

**THREE ESSAYS ON EARNINGS MANAGEMENT USING  
REAL BUSINESS OPERATIONS**

By

Lingxiang Li

A Thesis Submitted to the Graduate  
Faculty of Rensselaer Polytechnic Institute  
in Partial Fulfillment of the  
Requirements for the Degree of  
DOCTOR OF PHILOSOPHY  
Major Subject: Management

Approved by the  
Examining Committee:

---

Bill Francis, Thesis Co-Advisor

---

Iftekhhar Hasan, Thesis Co-Advisor

---

Seunghan Nam, Member

---

Yingrui Yang, Member

---

Yinghong Zhang, Member

Rensselaer Polytechnic Institute  
Troy, New York  
July 2012  
(For Graduation August 2012)

## ABSTRACT

This dissertation provides several analyses of the emerging accounting issue "real business based earnings management" (REM) from three aspects: the determinants, the consequences, and characteristics. Instead of studying them in an exhausting fashion, the dissertation focuses on one important example of each of the three. Specifically, I look at first, how country-level legal strength determines managers' engagement in REM, second, how firm-specific stock prices behave after firms' REM, and third, whether downward manipulating REM exists empirically.

In Chapter A, I study how the strength of country-level legal system affects the extent to which firms use real activities to manage earnings. Using absolute values of abnormal discretionary expenses and production cost, we find that the level of REM is higher in countries with stronger legal systems, which is opposite to the relation prior studies have found between accrual-based earnings management (AEM) and country-level legal strength. Our suspect-firm analyses, using signed proxies of REM, show that the magnitude of upward real earnings management in strong legal environment is three times as large as that in weak legal environment. While providing new insights into the study of variations of earnings management across countries, those findings are to some extent in line with implications from Cohen et al. (2008) and Zang, (2011) about the impact of change in litigation risks on firms' choice of earnings management technique.

In Chapter B, using a large sample of U.S. firms over the period 1994-2009, we find that the magnitude of firms' prior REM is positively associated with their likelihood of experiencing stock price crash in the following period. These results are robust to firm-fixed effects analysis, different crash likelihood measurements, and suspect-firm analysis.

On the other hand, REM does not show any predicting power on the likelihood of positive jumps in stock price. Taken together, these findings support the notion that insiders use real activities to hide negative but not positive information. We also find that the predicting power of REM on crash risks becomes even stronger after SOX 2002, with the marginal impact being nearly three times as large as that in the pre-SOX period. By contrast, the marginal impact of AEM on crash risks drops by about half after SOX, which is consistent with the finding by Hutton et al. (2009).

Inspired by the work in Chapter A and B, one major purpose of Chapter C is to establish the validity of using unsigned REM proxies by testing whether downward REM exists in real world. This study looks for evidence of downward (REM) by focusing on several corporate events that are expected to create incentives for managers to deflate reported earnings temporarily. Using both multivariate regressions and propensity score matching analysis, we find large downward manipulation using different types of REM around announcements of open market share repurchases and before management buyouts. The magnitude of the downward REM is much larger than that of downward AEM around those corporate events. In comparison, such downward manipulation is not evident in firms that do not finish those deals after their announcements. However, our evidence of new CEOs using REM to take a "big bath" is mixed and weak.