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Strategic Financial Reporting of Target Firms in Mergers and Acquisitions

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Abstract

This thesis consists of three essays that examine the strategic financial reporting of target firms in mergers and acquisitions (M&As). Specifically, these essays consider whether M&A target firms manage GAAP earnings, non-GAAP earnings, and their associated effects on share prices and M&A outcomes.

Essay 1 investigates whether and when target firms manage GAAP earnings during the M&A process. Specifically, I examine target firms' earnings management, conditional on whether or not target firms initiate the M&A process. I argue that target firms that initiate M&As (i.e., initiating target firms) have stronger motives to show better firm performance via upward earnings management during the M&A process. Consistent with this prediction, I find that initiating target firms are more likely to manage earnings upward than non-M&A matched firms and target firms that do not initiate M&As (i.e., non-initiating target firms). Moreover, initiating target firms are more likely to manage earnings upward before the initiation of M&A negotiations (i.e., in the pre-contact period). This study provides a more complete picture of target firms' earnings management during the M&A process, with implications for acquirers' bidding decisions and target firms' valuations.

Essay 2 investigates whether and how M&A target firms strategically change their non-GAAP earnings disclosure. The results suggest that although M&A target firms do not change the frequency of their non-GAAP earnings disclosure, they adopt more aggressive non-GAAP disclosure policies during the M&A process compared with non-GAAP matched firms. In particular, M&A target firms report significantly higher non-GAAP earnings than GAAP earnings (i.e., use higher total non-GAAP exclusions) and that they do so by excluding more recurring versus transitory expenses. Further, M&A target firms appear to use non-GAAP earnings disclosure in complement with other forms of earnings management. The study

contributes to the literature of non-GAAP disclosures by showing that firms alter their non-GAAP earnings disclosure practices in the face of significant capital market transactions such as M&As.

Essay 3 investigates the consequences of M&A target firms' GAAP earnings management and strategic non-GAAP earnings disclosures. First, the study finds that initiating target firms' earnings management before the M&A announcement is associated with lower M&A offer premium and is positively (negatively) associated with targets' (acquirers') M&A announcement returns. Second, the study finds that target firms can improve their stock prices and attract more potential acquirers' interest during M&A negotiations by using non-GAAP earnings disclosures strategically. However, the study also shows that target firms receive lower offer premiums and lower M&A announcement returns when their non-GAAP disclosures are more aggressive. The study provides evidence of the benefits and the costs for M&A target firms' strategic financial reporting and sheds light on the role of target firms' mandatory financial reporting quality and non-GAAP earnings disclosures in M&As with implications for regulations.

Declaration

This is to certify that

(i) this thesis comprises only my original work;

(ii) due acknowledgment has been made in the text to all other material used; and

(iii) this thesis is fewer than 100,000 words in length, exclusive of tables, figures, bibliographies, and appendices.

Signature ……………………………………………………………

Kerui Zhai

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Chapter 1

Introduction

This thesis consists of three essays that examine the strategic financial reporting of target firms in mergers and acquisitions (M&As). Specifically, these essays consider whether M&A target firms manage GAAP earnings, non-GAAP earnings, and their associated effects on share prices and M&A outcomes.

M&As are significant and prevalent business events in capital markets. Since 1985, more than 325,000 M&As have been announced in the U.S. with a value of almost 34,900 billion US dollars.[1] In 2018 alone, there were 14,936 M&A deals announced in the U.S. with a value of 1,932 billion US dollars compared with the total stock market capitalization of 30,436 billion US dollars.[2] M&As generally involve two main parties that can be characterized as acquirers and target firm.[3] Prior studies have mainly focused on the strategic financial reporting of acquirers/bidders[4] to boost their share prices and thereby reduce the costs of acquisitions (e.g. Erickson and Wang, 1999; Ge and Lennox, 2011; Gong, Louis, and Sun, 2008b; Louis, 2004; Louis and Sun, 2016). Little research, however, investigates the strategic financial reporting of target firms, which, as key players in M&As, may also have significant influence on M&A negotiations and consequences (e.g., Marquardt and Zur 2015; McNichols

[1] Source: IMAA analysis (imaa-institute.org; accessed on 2 Dec 2019)

[2] Source: World Bank, IMAA analysis (imaa-institute.org; accessed on 2 Dec 2019)

[3] Prior studies of business combinations have employed terms including mergers, acquisitions and takeovers (Betton, Eckbo, and Thorburn, 2008; Gaughan, 2015). Generally, these terms are similar, but nuance exists. The term acquisition is used when referring to the deal from the perspectives of acquirers. It may refer to deals where acquirers obtain 100% control, the majority interest or the minority interest of targets. Another term takeover is used when referring to the deal from the perspectives of targets. It is vaguer and sometimes refers only to the hostile deal. A merger is a business combination of two firms in which one firm survives and the other disappears. In other words, a merger is equivalent to a deal in which acquirers gain 100% control of targets after completion of the deal. This study mainly focuses on mergers. M&As are used in the literature as the collective term for business combinations. This study uses mergers and M&As interchangeably.

[4] The terms acquirers and bidders can be used interchangeably in general. But in some cases, acquirers may refer to bidders that have reached merger agreements with targets and completed the mergers ultimately.

and Stubben 2015; Raman, Shivakumar, and Tamayo, 2013). Therefore, this thesis systematically investigates target firms' strategic financial reporting during M&As and the associated consequences. Essay 1 examines whether and how M&A target firms manage GAAP earnings through accruals or real activities in each period of the M&A process. Essay 2 examines whether and how M&A target firms manipulate their non-GAAP earnings disclosures during the M&A process. Essay 3 examines the effects of target firms' strategic financial reporting on their share prices during M&As and M&A outcomes. This thesis sheds light on how target firms communicate their financial performance with the market and provides implications for market participants, regulations and research that previously has focused largely on M&A acquirers.

1.1 Summary of Essay 1

Essay 1 examines GAAP earnings management by target firms during the M&A process. While prior research finds that M&A acquirers manage earnings through accruals to reduce the costs of acquisitions, especially in stock-for-stock exchanges (e.g. Erickson and Wang, 1999; Gong et al., 2008b; Louis, 2004), the literature does not provide clear evidence on target firms' earnings management arguably due to the difficulty in identifying target firms' incentives during mergers.[5] I disentangle target firms' underlying motives for M&As based on their *ex post* observable action, i.e. whether they initiate the M&A process.[6] I provide evidence

[5] Prior studies argue that target firms may not have sufficient time to manage earnings since acquirers usually initiate the negotiations and complete the transactions relatively fast (Erickson and Wang, 1999). The underlying assumption of this argument is that target firms act passively in the M&A market, which is not necessarily true given that many target firms actively seek mergers.

[6] Whether target firms initiate mergers is not observable until target firms and acquirers reach merger agreements and file relevant documents with SEC. I collect the information on merger initiation by referring to these merger-related documents filed by target firms or acquirers, which disclose the background of merger negotiations.

on the earnings management of target firms that initiate M&As (i.e., *initiating* target firms), in comparison with target firms that do not initiate M&As (i.e., *non-initiating* target firms).

The study uses a sample of U.S. domestic M&As that involves public target firms and public acquirers between 2002 and 2016 and hand-collects information on the detailed M&A process. I first investigate whether target firms manage earnings upward during the whole M&A process by matching each target firm with a firm that is not involved with any merger activity (i.e., non-M&A matched firms). After confirming prior findings of insignificant average earnings management by all target firms during the M&A process, I extend prior studies by documenting that initiating target firms are more likely to manage earnings upward via accruals during the M&A process, compared with both non-M&A matched firms and non-initiating target firms.

I then examine target firms' earnings management during different stages of the M&A process defined as pre-contact, negotiation, and post-announcement periods.[7] I find that initiating target firms manage earnings upward in the pre-contact period compared with non-M&A matched firms and non-initiating target firms. However, initiating target firms are not more likely to manage earnings upward in the negotiation period compared with non-M&A matched firms, likely because their accruals are more closely monitored by acquirers during M&A negotiations. Moreover, initiating target firms are more likely to manage earnings upward after M&A announcements consistent with incentives to avoid M&A agreement terminations.

[7] The pre-contact period consists of the four quarters before the initiation of merger negotiations and is the period when the target or the acquirer is preparing for the upcoming merger negotiation. The negotiation period is the period when the target and the acquirer(s) negotiate over the merger privately. The post-announcement period is the period after the public announcement date and the period when the target and the acquirer work on the consummation of the proposed merger.

As corroborative tests, I further examine whether target firms' earnings management varies depending on different M&A incentives. First, I find that initiating target firms are more likely to manage earnings upward when they have experienced financial difficulties, consistent with their stronger incentives to initiate M&As to fulfill their strategic or financial objectives (Masulis and Simsir, 2018). Second, I find that initiating target firms are more likely to manage earnings upward when target firms' CEOs have higher ownership that may compensate them for potential post-merger job loss (Cai and Vijh, 2007; Fidrmuc and Xia, 2017). Lastly, I find that the upward earnings management is more pronounced for initiating target firms with younger CEOs.

In additional tests, I investigate whether initiating target firms manage earnings via real activities. Real activity earnings management can be more costly than accrual-based earnings management but also less observable. I find some evidence that initiating target firms manage earnings upward via real activities during the M&A process compared with their non-M&A matched firms and non-initiating target firms. Specifically, I find that initiating target firms manage earnings via real activities during the negotiation and post-announcement periods. These findings suggest that initiating target firms may weigh costs of accrual management versus real earnings management and engage in different types of earnings management in different periods of the M&A process.

Essay 1 contributes to the literature on firms' earnings management before significant corporate events such as IPOs, SEOs, management buyouts, and stock repurchases (Cohen and Zarowin, 2010; Fischer and Louis, 2008; Gong, Louis, and Sun, 2008a; Kothari, Mizik, and Roychowdhury, 2016; Teoh, Welch, and Wong, 1998). In particular, whereas extant studies do not provide clear evidence of target firm earnings management during the merger process (Anilowski, Macias, and Sanchez, 2009; Erickson and Wang, 1999), this study finds that target firms' earnings management depends on their M&A motives and provides evidence of earnings management by initiating target firms during specific stages of the M&A process. These findings inform market participants, regulations and research by identifying systematic earnings management of target firms that initiate a large proportion of mergers, rather than acquirers who have been the primary focus of prior research (Boone and Mulherin, 2007; De Bodt, Cousin, and Demidova, 2014; Fidrmuc and Xia, 2017; Masulis and Simsir, 2015).

1.2 Summary of Essay 2

Essay 2 investigates non-GAAP disclosure strategies of M&A target firms. Specifically, I examine whether and how target firms' non-GAAP earnings disclosures change during the M&A process. Combining prior findings that firms use non-GAAP disclosures to manage market participants' perceptions (Black, Christensen, Taylor Joo, and Schmardebeck, 2017), with the evidence in Essay 1 of initiating target firms' earnings management during the M&A process, I posit that target firms will also manage their non-GAAP earnings disclosures to fulfill their strategic objectives during the M&A process. I examine a sample of U.S. domestic M&As that involves public target firms and public acquirers between 2003 and 2016 using hand-collected M&A process data. I match each target firm with a firm that is not involved in M&A activities (i.e., non-M&A matched firms) as M&A target firms may differ systematically from other firms (Palepu, 1986) and use a difference-in-different design due to a lack of benchmark to evaluate firms' non-GAAP disclosures.

I first test whether target firms change the frequency of their non-GAAP earnings disclosures during the M&A process. I argue that both informative and opportunistic incentives may motivate M&A target firms to increase the frequency of their non-GAAP earnings disclosure during the M&A process. Specifically, I argue that an incentive to inform may motivate target firms to disclose non-GAAP earnings in order to provide additional information about their firms' financial performance and attract more bidders (Bhattacharya, Black, Christensen, and Larson, 2003; Bradshaw and Sloan, 2002; Curtis, McVay, and Whipple, 2014; Leung and Veenman, 2018). On the other hand, an incentive to behave opportunistically may motivate target firms to disclose non-GAAP earnings in order to show superior financial performance, boost their stock prices, and obtain a higher valuation (Barth, Gow, and Taylor, 2012; Black and Christensen, 2009; Doyle, Jennings, and Soliman, 2013; McVay, 2006). Contrary to expectations, my results show that M&A target firms do not significantly change the frequency of their non-GAAP earnings disclosures during the M&A process compared with non-M&A matched firms. A possible reason might be that it is difficult for M&A target firms that have not disclosed non-GAAP earnings previously to do so, because they lack audit compliant accruals to exclude them from their GAAP earnings.

I next test whether M&A target firms strategically manage the magnitude (i.e., become more aggressive) if not the frequency of their non-GAAP earnings disclosures during the M&A process.[8] My reasoning is that while M&A target firms that have previously disclosed non-GAAP earnings may not have informativeness incentives to inflate reported non-GAAP earnings during the M&A process, they may have incentives to increase non-GAAP earnings by opportunistically excluding more expenses. My results confirm this expectation in finding that M&A target firms report higher non-GAAP earnings than GAAP earnings (i.e., use higher total exclusions) during the M&A process, and specifically, before M&A announcements, compared with non-M&A matched firms. As corroborating evidence, I further find that M&A target firms exclude more recurring expenses (i.e., use higher "other item" exclusions) in the

[8] Aggressiveness in non-GAAP earnings disclosure means that firms report higher non-GAAP earnings than GAAP earnings by excluding more non-transitory expenses. In other words, firms exclude more expenses than revenue and moreover exclude more recurring expenses.

pre-contact and negotiation periods than non-M&A matched firms, with an implication of lower non-GAAP earnings quality.

Further analyses of cross-sectional variation in target firms' non-GAAP disclosures provide additional findings. First, following Essay 1, I examine non-GAAP earnings disclosures for subsamples of initiating target firms (i.e., target firms that initiate M&As) and non-initiating target firms. My results indicate that initiating target firms are more aggressive in non-GAAP earnings disclosure and exclude more recurring expenses in both pre-contact and negotiation periods, consistent with initiating target firms' stronger incentives to affect mergers. Second, target firms with high financial constraints and thus stronger incentives for mergers are more aggressive in reporting higher non-GAAP earnings than GAAP earnings and exclude more recurring expenses (Masulis and Simsir, 2018). Third, following the Black et al. (2017) reasoning that firms might substitute different forms of earnings management with non-GAAP earnings disclosure if earnings management is more costly, I repeat my main analysis after controlling for accrual-based earnings management and real activity earnings manipulation. I do find that M&A target firms' likelihood of non-GAAP earnings disclosure is negatively associated with the extent of accrual-based earnings management, but that M&A target firms still engage in aggressive non-GAAP earnings disclosures during the M&A process, even after controlling for earnings management and other forms of perception management.

Essay 2 makes several contributions to related literature. First, it extends the non-GAAP earnings disclosure literature by providing evidence that M&A target firms increase the aggressiveness of non-GAAP earnings disclosure (i.e., the magnitude of non-GAAP exclusions used) even if they do not change the frequency of non-GAAP earnings disclosure. The study highlights the importance of examining firms' non-GAAP disclosures with an understanding of their underlying capital market incentives and related constraints.

Second, Essay 2 adds to the M&A literature by documenting the strategic non-GAAP earnings disclosures by M&A target firms. Findings show that non-GAAP disclosure is another tool that target firms use to engage in perception management during the M&A process and this strategy may have an influence on M&A outcomes.

Third, Essay 2 has implications for the regulation of non-GAAP disclosures. My results show that target firms strategically change non-GAAP earnings disclosures by excluding more recurring expenses that are not deemed to be valid non-GAAP exclusions. More stringent regulation of non-GAAP disclosures may be warranted to require firms to provide more justifications for their non-GAAP exclusions. This study also echoes the recent call for higher consistency and comparability of non-GAAP disclosures (Black, Christensen, Ciesielski, and Whipple, 2018).

1.3 Summary of Essay 3

Essay 3 complements Essays 1 and 2 by examing the consequences of the strategic financial reporting of GAAP earnings and non-GAAP disclosures, respectively, of M&A target firms.

The first part of Essay 3 examines the association of target firms' GAAP earnings management with target firms' stock prices and M&A outcomes using the full sample of all target firms and subsamples of initiating and non-initiating target firms, with several related findings. First, I find that the extent of target firms' accrual-based and real activity earnings management before the M&A announcement is not associated with M&A target firms' daily average abnormal returns. Second, I find no evidence that the extent of target firms' accrual-based and real activity earnings management before the M&A announcement is associated with the likelihood of an M&A auction. Third, I do find that the extent of target firms' accrual-based earnings management before the M&A announcement is negatively associated with the M&A offer premium. More importantly, this result is only driven by initiating target firms. Fourth, I find that the extent of target firms' real activity earnings management before the M&A announcement is positively associated with targets' cumulative abnormal returns in the three-day window centered around the M&A announcement, and this result is concentrated in initiated target firms. I also find that the initiating target firms' accrual-based earnings management before the M&A announcement is negatively associated with acquirers' cumulative abnormal returns in the three-day window centered around the M&A announcement. Collectively, my results suggest that target firms, especially those that initiate M&As, will receive lower offer premia. However, the market rewards the initiating target firms with higher announcement returns and penalizes acquirers with lower announcement returns, suggesting that successfully reaching M&A agreements benefits initiating target firms.

The second part of Essay 3 examines the impact of target firms' non-GAAP earnings disclosures on target firms' stock prices and M&A outcomes, with several findings. First, I find that M&A target firms' daily average abnormal returns are positively associated with target firms' average total non-GAAP exclusions and average "other item" exclusions during the negotiation period. These findings suggest that M&A target firms may benefit from higher stock prices by using more aggressive non-GAAP disclosures. Second, I examine whether M&A target firms make themselves more attractive to potential acquirers by presenting better financial performance using non-GAAP earnings disclosures. My findings indicate a higher likelihood of an M&A auction when target firms use higher total non-GAAP exclusions and higher other item exclusions during the negotiation period. Third, I show that target firms receive a lower offer premium when their non-GAAP disclosures are more aggressive before the M&A announcement, consistent with acquiring firms with access to financial records understanding target firms' values better than investors without such access. Fourth, I find that targets' (acquirers') cumulative abnormal returns in the three-day window centered around the M&A announcement are lower (higher) when target firms' average total non-GAAP exclusions and average other item exclusions before the M&A announcement are higher. Collectively, these findings suggest that target firms improve their stock prices and make themselves more attractive during the M&A negotiation by using non-GAAP disclosures strategically, net of the cost of a lower offer premium provided by informed acquirers.

Essay 3 sheds light on the role of target firms' mandatory financial reporting quality in M&As. Whereas the extant literature finds that target firms' accounting quality is associated with acquirers' bidding decisions and shareholders' welfare (Amel-Zadeh and Zhang, 2015; Marquardt and Zur, 2015; McNichols and Stubben, 2015; Raman, Shivakumar, and Tamayo, 2013; Skaife and Wangerin, 2013), Essay 3 disentangles target firms' incentives for mergers based on the information on deal initiation and shows that prior results are mostly driven by initiating target firms' earnings management. It also furthers our understanding of the determinants of target firms' financial reporting quality in the M&A setting.

In addition, Essay 3 adds to the M&A literature by documenting the effects of target firms' non-GAAP earnings disclosures on M&A pricing. My findings provide evidence that target firms' non-GAAP disclosures are used both by investors prior to the M&A announcement and by acquirers in determining whether to bid, target firms' valuations and informed offer prices, thus extending prior findings on the effect of non-GAAP disclosure in IPO pricing (Brown, Christensen, Menini, and Steffen, 2018).

Collectively, Essays 1, 2, and 3 reveal the strategic financial reporting by M&A target firms of GAAP earnings, non-GAAP earnings, and related consequences that extend prior literature on M&As and financial reporting, with implications for research, practice, and regulation.

1.4 References

Amel-Zadeh, A., & Zhang, Y. (2015). The economic consequences of financial restatements: Evidence from the market for corporate control. *The Accounting Review, 90*(1), 1-29.

Anilowski, C., Macias, A. J., & Sanchez, J. M. (2009). *Target firm earnings management and the method of sale: Evidence from auctions and negotiations*.

Barth, M. E., Gow, I. D., & Taylor, D. J. (2012). Why do pro forma and Street earnings not reflect changes in GAAP? Evidence from SFAS 123R. *Review of Accounting Studies, 17*(3), 526-562.

Betton, S., Eckbo, B. E., & Thorburn, K. S. (2008). Corporate takeovers. In B. E. Eckbo (Ed.), *Handbook of corporate finance: Empirical corporate finance* (Vol. 2, pp. 291-430).

Bhattacharya, N., Black, E. L., Christensen, T. E., & Larson, C. R. (2003). Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics, 36*(1-3), 285-319.

Black, D. E., & Christensen, T. E. (2009). US managers' use of 'pro forma' adjustments to meet strategic earnings targets. *Journal of Business Finance & Accounting, 36*(3-4), 297-326.

Black, E. L., Christensen, T. E., Taylor Joo, T., & Schmardebeck, R. (2017). The relation between earnings management and non-GAAP reporting. *Contemporary Accounting Research, 34*(2), 750-782.

Boone, A. L., & Mulherin, J. H. (2007). How are firms sold? *The Journal of Finance, 62*(2), 847-875.

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), 41-66.

Brown, N. C., Christensen, T. E., Menini, A., & Steffen, T. D. (2018). *Non-GAAP earnings disclosure and IPO pricing*.

Cai, J., & Vijh, A. M. (2007). Incentive effects of stock and option holdings of target and acquirer CEOs. *The Journal of Finance, 62*(4), 1891-1933.

Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics, 50*(1), 2-19.

Curtis, A. B., McVay, S. E., & Whipple, B. C. (2014). The disclosure of non-GAAP earnings information in the presence of transitory gains. *The Accounting Review, 89*(3), 933-958.

De Bodt, E., Cousin, J.-G., & Demidova, I. D. B. (2014). M&A outcomes and willingness to sell. *Finance, 35*(1), 7-49.

Doyle, J. T., Jennings, J. N., & 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.

Erickson, M., & Wang, S.-w. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics, 27*(2), 149-176.

Fidrmuc, J. P., & Xia, C. (2017). M&A deal initiation and managerial motivation. *Journal of Corporate finance*.

Fischer, P. E., & Louis, H. (2008). Financial reporting and conflicting managerial incentives: The case of management buyouts. *Management Science, 54*(10), 1700-1714.

Gaughan, P. A. (2015). *Mergers, acquisitions, and corporate restructurings* (Sixth ed.): Hoboken, New Jersey: Wiley, 2015.

Ge, R., & Lennox, C. (2011). Do acquirers disclose good news or withhold bad news when they finance their acquisitions using equity? *Review of Accounting Studies, 16*(1), 183-217.

Gong, G., Louis, H., & Sun, A. X. (2008a). Earnings management and firm performance following open-market repurchases. *The Journal of Finance, 63*(2), 947-986.

Gong, G., Louis, H., & Sun, A. X. (2008b). Earnings management, lawsuits, and stock-for-stock acquirers' market performance. *Journal of Accounting and Economics, 46*(1), 62-77.

Kothari, S. P., Mizik, N., & Roychowdhury, S. (2016). Managing for the moment: The role of earnings management via real activities versus accruals in SEO valuation. *The Accounting Review, 91*(2), 559-586.

Leung, E., & Veenman, D. (2018). Non-GAAP earnings disclosure in loss firms. *Journal of Accounting Research, 56*(4), 1083-1137.

Louis, H. (2004). Earnings management and the market performance of acquiring firms. *Journal of Financial economics, 74*(1), 121-148.

Louis, H., & Sun, A. X. (2016). Abnormal Accruals and Managerial Intent: Evidence from the Timing of Merger Announcements and Completions. *Contemporary Accounting Research, 33*(3), 1101-1135.

Marquardt, C., & Zur, E. (2015). The role of accounting quality in the M&A market. *Management Science, 61*(3), 604-623.

Masulis, R. W., & Simsir, S. A. (2018). Deal initiation in mergers and acquisitions. *Journal of Financial and Quantitative Analysis, 53*(6), 2389-2430.

McNichols, M. F., & Stubben, S. R. (2015). The effect of target-firm accounting quality on valuation in acquisitions. *Review of Accounting Studies, 20*(1), 110-140.

McVay, S. E. (2006). Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review, 81*(3), 501-531.

Palepu, K. G. (1986). Predicting takeover targets: A methodological and empirical analysis. *Journal of Accounting and Economics, 8*(1), 3-35.

Raman, K., Shivakumar, L., & Tamayo, A. (2013). Target's earnings quality and bidders' takeover decisions. *Review of Accounting Studies, 18*(4), 1050-1087.

Skaife, H. A., & Wangerin, D. D. (2013). Target financial reporting quality and M&A deals that go bust. *Contemporary Accounting Research, 30*(2), 719-749.

Teoh, S. H., Welch, I., & Wong, T. J. (1998). Earnings management and the long-run market performance of initial public offerings. *The Journal of Finance, 53*(6), 1935-1974.

Chapter 2

Deal Initiation and Earnings Management by Target Firms in Mergers and Acquisitions

Abstract

This study investigates whether and when target firms manage earnings during the merger and acquisition (M&A) process. Specifically, I examine target firms' earnings management, conditional on whether or not target firms initiate the M&A process. I argue that target firms that initiate M&As (i.e., initiating target firms) have stronger motives to manage earnings upward, to make them more attractive during the M&A process. Consistent with this prediction, I find that initiating target firms are more likely to engage in upward earnings management than non-M&A matched firms and target firms that do not initiate M&As (i.e., non-initiating target firms). Moreover, initiating target firms are more likely to manage earnings upward before the initiation of M&A negotiations (i.e., in the pre-contact period) and after the M&A announcement (in the post-announcement period). Further analysis suggests that initiating target firms' earnings management is more pronounced for target firms in financial distress, with higher CEO ownership, and with younger CEOs. This study provides a more complete picture of target firms' earnings management during the M&A process, with implications for acquirers' bidding decisions and target firms' valuations.

Keywords: Mergers and acquisitions (M&As); Target firms; Initiation; Initiating target firms; Earnings management

2.1 Introduction

Mergers and acquisitions (M&As) involve two main parties that can be characterized as acquirers and target firms. Prior literature provides evidence that acquirers manage earnings upward to boost their share prices and thereby reduce the costs of acquisitions in stock-for-stock M&As (e.g. Erickson and Wang, 1999; Gong, Louis, and Sun, 2008b; Louis, 2004; Louis and Sun, 2016). Little research, however, investigates earnings management of target firms, arguably due to the difficulty in identifying target firms' incentives for M&As.[9] In this study, I disentangle target firms' underlying motives for M&As based on their *ex post* observable action i.e., whether they initiate the M&A process.[10] I examine whether, which and when M&A target firms manage earnings during the M&A process.

Identifying firms' strategic financial reporting relies on the understanding of firms' incentives (Dichev, Graham, Harvey, and Rajgopal, 2013; Louis and Sun, 2016). While acquirers have a clear objective to reduce costs of acquisitions, target firms' incentives are mixed. The literature on the market for corporate control maintains that the M&A market serves as an external corporate governance mechanism and hence target firms regard takeovers as control threats.[11] Consistent with this proposition, people may argue that target firms always have opposing attitudes towards M&As. However, hostile takeovers with control contests have become less prevalent since 2000 and most mergers now are friendly ones.[12] Moreover, prior M&A research generally assumes that acquirers are the initiator and target firms are merely

[9] Erickson and Wang (1999) do not provide clear evidence that target firms manage earnings during M&As and argue that target firms do not have sufficient time to manage earnings.

[10] Whether target firms initiate mergers is not observable until target firms and acquirers reach merger agreements and file relevant documents with SEC. I collect the information on merger initiation by referring to these merger-related documents filed by target firms or acquirers, which disclose the background of merger negotiations.

[11] For example, studies on antitakeover laws find that firms may reduce earnings management activities or increase the level of voluntary disclosure in the states where anti-takeover laws have been implemented (Armstrong, Balakrishnan, and Cohen, 2012; Zhao, Allen, and Hasan, 2013; Zhao and Chen, 2008, 2009). These studies assume that firms always regard M&As as control threats and anti-takeover laws reduce the perceived takeover threats to firms. Moreover, these studies investigate firms' response to perceived *ex ante* takeover threat, but not firms' behaviors when receiving actual takeover proposals by bidders.

[12] My data shows that only less than 5% of mergers are classified as hostile by SDC.

passive parties. But both anecdotal and empirical evidence suggest that many target firms also actively participate in the M&A market and initiate M&A negotiations with potential acquirers.[13] Assuming target firms are passive parties in M&As is over-simplifying and may overlook their real underlying incentives for M&As. Under this assumption, prior studies do not find target firms manage earnings during M&As (Erickson and Wang, 1999).

I argue that target firms' motives for M&As may be more clearly disentangled by identifying whether target firms initiate M&As. The mere fact that target firms initiate M&A negotiations, arguably, may suggest that these target firms have stronger incentives to seek M&As.[14] In this study, I hand-collect the information about M&A deal initiation from firms' merger-related SEC filings and separate target firms based on whether they initiate the M&A process. I investigate earnings management by target firms that initiate M&As (i.e., *initiating* target firms), in comparison with target firms that do not initiate M&As (i.e., *non-initiating* target firms).

In contrast to acquirers that are keen to reduce costs of acquisitions, target firms that initiate M&As aim to attract more bidders and seek high valuation. I argue that one way to make initiating target firms more attractive could be through upward earnings management for several reasons. First, target firms' historical and current financial reports are important inputs for potential acquirers to value target firms and estimate merger synergies.[15] Taking this into consideration, initiating target firms are likely to manage earnings upward to make their firms

[13] Firms are generally open to potential strategic collaboration or transactions. The description of merger negotiations in SEC filings shows that firms commonly claim that the board and the management regularly evaluate strategic alternatives including acquisitions, joint ventures or mergers.

[14] The phenomenon of target-initiation is not uncommon. Consistent with prior literature, my sample suggests that more than 40% of mergers were initiated by target firms (Aktas, De Bodt, and Roll, 2010; Boone and Mulherin, 2007, 2008; Heitzman, 2011).

[15] Acquirers may use different valuation methods such as discounted cash flow and relative valuation models to value targets and synergies. Whatever methods acquirers may use, they need to derive numbers from target firms' financial reports, and mostly importantly, earnings.

more attractive.[16] Second, initiating target firms may manage earnings upward to potentially improve or at least maintain the level of their stock prices (Ball and Brown, 1968; Dechow, Sloan, and Zha, 2014; Sloan, 1996). Higher stock prices may help target firms negotiate for higher deal prices.[17] Third, the detection risk or litigation risk of earnings management may be low if initiating target firms successfully complete mergers, after which target firms will be delisted from stock exchanges and subject to less market scrutiny.

Admittedly, earnings management is not costless. Detection risk may still exist when acquirers conduct extensive due diligence.[18] Prior studies also provide evidence that deal completion rate and speed are lower for targets with poor accounting quality (Marquardt and Zur, 2015; Skaife and Wangerin, 2013). Nevertheless, I expect the incentives and costs of earnings management to vary depending on target firms' underlying incentives for mergers. Initiating target firms have stronger motives for mergers and hence the benefits of earnings management may outweigh the costs for them. I thus predict that target firms that initiate M&As are more likely to manage earnings upward, compared with non-initiating target firms.

I first investigate whether target firms manage earnings upward during the M&A process. Abnormal accruals are used as the proxy for earnings management in my main tests. M&A target firms may have systematically different characteristics compared with other ordinary firms. Hence, I match each target firm with a firm that is not involved with any merger activity (i.e. non-M&A matched firms). Specifically, non-M&A firms are matched with target firms in the same industry and fiscal year-quarter and have the closest firm size, financial

[16] One recent paper finds that, of all the firms that publicly announce seeking strategic alternatives or the sale of business, acquirers tend to choose the better-performed ones as the potential targets (Zha Giedt, 2017).
[17] The stock price is usually the benchmark based on which target firms and acquirers negotiate for the deal price. The background disclosure of M&A negotiations often mentions targets' stock price and describes the bid premium based on the stock price.
[18] Due diligence is costly, and acquirers may cut short the due diligence process due to competitive pressures, financial reporting incentives and agency problems (Wangerin, 2019). Hence, it is possible that acquirers couldn't find all the accounting manipulations performed by target firms.

performance, growth, and leverage in the quarter before the (pseudo) M&A process. I examine target firms' earnings management in comparison with non-M&A matched firms. Consistent with my prediction, I find that initiating target firms have higher abnormal accruals during the M&A process compared with their non-M&A matched firms, while non-initiating target firms do not exhibit higher abnormal accruals than their non-M&A matched firms. Moreover, initiating target firms have higher abnormal accruals during the M&A process than non-initiating target firms. The results suggest that initiating target firms are more likely to manage earnings upward during the M&A process compared with non-M&A matched firms and non-initiating target firms.

I next examine when target firms manage earnings upward during the M&A process. Target firms may not only manage earnings upward to different extents but also in different periods of time. As depicted in Figure 1, I define the typical M&A process to consist of pre-contact, negotiation and post-announcement periods based on initiation date and M&A announcement date. Initiating target firms have plans of M&As, well before the actual initiation of negotiations, hence they may manage earnings upward in advance and then start to negotiate with potential acquirers. On the other hand, non-initiating target firms may only manage earnings upward, if at all, after acquirers contact them because they have no anticipation of M&A negotiations. Therefore, I predict that initiating target firms are more likely to manage earnings upward than non-initiating target firms before parties start to negotiate, i.e., in the pre-contact period when they are preparing for the upcoming merger negotiations. After the M&A announcement, initiating target firms with strong motives for M&As, may continue managing earnings upward to avoid unfavorable earnings that may lead to the termination of merger agreements and attract additional bidders for better offers. In contrast, non-initiating target firms may not have strong incentives to further manage earnings upward if they have already reached agreements with acquirers.[19] Hence, I predict that initiating target firms are more likely to manage earnings upward than non-initiating target firms in the post-announcement period. My results are consistent with the predictions and show that initiating target firms manage earnings upward in the pre-contact period and the post-announcement period, compared with non-M&A matched firms and non-initiating target firms.

I conduct several cross-sectional analyses to investigate whether target firms' earnings management varies due to target firms' different incentives for mergers. First, target firms that have experienced financial difficulties are likely to have stronger incentives to initiate the merger process to fulfill their strategic and/or financial objectives (Masulis and Simsir, 2018). I examine initiating target firms' earnings management depending on whether they have experienced financial difficulties. Second, target CEOs with higher ownership can share a significant part of the merger premium, which, to some extent, may compensate for the expected job loss after mergers (J. Cai and Vijh, 2007; Fidrmuc and Xia, 2017). Thus, target firms with higher CEO ownership may have stronger incentives to initiate the merger process. I examine initiating target firms' earnings management depending on target firms' CEO ownership. Lastly, I examine whether initiating target firms are more likely to manage earnings if target CEOs are older or close to retirement. Older or retiring CEOs have weaker career concerns and may actively initiate mergers (Jenter and Lewellen, 2015). On the other hand, older CEOs may be wealthier and may not have incentives to manage earnings to influence deal prices. My results suggest that earnings management of initiating target firms are more pronounced if these firms have experienced financial distress, have CEOs with higher ownership, and have younger (non-retiring) CEOs.

[19] Non-initiating target firms may even manage earnings downward under acquirers' pressure (Chen, Thomas, and Zhang, 2016).

In additional tests, I investigate whether initiating target firms manage earnings via real activities. Real earnings management is more costly than accrual-based earnings management, but it is less observable than its counterpart. Firms are likely to engage in real earnings management after exhausting the capacity of accrual management. I find some evidence that initiating target firms manage earnings upward via real activities during the M&A process compared with their non-M&A matched firms and non-initiating target firms. In terms of the timing of real earnings management, I find that initiating target firms manage earnings via activities in the negotiation period and the post-announcement period. This suggests that initiating target firms may weigh the costs of accrual-based earnings management against real activity earnings manipulation and engage in different types of earnings management in different periods.

I also conduct some robustness checks. First, initiating target firms and non-initiating target firms may have systematically different characteristics that could affect their earnings management. To mitigate the concern, I use the propensity-score matching (PSM) technique to match each initiating target firm with a non-initiating target firm. Second, I use an alternative definition for the M&A process. Specifically, the length of the merger process is fixed with eight quarters before and two quarters after the announcement date. Third, I exclude hostile M&As as defined by SDC from my sample and repeat my main analysis. Fourth, I redo my main test after using entropy balancing. Lastly, I use adjusted abnormal accruals, calculated as target firms' abnormal accruals subtracting non-M&A matched firms' abnormal accruals, as the dependent variable. My results are robust to all these additional checks.

This study makes several contributions. First, the study contributes to the literature on firms' earnings management before significant corporate events such as IPOs (Ball and Shivakumar, 2008; DuCharme, Malatesta, and Sefcik, 2004; Teoh, Welch, and Wong, 1998a; Teoh, Wong, and Rao, 1998), SEOs (Cohen and Zarowin, 2010; DuCharme et al., 2004;

Kothari, Mizik, and Roychowdhury, 2016; Rangan, 1998; Shivakumar, 2000; Teoh, Welch, and Wong, 1998b), management buyouts (Fischer and Louis, 2008; Perry and Williams, 1994) and stock repurchases (Gong, Louis, and Sun, 2008a; Louis and White, 2007). Prior studies document that acquirers manage earnings upward and withhold bad news before the announcement of the stock-for-stock acquisitions (Erickson and Wang, 1999; Ge and Lennox, 2011; Gong et al., 2008b; Louis, 2004). However, extant studies do not provide clear evidence on whether target firms manage earnings during the M&A process (Anilowski, Macias, and Sanchez, 2009; Erickson and Wang, 1999).[20] I argue that target firms' earnings management depends on their motives towards mergers. My study provides clear evidence on the relation between M&A deal initiation and earnings management by target firms during the M&A process.

Second, my study sheds light on the determinants of target firms' financial reporting quality in M&As. This study disentangles target firms' incentives for mergers based on the information on deal initiation and characterizes target firms' earnings management during the M&A process. It shows that initiating target firms with strong incentives for M&As may strategically change their financial reporting quality, which has implications for acquirers' bidding decisions and target firm valuations (Amel-Zadeh and Zhang, 2015; Marquardt and Zur, 2015; McNichols and Stubben, 2015; Raman et al., 2013; Skaife and Wangerin, 2013).

Third, the study adds to the literature on the detailed M&A process. Prior studies provide evidence that a large proportion of mergers are initiated by target firms rather than acquirers, and explore these target firms' motives to proactively seek mergers (Boone and Mulherin, 2007; De Bodt, Cousin, and Demidova, 2014; Fidrmuc and Xia, 2017; Masulis and

[20] Prior studies argue that target firms may not have sufficient time to manage earnings since acquirers usually initiate the negotiations and complete the transactions relatively fast (Erickson and Wang, 1999). The underlying assumption of this argument is that target firms act passively in the M&A market, which is not necessarily true given that many target firms actively seek merger partners.

Simsir, 2018). This study extends our understanding of M&A deal initiation by documenting that the incentives inherent in the action of initiating mergers may lead to target firms' strategic reporting such as earnings management.

The paper proceeds as follows. Section 2.2 reviews the related literature. Section 2.3 develops hypotheses. Section 2.4 outlines the sample selection, the data collection process, and the research design. Section 2.5 discusses the empirical results. Section 2.6 concludes.

2.2 Related Literature

2.2.1 Earnings management during M&As

Extant studies on M&As focus on whether acquirers manage earnings prior to (stock-for-stock) M&As (Erickson and Wang, 1999; Gong et al., 2008b; Louis, 2004). Erickson and Wang (1999) were one of the first to provide evidence that acquiring firms manage earnings upward in the quarters before the merger agreement to reduce the acquisition costs in stock-for-stock mergers. Louis (2004) also finds that acquiring firms overstate earnings in the quarter before the stock merger announcement and that the post-merger reversal of accruals partly contributes to the stock underperformance of acquirers after acquisitions. Gong et al. (2008b) show a positive relationship between acquirers' pre-merger abnormal accruals and the likelihood of post-merger lawsuits and suggest that investors overlook the stock price effect of contingent legal costs of earnings management in the stock-for-stock mergers. Louis and Sun (2016) further document that acquiring managers, who manage earnings upward before the merger announcement, are more likely to announce the mergers on Fridays to exploit investors' inattention. These studies all examine earnings management by acquirers before merger announcements.

