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# R&D Cuts and Subsequent Reversals: Meeting or Beating Quarterly Analyst Forecasts

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## ABSTRACT

Among firms that meet or beat earnings expectations, we find that cuts to R&D spending are more prevalent in Q4 relative to other interim quarters. This is consistent with the relative costs of real-activities management (accruals-based earnings management) decreasing (increasing) in Q4 due to the annual audit. More importantly, we find that the subsequent reversal of such R&D cuts is more prevalent and economically more significant following Q4 cuts relative to the reversals that follow cuts in other interim quarters. Our findings suggest that examination at the quarterly level (rather than annual level) lends new insights into the current debate regarding the prevalence of potentially value-destroying R&D cuts that managers make. Indeed, our findings suggest that some cuts may merely be temporary deferrals of R&D outlays.

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## Notes

<sup>1</sup>It is important to note that to the extent that such R&D cut reversals occur, such reversals are not a necessary, mechanical reversal arising from (or dictated by) the accrual accounting system, but rather, the result of deliberate operational/strategic decisions made by management. Such decisions are not subject to auditor scrutiny, and therefore are relatively less costly to implement in the fourth quarter.

<sup>2</sup>The standard example of this type of activity in the literature is captured by the Jones ([1991](#)) model of discretionary accruals, where the proxy for accruals-based management is a function of revenues, receivables, depreciation expense, and other parameters that are subject to the judgement and estimation of management.

<sup>3</sup>We choose to examine R&D as our proxy for real-activities management. Compared to R&D manipulation, other types of real-activities management may entail smaller economic consequences, but managers may still prefer to cut R&D. Take advertising as an example; trimming advertising expenses can boost short-term earnings for some firms, while for others, cutting into advertising activities can trigger immediate decline in sales and earnings (Cohen, Mashruwala, & Zach, [2010](#)). On the contrary, trimming R&D expenses usually has positive effects on short-term earnings. This is because return to R&D projects is more unpredictable and the future benefits of R&D spending are less likely to be fully reflected in current stock prices (Cheng, [2004](#); Lev & Sougiannis, [1996](#)). To managers that care about short-term performance, reducing R&D spending is probably more appealing than managing other real activities.

<sup>4</sup>There is no consensus on which forecast managers regard as the benchmark during the accounting period. When documenting annual real-activities management, Roychowdhury ([2006](#)) looks at the last consensus forecast before the annual earnings announcement, assuming it is an ex post proxy for what managers expect the final consensus to be when they make the real-activities decision in the year. Bhojraj et al. ([2009](#)) use the consensus forecasts as of the second month of the last quarter in each year to allow one month for real-activities management to occur. In unreported tests, we re-estimate the main regressions with two alternative benchmarks; one is the most recent analyst forecast up to three days before the current-quarter earnings announcement, and the other is the most recent analyst forecast made before the end of the quarter. Unreported results and inferences remain qualitatively unchanged.

<sup>5</sup>Information on quarterly R&D expenses became available in Compustat as of the first quarter of 1989.

<sup>6</sup>If a firm reports annual R&D expenses in quarter four and leave the interim R&D missing, we drop the observation.

<sup>7</sup>Brown and Pinello ([2007](#)) suggest that because annual financial reports are subject to more scrutiny, firms are slightly less likely to beat forecasts in Q4 than in interim quarters. Untabulated tests show that once we control for other relevant variables that explain the likelihood of beating forecasts, firms in our sample are also less likely to beat forecast in Q4 than in earlier quarters.

<sup>8</sup>Following Brown and Pinello ([2007](#)), we winsorise all variables in the regression at the top and bottom 1% to reduce the influence of outliers.

<sup>9</sup>It is not clear from SFAS No.2 (Accounting for Research and Development Costs, 1974) whether quarterly R&D expenses are subject to the integral method of reporting, as other quarterly operating expenses are. Under the integral reporting method, managers may exercise discretion in the allocation of annual costs. One potential concern is if quarterly R&D expenses are subject to the integral method, managers can allocate R&D costs (e.g. capitalised equipment costs) across the four quarters and quarterly R&D expenses could reflect an accrual decision. We argue that to the extent that such discretion may be embedded in quarterly R&D amounts, then any 'errors' that are corrected in the fourth quarter should be random; but we find that the fourth quarter's R&D is not random. So our results are less likely driven by change in R&D accruals. However, we do not examine all noise/biases that potentially arise from the integral

reporting method, so the reader should exercise caution in making inferences. Further examination of this phenomenon is left for future research.

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