good performance becomes more informative under conservative accounting (Kwon, Newman and Suh 2001). On the other hand, accounting conservatism could serve as a commitment by managers to credibly signal favorable future prospects, since managers' compensation is deferred (Lin 2006; Glover and Lin 2013).

As discussed above, analysts mitigate agency problem by reducing the information asymmetry between contracting parties and directly monitoring managers. Exogenous analyst coverage terminations exacerbate information asymmetry, weaken external monitoring, and therefore lead to more severe agency conflicts and decreased contract efficiency. If financial reporting conservatism is an efficient tool to address the agency conflicts in contracting, we expect companies to increase their accounting conservatism following the increase in accounting conservatism. Hence, our first hypothesis, stated in an alternative form, is as follows:

H_1: An exogenous drop in analyst coverage leads to an increase in accounting conservatism.

It is worth pointing out that alternative arguments exist regarding the role that accounting conservatism plays in mitigating agency problems, and thus, its effect on improving contracting efficiency. Accounting standard setters have decided to eliminate accounting conservatism from their conceptual framework, since they believe its inclusion could be inconsistent with neutrality (FASB 2010). There are also certain academic studies supporting such a view. For example, Sanders et al. (1938) believe that whether accounting conservatism is desirable depends on various conditions. They argue that "*it is therefore proper to inquire into the circumstances which have led to any bias which may exist in favor of understatement*." Moreover, Gigler et al. (2009) show that accounting conservatism reduces contracting efficiency, since it increases type-I errors (false alarms), leading to inefficient liquidation decisions.[8] Since there is predominantly more evidence that conservatism mitigates agency conflicts, we still develop our prediction based on this point-of-view.

[8] Another competing hypothesis that also generates the opposite prediction is that if analysts demand more conservative accounting, accounting conservatism may decrease after an exogenous drop in analyst coverage.

We also develop several hypotheses regarding the cross-sectional variations on the effect of a drop in analyst coverage with respect to accounting conservatism. The first cross-sectional analysis concerns the informedness of the terminated analysts. Analysts issuing better-informed forecasts contribute more to improvements in the information environment (Louis, Sun and Urcan 2013). Hence, the loss of such analysts results in a greater increase of information asymmetry and a more severe deterioration in agency problems, which further leads to a greater demand for accounting conservatism. Hence, our second hypothesis is stated as follows:

H_2: An increase in accounting conservatism following an exogenous drop in analyst coverage is greater when the terminated analysts are more informed.

The second cross-sectional prediction is related to existing analyst coverage. More analyst coverage could help improve the information environment in at least two ways. On the one hand, additional analyst coverage is more likely to provide additional information regarding the covered firm, and is therefore likely to enlarge the information set available to investors. On the other hand, additional analyst coverage could also result in less biased forecasts, and could therefore improve the quality of the forecasts issued by analysts (Hong and Kacperczyk 2010). Since firms in the sample generally lose one analyst after the exogenous shock, the information environment for firms with fewer existing analysts would be more adversely affected, compared to those with more existing analysts. Thus, our third prediction is that, other things being equal, the impact of a drop in analyst coverage on accounting conservatism should be larger for firms with lower existing coverage, which is formalized as follow:

H_3: An increase in accounting conservatism following an exogenous drop in analyst coverage is greater for firms with lower existing analyst coverage.

As discussed earlier, debt-holders face a different payoff function from shareholders. This divergence of interests leads to agency conflicts between debt and equity investors, which may motivate managers/shareholders to opportunistically expropriate wealth from debt-holders via actions such as excessive risk taking, overpayment of dividends and the issuance of more senior debts. By recognizing bad news more quickly and constraining *ex post* upward earnings manipulations, conservatism helps debt covenants function more effectively, and therefore discourages managers from taking these actions.

An exogenous drop in analyst coverage increases information asymmetry and reduces external monitoring, which therefore makes it easier for managers to engage in these value-expropriating actions. The incentives of shareholders to engage in such actions should be greater for firms with high financial leverage and for those with unfavorable credit ratings. First, the amount of debt-holders' wealth that can be transferred to shareholders is limited if firms do not use much debt. Second, these value-expropriating actions unlikely reduce the debt value for firms with low leverage and favorable credit ratings, which have sufficient assets to cover the debt obligations. Hence, the cost of these actions, if any, would still be largely borne by the shareholders. To protect themselves from the value expropriation by shareholders, the debt-holders of these firms would demand a larger increase in accounting conservatism after the drop in analyst coverage. We therefore have the following predictions:

H_4: An increase in accounting conservatism following an exogenous drop in analyst coverage is greater for firms with higher financial leverage.

H_5: An increase in accounting conservatism following an exogenous drop in analyst coverage is greater for firms with unfavorable credit ratings.

Our next prediction is related to the degree of agency problems arising from the conflicts of interest between managers and investors. Executive compensation typically includes cash components, equity-based components and other aspects (Murphy 1999). The cash components (including salaries and bonuses) are aimed to protect managers from downside risk (Dechow 2006). However, it could also introduce additional agency problems. A higher proportion of bonus-based compensation may motivate managers to focus more on short-term outcomes at the expense of long-term shareholder value, leading to misaligned interests between executives and investors (Healy 1985; Holthausen, Larcker and Sloan 1995; Comprix and Muller III 2006). Following an exogenous drop in analyst coverage, information asymmetry worsens and analyst monitoring weakens, leaving more leeway for managers to inflate earnings in order to maximize personal compensation. Other things being equal, managers who are compensated more in the form of bonuses (instead of long-term equity) will have greater incentives to inflate earnings. Hence, the investors of these firms would demand a larger increase in accounting conservatism so as to protect themselves. Hence, our final hypothesis, stated in an alternative form, is as follows:

H_6: An increase in accounting conservatism following an exogenous drop in analyst coverage is greater for firms with a higher proportion of bonus-based compensation.

3. Research Design

3.1 Sample Selection

We obtain a list of broker mergers and closures from Hong and Kacperczyk (2010) and Kelly and Ljungqvist (2012). The list provided by Hong and Kacperczyk (2010) ranges from 1984-2005, while the list provided by Kelly and Ljungqvist (2012) covers the period between 2000-

2008. As summarized in Panel A of Table 1, the combined list of merged or closed brokers sums up to 54 events.[9] We further require that in the case of broker mergers, the code for an acquirer can also be identified in I/B/E/S. Furthermore, both the acquirer and target broker should cover one firm before the broker merger, and during the post-merger period, the acquirer broker needs to cover the affected firm. This requirement follows from prior literature (Kelly and Ljungqvist 2012): the reason for imposing such a constraint is that if the acquirers stop coverage after the broker merger, the coverage termination is more likely to be endogenous, since the acquirer broker chooses not to continue coverage. This further constraint reduces the list to 42 events, including 21 broker closures and 21 broker mergers.

The list of brokers identified above is then merged to the I/B/E/S unadjusted detail file to determine the candidate treatment group. The detailed sample selection procedure is presented in Panel B of Table 1. In order to examine the change in accounting conservatism, we require that the candidate treatment firm exist at least one year before and one year after the merger/closure of the brokerage house (i.e., the event date). By further requiring that the variable used in the regression analysis be non-missing, we end up with 4,463 terminations that are affected by broker merger/closures. For each firm-year observation in the treatment sample, we select one control firm based on the following criteria. First, the control candidates should be within the same industry (2-digit SIC code)-year as the treatment sample. Second, we require that the control candidates lie within the same quintile of analyst coverage and the same quintile of *C_SCORE*[10] as the treatment sample prior to the termination of analyst coverage. To minimize the difference

[9] The list includes 15 in Hong and Kacpercyzk (2010) and 43 in Kelly and Ljungqvist (2012). However, there are 4 duplicates in Hong and Kacpercyzk (2010) and Kelly and Ljungqvist (2012).