It has long been believed that target firms, just like acquirers, are also likely to manage earnings. But little research investigates or provides clear evidence on target firms' earnings management.[21] Erickson and Wang (1999) conjecture that target firms may manage earnings before the M&A announcement but find insignificant results. They argue that target firms may not have sufficient time to manage earnings since acquirers usually initiate the negotiations and complete transactions relatively fast. However, both anecdotal and empirical evidence suggest that many target firms actively seek mergers and initiate negotiations with potential acquirers. Hence, the reason why prior studies could not find evidence of earnings management by target firms may be that target firms' mixed motives for M&As are not clearly disentangled.

2.2.2 M&A deal initiation

The research on the M&A process starts with Boone and Mulherin (2007), who use the hand-collected information on the background of the merger process from merger-related documents filed by acquirers or targets with SEC. Notably, these studies notice that a large proportion (30% to 40%) of M&A deals are initiated by target firms rather than acquirers, suggesting that target firms are not just passive parties as many assume (Aktas et al., 2010; Boone and Mulherin, 2007, 2008; Heitzman, 2011). Several papers examine the relation between target-initiation (which may suggest willingness to sale) and M&A outcomes, and find that target-initiated M&A is associated with lower bid premium, higher probability of success and lower target shareholders' profit (De Bodt et al., 2014; Schlingemann and Wu, 2015; Xie, 2010).

[21] A few recent studies investigate the role of target firms' accounting information in the M&A market (Amel-Zadeh and Zhang, 2015; Marquardt and Zur, 2015; McNichols and Stubben, 2015; Raman et al., 2013; Skaife and Wangerin, 2013). For example, Raman et al. (2013) examine the relationship between targets' earnings quality and bidders' takeover decisions. They show that bidders prefer friendly negotiated takeovers, offer higher bid premiums, and pay a higher percentage of equity in deals involving targets with poor earnings quality. But these studies take target firms' earnings quality as given and focus on the consequences of target firms' earnings quality in the M&A market. They do not distinguish managerial opportunistic reporting behaviors from non-discretionary reporting routine. Unlike these previous studies, my study examines the strategic financial reporting of target firms during the M&A process.

One can imagine that target firms that choose to initiate merger negotiations should have stronger incentives for mergers compared with target firms in mergers initiated by acquirers. A few studies examine more specific motives for target firms to initiate the merger process (Fidrmuc and Xia, 2017; Masulis and Simsir, 2015). Masulis and Simsir (2015) suggest that important motives for target-initiated M&A deals are target firms' economic weakness, financial constraints, and negative economy-wide shocks. Fidrmuc and Xia (2017) investigate managerial motivation to initiate the M&A process and find that CEOs with higher ownership, higher golden parachutes, and higher stock or stock option grants are more likely to initiate the sale of targets. No matter what specific motives are, deal initiation is clearly an indicator of target firms' proactive incentives for mergers.

While prior studies document that target firms may actively seek mergers and its implications for M&A outcomes, they do not investigate the possible strategic behaviors of target firms during the M&A process to fulfill their objectives. Target firms that choose to initiate M&As have stronger incentives for mergers and thus may behave strategically during the M&A process. By using whether target firms initiate M&As as an indicator of their strong motives for mergers, this study investigates whether target firms manage earnings during the M&A process.

2.3 Hypotheses Development

The premise of identifying firms' strategic reporting prior to corporate events is to understand managerial intent or incentives (Dichev et al., 2013; Louis and Sun, 2016). While the acquirers' objective, which is to make acquisitions with relatively low costs, is straightforward, target firms' incentives are more difficult to observe. But target firms' incentives may be revealed from certain actions, such as whether they initiate merger negotiations in the first place. If target firms, rather than acquirers, choose to initiate the merger process, they clearly have stronger incentives for mergers. To make their firms attractive in the M&A market, initiating target firms are likely to strategically manipulate their financial reports, i.e. engage in earnings management.

Initiating target firms may choose to manage earnings upward during the M&A process, due to several considerations. First, initiating target firms may have incentives to manage earnings upward to make them more attractive during the M&A process. Target firms' historical and current financial reports are important inputs for potential acquirers to value target firms and estimate merger synergies. Due to the information asymmetry between acquirers and targets, acquirers need to gather information about the potential targets through different channels.[22] Generally, potential acquirers can only obtain limited private information from the target, while public information is the primary source of information acquirers can rely on before formally entering negotiations. A few studies provide evidence that targets' accounting information plays a role in bidders' takeover decisions such as takeover method, offer premium and payment method (Marquardt and Zur, 2015; Raman et al., 2013). Given that target firms' financial reporting may influence acquirers' bidding decisions, initiating target firms are likely to manage earnings upward to make them more attractive to potential acquirers.

Second, initiating target firms may have incentives to manage earnings upward to improve or maintain their stock prices at a relatively high level. Prior literature suggests that financial reporting, and more specifically, accounting earnings are associated with the stock price (Ball and Brown, 1968; Dechow et al., 2014; Sloan, 1996). For example, a few studies

[22] Acquirers may gather direct or indirect private information from directors' networks (Y. Cai and Sevilir, 2012; El-Khatib, Fogel, and Jandik, 2015; Ishii and Xuan, 2014), shared advisors (Agrawal, Cooper, Lian, and Wang, 2013), or common auditors (Y. Cai, Kim, Park, and White, 2016; Dhaliwal, Lamoreaux, Litov, and Neyland, 2016). This mosaic information might be useful when acquirers make takeover bids but the private information channel is under stricter scrutiny from regulators and investors of both targets and acquirers due to the conflicts of interest for related parties.

provide evidence that firms may manage earnings to influence stock price before significant transactions such as IPOs, SEOs or share repurchases (Cohen and Zarowin, 2010; Gong et al., 2008a; Kothari et al., 2016; Teoh, Welch, et al., 1998a, 1998b). Moreover, the target firms' stock price is usually the benchmark when acquirers and targets negotiate for the deal price. Hence, target firms are likely to manage earnings upward during the M&A process to increase or maintain their stock prices in the hope of gaining an advantage during M&A negotiations.

Third, initiating target firms may have incentives to manage earnings upward because the detection risk or litigation risk of earnings management may be lower if they successfully complete M&As. Unlike acquirers that are likely to be sued for their pre-merge earnings management (Gong et al., 2008b), target firms will be delisted from stock exchanges after mergers and subject to less market scrutiny. An extreme example is the $11 billion acquisition of Autonomy Corporation plc ("Autonomy") by Hewlett-Packard Company ("HP") in 2011. Less than one year later, HP discovered Autonomy's accounting irregularities, which significantly inflated its historical earnings over the years leading up to the acquisition, and had to write off $8.8 billion of the assets it acquired. Although HP filed lawsuits against Autonomy's former managers, the legal process had already taken more than eight years and is still on-going.[23] This example shows that it might be very difficult and costly to sue target firms for their pre-merger earnings management after the completion of mergers.

Despite its benefits for target firms, earnings management is not costless. For example, prior studies find that targets' accounting quality is negatively associated with the deal completion rate and speed (Marquardt and Zur, 2015; Skaife and Wangerin, 2013), suggesting that a higher level of earnings management may hinder the consummation of mergers.

[23] HP's botched Autonomy acquisition: Timeline of the saga (https://www.computerworld.com/article/3412210/hp-s-botched-autonomy-acquisition--timeline-of-the-saga.html)

Moreover, earnings management is still subject to the detection risk and litigation risk when acquirers conduct extensive due diligence (Wangerin, 2019). However, due diligence is costly, and acquirers may cut short the due diligence process due to competitive pressures, short-firm financial reporting incentives and agency problems (Wangerin, 2019). Hence, it is very likely that acquirers couldn't find all the accounting manipulations performed by target firms during the merger process.

Target firms' earnings management depends on whether they have strong incentives to pursue mergers. Initiating target firms have strong motives for mergers and consequently, they may have stronger incentives to manage earnings to fulfill their strategic objectives. Initiating target firms also have the capability to manage earnings since they plan to pursue mergers well before merger negotiations. Thus, initiating target firms will have enough time and resources to manage earnings upward to keep their stock price at a higher level, and initiate merger negotiations when their stock price is high. The benefits of earnings management may outweigh the potential costs for initiating target firms that wish to pursue mergers. Hence, I predict that initiating target firms are likely to manage earnings.

In contrast, target firms that do not choose to initiate mergers may not manage earnings for several reasons. First, non-initiating target firms have weaker motives for mergers since they do not have a plan to actively seek merger partners. Hence, non-initiating target firms may have weaker incentives to manage earnings. Second, in mergers initiated by acquirers, target firms have no anticipation of merger negotiations until acquirers initiate the contact with them. These target firms thus have relatively less time to respond even if they want to manipulate their financial reports. Third, even if non-initiating target firms may still have some incentives to manage earnings after acquirers contact them, the potential costs may be higher. Since acquirer-initiated mergers usually have a shorter negotiation period, targets are likely to face more severe scrutiny from acquirers. Acquirers are also more prepared and could detect targets' unusual financial reporting behaviors during deal negotiations. Therefore, the costs of earnings management may be higher for non-initiating targets due to the higher detection risk. The benefits of earnings management for non-initiating target firms may not warrant the potential costs because pursuing mergers is not part of their strategic objectives and spending too many resources may negatively impact their normal operations. I thus expect no or less earnings management for non-initiating target firms. Collectively, I predict that target firms that initiate the merger process have both stronger incentives and capability to manage earnings upward than non-initiating target firms. The first hypothesis is stated as follows:

H1: Target firms that initiate M&As are more likely to manage earnings upward during the M&A process.

The length and complexity of a merger process vary across deals and firms. The M&A process is generally divided into private pre-announcement and public post-announcement periods by the public announcement date. The pre-announcement period could be further separated into the pre-contact period when firms are preparing for merger negotiations and the negotiation period when target firms and potential acquirers negotiate privately. See Figure 1 for the illustration of the timeline of a typical M&A process. If initiating target firms wish to strike a better deal price, they may manage earnings upward in the pre-contact period to keep their share prices at a higher level. Moreover, initiating target firms may time their initiation of contact with potential acquirers after driving up their stock prices with earnings management in order to gain an advantage during deal negotiations. On the other hand, non-initiating target firms may only manage earnings, if at all, after acquirers contact them, because they have no anticipation of potential merger negotiations beforehand. Therefore, I predict that initiating target firms are more likely to manage earnings upward in the pre-contact period.[24]

In the post-announcement period after target firms and acquirers reach preliminary agreements, two parties conduct further due diligence and work on the consummation of mergers. After the merger announcement, initiating target firms are likely to continue managing earnings upward because unfavorable earnings reported may lead to acquirers revising down the offer price or even the termination of agreements.[25] In addition, merger agreements very often include a "go-shop" provision, which allows target firms to solicit (potentially better) offers from other bidders. Initiating target firms may continue managing earnings upward to attract additional bidders in the "go-shop" period. On the other hand, non-initiating target firms may not have strong incentives to further manage earnings upward if they have already reached agreements with acquirers.[26] Hence, I predict that initiating target firms are more likely to manage earnings upward in the post-announcement period. Collectively, the second hypotheses are stated as follows:

H2: Target firms that initiate M&As are more likely to manage earnings upward in the pre-contact period and the post-announcement period.

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[24] This is similar to acquirers' earnings management in that acquirers may distance some of their earnings management activities from the merger announcement date to mislead investors (Louis, 2004; Louis and Sun, 2016).

[25] This has been observed in the merge-related proxy statements filed by firms with SEC. Acquires keep track of target firms' financial reporting after the merger announcement.

[26] It is possible that non-initiating target firms may even manage earnings downward to meet acquirers' needs. Chen, Thomas, and Zhang (2016) find that some target firms manage earnings down in the "quiet" period between M&A announcements and completion. They provide evidence that the performance understatement is transferred to boost the post-acquisition acquirer performance, suggesting acquirers may direct targets to manage performance for their benefits.

2.4 Research Design

2.4.1 Sample

To conduct the analyses, I obtain data of the U.S. domestic mergers from Thomson Reuters Securities Data Corporation (SDC) Platinum and include all mergers that were publicly announced from the beginning of 2002 to the end of 2016.[27] Following prior literature (Y. Cai et al., 2016; Marquardt and Zur, 2015), I apply several sample selection criteria as below: (a) The deal value must be at least US$1 million to be economically meaningful; (b) Both acquirers and target firms are publicly listed U.S. firms; (c) Acquirers must own less than 50% of the target firms before the deal and own (or seek to own) 100% of the target's shares after the transaction.[28] I eliminate deals with related parties including share buybacks, exchange offers, and recapitalization. I obtain stock price data for target firms from CRSP, accounting data from Compustat, and data of CEO characteristics from Execucomp.

My main sample consists of 711 U.S. domestic mergers that were announced from the beginning of 2002 to the end of 2016. Table 1 Panel A shows the sample selection procedure. I start with 3,392 U.S. domestic mergers involving both public acquirers and public target firms from 2002 to 2016. After applying the sample selection criteria and excluding mergers without the required data, the final sample consists of 711 mergers. Table 1 Panels B and C present the distribution of the sample by year and Fama-French 12 industries, respectively. Panel B shows that the number of mergers is generally distributed evenly across the years from 2002 to 2016. Panel C suggests that the business equipment industry has seen the largest number of mergers and the healthcare industry has also experienced significant consolidation. Moreover, Table 1

[27] The sample starts from 2002 to avoid the possible effects of several significant changes in accounting standards such as SFAS No. 141, Business Combinations, effective June 30, 2001 and SFAS No. 142, Goodwill and Other Intangible Assets, effective December 15, 2001, on the accounting treatment of M&As.

[28] I limit the sample to merger agreements where the bidder seeks to own 100% of the public target after the transaction because only these types of acquisitions require the filing of the merger agreement with the SEC.

Panels B and C show that target-initiated mergers occur throughout the sample years and exist in all industries. Table 1 Panel D presents the summary statistics for some key characteristics of M&As in my sample. Specifically, an average M&A deal has a value of $3,177.46m and 42.16% offer premium. 91% of deals are completed and 44% of deals are structured as informal auctions. In terms of payment methods, 63% of deals involve cash and 30% of deals involve stock. On average, the negotiation period lasts for about 222 days and the post-announcement period lasts for about 126 days.[29]

2.4.2 M&A initiation

In this study, I disentangle target firms' motives for mergers by identifying whether target firms initiate merger negotiations. I hand collect and code information on the details of the merger process from the background section of firms' 14A and S-4 filings (for mergers) and 14D filings (for tender offers). Specifically, I collect the information, such as which party (i.e. targets versus bidders) initiated the deal, when the deal was initiated and how the deal was structured (i.e. one-on-one negotiation versus auction). See Appendix B for the detailed data collection process and Appendix C for examples of target-initiated or bidder-initiated mergers. Table 1 Panel D presents the statistics of some key characteristics for the M&A sample. Notably, 44% of mergers are initiated by target firms, suggesting that target-initiated mergers are not uncommon.

2.4.3 Measures of earnings management

I use quarterly abnormal accruals as the proxy for earnings management in the main analysis. Specifically, target firm's quarterly abnormal accrual (*ABAC*) is the performance-

[29] The pre-contact period is set to four quarters in this study as the dates when acquirers or targets start to plan for mergers are mostly unobservable.

adjusted residuals from the following cross-sectional version of the modified Jones (1991) model estimated for each calendar quarter and industry (two-digit SIC-code):

$$\frac{TA_{i.t}}{ASSET_{i.t-1}} = \beta_0 + \sum_{j=1}^{4} \beta_j \frac{Q_{j,i,t}}{ASSET_{i.t-1}} + \beta_5 \frac{\Delta SALES_{i.t} - \Delta AR_{i.t}}{ASSET_{i.t-1}} + \beta_6 \frac{PPE_{i.t-1}}{ASSET_{i.t-1}} + \beta_7 \frac{TA_{i.t-4}}{ASSET_{i.t-1}} + \varepsilon_{i,t}$$

where *i* indexes firms and *t* indexes calendar quarters (Louis and Sun, 2016). Total accruals $TA_{i.t}$ are defined as income before extraordinary items less cash flow from operating activities; $ASSET_{i.t-1}$ is total assets at the beginning of quarter *t*; $Q_{j,i,t}$ is a dummy variable that equals to 1 for fiscal quarter *j* and 0 otherwise; $\Delta SALES_{i.t}$ is the quarterly change in sales; $\Delta AR_{i.t}$ is the quarterly change in accounts receivables; and $PPE_{i.t-1}$ is the gross value of property, plant, and equipment at the beginning of quarter *t*; $TA_{i.t-4}$ is the fourth lag of $TA_{i.t}$. I winsorize the top and bottom percentiles of $\frac{TA_{i.t}}{ASSET_{i.t-1}}$, $\frac{\Delta SALES_{i.t} - \Delta AR_{i.t}}{ASSET_{i.t-1}}$ and $\frac{PPE_{i.t-1}}{ASSET_{i.t-1}}$. I require at least 20 observations for each estimation.

I adjust targets' quarterly discretionary accruals for performance following prior literature (Gong et al., 2008b; Louis and Sun, 2016). For each quarter and each industry (two-digit SIC code), five portfolios with at least four firms each are created by sorting the data into quintiles based on the ROA from the same quarter of the previous year. The performance-adjusted discretionary accruals for a firm are the firm-specific abnormal accruals minus the mean abnormal accruals for its respective industry performance-matched portfolio (Kothari, Leone, and Wasley, 2005).

In an additional test, I investigate whether target firms that initiate the merger process are also likely to manage earnings upward via real activities. Prior literature suggests that firms may increase earnings by accelerating the timing of sales through increased price discounts or more lenient credit terms, reporting the lower cost of goods sold through increased production, and/or decreasing discretionary expenses such as advertising, R&D and SG&A expenditures (Cohen and Zarowin, 2010; Roychowdhury, 2006). Following prior literature, I calculate abnormal cash flow from operations (*ABCFO*), abnormal production costs (*ABPROD*) and abnormal discretionary expenses (*ABDISX*) (Cohen, Dey, and Lys, 2008; Cohen and Zarowin, 2010; Louis and Sun, 2016; Zang, 2012). Since each of these measures may lead to ambiguous interpretations, I create an aggregate measure (*RAM*) to proxy for real activity earnings management based on these three measures (Zang, 2012).

2.4.4 Empirical models

To mitigate the potential concern that M&A target firms may have unique characteristics compared with other firms, I use propensity-score matching to match each M&A target firm with a firm not involved in any merger in the same industry and fiscal year-quarter and based on firm size, financial performance, market-to-book ratio, and leverage to the M&A target firms in the quarter before the (pseudo) M&A process. Appendix D presents the comparison of several key variables between target firms and non-M&A matched firms. I investigate earnings management by target firms that initiate M&As, compared with non-M&A matched firms and non-initiating target firms.

I use the following two models to test whether initiating target firms manage earnings upward during the M&A process (H1):

$$Dep\_Var = \beta_0 + \beta_1\, Target + \sum \beta_i\, Controls + \sum \beta_j\, Industry + \sum \beta_k\, Year\_quarter + \varepsilon \quad (1)$$

$$Dep\_Var = \beta_0 + \beta_1\, Initiation + \sum \beta_i\, Controls + \sum \beta_j\, Industry + \sum \beta_k\, Year\_quarter + \varepsilon \quad (2)$$

Model (1) is used to test target firms' earnings management compared with non-M&A matched firms, while Model (2) is used to test initiating target firms' earnings management compared with non-initiating target firms. *Dep_Var* represents abnormal accruals (*ABAC*) in the main analysis and real activity manipulation (*RAM*) in the additional tests. *Target* and *Initiation* are variables of interest and significant positive coefficient (β_1) suggests that H1 is supported.

I use the following two models to test when initiating target firms manage earnings upward (H2):

$$Dep\_Var = \beta_0 + \beta_1\, Target\_pre\_contact + \beta_2\, Target\_negotiation + \beta_3\, Target\_post\_announcement + \sum \beta_i\, Controls + \sum \beta_j\, Industry + \sum \beta_k\, Year\_quarter + \varepsilon \quad (3)$$

$$Dep\_Var = \beta_0 + \beta_1\, Initiation\_pre\_contact + \beta_2\, Initiation\_negotiation + \beta_3\, Initiation\_post\_announcement + \sum \beta_i\, Controls + \sum \beta_j\, Industry + \sum \beta_k\, Year\_quarter + \varepsilon \quad (4)$$

Model (3) is used to test target firms' earnings management compared with non-M&A matched firms, while Model (4) is used to test initiating target firms' earnings management compared with non-initiating target firms. $Target\_pre\_contact$, $Target\_post\_announcement$, $Initiation\_pre\_contact$, and $Initiation\_post\_announcement$ are variables of interest and significant positive coefficients (β_1 and β_3) suggest that H2 is supported.

All the analyses are performed at the firm-quarter level. Industry (2-digit SIC code) and fiscal year-quarter fixed effects are also included in both models. Main control variables that may affect firms' abnormal accruals include firm size, market-to-book ratio, ROA, and leverage. Following Chen, Miao & Valentine (2018), Appendix E presents the test of the validity of the parallel assumption for my tests and insignificant coefficients on the benchmark period interaction variables suggest that target firms and non-M&A matched firms behave similarly before the M&A process. Hence, it is valid to use these models above to draw inferences about target firms' earnings management in comparison with non-M&A matched firms.

2.5 Results

2.5.1 Earnings management by target firms

The study first examines *whether* target firms that initiate mergers manage earnings upward during the M&A process. Table 2 presents the univariate tests on accrual-based earnings management of M&A target firms. Panel A suggests that initiating target firms have significantly higher abnormal accruals than respective non-M&A matched firms during the M&A process. On the other hand, Panel B shows that non-initiating target firms' abnormal accruals are not significantly different from their non-M&A matched firms. Moreover, Panel C shows that initiating target firms have significantly higher abnormal accruals than non-initiating target firms during the M&A process. Figure 2 Panel A also shows the striking difference of abnormal accruals between initiating target firms and non-initiating target firms. Collectively, the univariate tests suggest that initiating target firms are more likely to manage earnings upward during the M&A process, compared with matched firms not involved in M&As and non-initiating target firms.

Table 3 presents the multivariate analysis on the association of M&A deal initiation with target firms' abnormal accruals. Column 1 presents the result for the sample of all M&A target firms and corresponding non-M&A matched firms using Model (1). Consistent with prior studies, target firms do not seem to have significantly higher abnormal accruals than matched firms (Erickson and Wang, 1999). I rerun Model (1) using the sample of initiating and non-initiating target firms with their non-M&A matched firms and Columns 2 and 3 report the results, respectively. Interestingly, the coefficient on *Target* is significantly positive in Column 2 but not significantly different from zero in Column 3, suggesting that initiating target firms are more likely to manage earnings upward than non-M&A matched firms and that non-initiating target firms do not manage earnings on average compared with non-M&A matched firms. I then run Model (2) using the sample of all M&A target firms without non-M&A matched firms. The result in Column 4 shows that the coefficient on *Initiation* is significantly positive, suggesting that initiating target firms are more likely to manage earnings upward than non-initiating target firms. In summary, the multivariate results suggest that initiating target firms are more likely to manage earnings upward during the M&A process, compared with non-M&A matched firms and non-initiating target firms, consistent with H1.

2.5.2 Timing of earnings management by target firms

I next investigate *when* target firms manage earnings during the merger process. Table 4 presents the analysis for M&A deal initiation and the timing of earnings management. As depicted in Figure 1, the M&A process is divided into the pre-contact period, negotiation period, and the post-announcement period. I first run Model (3) using the sample of all M&A target firms with corresponding non-M&A matched firms, and none of the period indicators in Column 1 are significantly different from zero, which again suggests that target firms on average do not manage earnings compared with non-M&A matched firms. I rerun Model (1) using the sample of initiating and non-initiating target firms with their non-M&A matched firms, and Columns 2 and 3 report the results, respectively. The coefficients on *Target_pre-contact* and *Target_post-announcement* are both significantly positive in Column 2, which suggests that initiating target firms are more likely to manage earnings upward than non-M&A matched firms in the pre-contact period and the post-announcement period. In Column 3, the coefficients on period indicators are all insignificantly different from zero, suggesting that non-initiating target firms do not manage earnings in all periods compared with non-M&A matched firms. I then run Model (4) using the sample of all M&A target firms without non-M&A matched firms and Column 4 presents the result. The coefficients on *Initiation_pre-contact* and *Initiation_post-announcement* are significantly positive, suggesting that initiating target firms are more likely to manage earnings upward than non-initiating target firms in the pre-contact period and the post-announcement period. Collectively, the results suggest that initiating target firms are more likely to manage earnings upward in the pre-contact period and the post-announcement period compared with non-initiating target firms, consistent with H2.

2.5.3 Cross-sectional analysis

I conduct several cross-sectional analyses to investigate whether (initiating) target firms' earnings management differs depending on their various incentives to pursue mergers. Target firms may seek mergers for different reasons. Anecdotal evidence suggests that targets may seek mergers due to owner's/CEO's near-retirement, undercapitalization, risk reduction, inadequate distribution system, lack of ability to diversify, loss of personnel, etc. (Sherman, 2011). Prior literature also provides some empirical evidence on why target firms initiate mergers. For example, Masulis and Simsir (2018) find that firms are likely to seek mergers if they have experienced financial or competitiveness weaknesses, financial constraints, and/or industry or economy-wide shocks. J. Cai and Vijh (2007) document that stock and option holdings may incentivize target CEOs to seek takeovers and cash out their illiquid shares. Moreover, target CEOs with high ownership are more likely to initiate an M&A deal as a pre-emptive attempt to cope with potential financial difficulties before the situation further deteriorates (Fidrmuc and Xia, 2017). Jenter and Lewellen (2015) also suggest that target CEOs close to retirement age are more likely to be involved in M&As. I examine whether earnings management by initiating target firms is more pronounced if target firms have experienced financial distress, have CEOs with high ownership, and have CEOs close to retirement.

First, I test whether target firms manage earnings to a different extent due to different levels of financial distress. Specifically, I use Altman’s Z-score as the proxy of financial distress. I divide target firms into high (Altman’s Z-score < 3) versus low (Altman’s Z-score >= 3) financial distress groups. Table 5 presents the result of the cross-sectional analysis based on financial distress. The result shows that initiating target firms’ earnings management is more pronounced for high financial distress group, consistent with the notion that target firms that have experienced financial distress have stronger incentives to seek mergers and are more likely to manage earnings upward to make them attractive.

Second, I test whether target firms’ earnings management varies due to different levels of CEO ownership. Table 6 presents the result of the cross-sectional analysis based on CEO ownership. I separate target firms into high versus low CEO ownership groups based on the median of the shares held by CEOs before the M&A process. The result shows that the upward earning management of initiating target firms is more concentrated in target firms with higher CEO ownership, consistent with the argument that target firms with higher CEO ownership have stronger incentives to pursue mergers.

Third, I test whether the target firms’ earnings management is related to whether CEOs are close to retirement. Table 7 presents the result of the cross-sectional analysis based on target CEOs’ age. I divide target firms into retiring versus non-retiring groups based on whether the CEO’s age is greater than 65. The result suggests that the upward earning management by initiating target firms exists in firms with a younger or non-retiring CEO. Interestingly, the result also shows that initiating target firms with a retiring CEO are likely to manage earnings downward, probably because retiring CEOs just want to make sure mergers are completed quickly and successfully so they can enjoy their retirement life afterward.[30]

2.5.4 Real earnings management

I also examine whether target firms manage earnings via real activities during the M&A process. Real earnings management is believed to be more costly than accrual-based earnings management because it may have a longer impact on firms' prospects (Dichev et al., 2013). But real earnings management is also subject to lower detection risk since they are not governed by accounting standards. In addition, target firms may not have concerns over the long-term impact of real earnings management if mergers are successfully completed. Firms are thus likely to use real earnings management after exhausting the capacity of accrual management. I repeat the main analysis using the real earnings management proxy.

Table 8 presents the results of the association of M&A deal initiation with target firms' real earnings management. Panel A provides some evidence that initiating target firms manage earnings upward via real activities during the merger process, compared with non-M&A matched firms and non-initiating target firms. In terms of the timing of real earnings management, Panel B shows that initiating target firms manage earnings upward via real activities in the negotiation period and the post-announcement period compared with non-M&A matched firms and non-initiating target firms. This suggests that initiating target firms may engage in real activity earnings management in the negotiation period when accrual management is subject to more scrutiny from acquirers.

[30] I acknowledge that the test on the retiring CEO subsample may lack power due to its very small size.

2.5.5 Robustness checks

I conduct a few robustness checks. First, initiating target firms and non-initiating target firms may be inherently different across several firm characteristics, which could affect their earnings management decisions. To mitigate the concern that the difference between initiating and non-initiating target firms drives the main results, I use the propensity-score matching technique to match each initiating target firm with a non-initiating target firm based on industry, fiscal year-quarter, firm size, financial performance, growth, and leverage in the quarter before the M&A process. I repeat the main analysis using the matched sample of initiating target firms and non-initiating target firms. Table 9 presents the results using the propensity-score matched sample. Panel A shows that initiating target firms and non-initiating target firms are not significantly different in several firm characteristics after matching. The results in Panel B are qualitatively the same as my main results, suggesting that the main finding that initiating target firms are more likely to manage earnings upward than non-initiating target firms, is not driven by the different firm fundamentals between initiating and non-initiating target firms.

Second, I use an alternative definition of the merger process. Mergers vary in terms of the length of the negotiation and the post-announcement periods. It might be possible that some mergers with longer periods may affect the main results. To mitigate the concern, I repeat the main analysis by fixing the length of the merger process with eight quarters before and two quarters after the announcement date. The results in Table 10 are qualitatively the same as the main results.

Third, in this study, I separate mergers based on whether target firms initiate M&As, because this classification can help disentangle target firms' motives for M&As. Conventionally, prior literature classifies M&As into hostile and friendly ones.[31] There is a

[31] More than 95% mergers in my sample are friendly ones as defined by SDC.

concern that hostile M&As may affect my main results. I thus exclude hostile M&As as defined by SDC from my sample and repeat my main analysis. The results in Table 11 remain the same as my main results.

Fourth, as I could not obtain perfect matching between target firms and non-M&A matched firms, I further conduct entropy balancing for my sample to statistically neutralize the difference between target firms and non-M&A matched firms. Table 12 reports the results of main tests after using entropy balancing and the references remain similar.

Lastly, I adjusted dependent variables for target firms by subtracting the values of non-M&A matched firms from the raw values. I repeat the main analysis and obtain qualitatively similar results (untabulated).

2.6 Conclusions

Prior studies mainly focus on M&A acquirers but pay less attention to target firms, which also play a significant role in M&As. There is also some misconception that acquirers always initiate M&As and target firms react passively. However, both anecdotal and empirical evidence suggest that target firms may also actively initiate M&A negotiations with potential acquirers. The study uses whether target firms initiate M&A to distinguish targets' motives for mergers and investigates whether and when target firms manage earnings during the M&A process.

My results suggest that initiating target firms, which have stronger motives to pursue mergers, are more likely to manage earnings upward compared with non-M&A matched firms and non-initiating target firms. Moreover, initiating target firms are more likely to manage earnings upward in the pre-contact period (i.e., before initiating the contact with potential acquirers) and the post-announcement period. Further analysis suggests that initiating target firms' earnings management is more pronounced for target firms that have experienced financial distress, have CEOs with higher ownership, and have non-retiring CEOs. My results are also robust to a battery of robustness checks.

The study depicts a complete picture of target firms' earnings management during the M&A process by providing evidence that target firms' earnings management depends on their M&A motives and occurs during specific stages of the M&A process. The study has potential implications for acquirers' biding decisions and target firms' valuations, which can be investigated in further studies.

2.7 References

Agrawal, A., Cooper, T., Lian, Q., & Wang, Q. (2013). Common advisers in mergers and acquisitions: Determinants and consequences. *The Journal of Law and Economics, 56*(3), 691-740.

Aktas, N., De Bodt, E., & Roll, R. (2010). Negotiations under the threat of an auction. *Journal of Financial Economics, 98*(2), 241-255.

Amel-Zadeh, A., & Zhang, Y. (2015). The economic consequences of financial restatements: Evidence from the market for corporate control. *The Accounting Review, 90*(1), 1-29.

Anilowski, C., Macias, A. J., & Sanchez, J. M. (2009). *Target firm earnings management and the method of sale: Evidence from auctions and negotiations*.

Armstrong, C. S., Balakrishnan, K., & Cohen, D. (2012). Corporate governance and the information environment: Evidence from state antitakeover laws. *Journal of Accounting and Economics, 53*(1), 185-204.

Ball, R., & Brown, P. (1968). Empirical evaluation of accounting income numbers. *Journal of Accounting Research, 6*, 159-178.

Ball, R., & Shivakumar, L. (2008). Earnings quality at initial public offerings. *Journal of Accounting and Economics, 45*(2), 324-349.

Betton, S., Eckbo, B. E., & Thorburn, K. S. (2008). Corporate takeovers. In B. E. Eckbo (Ed.), *Handbook of corporate finance: Empirical corporate finance* (Vol. 2, pp. 291-430).

Boone, A. L., & Mulherin, J. H. (2007). How are firms sold? *The Journal of Finance, 62*(2), 847-875.

Boone, A. L., & Mulherin, J. H. (2008). Do auctions induce a winner's curse? New evidence from the corporate takeover market. *Journal of Financial Economics, 89*(1), 1-19.

Cai, J., & Vijh, A. M. (2007). Incentive effects of stock and option holdings of target and acquirer CEOs. *The Journal of Finance, 62*(4), 1891-1933.

Cai, Y., Kim, Y., Park, J. C., & White, H. D. (2016). Common auditors in M&A transactions. *Journal of Accounting and Economics*, *61*(1), 77-99.

Cai, Y., & Sevilir, M. (2012). Board connections and M&A transactions. *Journal of Financial Economics, 103*(2), 327-349.

Chen, S., Miao, B., & Valentine, K. (2018). The Market for Corporate Control and Information Quality: Evidence from Peer Firm Disclosure Response to Takeover Threat. Available at SSRN: https://ssrn.com/abstract=3273019.

Chen, S., Thomas, J., & Zhang, F. (2016). Spring-loading future performance when no one is looking? Earnings and cash flow management around acquisitions. *Review of Accounting Studies, 21*(4), 1081-1115.

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.

Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics, 50*(1), 2-19.

De Bodt, E., Cousin, J.-G., & Demidova, I. D. B. (2014). M&A outcomes and willingness to sell. *Finance, 35*(1), 7-49.

Dechow, P. M., Sloan, R. G., & Zha, J. (2014). Stock prices and earnings: A history of research. *Annu. Rev. Financ. Econ., 6*(1), 343-363.

Dhaliwal, D. S., Lamoreaux, P. T., Litov, L. P., & Neyland, J. B. (2016). Shared auditors in mergers and acquisitions. *Journal of Accounting and Economics, 61*(1), 49-76.

Dichev, I. D., Graham, J. R., Harvey, C. R., & Rajgopal, S. (2013). Earnings quality: Evidence from the field. *Journal of Accounting and Economics, 56*(2), 1-33.

DuCharme, L. L., Malatesta, P. H., & Sefcik, S. E. (2004). Earnings management, stock issues, and shareholder lawsuits. *Journal of Financial Economics, 71*(1), 27-49.

El-Khatib, R., Fogel, K., & Jandik, T. (2015). CEO network centrality and merger performance. *Journal of Financial Economics, 116*(2), 349-382.

Erickson, M., & Wang, S.-w. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics, 27*(2), 149-176.

Fidrmuc, J. P., & Xia, C. (2017). M&A deal initiation and managerial motivation. *Journal of Corporate finance*.

Fischer, P. E., & Louis, H. (2008). Financial reporting and conflicting managerial incentives: The case of management buyouts. *Management Science, 54*(10), 1700-1714.

Gaughan, P. A. (2015). *Mergers, acquisitions, and corporate restructurings* (Sixth ed.): Hoboken, New Jersey: Wiley, 2015.

Ge, R., & Lennox, C. (2011). Do acquirers disclose good news or withhold bad news when they finance their acquisitions using equity? *Review of Accounting Studies, 16*(1), 183-217.

Gong, G., Louis, H., & Sun, A. X. (2008a). Earnings management and firm performance following open-market repurchases. *The Journal of Finance, 63*(2), 947-986.

Gong, G., Louis, H., & Sun, A. X. (2008b). Earnings management, lawsuits, and stock-for-stock acquirers' market performance. *Journal of Accounting and Economics, 46*(1), 62-77.

Heitzman, S. (2011). Equity grants to target CEOs during deal negotiations. *Journal of Financial Economics*, *102*(2), 251-271.

Ishii, J., & Xuan, Y. (2014). Acquirer-target social ties and merger outcomes. *Journal of Financial Economics*, *112*(3), 344-363.

Jenter, D., & Lewellen, K. (2015). CEO preferences and acquisitions. *The Journal of Finance, 70*(6), 2813-2852.

Jones, J. J. (1991). Earnings Management During Import Relief Investigations. *Journal of Accounting Research*, *29*, 193-228.

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics, 39*(1), 163-197.

Kothari, S. P., Mizik, N., & Roychowdhury, S. (2016). Managing for the moment: The role of earnings management via real activities versus accruals in SEO valuation. *The Accounting Review, 91*(2), 559-586.

Louis, H. (2004). Earnings management and the market performance of acquiring firms. *Journal of Financial Economics, 74*(1), 121-148.

Louis, H., & Sun, A. X. (2016). Abnormal Accruals and Managerial Intent: Evidence from the Timing of Merger Announcements and Completions. *Contemporary Accounting Research*, *33*(3), 1101-1135.

Louis, H., & White, H. (2007). Do managers intentionally use repurchase tender offers to signal private information? Evidence from firm financial reporting behavior. *Journal of Financial Economics*, *85*(1), 205-233.

Marquardt, C., & Zur, E. (2015). The role of accounting quality in the M&A market. *Management Science*, *61*(3), 604-623.

Masulis, R. W., & Simsir, S. A. (2018). Deal initiation in mergers and acquisitions. *Journal of Financial and Quantitative Analysis*, 53(6), 2389-2430.

McNichols, M. F., & Stubben, S. R. (2015). The effect of target-firm accounting quality on valuation in acquisitions. *Review of Accounting Studies*, *20*(1), 110-140.

Perry, S. E., & Williams, T. H. (1994). Earnings management preceding management buyout offers. *Journal of Accounting and Economics, 18*(2), 157-179.

Raman, K., Shivakumar, L., & Tamayo, A. (2013). Target's earnings quality and bidders' takeover decisions. *Review of Accounting Studies, 18*(4), 1050-1087.

Rangan, S. (1998). Earnings management and the performance of seasoned equity offerings. *Journal of Financial Economics, 50*(1), 101-122.

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics, 42*(3), 335-370.

Schlingemann, F., & Wu, H. (2015). Determinants and shareholder wealth effects of the sales method in acquisitions. *Journal of Banking & Finance, 59*, 469-485.

Sherman, A. J. (2011). *Mergers & Acquisitions from A to Z* (3 ed.): New York: American Management Association, c2011.

Shivakumar, L. (2000). Do firms mislead investors by overstating earnings before seasoned equity offerings? *Journal of Accounting and Economics, 29*(3), 339-371.

Skaife, H. A., & Wangerin, D. D. (2013). Target financial reporting quality and M&A deals that go bust. *Contemporary Accounting Research, 30*(2), 719-749.

Sloan, R. G. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review, 71*(3), 289-315.

