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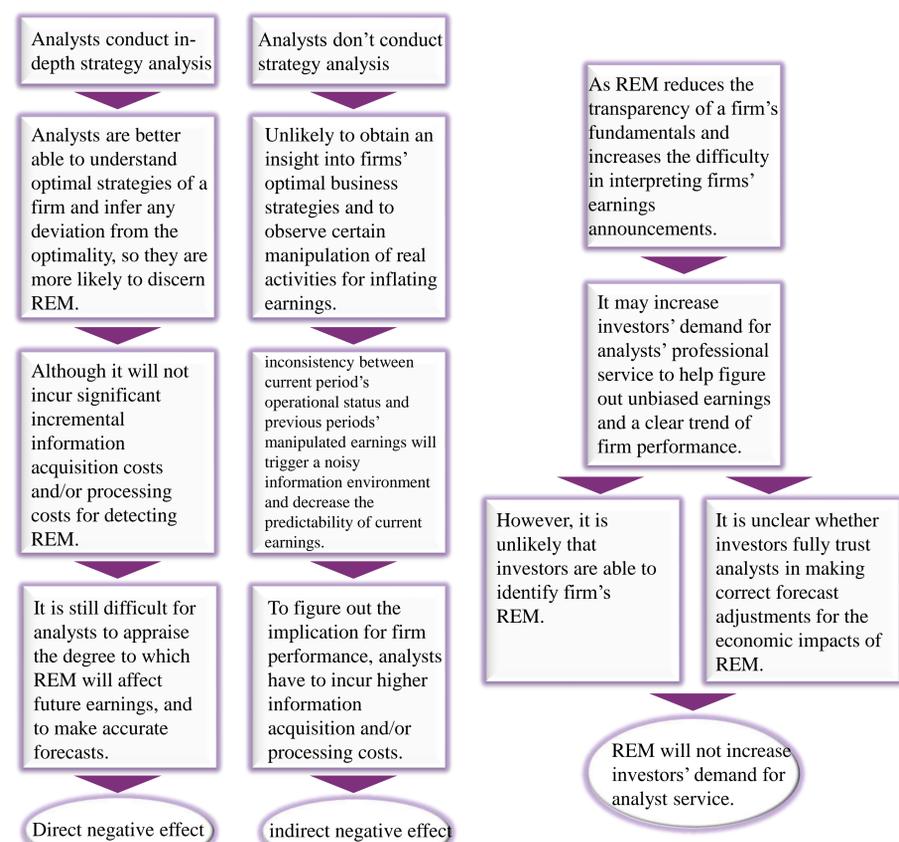
## Motivations

- Earnings are a powerful indicator for a firm's future prospect and form the basis on which to make investment decisions.
- Managers' substitution of real earnings management (hereafter, REM) for accrual-based earnings management after the implementation of SOX in 2002.
- Investors, who lack the time and ability to assess the reliability and relevance of corporate reporting and disclosures, could be readily misled into investing in a firm engaging in real earnings management. Can analysts help in this regard?
- A number of prior studies (e.g., Mensah et al., 2004; Sohn, 2012) question the sophistication of analysts in processing value-relevant information. Moreover, manipulation of real business activities is more difficult to see through than the manipulation of financial reports (Graham et al., 2005; Zang, 2012), especially in the post-SOX era in which analysts had been prohibited by the Regulation Fair Disclosure in 2001 from accessing private corporate information. Therefore, whether analysts are capable of discerning real earnings management and factor it properly into their coverage and forecasts for firms remains an open, unclear issue.