[10] *C_SCORE* is calculated following Khan and Watts (2009) and aims to measure accounting conservatism. A detailed calculation of *C_SCORE* is described in Appendix 1. We impose such a requirement to minimize the degree of accounting conservatism between the treatment and control groups in the period before a drop in analyst coverage.

in coverage, we further impose the following condition: the absolute difference in coverage is less than 4, or the absolute difference scaled by coverage of the treatment group is no larger than 20%. We then select the firm with a minimum difference in *C_SCORE* to construct the control group. With these requirements, we are left with 1,944 treatment-control pairs, or 3,888 firm-year observations.

3.2 Measures of Accounting Conservatism

We use the specification in Basu (1997) as the main measure of accounting conservatism.[11] We use the following model to test our predictions:

$$EPS_t=\alpha+\beta_1*AFTER_t+\beta_2*DRET_t+\beta_3*RET_t+\beta_4*AFTER_t*DRET_t+\beta_5*AFTER_t*RET_t$$
$$+\beta_6*DRET_t*RET_t+\beta_7*AFTER_t*DRET_t*RET_t+\varepsilon_t \quad (1)$$

where EPS_t is earnings per share for fiscal year t scaled by the closing price of t-1. $AFTER_t$ is a dummy variable, equal to 0 if the fiscal year end falls into the 365-day window before the event date, and 1 if the fiscal year beginning date falls into the 365-day window after the event date, where the event date is the date for the broker merger or closure. RET_t is the 12-month compounded raw return[12] starting from the fourth month after the fiscal year end of t-1 to three months after the fiscal year end of t. $DRET_t$ is equal to 1 if RET_t is negative, and 0 otherwise. The main coefficient of interest is β_7, i.e., the one on $AFTER_t*DRET_t*RET_t$[13], which measures the change in accounting conservatism after a drop in analyst coverage. In the main tests, we compare β_7 between the treatment and control groups. The prediction is that compared to the control group, the treatment

[11] In a subsequent section, we also employ two other measures of accounting conservatism for robustness check purposes.
[12] Using a market-adjusted return generates similar results.
[13] In the subsequent analysis, we ignore the time subscript in the variable for brevity. The same rule applies to subsequent Models (2) and (3).

group exhibits a significantly larger β_7. In the cross-sectional tests, we again compare β_7 between two different groups, based on the partitioning variables.

For additional analysis, we also conduct an analysis of the full sample using the following specification:

$$EPS_t=\alpha+\beta_1*DRET_t+\beta_2*RET_t+\beta_3*COVER_t+\beta_4*DRET_t*RET_t+\beta_5*DRET_t*COVER_t$$
$$+\beta_6*RET_t*COVER_t+\beta_7*DRET_t*RET_t*COVER_t+\varepsilon_t \quad (2)$$

where EPS_t is earnings per share for fiscal year t scaled by the closing price of t-1. RET_t is the 12-month compounded raw return starting from the fourth month after the fiscal year end of t to three months after the fiscal year end of t+1. $DRET_t$ equals 1 if RET_t is negative, and 0 otherwise. $COVER_t$ is the natural logarithm of 1 plus the number of analysts issuing earnings forecasts (either quarterly or annually) for the firm during the year. The coefficient on $DRET_t*RET_t*COVER_t$ (β_7) measures the effect of analyst coverage on accounting conservatism.

4. Empirical Analysis

4.1 Descriptive Statistics

Table 2 provides the descriptive statistics of the key variables used in the analysis for the treatment and control groups. The results show that the earnings variable *EPS*, defined as earnings per share scaled by the prior year closing price, is statistically indistinguishable between the two groups. The treatment sample appears to have higher annual stock returns (*RET*) than the control group. The mean and median *RET* equal 20.8% and 9%, respectively, for the treatment group and equal 36.3% and 22.7%, respectively, for the control group. The mean of the bad news dummy *DRET*, which takes the value of 1 if *RET*<0 and 0 otherwise, is 0.403 and 0.29, respectively, for the treatment sample and control group, suggesting that the treatment firms have a higher

frequency of negative annual stock returns. As expected, the conservatism score as defined in Khan and Watts (2009) (*C_SCORE*) and analyst coverage (*COVER*), the two dimensions that we match upon to select the control sample, are statistically indistinguishable between the treatment sample and control group prior to the event of an exogenous coverage termination. Hence, the matching procedure effectively reduces the difference in analyst coverage and accounting conservatism between the two groups. This helps us attribute the subsequent difference of the change in accounting conservatism between the two groups to the effect of the deteriorating agency problems brought about by the exogenous drop in analyst coverage.

4.2 Tests of the main hypothesis

Since exogenous termination of analyst coverage increases information asymmetry and weakens external monitoring, companies should adopt more conservative financial reporting to meet the greater demand for conservatism in their contracts with various parties. Our main hypothesis therefore predicts an increase in accounting conservatism following an exogenous termination of analyst coverage. To test this hypothesis, we estimate regression Model (1) for the treatment sample and the control group and compare the regression coefficient on *AFTER*DRET*RET*, which captures the change in accounting conservatism after the exogenous termination in accounting conservatism. Hypothesis 1 predicts that the coefficient should be significantly larger for the treatment sample versus the control group.

The empirical results are presented in Table 3. We report the regression coefficients and the corresponding t-statistics for the treatment sample and the control group in Columns (1) and (2), respectively. Column (3) then tests the difference in the regression coefficients between the two groups. All of the t-statistics are based on standard errors clustered at firm and year levels. The results show that the coefficient on *DRET*RET*, which captures the level of accounting

conservatism before the exogenous shocks to analyst coverage, is statistically insignificant between the treatment and control groups. The results confirm that our control sample selection procedure successfully identifies a group of control firms with a similar level of accounting conservatism.

More importantly, Column (1) of Table 3 shows a significant positive coefficient on *AFTER*DRET*RET* (coefficient=0.169, t-statistic=3.24), indicating an increase in accounting conservatism after the exogenous termination of analyst coverage. In contrast, the coefficient on *AFTER*DRET*RET* for the control group is both economically small and statistically insignificant (coefficient=0.022, t-statistic=0.39). Furthermore, Column (3) shows that the difference in the coefficient is statistically significant between the treatment sample and the control group (difference=0.146, t-statistic=2.23), suggesting that firms affected by the drop in analyst coverage report more conservatively after the exogenous termination in analyst coverage. The evidence reported in Table 3 is consistent with the notion that accounting conservatism increases in response to deteriorated information asymmetry and weakened external monitoring brought about by an exogenous drop in analyst coverage, providing supporting evidence to the contracting explanation for accounting conservatism (Watts 2003a).

4.3 Cross-sectional Analysis

In this section, we test several cross-sectional hypotheses. Broadly speaking, our cross-sectional hypotheses can be categorized into three groups. Our first set of cross-sectional predictions concerns the magnitude of the effect of exogenous analyst coverage termination on information asymmetry and analyst monitoring, where we examine two factors: the informedness of the dropped analyst and the existing analyst coverage. In the second set of cross-sectional analyses, we examine how the effect of exogenous coverage termination varies with the debt

contracting demand for conservatism, as reflected in the financial leverage ratio and credit rating. Our final cross-sectional prediction is related to the compensation usage of accounting conservatism, where we investigate how the proportion of managerial bonus compensation affects the relationship between exogenous coverage drops and accounting conservatism.