Teoh, S. H., Welch, I., & Wong, T. J. (1998a). Earnings management and the long-run market performance of initial public offerings. *The Journal of Finance, 53*(6), 1935-1974.

Teoh, S. H., Welch, I., & Wong, T. J. (1998b). Earnings management and the underperformance of seasoned equity offerings. *Journal of Financial Economics, 50*(1), 63-99.

Teoh, S. H., Wong, T. J., & Rao, G. R. (1998). Are accruals during initial public offerings opportunistic? *Review of Accounting Studies, 3*(1), 175-208.

Wangerin, D. (2019). M&A Due Diligence, Post-Acquisition Performance, and Financial Reporting for Business Combinations. *Contemporary Accounting Research*.

Xie, K. (2010). The deal process, asymmetric bidders and target premia.

Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review, 87*(2), 675-703.

Zha Giedt, J. (2017). *Why Do Firms Sell Out? Separating Targets' Motives from Bidders' Selection of Targets in M&A.*

Zhao, Y., Allen, A., & Hasan, I. (2013). State antitakeover laws and voluntary disclosure. *Journal of Financial and Quantitative Analysis, 48*(2), 637-668.

Zhao, Y., & Chen, K. H. (2008). Staggered boards and earnings management. *The Accounting Review*, *83*(5), 1347-1381.

Zhao, Y., & Chen, K. H. (2009). Earnings quality effect of state antitakeover statutes. *Journal of Accounting and Public Policy*, *28*(2), 92-117.

Figure 1. Timeline of the Typical M&A Process

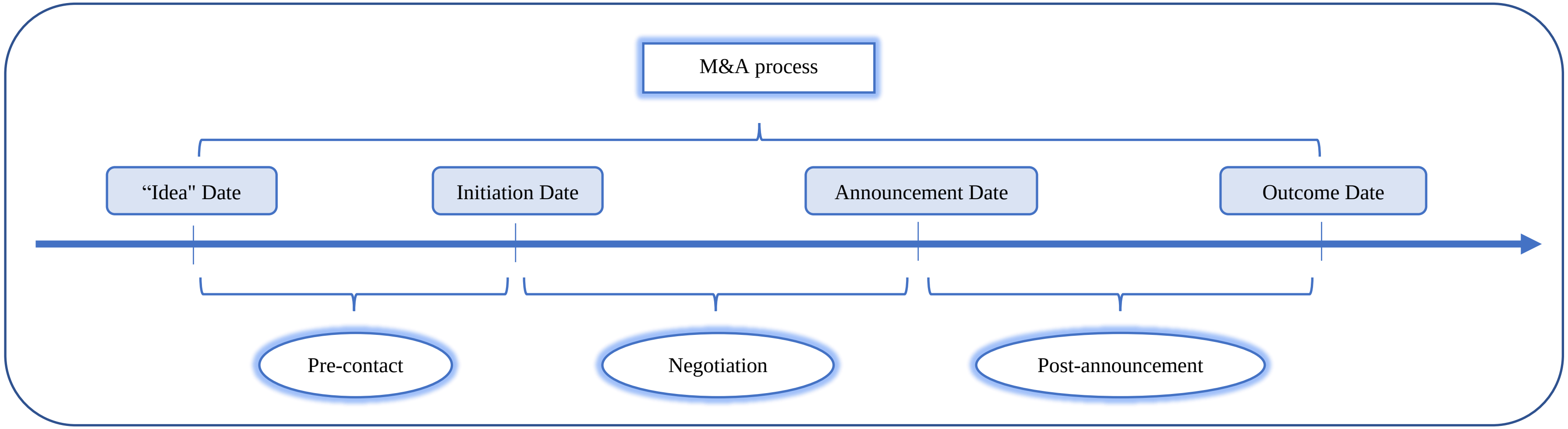

Figure 1 depicts the timeline of a typical M&A process. “Idea” date is the date when a target or an acquirer first has a plan to pursue mergers. Initiation date is the date when a target or an acquirer initiates the contact with the other party. Announcement date is the date when a merger deal is publicly announced by the target and the acquirer. Outcome date is the date when the merger is completed or terminated. Announcement date and outcome date is collected from SDC. Initiation date is collected from the target/acquirer’s SEC filing related to the merger. “Idea” date is unobservable and is assumed to be the date that is one year before initiation date. Accordingly, the pre-contact period is the period between the “idea” date and the initiation date and is the period when the target or the acquirer is preparing for the upcoming merger negotiation. The negotiation period is the period between the initiation date and the announcement date and is the period when the target and the acquirer(s) negotiate over the merger privately. The post-announcement period is the period between the announcement date and the outcome date and is the period when the target and the acquirer work on the consummation of the proposed merger. The M&A process in this paper includes pre-contact, negotiation and post-announcement periods.

Figure 2. Abnormal accruals of M&A target firms during the M&A process

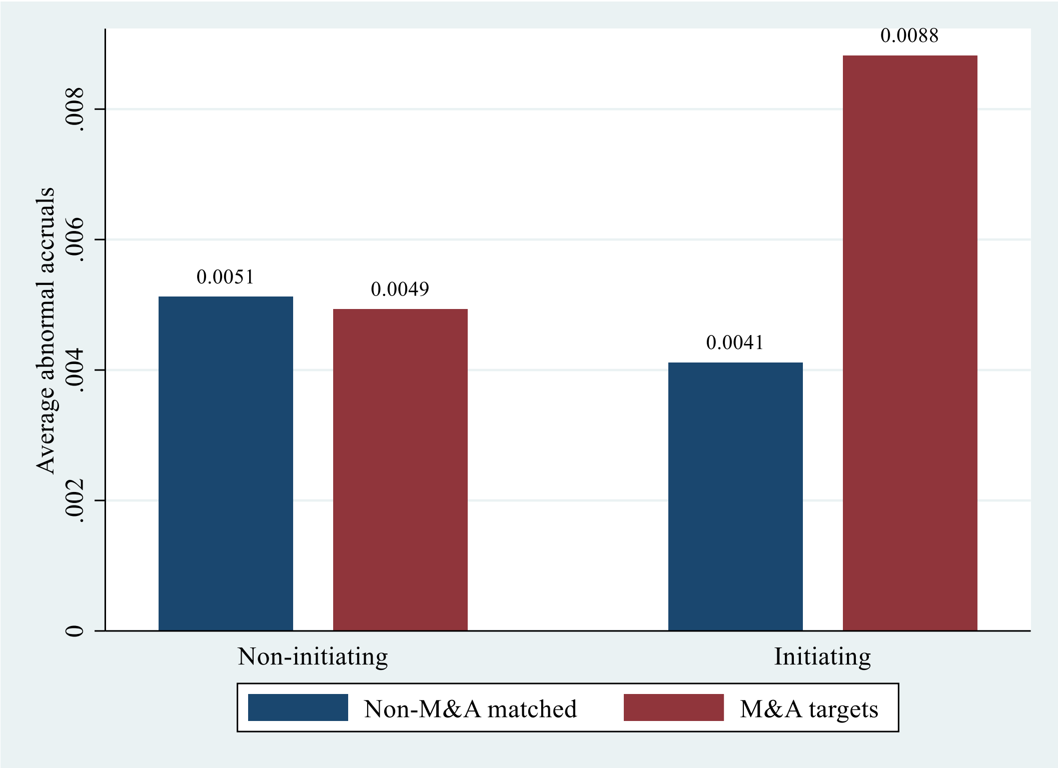

Figure 2 depicts the comparison of earnings management behaviors between initiating targets and non-M&A matched firms, and between non-initiating targets and non-M&A matched firms during the M&A process including pre-contact, negotiation and post-announcement periods. Initiating targets are target firms which initiate merger negotiations. Non-initiating targets are target firms in acquirer-initiated mergers. Non-M&A firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter and have the closest firm size, financial performance, growth, and leverage in the quarter before the M&A process. Variable definitions are described in Appendix A.

Table 1. Sample and descriptive statistics

Panel A: Sample selection

	Observations
U.S. domestic M&A deals announced from 2002 to 2016	3,392
Less: Deal value < $1m	(523)
Less: Acquirer owns *more than* 50% shares of the target before the merger	(76)
Less: Acquirer owns (seeks to own) *less than* 100% shares of the target after the merger	(283)
Less: Financial & stock data *not* available in Compustat and CRSP	(1,190)
Less: Merger-related filings *not* available via SEC EDGAR	(100)
Less: Non-M&A matched firms *not* available	(509)
Final sample of mergers	711

Panel B: Distribution of M&As by announcement year

	Target-initiated M&As					
	Yes		No		Full sample	
Year	Freq.	Percent	Freq.	Percent	Freq.	Percent
2002	16	5.10	19	4.79	35	4.92
2003	25	7.96	21	5.29	46	6.47
2004	25	7.96	37	9.32	62	8.72
2005	27	8.60	34	8.56	61	8.58
2006	27	8.60	37	9.32	64	9.00
2007	30	9.55	35	8.82	65	9.14
2008	22	7.01	25	6.30	47	6.61
2009	24	7.64	23	5.79	47	6.61
2010	27	8.60	25	6.30	52	7.31
2011	11	3.50	25	6.30	36	5.06
2012	20	6.37	20	5.04	40	5.63
2013	16	5.10	15	3.78	31	4.36
2014	9	2.87	21	5.29	30	4.22
2015	18	5.73	36	9.07	54	7.59
2016	17	5.41	24	6.05	41	5.77
Total	314	100.00	397	100.00	711	100.00

Panel C: Distribution of M&As by industry

	Target-initiated M&As					
	Yes		No		Full sample	
Fama-French 12 Industries	**Freq.**	**Percent**	**Freq.**	**Percent**	**Freq.**	**Percent**
Consumer Non-Durables	11	3.50	17	4.28	28	3.94
Consumer Durables	4	1.27	6	1.51	10	1.41
Manufacturing	30	9.55	45	11.34	75	10.55
Oil, Gas, and Coal Extraction and Products	21	6.69	25	6.30	46	6.47
Chemicals and Allied Products	4	1.27	13	3.27	17	2.39
Business Equipment	104	33.12	135	34.01	239	33.61
Telephone and Television Transmission	15	4.78	11	2.77	26	3.66
Utilities	10	3.18	12	3.02	22	3.09
Wholesale, Retail, and Some Services	27	8.60	26	6.55	53	7.45
Healthcare, Medical Equipment, and Drugs	48	15.29	66	16.62	114	16.03
Finance	12	3.82	5	1.26	17	2.39
Other	28	8.92	36	9.07	64	9.00
Total	314	100.00	397	100.00	711	100.00

Panel D: Summary statistics for M&A sample

Variables	**N**	**Mean**	**SD**	**25%**	**50%**	**75%**
M&A deal characteristics:						
Initiation	711	0.44	0.50	0.00	0.00	1.00
Deal Value ($m)	711	3177.46	8279.16	191.34	715.60	2345.52
Premium (%)	690	42.16	47.53	19.38	32.81	50.27
Completed	711	0.91	0.29	1.00	1.00	1.00
Cash (%)	711	63.56	41.87	18.99	90.38	100.00
Cash only	711	0.48	0.50	0.00	0.00	1.00
Stock (%)	711	30.08	39.38	0.00	0.00	60.55
Stock only	711	0.17	0.37	0.00	0.00	0.00
Toehold	711	0.03	0.18	0.00	0.00	0.00
Toehold (%)	711	0.46	3.37	0.00	0.00	0.00
Tender offer	711	0.21	0.41	0.00	0.00	0.00
Number of bidders	711	1.08	0.32	1.00	1.00	1.00
Auction	710	0.57	0.50	0.00	1.00	1.00
Days, Negotiation	711	125.56	89.21	66.00	100.00	154.50
Days, Post-announcement	711	222.42	177.80	98.00	167.00	304.00
Target firm characteristics:						
Size	711	6.01	1.93	4.60	5.96	7.32
MV	711	6.08	1.88	4.86	6.15	7.39
Market-to-book	711	2.96	6.15	1.35	2.13	3.51
Tobin's Q	711	1.99	1.35	1.22	1.58	2.32
ROA	711	-0.01	0.07	-0.01	0.01	0.02
Leverage	711	0.21	0.25	0.00	0.14	0.33

Table 1 presents the sample and descriptive statistics. Panel A describes the sample selection procedure. Panel B and C show the sample distribution by year and industry. Panel D presents the descriptive statistics for the M&A sample. Variable definitions are described in Appendix A.

Table 2. Univariate tests on accrual-based earnings management of M&A target firms

Panel A: Initiating targets vs. non-M&A matched firms

	(1)		(2)		(1) - (2)	
	Initiating targets		Non-M&A matched		*t*-test	
	N	Mean	N	Mean	*t*-stat	*p*-value
Abnormal accruals	2706	0.0088	2706	0.0041	2.13	0.033

Panel B: Non-initiating targets vs. non-M&A matched firms

	(1)		(2)		(1) - (2)	
	Non-initiating targets		Non-M&A matched		t-test	
	N	Mean	N	Mean	t-stat	p-value
Abnormal accruals	3173	0.0049	3173	0.0051	-0.10	0.917

Panel C: Initiating targets vs. non-initiating targets

	(1)		(2)		(1) - (2)	
	Initiating targets		Non-initiating targets		*t*-test	
	N	Mean	N	Mean	*t*-stat	*p*-value
Abnormal accruals	2706	0.0088	3173	0.0049	2.07	0.039

Table 2 present the univariate tests on earnings management of M&A target firms during the M&A process. Abnormal accruals are used as a proxy of accrual-based earnings management. Initiating targets are target firms which initiate merger negotiations. Non-initiating targets are target firms in acquirer-initiated mergers. Non-M&A firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter and have the closest firm size, financial performance, growth, and leverage in the quarter before the M&A process. The sample consists of firm-quarters over periods of pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The definition of each period is described in Figure 1. Panel A compares initiating targets with non-M&A matched firms. Panel B compares non-initiating targets with non-M&A matched firms. Panel C compares initiating targets with non-initiating targets. Variable definitions are described in Appendix A.

Table 3. M&A initiation and accrual-based earnings management

	M&A targets & matched firms	Initiating targets & matched firms	Non-initiating targets & matched firms	Initiating targets & non-initiating targets
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target	0.0022	0.0056**	-0.0006	
	(1.30)	(2.05)	(-0.31)	
Initiation				0.0051**
				(1.98)
Size	-0.0065***	-0.0064***	-0.0061***	-0.0056***
	(-11.41)	(-6.29)	(-8.36)	(-6.63)
Market-to-book	-0.0000	-0.0001	-0.0000	0.0001
	(-0.11)	(-0.27)	(-0.18)	(0.32)
ROA	0.4198***	0.4193***	0.4433***	0.3476***
	(18.76)	(13.93)	(13.39)	(8.67)
Leverage	-0.0112*	-0.0152	-0.0000	-0.0284***
	(-1.72)	(-1.45)	(-0.00)	(-2.70)
Constant	0.0984**	0.0935**	-0.0440	0.0857**
	(2.33)	(2.04)	(-0.63)	(2.35)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	11,758	5,412	6,346	5,879
Adj. R-squared	0.183	0.196	0.198	0.132

Table 3 presents the results of the association between M&A initiation and accrual-based earnings management. Abnormal accruals are used as a proxy of accrual-based earnings management. Initiating targets are target firms which initiate merger negotiations. Non-initiating targets are target firms in acquirer-initiated mergers. Non-M&A firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter and have the closest firm size, financial performance, growth, and leverage in the quarter before the M&A process. All samples consist of firm-quarters over periods of pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The definition of each period is described in Figure 1. Column 1 presents the result for the sample of all M&A targets and corresponding non-M&A matched firms. Column 2 presents the result for the sample of initiating targets and corresponding non-M&A matched firms. Column 3 presents the result for the sample of non-initiating targets and corresponding non-M&A matched firms. Column 4 presents the result for the sample of M&A targets only. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 4. M&A initiation and timing of accrual-based earnings management

	M&A targets & matched firms	Initiating targets & matched firms	Non-initiating targets & matched firms	Initiating targets & non-initiating targets
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target_pre-contact	0.0028	0.0072**	-0.0005	
	(1.46)	(2.36)	(-0.23)	
Target_negotiation	0.0005	0.0018	-0.0010	
	(0.20)	(0.54)	(-0.31)	
Target_post-announcement	0.0034	0.0089**	-0.0002	
	(1.49)	(2.23)	(-0.09)	
Initiation_pre-contact				0.0067**
				(2.26)
Initiation_negotiation				0.0017
				(0.54)
Initiation_post-announcement				0.0072*
				(1.88)
Size	-0.0065***	-0.0065***	-0.0061***	-0.0057***
	(-11.47)	(-6.35)	(-8.41)	(-6.71)
Market-to-book	-0.0000	-0.0001	-0.0000	0.0001
	(-0.12)	(-0.28)	(-0.18)	(0.30)
ROA	0.4201***	0.4197***	0.4434***	0.3482***
	(18.75)	(13.98)	(13.35)	(8.69)
Leverage	-0.0113*	-0.0153	-0.0000	-0.0284***
	(-1.74)	(-1.46)	(-0.00)	(-2.71)
Constant	0.0981**	0.0916*	-0.0440	0.0835**
	(2.30)	(1.95)	(-0.63)	(2.24)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	11,758	5,412	6,346	5,879
Adj. R-squared	0.184	0.197	0.198	0.132

Table 4 presents the results on target-initiation and timings of accrual-based earnings management by examining each period of the M&A process in detail. Abnormal accruals are used as a proxy of accrual-based earnings management. Initiating targets are target firms which initiate merger negotiations. Non-initiating targets are target firms in acquirer-initiated mergers. Non-M&A firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter and have the closest firm size, financial performance, growth, and leverage in the quarter before the M&A process. All samples consist of firm-quarters over periods of pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). Column 1 presents the result for the sample of all M&A targets and corresponding non-M&A matched firms. Column 2 presents the result for the sample of initiating targets and corresponding non-M&A matched firms. Column 3 presents the result for the sample of non-initiating targets and corresponding non-M&A matched firms. Column 4 presents the result for the sample of M&A targets only. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 5. M&A initiation and accrual-based earnings management – the role of financial distress

	Financial distress			
	High (Altman's Z-score < 3)	**Low (Altman's Z-score >= 3)**	**High (Altman's Z-score < 3)**	**Low (Altman's Z-score >= 3)**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Initiation	0.0081**	-0.0020		
	(2.13)	(-0.36)		
Initiation_pre-contact			0.0078*	-0.0020
			(1.84)	(-0.32)
Initiation_negotiation			0.0078	-0.0085
			(1.53)	(-0.86)
Initiation_post-announcement			0.0098	0.0133
			(1.65)	(1.57)
Size	-0.0035**	-0.0069**	-0.0035**	-0.0070**
	(-2.55)	(-2.26)	(-2.53)	(-2.30)
Market-to-book	0.0001	0.0005	0.0001	0.0005
	(0.38)	(1.32)	(0.37)	(1.38)
ROA	0.3387***	0.0539	0.3381***	0.0556
	(5.17)	(0.43)	(5.15)	(0.45)
Leverage	0.0224	0.0195	0.0223	0.0199
	(1.16)	(0.83)	(1.16)	(0.84)
Constant	0.2121***	0.0627***	0.2125***	0.0623***
	(13.21)	(3.94)	(13.15)	(4.07)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	1,686	965	1,686	965
Adj. R-squared	0.134	0.096	0.134	0.100

Table 5 presents the results for the role of financial distress in accrual-based earnings management of M&A targets (initiating targets versus non-initiating targets). Abnormal accruals are used as a proxy of accrual-based earnings management. Altman's Z-score is used as the proxy for financial distress. High (low) financial distress group contains targets for which the Altman's Z-score is smaller (larger) than 3. All samples consist of target firm-quarters over periods of pre-contact, negotiation and post-announcement. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 6. M&A initiation and accrual-based earnings management – the role of CEO ownership

	CEO ownership			
	High	**Low**	**High**	**Low**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Initiation	0.0109***	0.0013		
	(3.32)	(0.34)		
Initiation_pre-contact			0.0116***	0.0045
			(2.92)	(0.99)
Initiation_negotiation			0.0095**	-0.0085*
			(2.16)	(-1.67)
Initiation_post-announcement			0.0113*	0.0084
			(1.74)	(1.43)
Size	-0.0019	-0.0018	-0.0019	-0.0019
	(-1.23)	(-1.16)	(-1.23)	(-1.21)
Market-to-book	0.0003	0.0000	0.0003	0.0000
	(0.49)	(0.26)	(0.48)	(0.25)
ROA	0.5187***	0.3233	0.5194***	0.3245
	(7.26)	(1.27)	(7.25)	(1.28)
Leverage	0.0100	0.0037	0.0099	0.0020
	(0.72)	(0.31)	(0.70)	(0.16)
Constant	-0.0253**	0.1067***	-0.0262**	0.1052***
	(-2.19)	(3.94)	(-2.14)	(3.88)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	1,158	1,372	1,158	1,372
Adj. R-squared	0.254	0.125	0.255	0.129

Table 6 presents the results for the role of CEO ownership in accrual-based earnings management of M&A targets (initiating targets versus non-initiating targets). Abnormal accruals are used as a proxy of accrual-based earnings management. All targets are sorted by CEO ownership in the quarter before the M&A process. High (low) CEO ownership group contains targets for which the CEO ownership is larger (smaller) than the median. All samples consist of target firm-quarters over periods of pre-contact, negotiation and post-announcement. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 7. M&A initiation and accrual-based earnings management – the role of CEO age

	Retiring CEOs (>= 65)			
	Yes	**No**	**Yes**	**No**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Initiation	-0.0192**	0.0073***		
	(-2.11)	(2.96)		
Initiation_pre-contact			-0.0147*	0.0096***
			(-2.05)	(3.13)
Initiation_negotiation			-0.0277*	0.0016
			(-1.90)	(0.47)
Initiation_post-announcement			-0.0121	0.0107**
			(-0.89)	(2.21)
Size	-0.0006	-0.0014	-0.0016	-0.0014
	(-0.19)	(-1.41)	(-0.70)	(-1.43)
Market-to-book	0.0003	0.0001	0.0002	0.0001
	(0.38)	(0.41)	(0.26)	(0.34)
ROA	0.8544***	0.4092***	0.8785***	0.4108***
	(3.01)	(3.68)	(3.36)	(3.69)
Leverage	-0.0008	-0.0004	0.0073	-0.0009
	(-0.02)	(-0.04)	(0.26)	(-0.10)
Constant	-0.1184***	-0.0261***	-0.1108***	-0.0287***
	(-3.25)	(-2.77)	(-3.23)	(-2.96)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	187	2,343	187	2,343
Adj. R-squared	0.684	0.136	0.688	0.138

Table 7 presents the results for the role of CEOs' age in accrual-based earnings management of M&A targets (initiating targets versus non-initiating targets). Abnormal accruals are used as a proxy of accrual-based earnings management. Targets are separated based on whether CEOs are close to retirement (older than 62). All samples consist of target firm-quarters over periods of pre-contact, negotiation and post-announcement. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 8. M&A initiation and real activity earnings management

Panel A: Existence of real activity earnings management

	M&A targets & matched firms	**Initiating targets & matched firms**	**Non-initiating targets & matched firms**	**Initiating targets & non-initiating targets**
Real activity manipulation	**(1)**	**(2)**	**(3)**	**(4)**
Target	0.0298*	0.0425*	0.0209	
	(1.89)	(1.86)	(0.99)	
Initiation				0.0309
				(1.23)
Size	0.0069	0.0180**	0.0005	0.0226***
	(1.39)	(2.29)	(0.07)	(2.98)
Market-to-book	-0.0005	-0.0007	-0.0007	-0.0006
	(-0.48)	(-0.45)	(-0.44)	(-0.33)
ROA	-0.5696***	-0.5955***	-0.5178	-0.7706***
	(-2.88)	(-2.80)	(-1.44)	(-3.02)
Leverage	-0.0658	-0.0530	-0.0950	-0.1410*
	(-1.22)	(-0.82)	(-1.05)	(-1.85)
Constant	0.1196	-0.0434	-0.0430	0.2845**
	(1.03)	(-0.33)	(-0.41)	(2.13)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	10,508	4,813	5,695	5,242
Adj. R-squared	0.022	0.038	0.027	0.045

Panel B: Timing of real activity earnings management

Real activity manipulation	M&A targets & matched firms (1)	Initiating targets & matched firms (2)	Non-initiating targets & matched firms (3)	Initiating targets & non-initiating targets (4)
Target_pre-contact	0.0138	-0.0003	0.0216	
	(0.74)	(-0.01)	(0.85)	
Target_negotiation	0.0492**	0.0769**	0.0277	
	(2.20)	(2.39)	(0.89)	
Target_post-announcement	0.0491*	0.1178**	0.0079	
	(1.74)	(2.34)	(0.26)	
Initiation_pre-contact				-0.0098
				(-0.35)
Initiation_negotiation				0.0659*
				(1.93)
Initiation_post-announcement				0.1001*
				(1.95)
Size	0.0072	0.0190**	0.0007	0.0237***
	(1.43)	(2.40)	(0.10)	(3.09)
Market-to-book	-0.0005	-0.0008	-0.0007	-0.0006
	(-0.48)	(-0.50)	(-0.44)	(-0.35)
ROA	-0.5715***	-0.5978***	-0.5200	-0.7778***
	(-2.89)	(-2.81)	(-1.44)	(-3.04)
Leverage	-0.0650	-0.0530	-0.0949	-0.1409*
	(-1.21)	(-0.82)	(-1.04)	(-1.85)
Constant	0.1297	-0.0101	-0.0433	0.3278**
	(1.13)	(-0.08)	(-0.41)	(2.53)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	10,508	4,813	5,695	5,242
Adj. R-squared	0.022	0.040	0.027	0.047

Table 8 presents the results on target-initiation and real activity earnings manipulation of M&A target firms. An aggregate measure is used as a proxy of real activity earnings manipulation. Initiating targets are target firms which initiate merger negotiations. Non-initiating targets are target firms in acquirer-initiated mergers. Non-M&A firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter and have the closest firm size, financial performance, growth, and leverage in the quarter before the M&A process. All samples consist of firm-quarters over periods of pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). Panel A presents the results on the existence of real activity earnings manipulation during the M&A process. Panel B presents the results on the timing of real activity earnings manipulation by examining each period of the M&A process. Column 1 presents the result for the sample of all M&A targets and corresponding non-M&A matched firms. Column 2 presents the result for the sample of initiating targets and corresponding non-M&A matched firms. Column 3 presents the result for the sample of non-initiating targets and corresponding non-M&A matched firms. Column 4 presents the result for the sample of M&A targets only. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 9. M&A initiation and earnings management after using PSM for initiating and non-initiating targets

Panel A: Matching effectiveness

	Initiating targets			Non-initiating targets			t-test		Wilcoxon
Variables	**N**	**Mean**	**Median**	**N**	**Mean**	**Median**	**t-stat**	**p-value**	**z-stat**
Size	298	5.65	5.60	298	5.69	5.65	-0.30	0.765	0.04
Market-to-book	298	3.38	2.07	298	3.16	2.03	0.49	0.624	0.03
Tobin's Q	298	2.18	1.59	298	2.01	1.54	1.16	0.246	1.01
ROA	298	-0.01	0.01	298	-0.01	0.00	0.29	0.772	0.77
Leverage	298	0.20	0.11	298	0.20	0.13	0.32	0.748	-0.25

Panel B: Regression results

	Abnormal accruals		Real activity manipulation	
	(1)	**(2)**	**(3)**	**(4)**
Initiation	0.0052*		0.0156	
	(1.91)		(0.59)	
Initiation_pre-contact		0.0059*		-0.0305
		(1.89)		(-0.98)
Initiation_negotiation		0.0027		0.0661*
		(0.82)		(1.85)
Initiation_post-announcement		0.0086**		0.0548
		(2.27)		(1.33)
Size	-0.0068***	-0.0069***	0.0398***	0.0412***
	(-6.48)	(-6.52)	(4.24)	(4.34)
Market-to-book	-0.0001	-0.0001	-0.0021	-0.0021
	(-0.26)	(-0.27)	(-1.23)	(-1.24)
ROA	0.3448***	0.3457***	-0.9396***	-0.9417***
	(6.84)	(6.85)	(-3.15)	(-3.13)
Leverage	-0.0130	-0.0130	-0.1592*	-0.1539*
	(-1.11)	(-1.11)	(-1.72)	(-1.66)
Constant	0.0774***	0.0758***	-0.2010	-0.2008
	(8.18)	(8.19)	(-1.09)	(-1.10)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	4,452	4,452	4,233	4,233
Adj. R-squared	0.131	0.131	0.044	0.046

Table 9 presents the results on target-initiation and earnings management after propensity-score matching of initiating and non-initiating targets. Abnormal accruals are used as a proxy of accrual-based earnings management. An aggregate measure is used as a proxy of real activity earnings manipulation. Initiating targets are target firms which initiate merger negotiations. Non-initiating targets are target firms in acquirer-initiated mergers. Initiating targets and non-initiating targets are matched based on industry, fiscal year-quarter, firm size, financial performance, growth, and leverage in the quarter before the M&A process. The caliper for propensity-score matching is 0.01 to allow for a sufficient number of observations while ensuring effective matching. Panel A compares firm characteristics of initiating targets and non-initiating targets after matching in the quarter before the M&A process. Panel B presents the regression results. The sample consists of target firm-quarters over periods of pre-contact, negotiation and post-announcement. Column 1 and 2 present the results for abnormal accruals. Column 3 and 4 present the results for real activity earnings manipulation. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 10. Robustness check – Alternative definition of M&A process

Panel A: Abnormal accruals

	M&A targets & matched firms	**Initiating targets & matched firms**	**Non-initiating targets & matched firms**	**M&A targets only**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target	0.0024	0.0063**	-0.0005	
	(1.57)	(2.49)	(-0.29)	
Initiation				0.0054**
				(2.25)
Size	-0.0058***	-0.0056***	-0.0055***	-0.0055***
	(-11.56)	(-6.08)	(-8.31)	(-7.01)
Market-to-book	-0.0001	-0.0002	0.0000	0.0001
	(-0.59)	(-0.96)	(0.01)	(0.42)
ROA	0.4073***	0.3969***	0.4324***	0.3625***
	(17.63)	(11.63)	(13.22)	(9.76)
Leverage	-0.0101	-0.0159	-0.0001	-0.0248**
	(-1.49)	(-1.34)	(-0.01)	(-2.55)
Constant	0.0709***	0.1536***	0.0590***	0.1066***
	(2.83)	(3.07)	(3.49)	(3.75)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	14,406	6,250	8,156	7,203
Adj. R-squared	0.179	0.170	0.212	0.154

Panel B: Real activity earnings management

Real activity manipulation	M&A targets & matched firms (1)	Initiating targets & matched firms (2)	Non-initiating targets & matched firms (3)	M&A targets only (4)
Target	0.0114	0.0383*	-0.0092	
	(0.78)	(1.75)	(-0.48)	
Initiation				0.0479**
				(2.04)
Size	0.0083*	0.0223***	0.0012	0.0235***
	(1.82)	(3.10)	(0.18)	(3.33)
Market-to-book	-0.0011	-0.0019	-0.0008	-0.0015
	(-1.05)	(-1.22)	(-0.59)	(-1.11)
ROA	-0.6102***	-0.8180***	-0.4164*	-0.6977***
	(-3.47)	(-3.55)	(-1.69)	(-3.28)
Leverage	-0.0471	-0.0418	-0.0657	-0.1164*
	(-0.93)	(-0.61)	(-0.82)	(-1.66)
Constant	0.0510	-0.0593	-0.2154	0.1563
	(0.29)	(-0.43)	(-0.96)	(0.96)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	12,980	5,592	7,388	6,478
Adj. R-squared	0.020	0.039	0.021	0.038

Table 10 presents the results on target-initiation and earnings management of M&A target firms using an alternative definition of the M&A process. Specifically, the length of M&A process is fixed with eight quarters before and two quarters after the announcement date. All samples consist of firm-quarters over the eight quarters before and two quarters after the announcement date. Panel A and B present results for abnormal accruals and real activity manipulation, respectively. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 11. Robustness check – Excluding hostile M&As

Panel A: Accrual-based earnings management

	M&A targets & matched firms	**Initiating targets & matched firms**	**Non-initiating targets & matched firms**	**Initiating targets & non-initiating targets**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target_pre-contact	0.0031	0.0070**	-0.0000	
	(1.61)	(2.27)	(-0.01)	
Target_negotiation	0.0001	0.0018	-0.0018	
	(0.02)	(0.52)	(-0.58)	
Target_post-announcement	0.0034	0.0089**	-0.0002	
	(1.45)	(2.22)	(-0.07)	
Initiation_pre-contact				0.0065**
				(2.19)
Initiation_negotiation				0.0016
				(0.50)
Initiation_post-announcement				0.0072*
				(1.86)
Size	-0.0065***	-0.0064***	-0.0061***	-0.0057***
	(-11.20)	(-6.24)	(-8.00)	(-6.60)
Market-to-book	-0.0000	-0.0001	-0.0000	0.0001
	(-0.01)	(-0.26)	(-0.13)	(0.33)
ROA	0.4140***	0.4198***	0.4290***	0.3334***
	(18.74)	(13.96)	(13.32)	(8.90)
Leverage	-0.0112*	-0.0147	-0.0023	-0.0290***
	(-1.70)	(-1.40)	(-0.26)	(-2.72)
Constant	0.0968**	0.0913*	-0.0441	0.0811**
	(2.26)	(1.95)	(-0.63)	(2.20)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	11,482	5,354	6,128	5,741
Adj. R-squared	0.180	0.197	0.189	0.127

Panel B: Real activity earnings management

	M&A targets & matched firms	Initiating targets & matched firms	Non-initiating targets & matched firms	Initiating targets & non-initiating targets
Real activity manipulation	**(1)**	**(2)**	**(3)**	**(4)**
Target_pre-contact	0.0131	-0.0007	0.0205	
	(0.69)	(-0.03)	(0.81)	
Target_negotiation	0.0490**	0.0783**	0.0257	
	(2.18)	(2.39)	(0.84)	
Target_post-announcement	0.0556*	0.1200**	0.0161	
	(1.94)	(2.36)	(0.53)	
Initiation_pre-contact				-0.0157
				(-0.56)
Initiation_negotiation				0.0613*
				(1.78)
Initiation_post-announcement				0.0964*
				(1.87)
Size	0.0073	0.0189**	0.0000	0.0227***
	(1.47)	(2.38)	(0.01)	(2.90)
Market-to-book	-0.0006	-0.0008	-0.0008	-0.0004
	(-0.51)	(-0.52)	(-0.45)	(-0.20)
ROA	-0.5683***	-0.5988***	-0.5079	-0.7660***
	(-2.85)	(-2.81)	(-1.39)	(-2.94)
Leverage	-0.0683	-0.0543	-0.1088	-0.1289*
	(-1.24)	(-0.83)	(-1.17)	(-1.65)
Constant	0.1346	-0.0103	-0.0335	0.3394***
	(1.17)	(-0.08)	(-0.31)	(2.59)
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	10,260	4,755	5,505	5,118
Adj. R-squared	0.023	0.040	0.029	0.047

Table 11 presents the results on target-initiation and earnings management of M&A target firms after excluding hostile as defined by SDC from the main sample. Panel A and B present results for abnormal accruals and real activity manipulation, respectively. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Table 12. Robustness check - Entropy balancing

Panel A: Existence of accrual-based earnings management

	M&A targets & matched firms	**Initiating targets & matched firms**	**Non-initiating targets & matched firms**	**Initiating targets & non-initiating targets**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target	0.0023	0.0057**	-0.0004	
	(1.42)	(2.13)	(-0.20)	
Initiation				0.0044
				(1.46)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	11,758	5,412	6,346	5,879
Adj. R-squared	0.183	0.196	0.198	0.132

Panel B: Timing of accrual-based earnings management

	M&A targets & matched firms	**Initiating targets & matched firms**	**Non-initiating targets & matched firms**	**Initiating targets & non-initiating targets**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target_pre-contact	0.0030	0.0074**	-0.0003	
	(1.59)	(2.44)	(-0.12)	
Target_negotiation	0.0006	0.0020	-0.0008	
	(0.27)	(0.59)	(-0.25)	
Target_post-announcement	0.0034	0.0088**	-0.0002	
	(1.52)	(2.23)	(-0.07)	
Initiation_pre-contact				0.0061*
				(1.84)
Initiation_negotiation				0.0007
				(0.20)
Initiation_post-announcement				0.0069*
				(1.65)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	11,758	5,412	6,346	5,879
Adj. R-squared	0.184	0.197	0.198	0.132

Table 12 presents the results of the association between M&A initiation and accrual-based earnings management after using entropy balancing. All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Appendix A. Variable Definitions