## Research Design

$$\begin{aligned}
 \lnanacov_t &= \alpha_0 + \alpha_1 compREM_{t-1} + \alpha_2 size_{t-1} + \alpha_3 stdearnings_{t-1} + \alpha_4 retvol_{t-1} \\
 &+ \alpha_5 price_{t-1} + \alpha_6 qtrret_{t-1} + \alpha_7 roa_{t-1} + \alpha_8 finconstraint_{t-1} + \alpha_9 r\&d_{t-1} \\
 &+ \alpha_{10} intangible_{t-1} + \alpha_{11} btm_{t-1} + \alpha_{12} insti_{t-1} + \alpha_{13} tradingvol_{t-1} \\
 &+ \alpha_{14} regulated_{t-1} + \alpha_{15} ab\_accrual_{t-1} + \alpha_{16} year\_dummies \\
 &+ \alpha_{17} industry\_dummies + \varepsilon_t \\
 error_t &= \alpha_0 + \alpha_1 compREM_{t-1} + \alpha_2 size_{t-1} + \alpha_3 price_{t-1} + \alpha_4 qtrret_{t-1} + \alpha_5 insti_{t-1} \\
 &+ \alpha_6 btm_{t-1} + \alpha_7 abtradvol_{t-1} + \alpha_8 retvol_{t-1} + \alpha_9 intangible_{t-1} \\
 &+ \alpha_{10} change\_roa_{t-1} + \alpha_{11} finconstraint_{t-1} + \alpha_{12} horizon_{t-1} \\
 &+ \alpha_{13} regulated_{t-1} + \alpha_{14} stdearnings_{t-1} + \alpha_{15} EARSurprise_{t-1} \\
 &+ \alpha_{16} ab\_accrual_{t-1} + \alpha_{17} gexp\_avg + \alpha_{18} bsize\_avg + \alpha_{19} year\_dummies \\
 &+ \alpha_{20} industry\_dummies + \varepsilon_t \\
 car_t &= \alpha_0 + \alpha_1 compREM_{t-1} + \alpha_2 size_{t-1} + \alpha_3 price_{t-1} + \alpha_4 qtrret_{t-1} \\
 &+ \alpha_5 retvol_{t-1} + \alpha_6 stdearnings_{t-1} + \alpha_7 r\&d_{t-1} + \alpha_8 intangible_{t-1} \\
 &+ \alpha_9 btm_{t-1} + \alpha_{10} roa_{t-1} + \alpha_{11} finconstraint_{t-1} + \alpha_{12} insti_{t-1} \\
 &+ \alpha_{13} tradingvol_{t-1} + \alpha_{14} regulated_{t-1} + \alpha_{15} ab\_accrual_{t-1} + \alpha_{16} gexp\_avg \\
 &+ \alpha_{17} bsize\_avg + \alpha_{18} year\_dummies + \alpha_{19} industry\_dummies + \varepsilon_t
 \end{aligned}$$

## Idea Framework



## Path Analysis

Whether real earnings management impacts analyst coverage directly depends crucially on whether analysts manage to detect real earnings management. If they do not, we expect that real earnings management affects analyst coverage indirectly via earnings predictability. To examine whether real earnings management has the direct or indirect impact on analyst coverage, we do a path analysis.

$$\begin{aligned}
 \lnanacov_t &= \alpha_0 + \alpha_1 predictability_{t-1} + \alpha_2 size_{t-1} + \alpha_3 stdearnings_{t-1} + \alpha_4 retvol_{t-1} \\
 &+ \alpha_5 price_{t-1} + \alpha_6 qtrret_{t-1} + \alpha_7 roa_{t-1} + \alpha_8 finconstraint_{t-1} + \alpha_9 r\&d_{t-1} \\
 &+ \alpha_{10} intangible_{t-1} + \alpha_{11} btm_{t-1} + \alpha_{12} insti_{t-1} + \alpha_{13} tradingvol_{t-1} \\
 &+ \alpha_{14} regulated_{t-1} + \alpha_{15} ab\_accrual_{t-1} + \alpha_{16} year\_dummies \\
 &+ \alpha_{17} industry\_dummies + \varepsilon_t \\
 predictability_{t-1} &= \alpha_0 + \alpha_1 compREM_{t-1} + \alpha_2 lnat_{t-1} + \alpha_3 capita\_int_{t-1} + \alpha_4 stdsales_{t-1} \\
 &+ \alpha_5 int\_dummy_{t-1} + \alpha_6 intangible_{t-1} + \alpha_7 stdcfo_{t-1} + \varepsilon_t
 \end{aligned}$$

## Conclusions

- We find that the extent of real earnings management is negatively associated with the number of analysts covering and forecasting earnings for firms.
- This association is not attributed to the indirect effect of real earnings management that takes place on analyst coverage via reduced earnings predictability.
- This association is evident only for firms that exhibit a relatively low degree of accrual-based earnings management, thus reconciling with Cohen et al.'s finding that firms utilize accrual-based earnings management and real earnings management as substitutes in managing earnings.
- We find no evidence that real earnings management reduces the informativeness of, or increases the error in, analyst forecasts. This suggests that, given an analyst's decision to cover firms that engage in real earnings management, s/he does not compromise on the quality of her/his forecasts.
- In aggregate, the reduced analyst coverage, albeit not in company with an increase in forecast error or a decrease in forecast informativeness, would potentially undermine the analysts' overall information-intermediary role in stock markets, thereby deteriorate the overall information environments of firms, and weaken capital market efficiency. Our study thus calls for the importance of scrutinizing and curbing real earnings management.

## Sample and Main Variables

- Sample period: 2002-2017
- Sample size: 9,139 firm-year observations for 1,790 unique firms
- Analyst coverage: The natural logarithm of 1 plus the number of analysts that make at least one annual EPS forecast for a firm over a fiscal year.
- Real earnings management: Using common factor analysis to construct a composite measure of real earnings management, which encompasses abnormal production costs and abnormal discretionary expenditures.
- We do not consider abnormal cash flows from operations, as (i) the direction in which real activities manipulation affects operating cash flows is ambiguous, and (ii) a large number of missing values found in the variable for abnormal cash flows from operations.

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