4.3.1 Cross-sectional Analysis: Analyst Informedness

As discussed above, we hypothesize that firms losing a more informed analyst will experience worse deterioration in information asymmetry, and therefore should have a larger increase in accounting conservatism. The informedness of an analyst for a firm is measured as the averaged absolute value of three-day size-adjusted returns to the announcements and revisions of the analyst's one-year-ahead EPS forecasts for the firm over the prior two years. We then split the sample into two subsamples, based on the median of the informedness measure. The results are reported in Panel A of Table 4. Columns (1) and (2) report the results for dropped analysts with the informedness measure below and above the annual median, respectively. Column (3) tests the difference in the coefficients between the two subsamples. The results show that both groups of firms exhibit an increase in accounting conservatism after the exogenous shock in analyst coverage. For firms losing a less informed analyst, the increase in conservatism (coefficient=0.291, t-statistic=2.93) is smaller compared to firms losing a more informed analyst (coefficient=0.452, t-statistic=8.11). Moreover, the difference across the two groups is statistically significant (coefficient=-0.161, t-statistic=-1.99). Thus, the results are consistent with the prediction of hypothesis 2 that the loss of a more informed analyst leads to a greater increase in accounting conservatism. The results suggest that the decrease in information available to investors, and hence the deterioration in information asymmetry, is an important reason for the increase in accounting conservatism following an exogenous termination of analyst coverage.

4.3.2 Cross-sectional Analysis: Number of Existing Analysts

As discussed above, we hypothesize that the effect of a drop in analyst coverage on accounting conservatism is greater for firms with lower existing analyst coverage. Analyst coverage or the number of existing analysts covering a stock is obtained from I/B/E/S, calculated as the number of unique analysts issuing earnings forecasts for the firm during the year prior to the exogenous analyst coverage termination. The results are reported in Panel B of Table 4. Column (1) reports the regression results for the *Low Coverage* subsample, which includes about half of the treatment firms with analyst coverage below the corresponding annual median. Consistent with our prediction, we document a positive and significant coefficient on *AFTER*DRET*RET* (coefficient=0.330, t-statistic=3.04), indicating a significant increase in accounting conservatism following the exogenous termination of analyst coverage. The results for the *High Coverage* subsample are presented in Column (2) of the Panel. The coefficient on *AFTER*DRET*RET* is positive but statistically insignificant, and the magnitude of the coefficient (0.159) is also less than half of the coefficient for the low coverage group. However, as Column (3) shows, the difference between the coefficients, although bearing the predicted sign, is statistically insignificant.

Besides financial analysts, other market participants such as institutional investors, press and regulators also monitor firms and serve as alternative sources of information. Their existence weakens the relationship between existing analyst coverage and the effect of coverage termination on the changes in accounting conservatism. There should be fewer alternative information sources and monitoring parties for smaller firms. Thus, the difference in the effect of losing one analyst on agency conflicts between low and high analyst coverage firms should be more pronounced. We test the effect of existing analyst coverage among small firms in Panel C of Table 4, where we

focus on a subsample of firms with a market capitalization less than the annual median. We then further split the firms into two subsamples based on the annual median of analyst coverage. The results show that among small firms with lower existing coverage, the coefficient on AFTER*DRET*RET is 0.453, while the coefficient for small firms with higher existing coverage is merely 0.037. The difference between the two groups is statistically significant at less than 5% level, suggesting a greater increase in accounting conservatism among small firms with lower existing coverage than those with higher existing coverage. [14] Thus, the overall results in Panel B and Panel C of Table 4 provide weak support for hypothesis 3.

4.3.3 Cross-sectional Analysis: Leverage Ratio

Hypothesis 4 predicts that firms with a higher financial leverage ratio would experience a greater increase in accounting conservatism following an exogenous drop in analyst coverage. Leverage is defined as the total debt (*dlc+dltt*) divided by the market value of equity (*csho*prcc_f*).[15] We again split the treatment sample into two subsamples based on the annual median of financial leverage, so that half of the sample with financial leverage below the annual median is classified as *Low Leverage* firms, and the rest of the firms are classified as *High Leverage* firms. The regression results for the two subsamples are reported in Panel A of Table 5. Column (1) shows that for the Low Leverage group, the coefficient on *AFTER*DRET*RET* is positive but statistically insignificant (coefficient=0.094, t-statistic=1.00). In contrast, Column (2) shows that the coefficient is much larger for the *High Leverage* group and statistically significant at less than 1 percent level (coefficient=0.399, t-statistic=5.60). Furthermore, the difference in the

[14] Another reason for the insignificant result for the full sample is perhaps the difference in analyst quality/informedness between companies with low and high analyst coverage. Firms with more analyst coverage may have more business opportunities, and therefore brokerage firms are more likely to assign high-quality analysts to follow these firms. In untabulated tests, we compare the accuracy of individual earnings forecasts between analysts that cover firms with more versus fewer analysts. The results show that forecast accuracy is significantly lower for firms with lower analyst coverage than those with higher analyst coverage.

[15] Results are similar if we use book leverage, i.e., the total debt scaled by the book value of equity (*ceq*).

coefficients between the two groups is also statistically significant (coefficient=-0.304, t-statistic=-3.05). The results are consistent with the prediction of hypothesis 4 that firms with a higher leverage ratio experience a greater increase in accounting conservatism after an exogenous drop in analyst coverage. This result suggests that the debt contracting demand for conservatism to address agency conflicts between a firm and its debt investors is one of the reasons driving the increase in accounting conservatism following an exogenous drop in analyst coverage.

4.3.4 Cross-sectional Analysis: Credit Ratings

Hypothesis 5 predicts that firms with unfavorable credit ratings face more severe potential agency conflicts between themselves and their debt-holders, which therefore creates a greater demand for an increase in conservatism to deal with the more severe agency problems after an exogenous drop in analyst coverage. We use the S&P credit rating as reported by *Compustat* to partition the sample into the following two groups: the *Investment Grade Rating* group, which includes those with *Compustat*'s splticrm from AAA to BBB–, and the *Speculative Grade Rating* group, which includes those with *Compustat*'s splticrm from BB+ to D. Panel B of Table 5 reports the testing results. Column (1) reports the results for firms with investment-grade credit ratings (i.e., favorable credit ratings), while Column (2) reports the results for those with speculation-grade credit ratings (i.e., unfavorable credit ratings). Column (3) tests the difference. The results show that both groups of firms exhibit an increase in accounting conservatism after going through an exogenous shock. The coefficients on *AFTER*DRET*RET*, which capture the change in accounting conservatism following the exogenous termination of analyst coverage, are 0.515 and 0.200, respectively, for stocks with speculation and investment grade ratings. Both the two coefficients and the difference between them are statistically significant at a level of less than 1 percent, suggesting that the effect of an exogenous drop in analyst coverage is much larger for

companies with unfavorable credit ratings, where debt investors require stronger protection from agency conflicts.