Variable	Definition	Source
Panel A: Earnings management		
Abnormal accruals (ABAC)	The target firm's quarterly abnormal accrual is the adjusted residual from the following cross-sectional version of the modified Jones (1991) model estimated for each calendar quarter and industry (two-digit SIC-code): $\frac{TA_{i.t}}{ASSET_{i.t-1}} = \beta_0 + \sum_{j=1}^{4} \beta_j \frac{Q_{j,i,t}}{ASSET_{i.t-1}} + \beta_5 \frac{\Delta SALES_{i.t} - \Delta AR_{i.t}}{ASSET_{i.t-1}} + \beta_6 \frac{PPE_{i.t-1}}{ASSET_{i.t-1}} + \beta_7 \frac{TA_{i.t-4}}{ASSET_{i.t-1}} + \varepsilon_{i,t}$, where *i* indexes firms and *t* indexes calendar quarters. Total accruals $TA_{i.t}$ are defined as the change in noncash current assets minus change in current liabilities plus change in debt in current liabilities minus depreciation; $ASSET_{i.t-1}$ is total assets at the beginning of quarter *t*; $Q_{j,i,t}$ is a dummy variable that equals to 1 for fiscal quarter j and 0 otherwise; $\Delta SALES_{i.t}$ is the quarterly change in sales; $\Delta AR_{i.t}$ is the quarterly change in accounts receivables; and $PPE_{i.t-1}$ is the gross value of property, plant, and equipment at the beginning of quarter *t*; $TA_{i.t-4}$ is the fourth lag of $TA_{i.t}$. I winsorize the top and bottom percentiles of $\frac{TA_{i.t}}{ASSET_{i.t-1}}$, $\frac{\Delta SALES_{i.t} - \Delta AR_{i.t}}{ASSET_{i.t-1}}$ and $\frac{PPE_{i.t-1}}{ASSET_{i.t-1}}$. I require at least 20 observations for each estimation. The residuals are then adjusted for performance. For each quarter and each industry (two-digit SIC code), five portfolios with at least four firms each are created by sorting the data into quintiles based on ROA from the same quarter of the previous year. The performance-adjusted abnormal accruals for a firm are the firm-specific abnormal accruals minus the mean abnormal accruals for its respective industry performance-matched portfolio (Kothari et al., 2005).	Compustat
Abnormal cash flow from operations	The target firm's quarterly abnormal CFO is the adjusted residual from the following cross-sectional model estimated for each calendar quarter and industry (two-digit SIC-code): $\frac{CFO_{i.t}}{ASSET_{i.t-1}} = \beta_0 + \sum_{j=1}^{4} \beta_j \frac{Q_{j,i,t}}{ASSET_{i.t-1}} + \beta_5 \frac{SALES_{i.t}}{ASSET_{i.t-1}} + \beta_6 \frac{\Delta SALES_{i.t}}{ASSET_{i.t-1}} + \varepsilon_{i,t}$, where *i* indexes firms and *t* indexes calendar quarters. $CFO_{i.t}$ is the quarterly cash flow from operations; $ASSET_{i.t-1}$ is total assets at the beginning of quarter *t*; $Q_{j,i,t}$ is a dummy variable that equals to 1 for fiscal quarter j and 0 otherwise; $SALES_{i.t}$ is the quarterly sales; $\Delta SALES_{i.t}$ is the quarterly change in sales. I	Compustat

	winsorize the top and bottom percentiles of $\frac{CFO_{i.t}}{ASSET_{i.t-1}}$, $\frac{SALES_{i.t}}{ASSET_{i.t-1}}$ and $\frac{\Delta SALES_{i.t}}{ASSET_{i.t-1}}$. I require at least 20 observations for each estimation and adjust for performance using the procedure described above.	
Abnormal production costs	The target firm's quarterly abnormal production costs are the adjusted residual from the following cross-sectional model estimated for each calendar quarter and industry (two-digit SIC-code): $\frac{PROD_{i.t}}{ASSET_{i.t-1}} = \beta_0 + \sum_{j=1}^{4} \beta_j \frac{Q_{j,i,t}}{ASSET_{i.t-1}} + \beta_5 \frac{SALES_{i.t}}{ASSET_{i.t-1}} + \beta_6 \frac{\Delta SALES_{i.t}}{ASSET_{i.t-1}} + \beta_6 \frac{\Delta SALES_{i.t-1}}{ASSET_{i.t-1}} + \varepsilon_{i,t}$, where *i* indexes firms and *t* indexes calendar quarters. $PROD_{i.t}$ is the sum of cost of goods sold and change in inventories; $ASSET_{i.t-1}$ is total assets at the beginning of quarter *t*; $Q_{j,i,t}$ is a dummy variable that equals to 1 for fiscal quarter *j* and 0 otherwise; $SALES_{i.t}$ is the quarterly sales; $\Delta SALES_{i.t}$ is the quarterly change in sales; $\Delta SALES_{i.t}$ is the lagged quarterly change in sales. I winsorize the top and bottom percentiles of $\frac{PROD_{i.t}}{ASSET_{i.t-1}}$, $\frac{SALES_{i.t}}{ASSET_{i.t-1}}$ and $\frac{\Delta SALES_{i.t}}{ASSET_{i.t-1}}$. I require at least 20 observations for each estimation and adjust for performance using the procedure described above.	Compustat
Abnormal discretionary expenses	The target firm's quarterly abnormal discretionary expenses are the adjusted residual from the following cross-sectional model estimated for each calendar quarter and industry (two-digit SIC-code): $\frac{DISX_{i.t}}{ASSET_{i.t-1}} = \beta_0 + \sum_{j=1}^{4} \beta_j \frac{Q_{j,i,t}}{ASSET_{i.t-1}} + \beta_5 \frac{SALES_{i.t-1}}{ASSET_{i.t-1}} + \varepsilon_{i,t}$, where *i* indexes firms and *t* indexes calendar quarters. $DISX_{i.t}$ is the discretionary expenditures which are the sum of quarterly R&D expenses and quarterly SG&A; $ASSET_{i.t-1}$ is total assets at the beginning of quarter *t*; $Q_{j,i,t}$ is a dummy variable that equals to 1 for fiscal quarter *j* and 0 otherwise; $SALES_{i.t-1}$ is the lagged quarterly sales. I winsorize the top and bottom percentiles of $\frac{DISX_{i.t}}{ASSET_{i.t-1}}$ and $\frac{SALES_{i.t-1}}{ASSET_{i.t-1}}$. I require at least 20 observations for each estimation and adjust for performance using the procedure described above.	Compustat
Real activity manipulation (RAM)	An aggregate measure of abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenses. Abnormal cash flow from operations and abnormal discretionary expenses are multiplied by -1 before aggregation.	Compustat
Panel B: M&A deal characteristics		
Initiation	A dummy variable that equals to 1 if the deal was initiated only by the target firm, and 0 otherwise.	SEC filings

Auction	A dummy variable that equals to 1 if the target firm contacts and negotiates with more than one potential buyer, and 0 if the target firm negotiates with a single bidder.	SEC filings
Number of bidders	The number of bidders the target firm contacts and negotiates.	SEC filings
Pre-contact	A dummy variable that equals to 1 for the four fiscal quarters that are reported before the initiation date of the M&A process (i.e. before private negotiation), and 0 otherwise.	SEC filings
Negotiation	A dummy variable that equals to 1 for the fiscal quarters that are reported between the initiation date of the M&A process and public announcement date of the deal (i.e. private negotiation stage), and 0 otherwise.	SEC filings, SDC
Post-announcement	A dummy variable that equals to 1 for the fiscal quarters that are reported between the public announcement date of the deal and the completion date (i.e. after private negotiation), and 0 otherwise.	SDC
Completed	A dummy variable that equals to 1 if the attempted M&A transaction is ultimately completed, and 0 if terminated.	SDC
Deal value	The value of the M&A transaction in millions of US dollars.	SDC
Premium	((Offer price/target stock price seven days prior to announcement) - 1) × 100%.	SDC
Toehold	A dummy variable that equals to 1 if the bidder holds stock of the target at the announcement, and 0 otherwise.	SDC
% of Toehold	The percentage of the target firm's outstanding shares held by the bidder at the announcement.	SDC
Cash only	A dummy variable that equals to 1 if the transaction is financed 100% with cash, and 0 otherwise.	SDC
% of Cash	The percentage of the transaction financed with cash.	SDC
Stock only	A dummy variable that equals to 1 if the transaction is financed 100% with stock, and 0 otherwise.	SDC
Tender offer	A dummy variable that equals to 1 if the deal is a tender offer, and 0 otherwise.	SDC
Panel C: Firm characteristics		
Target	A dummy variable that equals to 1 if a firm is an M&A target, and 0 otherwise.	SDC
Target_pre-contact	A dummy variable that equals to 1 for M&A target firm quarter in the pre-contact period, and 0 otherwise.	SEC filings
Target_negotiation	A dummy variable that equals to 1 for M&A target firm quarter in the negotiation period, and 0 otherwise.	SEC filings, SDC

Target_post-announcement	A dummy variable that equals to 1 for M&A target firm quarter in the post-announcement period, and 0 otherwise.	SDC
Initiation_pre-contact	A dummy variable that equals to 1 for M&A target firm quarter in the pre-contact period in target-initiated M&As, and 0 otherwise.	SEC filings
Initiation_negotiation	A dummy variable that equals to 1 for M&A target firm quarter in the negotiation period in target-initiated M&As, and 0 otherwise.	SEC filings, SDC
Initiation_post-announcement	A dummy variable that equals to 1 for M&A target firm quarter in the post-announcement period in target-initiated M&As, and 0 otherwise.	SDC
Size	Natural logarithm of total assets at the end of the fiscal quarter.	Compustat
MV	Natural logarithm of the market value of equity as calculated with common shares outstanding multiplied by the share price at the end of the fiscal quarter.	Compustat
Market-to-book	Market-to-book ratio in the fiscal quarter, calculated as the market value of equity divided by the book value of equity at the end of the quarter.	Compustat
Tobin's Q	The market value of assets divided by the book value of assets at the end of the quarter. The market value of assets is calculated as the book value of total assets – book value of equity + market value of equity.	Compustat
ROA	Return on assets in the fiscal quarter, calculated as income before depreciation and amortization for this quarter scaled by total assets at the beginning of the quarter.	Compustat
Leverage	Long-term debt and debt in current liabilities divided by total assets at the end of the quarter.	Compustat
Altman's Z-score	1.2 × (Working capital / Total Assets) + 1.4 × (Retained earnings / Total Assets) + 3.3 × (EBIT / Total Assets) + 0.6 × (MV Equity / BV Debt) + 0.999 × (Sales / Total Assets).	Compustat
CEO ownership	The percentage of shares held by the CEO.	Execucomp
CEO retirement (>=65)	A dummy variable that equals to 1 if the CEO's age is greater than 65, and 0 otherwise.	Execucomp

Appendix B. How to determine target-initiated or acquirer-initiated mergers?

I use the information of the negotiation process from the background section of firms' merger-related SEC filings. In typical mergers, target firms need to file proxy statements 14A to seek shareholders' approval after merger agreements have been reached. If targets' 14A filings are not available, I search for acquirers' S-4 filings which also include the information on merger negotiations. For tender offers, I search for target firms' 14D9 filings which include target boards' recommendations to the offers and the description of the negotiation process.

To determine whether a merger is target-initiated or acquirer-initiated, I first identify the initial contact between target firms and bidders by searching for the first occurrence of "merger", "acquisition", "business combination", or similar terms in the background section. In some cases, negotiations between targets and bidders may be suspended after one contact and then resume after some time. I treat two negotiations as separate ones if the time gap between the two negotiations is longer than six months. I regard the last negotiation which leads to merger agreements as the main negotiation. After identifying the initial contact, I check which party takes the initiative and makes the first contact with the other. Mergers are classified as target-initiated if target firms approached the potential acquirers first, and acquirer-initiated otherwise. If it is difficult to decide whether targets or bidders approached the other party, I regard these mergers as ambiguous cases and remove them from the main sample.

Appendix C. Examples of target-initiated and bidder-initiated mergers

Target-initiated mergers: Adobe acquiring TubeMogul

(from SC 14D9 filed to SEC by TubeMogul on November 18, 2016)

In November 2015, the TubeMogul Board conducted an offsite strategic planning meeting. […] In particular, the TubeMogul Board discussed the relative potential benefits and risks associated with the strategic alternatives that might enhance stockholder value as well as the most likely prospects as ultimate potential acquirors of TubeMogul. The TubeMogul Board recommended that TubeMogul's Chief Executive Officer, Mr. Brett Wilson, continue to expand and deepen his contacts with executives at other companies that might be prospects for a strategic combination with TubeMogul.

On June 23, 2016, TubeMogul management met with representatives of Morgan Stanley & Co. LLC ("Morgan Stanley") at which time such representatives of Morgan Stanley provided their perspectives regarding the strategic alternatives available to TubeMogul and discussed companies that might be interested in pursuing a strategic transaction with TubeMogul. […]

On August 18, the TubeMogul Board held a special meeting at which representatives of Morgan Stanley made a presentation and provided related materials which addressed value benchmarking for TubeMogul, an overview of strategic alternatives, a list of potential acquirors and an illustrative timeline if the TubeMogul Board were to pursue a process to sell TubeMogul. […]

Between August 18 and the signing of the exclusivity agreement with Adobe on November 4, representatives of TubeMogul and Morgan Stanley contacted 16 strategic entities, including Adobe, and three financial sponsors. […]

Acquirer-initiated mergers: GE acquiring Lufkin

(from DEFM14A filed to SEC by Lufkin on May 30, 2013)

On September 7, 2012, Mr. John G. Rice, Vice Chairman of GE, contacted Mr. Richard R. Stewart, a member of Lufkin's board who is a former GE officer, to express an interest by GE, which was a significant customer of the company's power transmission division, in a potential business combination transaction between GE and the company. This initial contact by Mr. Rice led to a meeting in Houston, Texas, on September 18, 2012, between Mr. John F. Glick, our President and Chief Executive Officer, Mr. Stewart, Mr. Jeffrey R. Immelt, the Chairman and Chief Executive Officer of GE, and Ms. Pamela Daley, who was at that time Senior Vice President of Corporate Development for GE. […]

On October 2, 2012, Lufkin and GE executed a confidentiality and standstill agreement, and on October 3, 2012, Mr. Glick and other Lufkin representatives met with Mr. Daniel Heintzelman, President and Chief Executive Officer of GE Oil & Gas, Ms. Daley and other GE representatives in Chicago to discuss the company. […]

On October 24, 2012, at GE's request, Mr. Glick and Mr. Douglas V. Smith, the Chairman of our board and of the executive committee, met with Mr. Immelt and Ms. Daley in Houston to discuss the results of GE's analysis following the October 3, 2012 meeting. Mr. Immelt expressed a general interest in a potential acquisition of Lufkin, but indicated that GE would require additional diligence information to establish a valuation and confirm its interest in proceeding further. […] In response, Mr. Immelt expressed GE's preliminary valuation of Lufkin's common stock as being "$80ish per share" based on Lufkin's earnings during the trailing twelve months. […]

Appendix D. Matching effectiveness between M&A target firms and non-M&A matched firms

See Table D1.

Table D1. Matching effectiveness (propensity-score-matched)

	M&A targets			Non-M&A matched firms			*t*-test		Wilcoxon	
Variables	**N**	**Mean**	**Median**	**N**	**Mean**	**Median**	**Diff. in means**	***t*-stat**	**Diff. in medians**	***z*-stat**
Size	711	5.821	5.654	711	5.814	5.651	0.007	0.08	0.003	-0.05
Market-to-book	711	3.389	2.170	711	2.476	1.815	0.913***	3.61	0.355	-5.00
ROA	711	-0.010	0.006	711	-0.012	0.007	0.002	0.61	-0.001	0.95
Loss	711	0.383	0.000	711	0.370	0.000	0.013	0.58	0.000	-0.58
Leverage	711	0.206	0.144	711	0.227	0.166	-0.021*	-1.76	-0.023	1.57

Table D1 presents the comparison of the matching variables for M&A targets and non-M&A matched firms in the matching quarter. M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, market-to-book ratio, and leverage in the quarter before the initiation of the merger. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Appendix E. Validation of the parallel trend assumption

See Table E1.

Table E1. Validation of the parallel trend assumption

	M&A targets & matched firms	**Initiating targets & matched firms**	**Non-initiating targets & matched firms**	**Initiating targets & non-initiating targets**
Abnormal accruals	**(1)**	**(2)**	**(3)**	**(4)**
Target_benchmark	0.0007	0.0009	0.0003	
	(0.49)	(0.40)	(0.18)	
Target_pre-contact	0.0013	0.0044*	-0.0010	
	(0.84)	(1.80)	(-0.48)	
Target_negotiation	-0.0002	-0.0001	-0.0009	
	(-0.11)	(-0.04)	(-0.29)	
Target_post-announcement	0.0021	0.0057	-0.0001	
	(1.02)	(1.59)	(-0.05)	
Initiation_benchmark				0.0019
				(0.85)
Initiation_pre-contact				0.0050**
				(2.14)
Initiation_negotiation				0.0005
				(0.18)
Initiation_post-announcement				0.0055
				(1.60)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
N	24,544	10,998	13,546	12,272
Adj. R-squared	0.163	0.153	0.199	0.142

Table E1 presents the results on the validation of the parallel trend assumption. The model used here is similar to that in Table 4 but includes a benchmark period which is four quarter before the M&A process (with the eight quarters before the benchmark period as the omitted group). All standard errors are clustered by firm. *t* statistics are reported in parentheses. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively. Variable definitions are described in Appendix A.

Chapter 3

Non-GAAP Earnings Disclosure by Target Firms in Mergers and Acquisitions

Abstract

Firms are increasingly using non-GAAP earnings disclosure to communicate their financial performance to the market. This study investigates whether and how target firms in mergers and acquisitions (M&As) strategically change their non-GAAP earnings disclosure. I find that M&A target firms do not change the frequency of their non-GAAP earnings disclosure during the M&A process, compared with non-M&A matched firms. However, I do find that M&A target firms adopt more aggressive non-GAAP disclosure policies during the M&A process. Specifically, M&A target firms report significantly higher non-GAAP earnings than GAAP earnings (i.e., use higher total non-GAAP exclusions) and that they do so by excluding more recurring versus transitory expenses. Additional analyses suggest that my main results are driven by M&A target firms' opportunistic motive to show rosier financial performance. Further, M&A target firms appear to use non-GAAP earnings disclosure in complement with other forms of earnings management. The study contributes to the literature of non-GAAP disclosures by showing that firms alter their non-GAAP earnings disclosure practices in the face of significant capital market transactions such as M&As.

Keywords: Mergers and acquisitions (M&As); Target firms; Non-GAAP earnings disclosure; Non-GAAP exclusions

3.1 Introduction

As non-GAAP disclosures have become increasingly prevalent, both anecdotal and empirical evidence suggest that investors, among other stakeholders, pay attention to the non-GAAP earnings disclosed at firms' earnings announcements (Bhattacharya, Black, Christensen, and Mergenthaler, 2007; Elliott, 2006). It is highly debated, however, whether firms' motives to disclose non-GAAP information are to mislead investors (Black and Christensen, 2009; Doyle, Jennings, and Soliman, 2013; McVay, 2006) or to provide value relevant information that complements GAAP earnings numbers (Bhattacharya, Black, Christensen, and Larson, 2003; Curtis, McVay, and Whipple, 2014; Leung and Veenman, 2018; Lougee and Marquardt, 2004). Moreover, little research examines firms' non-GAAP earnings disclosures under relevant incentives related to certain capital market events. In this study, I contribute to this literature by systematically investigating the non-GAAP earnings disclosure strategies of target firms in mergers and acquisitions (M&As). Specifically, I examine whether and how M&A target firms change their non-GAAP earnings disclosures during the M&A process.

M&As are important capital market events that affect significant wealth transfers between target firms and acquirers. Hence, acquirers and target firms have incentives to manage financial disclosures strategically during the M&A process. Prior studies have shown that acquirers manage their earnings upward and withhold bad news to boost their share prices prior to M&A announcements in order to reduce the costs of stock acquisitions (e.g. Erickson and Wang, 1999; Ge and Lennox, 2011; Gong, Louis, and Sun, 2008; Louis, 2004; Louis and Sun, 2016). Chapter 2 also provides evidence that target firms that proactively initiate M&As (i.e., initiating target firms) are likely to manage earnings upward during the M&A process to make them more attractive. In addition to accrual management and real activity manipulation, non-GAAP disclosure is another tool that firms may use to manage market participants' perceptions (Black, Christensen, Taylor Joo, and Schmardebeck, 2017). Since non-GAAP disclosure is relatively less costly than other forms of earnings management, firms are likely to alter their non-GAAP earnings disclosures to fufill their strategic objectives during the M&A process.

The study uses a sample of 688 U.S. domestic mergers that involve public target firms and public acquirers between 2003 and 2016. I use a difference-in-difference design matching each target firm with a firm that is not involved in any M&As (i.e. non-M&A matched firms) as M&A target firms might differ systematically from other firms (Palepu, 1986). Specifically, non-M&A matched firms are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Because there is no benchmark to evaluate firms' non-GAAP earnings disclosures, I include a benchmark period before the M&A process to observe the change in target firms' non-GAAP earnings disclosures during the M&A process. Effectively, the difference-in-difference design is to compare the change in non-GAAP earnings disclosures of M&A target firms between the benchmark period and the M&A process with the corresponding change in the non-GAAP earnings disclosures of non-M&A matched firms. To provide evidence regarding the non-GAAP earnings disclosure of M&A target firms, I first examine the frequency of their non-GAAP earnings disclosures during the M&A process, and then examine the aggressiveness of non-GAAP earnings disclosures by examining the magnitudes of total non-GAAP exclusions and splitting the total exclusions into special item exclusions and other item exclusions.[32]

I first examine whether target firms are more likely to disclose non-GAAP earnings during the M&A process. I argue that both informative and opportunistic motives may lead

[32] Aggressiveness in non-GAAP earnings reporting means that firms report higher non-GAAP earnings than GAAP earnings by excluding more non-transitory expenses. In other words, firms exclude more expenses, escpecially more recurring expenses than revenue.

M&A target firms to increase the frequency of their non-GAAP earnings disclosures during the M&A process. First, the informative motive may drive target firms to disclose non-GAAP earnings in order to provide additional information about their firms' financial performance and firms' value (Bhattacharya et al., 2003; Bradshaw and Sloan, 2002; Curtis et al., 2014; Leung and Veenman, 2018). Second, the opportunistic motive may lead target firms to disclose non-GAAP earnings in order to show superior financial performance, boost their stock prices, and negotiate for a higher deal price (Barth, Gow, and Taylor, 2012; Black and Christensen, 2009; Doyle et al., 2013; McVay, 2006). Contrary to the expectation, my results suggest that M&A target firms do not appear to change the frequency of their non-GAAP earnings disclosure during the M&A process, compared with non-M&A matched firms. A possible reason might be that it is difficult for M&A target firms to justify their sudden non-GAAP adjustments if they have not disclosed non-GAAP earnings previously, especially for firms that do not have valid items to exclude.

I then examine whether target firms become more aggressive in non-GAAP earnings disclosure during the M&A process. Target firms may not intentionally inflate their reported non-GAAP earnings due to the informative motive. However, target firms under opportunistic motive may strategically disclose higher non-GAAP earnings to make them more attractive to potential acquirers. Consistent with target firms' opportunistic motives, my results show that M&A target firms disclose higher non-GAAP earnings than GAAP earnings (i.e., use higher total exclusions) during the M&A process, and specifically, during the negotiation period, compared with non-M&A matched firms. Moreover, M&A target firms appear to exclude more recurring expenses (i.e., use higher other item exclusions) in the pre-contact period and the negotiation period, which suggests that M&A target firms' non-GAAP disclosures are more likely to be opportunistic than informative because recurring expenses are usually deemed to be invalid non-GAAP exclusions. Collectively, my main analysis in this study suggests that

M&A target firms strategically improve their non-GAAP earnings during the M&A process, despite that they do not change the frequency of their non-GAAP earnings disclosures.

Further analyses of cross-sectional variation in target firms' non-GAAP disclosures provide additional findings. First, Chapter 2 suggests that initiating target firms (i.e., target firms that initiate mergers) have stronger incentives for M&As and are more likely to manage earnings upward during the M&A process. I thus examine non-GAAP earnings disclosures for subsamples of initiating target firms and non-initiating target firms. My results indicate that initiating target firms are more aggressive in non-GAAP earnings disclosure and exclude more recurring expenses in both pre-contact and negotiation periods, consistent with initiating target firms' stronger incentives to affect M&A negotiations. Second, target firms with high financial constraints may have stronger incentives for M&As (Masulis and Simsir, 2018). I redo my main analysis for target firms with high financial constraints and lower financial constraints. My results suggest that target firms with high financial constraints are more aggressive in reporting higher non-GAAP earnings than GAAP earnings and exclude more recurring expenses. Third, following Black et al. (2017)'s reasoning that firms might substitute different forms of earnings management with non-GAAP earnings disclosure if earnings management is more costly, I repeat my main analysis after controlling for accrual-based earnings management and real activity earnings manipulation. I find that M&A target firms' likelihood of non-GAAP earnings disclosure is negatively associated with the extent of accrual-based earnings management, but that M&A target firms still engage in aggressive non-GAAP earnings disclosure during the M&A process, even after controlling for earnings management.

As robustness checks, I first repeat the analysis of the magnitude of non-GAAP exclusions by using the sample of non-GAAP disclosing firms only. Second, I match initiating target firms with non-initiating target firms, given that these two types of target firms might be fundamentally different, and repeat the tests on the subsamples of initiating targets and non-initiating targets after matching. Third, I repeat the tests on the subsamples of initiating targets and non-initiating targets after controlling for earnings management variables. My results are qualitatively robust to these tests.

The study makes several contributions to related literature. First, it contributes to the understanding of non-GAAP disclosures during major capital market transactions such as M&As. Specifically, I provide evidence that M&A target firms increase the aggressiveness of non-GAAP earnings disclosure (i.e., the magnitude of non-GAAP exclusions used) even if they do not change the frequency of non-GAAP earnings disclosure. The study highlights the importance of examining firms' non-GAAP disclosures with an understanding of their underlying capital market incentives.

Second, the study adds to the literature of M&As by documenting the strategic non-GAAP earnings disclosures by target firms. Prior literature focuses on acquirers' and targets' financial reporting and/or management forecasts during the M&A process (e.g. Erickson and Wang, 1999; Ge and Lennox, 2011; Gong et al., 2008; Louis, 2004; Louis and Sun, 2016; Zhai, 2019). This study shows that non-GAAP disclosure is another tool that target firms may use to engage in perception management during the M&A process. The M&A target firms' strategic non-GAAP disclosure may have implications for M&A pricing and M&A efficiency.

Third, my findings have implications for the regulation of non-GAAP disclosures. In particular, my results show that target firms strategically change non-GAAP earnings disclosures by excluding more recurring expenses that are not deemed to be valid non-GAAP exclusions. As such, more stringent regulation of non-GAAP disclosures may be warranted to require firms to provide more justifications for their non-GAAP exclusions. This study also echoes the recent call for higher consistency and comparability of non-GAAP disclosures (Black, Christensen, Ciesielski, and Whipple, 2018).

The paper proceeds as follows. Section 3.2 reviews the related literature. Section 3.3 develops hypotheses. Section 3.4 outlines the research design. Section 3.5 discusses the empirical results. Section 3.6 concludes.

3.2 Related Literature

3.2.1 Non-GAAP disclosures

Corporate press releases at earnings announcements generally include detailed disclosures in addition to earnings per share. There is an increasing trend for firms to supplement disclosures of GAAP earnings numbers with non-GAAP earnings that are modified and adjusted by excluding certain items from income statements. As non-GAAP disclosures become popular, regulators, financial presses, and researchers are often cautious about non-GAAP earnings numbers, since these measures are not prepared under prescribed accounting standards. Prior research on non-GAAP disclosures has mostly focused on a better understanding of firms' motives for non-GAAP reporting.

The non-GAAP literature frequently mentions managers' two main incentives, i.e., informativeness versus opportunism, when investigating firms' motives for non-GAAP disclosures. The informativeness hypothesis states that firms may disclose non-GAAP earnings to communicate their permanent earnings more effectively after certain adjustments, which reflects firms' true long-run performance. Prior literature indicates that non-GAAP earnings are typically more persistent and more value-relevant than GAAP earnings, consistent with non-GAAP earnings disclosures being motivated to better inform financial statement users about firms' "core operations" (Bradshaw and Sloan, 2002). A recent study also finds that non-GAAP earnings are especially informative when firms make a GAAP loss (Leung and Veenman, 2018).

Prior literature also finds that investors indeed respond to non-GAAP earnings numbers. For instance, Bradshaw and Sloan (2002) and Lougee and Marquardt (2004) suggest that non-GAAP earnings are more informative to investors than GAAP earnings, especially when GAAP earnings are less informative. Moreover, some studies show that investors on average are not misled by non-GAAP disclosures, particularly in the post-Reg G era (Chen, 2010; Huang and Skantz, 2016; Zhang and Zheng, 2011).

On the other hand, the opportunism hypothesis states that managers may attempt to influence investors' evaluation of firms' performance by excluding expenses and specific charges, obscuring firms' true performance and allowing them to meet or beat earnings targets (Bowen, Davis, and Matsumoto, 2005). For instance, a few studies argue that, while the exclusion of transitory items generates a performance metric that may better reflect firms' sustainable performance, the exclusion of recurring items is less justifiable (Barth et al., 2012; Bhattacharya et al., 2003; Black and Christensen, 2009). Similarly, by examining the "quality" of non-GAAP exclusions based on the extent to which exclusions are associated with firms' future operating performance, several studies find that recurring items exclusions are the lowest quality non-GAAP adjustments that can mislead investors (Bentley, Christensen, Gee, and Whipple, 2018; Doyle, Lundholm, and Soliman, 2003; Kolev, Marquardt, and McVay, 2008). Moreover, some papers focus on whether non-GAAP exclusions allow firms to meet or beat earnings targets with non-GAAP earnings. These studies infer that the motive for non-GAAP earnings disclosure is to mislead investors by convincing them that an "artificial" performance metric meets or beats the desired objective (Bhattacharya et al., 2003; Black and Christensen, 2009; Doyle et al., 2013; Marques, 2006; McVay, 2006).

3.2.2 Corporate disclosures during M&As

Prior literature on M&As has examined whether acquirers engage in within-GAAP accrual-based earnings management before acquisitions (Erickson and Wang, 1999; Gong et al., 2008; Louis, 2004). For example, Erickson and Wang (1999) provide evidence that acquiring firms may manage earnings upward in the quarters before the merger agreement to boost stock prices and reduce acquisition costs in stock mergers. Louis (2004) also finds that acquiring firms overstate earnings in the quarter before the stock merger announcement, and document that the post-merger accrual reversal partly contributes to the underperformance of acquirers after acquisitions. Louis and Sun (2016) further document that acquirers that manage earnings upward before the merger announcement are more likely to announce mergers on Fridays to exploit investors' inattention. These studies all examine the earnings management by acquirers before merger announcements.

It has been long believed that target firms are also likely to manage earnings but little research investigates or provides clear evidence on target firms' earnings management. Erickson and Wang (1999) conjecture that target firms may manage earnings before the M&A announcement but find insignificant results. The reason why prior studies could not find evidence of earnings management by target firms may be because the target firms' motives for M&As are mixed. Chapter 2 distinguishes target firms' incentives for M&As by identifying whether target firms initiate merger negotiations. It is argued that target firms that initiate M&As (i.e., initiating targets) have stronger incentives for mergers, while target firms that do not initiate M&As (i.e., non-initiating targets) have weaker incentives for mergers. Chapter 2 provides evidence that initiating target firms engage in earnings management during the M&A process compared with non-initiating target firms and non-M&A matched firms.

Prior studies mainly focused on whether acquirers or target firms engage in within-GAAP earnings management. Non-GAAP earnings disclosures may also be used by target firms to manage investors' perceptions, given their lower costs and potential benefits (Black et al., 2017). This study thus investigates M&A target firms' non-GAAP earnings disclosures during the M&A process.

3.3 Hypotheses Development

Prior literature suggests that non-GAAP disclosure allows firms to communicate useful information to investors and/or to present a rosier picture of their financial performance. Since M&As are significant capital market transactions, in which target firms have considerable stakes, target firms may have incentives to utilize the tool of non-GAAP disclosure to fulfill their strategic objectives.

Target firms may alter the frequency of their non-GAAP earnings disclosures during M&As. On the one hand, M&A target firms may increase the frequency of non-GAAP earnings disclosure due to the informative motive. Information asymmetry exists between target firms and potential acquirers. Public financial information of target firms is useful for potential acquirers to value target firms and make bidding decisions. Moreover, potential acquirers may need a persistent metric of target firms' earnings in their valuation models, and non-GAAP earnings may serve as an appropriate "core" earnings number. Prior evidence suggests that non-GAAP earnings are more predictive of future performance relative to GAAP earnings and that investors perceive non-GAAP earnings to be more value-relevant (Bentley et al., 2018; Bhattacharya et al., 2003; Bradshaw and Sloan, 2002). Hence, target firms are likely to disclose non-GAAP earnings to provide additional information about their firms' financial performance.

By reducing the information asymmetry with potential acquirers, target firms may be able to attract more bidders.

On the other hand, M&A target firms may increase the frequency of non-GAAP earnings disclosure due to the opportunistic motive. Target firms are likely to engage in perception management via non-GAAP earnings disclosures. Specifically, target firms may report higher non-GAAP earnings than GAAP earnings, to show they have superior financial performance. Given that investors do not fully understand non-GAAP exclusions, target firms may be able to boost their stock prices by reporting higher non-GAAP earnings than GAAP earnings (Doyle et al., 2013; Doyle et al., 2003). Target firms thus may be able to negotiate a higher deal price given their higher stock prices. By making their firms more attractive in terms of financial performance, target firms may also be able to attract more bidders. Further, non-GAAP disclosure is not confined by GAAP, and thus it may be a relatively costless perception management tool for target firms.

Both informative and opportunistic motives lead target firms to increase the frequency of non-GAAP earnings reporting during the M&A process. The first hypothesis is stated as:

H1: Target firms are more likely to disclose non-GAAP earnings during the M&A process.

Target firms may not only change their frequency of non-GAAP earnings disclosure but also alter the aggressiveness (i.e., the magnitude of non-GAAP exclusions) in their non-GAAP earnings disclosures during the M&A process. Target firms' aggressiveness in non-GAAP earnings disclosures may be different under informative motive or opportunistic motive. On the one hand, target firms may not become more aggressive in non-GAAP earnings disclosure during the M&A process due to the informative motive. If target firms aim to provide more transparent value-relevant information to potential acquirers, they should not intentionally inflate non-GAAP earnings. Hence, the magnitude of non-GAAP exclusions for target firms during the M&A process should not be significantly different from that before the M&A process.

On the other hand, target firms may become more aggressive in non-GAAP earnings disclosure due to the opportunistic motive. If target firms aim to provide a rosier picture of their financial performance, they may strategically disclose higher non-GAAP earnings than their GAAP earnings. Thus, the magnitude of non-GAAP exclusions used by target firms during the M&A process will be significantly higher than that before the M&A process. Moreover, target firms may use more low-quality exclusions such as excluding more recurring expenses rather than transitory expenses in order to report higher non-GAAP earnings (Barth et al., 2012; Doyle et al., 2013).

Although M&A target firms may have some incentives to provide more non-GAAP information during the M&A process, they may also have more incentives to "window-dress" their firm performance to make their firms more attractive. Collectively, target firms are likely to be more aggressive in non-GAAP earnings disclosures during the M&A process by using larger non-GAAP exclusions. The second hypothesis is stated as:

H2: Target firms' non-GAAP exclusions are larger during the M&A process.

3.4 Research Design

3.4.1 Data

To conduct the analyses, I obtain data of the U.S. domestic mergers from Thomson Reuters Securities Data Corporation (SDC) Platinum and include all mergers that were publicly announced from the beginning of 2003 to the end of 2016. Following prior literature (Cai, Kim, Park, and White, 2016; Marquardt and Zur, 2015), I apply several sample selection criteria as below: (a) The deal value must be at least US$1 million to be economically meaningful; (b) Both acquirers and target firms are publicly listed U.S. firms; (c) Bidders must own less than 50% of the target before the offer and own (or seek to own) 100% of the target's shares after the transaction.[33] I eliminate deals with related parties, including share buybacks, exchange offers, and recapitalization.

I hand collect and code information on the details of the merger process from the background section of firms' 14A and S-4 filings (for mergers) and 14D filings (for tender offers). Specifically, I collect the information such as which party (i.e., targets or bidders) initiated the deal, when the deal was initiated and how the deal was structured (i.e., one-on-one negotiation or auction).

I obtain the stock price data for target firms from CRSP and the financial data from Compustat. I use the non-GAAP earnings data made public by Bentley et al. (2018) from Kurt H. Gee's website.[34] This data consists of non-GAAP EPS reported by managers at quarterly earnings announcements. Given that M&A-related items might be valid non-GAAP exclusions and might confound my results, I make necessary adjustments to the data as described in the next section.

3.4.2 Measurement of non-GAAP earnings disclosure

I construct two groups of non-GAAP variables. The first group of non-GAAP variables depicts the frequency of non-GAAP earnings disclosure. Specifically, I construct a dummy variable that indicates whether firms disclose non-GAAP earnings. To examine whether firms exclude special items or other items to calculate non-GAAP earnings, I further generate two

[33] I limit the sample to merger agreements where the bidder seeks to own 100% of the public target firm after the transaction because only these types of acquisitions require the filing of the merger agreement with the SEC.
[34] I am grateful to Bentley et al. (2018)'s authors, who have made their non-GAAP earnings data publicly available. The non-GAAP earnings data between 2003 and 2016 was retrieved from Kurt H. Gee's personal website (https://sites.google.com/view/kurthgee/data?authuser=0).

indicator variables that represent whether firms exclude special items, and exclude other items, respectively. M&A target firms may exclude M&A-related items, which may be justified as transitory items, so I regard firms that only exclude M&A-related items as firms that do not disclose non-GAAP earnings.[35]

The second group of non-GAAP variables describes the magnitude of non-GAAP exclusions used by firms. Specifically, I construct three continuous variables that represent the values of total exclusions, special item exclusions, and other item exclusions, respectively. Similar to the non-GAAP frequency variables, I adjust the non-GAAP exclusion variables by removing M&A-related items that might influence my analysis. See Appendix A for detailed variable descriptions.

3.4.3 Empirical models

I employ a difference-in-difference design to investigate target firms' non-GAAP earnings disclosure during the M&A process. Figure 1 depicts the M&A process and describes the different dates and periods of the M&A process. The M&A process includes pre-contact, negotiation, and post-announcement periods. The pre-contact period includes four quarters before the initiation of merger negotiations and is the period when target firms or acquirers are preparing for the upcoming merger negotiations. The negotiation period is the period between the initiation date and the announcement date and is the period when the target firm and the acquirer(s) negotiate over the merger privately. The post-announcement period is the period between the announcement date and the outcome date and is the period when the target firm and the acquirer work on the consummation of the proposed merger. I choose the three years

[35] In an additional test, I examine different types of special items reported by M&A target firms in their financial statements. These special items include acquisition/merger, gain/loss on sale of assets, goodwill impairment, settlement, restructuring, write-downs, debt extinguishment, in-process R&D, and other special items. The results (in Appendix D Table D1) suggest that target firms have significantly higher acquisition/merger special items in the post-announcement. Hence, excluding these merger-related costs could be justified by target firms given their transitory nature.

(i.e., 12 quarters) before the M&A process as the benchmark period, which is used to evaluate the change in target firms' non-GAAP earnings disclosure during the M&A process. I use propensity-score matching to match each M&A target firm with a firm not involved in any merger in the same industry and fiscal year-quarter, and based on firm size, ROA, market-to-book ratio, and leverage to the M&A target firms in the quarter before the initiation of the merger. See Appendix B for the matching effectiveness between M&A target firms and non-M&A matched firms in the matching quarter.[36] Effectively, I compare the change in non-GAAP earnings disclosure of M&A target firms between the benchmark period and the M&A process with the corresponding change in the non-GAAP earnings disclosure of non-M&A matched firms.

I use the following two models to test my main hypotheses:

$$\begin{aligned} Dep\_Var = {} & \beta_0 + \beta_1\, Target + \beta_2\, M\&A\, process + \beta_3\, Target \times M\&A\, process + \\ & \textstyle\sum \beta_i\, Controls + \sum \beta_j\, Industry + \sum \beta_k\, Year\_quarter + \varepsilon \end{aligned} \tag{1}$$

$$\begin{aligned} Dep\_Var = {} & \beta_0 + \beta_1\, Target + \beta_2\, Pre\_contact + \beta_3\, Negotiation + \\ & \beta_4\, Post\_announcement + \beta_5\, Target \times Pre\_contact + \beta_6\, Target \times \\ & Negotiation + \beta_7\, Target \times Post\_announcement + \textstyle\sum \beta_i\, Controls + \\ & \textstyle\sum \beta_j\, Industry + \sum \beta_k\, Year\_quarter + \varepsilon \end{aligned} \tag{2}$$

The analyses are performed at the firm-quarter level. Model (1) examines the whole M&A process, while Model (2) investigates three specific periods of the M&A process. *Dep_Var* represents the frequency of non-GAAP earnings disclosure or the magnitude of non-GAAP exclusions. Following prior literature, I include control variables that may affect firms' non-GAAP disclosure in both models (Bentley et al., 2018; Doyle et al., 2013). These control

[36] Appendix B Table B1 shows that M&A target firms and non-M&A matched firms are qualitatively similar across the matching variables, suggesting that the matching is effective.

variables include firm size, market-to-book ratio, growth in sales, ROA, an indicator for a GAAP loss, leverage, an indicator for quarters after FAS 123R was mandated in 2006, and an indicator for quarters after SEC issued guidance for non-GAAP disclosure in 2010. Industry (2-digit SIC code) and fiscal year-quarter fixed effects are also included in both models. The key variables of interest are interaction variables $Target \times M\&A\ process$ in Model (1), and $Target \times Pre\_contact$, $Target \times Negotiation$, and $Target \times Post\_announcement$ in Model (2). Significantly positive coefficients on these variables suggest that my hypotheses are supported.

Following Chen, Miao & Valentine (2018), Appendix C presents the test of the validity of the parallel assumption for my tests and insignificant coefficients on the benchmark period interaction variables suggest that target firms and non-M&A matched firms behave similarly before the M&A process. Hence, it is valid to use these models above to draw inferences about target firms' non-GAAP disclosures in comparison with non-M&A matched firms.

