Economic consequences of financial reporting changes: diluted EPS and contingent convertible securities

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Abstract

This paper examines the economic consequences of changes in the financial reporting requirements for contingent convertible securities (COCOs). Using a sample of 199 COCO issuers from 2000 to 2004, we find that issuers are more likely to restructure or redeem existing COCOs to obtain more favorable accounting treatment when the financial reporting impact on diluted earnings per share (EPS) is greater and when EPS is used as a performance metric in CEO bonus contracts. These results provide new evidence that managers are willing to incur costs to retain perceived financial reporting and compensation benefits. We also present evidence of significantly negative stock returns around event dates

associated with the financial reporting changes, consistent with investor anticipation of the agency costs associated with the rule change.

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Notes

1. See EITF Issue No. 04–8, “The Effect of Contingently Convertible Debt on Diluted Earnings per Share.”

2. Consistent with Holthausen and Leftwich (1983, p. 77), we view accounting choices as having economic consequences “if changes in the rules used to calculate accounting numbers alter the distribution of firms’ cash flows, or the wealth of parties who use those numbers for contracting or decision making.”

3. Previous research documents that managers will incur costs to secure other financial reporting effects, such as reporting higher net income (e.g., Ayers, Lefanowicz, & Robinson, 2002; Erickson, Hanlon, & Maydew, 2004; Matsunaga, Shevlin, & Shores, 1992) or removing liabilities from the balance sheet (Engel, Erickson, & Maydew, 1999). Graham, Harvey, and Rajgopal (2005) comment on the difficulty of convincingly documenting this tradeoff using archival data.

4. In addition to the financial reporting benefits, Marquardt and Wiedman (2005)

also show that the use of earnings-based CEO bonus plans, reputation costs, free cash flows, and tax factors play significant roles in the decision to issue COCOs rather than traditional convertible bonds.

5. Equity analyst reports during this time (see, e.g., Gainey, 2004) similarly characterized overall COCO-related disclosure as "generally poor if the goal is to alert and inform analysts and investors of the existence of these instruments and their impact on the financials."

6. In February 2003, the FASB introduced the FASB Staff Position (FSP) to issue application guidance like that previously found in Staff Implementation Guides and Staff Announcements. Before issuing an FSP, the FASB staff circulates a draft of a proposed FSP to board members for review. If a majority of the board does not object to the proposed FSP, it is announced at an open public meeting of the board. Following the meeting, the proposed FSP is posted to the FASB website for a comment period and is announced in that day's Action Alert. At the end of the comment period, the FASB staff drafts the final FSP. As with the proposed FSP, if a majority of the board does not object to the final FSP, it is posted to the FASB website and announced in the Action Alert. The FSP is intended to ensure more timely and consistent communication about the application of FASB literature than the previous procedures (see http://www.fasb.org).

7. In cases where the COCOs are anti-dilutive to EPS, or where the contingency has been met, the accounting change will have no effect on diluted EPS.

8. The impact of COCOs on diluted EPS under the treasury stock method depends on the company's stock price. If the average stock price for the period is below the conversion price of the COCOs, then diluted EPS would be unaffected, as only COCOs that are "in-the-money" would have a dilutive effect on EPS. As the average stock price rises above the conversion price, the treasury stock method would require that shares be added to the denominator

of diluted EPS, computed as the conversion value less the principal amount of the securities divided by the share price.

9. Specifically, the FASB did not allow issuers to simply state an intention to settle conversions in cash rather than stock, as General Motors (GM) publicly announced it would on August 5, 2004. GM had $8 billion of COCOs outstanding and faced a possible decrease in its forecasted diluted EPS for 2004 of $1.00 from $7.00 if the proposed accounting change were ratified. The company announced that it would settle any conversions of its COCOs in cash rather than stock, thereby effectively nullifying the effects of the proposed change on its diluted EPS figure (Boudette, 2004). However, after the transition rules of EITF 04-8 were ratified, GM followed up its original announcement with an irrevocable election by the board directors on November 5, 2004, to settle par values in cash, thereby securing their right to apply the treasury stock method of calculating diluted EPS to their outstanding COCOs.

10. Consistent with PPL's reasoning, prior empirical research shows that stock prices reflect dilution of EPS (see Core, Guay, & Kothari, 2002; Huson, Scott, & Wier, 2001; or Jennings, LeClere, & Thompson, 1997).

11. Brennan and Schwartz (1977) present conditions under which it is optimal to call convertible bonds.

12. Unfortunately, the small number of redemptions (six) prevents us from carrying out a separate analysis of this response.

13. We have forecasts of 2004 annual diluted EPS as of September 30, 2004. We divide the forecast by the share price as of February 18, 2004, that is, the share price one week before our first regulatory event occurs.

14. Reliable data on price thresholds is available only as of June 2004.

15. It is certainly possible that compensation committees could simply adjust for the rule change when setting bonus payments. To the extent that managers believe this is likely to occur, this effect will bias us against finding a positive relationship between *BONUS* and the restructuring decision.

16. We obtain this information from the "Report of the Compensation Committee" within the proxy statement. Ideally we would like to be able to determine whether the bonus plan relies on diluted EPS, as opposed to basic EPS, but the compensation reports do not provide this level of detail. Our assumption is that the term "EPS" refers to diluted EPS, as this is the figure that equity analysts forecast and investors use in valuation.