4.3.5 Cross-sectional Analysis: Proportion of Bonus Compensation

Regarding bonus compensation, we hypothesize that firms granting a higher proportion of bonus compensation will likely experience worse moral hazard problems after an exogenous drop in analyst coverage, insofar as a lack of analyst monitoring makes it easy for managers to maximize personal compensation at the expense of long-term shareholder value. We therefore we predict a greater increase in accounting conservatism for these firms after an exogenous drop in analyst coverage. We compute the proportion of bonus compensation as the ratio of bonus compensation (*bonus*) to total compensation (*tdc1*[16]) averaged over top five executives from *Execucomp*. The results are reported in Table 6. We partition the treatment sample into two subsamples based on the annual median of the proportion of bonus compensation. The results in Columns (1) and (2) show a significant increase in accounting conservatism for both groups. The coefficient on *AFTER*DRET*RET* is 0.423 for firms with a high proportion of cash compensation and is statistically significant at less than 1 percent level. For firms in the low proportion of cash compensation group, the coefficient and the corresponding t-statistics are 0.253 and 3.24, respectively. The difference in the coefficient between the two groups is in the predicted direction and statistically significant at less than 10% level. The evidence is generally consistent with the hypothesis that firms granting a higher proportion of bonus compensation to managers demand a greater increase in accounting conservatism to cope with more severe agency problems subsequent to an exogenous decrease in analyst coverage.

[16] Results are similar if we use *tdc2* as a scale variable. The difference between *tdc1* and *tdc2* is that *tdc1* is the estimate for the total compensation awarded to executives, while *tdc2* is the estimate for the total compensation exercised by executives.

4.4 Robustness Check and Additional Tests

In this section, we conduct several additional analyses to check the robustness of the results.

4.4.1. Full Sample Regression

In our first robustness analysis, we examine the association between analyst coverage on accounting conservatism for all firms with analyst coverage. Hypothesis 1 implies that greater analyst coverage reduces information asymmetry and mitigates agency conflicts between contracting parties. The demand for accounting conservatism is therefore weaker for firms with greater analyst coverage. Hence, we expect a negative association between analyst coverage and accounting conservatism. Table 7 reports the regression results of Model (2). We predict a negative coefficient β_7 on *DRET*RET*COVER*. Columns (1) and (2) report the results without controlling for industry and year fixed effects, while Columns (3) and (4) report the results, controlling for industry and year fixed effects. Furthermore, Columns (1) and (3) report the results using compounded raw returns as a proxy for news, while Columns (2) and (4) report the results using compounded market-adjusted returns as the proxy. The results across the four columns are quite similar to one another, and we merely discuss the results of Column (1) for the sake of conciseness. As mentioned above, the variable of interest is the interaction between analyst coverage, bad news and stock returns, i.e., *DRET*RET*COVER*. Table 7 reports a significantly negative coefficient on *DRET*RET*COVER* (coefficient=-0.115, t-statistic=9.52), providing further supporting evidence for the main hypothesis. Specifically, the evidence echoes the findings in Table 3 that the loss of an analyst would result in a deteriorated information environment and weakened external monitoring, and companies would therefore increase their accounting conservatism to address exacerbated agency problems.

4.4.2. Alternative Measures of Conservatism

The measure by Basu (1997) is not without controversy (Dietrich et al. 2007; Givoly et al. 2007; Patatoukas and Thomas 2011), and therefore, sole reliance on it may lead to unreliable inference. We therefore also test the main hypothesis using two alternative measures of accounting conservatism. The first measure is based on non-operating accruals, measured as the total accrual minus operating accruals, with the two accruals defined as follows:

Total Accruals (before depreciation) = (Net Income (*ni*)+Depreciation (*dp*))−Cash Flows from Operations (*oancf*).

Non-operating Accruals = Total Accruals (before depreciation) − Operating Accruals,

where Operating Accruals = ΔAccounts Receivable (*rect*)+ΔInventories (*invt*)+ΔPrepaid Expenses (*xpp*)– ΔAccounts Payable (*ap*) −ΔTaxes Payable (*txp*). [17]

As argued in prior literature (e.g., Givoly and Hayn 2000; Beatty et al. 2008), the conservative accounting practice of timely loss recognition would result in lower non-operating accruals (and would probably be negative). We accumulate non-operating accruals over a three-year period (i.e., three years before and after the exogenous event) and multiply it by minus one so that larger values indicate a higher degree of accounting conservatism.

The second measure is based on Ball and Shivakumar (2006), estimated with the following regression:

$$ACC_t=\alpha+\beta_1*CF_t+\beta_2*DCF_t+\beta_3*DCF_t*CF_t+\beta_4*AFTER_t+\beta_5*CF_t*AFTER_t+\beta_6*DCF_t*AFTER_t+\beta_7*DCF_t*CF_t*AFTER_t+\varepsilon_t \quad (3)$$

where ACC_t is the total accrual for year t. CF_t is the industry-adjusted cash flow from operating activities, and DCF_t equals 1 if CF_t is negative, and 0 otherwise. $AFTER_t$ is a dummy

[17] All of the variables above are scaled by the average total assets (*at*), and are multiplied by 100 for ease of presentation.

variable to indicate the time period before and after the exogenous event, and is defined similarly to that in Equation (1). The intuition for the model is as follows: in periods of negative cash flow (the proxy for bad news), the asymmetric recognition of losses versus gains results in negative accruals. The relationship becomes attenuated for periods of positive cash flows (the proxy for good news) under the conservatism principle, leading to positive coefficients on DCF_t*CF_t (i.e., β_3). Similar to Basu's (1997) specification, β_7 captures the change in accounting conservatism for the treatment and control groups, respectively.

The results are reported in Table 8. Panel A presents the results using negative non-operating accruals as the alternative measure of accounting conservatism.[18] The results show that accounting conservatism between the two groups in the pre-shock period does not exhibit any significant difference (Treatment Group=-2.054, Control Group=-2.114, t-statistic=-0.55). After the exogenous shock, the treatment group experiences a significant increase in accounting conservatism (change=0.316, t-statistic=-2.75). In contrast, there is no significant change in non-operating accruals for the control group (change=-0.031, t-statistic=0.29). Moreover, as predicted, the difference-in-difference analysis indicates that the difference in the change of accounting conservatism between the treatment and control groups is positive and significant (difference=0.347 and t-statistic=2.19).[19]

[18] The control sample is constructed in a similar way as that in Table 3. The only difference is that the sample is constructed based on observations with non-missing values of persistence in non-operating accruals.

[19] One concern may be that analyst coverage termination could lead to a higher cost of capital and a reduction in investment, which may incur write-downs and/or write-offs associated with these financing restrictions. Moreover, the difference in the change in non-operating accruals between the two groups may be simply due to these write-offs rather than changes in conservatism. To mitigate such a concern, we remove write-offs and impairments from the non-operating accruals, and the results are qualitatively similar. We thank the referee for pointing out this alternative explanation.

Panel B presents the results using the conservatism measure proposed by Ball and Shivakumar (2006).[20] The accounting conservatism between the two groups in the pre-shock period does not exhibit any significant difference (the coefficient of *DCF*CF* is 0.223 for the treatment group and 0.453 for the control group, with -1.26 as the t-statistic for the difference in the coefficient). However, after the exogenous shock, conservatism moves in opposite directions for the two groups. As indicated in Column (1), accounting conservatism for the treatment group increases, as reflected in the positive coefficient on *DCF*CF*AFTER*, although it is not significant at the conventional level (coefficient=0.224, t-statistic=1.30). In Column (2), accounting conservatism for the control group decreases significantly (coefficient=-0.370, t-statistic=-2.21). The difference-in-difference test as reported in Column (3) indicates a significant difference in the change of accounting conservatism between the treatment and control groups. Collectively, the results based on alternative measures of accounting conservatism provide further support to the main hypothesis that accounting becomes more conservative after an exogenous drop in analyst coverage.