3.5 Results

3.5.1 Descriptive statistics and the univariate test

The main sample consists of 688 U.S. domestic mergers that were announced from the beginning of 2003 to the end of 2016. Table 1 presents the sample selection procedure and summary statistics. Table 1 Panel A shows the sample selection procedure. I start with 3,392 U.S. domestic mergers involving both public acquirers and public target firms from 2002 to 2016. After applying the sample selection criterion and excluding mergers without the required data, the final sample consists of 688 mergers. Table 1 Panels B and C present the distribution of the sample by year and Fama-French 30 industries, respectively, conditional on whether target firms disclose non-GAAP EPS during the M&A process. Panel B shows that the number of M&A is generally distributed evenly across the years from 2003 to 2016. In total, 69.5% of target firms have disclosed non-GAAP EPS at least once during the M&A process. In some years such as 2010, 2011, 2015 and 2016, a larger percentage of target firms have disclosed non-GAAP EPS at least once during the M&A process. Panel C suggests that most industries consist of both target firms that have disclosed non-GAAP EPS at least once and that have not done so during the M&A process.

Table 1 Panel D presents the summary statistics of the main variables for the full sample. The full sample consists of both M&A target firms and non-M&A matched firms across the benchmark period and the M&A process. The summary statistics show that non-GAAP earnings are disclosed in about 38.5% of firm-quarters, suggesting that non-GAAP earnings disclosure is prevalent among all firms. In addition, firms exclude special items and other items in 23.8% and 32.4% of fiscal quarters, respectively. This suggests that more firms exclude other items that are susceptible to be non-transitory. Further, the total exclusions used by firms are on average 0.423% out of total assets, compared with an average ROA of -0.005%, which indicates the significantly positive adjustments made by firms to derive non-GAAP earnings. The average other exclusions of 0.271% are also much higher than the average special items of 0.137%, suggesting that firms are likely to exclude more other items that are not deemed to be transitory.

Table 1 Panel E presents the change of the main variables between the benchmark period and the M&A process by target firms and non-M&A matched firms. Specifically, Panel E shows that target firms' non-GAAP total exclusions and other exclusions increase during the M&A process compared with the benchmark period, while non-M&A matched firms do not have similar changes. Moreover, the increase in target firms' non-GAAP other exclusions from the benchmark period to the M&A process is significantly larger than the change of non-M&A matched firms. In addition, the trends of other control variables are similar for M&A target firms and non-M&A matched firms. This provides more confidence that target firms and non-M&A matched firms are matched well. In summary, the univariate analysis suggests that target firms are more likely to increase their non-GAAP other exclusions during the M&A process compared with non-M&A matched firms.

3.5.2 Frequency of non-GAAP earnings disclosure by target firms

I first examine whether target firms change the frequency of their non-GAAP earnings disclosure during the M&A process. Table 2 reports the multivariate regression results for the frequency of non-GAAP earnings disclosure by target firms. Panels A and B show the results for Model (1) and Model (2), respectively. The coefficients on *Target* are significantly positive in Columns (1) and (3) of Panel A, suggesting that M&A target firms on average are more likely to disclose non-GAAP earnings and to exclude other items than non-M&A matched firms. However, the coefficients on *Target* × *M&A process* are not significantly different from zero in all three columns of Panel A, which suggests that M&A target firms do not change the frequency of their non-GAAP earnings reporting during the M&A process compared with non-M&A matched firms.

The results of Panel B show non-GAAP earnings disclosure of target firms after separating the M&A process into three different periods. Again, the coefficients on *Target* are significantly positive in Columns (1) and (3) of Panel A, suggesting that M&A target firms on average are more likely to disclose non-GAAP earnings and to exclude other items than non-M&A matched firms. However, the coefficients on *Target* × *Pre-contact*, *Target* × *Negotiation*, and *Target* × *Post-announcement* are all insignificant, which suggests that M&A target firms do not change the frequency of non-GAAP disclosures in all three periods.

Collectively, the results show that M&A target firms, on average, are more likely to disclose non-GAAP earnings than non-M&A matched firms, but they do not increase the frequency of non-GAAP disclosures during the M&A process, inconsistent with H1. The possible reason could be that M&A target firms without non-GAAP earnings disclosure before M&As may find it difficult to justify non-GAAP earnings disclosure without precedents, and that M&A target firms are not able to justify any new type of non-GAAP adjustments if they don’t have valid items to exclude.

3.5.3 Magnitude of non-GAAP exclusions used by target firms

I next examine whether target firms are more aggressive (i.e., exclude more expenses) in non-GAAP earnings disclosure during the M&A process. Table 3 reports the multivariate regression results for the magnitude of non-GAAP exclusions used by target firms. Panels A and B present the results for Model (1) and Model (2), respectively. In Panel A, the coefficient on *Target* × *M&A process* are significantly positive in Column (1) (*t*-stat = 1.72) and Column (3) (*t*-stat = 1.97) but not significantly different from zero in Column (2), suggesting that M&A target firms report much higher non-GAAP earnings than GAAP earnings (i.e., use higher total exclusions) during the M&A process compared with non-M&A matched firms, and this is mainly driven by higher other item exclusions.

The results of Panel B show non-GAAP earnings exclusions of target firms, after separating the M&A process into three different periods. The coefficient on *Target* × *Negotiation* in Column (1) is significantly positive (*t*-stat = 1.92), suggesting that M&A target firms report significantly higher non-GAAP earnings than GAAP earnings (i.e., use higher total exclusions) in the negotiation period, compared with non-M&A matched firms. In Column (3), the coefficients on *Target* × *Pre-contact* (*t*-stat = 1.84) and *Target* × *Negotiation* (*t*-stat = 2.32) are significantly positive, suggesting that target firms use higher other item exclusions in both the pre-contact period and the negotiation periods. In terms of economic magnitude, the results suggest that target firms increase the total exclusion and other exclusions by 0.141% and 0.108%

of total assets, respectively. This is economically significant given that the average ROA for target firms is -0.007%.

Collectively, the results in Table 3 show that M&A target firms are more aggressive in non-GAAP earnings disclosure during the M&A process by excluding more other items (likely to be recurring expenses) in the pre-contact period and the negotiation periods. This is consistent with H2, in that M&A target firms opportunistically report higher non-GAAP earnings than GAAP earnings hoping to make their firms more attractive in the M&A market and to negotiate for a higher price.

3.5.4 Initiating target firms versus non-initiating target firms

Chapter 2 shows that initiating target firms have stronger incentives for mergers and are more likely to manage earnings upward during the M&A process. Similarly, it is possible that initiating target firms could be more aggressive in non-GAAP earnings disclosure and also start to manipulate non-GAAP earnings early, i.e., in the pre-contact period. Table 4 reports the results for the subsamples of initiating targets and non-initiating targets. The results in Panel A, similar to those in Table 2, suggest that both initiating and non-initiating target firms are not more likely to disclose non-GAAP earnings during the M&A process. But the results in Columns (1) and (3) of Panel B suggests that initiating targets report significantly higher non-GAAP earnings than GAAP earnings during the negotiation period and exclude more other items in both pre-contact and negotiation periods. On the other hand, the results in Column (6) of Panel B show that non-initiating targets exclude more other items only in the negotiation period. The results of Table 4 are consistent with the notion that initiating targets with stronger incentives and plans for mergers start to “window-dress” their financial performance as early as in the pre-contact period. But non-initiating target firms without plans for mergers only disclose non-GAAP earnings strategically after being contacted by acquirers (i.e., during the negotiation period).

3.5.5 The role of financial constraint

Target firms with high financial constraints may have stronger incentives for mergers (Masulis and Simsir, 2018). Hence, they may be more motivated to engage in non-GAAP earnings disclosure to make their firms more attractive in the M&A market. Table 5 reports the results for target firms with high financial constraints and lower financial constraints. The results show that target firms with high financial constraints disclose much higher non-GAAP earnings than GAAP earnings, and use higher other exclusions, which suggests that these target firms become more aggressive in their non-GAAP earnings disclosure during the M&A process due to their stronger incentives for mergers. The results are much weaker for target firms with low financial constraints.

3.5.6 Trade-off between non-GAAP disclosure and earnings management

Black et al. (2017) argue that firms may engage in perception management using multiple methods such as accrual management, real activity earnings management, and non-GAAP earnings disclosure. They further show that firms could substitute different forms of earnings management with non-GAAP earnings disclosure if earnings management is more costly. Chapter 2 finds that initiating target firms are more likely to manage earnings upwards via accruals during the M&A process. It is interesting to see whether target firms substitute or complement earnings management with non-GAAP earnings disclosure during the M&A process. I repeat my main analysis after controlling for accrual-based earnings management and real activity earnings manipulation and Table 6 reports the results. The significantly negative coefficient on *Abnormal accruals* suggests that M&A target firms use less non-GAAP earnings disclosure if they engage in more accrual-based earnings management. However, my main results remain unchanged, suggesting that M&A target firms strategically alter their non-GAAP earnings disclosure during the M&A process in complement with other forms of earnings management.

3.5.7 Robustness tests

I conduct several robustness tests. First, I repeat the analysis for the magnitude of non-GAAP exclusions by using the sample of non-GAAP disclosing target firms only. Table 7 reports the results, and the main inference on the magnitude of non-GAAP exclusions remains similar. Second, I match initiating target firms with non-initiating target firms, given that these two groups of target firms might be fundamentally different. I repeat my tests on the subsamples of initiating target firms and non-initiating target firms after matching. The results reported in Table 8 are similar to those in Table 4. Notably, these results in Panel B of Table 7 suggest that the aggressiveness in non-GAAP earnings disclosure of initiating target firms is more pronounced in the pre-contact period than results in Table 4 without matching. Third, I repeat my tests on the subsamples of initiating targets and non-initiating targets after controlling for earnings management variables. The results reported in Table 9 are qualitatively the same as those in Table 4.

3.6 Conclusions

Non-GAAP disclosure has become more and more prevalent among firms in all industries. This study investigates whether and how significant capital market transactions, such as M&As, impact target firms' non-GAAP earnings disclosures. I find that M&A target firms do not change the frequency of their non-GAAP earnings disclosures during the M&A process and do not exclude more other items when they report non-GAAP earnings, compared with non-M&A matched firms. However, I do find that M&A target firms become more aggressive in non-GAAP earnings disclosures by reporting significantly higher non-GAAP earnings than GAAP earnings (i.e., use higher total exclusions) in the negotiation period and exclude more other items (i.e., recurring expenses) in the pre-contact period and the negotiation periods. The results for the magnitude of non-GAAP exclusions are consistent with target firms' opportunistic motives to manage the market's perception about their financial performance by using strategic non-GAAP disclosures.

Further analyses suggest that target firms that initiate M&As are more aggressive in non-GAAP earnings disclosures and exclude more recurring expenses in both pre-contact and negotiation periods, consistent with initiating target firms' stronger incentives to affect M&A negotiations. In addition, target firms with high financial constraints and thus stronger incentives for mergers are more aggressive in reporting higher non-GAAP earnings than GAAP earnings and exclude more recurring expenses (Masulis and Simsir, 2018). Moreover, following the Black et al. (2017) reasoning that firms might substitute different forms of earnings management with non-GAAP earnings disclosure if earnings management is more costly, I find that M&A target firms still engage in aggressive non-GAAP earnings disclosure during the M&A process, even after controlling for earnings management. My results are also qualitatively robust to a battery of other tests.

The study highlights the importance of examining firms' non-GAAP disclosures with an understanding of their underlying capital market incentives, and provides evidence that M&A target firms increase the aggressiveness of non-GAAP earnings disclosure (i.e., the magnitude of non-GAAP exclusions used) even if they do not change the frequency of non-GAAP earnings disclosure. The study also adds to the literature of M&As by showing that non-GAAP earnings disclosure may be another tool for target firms to engage in perception management during the M&A process in addition to other forms of earnings management. Furthermore, the study has implications for the regulation of non-GAAP disclosures. In particular, more stringent regulation of non-GAAP disclosures may be warranted to require firms to provide more justifications for their non-GAAP adjustments. This study echoes the recent call for higher consistency and comparability of non-GAAP disclosures (Black, Christensen, Ciesielski, and Whipple, 2018).

3.7 References

Barth, M. E., Gow, I. D., & Taylor, D. J. (2012). Why do pro forma and Street earnings not reflect changes in GAAP? Evidence from SFAS 123R. *Review of Accounting Studies, 17*(3), 526-562.

Bentley, J. W., Christensen, T. E., Gee, K. H., & Whipple, B. C. (2018). Disentangling Managers' and Analysts' Non-GAAP Reporting. *Journal of Accounting Research, 56*(4), 1039-1081.

Bhattacharya, N., Black, E. L., Christensen, T. E., & Larson, C. R. (2003). Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics, 36*(1-3), 285-319.

Bhattacharya, N., Black, E. L., Christensen, T. E., & Mergenthaler, R. D. (2007). Who trades on pro forma earnings information? *The Accounting Review, 82*(3), 581-619.

Black, D. E., & Christensen, T. E. (2009). US managers' use of 'pro forma'adjustments to meet strategic earnings targets. *Journal of Business Finance & Accounting, 36*(3-4), 297-326.

Black, D. E., Christensen, T. E., Ciesielski, J. T., & Whipple, B. C. (2018). Non-GAAP earnings: a consistency and comparability crisis? *Tuck School of Business Working Paper*(2759312).

Black, E. L., Christensen, T. E., Taylor Joo, T., & Schmardebeck, R. (2017). The relation between earnings management and non-GAAP reporting. *Contemporary Accounting Research, 34*(2), 750-782.

Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2005). Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention, and market reactions. *The Accounting Review, 80*(4), 1011-1038.

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), 41-66.

Cai, Y., Kim, Y., Park, J. C., & White, H. D. (2016). Common auditors in M&A transactions. *Journal of Accounting and Economics, 61*(1), 77-99.

Chen, C.-Y. (2010). Do analysts and investors fully understand the persistence of the items excluded from Street earnings? *Review of Accounting Studies, 15*(1), 32-69.

Chen, S., Miao, B., & Valentine, K. (2018). The Market for Corporate Control and Information Quality: Evidence from Peer Firm Disclosure Response to Takeover Threat. Available at SSRN: https://ssrn.com/abstract=3273019.Curtis, A. B., McVay, S. E., & Whipple, B. C. (2014). The disclosure of non-GAAP earnings information in the presence of transitory gains. *The Accounting Review*, *89*(3), 933-958.

Doyle, J. T., Jennings, J. N., & 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.

Doyle, J. T., Lundholm, R. J., & Soliman, M. T. (2003). The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies*, *8*(2-3), 145-174.

Elliott, W. B. (2006). Are investors influenced by pro forma emphasis and reconciliations in earnings announcements? *The Accounting Review, 81*(1), 113-133.

Erickson, M., & Wang, S.-w. (1999). Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics, 27*(2), 149-176.

Ge, R., & Lennox, C. (2011). Do acquirers disclose good news or withhold bad news when they finance their acquisitions using equity? *Review of Accounting Studies, 16*(1), 183-217.

Gong, G., Louis, H., & Sun, A. X. (2008). Earnings management, lawsuits, and stock-for-stock acquirers' market performance. *Journal of Accounting and Economics, 46*(1), 62-77.

Huang, Q., & Skantz, T. R. (2016). The informativeness of pro forma and street earnings: an examination of information asymmetry around earnings announcements. *Review of Accounting Studies, 21*(1), 198-250.

Kolev, K., Marquardt, C. A., & McVay, S. E. (2008). SEC scrutiny and the evolution of non-GAAP reporting. *The Accounting Review*, *83*(1), 157-184.

Leung, E., & Veenman, D. (2018). Non-GAAP earnings disclosure in loss firms. *Journal of Accounting Research*, *56*(4), 1083-1137.

Lougee, B. A., & Marquardt, C. A. (2004). Earnings informativeness and strategic disclosure: An empirical examination of "pro forma" earnings. *The Accounting Review, 79*(3), 769-795.

Louis, H. (2004). Earnings management and the market performance of acquiring firms. *Journal of Financial economics*, *74*(1), 121-148.

Louis, H., & Sun, A. X. (2016). Abnormal Accruals and Managerial Intent: Evidence from the Timing of Merger Announcements and Completions. *Contemporary Accounting Research, 33*(3), 1101-1135.

Marquardt, C., & Zur, E. (2015). The role of accounting quality in the M&A market. *Management Science*, *61*(3), 604-623.

Marques, A. (2006). SEC interventions and the frequency and usefulness of non-GAAP financial measures. *Review of Accounting Studies*, *11*(4), 549-574.

Masulis, R. W., & Simsir, S. A. (2018). Deal initiation in mergers and acquisitions. *Journal of Financial and Quantitative Analysis, 53*(6), 2389-2430.

McVay, S. E. (2006). Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review, 81*(3), 501-531.

Palepu, K. G. (1986). Predicting takeover targets: A methodological and empirical analysis. *Journal of Accounting and Economics*, *8*(1), 3-35.

Zhai, K. (2019). *Do M&A target firms manage earnings? Evidence from deal initiations*.

Zhang, H., & Zheng, L. (2011). The valuation impact of reconciling pro forma earnings to GAAP earnings. *Journal of Accounting and Economics, 51*(1-2), 186-202.

Figure 1. Timeline of the Typical M&A Process

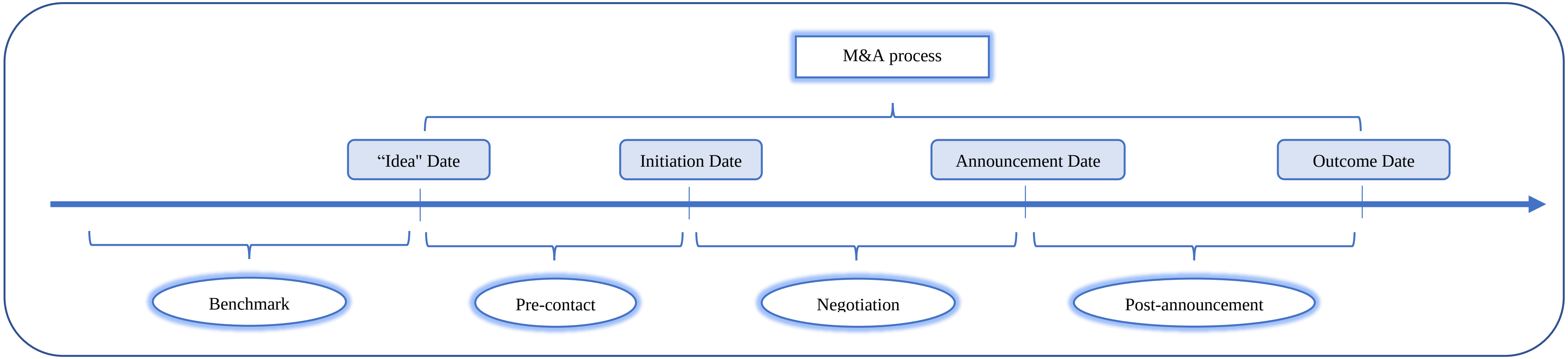

Figure 1 depicts the timeline of a typical M&A process. “Idea” date is the date when a target or an acquirer first have a plan to pursue mergers. Initiation date is the date when a target or an acquirer initiates the contact with the other party. The announcement date is the date when a merger deal is publicly announced by the target and the acquirer. The outcome date is the date when the merger is completed or terminated. The announcement date and the outcome date are collected from SDC. The initiation date is collected from the target/acquirer’s SEC filing related to the merger. The “idea” date is unobservable and is assumed to be the date that is 1 year before the initiation date. Accordingly, the pre-contact period is the period between the “idea” date and the initiation date and is the period when the target or the acquirer is preparing for the upcoming merger negotiation. The negotiation period is the period between the initiation date and the announcement date and is the period when the target and the acquirer(s) negotiate over the merger privately. The post-announcement period is the period between the announcement date and the outcome date and is the period when the target and the acquirer work on the consummation of the proposed merger. The benchmark period is three years before the “idea” date. The merger process in this paper includes pre-contact, negotiation and post-announcement periods.

Table 1. Sample and descriptive statistics

Panel A: Sample selection

Sample selection procedure	**# Observations**
U.S. domestic mergers announced from 2002 to 2016	3,392
Less: Deal value < $1m	(523)
Less: Acquirer owns *more than* 50% shares of the target before the merger	(76)
Less: Acquirer owns (seeks to own) *less than* 100% shares of the target after the merger	(283)
Less: Financial & stock price data *not* available in Compustat and CRSP	(1,190)
Less: Merger-related filings *not* available via SEC EDGAR	(100)
Less: Non-GAAP earnings disclosure data *not* available	(453)
Less: Non-M&A matched firms *not* available	(79)
Final sample of mergers	688

Panel B: Distribution of M&A target firms by M&A announcement year

	Disclose non-GAAP EPS at least once during the merger process and the benchmark period				
	Yes		**No**		**All M&A targets**
Year	**# firms**	**%**	**# firms**	**%**	**# firms**
2003	6	66.7	3	33.3	9
2004	31	53.4	27	46.6	58
2005	48	69.6	21	30.4	69
2006	45	63.4	26	36.6	71
2007	49	63.6	28	36.4	77
2008	31	59.6	21	40.4	52
2009	37	66.1	19	33.9	56
2010	43	78.2	12	21.8	55
2011	25	80.6	6	19.4	31
2012	25	71.4	10	28.6	35
2013	28	77.8	8	22.2	36
2014	29	69.0	13	31.0	42
2015	50	83.3	10	16.7	60
2016	31	83.8	6	16.2	37
Total	478	69.5	210	30.5	688

Panel C: Distribution of M&A target firms by industry

	Disclose non-GAAP EPS at least once during the merger process and the benchmark period				
	Yes		No		All M&A targets
Fama-French 30 Industries	**# firms**	**%**	**# firms**	**%**	**# firms**
Food Products	9	81.8	2	18.2	11
Beer & Liquor	1	100.0	0	0.0	1
Tobacco Products	0	N/A	0	N/A	0
Recreation	8	80.0	2	20.0	10
Printing and Publishing	6	85.7	1	14.3	7
Consumer Goods	2	50.0	2	50.0	4
Apparel	4	100.0	0	0.0	4
Healthcare, Medical Equipment, Pharmaceutical Products	65	54.2	55	45.8	120
Chemicals	10	66.7	5	33.3	15
Textiles	1	100.0	0	0.0	1
Construction and Construction Materials	5	50.0	5	50.0	10
Steel Works Etc.	2	33.3	4	66.7	6
Fabricated Products and Machinery	17	89.5	2	10.5	19
Electrical Equipment	4	80.0	1	20.0	5
Automobiles and Trucks	1	100.0	0	0.0	1
Aircraft, ships, and railroad equipment	0	0.0	1	100.0	1
Precious Metals, Non-Metallic, and Industrial Metal Mining	0	0.0	1	100.0	1
Coal	2	100.0	0	0.0	2
Petroleum and Natural Gas	18	47.4	20	52.6	38
Utilities	15	78.9	4	21.1	19
Communication	16	48.5	17	51.5	33
Personal and Business Services	103	73.0	38	27.0	141
Business Equipment	114	81.4	26	18.6	140
Business Supplies and Shipping Containers	5	83.3	1	16.7	6
Transportation	14	73.7	5	26.3	19
Wholesale	12	60.0	8	40.0	20
Retail	23	92.0	2	8.0	25
Restaurants, Hotels, Motels	2	66.7	1	33.3	3
Banking, Insurance, Real Estate, Trading	11	64.7	6	35.3	17
Everything Else	8	88.9	1	11.1	9
Total	478	69.5	210	30.5	688

Panel D: Summary statistics

Variables	N	Mean	S.D.	25%	Median	75%
Frequency of non-GAAP earnings disclosure:						
NGAAP	12728	0.372	0.483	0.000	0.000	1.000
NGAAP_Special	12728	0.213	0.410	0.000	0.000	0.000
NGAAP_Other	12728	0.324	0.468	0.000	0.000	1.000
Magnitude of non-GAAP earnings disclosure:						
Excl_Total	12728	0.403	1.279	0.000	0.000	0.255
Excl_Special	12728	0.117	0.639	0.000	0.000	0.000
Excl_Other	12728	0.271	0.771	0.000	0.000	0.080
M&A process/periods indicators:						
M&A process	12728	0.550	0.498	0.000	1.000	1.000
Pre-contact	12728	0.312	0.463	0.000	0.000	1.000
Negotiation	12728	0.162	0.369	0.000	0.000	0.000
Post-announcement	12728	0.075	0.264	0.000	0.000	0.000
Control variables:						
Size	12728	6.149	1.816	4.799	6.076	7.371
Market-to-book	12728	3.257	5.576	1.436	2.317	3.845
Sales growth	12728	0.021	0.070	-0.002	0.016	0.043
ROA	12728	-0.005	0.085	-0.008	0.009	0.020
Loss	12728	0.321	0.467	0.000	0.000	1.000
Leverage	12728	0.197	0.218	0.001	0.143	0.322
After 123R	12728	0.723	0.447	0.000	1.000	1.000
After SEC guide	12728	0.374	0.484	0.000	0.000	1.000

Panel E: Univariate test for non-GAAP earnings disclosure of M&A targets and non-M&A matched firms

	M&A targets			Non-M&A matched firms			
Variables	**Benchmark**	**M&A process**	**Diff**	**Benchmark**	**M&A process**	**Diff**	**Diff-in-Diffs**
Frequency of non-GAAP earnings disclosure:							
NGAAP	0.396	0.408	0.012	0.334	0.347	0.013	-0.001
NGAAP_Special	0.227	0.238	0.012	0.196	0.192	-0.005	0.017
NGAAP_Other	0.350	0.359	0.009	0.282	0.302	0.019*	-0.010
Magnitude of non-GAAP earnings disclosure:							
Excl_Total	0.437	0.499	0.061*	0.335	0.335	0.000	0.061
Excl_Special	0.151	0.131	-0.021	0.096	0.092	-0.004	-0.017
Excl_Other	0.280	0.343	0.062***	0.226	0.227	0.002	0.060**
Control variables:							
Size	6.203	6.057	-0.146***	6.244	6.119	-0.125***	-0.021
Market-to-book	3.336	3.337	0.002	3.117	3.227	0.110	-0.108
Sales growth	0.025	0.016	-0.008***	0.023	0.019	-0.004**	-0.004*
ROA	-0.004	-0.009	-0.005***	-0.004	-0.004	0.000	-0.005
Loss	0.314	0.359	0.045***	0.278	0.324	0.046***	-0.001
Leverage	0.201	0.200	-0.001	0.193	0.194	0.002	-0.003
After 123R	0.678	0.762	0.084***	0.676	0.761	0.086***	-0.002
After SEC guide	0.342	0.401	0.059***	0.340	0.400	0.060***	-0.001

Table 1 reports the sample selection procedure and descriptive statistics. Panel A shows the selection procedure for the merger sample. Panel B and Panel C present the distribution of M&A target firms by the announcement year and industry, respectively. Panel D presents the summary statistics of the main variables and control variables for the full sample. Panel E presents the comparison of main variables and control variables between M&A target firms and non-M&A matched firms. The full sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 2. Frequency of non-GAAP earnings reporting by M&A target firms

Panel A: Non-GAAP earnings disclosure during the whole M&A process

	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)
Target	0.059**	0.029	0.064***
	(2.55)	(1.61)	(2.77)
M&A process	-0.001	-0.009	0.001
	(-0.05)	(-0.69)	(0.10)
Target × M&A process	0.001	0.018	-0.008
	(0.06)	(1.02)	(-0.36)
Size	0.084***	0.067***	0.071***
	(13.74)	(13.43)	(11.52)
Market-to-book	-0.003***	-0.003***	-0.003***
	(-2.59)	(-2.99)	(-3.32)
Sales growth	-0.107	-0.278***	-0.005
	(-1.34)	(-4.33)	(-0.07)
ROA	0.059	0.023	0.023
	(1.20)	(0.53)	(0.47)
Loss	0.100***	0.086***	0.102***
	(5.75)	(6.56)	(5.94)
Leverage	0.222***	0.376***	0.143*
	(2.66)	(5.61)	(1.82)
After 123R	0.076*	0.025	0.077*
	(1.68)	(0.72)	(1.92)
After SEC guide	0.060	-0.019	0.041
	(0.84)	(-0.28)	(0.66)
Constant	-0.587***	-0.566***	-0.414***
	(-4.98)	(-5.44)	(-4.98)
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	12,728	12,728	12,728
Adj. R-squared	0.229	0.166	0.211

Panel B: Non-GAAP earnings disclosure in different periods of the M&A process

	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)
Target	0.059**	0.029	0.064***
	(2.55)	(1.61)	(2.77)
Pre-contact	-0.003	-0.000	-0.003
	(-0.19)	(-0.02)	(-0.19)
Negotiation	0.002	-0.024	0.002
	(0.10)	(-1.42)	(0.09)
Post-announcement	0.002	-0.013	0.018
	(0.07)	(-0.56)	(0.69)
Target × Pre-contact	0.010	0.003	0.002
	(0.44)	(0.18)	(0.08)
Target × Negotiation	-0.001	0.032	-0.015
	(-0.04)	(1.35)	(-0.50)
Target × Post-announcement	-0.029	0.048	-0.029
	(-0.78)	(1.53)	(-0.81)
Size	0.084***	0.067***	0.071***
	(13.77)	(13.35)	(11.51)
Market-to-book	-0.003***	-0.003***	-0.003***
	(-2.60)	(-2.98)	(-3.31)
Sales growth	-0.110	-0.276***	-0.006
	(-1.37)	(-4.30)	(-0.08)
ROA	0.058	0.024	0.022
	(1.20)	(0.55)	(0.47)
Loss	0.101***	0.086***	0.102***
	(5.76)	(6.56)	(5.93)
Leverage	0.222***	0.376***	0.143*
	(2.66)	(5.60)	(1.81)
After 123R	0.076*	0.026	0.077*
	(1.69)	(0.73)	(1.91)
After SEC guide	0.060	-0.020	0.042
	(0.84)	(-0.29)	(0.67)
Constant	-0.587***	-0.568***	-0.414***
	(-4.94)	(-5.53)	(-4.96)
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	12,728	12,728	12,728
Adj. R-squared	0.241	0.187	0.211

Table 2 presents the OLS regression results for the frequency of non-GAAP EPS disclosure of M&A target firms. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A and B present results for the whole merger process and different periods of the merger process, respectively. Column 1, 2, and 3 report results for total exclusions, special items, and other exclusions, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 3. Magnitude of non-GAAP exclusions used by M&A target firms
Panel A: Non-GAAP earnings exclusions during the whole M&A process

	(1) Total Exclusions (*Excl_Total*)	(2) Special Items (*Excl_Special*)	(3) Other Exclusions (*Excl_Other*)
Target	0.074	0.047**	0.038
	(1.55)	(2.36)	(1.11)
M&A process	-0.057*	-0.009	-0.046**
	(-1.76)	(-0.62)	(-2.09)
Target × M&A process	0.058	-0.019	0.063**
	(1.13)	(-0.76)	(1.97)
Size	0.084***	0.038***	0.041***
	(5.94)	(6.40)	(4.41)
Market-to-book	-0.000	-0.001	0.002
	(-0.02)	(-0.96)	(0.79)
Sales growth	0.458**	-0.127	0.482***
	(2.09)	(-1.16)	(3.32)
ROA	-1.938*	-0.762*	-0.433
	(-1.75)	(-1.72)	(-1.43)
Loss	0.714***	0.258***	0.387***
	(8.17)	(7.43)	(9.30)
Leverage	0.228	0.287***	-0.044
	(1.36)	(3.88)	(-0.39)
After 123R	0.112	0.028	0.062
	(1.12)	(0.59)	(1.18)
After SEC guide	0.031	-0.102	0.130
	(0.22)	(-1.10)	(1.12)
Constant	-0.650***	-0.429***	-0.206**
	(-3.31)	(-4.12)	(-2.02)
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	12,728	12,728	12,728
Adj. R-squared	0.159	0.086	0.166

Panel B: Non-GAAP earnings exclusions in different periods of the M&A process

	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*
Target	0.074	0.047**	0.038
	(1.55)	(2.36)	(1.11)
Pre-contact	-0.047	-0.004	-0.040*
	(-1.34)	(-0.26)	(-1.75)
Negotiation	-0.105**	-0.022	-0.075**
	(-2.36)	(-1.07)	(-2.40)
Post-announcement	0.000	-0.005	-0.010
	(0.00)	(-0.19)	(-0.23)
Target × Pre-contact	0.057	-0.013	0.059*
	(1.09)	(-0.51)	(1.84)
Target × Negotiation	0.136*	0.001	0.108**
	(1.79)	(0.02)	(2.32)
Target × Post-announcement	-0.108	-0.087	-0.022
	(-1.03)	(-1.39)	(-0.37)
Size	0.085***	0.038***	0.041***
	(5.98)	(6.46)	(4.42)
Market-to-book	-0.000	-0.001	0.002
	(-0.02)	(-0.96)	(0.79)
Sales growth	0.445**	-0.134	0.476***
	(2.03)	(-1.23)	(3.28)
ROA	-1.936*	-0.761*	-0.432
	(-1.75)	(-1.72)	(-1.43)
Loss	0.715***	0.259***	0.388***
	(8.19)	(7.46)	(9.32)
Leverage	0.229	0.288***	-0.043
	(1.36)	(3.89)	(-0.38)
After 123R	0.116	0.030	0.064
	(1.15)	(0.63)	(1.21)
After SEC guide	0.028	-0.104	0.129
	(0.20)	(-1.12)	(1.11)
Constant	-0.655***	-0.431***	-0.209**
	(-3.43)	(-4.26)	(-2.09)
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	12,728	12,728	12,728
Adj. R-squared	0.160	0.087	0.166

Table 3 presents the OLS regression results for the magnitude of non-GAAP exclusions used by M&A target firms. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A and B present results for the whole merger process and different periods of the merger process, respectively. Column 1, 2, and 3 report results for total exclusions, special items, and other exclusions, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 4. Non-GAAP earnings disclosure: initiating targets versus non-initiating targets

Panel A: Frequency of non-GAAP earnings disclosure

	Initiating targets			Non-initiating targets		
	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)	(4) Non-GAAP EPS Disclosed (*NGAAP*)	(5) Special Items Excluded (*NGAAP_Special*)	(6) Other Items Excluded (*NGAAP_Other*)
Target	0.040	0.030	0.027	0.072**	0.028	0.087***
	(1.19)	(1.12)	(0.78)	(2.51)	(1.31)	(3.08)
Pre-contact	-0.010	0.001	-0.029	-0.002	-0.005	0.013
	(-0.39)	(0.05)	(-1.18)	(-0.09)	(-0.32)	(0.73)
Negotiation	-0.023	-0.030	-0.021	0.012	-0.027	0.013
	(-0.69)	(-1.11)	(-0.67)	(0.43)	(-1.23)	(0.47)
Post-announcement	0.001	-0.039	0.033	-0.000	-0.001	0.011
	(0.02)	(-1.05)	(0.80)	(-0.01)	(-0.03)	(0.34)
Target × *Pre-contact*	-0.010	-0.021	0.010	0.022	0.020	-0.004
	(-0.27)	(-0.73)	(0.30)	(0.79)	(0.82)	(-0.16)
Target × *Negotiation*	0.026	0.027	0.025	-0.018	0.038	-0.039
	(0.58)	(0.75)	(0.58)	(-0.45)	(1.19)	(-0.98)
Target × *Post-announcement*	-0.011	0.044	-0.031	-0.037	0.050	-0.027
	(-0.17)	(0.83)	(-0.50)	(-0.83)	(1.32)	(-0.62)
Size	0.095***	0.065***	0.085***	0.081***	0.071***	0.066***
	(10.47)	(8.10)	(9.11)	(10.07)	(11.08)	(8.16)
Market-to-book	-0.002	-0.001	-0.002*	-0.004**	-0.004***	-0.004***
	(-1.21)	(-0.98)	(-1.91)	(-2.47)	(-3.34)	(-2.73)
Sales growth	-0.137	-0.244**	-0.041	-0.024	-0.240***	0.073
	(-1.17)	(-2.48)	(-0.35)	(-0.23)	(-3.05)	(0.71)
ROA	0.037	0.067	0.002	0.070	-0.018	0.038
	(0.59)	(1.18)	(0.02)	(1.00)	(-0.25)	(0.57)
Loss	0.057**	0.069***	0.066***	0.131***	0.096***	0.130***
	(2.23)	(3.47)	(2.62)	(5.86)	(5.76)	(5.81)
Leverage	0.127	0.359***	0.061	0.281***	0.376***	0.212**

	(1.02)	(3.50)	(0.50)	(2.97)	(5.07)	(2.34)
After 123R	0.109	0.052	0.073	0.061	0.016	0.075
	(1.58)	(0.97)	(1.19)	(1.09)	(0.37)	(1.50)
After SEC guide	0.107	-0.026	0.086	0.033	-0.004	0.005
	(0.94)	(-0.24)	(0.79)	(0.39)	(-0.06)	(0.06)
Constant	-0.532***	-0.540***	-0.542***	-0.586***	-0.570***	-0.422***
	(-3.41)	(-7.00)	(-4.82)	(-4.61)	(-5.25)	(-4.67)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	5,064	5,064	5,064	7,664	7,664	7,664
Adj. R-squared	0.281	0.190	0.260	0.228	0.183	0.207

Panel B: Magnitude of non-GAAP earnings exclusions

	Initiating targets			Non-initiating targets		
	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*	(4) Total Exclusions *(Excl_Total)*	(5) Special Items *(Excl_Special)*	(6) Other Exclusions *(Excl_Other)*
Target	-0.041	0.045	-0.075	0.143**	0.047*	0.107**
	(-0.57)	(1.44)	(-1.48)	(2.36)	(1.88)	(2.41)
Pre-contact	-0.127**	0.004	-0.126***	0.004	-0.010	0.014
	(-2.16)	(0.14)	(-3.44)	(0.10)	(-0.50)	(0.48)
Negotiation	-0.193***	-0.033	-0.136***	-0.042	-0.005	-0.044
	(-3.07)	(-1.08)	(-3.18)	(-0.67)	(-0.18)	(-1.01)
Post-announcement	0.025	0.022	-0.022	-0.009	-0.019	-0.004
	(0.22)	(0.37)	(-0.35)	(-0.12)	(-0.65)	(-0.07)
Target × *Pre-contact*	0.086	-0.030	0.092**	0.043	-0.002	0.042
	(1.08)	(-0.71)	(1.99)	(0.62)	(-0.06)	(0.96)
Target × *Negotiation*	0.156	-0.019	0.139**	0.157	0.022	0.115*
	(1.41)	(-0.34)	(2.16)	(1.53)	(0.46)	(1.77)
Target × *Post-announcement*	-0.253	-0.244*	-0.000	-0.008	0.012	-0.029
	(-1.48)	(-1.88)	(-0.00)	(-0.06)	(0.19)	(-0.36)
Size	0.127***	0.050***	0.070***	0.059***	0.031***	0.027**
	(5.68)	(4.96)	(5.00)	(3.29)	(4.57)	(2.01)
Market-to-book	-0.001	-0.002	0.002	-0.000	-0.001	0.001
	(-0.25)	(-1.24)	(0.70)	(-0.01)	(-0.37)	(0.43)
Sales growth	0.066	-0.236	0.208	0.817***	0.004	0.699***
	(0.21)	(-1.25)	(1.04)	(3.02)	(0.04)	(3.62)
ROA	-1.854*	-0.663*	-0.444	-2.099	-0.893	-0.463
	(-1.77)	(-1.66)	(-1.31)	(-1.60)	(-1.60)	(-1.30)
Loss	0.595***	0.242***	0.292***	0.803***	0.272***	0.456***
	(5.86)	(6.06)	(5.32)	(7.66)	(6.24)	(8.42)
Leverage	0.297	0.293***	0.038	0.298	0.319***	-0.032
	(1.20)	(2.80)	(0.22)	(1.40)	(3.33)	(-0.24)
After 123R	0.210	0.037	0.099	0.012	-0.004	0.032
	(1.17)	(0.45)	(0.94)	(0.10)	(-0.07)	(0.52)
After SEC guide	-0.256	-0.149	-0.093	0.209	-0.064	0.266*