17. To the extent that firms respond to EITF 04-8 through means other than exchange offers or irrevocable elections to settle par values in cash rather than stock, there is potential for measurement error in our *RESTRUCTURE* variable. For example, firms may initiate or accelerate stock repurchase programs to offset the dilutive effects of EITF 04-8. A preliminary review revealed no evidence that such responses were taken by sample firms, perhaps because such action would impact basic as well as diluted EPS. In addition, any misclassification error will bias our tests *against* finding significant differences across the two groups.

18. Before EITF 04-8, a high-conversion premium ensured that the dilutive effects of the COCOs would be excluded from diluted EPS over a longer time period, as the stock price would have to rise even higher before conversion conditions were satisfied.

19. To more rigorously examine alternative motivations for early redemption, it would be necessary to identify a control sample of non-contingent convertible securities, specify a prediction model of early redemption, and compare the probability of redemption across the two groups. As noted

earlier, the very small number of redemptions prevents our undertaking a more thorough analysis.

20. To assess potential multicollinearity for our multivariate analysis, we compute condition numbers of the matrices of explanatory variables (Greene 2003). Condition numbers between 30 and 100 indicate moderate to strong dependencies among the variables (Judge, Griffiths, Carter Hill, Luetkepohl, & Lee, 1985). The highest condition number for the matrix of explanatory variables in all three models is less than 18.0, indicating that multicollinearity is not a problem.

21. As previously indicated, for firms with multiple offerings, *TRIGMET* is calculated using the average conversion trigger for all of the COCOs outstanding (typically two) compared with the firm's stock price. For all but five firms in the sample with multiple offerings, either all of the COCOs had hit the trigger or none had. We assess the sensitivity of our results to two alternative definitions. First, we exclude five firms from the analysis where at least one COCO had hit the trigger and at least one had not. In the second set of tests, we redefine *TRIGMET* to equal one if the stock price threshold for conversion had been met for all of the outstanding COCOs. In both cases, results for all three models remain similar to those reported in Table 4, although the *TRIGMET* variable becomes somewhat less significant.

22. As an additional sensitivity test, we also exclude the firm 3 M from the sample. This company did not restructure its COCO but also did not comply with EITF 04-8. The company argued in its 2004 10-K that "due to the FASB's delay in issuing SFAS No. 128R and the Company's intent and ability to settle this debt security in cash versus the issuance of stock, the impact of additional diluted shares will not be included in the diluted earnings per share calculation until SFAS No. 128R is effective." Results are very similar for all three models when 3 M is excluded.

23. Ideally, we would also examine the bondholder wealth effects associated with

EITF 04-8 but are unable because the overwhelming majority of COCOs are 144a private placements.

24. The positive accounting literature often argues that accounting changes that decrease reported earnings reduce political costs associated with regulatory pressures. This suggests that large firms, which are more sensitive to political costs, should experience muted shareholder reactions to such events. However, it is questionable whether regulators would focus on diluted EPS rather than, say, net income as a measure of firm profitability.

25. In fact, using three-day windows beginning the day before each event yield results that are qualitatively similar but have reduced significance levels. These findings suggest that market participants needed a relatively longer period to learn of the rule changes and/or interpret their effects on COCO issuers. However, to rule out the possibility that our results are driven by the longer return window, we perform a randomization test in which we randomly choose six dates during our event period, create three-day, five-day, or seven-day windows around each date, and run the time-series regression in Eq. 1. We repeat this procedure 100 times. Using an absolute *t*-statistic cutoff of 1.96, we expect the null hypothesis of no abnormal return to be rejected approximately 5% of the time. Using the 600 estimated coefficients resulting from this analysis, we reject the null at rates of 6.2%, 5.2 percent, and 4.5% for the three-, five-, and seven-day windows, respectively. In addition, a test of the cumulative returns across all six dates is rejected at a 5% rate for all three window lengths. We thus conclude that our choice of a five-day event window will not bias our results.

26. As a sensitivity test, we also used a four-year and one-year event period; results are invariant to the length of the event period.

27. If we expand the window around R1 to include July 8, when the *Wall Street Journal* published a second article on the EITF's proposed change, total abnormal portfolio returns range from −1.47% to −2.16% and *t*-statistics are

more highly significant for both the equally and variance-weighted portfolios (−2.58 and −2.45, respectively).

28. To explore whether other events might affect our results, we examined quarterly earnings announcement dates during 2004 for our sample firms. We find that 13, 3, 1, 64, 1, and 11 firms announced quarterly earnings within the five-day windows around D1, D2, R1, R2, R3, and R4, respectively. Of particular concern is event R2, where almost a third of the sample announced earnings and where we also find a significantly negative mean shareholder reaction. To determine whether these announcements are driving our results, we eliminate the 64 announcing firms from the portfolio and repeat our analysis. The *t*-statistic for the mean effect around R2 increases in its significance level when these firms are dropped (−2.49 vs. the −2.21 reported in Table 3). We thus conclude that any confounding effects from earnings announcements are unlikely to affect our inferences.

29. We perform White's (1980) test of heteroskedasticity for each column in Table 8. In every case, we cannot reject the null hypothesis of homoscedastic error terms at conventional levels of significance.

30. As a sensitivity test, we also included the other cross-sectional variables from Panel B in our disclosure model. None were significantly associated with shareholder reactions around events D1 and D2.

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