4.4.3. Additional Analysis: The Effect of Internal Corporate Governance

Our results so far are consistent with the contracting hypothesis that companies increase their accounting conservatism in response to the deteriorated agency conflicts brought by the exogenous analyst coverage termination. The increase in accounting conservatism reflects the demand of efficient contracting under information asymmetry. We expect that stronger boards with more independent directors should be more likely to increase accounting conservatism to increase contract efficiency. Furthermore, stronger boards should also be more effective in

[20] The control sample is constructed in a similar way as that in Table 3. The only difference is that the sample is constructed based on observations with non-missing values of variables for Ball and Shivakumar's (2006) specification.

monitoring financial reporting to make sure that companies follow the desired level of accounting conservatism. Thus, we expect a larger increase in accounting conservatism following the exogenous analyst coverage termination among firms with a higher percentage of independent directors. The results in Panel A of Table 9 are consistent with this prediction. Among firms with a higher percentage of independent directors, the coefficient on *AFTER*DRET*RET* is 0.303, which is significantly greater than the coefficient for firms with a lower percentage of independent directors, is 0.095.

4.4.4. Additional Analysis: The Effect of Dedicated Institutional Investors

One of the assumptions under our hypothesis is that analyst coverage termination reduces external monitoring, which leads to exacerbated agency conflicts and creates a greater demand for conservative financial reporting. Analysts are not the only external parties that monitor companies and their managers. Institutional investors, especially dedicated institutional investors, tend to hold stocks for long periods of time, and therefore also have incentives to play a monitoring role (Bushee 1998). We partition the sample into two subsamples based on the annual median of dedicated institutional holdings. The results in Panel B of Table 9 show that while both subsamples experience significant increases in conservatism, the coefficients on *AFTER*DRET*RET* are significantly lower for the subsample with higher dedicated institutional holdings. These results suggest that in the presence of other monitors (e.g., dedicated institutional investors), the effect of coverage termination on agency conflicts, and therefore accounting conservatism, is mitigated.

4.4.5. Additional Analysis: The Effect of Voluntary Disclosure

Balakrishnan et al. (2014) find that following exogenous coverage termination, some companies respond by providing more voluntary disclosure in the form of earnings guidance. They also show that the increases in earnings guidance mitigate the deterioration in information

asymmetry. Thus, we investigate how changes in voluntary disclosure affect the changes in accounting conservatism following a drop in analyst coverage.[21] We compare the changes in accounting conservatism between firms that increase their earnings guidance and those that do not, following analyst coverage termination. The results in Panel B of Table 9 show that among firms that increase their earnings guidance, the coefficient on *AFTER*DRET*RET* (=0.075) is significantly smaller than the coefficient (=0.344) for firms that do not increase their earnings guidance.

5. Conclusions

Using a drop in analyst coverage due to broker mergers/closures as an exogenous shock to firms' information environment, we document a robust negative relationship between analyst coverage and accounting conservatism. Specifically, we observe a significant increase in accounting conservatism following an exogenous decrease in analyst coverage. Furthermore, the effect is stronger when the dropped analyst is more informed, and when the affected firm has lower existing analyst coverage, a higher leverage ratio, lower credit ratings, and a higher proportion of bonus compensation.

Our paper makes several contributions to the literature. First, we provide further support to the contracting explanation of accounting conservatism. Specifically, an exogenous drop in analyst coverage leads to the deterioration of a firm's information environment, as well as external monitoring, which exacerbates potential agency conflicts between contracting parties, and therefore creates a greater demand for accounting conservatism. Second, by exploiting broker

[21] If companies can commit to disclosing both good news and bad news more frequently, it can potentially mitigate the concerns of agency conflicts, which might diminish the demand for greater accounting conservatism.

mergers and closures as exogenous shocks to a firm's information environment, our research mitigates the endogeneity concern of previous studies (e.g., LaFond and Watts 2008; LaFond and Roychowdhury 2008), which therefore provides more compelling evidence that information asymmetry and agency problems affect companies' conservative accounting practices. Third, the evidence adds to the literature that exploits the same natural experiment to demonstrate the role that financial analysts play in the real world. We document a negative impact of analyst coverage on accounting conservatism, suggesting that external analyst monitoring and internal accounting conservatism might be substitutes for addressing agency problems between a firm and its contracting parties. Overall, the evidence presented in this paper is consistent with the notion that accounting conservatism arises endogenously as part of the governance mechanism to mitigate agency problems. Hence, the elimination of accounting conservatism could limit firms' choice in dealing with agency problems and could lead to social welfare loss.

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Appendix 1: Variable Definition

VARIABLE	*DEFINITION*
Variables used for the construction of the control group	
$COVER_t$	The natural logarithm of 1 plus the number of analysts issuing earnings forecasts (either quarterly or annual forecasts) for the firm during year t.
C_SCORE_t	Defined as firm-year level accounting conservatism following Khan and Watts (2009). Specifically, it is estimated as follows. First, the following equation is estimated at the industry (2-digit SIC)-year level to obtain the coefficients on each variable. $EPS_i=\alpha+ \beta_1*DRET_i+RET_i(\mu_1+\mu_2*SIZE_i+ \mu_3*MB_i +\mu_4*LEV_i) +DRET_i* RET_i (\lambda_1+ \lambda_2*SIZE_i+ \lambda_3*MB_i +\lambda_4*LEV_i)+(\delta_1*SIZE_i+ \delta_2*MB_i + \delta_3*LEV_i+ \delta_4* DRET_i *SIZE_i+ \delta_5* DRET_i *MB_i + \delta_6* DRET_i *LEV_i)+\varepsilon_i$ After obtaining the coefficient, sum up the following equation to calculate *C_SCORE*. $C\_SCORE= \lambda_1+ \lambda_2*SIZE_i+ \lambda_3*MB_i +\lambda_4*LEV_i$ *EPS*, *DRET* and *RET* are defined following Basu (1997). *SIZE* is the natural logarithm of the market value of equity (*csho*prcc_f*). *MB* is the market-to-book ratio, defined as the market value of equity (*csho*prcc_f*) scaled by the book value of equity (*ceq*). *LEV* is the leverage ratio and is defined as the total debt (*dlc+dltt*) divided by the market value of equity (*csho*prcc_f*).
Variables used in Basu (1997)	
EPS_t	Earnings per share (*epsfx*) for fiscal year t scaled by the closing price (*prcc_f*) of t-1.
$DRET_t$	Dummy variable, equal to 1 if *RET* is negative, and 0 otherwise.
RET_t	12 monthly compounded raw returns during 9 months before fiscal year end t and 3 months after fiscal year end t.
Variables used for the cross-sectional analysis	
Informedness of Forecast	Measured at the analyst-firm level over the past three years, using the averaged absolute value of the market reaction to analyst forecast revision. Specifically, we first calculate the short-term market reaction (three-day cumulative abnormal return (size-adjusted), i.e., CAR) to the forecast revision for each analyst at the analyst-forecast level, and then average the absolute value of CAR from year t-2 to t at the analyst level to obtain the informedness measure for the analyst at time t.
Number of Existing Analysts	The natural logarithm of 1 plus the number of analysts issuing earnings forecasts (either quarterly or annually) for the firm during one year before the event.
Leverage Ratio	Defined as the total debt (*dlc+dltt*) divided by the market value of equity (*csho*prcc_f*).
Credit Rating	Measured based on the S&P credit rating. The credit rating is classified as the investment grade rating if the *Compustat* item *splticrm* ranges from AAA to BBB–, and as the speculative grade rating if the *splticrm* ranges from BB+ to D.