	(-1.18)	(-1.08)	(-0.59)	(1.26)	(-0.67)	(1.81)
Constant	-1.339***	-0.496***	-0.762***	-0.573***	-0.389***	-0.185
	(-6.71)	(-5.13)	(-5.83)	(-2.72)	(-3.74)	(-1.53)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	5,064	5,064	5,064	7,664	7,664	7,664
Adj. R-squared	0.149	0.088	0.158	0.190	0.109	0.197

Table 4 presents the regression results for the non-GAAP EPS reporting by M&A target firms and non-M&A matched firms based on whether targets initiate the mergers. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A and B present results for the frequency and magnitude of non-GAAP EPS disclosure, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 5. Non-GAAP earnings disclosure: the role of financial constraint

Panel A: Frequency of non-GAAP earnings disclosure

	High Financial Constraint			Low Financial Constraint		
	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)	(4) Non-GAAP EPS Disclosed (*NGAAP*)	(5) Special Items Excluded (*NGAAP_Special*)	(6) Other Items Excluded (*NGAAP_Other*)
Target	0.090***	0.022	0.094***	0.039	0.003	0.059
	(2.69)	(1.07)	(2.84)	(1.02)	(0.10)	(1.54)
Pre-contact	-0.017	0.003	-0.034	-0.029	-0.009	-0.025
	(-0.67)	(0.17)	(-1.45)	(-1.06)	(-0.35)	(-0.94)
Negotiation	0.013	-0.014	-0.005	-0.064*	-0.026	-0.035
	(0.39)	(-0.61)	(-0.14)	(-1.70)	(-0.85)	(-0.97)
Post-announcement	0.037	0.040	0.016	-0.055	-0.057	-0.016
	(0.77)	(0.98)	(0.33)	(-1.37)	(-1.64)	(-0.40)
Target × Pre-contact	0.010	-0.009	0.009	0.017	-0.011	0.020
	(0.28)	(-0.33)	(0.27)	(0.44)	(-0.32)	(0.56)
Target × Negotiation	0.016	0.032	0.015	0.058	0.051	0.023
	(0.35)	(0.97)	(0.31)	(1.11)	(1.15)	(0.45)
Target × Post-announcement	-0.077	-0.025	-0.068	-0.004	0.132***	-0.008
	(-1.16)	(-0.44)	(-1.07)	(-0.06)	(2.66)	(-0.14)
Size	0.091***	0.040***	0.082***	0.068***	0.067***	0.058***
	(8.62)	(5.82)	(7.91)	(5.51)	(6.45)	(4.64)
Market-to-book	-0.003*	-0.001	-0.003**	-0.003*	-0.005***	-0.003
	(-1.85)	(-0.89)	(-2.22)	(-1.78)	(-2.86)	(-1.54)
Sales growth	-0.143	-0.245***	-0.087	0.020	-0.105	0.117
	(-1.24)	(-3.12)	(-0.77)	(0.14)	(-0.94)	(0.86)
ROA	0.035	-0.036	0.041	-0.548*	-0.258	-0.717**
	(0.59)	(-0.66)	(0.73)	(-1.80)	(-1.02)	(-2.47)
Loss	0.079***	0.075***	0.081***	0.099***	0.107***	0.082***
	(3.29)	(4.52)	(3.42)	(3.19)	(4.04)	(2.70)
Leverage	0.019	0.121	-0.016	0.229**	0.404***	0.178*
	(0.14)	(1.47)	(-0.12)	(2.07)	(4.21)	(1.66)

After 123R	0.030	-0.017	0.044	0.090	0.012	0.071
	(0.48)	(-0.33)	(0.81)	(0.95)	(0.16)	(0.77)
After SEC guide	0.064	-0.225*	0.054	0.128	0.093	0.150
	(0.44)	(-1.73)	(0.36)	(1.16)	(0.87)	(1.47)
Constant	-0.514***	-0.251***	-0.491***	-0.402***	-0.549***	-0.335***
	(-4.45)	(-4.04)	(-4.29)	(-3.00)	(-4.91)	(-2.63)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	4,542	4,542	4,542	4,216	4,216	4,216
Adj. R-squared	0.262	0.105	0.277	0.266	0.193	0.243

Panel B: Magnitude of non-GAAP earnings exclusions

	High Financial Constraint			Low Financial Constraint		
	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*	(4) Total Exclusions *(Excl_Total)*	(5) Special Items *(Excl_Special)*	(6) Other Exclusions *(Excl_Other)*
Target	0.097	0.052	0.064	0.083	0.053*	0.043
	(0.93)	(1.48)	(0.84)	(1.36)	(1.75)	(1.01)
Pre-contact	-0.123*	-0.012	-0.084*	-0.027	-0.002	-0.026
	(-1.69)	(-0.44)	(-1.73)	(-0.47)	(-0.08)	(-0.62)
Negotiation	-0.193**	-0.006	-0.159***	-0.059	-0.046	-0.009
	(-2.29)	(-0.15)	(-2.84)	(-0.70)	(-1.35)	(-0.14)
Post-announcement	-0.023	0.060	-0.091	-0.081	-0.051	-0.031
	(-0.17)	(0.79)	(-1.20)	(-1.12)	(-1.50)	(-0.69)
Target × Pre-contact	0.094	-0.012	0.084	0.063	-0.014	0.056
	(0.86)	(-0.25)	(1.15)	(0.78)	(-0.32)	(1.07)
Target × Negotiation	0.274*	-0.010	0.210**	0.165	0.056	0.069
	(1.76)	(-0.15)	(2.33)	(1.54)	(1.15)	(0.87)
Target × Post-announcement	-0.268	-0.307	0.012	0.070	0.034	0.024
	(-0.96)	(-1.56)	(0.09)	(0.65)	(0.52)	(0.36)
Size	0.110***	0.035**	0.078***	0.091***	0.035***	0.044**
	(3.53)	(2.58)	(3.72)	(3.72)	(3.61)	(2.45)
Market-to-book	-0.002	-0.001	-0.000	0.002	-0.003	0.005
	(-0.40)	(-0.29)	(-0.10)	(0.43)	(-1.14)	(1.02)
Sales growth	0.389	-0.279	0.494*	0.762**	0.198	0.454**
	(0.97)	(-1.34)	(1.85)	(2.54)	(1.38)	(2.34)
ROA	-1.483*	-0.820*	-0.174	-7.321***	-2.696***	-2.260***
	(-1.73)	(-1.75)	(-0.90)	(-4.87)	(-3.82)	(-2.95)
Loss	0.709***	0.205***	0.435***	0.499***	0.213***	0.305***
	(6.94)	(4.50)	(7.56)	(5.86)	(5.01)	(4.71)
Leverage	0.028	0.160	-0.189	0.087	0.211**	-0.040
	(0.07)	(1.12)	(-0.75)	(0.43)	(2.22)	(-0.30)
After 123R	0.264**	0.104	0.082	-0.061	-0.045	-0.034
	(1.99)	(1.55)	(1.11)	(-0.40)	(-0.84)	(-0.29)
After SEC guide	0.075	-0.284	0.315	-0.060	-0.015	-0.007

	(0.18)	(-1.52)	(0.88)	(-0.27)	(-0.12)	(-0.05)
Constant	-0.825***	-0.256**	-0.662***	-1.003***	-0.469***	-0.488***
	(-2.88)	(-2.04)	(-3.36)	(-4.82)	(-4.09)	(-3.45)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	4,542	4,542	4,542	4,216	4,216	4,216
Adj. R-squared	0.152	0.078	0.198	0.252	0.161	0.213

Table 5 presents the regression results for the non-GAAP EPS reporting by M&A target firms based on whether targets have financial constraints. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A and B present results for the frequency and magnitude of non-GAAP EPS disclosure, respectively. SA-index is used as the proxy for financial constraint. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 6. Trade-off between non-GAAP earnings disclosure and earnings management

Panel A: Frequency of non-GAAP earnings disclosure

	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)
Target	0.056**	0.026	0.063**
	(2.17)	(1.28)	(2.48)
Pre-contact	-0.014	-0.006	-0.011
	(-0.87)	(-0.45)	(-0.74)
Negotiation	-0.008	-0.024	-0.006
	(-0.34)	(-1.34)	(-0.28)
Post-announcement	-0.013	-0.032	0.006
	(-0.47)	(-1.30)	(0.23)
Target × Pre-contact	0.018	0.013	0.004
	(0.77)	(0.62)	(0.16)
Target × Negotiation	0.011	0.036	-0.005
	(0.35)	(1.41)	(-0.16)
Target × Post-announcement	-0.035	0.056	-0.034
	(-0.89)	(1.65)	(-0.87)
Size	0.082***	0.066***	0.068***
	(12.79)	(12.43)	(10.58)
Market-to-book	-0.003**	-0.003**	-0.003***
	(-2.21)	(-2.57)	(-2.63)
Sales growth	-0.101	-0.262***	0.007
	(-1.19)	(-3.77)	(0.08)
ROA	0.135***	0.068	0.086*
	(2.60)	(1.55)	(1.75)
Loss	0.104***	0.087***	0.107***
	(5.52)	(6.09)	(5.83)
Leverage	0.244***	0.401***	0.164*
	(2.73)	(5.56)	(1.93)
After 123R	0.090*	0.049	0.084**
	(1.94)	(1.38)	(1.99)
After SEC guide	0.055	-0.012	0.042
	(0.74)	(-0.16)	(0.65)
Abnormal accruals	-0.367***	-0.250***	-0.300***
	(-5.38)	(-4.16)	(-4.47)
Real activity manipulation	-0.004	-0.008	0.001
	(-0.71)	(-1.58)	(0.16)
Constant	-0.494***	-0.408***	-0.346***
	(-4.46)	(-4.25)	(-5.03)
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	11,000	11,000	11,000
Adj. R-squared	0.233	0.171	0.214

Panel B: Magnitude of non-GAAP earnings exclusions

	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*
Target	0.101*	0.061***	0.044
	(1.96)	(2.87)	(1.16)
Pre-contact	-0.028	0.006	-0.042*
	(-0.78)	(0.33)	(-1.66)
Negotiation	-0.106**	-0.013	-0.085***
	(-2.23)	(-0.59)	(-2.65)
Post-announcement	-0.022	-0.013	-0.025
	(-0.30)	(-0.42)	(-0.53)
Target × Pre-contact	0.040	-0.020	0.058
	(0.70)	(-0.72)	(1.61)
Target × Negotiation	0.107	-0.023	0.112**
	(1.30)	(-0.57)	(2.27)
Target × Post-announcement	-0.104	-0.097	-0.002
	(-0.89)	(-1.36)	(-0.03)
Size	0.071***	0.032***	0.039***
	(4.83)	(5.06)	(3.97)
Market-to-book	0.000	-0.001	0.002
	(0.14)	(-0.59)	(0.80)
Sales growth	0.671***	-0.097	0.602***
	(2.91)	(-0.81)	(3.84)
ROA	-1.015	-0.378	-0.178
	(-1.05)	(-0.99)	(-0.64)
Loss	0.748***	0.270***	0.403***
	(9.20)	(8.36)	(9.21)
Leverage	0.264	0.303***	-0.017
	(1.47)	(3.84)	(-0.14)
After 123R	0.096	0.035	0.041
	(0.90)	(0.68)	(0.72)
After SEC guide	0.109	-0.066	0.138
	(0.74)	(-0.69)	(1.10)
Abnormal accruals	-3.732***	-1.480***	-1.337***
	(-10.40)	(-8.68)	(-7.09)
Real activity manipulation	-0.000	-0.013	0.007
	(-0.00)	(-1.32)	(0.57)
Constant	-0.715***	-0.289***	-0.357***
	(-5.54)	(-3.98)	(-4.00)
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	11,000	11,000	11,000
Adj. R-squared	0.193	0.108	0.180

Table 6 presents the analysis for the trade-off between non-GAAP earnings disclosure and earnings management. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A and B present results for the frequency and magnitude of non-GAAP EPS disclosure, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 7. Robustness test: Magnitude of non-GAAP earnings disclosure for the sample of non-GAAP EPS disclosing firms only

Panel A: All M&A targets

	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*
Target	0.031	0.035	0.020
	(0.48)	(1.27)	(0.45)
Pre-contact	0.020	0.016	-0.007
	(0.42)	(0.67)	(-0.21)
Negotiation	-0.042	0.008	-0.058
	(-0.74)	(0.26)	(-1.38)
Post-announcement	0.078	0.016	0.034
	(0.89)	(0.41)	(0.59)
Target × *Pre-contact*	0.072	-0.015	0.077*
	(1.02)	(-0.42)	(1.73)
Target × *Negotiation*	0.211**	0.023	0.153**
	(2.17)	(0.51)	(2.45)
Target × *Post-announcement*	-0.107	-0.053	-0.045
	(-0.83)	(-0.70)	(-0.59)
Controls	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	9,118	9,118	9,118
Adj. R-squared	0.282	0.171	0.220

Panel B: Initiating targets versus non-initiating targets

	Initiating targets			Non-initiating targets		
	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*	(4) Total Exclusions *(Excl_Total)*	(5) Special Items *(Excl_Special)*	(6) Other Exclusions *(Excl_Other)*
Target	-0.043	0.062	-0.101	0.046	0.007	0.080
	(-0.46)	(1.51)	(-1.54)	(0.62)	(0.22)	(1.44)
Pre-contact	-0.100	0.030	-0.135***	0.081	0.003	0.069*
	(-1.18)	(0.74)	(-2.65)	(1.49)	(0.12)	(1.73)
Negotiation	-0.232***	-0.041	-0.157***	0.095	0.052	0.004
	(-2.90)	(-0.98)	(-2.70)	(1.19)	(1.26)	(0.07)
Post-announcement	0.142	0.068	0.031	0.055	-0.009	0.042
	(0.88)	(0.78)	(0.35)	(0.59)	(-0.24)	(0.62)
Target × Pre-contact	0.079	-0.061	0.123*	0.091	0.021	0.058
	(0.72)	(-1.05)	(1.89)	(1.05)	(0.50)	(1.00)
Target × Negotiation	0.298**	0.041	0.193**	0.187	0.018	0.147*
	(2.14)	(0.68)	(2.16)	(1.40)	(0.29)	(1.74)
Target × Post-announcement	-0.253	-0.199	-0.024	-0.003	0.038	-0.052
	(-1.20)	(-1.28)	(-0.23)	(-0.02)	(0.50)	(-0.52)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	3,448	3,448	3,448	5,670	5,670	5,670
Adj. R-squared	0.277	0.175	0.206	0.321	0.204	0.255

Table 7 presents the regression results for the magnitude of non-GAAP EPS reporting using the sample of firms which have disclosed non-GAAP EPS at least once during the merger process and the benchmark period. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A presents results for the magnitude of non-GAAP EPS disclosure for all M&A targets. Panel B presents results for the magnitude of non-GAAP EPS disclosure for initiating targets and non-initiating targets. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 8. Robustness test: Matching between initiating targets and non-initiating targets

Panel A: Frequency of non-GAAP earnings disclosure

	Initiating targets			Non-initiating targets		
	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)	(4) Non-GAAP EPS Disclosed (*NGAAP*)	(5) Special Items Excluded (*NGAAP_Special*)	(6) Other Items Excluded (*NGAAP_Other*)
Target	0.002	0.006	-0.008	0.021	0.029	0.039
	(0.05)	(0.19)	(-0.20)	(0.49)	(0.91)	(0.93)
Pre-contact	-0.033	-0.005	-0.060*	-0.029	-0.014	-0.003
	(-1.00)	(-0.17)	(-1.92)	(-0.96)	(-0.57)	(-0.11)
Negotiation	-0.041	-0.037	-0.039	-0.034	-0.035	-0.005
	(-0.99)	(-1.09)	(-0.95)	(-0.74)	(-1.02)	(-0.12)
Post-announcement	-0.021	-0.066	0.032	-0.017	0.019	0.011
	(-0.41)	(-1.37)	(0.63)	(-0.39)	(0.45)	(0.25)
Target × *Pre-contact*	0.042	0.012	0.060	0.036	0.004	0.019
	(1.00)	(0.38)	(1.46)	(0.87)	(0.10)	(0.50)
Target × *Negotiation*	0.082	0.063	0.066	0.029	0.067	-0.027
	(1.49)	(1.36)	(1.18)	(0.47)	(1.37)	(-0.44)
Target × *Post-announcement*	0.023	0.078	-0.016	0.000	0.056	0.004
	(0.31)	(1.20)	(-0.20)	(0.00)	(0.92)	(0.06)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	3,396	3,396	3,396	3,264	3,264	3,264
Adj. R-squared	0.337	0.233	0.306	0.258	0.203	0.240

Panel B: Magnitude of non-GAAP earnings exclusions

	Initiating targets			Non-initiating targets		
	(1)	(2)	(3)	(4)	(5)	(6)
	Total Exclusions *(Excl_Total)*	Special Items *(Excl_Special)*	Other Exclusions *(Excl_Other)*	Total Exclusions *(Excl_Total)*	Special Items *(Excl_Special)*	Other Exclusions *(Excl_Other)*
Target	-0.030	0.059	-0.080	0.039	0.023	0.035
	(-0.34)	(1.57)	(-1.31)	(0.37)	(0.57)	(0.49)
Pre-contact	-0.150*	0.020	-0.179***	-0.094	-0.039	-0.037
	(-1.81)	(0.60)	(-3.56)	(-1.14)	(-1.05)	(-0.73)
Negotiation	-0.263***	-0.025	-0.193***	-0.231**	-0.068	-0.148**
	(-3.31)	(-0.65)	(-3.59)	(-2.22)	(-1.34)	(-2.29)
Post-announcement	0.024	0.000	-0.035	-0.093	-0.002	-0.073
	(0.17)	(0.00)	(-0.44)	(-1.00)	(-0.05)	(-1.23)
Target × *Pre-contact*	0.158	-0.020	0.162***	0.143	0.045	0.082
	(1.50)	(-0.39)	(2.61)	(1.28)	(0.90)	(1.17)
Target × *Negotiation*	0.212	-0.013	0.150*	0.296**	0.125	0.169*
	(1.54)	(-0.24)	(1.85)	(1.98)	(1.58)	(1.89)
Target × *Post-announcement*	-0.356*	-0.307**	0.010	0.245	0.044	0.163
	(-1.79)	(-2.17)	(0.11)	(1.21)	(0.40)	(1.50)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	3,396	3,396	3,396	3,264	3,264	3,264
Adj. R-squared	0.167	0.103	0.183	0.241	0.158	0.231

Table 8 presents the regression results for the non-GAAP EPS reporting by M&A target firms and non-M&A matched firms after matching initiating targets with non-initiating targets. Initiating targets and non-initiating targets are matched based on the same industry, the closest firm size and firm performance before mergers. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Panel A and B present results for frequency and magnitude of non-GAAP EPS disclosure, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 9. Robustness test: Non-GAAP earnings disclosure of initiating targets versus non-initiating targets with earnings management control variables

Panel A: Frequency of non-GAAP earnings disclosure

	Initiating targets			Non-initiating targets		
	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)	(4) Non-GAAP EPS Disclosed (*NGAAP*)	(5) Special Items Excluded (*NGAAP_Special*)	(6) Other Items Excluded (*NGAAP_Other*)
Target	0.037	0.028	0.026	0.071**	0.027	0.089***
	(0.98)	(0.93)	(0.68)	(2.25)	(1.12)	(2.85)
Pre-contact	-0.029	-0.007	-0.046*	-0.007	-0.008	0.011
	(-1.08)	(-0.33)	(-1.78)	(-0.36)	(-0.42)	(0.60)
Negotiation	-0.034	-0.039	-0.033	0.004	-0.019	0.007
	(-1.01)	(-1.34)	(-0.97)	(0.13)	(-0.79)	(0.23)
Post-announcement	-0.007	-0.059	0.022	-0.014	-0.018	0.005
	(-0.16)	(-1.43)	(0.49)	(-0.41)	(-0.60)	(0.15)
Target × *Pre-contact*	-0.007	-0.015	0.010	0.032	0.028	-0.001
	(-0.17)	(-0.48)	(0.28)	(1.11)	(1.08)	(-0.05)
Target × *Negotiation*	0.019	0.035	0.019	0.011	0.035	-0.015
	(0.39)	(0.90)	(0.38)	(0.25)	(1.03)	(-0.35)
Target × *Post-announcement*	-0.056	0.042	-0.062	-0.028	0.061	-0.026
	(-0.83)	(0.71)	(-0.87)	(-0.59)	(1.49)	(-0.56)
Abnormal accruals	-0.310***	-0.272***	-0.244**	-0.397***	-0.242***	-0.334***
	(-3.10)	(-3.39)	(-2.46)	(-4.27)	(-2.80)	(-3.71)
Real activity manipulation	-0.006	-0.009	-0.002	-0.002	-0.007	0.004
	(-0.73)	(-1.45)	(-0.24)	(-0.19)	(-0.96)	(0.53)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	3,525	3,525	3,525	6,650	6,650	6,650
Adj. R-squared	0.299	0.240	0.259	0.241	0.207	0.208

Panel B: Magnitude of non-GAAP earnings exclusions

	Initiating targets			Non-initiating targets		
	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*	(4) Total Exclusions *(Excl_Total)*	(5) Special Items *(Excl_Special)*	(6) Other Exclusions *(Excl_Other)*
Target	-0.035	0.060	-0.083	0.193***	0.069***	0.118**
	(-0.47)	(1.63)	(-1.52)	(2.96)	(2.69)	(2.40)
Pre-contact	-0.056	0.031	-0.105**	0.028	0.000	0.014
	(-0.80)	(1.00)	(-2.37)	(0.63)	(0.02)	(0.44)
Negotiation	-0.119	-0.023	-0.096*	-0.045	0.009	-0.063
	(-1.56)	(-0.69)	(-1.77)	(-0.67)	(0.27)	(-1.48)
Post-announcement	0.089	0.013	0.021	-0.026	-0.033	-0.011
	(0.70)	(0.19)	(0.33)	(-0.30)	(-1.21)	(-0.18)
Target × Pre-contact	0.078	-0.044	0.100*	0.024	-0.010	0.046
	(0.81)	(-0.88)	(1.81)	(0.33)	(-0.27)	(0.98)
Target × Negotiation	0.082	-0.092	0.142*	0.124	-0.007	0.130**
	(0.59)	(-1.34)	(1.73)	(1.14)	(-0.13)	(2.00)
Target × Post-announcement	-0.391*	-0.371**	0.025	-0.012	0.015	-0.030
	(-1.86)	(-2.15)	(0.28)	(-0.09)	(0.22)	(-0.34)
Abnormal accruals	-3.230***	-1.350***	-0.999***	-3.849***	-1.459***	-1.507***
	(-5.38)	(-5.21)	(-3.31)	(-8.39)	(-6.25)	(-6.00)
Real activity manipulation	0.009	-0.006	0.001	0.002	-0.014	0.017
	(0.33)	(-0.58)	(0.06)	(0.07)	(-1.04)	(0.98)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
N	3,525	3,525	3,525	6,650	6,650	6,650
Adj. R-squared	0.172	0.116	0.154	0.229	0.135	0.215

Table 9 presents the regression results for the non-GAAP EPS reporting by initiating targets and non-initiating targets controlling for earnings management variables. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. Panel A and B present results for the frequency and magnitude of non-GAAP EPS disclosure, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Appendix A. Variable Definitions

Variable	Definition	Source
Panel A: Non-GAAP earnings disclosure		
NGAAP	An indicator variable that equals 1 if managers disclose non-GAAP EPS when announcing quarterly earnings, and 0 otherwise. Set to 0 if acquisition/merger special item is the only exclusion.	Compustat, Bentley et al. (2018)
Excl_Total	Non-GAAP earnings less GAAP earnings. Further adjusted by subtracting acquisition/merger special item. Set to zero for firms without non-GAAP EPS disclosure.	Compustat, Bentley et al. (2018)
NGAAP_Special	An indicator variable that equals 1 if managers exclude special items when calculating non-GAAP earnings, and 0 otherwise. Set to 0 if acquisition/merger special item is the only special item excluded.	Compustat
Excl_Special	Operating income less GAAP earnings.. Further adjusted by subtracting acquisition/merger special item. Set to zero for firms without non-GAAP EPS disclosure.	Compustat
NGAAP_Other	An indicator variable that equals 1 if managers exclude items other than special items when calculating non-GAAP EPS, and 0 otherwise.	Compustat, Bentley et al. (2018)
Excl_Other	Non-GAAP earnings less operating income. Set to zero for firms without non-GAAP EPS disclosure.	Compustat, Bentley et al. (2018)
Panel B: M&A deal characteristics		
Target	An indicator variable that equals 1 if a firm is an M&A target, and 0 otherwise.	SDC
Pre-contact	An indicator variable that equals one for the four fiscal quarters that are reported before the initiation date of the M&A process (i.e. before private negotiation), and 0 otherwise.	SEC filings
Negotiation	An indicator variable that equals 1 for the fiscal quarter that is reported between the initiation date of the M&A process and public announcement date of the deal (i.e. private negotiation stage), and 0 otherwise.	SEC filings, SDC
Post-announcement	An indicator variable that equals 1 for the fiscal quarters that are reported between the public announcement date of the deal and the completion date (i.e. after private negotiation), and 0 otherwise.	SDC
M&A process	An indicator variable that equals 1 if *Pre-contact*, *Negotiation*, or *Post-announcement* equals to 1, and 0 otherwise.	SEC filings, SDC

Target × Pre-contact	An interaction variable of *Target* and *Pre-contact*.	SEC filings, SDC
Target × Negotiation	An interaction variable of *Target* and *Negotiation*.	SEC filings, SDC
Target × Post-announcement	An interaction variable of *Target* and *Post-announcement*.	SEC filings, SDC
Target × M&A process	An interaction variable of *Target* and *M&A process*.	SEC filings, SDC
Panel C: Acquirer/Target firm characteristics		
Size	Natural logarithm of total assets at the end of the fiscal quarter.	Compustat
Market-to-book	Market-to-book ratio in the fiscal quarter, calculated as the market value of equity divided by the book value of equity at the end of the quarter.	Compustat
Tobin's Q	The market value of assets divided by the book value of assets at the end of the quarter. The market value of assets is calculated as the book value of total assets – book value of equity + market value of equity.	Compustat
Sales growth	Sales in quarter q less sales in quarter q–4, divided by total assets.	Compustat
ROA	Return on assets in the fiscal quarter, calculated as income before depreciation and amortization for this quarter scaled by total assets at the beginning of the quarter.	Compustat
Loss	An indicator variable that equals 1 if a firm reports negative net income in a fiscal quarter, and 0 otherwise.	Compustat
Leverage	Long-term debt and debt in current liabilities divided by total assets at the end of the quarter.	
After 123R	An indicator variable that equals to 1 if earnings announcement year was in 2006 when SFAS 123R became effective, or later, and 0 otherwise.	Compustat
After SEC guide	An indicator variable that equals 1 if earnings announcement year was in 2010 when the SEC issued additional interpretive guidance about non-GAAP reporting, or later, and 0 otherwise.	Compustat
Abnormal accruals	Refer to Chapter 2 Appendix A	Compustat
Real activity manipulation	Refer to Chapter 2 Appendix A	Compustat
Acquisition/Merger	Acquisition/Merger diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
Gain/Loss on sale of assets	Gain/Loss on Sale of Assets diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat

Goodwill impairment	Impairment of Goodwill diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
Settlement	Settlement (Litigation/Insurance) diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
Restructuring	Restructuring diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
Write-downs	Write-downs diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
Debt extinguishment	Extinguishment of Debt diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
In-process R&D	In-Process Research & Development diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
Other	Other Special Items diluted EPS effect (quarterly) multiplied by -100 times the number of diluted shares outstanding and divided by total assets. Set to zero if missing.	Compustat
SA-index	-0.737 × Size + 0.043 × Size^2 - 0.04 × Age (Hadlock and Pierce, 2010).	Compustat

Appendix B. Matching effectiveness between M&A target firms and non-M&A matched firms

See Table B1.

Table B1. Matching effectiveness (propensity-score-matched)

	M&A targets			Non-M&A matched firms			*t*-test		Wilcoxon	
Variables	**N**	**Mean**	**Median**	**N**	**Mean**	**Median**	**Diff. in means**	***t*-stat**	**Diff. in medians**	***z*-stat**
Size	688	5.997	5.861	688	6.019	6.000	-0.022	-0.22	-0.139	0.46
Market-to-book	688	3.241	2.306	688	3.169	2.235	0.072	0.22	0.071	-1.10
Sales growth	688	0.018	0.014	688	0.018	0.014	0.000	-0.07	0.000	-0.27
ROA	688	-0.009	0.007	688	-0.005	0.009	-0.004	-1.12	-0.002	2.33
Loss	688	0.368	0.000	688	0.311	0.000	0.057**	2.22	0.000	-2.22
Leverage	688	0.201	0.124	688	0.191	0.151	0.010	0.89	-0.027	0.11

Table B1 presents the comparison of the matching variables for M&A targets and non-M&A matched firms in the matching quarter. M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Appendix C. Validation of the parallel trend assumption

See Table C1.

Table C1. Validation of the parallel trend assumption

Panel A: Frequency of non-GAAP earnings reporting by M&A target firms

	(1) Non-GAAP EPS Disclosed (*NGAAP*)	(2) Special Items Excluded (*NGAAP_Special*)	(3) Other Items Excluded (*NGAAP_Other*)
Target × Benchmark (T-3)	0.040	0.021	0.040
	(1.51)	(1.05)	(1.54)
Target × Benchmark (T-2)	0.059**	0.035*	0.061**
	(2.44)	(1.89)	(2.57)
Target × Pre-contact	0.057***	0.032**	0.052***
	(3.19)	(2.26)	(2.93)
Target × Negotiation	0.052**	0.038**	0.040*
	(2.21)	(2.02)	(1.74)
Target × Post-announcement	0.024	0.064***	0.041
	(0.87)	(2.83)	(1.51)
Controls	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	12,728	12,728	12,728
Adj. R-squared	0.228	0.166	0.209

Panel B: Magnitude of non-GAAP exclusions used by M&A target firms

	(1) Total Exclusions *(Excl_Total)*	(2) Special Items *(Excl_Special)*	(3) Other Exclusions *(Excl_Other)*
Target × Benchmark (T-3)	0.056	0.039	0.041
	(0.95)	(1.32)	(1.00)
Target × Benchmark (T-2)	0.094*	0.039	0.060*
	(1.78)	(1.53)	(1.67)
Target × Pre-contact	0.099**	0.026	0.074**
	(2.36)	(1.49)	(2.56)
Target × Negotiation	0.122*	0.023	0.089**
	(1.91)	(0.79)	(2.28)
Target × Post-announcement	-0.018	-0.049	0.023
	(-0.24)	(-0.87)	(0.63)
Controls	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes
N	12,728	12,728	12,728
Adj. R-squared	0.159	0.086	0.165

Table C1 presents the results for the validation of the parallel trend assumption. The models used here are similar to those in Table 2 and 3 but include the benchmark period as indicator variables for the third year and the second year before the M&A process (with the first year before the M&A process as the omitted group).

Appendix D. Types of special items reported by M&A target firms

See Table D1.

Table D1. Types of special items reported in M&A target firms' financial statements

	(1) Acquisition /Merger	(2) Gain/Loss on sale of assets	(3) Goodwill impairment	(4) Settlement	(5) Restructuring	(6) Write-downs	(7) Debt extinguishment	(8) In-process R&D	(9) Other
Target	0.011*	-0.009	0.053	0.023**	-0.000	0.007	-0.036	0.034**	0.002
	(1.78)	(-0.62)	(1.13)	(2.55)	(-0.01)	(0.67)	(-1.03)	(2.54)	(0.20)
Pre-contact	-0.001	-0.002	0.035	0.010	-0.013	-0.005	-0.008	0.016*	0.001
	(-0.21)	(-0.11)	(0.64)	(1.05)	(-1.07)	(-0.33)	(-1.08)	(1.65)	(0.09)
Negotiation	0.004	-0.002	-0.012	0.006	-0.009	-0.006	-0.004	0.016	0.005
	(0.74)	(-0.10)	(-0.28)	(0.57)	(-0.59)	(-0.37)	(-0.50)	(1.62)	(0.51)
Post-announcement	0.021***	0.010	0.081	0.013*	0.022	0.054	-0.008	0.015	0.006
	(2.80)	(0.84)	(1.42)	(1.77)	(0.82)	(1.03)	(-0.46)	(1.21)	(0.42)
Target × Pre-contact	-0.002	-0.013	-0.012	-0.018	0.016	0.020	0.059*	-0.039**	0.012
	(-0.23)	(-0.57)	(-0.16)	(-1.18)	(0.95)	(0.87)	(1.66)	(-2.29)	(0.56)
Target × Negotiation	0.005	0.009	0.120	0.003	0.060**	0.019	0.030	-0.045**	-0.017
	(0.31)	(0.35)	(0.74)	(0.06)	(2.28)	(0.79)	(0.83)	(-2.57)	(-1.06)
Target × Post-announcement	0.205***	0.009	-0.070	-0.038**	-0.019	0.104	0.022	-0.045**	0.021
	(4.66)	(0.55)	(-0.69)	(-2.49)	(-0.64)	(0.91)	(0.56)	(-2.42)	(0.70)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	12,723	12,723	12,723	12,723	12,723	12,723	12,723	12,723	12,723
Adj. R-squared	0.040	0.012	0.047	0.014	0.042	0.024	0.010	0.020	0.012

Table D1 presents the regression results for the different types of special items reported by M&A target firms during the M&A process. The sample consists of firm-quarters over periods of the benchmark, pre-contact, negotiation and post-announcement (pseudo, for non-M&A matched firms). The benchmark period consists of 12 quarters before the pre-contact period. The benchmark period consists of 12 quarters before the pre-contact period. Non-M&A matched firms are firms which do not involve in any merger and are matched with target firms in the same industry and fiscal year-quarter, and with the closest firm size, financial performance, growth, and leverage in the quarter before the initiation of the merger. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Chapter 4

Effects of M&A Target Firms' Strategic Financial Reporting on M&A Outcomes

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Abstract

The study investigates the consequences of M&A target firms' GAAP earnings management and strategic non-GAAP earnings disclosures. In terms of GAAP earnings management, the study finds that initiating target firms' earnings management before the M&A announcement is associated with lower M&A offer premium and is positively (negatively) associated with targets' (acquirers') M&A announcement returns, which suggests that successfully reaching M&A agreements benefits initiating target firms that have engaged in GAAP earnings management. In terms of non-GAAP earnings disclosures, the study finds that target firms can improve their stock prices and attract more potential acquirers' interest during M&A negotiations by using non-GAAP earnings disclosures strategically. However, the study also shows that target firms receive a lower offer premium and lower M&A announcement returns when their non-GAAP disclosures are more aggressive. In summary, the study provides evidence of the benefits and the costs for M&A target firms' strategic financial reporting and sheds light on the role of target firms' mandatory financial reporting quality and non-GAAP earnings disclosures in M&As with implications for regulations.

Keywords: M&A target firms; Earnings management; Non-GAAP earnings disclosure; Stock prices; Auction; Offer premium, M&A announcement returns

4.1 Introduction

Chapter 2 and Chapter 3 investigate whether and how M&A target firms strategically manage GAAP earnings and non-GAAP earnings during the M&A process. Specifically, Chapter 2 provides evidence of GAAP earnings management by (initiating) target firms and Chapter 3 provides evidence of strategic non-GAAP earnings disclosures by target firms. However, it is not clear whether the target firms' strategic financial reporting will ultimately affect M&A negotiations and associated outcomes. The study in Chapter 4 thus investigates the consequences of M&A target firms' GAAP earnings management and strategic non-GAAP earnings disclosures.

I first examine the association of target firms' GAAP earnings management with target firms' stock prices and M&A outcomes using the full sample of all target firms and subsamples of initiating and non-initiating target firms. First, I find that the extent of target firms' accrual-based and real activity earnings management before the M&A announcement is not associated with M&A target firms' daily average abnormal returns. Second, I find no evidence that the extent of target firms' accrual-based and real activity earnings management before the M&A announcement is associated with the likelihood of an M&A auction. Third, I do find that the extent of target firms' accrual-based earnings management before the M&A announcement is negatively associated with the M&A offer premium. More importantly, this result is only driven by initiating target firms. Fourth, I find that the extent of target firms' real activity earnings management before the M&A announcement is positively associated with targets' cumulative abnormal returns in the three-day window centered around the M&A announcement, and this result concentrated in initiated target firms. I also find that the initiating target firms' accrual-based earnings management before the M&A announcement is negatively associated with acquirers' cumulative abnormal returns in the three-day window centered around the M&A announcement. Collectively, the results suggest that target firms, especially those that initiate M&As, will receive a lower offer premium due to their earnings management. However, the market rewards initiating target firms with higher announcement returns and penalizes acquirers with lower announcement returns, suggesting that successfully reaching M&A agreements benefits initiating target firms that have engaged in GAAP earnings management.

I next examine the impact of target firms' non-GAAP earnings disclosures on target firms' stock prices and M&A outcomes. First, I find that M&A target firms' daily average abnormal returns are positively associated with target firms' average total non-GAAP exclusions and average "other item" exclusions during the negotiation period. These findings suggest that M&A target firms may benefit from higher stock prices by using more aggressive non-GAAP disclosures. Second, I examine whether M&A target firms make themselves more attractive to potential acquirers by presenting better financial performance using non-GAAP earnings disclosures. My findings indicate a higher likelihood of an M&A auction when target firms use higher total non-GAAP exclusions and higher other item exclusions during the negotiation period. Third, I show that target firms receive a lower offer premium when their non-GAAP disclosures are more aggressive before the M&A announcement, consistent with acquiring firms with access to financial records understanding target firm values better than investors without such access. Fourth, I find that targets' (acquirers') cumulative abnormal returns in the three-day window centered around the M&A announcement are lower (higher) when target firms' average total non-GAAP exclusions and average other item exclusions before the M&A announcement are higher. Collectively, these findings suggest that target firms improve their stock prices and make themselves more attractive during the M&A negotiation by using non-GAAP disclosures strategically, net of the cost of a lower offer premium provided by informed acquirers.

The study makes several contributions to related literature. First, it sheds light on the role of target firms' mandatory financial reporting quality in M&As. Whereas the extant literature finds that target firms' accounting quality is associated with acquirers' bidding decisions and has implications for shareholders' welfare (Amel-Zadeh and Zhang, 2015; Marquardt and Zur, 2015; McNichols and Stubben, 2015; Raman, Shivakumar, and Tamayo, 2013; Skaife and Wangerin, 2013), Essay 3 disentangles target firms' incentives for mergers based on the information on deal initiation and shows that prior results are mostly driven by initiating target firms' earnings management. It also furthers our understanding of the determinants of target firms' financial reporting quality in the M&A setting.

Second, the study adds to the literature of M&As and non-GAAP disclosures by documenting the effects of strategic non-GAAP earnings disclosures by target firms on M&A pricing. My findings provide evidence that target firms' non-GAAP disclosures are used both by investors prior to the M&A announcement and by acquirers in determining whether to bid, target firms' valuations and informed offer prices, thus extending prior findings on the effect of non-GAAP disclosure in IPO pricing (Brown, Christensen, Menini, and Steffen, 2018).

Third, my findings have implications for the regulation of non-GAAP disclosures. In particular, my results show that target firms' strategic non-GAAP disclosures mislead non-professional investors when they do not understand target firms' accounting, whereas acquirers, as sophisticated investors with access to target firm financial records, are able to see through target firms' opportunistic non-GAAP reporting strategies with determining offer prices. As such, these results indicate that more stringent regulation of non-GAAP disclosures may be warranted to level the playing field for all investors.

The chapter proceeds as follows. Section 4.2 reviews the related literature. Section 4.3 outlines the research design. Section 4.4 discusses the empirical results related to the effects of target firms' earnings management. Section 4.5 discusses the empirical results related to the effects of target firms' non-GAAP earnings disclosure. Section 4.6 concludes.