Proportion of Managerial Bonus Compensation	Calculated as the bonus compensation (*bonus*)[22] scaled by the total compensation (*tdc1*) from *Execucomp*, averaged over the top-five executives.
Variables used for the robustness check	
Persistence of Negative Non-operating Accruals	Measured as the total accruals minus the operating accruals, with the two accruals defined as follows: Total Accruals (before depreciation) = (Net Income (*ni*)+Depreciation (*dp*))−Cash Flows from Operations (*oancf*). Non-operating Accruals = Total Accruals (before depreciation) −Operating Accruals, where Operating Accruals equal ΔAccounts Receivable (*rect*)+ΔInventories (*invt*)+ΔPrepaid Expenses (*xpp*)– ΔAccounts Payable (*ap*) −ΔTaxes Payable (*txp*). All of the variables above are scaled by the averaged total assets (*at*), and multiplied by 100 for ease of presentation.
Ball and Shivakumar (2006)	The following equation is estimated to evaluate the degree of accounting conservatism, with β_7 indicating the change in accounting conservatism. $ACC_t=\alpha+\beta_1*CF_t+\beta_2*DCF_t+\beta_3*DCF_t*CF_t+\beta_4*AFTER_t+\beta_5*CF_t*AFTER_t+\beta_6*DCF_t*AFTER_t+\beta_7*DCF_t*CF_t*AFTER_t+\varepsilon_t$, where ACC_t is the total accrual for year t, defined as earnings before extraordinary items (*ibc*) minus the cash flow from operating activities (*oancf*). CF_t is the industry-adjusted cash flow from operating activities (*oancf*), and DCF_t is equal to 1 if CF_t is negative, and 0 otherwise. $AFTER_t$ is a dummy variable, equal to 0 if the fiscal year end falls into the 365-day window before the event date, and 1 if the fiscal year beginning date falls into the 365-day window after the event date, where the event date is the date for the broker merger or closure.

[22] Following the adoption of FAS 123R in 2005, the reporting format of executive compensation has been changed. We therefore follow Hayes et al. (2012) to also include *non_eq_targ* from plan-based awards table in the calculation of bonus compensation under the new reporting format.

Table 1: Sample Selection

This table summarizes the sample selection process. Panel A reports how the list of broker mergers/closures is created, while Panel B describes how the sample is constructed for the main test, as well as the cross-sectional analysis.

Panel A Broker Mergers/Closures

List of Broker Mergers/Closures from Hong and Kacperczyk (2010)	15
List of Broker Mergers/Closures from Kelly and Ljungqvist (2012)	43
Less: Duplicate records in Hong and Kacperczyk (2010) and Kelly and Ljungqvist (2012)	(4)
Candidate Merged/Closed brokers	54
Less: Acquirer Broker IBES Code cannot be identified	(6)
Less: Acquirer broker does not cover the affected firm before the event	(5)
Less: Merged broker does not cover the affected firm after the event	(1)
Number of broker mergers/closures	42
Including: Broker Closures	21
Broker Mergers	21

Panel B Treatment-Control Sample

Firm-year observations that are affected by broker mergers/closures	6,137
Less: Firm-year observations that do not exist after broker mergers/closures	(898)
Less: Firms operating in the financial industry (SIC 6000-6999)	(757)
Less: Firm-year observations with missing values on matching variables	(19)
Firm-year observations that are available for cross-sectional analysis	4,463
Less: Firm-year observations not matched based on C_SCORE, analyst coverage, year and 2-digit SIC	(2,519)
Treatment Sample	1,944
Treatment-Control Sample	3,888

Table 2: Comparison between the Treatment and Control Sample

This table describes the general characteristics of the treatment versus control samples before the exogenous event. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

VARIABLE	TREAT=0, N=1,944			TREAT=1, N=1,944			Test of Mean	Test of Median
	MEAN	SD	MEDIAN	MEAN	SD	MEDIAN		
EPS	0.010	0.129	0.032	0.003	0.140	0.030	-0.007	-0.002
DRET	0.290	0.454	0.000	0.403	0.491	0.000	0.113***	0.000***
RET	0.363	0.735	0.227	0.208	0.678	0.090	-0.155***	-0.137***
COVER	2.682	0.608	2.773	2.713	0.619	2.773	0.031	0.011
C_SCORE	-0.054	0.222	-0.052	-0.061	0.231	-0.054	-0.006	0.009

Table 3: Analysis of the Effect of Exogenous Coverage Termination on Financial Reporting Conservatism

This table examines the effect of an exogenous drop in analyst coverage on accounting conservatism. Column (1) reports the results for the treatment group, while Column (2) reports the results for the control group. Column (3) tests the difference between Columns (1) and (2). The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

VARIABLE	Treatment (1)	Control (2)	Difference (3)
AFTER	-0.005	0.007	-0.012
	(-0.41)	(0.64)	(-1.15)
DRET	-0.010	-0.003	-0.007
	(-1.14)	(-0.17)	(-0.50)
RET	-0.029**	-0.025***	-0.004
	(-2.39)	(-5.19)	(-0.41)
*AFTER*DRET*	0.038	0.006	0.031
	(1.41)	(0.37)	(1.00)
*AFTER*RET*	-0.043***	-0.010	-0.033**
	(-3.97)	(-1.03)	(-1.98)
*DRET*RET*	0.217***	0.169***	0.048
	(5.69)	(5.72)	(1.18)
AFTER*DRET*RET	**0.169*** **	**0.022**	**0.146** **
	(3.24)	**(0.39)**	**(2.23)**
CONSTANT	0.038***	0.033***	0.005
	(2.96)	(4.25)	(0.65)
N	3,888	3,888	
Adj. R^2	0.094	0.054	

Table 4: Cross-sectional Test: Informedness of the Dropped Analyst & Analyst Coverage

The table reports the impact of the informedness of the dropped analyst, and the analyst coverage on the effect of an exogenous drop in analyst coverage on financial reporting conservatism. Panel A reports the results for the effect of analyst coverage on accounting conservatism, partitioned by the informedness of the forecast. Columns (1) through (2) show that the results for dropped analysts are less and more informed, respectively. Column (3) tests the difference between Columns (1) and (2). Panel B reports the results for the effect of analyst coverage on accounting conservatism, partitioned by the number of existing analysts. Columns (1) through (2) report the results for firms with lower and greater coverage, respectively. Column (3) tests the difference between Columns (1) and (2). The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Panel A: Effect of the informedness of the dropped analyst

VARIABLE	Less Informed (1)	More Informed (2)	Difference (3)
AFTER	0.014	0.003	0.010
	(1.56)	(0.64)	(1.08)
DRET	-0.001	-0.001	0.000
	(-0.13)	(-0.10)	(0.04)
RET	-0.001	0.004	-0.005
	(-0.06)	(0.25)	(-0.28)
*AFTER*DRET*	0.021	0.076***	-0.056**
	(0.72)	(2.75)	(-2.54)
*AFTER*RET*	-0.051	-0.048**	-0.003
	(-1.38)	(-2.16)	(-0.06)
*DRET*RET*	0.105***	0.107***	-0.003
	(3.86)	(2.91)	(-0.06)
AFTER*DRET*RET	**0.291*** **	**0.452*** **	**-0.161** **
	(2.93)	**(8.11)**	**(-1.99)**
CONSTANT	0.056***	0.038***	0.018**
	(13.84)	(4.33)	(2.10)
N	2,278	2,278	
Adj. R^2	0.177	0.162	

Panel B: Effect of analyst coverage

VARIABLE	Low Coverage	High Coverage	Difference
	(1)	(2)	(3)
AFTER	0.004	0.008	-0.004
	(0.29)	(1.07)	(-0.37)
DRET	0.001	0.005	-0.005
	(0.06)	(0.66)	(-0.38)
RET	-0.025*	-0.019***	-0.006
	(-1.92)	(-4.18)	(-0.59)
*AFTER*DRET*	0.051	0.002	0.048
	(1.43)	(0.11)	(1.26)
*AFTER*RET*	-0.057***	-0.072***	0.015
	(-5.84)	(-4.62)	(1.26)
*DRET*RET*	0.234***	0.243***	-0.008
	(4.80)	(6.59)	(-0.20)
AFTER*DRET*RET	**0.330*** **	**0.159**	**0.171**
	(3.04)	**(1.55)**	**(0.99)**
CONSTANT	0.038***	0.045***	-0.007
	(2.85)	(6.54)	(-0.78)
N	4,428	4,142	
Adj. R^2	0.130	0.125	

Panel C: Effect of analyst coverage among small firms (market cap less than annual median).

VARIABLE	Low Coverage	High Coverage	Difference
	(1)	(2)	(3)
AFTER	-0.002	-0.002	-0.000
	(-0.08)	(-0.12)	(-0.01)
DRET	-0.009	0.003	-0.012
	(-0.50)	(0.27)	(-0.53)
RET	-0.032*	-0.041***	0.009
	(-1.74)	(-3.39)	(0.47)
*AFTER*DRET*	0.092**	-0.013	0.105***
	(2.53)	(-0.42)	(2.61)
*AFTER*RET*	-0.045***	-0.067***	0.022
	(-4.49)	(-2.81)	(0.79)
*DRET*RET*	0.230***	0.330***	-0.100**
	(4.94)	(10.72)	(-1.96)
AFTER*DRET*RET	**0.453*** **	**0.037**	**0.416** **
	(4.66)	**(0.43)**	**(2.46)**
CONSTANT	0.027	0.053***	-0.026
	(1.26)	(6.79)	(-1.43)
N	2,214	2,070	
Adj. R^2	0.128	0.116	

Table 5: Cross-sectional Test: Financial Leverage & Credit Rating

This table presents the effect of financial leverage and credit rating on the impact of an exogenous coverage termination on accounting conservatism. Panel A reports the results for the effect of analyst coverage on accounting conservatism, partitioned by leverage. Columns (1) through (2) report the results for firms with lower and higher leverage, respectively. Column (3) tests the difference between Columns (1) and (2). Panel B reports the results for the effect of analyst coverage on accounting conservatism, partitioned by credit ratings. Column (1) reports the results for firms with investment-grade credit ratings, while Column (2) reports the results for firms with speculation-grade credit ratings. Column (3) tests the difference between Columns (1) and (2). The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Panel A: Effect of financial leverage

VARIABLE	Low Leverage	High Leverage	Difference
	(1)	(2)	(3)
AFTER	-0.011	0.025**	-0.036***
	(-1.12)	(2.41)	(-3.37)
DRET	-0.001	0.010	-0.010
	(-0.08)	(0.95)	(-1.51)
RET	-0.024**	-0.016	-0.007
	(-2.43)	(-0.85)	(-0.38)
*AFTER*DRET*	0.021	0.025	-0.004
	(0.96)	(0.94)	(-0.15)
*AFTER*RET*	-0.042***	-0.095***	0.053***
	(-4.73)	(-6.03)	(3.22)
*DRET*RET*	0.213***	0.269***	-0.056
	(5.09)	(6.17)	(-1.41)
AFTER*DRET*RET	**0.094**	**0.399*** **	**-0.304*** **
	(1.00)	**(5.60)**	**(-3.05)**
CONSTANT	0.038***	0.044***	-0.006
	(3.51)	(3.91)	(-1.03)
N	4,286	4,286	
Adj. R^2	0.095	0.165	

Panel B: Effect of Credit Rating

VARIABLE	Investment Grade	Speculation Grade	Difference
	(1)	(2)	(3)
AFTER	0.003	0.042***	-0.039***
	(0.40)	(3.36)	(-2.74)
DRET	-0.007	0.014	-0.022*
	(-1.29)	(1.31)	(-1.89)
RET	-0.001	0.006	-0.007
	(-0.08)	(0.26)	(-0.32)
*AFTER*DRET*	0.017	0.055	-0.038
	(1.60)	(0.90)	(-0.69)
*AFTER*RET*	-0.032	-0.115***	0.083**
	(-1.41)	(-5.00)	(2.41)
*DRET*RET*	0.059***	0.240***	-0.181**
	(4.26)	(3.63)	(-2.57)
AFTER*DRET*RET	**0.200*** **	**0.515*** **	**-0.314** **
	(4.40)	**(3.49)**	**(-2.34)**
CONSTANT	0.052***	0.011	0.041***
	(11.76)	(0.70)	(3.18)
N	3,874	1,488	
Adj. R^2	0.100	0.164	

Table 6: Cross-sectional Test: Proportion of Bonus Compensation

Table 6 reports the results for the effect of analyst coverage on accounting conservatism, partitioned by the proportion of bonus compensation awarded to managers, averaged over the top-five executives as reported in *Execucomp*. Columns (1) through (2) report the results for firms with the average ratio of bonus to total compensation greater than and less than the annual median, respectively. Column (3) tests the difference between Columns (1) and (2). The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

VARIABLE	High Proportion of Bonus Compensation (1)	Low Proportion of Bonus Compensation (2)	Difference (3)
AFTER	0.018	0.004	0.014
	(1.39)	(0.41)	(1.50)
DRET	0.003	0.006	-0.003
	(0.30)	(0.93)	(-0.44)
RET	0.002	-0.016***	0.018***
	(0.28)	(-3.82)	(3.26)
*AFTER*DRET*	0.034	0.035	-0.001
	(1.10)	(1.44)	(-0.08)
*AFTER*RET*	-0.083**	-0.049**	-0.034*
	(-2.10)	(-2.09)	(-1.86)
*DRET*RET*	0.113***	0.196***	-0.083***
	(3.66)	(4.74)	(-4.45)
AFTER*DRET*RET	**0.423*** **	**0.253*** **	**0.170***
	(3.83)	**(3.24)**	**(1.88)**
CONSTANT	0.050***	0.037***	0.014***
	(8.53)	(4.97)	(2.89)
N	3,220	3,202	
Adj. R^2	0.189	0.130	

Table 7: Full Sample Analysis of Analyst Coverage and Accounting Conservatism

Table 7 reports results for the effect of analyst coverage on accounting conservatism using the full sample during 1980-2013. Analyst coverage is defined as the natural logarithm of 1 plus the number of analysts that cover a firm (during the year). Columns (1) and (2) report the results without controlling for industry and year fixed effects, while Columns (3) and (4) report the results controlling for industry and year fixed effects. For the indication of bad news, Columns (1) and (3) report the results using compounded raw returns, while Columns (2) and (4) report the results using compounded market-adjusted returns. The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