4.2 Related Literature

4.2.1 Target firms' accounting quality in M&As

Recent studies investigate the role of target firms' accounting information in the M&A market (Amel-Zadeh and Zhang, 2015; Marquardt and Zur, 2015; McNichols and Stubben, 2015; Raman et al., 2013; Skaife and Wangerin, 2013). Several papers use Dechow and Dichev (2002)'s unsigned measure of accruals to capture accounting/earnings quality. Raman et al. (2013) examine the relationship between target firms' earnings quality and acquirers' takeover decisions. They show that acquirers prefer friendly negotiations, offer higher bid premiums, and pay a higher percentage of equity in deals involving target firms with poor earnings quality. These findings also imply that target firms' earnings quality positively affects the possibility of hostile takeovers. Similarly, Marquardt and Zur (2015) find that target firms' accounting quality positively affects the likelihood that an M&A deal is structured as a negotiation rather than as an auction, the likelihood that the proposed deal is ultimately completed, and the speed with which the deal is completed. Using several other measures of accounting quality, Skaife and Wangerin (2013) also provide evidence that acquirers pay higher premiums and the likelihood that deals are renegotiated and terminated increases for target firms with low-quality financial reporting.

In terms of wealth effects of M&As, McNichols and Stubben (2015) find that acquirer returns around the M&A announcement are higher and target returns are lower when target firms have higher earnings quality, consistent with high-quality accounting information reducing uncertainty in the valuation of target firms. But their results suggest that acquirers capture a greater proportion of acquisition gains and target firms with high earnings quality lose some benefits in the M&A deals, to some extent.

All these studies above focus on the consequences of target firms' earnings quality in the M&A market, but they do not distinguish target firms' opportunistic financial reporting from their non-discretionary reporting routine and do not directly link target firms' earnings management with M&A outcomes. This study thus examines the direct association of target firms' earnings management with acquirers' bidding decisions and M&A outcomes.

Moreover, Chapter 2 distinguishes target firms' incentives for M&As by identifying whether target firms initiate the M&A process. Chapter 2 argues that target firms that initiate the M&A process (i.e., "initiating target firms") have stronger incentives for M&As, and provides evidence that initiating target firms engage in GAAP earnings management during the M&A process compared with non-initiating target firms and non-M&A matched firms. The results in Chapter 2 show that target firms' earnings management is concentrated in initiating target firms. This study further explores whether the relationship between target firms' earnings management and M&A outcomes exists only in initiating target firms.

4.2.2 Non-GAAP disclosure and investors' reactions

Prior literature has examined investors' reactions to firms' non-GAAP disclosures recognizing firms' informative and opportunistic motives to disclose non-GAAP earnings. Some studies provide evidence that investors respond to non-GAAP earnings. For instance, Bradshaw and Sloan (2002) and Lougee and Marquardt (2004) provide evidence that non-GAAP earnings are perceived to be more informative by investors, compared to GAAP earnings, particularly when the informativeness of GAAP earnings is low. Moreover, investors do not appear to be misled by non-GAAP reporting (Johnson and Schwartz Jr, 2005), particularly in the post-Reg G period (Chen, 2010; Huang and Skantz, 2016; Zhang and Zheng, 2011).

Other studies, however, show that managers may attempt to influence investors' assessment of firms' performance by disclosing manipulated non-GAAP earnings to meet or beat earnings targets (Bowen, Davis, and Matsumoto, 2005). For example, several studies find that firms may exclude low quality recurring items in non-GAAP earnings disclosures to mislead investors (Bentley, Christensen, Gee, and Whipple, 2018; Doyle, Lundholm, and Soliman, 2003; Kolev, Marquardt, and McVay, 2008). In particular, Doyle, Jennings, and Soliman (2013) show that investors positively value firms' non-GAAP earnings surprise, although investors may discount firms' non-GAAP earnings surprise when firms use low-quality non-GAAP exclusions. This result suggests that the market does not fully understand the firms' opportunistic motives in non-GAAP disclosures.

This study investigates whether and how investors react to target firms' non-GAAP earnings disclosures during the M&A process. The M&A setting has some interesting features that are relevant to firms' non-GAAP disclosure. First, players in the M&A market include not only non-professional investors but also sophisticated investors such as acquirers and financial advisors who provide services to them. Second, the audience of M&A target firms' non-GAAP disclosures includes both target firm and acquirer firm investors who may respond to the non-GAAP disclosures differently and evaluate M&As using these disclosures. It is unknown whether and how different types of investors react to target firms' non-GAAP earnings in complex institutional settings such as M&As. The study thus extends prior literature by examining the role of target firms' non-GAAP earnings disclosures in M&As.

4.3 Research Design

4.3.1 Data

The study uses the data in Chapter 2 and Chapter 3 to test the effects of target firms' GAAP earnings management and non-GAAP earnings disclosures on M&A outcomes, respectively. Note that the sample size may differ due to the data availability in each test.

4.3.2 Measurement of target firms' earnings management

To test the effects of target firms' earnings management on target firms' stock prices and M&A outcomes, I construct three sets of variables to represent the extent of target firms' earnings management. First, I calculate *AEM_pc*, the average of target firms' abnormal accruals in the pre-contact period, and *REM_pc*, the average of target firms' real activity manipulation in the pre-contact period, to represent the extent of target firms' accrual-based earnings management and real activity earnings management, respectively, in the pre-contact period. Second, I calculate *AEM_ne* and *REM_ne*, in a similar way to calculate *AEM_pc* and *REM_pc*, to represent the extent of target firms' accrual-based earnings management and real activity earnings management, respectively, in the negotiation period. Third, I calculate *AEM*, the sum of *AEM_pc* and *AEM_ne*, and *REM*, the sum of *AEM_pc* and *REM_ne*, to represent the extent of target firms' accrual-based earnings management and real activity earnings management, respectively, before the M&A announcement. Abnormal accruals and real activity manipulation are defined in Chapter 2. See Appendix A for detailed variable descriptions.

4.3.3 Measurement of target firms' non-GAAP earnings disclosure

To test the effects of target firms' non-GAAP earnings disclosures on target firms' stock prices and M&A outcomes, I construct three sets of variables to represent the aggressiveness of target firms' non-GAAP earnings disclosures. First, I calculate average total exclusions (*Aver_Excl_Total_pc*), average special item exclusions (*Aver_Excl_Special_pc*), and average other item exclusions (*Aver_Excl_Other_pc*) in the pre-contact period, to represent the aggressiveness of target firms' non-GAAP earnings disclosures, respectively, in the pre-contact period. Second, in a similar way, I calculate average total exclusions (*Aver_Excl_Total_ne*), average special item exclusions (*Aver_Excl_Special_ne*), and average other item exclusions (*Aver_Excl_Other_ne*) in the negotiation period, to represent the aggressiveness of target firms' non-GAAP earnings disclosures, respectively, in the negotiation period. Third, I calculate average total exclusions (*Aver_Excl_Total*), average special item exclusions (*Aver_Excl_Special*), and average other item exclusions (*Aver_Excl_Other*) in both the pre-contact period and the negotiation period, to represent the aggressiveness of target firms' non-GAAP earnings disclosures, respectively, before the M&A announcement. Target firms' total exclusions, special item exclusions, and other item exclusions are defined in Chapter 3. See Appendix A for detailed variable descriptions.

4.3.4 Empirical models

The M&A outcomes considered in this study include the long-window daily average abnormal returns during the M&A process, the likelihood of an M&A auction (i.e., receiving multiple bids), M&A offer premium, and targets' or acquirers' cumulative abnormal returns in the three-day window centered around the M&A announcement.

First, to test whether M&A target firms could use strategic financial reporting to affect their stock prices, I estimate the following OLS model (He, Liu, Netter, and Shu, 2018):

$$Target\_AAR = \gamma_0 + \gamma_1 \, Ind\_Var + \sum \gamma_i \, Controls + \sum \gamma_j \, Industry + \sum \gamma_k \, Year + \varepsilon \quad (1)$$

$Target\_AAR$ represents M&A target firms' daily average abnormal returns.[37] Ind_Var represents the extent of target firms' earnings management and the aggressiveness of target firms' non-GAAP earnings disclosures. I include target firms' size, Tobin's Q, leverage and ROA as control variables. I run the analysis in the pre-contact period and the negotiation period.[38]

Second, to examine whether M&A target firms can indeed make them more attractive and attract more bids using strategic financial reporting, I test whether target firms' strategic financial reporting is associated with the likelihood of auction versus one-on-one negotiation (Marquardt and Zur, 2015; Raman et al., 2013).[39] I estimate the following logistic model:

$$Auction = \gamma_0 + \gamma_1 Ind\_Var + \sum \gamma_i Controls + \sum \gamma_j Industry + \sum \gamma_k Year + \varepsilon \qquad (2)$$

$Auction$ represents whether an M&A deal is structured as an auction. Ind_Var represents the extent of target firms' earnings management and the aggressiveness of target firms' non-GAAP earnings disclosures. The control variables include acquirers' and target firms' size, Tobin's Q, leverage and ROA, and M&A deal characteristics such as the percentage of the stock payment, whether it is a cash-only deal, whether it is a tender offer, whether it is a diversifying deal, and the relative size of targets to acquirers.

Third, I examine whether M&A target firms could negotiate for a higher premium using strategic financial reporting (Raman et al., 2013; Skaife and Wangerin, 2013). Specifically, I test the relationship between target firms' strategic financial reporting and the M&A offer premium using the following OLS model:

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[37] It is not appropriate to use target firms' long-window cumulative abnormal returns because the length of the negotiation process for each M&A deal varies.
[38] See Chapter 2 for the timeline of the M&A process and the definition of each period.
[39] Auction can be either a formal auction process with prescribed procedures or an informal auction where multiple bidders are negotiating with the target firm.

$$Offer\ premium = \gamma_0 + \gamma_1\ Ind\_Var + \sum \gamma_i\ Controls + \sum \gamma_j\ Industry + \sum \gamma_k\ Year + \varepsilon \quad (3)$$

$Offer\ premium$ represents a 4-week offer premium, which is calculated based on the M&A offer price and target firms' stock price four weeks before the M&A announcement. Ind_Var represents the extent of target firms' earnings management and the aggressiveness of target firms' non-GAAP earnings disclosures. The control variables include acquirers' and target firms' size, Tobin's Q, leverage and ROA, and M&A deal characteristics such as the percentage of the stock payment, whether it is a cash-only deal, whether it is a tender offer, whether it is a diversifying deal, the relative size of targets to acquirers, and whether it is structured as an auction.

Fourth, I examine how the market assesses the deal when an M&A is publicly announced (Amel-Zadeh and Zhang, 2015; McNichols and Stubben, 2015). I test the effect of target firms' strategic financial reporting on the market reaction at the M&A announcement, using the following OLS model:

$$CAR3 = \gamma_0 + \gamma_1\ Ind\_Var + \sum \gamma_i\ Controls + \sum \gamma_j\ Industry + \sum \gamma_k\ Year + \varepsilon \quad (4)$$

$CAR3$ represents targets' or acquirers' cumulative abnormal returns in the three-day window centered around the M&A announcement. Ind_Var represents the extent of target firms' earnings management and the aggressiveness of target firms' non-GAAP earnings disclosures. Offer premium is added to the control variables in addition to the control variables in Model (3).

All the analyses are performed at the M&A deal level. Industry (2-digit SIC code) and year fixed effects are included in all the models.[40] See Appendix A for detailed variable descriptions. Tables 1 and 6 present the summary statistics for the variables used in the test of

[40] Year fixed effects are used instead of year-quarter fixed effects because all the analyses are performed at the M&A deal level rather than the year-quarter level.

target firms' earnings management and non-GAAP earnings disclosure, respectively. Due to the unavailability of some variables, the number of observations may differ.

4.4 Effects of target firms' earnings management

Chapter 2 shows that target firms that initiate M&As engage in earnings management before the M&A announcement, but it is not clear whether M&A target firms could influence M&As through earnings management. Now I investigate the impact of target firms' earnings management on target firms' stock prices and M&A outcomes. Since Chapter 2 suggests that target firms' earnings management is concentrated in initiating target firms, I perform all the tests for the full sample, the sample of initiating target firms, and the sample of non-initiating target firms to investigate whether the effects of target firms' earnings management, if any, are observed only for initiating target firms.

4.4.1 Target firms' earnings management and target firms' stock prices

One potential objective for target firms to manage earnings is to influence their stock prices during M&As. I estimate Model (1) to test whether M&A target firms could indeed mislead the market through earnings management to improve their stock prices before the M&A announcement (He et al., 2018). Table 2 Panel A, B, and C present the results of the analysis for the full sample, the sample of initiating target firms, and the sample of non-initiating targe firms, respectively. The results show that target firms' daily average abnormal returns are not associated with target firms' earnings management during the pre-contact period and the negotiation period for all samples, which suggests that the market may unravel target firms' earnings management, if at all.

4.4.2 Target firms' earnings management and the likelihood of M&A auctions

M&A target firms may use earnings management to show better firm performance and to make them more attractive in the M&A market. Hence, I use Model (2) to test whether M&A target firms can attract more bids (i.e., a higher likelihood of auctions during M&A negotiations). Table 3 presents the results of the analysis for the full sample, the sample of initiating target firms, and the sample of non-initiating target firms. The results show that target firms' earnings management is not associated with the likelihood of M&A auctions, suggesting that target firms may not be able to attract more bids through earnings management.

4.4.3 Target firms' earnings management and M&A offer premium

I examine whether M&A target firms' earnings management is associated with M&A offer premium by estimating Model (3). Table 3 presents the results of the analysis for the full sample, the sample of initiating target firms, and the sample of non-initiating target firms. The result suggests that target firms receive a significantly lower offer premium when target firms engage in more accrual-based earnings management, consistent with prior findings (Raman et al., 2013; Skaife and Wangerin, 2013). Moreover, the result adds to prior studies by showing that the significant negative association between target firms' earnings management and M&A offer premium only exists for initiating earnings management.

4.4.4 Target firms' earnings management and market reactions at the M&A announcement

I examine whether target firms' earnings management before the M&A announcement is associated with targets' or acquirers' announcement returns using Model (4) (Amel-Zadeh and Zhang, 2015; McNichols and Stubben, 2015). Table 2 Panel A, B, and C present the results of the analysis for the full sample, the sample of initiating target firms, and the sample of non-initiating target firms, respectively. Panel A shows that targets' cumulative abnormal returns in the three-day window around the M&A announcement are significantly positively associated with target firms' real earnings management while acquirers' announcement returns are not associated with target firms' earnings management. Panel B shows that initiating targets' announcement returns are significantly positively associated with initiating target firms' real earnings management, but acquirers' announcement returns are significantly negatively associated with initiating target firms' accrual-based earnings management. Panel C shows that non-initiating target firms' earnings management is not associated with non-initiating targets' or acquirers' announcement returns. Collectively, these findings suggest that the market penalizes acquirers but rewards initiating target firms that manage earnings before the M&A announcement, which suggests that earnings management is beneficial for initiating target firms if successfully reaching M&A agreements with acquirers.

In summary, initiating target firms' earnings management is associated with several dimensions of M&A outcomes. Initiating target firms may bear the cost of lower M&A offer premium via earnings management. However, as shown by market reactions, initiating target firms' earnings management may be beneficial if it helps initiating target firms successfully reach M&A agreements with acquirers.

4.5 Effects of target firms' non-GAAP earnings disclosures

Chapter 3 suggests that M&A target firms use more aggressive non-GAAP earnings disclosures before the M&A announcement, but it is unknown whether M&A target firms could benefit from and how investors respond to their non-GAAP disclosures. Hence, I investigate the impact of target firms' non-GAAP earnings disclosures on target firms' stock prices and some key M&A outcomes.

4.5.1 Target firms' non-GAAP earnings disclosure and target firms' stock prices

Chapter 3 shows that M&A target firms have incentives to use strategic non-GAAP disclosures to show a rosier picture of their financial performance and to make them more attractive in the M&A market. I estimate Model (1) to test whether M&A target firms could indeed mislead the market using their non-GAAP disclosures and improve their stock prices during the M&As (He et al., 2018). Table 7 presents the results. The results in Panel A show that target firms' daily average abnormal returns are not associated with the average non-GAAP exclusions during the pre-contact period. This is not surprising since there is weak evidence that target firms' non-GAAP disclosures become more aggressive during the pre-contact period in Chapter 3. The results in Panel B show that M&A target firms' daily average abnormal returns are significantly positively associated with target firms' average total non-GAAP exclusions and average other item exclusions during the negotiation period, which suggests that M&A target firms are able to improve their stock prices using strategic non-GAAP earnings disclosures during the negotiation period.

4.5.2 Target firms' non-GAAP earnings disclosure and the likelihood of M&A auctions

I examine whether M&A target firms can indeed make them more attractive and attract more bids using non-GAAP disclosures (Marquardt and Zur, 2015; Raman et al., 2013). Specifically, I estimate Model (2) to test whether target firms' non-GAAP earnings disclosure is associated with the likelihood of an M&A auction versus a one-on-one negotiation. The results in Table 8 show that M&As are more likely to be structured as auctions when target firms use higher total non-GAAP exclusions and higher other item exclusions before the M&A announcement, which suggests that M&A target firms can indeed make them more attractive in the M&A market by using strategic non-GAAP disclosures.

4.5.3 Target firms' non-GAAP earnings disclosure and M&A offer premium

I examine whether M&A target firms could negotiate for a higher premium using strategic non-GAAP disclosures (Raman et al., 2013; Skaife and Wangerin, 2013). Specifically, I test the relationship between target firms' non-GAAP exclusions and the M&A offer premium using Model (3). The results in Table 9 show that target firms receive a significantly lower offer premium when target firms use higher total non-GAAP exclusions and higher other item exclusions before the M&A announcement. This suggests that acquirers may partially see through target firms' strategies and offer an appropriate price after discounting target firms' strategic non-GAAP earnings disclosures. Moreover, although target firms receive a lower premium, they do not necessarily receive negative benefits because their stock prices have been already improved during the negotiation period as shown in Section 4.5.1.

4.5.4 Target firms' non-GAAP earnings disclosure and market reactions at the M&A announcement

I examine how the market assesses the deal when an M&A is publicly announced (Amel-Zadeh and Zhang, 2015; McNichols and Stubben, 2015). I test the effect of target firms' pre-announcement non-GAAP earnings disclosures on market reactions at the M&A announcement, using Model (4). The results in Table 10 show that targets' (acquirers') cumulative abnormal returns in the three-day window centered around the M&A announcement are significantly lower (higher) when target firms' average total non-GAAP exclusions and average other item exclusions before the M&A announcement are higher. A lower targets' three-day cumulative abnormal announcement return suggests that the market might reevaluate targets' pre-announcement non-GAAP earnings with the understanding of their M&A-related incentives after M&As are publicly announced, and revise down targets' stock prices accordingly. A higher acquirers' three-day cumulative abnormal announcement return suggests that the market rewards acquirers, since they partially unravel targets' strategic non-GAAP disclosures and make a good deal at a reasonable price.

In summary, target firms may use non-GAAP earnings disclosures to influence their stock prices and several M&A outcomes. These findings suggest that target firms may benefit from strategic non-GAAP earnings disclosure by improving their stock prices and making themselves more attractive during M&A negotiations. However, target firms may bear the cost of lower M&A offer premiums and lower targets' announcement returns due to their strategic non-GAAP earnings disclosures.[41]

4.6 Conclusions

Chapter 2 and Chapter 3 suggest that target firms, and especially initiating target firms, may manage earnings upward and become more aggressive in non-GAAP earnings disclosures during the M&A process. This study in Chapter 4 complements Chapter 2 and 3 by investigating the effects of M&A target firms' GAAP earnings management and strategic non-GAAP earnings disclosures on target firms' stock prices and other important M&A outcomes.

I first examine the association of target firms' GAAP earnings management with target firms' stock prices and M&A outcomes. I find that the extent of target firms' accrual-based and real activity earnings management before the M&A announcement is not associated with M&A target firms' daily average abnormal returns and not associated with the likelihood of an M&A auction. However, I do find that the extent of target firms' accrual-based earnings management before the M&A announcement is negatively associated with the M&A offer

[41] In an additional test, I calculate the total cumulative abnormal return for each target firm by aggregating their daily abnormal returns before the M&A announcement and the three-day cumulative abnormal announcement return. My result shows that target firms' total cumulative abnormal returns are positively associated with target firms' non-GAAP total (other) exclusions, which suggests a net benefit of strategic non-GAAP disclosures. However, a caveat is that the length of each M&A process is different.

premium, and more importantly, this result is only driven by initiating target firms. Moreover, I find that the extent of initiating target firms' earnings management before the M&A announcement is positively (negatively) associated with targets' (acquirers') three-day M&A announcement returns. These results show that the market rewards initiating target firms with higher announcement returns and penalizes acquirers with lower announcement returns, suggesting that successfully reaching M&A agreements benefits initiating target firms that have engaged in GAAP earnings management.

I next examine the impacts of target firms' non-GAAP earnings disclosures on target firms' stock prices and M&A outcomes. I find that M&A target firms may benefit from more aggressive non-GAAP disclosures by improving their stock prices during M&A negotiations. Moreover, M&A target firms make themselves more attractive to potential acquirers, as indicated by a higher likelihood of an M&A auction, by presenting better financial performance using non-GAAP earnings disclosures. However, I show that target firms receive a lower offer premium when their non-GAAP disclosures are more aggressive before the M&A announcement, and that targets' (acquirers') three-day M&A announcement returns are lower (higher) when target firms are more aggressive in non-GAAP earnings disclosure. These findings suggest that target firms may improve their stock prices and make themselves more attractive during the M&A negotiation by using non-GAAP disclosures strategically, net of the cost of a lower offer premium provided by informed acquirers.

The study furthers our understanding of the determinants of target firms' financial reporting quality in M&As and sheds light on the role of target firms' financial reporting quality in M&As by showing that prior results are mostly driven by initiating target firms' earnings management (Amel-Zadeh and Zhang, 2015; Marquardt and Zur, 2015; McNichols and Stubben, 2015; Raman et al., 2013; Skaife and Wangerin, 2013).

The study also adds to the literature of M&As and non-GAAP disclosures by providing evidence that target firms' non-GAAP disclosures are used both by investors prior to the M&A announcement and by acquirers in determining whether to bid, target firms' valuations and informed offer prices. Moreover, target firms' strategic non-GAAP disclosures may mislead non-professional investors when they do not understand target firms' accounting and incentives. Acquirers, as sophisticated investors with access to target firms' financial records, are able to see through target firms' opportunistic non-GAAP disclosure strategies with determining offer prices. This finding suggests that more stringent regulation of non-GAAP disclosures may be warranted to curb the opportunism in non-GAAP disclosures and level the playing field for all investors.

4.7 References

Amel-Zadeh, A., & Zhang, Y. (2015). The economic consequences of financial restatements: Evidence from the market for corporate control. *The Accounting Review, 90*(1), 1-29.

Bentley, J. W., Christensen, T. E., Gee, K. H., & Whipple, B. C. (2018). Disentangling Managers' and Analysts' Non-GAAP Reporting. *Journal of Accounting Research, 56*(4), 1039-1081.

Bowen, R. M., Davis, A. K., & Matsumoto, D. A. (2005). Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention, and market reactions. *The Accounting Review, 80*(4), 1011-1038.

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), 41-66.

Brown, N. C., Christensen, T. E., Menini, A., & Steffen, T. D. (2018). *Non-GAAP earnings disclosure and IPO pricing*.

Chen, C.-Y. (2010). Do analysts and investors fully understand the persistence of the items excluded from Street earnings? *Review of Accounting Studies, 15*(1), 32-69.

Dechow, P. M., & Dichev, I. D. (2002). The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review, 77*(s-1), 35-59.

Doyle, J. T., Jennings, J. N., & 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.

Doyle, J. T., Lundholm, R. J., & Soliman, M. T. (2003). The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies, 8*(2-3), 145-174.

He, J., Liu, T., Netter, J. M., & Shu, T. (2018). Expectation Management in Mergers and Acquisitions. *Available at SSRN 2509573*.

Huang, Q., & Skantz, T. R. (2016). The informativeness of pro forma and street earnings: an examination of information asymmetry around earnings announcements. *Review of Accounting Studies, 21*(1), 198-250.

Johnson, W. B., & Schwartz Jr, W. C. (2005). Are investors misled by "pro forma" earnings? *Contemporary Accounting Research, 22*(4), 915-963.

Kolev, K., Marquardt, C. A., & McVay, S. E. (2008). SEC scrutiny and the evolution of non-GAAP reporting. *The Accounting Review, 83*(1), 157-184.

Lougee, B. A., & Marquardt, C. A. (2004). Earnings informativeness and strategic disclosure: An empirical examination of "pro forma" earnings. *The Accounting Review, 79*(3), 769-795.

Marquardt, C., & Zur, E. (2015). The role of accounting quality in the M&A market. *Management Science, 61*(3), 604-623.

McNichols, M. F., & Stubben, S. R. (2015). The effect of target-firm accounting quality on valuation in acquisitions. *Review of Accounting Studies*, *20*(1), 110-140.

Raman, K., Shivakumar, L., & Tamayo, A. (2013). Target's earnings quality and bidders' takeover decisions. *Review of Accounting Studies*, *18*(4), 1050-1087.

Skaife, H. A., & Wangerin, D. D. (2013). Target financial reporting quality and M&A deals that go bust. *Contemporary Accounting Research, 30*(2), 719-749.

Zhang, H., & Zheng, L. (2011). The valuation impact of reconciling pro forma earnings to GAAP earnings. *Journal of Accounting and Economics, 51*(1-2), 186-202.

Table 1. Descriptive statistics (test of targets' earnings management)

Variables	N	Mean	S.D.	25%	Median	75%
Dependent variables:						
Target AAR_pc	894	0.039	0.180	-0.052	0.032	0.123
Target AAR_ne	889	0.014	0.227	-0.096	0.005	0.118
Auction	892	0.563	0.496	0.000	1.000	1.000
Offer premium	866	42.368	46.044	19.770	32.745	52.380
Target CAR3	832	28.044	30.857	10.071	21.787	38.375
Acquirer CAR3	833	-0.451	7.605	-3.680	-0.247	2.846
Variables of interest:						
AEM	894	0.835	3.486	-0.774	0.383	2.000
REM	831	5.010	38.618	-6.745	-0.210	10.976
AEM_pc	877	0.800	4.232	-1.021	0.422	2.249
REM_pc	813	4.077	45.325	-7.514	-0.696	9.807
AEM_ne	816	0.836	5.542	-1.473	0.403	2.588
REM_ne	751	5.836	59.616	-7.412	-0.691	8.655
Acquirer characteristics:						
Acquirer size	894	8.100	1.992	6.733	8.076	9.703
Acquirer Tobin's Q	889	2.066	1.199	1.321	1.722	2.323
Acquirer leverage	858	0.235	0.204	0.081	0.211	0.339
Acquirer ROA	890	0.702	4.210	0.296	1.316	2.318
Target characteristics:						
Target size	894	5.935	1.909	4.472	5.826	7.233
Target Tobin's Q	892	2.023	1.387	1.227	1.580	2.354
Target leverage	868	0.195	0.225	0.001	0.124	0.324
Target ROA	893	-0.995	7.136	-1.197	0.751	1.775
M&A deal characteristics:						
Stock only	894	0.179	0.384	0.000	0.000	0.000
Cash only	894	0.465	0.499	0.000	0.000	1.000
Tender	894	0.227	0.419	0.000	0.000	0.000
Diversifying	894	0.311	0.463	0.000	0.000	1.000
Relative size	890	0.468	0.848	0.069	0.229	0.590
Friendly	889	0.939	0.239	1.000	1.000	1.000

Table 1 presents the summary statistics of the variables used in the test of target firms' earnings management. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99%.

Table 2. The effect of targets' earnings management on targets' daily average abnormal returns

Panel A: Full sample

	Pre-contact period (*Target AAR_pc*)		**Negotiation period (*Target AAR_ne*)**	
Target AAR	**(1)**	**(2)**	**(3)**	**(4)**
AEM_pc	-0.269			
	(-1.23)			
REM_pc		-0.039		
		(-0.74)		
AEM_ne			0.053	
			(0.12)	
REM_ne				0.006
				(0.30)
Target Size	-0.009	-0.008	-0.001	0.003
	(-1.20)	(-1.37)	(-0.18)	(0.40)
Target Tobin's Q	0.059***	0.062***	0.022	0.023
	(10.16)	(8.19)	(1.37)	(1.54)
Target Leverage	0.033	0.018	0.109*	0.094
	(0.97)	(0.62)	(2.02)	(1.67)
Target ROA	0.722***	0.681***	0.153	0.183
	(7.14)	(8.62)	(0.42)	(0.44)
Constant	-0.006	-0.009	0.263***	0.277***
	(-0.11)	(-0.15)	(5.86)	(7.57)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	844	784	791	728
Adj. R-squared	0.171	0.182	0.047	0.058

Panel B: Initiating targets

	Pre-contact period (*Target AAR_pc*)		Negotiation period (*Target AAR_ne*)	
Target AAR	**(1)**	**(2)**	**(3)**	**(4)**
AEM_pc	-0.584*			
	(-2.09)			
REM_pc		-0.028		
		(-1.22)		
AEM_ne			0.325	
			(0.84)	
REM_ne				0.000
				(0.01)
Target Size	-0.004	-0.006	-0.010	-0.003
	(-0.67)	(-1.19)	(-0.99)	(-0.29)
Target Tobin's Q	0.068***	0.072***	0.033	0.038
	(5.86)	(5.99)	(1.27)	(1.52)
Target Leverage	0.049	0.034	0.108	0.076
	(0.91)	(0.51)	(0.94)	(0.56)
Target ROA	0.821***	0.812***	0.856**	0.953**
	(4.13)	(7.57)	(2.27)	(2.45)
Constant	-0.076	-0.076	0.219**	0.241***
	(-1.02)	(-0.89)	(3.00)	(4.09)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	339	305	334	298
Adj. R-squared	0.203	0.206	0.155	0.175

Panel C: Non-initiating targets

	Pre-contact period (*Target AAR_pc*)		Negotiation period (*Target AAR_ne*)	
Target AAR	**(1)**	**(2)**	**(3)**	**(4)**
AEM_pc	0.018			
	(0.06)			
REM_pc		-0.046		
		(-0.56)		
AEM_ne			0.008	
			(0.02)	
REM_ne				0.012
				(0.26)
Target Size	-0.012	-0.010	-0.000	0.000
	(-1.10)	(-1.10)	(-0.03)	(0.02)
Target Tobin's Q	0.050***	0.052***	0.010	0.012
	(11.44)	(7.25)	(0.84)	(0.92)
Target Leverage	0.026	0.000	0.215***	0.209***
	(0.40)	(0.01)	(3.92)	(3.95)
Target ROA	0.614***	0.561***	-0.621**	-0.577
	(12.10)	(5.85)	(-2.36)	(-1.64)
Constant	0.045	0.038	0.286***	0.313***
	(0.89)	(0.72)	(4.97)	(5.37)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	505	479	457	430
Adj. R-squared	0.150	0.159	0.046	0.056

Table 2 presents the OLS regression results for the association of target firms' earnings management with their stock prices. Panel A, B, and C present the results of the analysis for the full sample of all the target firms, the sample of initiating target firms, and the sample of non-initiating targe firms, respectively. Columns 1 and 2 report results for the analysis in the pre-contact period while Columns 3 and 4 report results for the analysis in the negotiation period. Columns 1 and 3 report results for target firms' accrual-based earnings management while Columns 2 and 4 report results for target firms' real activity earnings management. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 3. The effect of targets' earnings management on the likelihood of auctions

	Full sample		Initiating targets		Non-initiating targets	
	(1)	(2)	(3)	(4)	(5)	(6)
AEM	0.006		0.011		-0.022	
	(0.46)		(0.27)		(-0.95)	
REM		0.002		-0.003		0.002
		(0.76)		(-1.08)		(0.62)
Acquirer Size	0.088	0.092	0.062	0.034	0.201*	0.195
	(1.02)	(1.11)	(0.49)	(0.25)	(1.88)	(1.62)
Acquirer Tobin's Q	0.019	0.021	-0.208*	-0.239*	0.157	0.137
	(0.15)	(0.18)	(-1.76)	(-1.71)	(1.27)	(1.09)
Acquirer Leverage	0.325	0.375	0.480	0.711*	0.557	0.453
	(1.07)	(1.55)	(0.95)	(1.94)	(1.01)	(0.86)
Acquirer ROA	-0.019	-0.021	-0.073**	-0.090**	0.008	0.013
	(-1.01)	(-1.15)	(-2.23)	(-2.46)	(0.43)	(0.75)
Target Size	-0.262***	-0.248***	-0.307**	-0.173	-0.326***	-0.306***
	(-4.01)	(-4.53)	(-2.36)	(-1.38)	(-4.20)	(-3.90)
Target Tobin's Q	-0.157**	-0.148**	-0.133*	-0.063	-0.184***	-0.207***
	(-2.01)	(-2.08)	(-1.69)	(-0.99)	(-2.90)	(-3.12)
Target Leverage	0.778**	0.799**	0.539	0.320	1.010***	1.068***
	(2.40)	(2.17)	(0.98)	(0.39)	(2.70)	(2.93)
Target ROA	-0.007	-0.006	0.016	0.012	-0.018	-0.016
	(-1.18)	(-0.82)	(1.18)	(0.79)	(-1.27)	(-0.98)
Stock only	-0.404**	-0.343**	-1.087***	-0.986**	0.086	0.054
	(-2.12)	(-2.12)	(-3.08)	(-2.40)	(0.25)	(0.16)
Cash only	0.406***	0.417***	0.917**	1.102***	0.289	0.251
	(2.60)	(3.05)	(2.16)	(2.85)	(1.43)	(1.41)
Tender	0.552***	0.573***	0.301	0.326	0.618**	0.651**
	(2.88)	(3.54)	(1.17)	(1.39)	(2.40)	(2.53)
Diversifying	-0.426***	-0.382***	-0.552**	-0.448	-0.291**	-0.267**
	(-3.94)	(-2.96)	(-2.43)	(-1.45)	(-2.38)	(-1.99)
Relative size	-0.051	-0.087	-0.253	-0.437*	0.161	0.097
	(-0.71)	(-1.02)	(-1.26)	(-1.79)	(0.51)	(0.31)
Friendly	1.723***	1.639***	2.367**	2.819***	1.501***	1.387***
	(6.54)	(6.31)	(2.27)	(2.58)	(5.77)	(5.02)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	818	761	322	285	493	470
Pseudo R-squared	0.148	0.146	0.235	0.223	0.174	0.172

Table 3 presents the logistic regression results for the association of target firms' earnings management with the likelihood of M&A auctions. Columns 1 and 2, Columns 3 and 4, and Columns 5 and 6 present the results of the analysis for the full sample of all the target firms, the sample of initiating target firms, and the sample of non-initiating targe firms, respectively. Columns 1, 3, and 5 report results for target firms' accrual-based earnings management while Columns 2, 4, and 6 report results for target firms' real activity earnings management. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 4. The effect of targets' earnings management on the offer premium

	Full sample		Initiating targets		Non-initiating targets	
	(1)	(2)	(3)	(4)	(5)	(6)
AEM	-0.883***		-2.622***		0.437	
	(-3.38)		(-4.87)		(1.17)	
REM		0.072		0.104		0.054
		(1.02)		(0.93)		(0.77)
Acquirer Size	5.905**	6.172**	5.682***	6.367**	5.412**	5.395**
	(3.06)	(2.99)	(3.25)	(2.30)	(2.63)	(2.74)
Acquirer Tobin's Q	2.383*	2.459*	5.608	6.635	-1.020	-1.055
	(1.86)	(1.84)	(1.71)	(1.79)	(-1.21)	(-0.98)
Acquirer Leverage	18.859	21.320	31.731	36.376	0.246	2.021
	(1.56)	(1.65)	(1.41)	(1.52)	(0.03)	(0.26)
Acquirer ROA	0.604	0.591	0.533	0.627	0.890***	0.927***
	(1.23)	(1.24)	(0.87)	(0.87)	(6.36)	(6.33)
Target Size	-9.439***	-9.212***	-9.563***	-9.121***	-7.629***	-8.056***
	(-9.42)	(-8.00)	(-4.08)	(-7.99)	(-3.45)	(-3.40)
Target Tobin's Q	-5.136***	-5.501***	-7.626***	-8.674***	-2.684***	-2.626***
	(-14.75)	(-8.77)	(-9.60)	(-6.08)	(-3.64)	(-4.66)
Target Leverage	-1.835	0.887	-14.098	-6.447	4.618	4.971
	(-0.17)	(0.08)	(-0.57)	(-0.24)	(0.62)	(0.71)
Target ROA	-0.628	-0.579	-0.838*	-0.608	-0.637	-0.550
	(-1.24)	(-1.18)	(-2.17)	(-1.15)	(-1.13)	(-1.09)
Stock only	-6.634	-8.015	-3.878	-6.703	-10.106**	-9.992*
	(-1.54)	(-1.46)	(-0.45)	(-0.63)	(-2.39)	(-2.04)
Cash only	2.104	2.247	5.644	8.055	0.420	-1.069
	(0.70)	(0.63)	(0.56)	(0.68)	(0.11)	(-0.29)
Tender	12.423	12.162	11.736	9.837	12.287**	12.365**
	(1.64)	(1.60)	(0.69)	(0.55)	(2.36)	(2.46)
Diversifying	-3.196	-1.681	-3.290	1.431	-3.134	-2.042
	(-1.48)	(-0.75)	(-0.67)	(0.52)	(-0.66)	(-0.44)
Relative size	8.872**	9.150**	6.752	7.314	9.345	9.451
	(2.63)	(2.39)	(1.65)	(1.43)	(1.64)	(1.64)
Friendly	0.484	-0.351	12.725	4.715	1.637	2.153
	(0.12)	(-0.08)	(0.81)	(0.25)	(0.61)	(0.66)
Auction	-3.272	-4.449	-3.692	-8.266	-1.258	-1.577
	(-1.16)	(-1.41)	(-0.51)	(-0.97)	(-0.57)	(-0.67)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	790	735	307	274	483	461
Adj. R-squared	0.157	0.158	0.123	0.116	0.222	0.213

Table 4 presents the OLS regression results for the association of target firms' earnings management with the M&A offer premium. Columns 1 and 2, Columns 3 and 4, and Columns 5 and 6 present the results of the analysis for the full sample of all the target firms, the sample of initiating target firms, and the sample of non-initiating targe firms, respectively. Columns 1, 3, and 5 report results for target firms' accrual-based earnings management while Columns 2, 4, and 6 report results for target firms' real activity earnings management. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 5. The effect of targets' earnings management on M&A announcement returns