VARIABLE	Raw Compounded Return	Market-adjusted Return	Raw Compounded Return	Market-adjusted Return
	(1)	(2)	(3)	(4)
DRET	0.000	0.013*	0.001	0.015**
	(0.02)	(1.66)	(0.10)	(2.15)
RET	-0.038***	-0.044***	-0.027**	-0.035***
	(-2.89)	(-3.24)	(-2.55)	(-3.15)
COVER	0.517***	0.468***	0.505***	0.468***
	(19.95)	(18.20)	(20.88)	(18.70)
*DRET*RET*	0.024***	0.022***	0.025***	0.024***
	(8.98)	(6.94)	(11.13)	(9.45)
*DRET*COVER*	0.001	-0.003	0.001	-0.005
	(0.43)	(-0.90)	(0.32)	(-1.37)
*RET*COVER*	0.006	0.006	0.010***	0.009***
	(1.60)	(1.46)	(2.86)	(2.63)
DRET*RET*COVER	**-0.115*** **	**-0.104*** **	**-0.119*** **	**-0.114*** **
	(-9.52)	**(-7.38)**	**(-10.56)**	**(-10.24)**
CONSTANT	0.001	0.006	0.021	0.100***
	(0.13)	(0.63)	(0.98)	(4.88)
Industry/Year	No	No	Yes	Yes
Cluster	Yes	Yes	Yes	Yes
N	140,156	140,156	140,156	140,156
Adj. R^2	0.125	0.119	0.153	0.150

Table 8: Alternative Measures of Accounting Conservatism

Table 8 reports the results for the effect of analyst coverage on accounting conservatism using alternative measures of accounting conservatism. Panel A utilizes the persistence in negative non-operating accruals as an alternative measure of accounting conservatism, with ***, ** and * indicating significance at the 1%, 5% and 10% levels, respectively. Panel B reports the change in accounting conservatism, following the specification in Ball and Shivakumar (2006). Column (1) reports the results using the treatment group, while Column (2) reports the results using the control group. Column (3) tests the difference between Columns (1) and (2). The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. All of the variables are defined in Appendix 1. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Panel A: Persistence of Negative Non-operating Accruals

	Before drop	After drop	Change	t-statistic
Treatment Group (N=1,407)	-2.054	-1.738	0.316***	-2.75
Control Group (N=1,407)	-2.114	-2.146	-0.031	0.29
Difference	0.061	0.408***	**0.347****	
t-statistic	-0.55	-3.61	**2.19**	

Panel B: Change in Accounting Conservatism using Ball and Shivakumar (2006)

VARIABLE	Treatment	Control	Difference
	(1)	(2)	(3)
CF	-0.102***	-0.274***	0.172**
	(-3.49)	(-4.22)	(2.32)
DCF	-0.008	0.025	-0.033*
	(-0.36)	(1.58)	(-1.91)
*DCF*CF*	0.223***	0.453***	-0.230
	(3.40)	(3.39)	(-1.26)
AFTER	-0.007	-0.036**	0.029**
	(-0.93)	(-2.45)	(2.22)
*CF*AFTER*	-0.013	0.208**	-0.221**
	(-0.42)	(1.99)	(-2.02)
*DCF*AFTER*	0.009	-0.021	0.029
	(0.26)	(-1.03)	(0.91)
DCF*CF*AFTER	**0.224**	**-0.370****	**0.593****
	(1.30)	**(-2.21)**	**(2.00)**
CONSTANT	-0.070***	-0.041***	-0.029***
	(-5.90)	(-7.21)	(-2.85)
N	4,238	4,238	
Adj. R^2	0.018	0.044	

Table 9: Additional Analyses: the Effect of Independent Board Directors, Dedicated Institutional Investors and Voluntary Disclosure

Table 9 presents the results of several additional analyses. Panel A reports the results for subsamples partitioned by the percentage of independent directors on the board. Panel B reports the results for subsamples partitioned by the percentage of ownership by dedicated institutional investors, as classified by Bushee (1998). Panel C compares the increase in accounting conservatism between firms that increase their earnings guidance after the coverage shocks versus other firms. The t-statistics are reported below the regression coefficients, with standard errors clustered at both the firm and year levels. ***, ** and * indicate significance at the 1%, 5% and 10% levels, respectively.

Panel A: Subsample partitioned based on the percentage of independent directors on the board

VARIABLE	Higher Percentage of Independent Directors	Lower Percentage of Independent Directors	Difference
	(1)	(2)	(3)
AFTER	0.016*	-0.008	0.024*
	(1.91)	(-0.95)	(1.90)
DRET	-0.003	0.022**	-0.025**
	(-0.22)	(1.97)	(-2.04)
RET	-0.014*	-0.019*	0.005
	(-1.78)	(-1.91)	(0.69)
AFTER_DRET	0.015	0.010	0.005
	(0.43)	(0.41)	(0.15)
AFTER_RET	-0.103***	-0.009	-0.095***
	(-3.07)	(-1.28)	(-2.94)
DRET_RET	0.185***	0.278***	-0.093***
	(3.24)	(4.70)	(-5.30)
AFTER_DRET_RET	**0.303****	**0.095**	**0.208***
	(2.41)	**(1.13)**	**(1.67)**
CONSTANT	0.046***	0.043***	0.003
	(6.82)	(4.76)	(0.81)
N	2,474	2,778	
Adj. R^2	0.144	0.133	

Panel B: Subsample partitioned based on dedicated institutional holdings

VARIABLE	Higher Dedicated Institutional holdings	Lower Dedicated Institutional holdings	Difference
	(1)	(2)	(3)
AFTER	-0.002	0.007	-0.009
	(-0.36)	(0.43)	(-0.82)
DRET	-0.006	0.008	-0.014
	(-1.07)	(0.66)	(-1.45)
RET	-0.016	-0.026***	0.010
	(-1.33)	(-2.93)	(1.03)
AFTER_DRET	0.026	0.038	-0.012
	(1.44)	(1.25)	(-0.54)
AFTER_RET	-0.022**	-0.085***	0.064***
	(-2.33)	(-9.53)	(5.89)
DRET_RET	0.143***	0.291***	-0.148***
	(6.36)	(6.81)	(-4.71)
AFTER_DRET_RET	**0.138****	**0.367*****	**-0.229*****
	(2.10)	**(5.90)**	**(-4.02)**
CONSTANT	0.044***	0.038***	0.006
	(5.44)	(2.86)	(1.03)
N	4,286	4,284	
Adj. R^2	0.094	0.152	

Panel C: Subsample partitioned on the change in earnings guidance from year t-1 to t+1

VARIABLE	Firms with increased earnings guidance	Other firms	Difference
	(1)	(2)	(3)
AFTER	0.002	-0.008	0.010
	(0.31)	(-0.59)	(0.88)
DRET	0.005	-0.005	0.011
	(0.84)	(-0.60)	(1.54)
RET	-0.015***	-0.033***	0.018**
	(-2.77)	(-2.87)	(2.47)
AFTER_DRET	-0.004	0.066**	-0.071***
	(-0.34)	(2.20)	(-2.70)
AFTER_RET	-0.025	-0.060***	0.035
	(-1.14)	(-6.02)	(1.32)
DRET_RET	0.152***	0.267***	-0.115***
	(4.69)	(7.87)	(-3.75)
AFTER_DRET_RET	**0.075****	**0.344*****	**-0.269*****
	(2.00)	**(4.92)**	**(-3.92)**
CONSTANT	0.042***	0.043***	-0.001
	(5.12)	(3.51)	(-0.15)
N	3,062	5,060	
Adj. R^2	0.070	0.146	

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