Panel A: Full sample

	Acquirer CAR3		*Target CAR3*	
	(1)	**(2)**	**(3)**	**(4)**
AEM	-0.142		-0.179	
	(-1.22)		(-0.29)	
REM		0.003		0.032*
		(0.47)		(1.84)
Acquirer Size	-0.222	-0.173	2.033**	2.147*
	(-0.78)	(-0.67)	(2.64)	(2.16)
Acquirer Tobin's Q	-0.591	-0.602	-0.103	0.046
	(-1.56)	(-1.60)	(-0.12)	(0.05)
Acquirer Leverage	1.201	1.562	-7.166*	-7.737*
	(0.67)	(0.79)	(-1.80)	(-1.94)
Acquirer ROA	0.079	0.088	0.368*	0.355**
	(1.41)	(1.68)	(2.13)	(2.25)
Target Size	-0.241	-0.181	-2.889***	-3.171***
	(-0.71)	(-0.59)	(-4.49)	(-3.92)
Target Tobin's Q	0.112	0.075	-2.296***	-2.433***
	(0.99)	(0.73)	(-10.09)	(-7.45)
Target Leverage	3.338	3.053	4.612	7.711*
	(1.60)	(1.28)	(1.24)	(2.06)
Target ROA	0.009	0.003	-0.303	-0.242
	(0.20)	(0.07)	(-1.60)	(-1.13)
Stock only	-0.177	-0.091	-3.540	-3.182
	(-0.18)	(-0.09)	(-1.34)	(-1.00)
Cash only	2.898***	3.151***	1.225	2.296
	(4.45)	(4.74)	(0.51)	(0.93)
Tender	-0.192	-0.244	1.054	0.066
	(-0.29)	(-0.32)	(0.56)	(0.04)
Diversifying	-0.799	-0.704	-3.921***	-4.614**
	(-0.82)	(-0.70)	(-3.19)	(-3.03)
Relative size	-0.352	-0.247	-2.433**	-1.939*
	(-0.39)	(-0.27)	(-2.57)	(-2.17)
Friendly	-2.511*	-2.992**	-1.543	-2.556
	(-2.17)	(-2.59)	(-0.44)	(-0.76)
Auction	0.199	0.385	-2.628**	-2.466**
	(0.38)	(0.75)	(-2.77)	(-2.82)
Offer premium	-0.010	-0.013	0.362***	0.349***
	(-0.84)	(-1.07)	(6.71)	(7.45)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	737	689	734	686
Adj. R-squared	0.073	0.065	0.497	0.493

Panel B: Initiating target firms

	Acquirer CAR3		*Target CAR3*	
	(1)	**(2)**	**(3)**	**(4)**
AEM	-0.282*		-1.327	
	(-1.87)		(-1.57)	
REM		0.010		0.059**
		(1.34)		(2.38)
Acquirer Size	-0.395	-0.127	3.507**	4.018*
	(-0.69)	(-0.19)	(2.35)	(2.03)
Acquirer Tobin's Q	-0.968**	-0.833**	0.787	1.640*
	(-2.52)	(-2.27)	(0.70)	(1.80)
Acquirer Leverage	0.503	1.706	-14.291**	-16.323***
	(0.16)	(0.50)	(-2.90)	(-3.43)
Acquirer ROA	-0.014	0.008	0.613**	0.748***
	(-0.24)	(0.08)	(2.35)	(3.11)
Target Size	0.525	0.524	-4.645**	-5.661**
	(0.62)	(0.51)	(-2.85)	(-2.98)
Target Tobin's Q	0.132	0.019	-3.488***	-3.823***
	(0.65)	(0.09)	(-4.06)	(-3.83)
Target Leverage	-1.570	-1.409	8.474	15.865***
	(-0.47)	(-0.36)	(1.64)	(3.77)
Target ROA	-0.016	0.009	-0.377*	-0.126
	(-0.14)	(0.08)	(-1.97)	(-0.49)
Stock only	1.345	2.354	1.332	2.328
	(0.74)	(1.21)	(0.47)	(0.81)
Cash only	3.889**	4.570***	5.590	6.367
	(2.51)	(3.16)	(1.09)	(1.32)
Tender	0.210	-0.148	8.681**	6.633*
	(0.19)	(-0.12)	(2.95)	(2.13)
Diversifying	-0.424	-0.386	-4.722**	-5.454*
	(-0.27)	(-0.22)	(-2.79)	(-1.86)
Relative size	-0.995	-0.921	-0.953	1.244
	(-0.76)	(-0.54)	(-0.48)	(0.43)
Friendly	-3.049	-5.408	-3.176	-9.481
	(-0.61)	(-1.06)	(-0.45)	(-0.98)
Auction	0.072	0.124	-2.252	-1.986
	(0.05)	(0.09)	(-0.81)	(-0.78)
Offer premium	-0.001	-0.006	0.342***	0.334***
	(-0.11)	(-0.43)	(4.89)	(5.42)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	287	258	287	258
Adj. R-squared	0.063	0.032	0.568	0.542

Panel C: Non-initiating target firms

	Acquirer CAR3		*Target CAR3*	
	(1)	(2)	(3)	(4)
AEM	-0.034		0.430	
	(-0.20)		(1.73)	
REM		-0.001		0.026
		(-0.07)		(1.41)
Acquirer Size	-0.115	-0.124	0.746	0.825
	(-0.40)	(-0.42)	(1.28)	(1.43)
Acquirer Tobin's Q	-0.506	-0.503	-0.037	-0.055
	(-1.49)	(-1.45)	(-0.08)	(-0.15)
Acquirer Leverage	1.273	1.449*	2.142	0.852
	(1.73)	(2.00)	(0.27)	(0.10)
Acquirer ROA	0.224	0.175	0.286	0.298
	(1.11)	(0.88)	(0.83)	(0.93)
Target Size	-0.759**	-0.717**	-1.195***	-1.500***
	(-2.50)	(-2.36)	(-3.62)	(-4.01)
Target Tobin's Q	0.189	0.190	-1.770***	-1.760***
	(0.84)	(0.78)	(-5.99)	(-5.50)
Target Leverage	7.066***	7.016**	-1.060	0.753
	(3.11)	(2.80)	(-0.20)	(0.14)
Target ROA	-0.003	-0.005	-0.338***	-0.277**
	(-0.07)	(-0.10)	(-3.14)	(-2.29)
Stock only	-0.912	-1.389	-3.153	-2.335
	(-0.82)	(-1.36)	(-1.02)	(-0.63)
Cash only	2.843***	2.832***	1.905	2.289
	(6.34)	(5.48)	(1.17)	(1.47)
Tender	0.170	0.274	-3.512	-3.997
	(0.18)	(0.28)	(-1.24)	(-1.33)
Diversifying	-0.970	-0.950	-3.443	-4.227*
	(-1.09)	(-1.05)	(-1.77)	(-1.97)
Relative size	0.289	0.437	-3.130*	-2.939
	(0.25)	(0.37)	(-1.81)	(-1.69)
Friendly	-2.123*	-2.203*	-1.575	-2.011
	(-2.08)	(-2.05)	(-0.37)	(-0.44)
Auction	1.007	1.159*	-1.062	-1.077
	(1.61)	(1.83)	(-0.67)	(-0.62)
Offer premium	-0.030	-0.030	0.390***	0.391***
	(-1.50)	(-1.54)	(9.52)	(10.04)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
N	450	431	447	428
Adj. R-squared	0.120	0.123	0.457	0.461

Table 5 presents the OLS regression results for the association of target firms' earnings management with targets' and acquirers' announcement returns. Panel A, B, and C present the results of the analysis for the full sample of all the target firms, the sample of initiating target firms, and the sample of non-initiating targe firms, respectively. Columns 1 and 2 (Columns 3 and 4) report results for the analysis of acquirers'(targets') three-day M&A announcement returns. Columns 1 and 3 report results for target firms' accrual-based earnings management while Columns 2 and 4 report results for target firms' real activity earnings management. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 6. Descriptive statistics (test of targets' non-GAAP disclosure)

Variables	N	Mean	S.D.	25%	Median	75%
Dependent variables:						
Target AAR_pc	509	0.013	0.203	-0.081	0.015	0.115
Target AAR_ne	509	0.114	0.346	-0.055	0.075	0.217
Auction	509	0.566	0.496	0.000	1.000	1.000
Offer premium	509	43.756	48.172	20.830	33.240	53.850
Target CAR3	509	28.122	28.352	10.342	22.343	39.509
Acquirer CAR3	509	-0.133	7.287	-3.317	-0.099	2.732
Variables of interest:						
Aver_Excl_Total	509	0.550	1.051	0.000	0.053	0.767
Aver_Excl_Special	509	0.174	0.414	0.000	0.000	0.170
Aver_Excl_Other	509	0.361	0.743	0.000	0.000	0.422
Aver_Excl_Total_pc	509	0.563	1.123	0.000	0.000	0.637
Aver_Excl_Special_pc	509	0.186	0.510	0.000	0.000	0.114
Aver_Excl_Other_pc	509	0.347	0.735	0.000	0.000	0.381
Aver_Excl_Total_ne	509	0.524	1.231	0.000	0.000	0.705
Aver_Excl_Special_ne	509	0.142	0.482	0.000	0.000	0.070
Aver_Excl_Other_ne	509	0.382	0.840	0.000	0.000	0.422
Acquirer characteristics:						
Acquirer size	509	8.316	1.971	6.937	8.293	9.978
Acquirer Tobin's Q	509	2.109	1.175	1.382	1.772	2.374
Acquirer leverage	509	0.239	0.217	0.088	0.209	0.342
Acquirer ROA	509	0.984	3.845	0.511	1.520	2.467
Target characteristics:						
Target size	509	6.018	1.837	4.635	5.952	7.294
Target Tobin's Q	509	2.111	1.458	1.279	1.644	2.386
Target leverage	509	0.194	0.234	0.000	0.119	0.314
Target ROA	509	-0.755	6.395	-0.769	0.805	1.729
M&A deal characteristics:						
Stock %	509	28.885	39.059	0.000	0.000	59.570
Cash only	509	0.491	0.500	0.000	0.000	1.000
Tender	509	0.248	0.432	0.000	0.000	0.000
Diversifying	509	0.310	0.463	0.000	0.000	1.000
Relative size	509	0.422	0.585	0.060	0.218	0.562
Friendly	509	0.963	0.190	1.000	1.000	1.000

Table 1 presents the summary statistics of the variables used in the test of target firms' non-GAAP earnings disclosure. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99%

Table 7. The effect of targets' non-GAAP earnings disclosure on targets' daily average abnormal returns

Panel A: Targets' daily average abnormal returns in the pre-contact period

	Target AAR_pc		
	(1)	**(2)**	**(3)**
Aver_Excl_Total_pc	-0.001		
	(-0.08)		
Aver_Excl_Special_pc		-0.003	
		(-0.14)	
Aver_Excl_Other_pc			0.007
			(1.02)
Target Size	0.001	0.001	0.001
	(0.06)	(0.06)	(0.09)
Target Tobin's Q	0.049***	0.049***	0.049***
	(12.27)	(12.01)	(11.99)
Target Leverage	0.008	0.009	0.007
	(0.26)	(0.28)	(0.21)
Target ROA	0.005***	0.005***	0.005***
	(5.88)	(5.80)	(5.09)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	452	452	452
Adj. R-squared	0.156	0.156	0.156

Panel B: Targets' daily average abnormal returns in the negotiation period

	Target AAR_ne		
	(1)	**(2)**	**(3)**
Aver_Excl_Total_ne	0.021***		
	(3.30)		
Aver_Excl_Special_ne		-0.002	
		(-0.14)	
Aver_Excl_Other_ne			0.041***
			(3.60)
Target Size	-0.004	-0.004	-0.003
	(-0.33)	(-0.31)	(-0.26)
Target Tobin's Q	0.037*	0.036*	0.036*
	(2.20)	(2.12)	(2.14)
Target Leverage	0.188**	0.186**	0.191**
	(2.46)	(2.30)	(2.60)
Target ROA	0.003*	0.002	0.003
	(1.99)	(1.09)	(1.67)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	509	509	509
Adj. R-squared	0.078	0.074	0.082

Table 2 presents the OLS regression results for the association of target firms' non-GAAP earnings disclosure with their stock prices. Panels A and B present the results of the analysis in the pre-contact period and the negotiation period, respectively. Columns 1, 2, and 3 report results for total exclusions, special items, and other exclusions, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 8. The effect of targets' non-GAAP earnings disclosure on the likelihood of auctions

	Auction		
	(1)	**(2)**	**(3)**
Aver_Excl_Total	0.123**		
	(2.08)		
Aver_Excl_Special		0.163	
		(0.57)	
Aver_Excl_Other			0.197**
			(2.34)
Acquirer Size	0.028	0.032	0.022
	(0.23)	(0.25)	(0.18)
Acquirer Tobin's Q	-0.001	0.002	-0.005
	(-0.01)	(0.02)	(-0.05)
Acquirer Leverage	0.284	0.263	0.290
	(0.50)	(0.46)	(0.53)
Acquirer ROA	-0.046	-0.046	-0.045
	(-1.39)	(-1.37)	(-1.38)
Target Size	-0.262**	-0.270**	-0.258**
	(-2.44)	(-2.43)	(-2.36)
Target Tobin's Q	-0.090	-0.092	-0.091
	(-0.64)	(-0.66)	(-0.64)
Target Leverage	0.720	0.736*	0.734
	(1.61)	(1.73)	(1.60)
Target ROA	-0.009	-0.011	-0.010
	(-0.83)	(-1.00)	(-0.87)
Stock %	-0.015***	-0.015***	-0.015***
	(-2.88)	(-2.90)	(-2.85)
Cash only	-0.288	-0.276	-0.294
	(-0.79)	(-0.75)	(-0.79)
Tender	0.294	0.302	0.285
	(1.15)	(1.16)	(1.10)
Diversifying	-0.191	-0.197	-0.192
	(-1.41)	(-1.50)	(-1.44)
Relative size	0.111	0.118	0.102
	(0.49)	(0.52)	(0.45)
Constant	1.901*	1.876	1.993**
	(1.86)	(1.62)	(1.97)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	509	509	509
Pseudo R-squared	0.159	0.158	0.160

Table 8 presents the logistic regression results for the association of target firms' non-GAAP earnings disclosure with the likelihood of M&A auctions. Columns 1, 2, and 3 report results for total exclusions, special items, and other exclusions, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 9. The effect of targets' non-GAAP earnings disclosure on the offer premium

	Offer premium		
	(1)	**(2)**	**(3)**
Aver_Excl_Total	-2.065**		
	(-2.50)		
Aver_Excl_Special		-0.989	
		(-0.24)	
Aver_Excl_Other			-2.591*
			(-1.84)
Acquirer Size	6.406**	6.360**	6.494**
	(2.86)	(2.77)	(2.87)
Acquirer Tobin's Q	2.094	2.062	2.151
	(0.89)	(0.82)	(0.91)
Acquirer Leverage	19.664	20.014	19.606
	(1.04)	(1.06)	(1.04)
Acquirer ROA	0.132	0.126	0.122
	(0.29)	(0.28)	(0.27)
Target Size	-7.879***	-7.759***	-7.923***
	(-7.29)	(-7.43)	(-7.33)
Target Tobin's Q	-3.407*	-3.363*	-3.391*
	(-1.87)	(-1.89)	(-1.87)
Target Leverage	9.620	9.093	9.289
	(0.91)	(0.87)	(0.88)
Target ROA	-0.954***	-0.906**	-0.936***
	(-3.33)	(-2.97)	(-3.24)
Stock %	0.002	-0.003	0.003
	(0.03)	(-0.04)	(0.04)
Cash only	4.648	4.393	4.668
	(1.45)	(1.39)	(1.44)
Tender	15.984	15.836	16.165
	(1.60)	(1.55)	(1.58)
Diversifying	-3.627	-3.465	-3.582
	(-0.89)	(-0.83)	(-0.87)
Relative size	7.649**	7.599**	7.804**
	(2.59)	(2.57)	(2.66)
Auction	-2.896	-3.081	-2.930
	(-0.92)	(-0.96)	(-0.93)
Constant	10.008	9.617	8.414
	(0.38)	(0.34)	(0.31)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	509	509	509
Adj. R-squared	0.145	0.144	0.145

Table 9 presents the OLS regression results for the association of target firms' non-GAAP earnings disclosure with the M&A offer premium. Columns 1, 2, and 3 report results for total exclusions, special items, and other exclusions, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Table 10. The effect of targets' non-GAAP earnings disclosure on M&A announcement returns

Panel A: Target CAR (-1, +1)

	Target CAR3		
	(1)	**(2)**	**(3)**
Aver_Excl_Total	-1.161**		
	(-3.09)		
Aver_Excl_Special		-0.926	
		(-0.64)	
Aver_Excl_Other			-2.203***
			(-3.32)
Acquirer Size	2.887*	2.848*	2.971*
	(1.89)	(1.86)	(1.94)
Acquirer Tobin's Q	-0.595	-0.626	-0.545
	(-1.66)	(-1.68)	(-1.43)
Acquirer Leverage	-3.744	-3.577	-3.893
	(-1.08)	(-1.06)	(-1.14)
Acquirer ROA	0.750***	0.746***	0.742***
	(8.41)	(7.76)	(7.97)
Target Size	-4.414**	-4.326**	-4.484**
	(-2.57)	(-2.55)	(-2.61)
Target Tobin's Q	-2.321**	-2.291**	-2.321**
	(-2.69)	(-2.74)	(-2.66)
Target Leverage	4.165	3.891	4.077
	(1.22)	(1.15)	(1.17)
Target ROA	-0.311	-0.287	-0.313*
	(-1.79)	(-1.38)	(-1.91)
Stock %	-0.041	-0.043	-0.039
	(-1.42)	(-1.47)	(-1.33)
Cash only	-0.449	-0.582	-0.351
	(-0.22)	(-0.29)	(-0.18)
Tender	0.416	0.296	0.606
	(0.19)	(0.14)	(0.27)
Diversifying	-1.454	-1.359	-1.467
	(-0.64)	(-0.59)	(-0.64)
Relative size	-0.157	-0.211	-0.022
	(-0.12)	(-0.16)	(-0.02)
Offer premium	0.325***	0.326***	0.325***
	(5.26)	(5.26)	(5.28)
Constant	14.529***	14.418***	13.470***
	(3.79)	(3.87)	(3.61)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	509	509	509
Adj. R-squared	0.491	0.489	0.492

Panel B: Acquirer CAR (-1, +1)

	Acquirer CAR3		
	(1)	**(2)**	**(3)**
Aver_Excl_Total	0.809*		
	(1.94)		
Aver_Excl_Special		2.935**	
		(2.43)	
Aver_Excl_Other			1.032*
			(1.90)
Acquirer Size	-0.308	-0.250	-0.341
	(-0.93)	(-0.70)	(-1.05)
Acquirer Tobin's Q	-0.781	-0.694	-0.803*
	(-1.68)	(-1.34)	(-1.81)
Acquirer Leverage	0.911	0.805	0.941
	(0.52)	(0.47)	(0.53)
Acquirer ROA	0.045	0.058	0.049
	(0.99)	(1.62)	(0.97)
Target Size	0.096	0.004	0.112
	(0.32)	(0.01)	(0.38)
Target Tobin's Q	-0.044	-0.064	-0.051
	(-0.14)	(-0.20)	(-0.16)
Target Leverage	1.574	1.461	1.705
	(0.69)	(0.62)	(0.76)
Target ROA	-0.014	-0.007	-0.021
	(-0.77)	(-0.36)	(-1.47)
Stock %	-0.036	-0.037	-0.036
	(-1.73)	(-1.75)	(-1.78)
Cash only	0.443	0.471	0.434
	(0.45)	(0.47)	(0.42)
Tender	-0.445	-0.286	-0.514
	(-0.71)	(-0.48)	(-0.82)
Diversifying	-0.115	-0.153	-0.133
	(-0.11)	(-0.14)	(-0.14)
Relative size	0.653	0.788	0.593
	(0.75)	(0.91)	(0.68)
Offer premium	0.007	0.006	0.006
	(0.75)	(0.74)	(0.71)
Constant	6.857***	5.636**	7.498***
	(4.73)	(2.91)	(5.84)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
N	509	509	509
Adj. R-squared	0.105	0.119	0.102

Table 10 presents the OLS regression results for the association of target firms' non-GAAP earnings disclosure with targets' and acquirers' announcement returns. Panels A and B report the results for targets' and acquirers' three-day announcement returns, respectively. Columns 1, 2, and 3 report results for total exclusions, special items, and other exclusions, respectively. Variable definitions are described in Appendix A. All continuous variables are winsorized at the 1% and 99% levels. All standard errors are clustered by firm. *t* statistics are reported in parentheses. All *p*-values are two-sided. *, **, and *** denote significantly at the 10%, 5%, and 1% levels, respectively.

Appendix A. Variable Definitions

Variable	Definition	Source
Panel A: Dependent variables		
Target AAR_pc	Target's daily average abnormal returns (%) in the pre-contact period using the market-adjusted model.	CRSP
Target AAR_ne	Target's daily average abnormal returns (%) in the negotiation period using the market-adjusted model.	CRSP
Auction	An indicator variable that equals to 1 if the target negotiated with multiple bidders, and 0 for one-on-one negotiation.	SEC filings
Offer premium	(Offer price – Stock price) / Stock price * 100%. Stock price of 4 weeks before the M&A announcement is used.	SDC
Target CAR3	Target's cumulative abnormal announcement returns (%) in the 3-day window centered at the M&A announcement date using the market-adjusted model.	CRSP
Acquirer CAR3	Acquirer's cumulative abnormal announcement returns (%) in the 3-day window centered at the M&A announcement date using the market-adjusted model.	CRSP
Panel B: Earnings management variables		
AEM	Average abnormal accruals before M&A announcement (pre-contact and negotiation periods). Used in models other than Model (1).	Compustat
REM	Average real activity manipulation before M&A announcement (pre-contact and negotiation periods). Used in models other than Model (1).	Compustat
AEM_pc	Average abnormal accruals in the pre-contact period. Used only in Model (1).	Compustat
REM_pc	Average real activity manipulation in the pre-contact period. Used only in Model (1).	Compustat
AEM_ne	Average abnormal accruals in the negotiation period. Used only in Model (1).	Compustat
REM_ne	Average real activity manipulation in the negotiation period. Used only in Model (1).	Compustat
Panel C: Non-GAAP earnings disclosure variables		
Aver_Excl_Total	Average total exclusions before M&A announcement (pre-contact and negotiation periods). Set to zero for firms without non-GAAP EPS disclosure. Used in models other than Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Special	Average special items before the M&A announcement (pre-contact and negotiation	Compustat, Bentley et al. (2018)

	periods). Set to zero for firms without non-GAAP EPS disclosure. Used in models other than Model (1).	
Aver_Excl_Other	Average other exclusions before the M&A announcement (pre-contact and negotiation periods). Set to zero for firms without non-GAAP EPS disclosure. Used in models other than Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Total_pc	Average total exclusions in the pre-contact period. Set to zero for firms without non-GAAP EPS disclosure. Used only in Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Special_pc	Average special items in the pre-contact period. Set to zero for firms without non-GAAP EPS disclosure. Used only in Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Other_pc	Average other exclusions in the pre-contact period. Set to zero for firms without non-GAAP EPS disclosure. Used only in Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Total_ne	Average total exclusions in the negotiation period. Set to zero for firms without non-GAAP EPS disclosure. Used only in Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Special_ne	Average special items in the negotiation period. Set to zero for firms without non-GAAP EPS disclosure. Used only in Model (1).	Compustat, Bentley et al. (2018)
Aver_Excl_Other_ne	Average other exclusions in the negotiation period. Set to zero for firms without non-GAAP EPS disclosure. Used only in Model (1).	Compustat, Bentley et al. (2018)
Panel C: M&A deal characteristics		
Stock only	An indicator variable that equals 1 when the merger is financed 100% with stock (% Stock = 100) and 0 otherwise.	SDC
Stock %	The percentage of the stock payment for the merger (% Stock).	SDC
Cash only	An indicator variable that equals 1 when the merger is financed 100% with cash (% Cash = 100) and 0 otherwise.	SDC
Tender	An indicator variable that equals 1 when the acquisition involves a tender offer (Tender offer = “Yes”) and 0 otherwise.	SDC
Diversifying	An indicator variable that equals 1 if the bidder and target operate in different industries, based on 2-digit SIC codes, and 0 otherwise.	Compustat
Relative size	The ratio of the target’s market value to the acquirer’s at the fiscal year-end prior to the M&A announcement date.	Compustat
Friendly	An indicator variable that equals 1 if the merger is classified as friendly (Attitude = “Friendly”), and 0 otherwise.	SDC

Panel D: Acquirer/Target firm characteristics		
Size	Natural logarithm of total assets at the end of the fiscal quarter.	Compustat
Tobin's Q	The market value of assets divided by the book value of assets at the end of the quarter. The market value of assets is calculated as the book value of total assets – book value of equity + market value of equity.	Compustat
ROA	Return on assets in the fiscal quarter, calculated as income before depreciation and amortization for this quarter scaled by total assets at the beginning of the quarter.	Compustat
Leverage	Long-term debt and debt in current liabilities divided by total assets at the end of the quarter.	Compustat

Appendix B. Tests of non-GAAP disclosures by initiating target firms and non-initiating target firms

See Table B1-B4.

Table B1. The effect of targets' non-GAAP earnings disclosure on targets' daily average abnormal returns (initiating targets vs. non-initiating targets)

Panel A: Targets' daily average abnormal returns in the pre-contact period

	Target AAR_pc					
	Initiating targets			**Non-initiating targets**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Aver_Excl_Total_pc	0.018			-0.014*		
	(0.69)			(-1.94)		
Aver_Excl_Special_pc		0.035			-0.021	
		(0.79)			(-0.76)	
Aver_Excl_Other_pc			0.050**			-0.012
			(2.44)			(-0.64)
Target Size	0.001	0.000	0.002	-0.004	-0.004	-0.004
	(0.15)	(0.01)	(0.27)	(-0.36)	(-0.33)	(-0.36)
Target Tobin's Q	0.068***	0.068***	0.068***	0.036***	0.035**	0.036**
	(6.95)	(7.08)	(7.91)	(3.12)	(3.02)	(3.08)
Target Leverage	-0.001	-0.005	0.011	0.027	0.025	0.024
	(-0.04)	(-0.18)	(0.38)	(0.42)	(0.42)	(0.35)
Target ROA	0.008**	0.008**	0.008***	0.004*	0.004***	0.004**
	(2.77)	(3.03)	(3.45)	(2.02)	(3.31)	(2.26)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	196	196	196	313	313	313
Adj. R-squared	0.191	0.188	0.212	0.133	0.129	0.129

Panel B: Targets' daily average abnormal returns in the negotiation period

	Target AAR_ne					
	Initiating targets			**Non-initiating targets**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Aver_Excl_Total_ne	0.010			0.022		
	(0.79)			(1.51)		
Aver_Excl_Special_ne		-0.005			-0.015	
		(-0.09)			(-0.70)	
Aver_Excl_Other_ne			0.008			0.060***
			(0.61)			(3.43)
Target Size	-0.016	-0.016	-0.016	-0.001	-0.002	0.000
	(-0.82)	(-0.81)	(-0.80)	(-0.11)	(-0.13)	(0.02)
Target Tobin's Q	0.051	0.050	0.050	0.020***	0.019***	0.018***
	(1.44)	(1.42)	(1.40)	(3.63)	(3.94)	(3.16)
Target Leverage	0.162	0.153	0.159	0.223***	0.234***	0.220***
	(1.32)	(1.28)	(1.24)	(3.51)	(3.73)	(3.86)
Target ROA	0.008	0.007	0.007	0.001	-0.001	0.002
	(1.26)	(1.18)	(1.15)	(0.28)	(-0.26)	(0.36)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	196	196	196	313	313	313
Adj. R-squared	0.144	0.143	0.143	0.025	0.020	0.039

Table B2. The effect of targets' non-GAAP earnings disclosure on the likelihood of auction (initiating targets vs. non-initiating targets)

	Auction					
	Initiating targets			**Non-initiating targets**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Aver_Excl_Total	-0.014			0.163		
	(-0.14)			(1.52)		
Aver_Excl_Special		0.339			0.039	
		(1.46)			(0.08)	
Aver_Excl_Other			-0.275			0.372***
			(-1.27)			(3.73)
Acquirer Size	-0.179	-0.173	-0.178	0.202	0.213	0.189
	(-0.88)	(-0.89)	(-0.86)	(1.21)	(1.29)	(1.12)
Acquirer Tobin's Q	-0.193	-0.163	-0.210	0.091	0.089	0.088
	(-1.15)	(-0.95)	(-1.21)	(1.03)	(1.10)	(0.86)
Acquirer Leverage	2.194***	2.226***	2.139***	-0.056	-0.061	-0.031
	(3.42)	(3.25)	(3.37)	(-0.05)	(-0.06)	(-0.03)
Acquirer ROA	-0.055	-0.046	-0.064	-0.065	-0.063	-0.067
	(-0.74)	(-0.64)	(-0.80)	(-0.80)	(-0.72)	(-0.77)
Target Size	-0.215*	-0.236*	-0.213*	-0.383***	-0.401***	-0.367***
	(-1.81)	(-1.95)	(-1.77)	(-2.82)	(-3.05)	(-2.68)
Target Tobin's Q	-0.174	-0.181	-0.168	-0.120	-0.123	-0.124
	(-1.24)	(-1.27)	(-1.16)	(-0.85)	(-0.90)	(-0.86)
Target Leverage	-0.425	-0.384	-0.496	1.334*	1.425*	1.300*
	(-0.61)	(-0.54)	(-0.74)	(1.72)	(1.88)	(1.73)
Target ROA	0.030	0.041	0.024	-0.021	-0.022	-0.019
	(0.98)	(1.18)	(0.81)	(-1.40)	(-1.28)	(-1.46)
Stock %	-0.034***	-0.034***	-0.034***	-0.011	-0.011	-0.011
	(-2.65)	(-2.67)	(-2.60)	(-1.56)	(-1.52)	(-1.61)
Cash only	-0.325	-0.303	-0.309	-0.295	-0.283	-0.322
	(-0.38)	(-0.34)	(-0.37)	(-0.77)	(-0.72)	(-0.83)
Tender	-0.586	-0.582	-0.561	0.658**	0.672**	0.643**
	(-1.07)	(-1.04)	(-1.04)	(2.26)	(2.25)	(2.07)
Diversifying	-0.628	-0.609	-0.584	0.036	0.017	0.042
	(-1.53)	(-1.55)	(-1.31)	(0.24)	(0.11)	(0.27)
Relative size	-0.388	-0.410	-0.356	0.320	0.316	0.309
	(-0.95)	(-1.07)	(-0.84)	(0.88)	(0.89)	(0.83)
Constant	5.324**	5.256**	5.436**	-0.907	-0.947	-0.785
	(2.43)	(2.42)	(2.50)	(-0.66)	(-0.65)	(-0.57)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	186	186	186	313	313	313
Pseudo R-squared	0.347	0.349	0.349	0.178	0.175	0.182

Table B3. The effect of targets' non-GAAP earnings disclosure on offer premium (initiating targets vs. non-initiating targets)

	Offer premium					
	Initiating targets			**Non-initiating targets**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Aver_Excl_Total	-6.536			0.688		
	(-1.39)			(0.53)		
Aver_Excl_Special		-6.975			3.998	
		(-0.72)			(0.64)	
Aver_Excl_Other			-8.339			-0.265
			(-1.42)			(-0.19)
Acquirer Size	6.592	6.692	6.938	5.065**	5.091**	5.135**
	(1.60)	(1.62)	(1.58)	(2.26)	(2.29)	(2.26)
Acquirer Tobin's Q	3.529	3.396	3.670	-3.139***	-3.048***	-3.105***
	(0.53)	(0.49)	(0.56)	(-5.48)	(-5.88)	(-5.23)
Acquirer Leverage	41.888	43.321	42.532	-6.790	-6.640	-6.918
	(1.23)	(1.27)	(1.24)	(-0.56)	(-0.54)	(-0.57)
Acquirer ROA	0.123	0.088	0.049	1.169*	1.210*	1.159*
	(0.26)	(0.17)	(0.10)	(1.85)	(2.13)	(1.82)
Target Size	-8.163	-8.176*	-8.370*	-6.496**	-6.556**	-6.623**
	(-1.78)	(-1.92)	(-1.80)	(-2.94)	(-3.03)	(-2.98)
Target Tobin's Q	-4.838	-4.727	-4.748	-1.561	-1.586*	-1.584*
	(-1.22)	(-1.23)	(-1.25)	(-1.76)	(-1.86)	(-1.81)
Target Leverage	16.385	17.490	15.571	10.952	10.300	11.544
	(0.52)	(0.57)	(0.50)	(1.27)	(1.13)	(1.44)
Target ROA	-1.184***	-1.040**	-1.032**	-0.961*	-0.963*	-0.976*
	(-3.39)	(-2.36)	(-2.69)	(-2.01)	(-2.09)	(-2.10)
Stock %	0.224	0.218	0.220	-0.121*	-0.123*	-0.119*
	(1.13)	(1.08)	(1.13)	(-1.86)	(-1.83)	(-1.86)
Cash only	11.905	11.453	11.177	-1.294	-1.200	-1.236
	(0.81)	(0.79)	(0.76)	(-0.25)	(-0.24)	(-0.24)
Tender	20.925	20.703	21.792	16.291**	16.327**	16.425**
	(0.76)	(0.74)	(0.78)	(2.58)	(2.57)	(2.58)
Diversifying	0.799	0.677	0.922	-4.226	-4.272	-4.332
	(0.14)	(0.12)	(0.16)	(-0.83)	(-0.82)	(-0.83)
Relative size	2.734	2.073	2.940	11.613**	11.812**	11.612**
	(0.49)	(0.37)	(0.53)	(2.31)	(2.36)	(2.31)
Auction	-6.294	-6.006	-7.157	0.377	0.441	0.477
	(-0.66)	(-0.61)	(-0.74)	(0.10)	(0.12)	(0.13)
Constant	1.166	-1.053	-3.699	37.892*	36.595*	37.748*
	(0.03)	(-0.02)	(-0.08)	(2.18)	(2.07)	(2.10)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	196	196	196	313	313	313
Adj. R-squared	0.122	0.112	0.117	0.192	0.194	0.192

Table B4. The effect of targets' non-GAAP earnings disclosure on short-window M&A announcement returns (initiating targets vs. non-initiating targets)

Panel A: Target CAR (-1, +1)

	Target CAR3					
	Initiating targets			**Non-initiating targets**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Aver_Excl_Total	-0.810			-0.576		
	(-1.07)			(-0.53)		
Aver_Excl_Special		2.782			-1.442	
		(1.02)			(-0.73)	
Aver_Excl_Other			-2.845			-1.206
			(-1.40)			(-0.94)
Acquirer Size	3.920	4.043	3.979	1.512	1.475	1.565
	(1.78)	(1.77)	(1.77)	(1.22)	(1.11)	(1.31)
Acquirer Tobin's Q	0.497	0.629	0.521	0.013	-0.030	0.052
	(0.37)	(0.46)	(0.40)	(0.02)	(-0.04)	(0.07)
Acquirer Leverage	-13.747**	-13.671**	-13.893**	11.948**	11.940**	11.857**
	(-2.49)	(-2.51)	(-2.62)	(2.49)	(2.57)	(2.44)
Acquirer ROA	0.692***	0.687***	0.675***	0.763	0.752	0.759
	(4.66)	(4.35)	(4.66)	(1.51)	(1.39)	(1.49)
Target Size	-5.060**	-5.168**	-5.069**	-2.915**	-2.841**	-2.984**
	(-2.47)	(-2.45)	(-2.42)	(-2.88)	(-2.47)	(-3.05)
Target Tobin's Q	-2.976**	-2.952**	-2.964**	-1.944**	-1.923*	-1.944*
	(-2.25)	(-2.38)	(-2.25)	(-2.25)	(-2.18)	(-2.19)
Target Leverage	11.238	11.557	10.648	-5.947*	-5.960**	-5.811*
	(1.45)	(1.35)	(1.42)	(-2.10)	(-2.79)	(-2.20)
Target ROA	-0.351*	-0.243	-0.369*	-0.194	-0.187	-0.203
	(-1.83)	(-1.21)	(-2.01)	(-1.02)	(-0.85)	(-1.15)
Stock %	0.017	0.010	0.021	-0.013	-0.013	-0.012
	(0.59)	(0.34)	(0.71)	(-0.26)	(-0.25)	(-0.25)
Cash only	7.274*	6.756*	7.322*	-0.778	-0.824	-0.700
	(1.87)	(1.85)	(2.03)	(-0.25)	(-0.26)	(-0.22)
Tender	9.710**	9.771**	10.036**	-3.137*	-3.209*	-3.039
	(2.32)	(2.38)	(2.32)	(-1.83)	(-1.91)	(-1.75)
Diversifying	-5.406	-5.468	-5.281	2.987	3.044	2.945
	(-1.33)	(-1.35)	(-1.33)	(1.12)	(1.12)	(1.09)
Relative size	0.257	0.049	0.541	-0.571	-0.645	-0.505
	(0.11)	(0.02)	(0.22)	(-0.46)	(-0.51)	(-0.40)
Offer premium	0.319***	0.322***	0.318***	0.375***	0.376***	0.375***
	(4.51)	(4.56)	(4.53)	(10.71)	(10.34)	(10.61)
Constant	4.196	1.206	3.581	8.694	9.145	8.233
	(0.51)	(0.13)	(0.40)	(1.47)	(1.54)	(1.42)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	196	196	196	313	313	313
Adj. R-squared	0.571	0.572	0.573	0.453	0.453	0.453

Panel B: Acquirer CAR (-1, +1)

	Acquirer CAR3					
	Initiating targets			**Non-initiating targets**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Aver_Excl_Total	1.499**			0.263		
	(2.55)			(0.70)		
Aver_Excl_Special		4.754***			1.184	
		(4.66)			(1.15)	
Aver_Excl_Other			1.880*			0.397
			(2.09)			(0.99)
Acquirer Size	-0.252	-0.151	-0.327	-0.407	-0.392	-0.419
	(-0.62)	(-0.38)	(-0.82)	(-1.55)	(-1.49)	(-1.57)
Acquirer Tobin's Q	-1.335***	-1.160**	- 1.368***	-0.537	-0.509	-0.547
	(-3.13)	(-2.59)	(-3.16)	(-1.30)	(-1.08)	(-1.36)
Acquirer Leverage	-1.250	-1.546	-1.296	3.141**	3.175**	3.161**
	(-0.39)	(-0.50)	(-0.41)	(2.26)	(2.44)	(2.24)
Acquirer ROA	-0.106	-0.098	-0.089	0.322	0.333	0.322
	(-1.17)	(-1.10)	(-1.08)	(1.18)	(1.26)	(1.18)
Target Size	0.627*	0.513	0.657*	-0.233	-0.264	-0.221
	(1.80)	(1.37)	(1.88)	(-0.67)	(-0.69)	(-0.62)
Target Tobin's Q	-0.120	-0.151	-0.151	0.170	0.159	0.167
	(-0.26)	(-0.32)	(-0.33)	(0.64)	(0.60)	(0.62)
Target Leverage	-5.262**	-5.294**	-5.065*	5.135	4.995	5.143
	(-2.49)	(-2.67)	(-2.11)	(1.62)	(1.50)	(1.64)
Target ROA	-0.067	-0.025	-0.102	0.002	0.000	0.004
	(-0.87)	(-0.40)	(-1.13)	(0.06)	(0.01)	(0.11)
Stock %	-0.037	-0.040	-0.037	-0.026	-0.027	-0.026
	(-1.27)	(-1.31)	(-1.33)	(-1.52)	(-1.57)	(-1.53)
Cash only	0.326	0.069	0.504	0.679	0.707	0.656
	(0.15)	(0.03)	(0.24)	(0.90)	(0.95)	(0.86)
Tender	-0.106	0.102	-0.286	-0.193	-0.164	-0.214
	(-0.15)	(0.15)	(-0.36)	(-0.29)	(-0.25)	(-0.33)
Diversifying	0.935	0.939	0.888	0.175	0.152	0.180
	(0.41)	(0.43)	(0.40)	(0.16)	(0.14)	(0.17)
Relative size	-0.212	-0.157	-0.262	1.377	1.441	1.354
	(-0.15)	(-0.11)	(-0.18)	(1.07)	(1.12)	(1.05)
Offer premium	0.015	0.014	0.014	-0.005	-0.005	-0.004
	(1.26)	(1.26)	(1.14)	(-0.66)	(-0.75)	(-0.63)
Constant	4.107	2.049	5.534	7.536***	7.172***	7.686***
	(1.03)	(0.48)	(1.60)	(3.83)	(4.06)	(3.69)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	196	196	196	313	313	313
Adj. R-squared	0.142	0.178	0.128	0.141	0.143	0.141