Earning management

A brief summary

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Outline

Earning management

- Accruals-based earning management
- Real earning management/Real activities management

Measurements

- Discretionary accruals
- Real earning management

Conclusion and Thank you

Earning's components

The first equation to reflect the relation between Earning and Cash Flows is:

$$\textit{Earning} = \textit{Cash flows} + \textit{Accruals}$$

so if the *Accruals* is higher, there is more likely that firms manage their earning. In these two measure of components of *Earning*, the *Cash flows* is more important and a higher ratio of this component in the total *Earning*, the higher the quality of the income.

Why there exists the accruals? Is it legal?

- Gong et al. (2008)note that as long as managers use their discretion within the limits of generally accepted accounting principles (GAAP), earning management is not illegal.
- This GAAP system allows for accounting ajustment so that it can reflect the underlying business condition more accurately (as the deals happen rather than the cash payment happens).
- *For example*
  - Timing of events: You can sell the good today (2017 June 13), but wait until next month to receive the money. In this case, the revenue is recorded because the deal happened but the cash inflows will be in next month.
  - Amount: You could decide how long the machine is depreciated so the amount of depreciation expense will be different.

Sloan (1996)

- Investors tend to fixate to earnings so they cannot regconize that cash flows component is more attribute to the earning persistence.
- If the market is efficient, it should incorporate the relative importance of two components into stock price.
  - But it reflects the two components similarly.
  - Thus, if investors take an investment portfolio that *long* in low accruals and *short* in high accruals, they can earn positive abnormal returns.

When firms choose to manage earning?

- IPO (Teoh et al., 1998): upward earning
- SEO (Cohen and Zarowin, 2010; Kothari et al., 2016): upward earning
- Repurchase (Gong et al., 2008): downward earning

Real earning management

- While **accrual earning management** considers how managers choose the **accounting choices** to manipulate the earning, the **real earning management** entails **departures from normal operations** with the intent to mislead at least some stakeholders into believing that the reported financial performance has been achieved in the normal course of operations (Roychowdhury, 2006).
- The difference between them:
  - Auditors attempt to detect the departures from GAAP so accrual earning management is riskier, while the real earning management relates to managers' investment and operation decisions so it is more challengable for investors to detect. Thus, after SOX Act in 2002, there are more evidence of real earning management.
  - Real activities management will sacrifice the long-term performance such as reduce firms' R&D expense to meet the short-term objective (i.e., myopia problem)

Three types of real earning management

Cohen and Zarowin (2010) examine three types:

- Sale manipulations: temporarily offer price discount and more easier credit terms
- Reduction of discretionary expenditures: reduce R&D, SG&A, advertising expense
- Overproduction: by reduce cost of good solds but put them in production cost, so production is abnormal high

Discretionary accruals

1. Calculate total accruals:
   $AC = Net\ Income - Cash\ flows\ from\ operations$
2. Run cross-sectional regressions $\frac{AC_{j,t}}{TA_{j,t-1}} = \beta_0 \left(\frac{1}{TA_{j,t-1}}\right) + \beta_1 \left(\frac{\triangle Sales_{j,t}}{TA_{j,t-1}}\right) + \beta_2 \left(\frac{PPE_{j,t}}{TA_{j,t-1}}\right) + \epsilon_{j,t}$
3. Non-discretionary accrual (or normal accrual): $NDTAC_{i,t} = \hat{\beta}_0 \left(\frac{1}{TA_{i,t-1}}\right) + \hat{\beta}_1 \left(\frac{\triangle Sales_{i,t} - \triangle TR_{i,t}}{TA_{i,t-1}}\right) + \hat{\beta}_2 \left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right)$
4. The discretionary total accruals:
   $DTAC_{i,t} = \frac{AC_{i,t}}{TA_{i,t-1}} - NDTAC_{i,t}$
5. In Gong et al. (2008): they introduce a performance-matched abnormal accruals equals abnormal accruals minus the median of abnormal accruals of the industry performance-based portfolio.

Real earning management

- The main idea is estimate the normal level from fitted value of a regression, then the residuals is the abnormal level of cash flows, discretionary expense, and production cost
- In Cohen and Zarowin (2010): Sale manipulation is residuals from this regression: CFO is cash flow from operation

$$\frac{CFO_{it}}{AT_{it-1}} = k_1 \frac{1}{AT_{it-1}} + k_2 \frac{SALE_{it}}{AT_{it-1}} + k_3 \frac{\triangle SALE_{it}}{AT_{it-1}} + \varepsilon_{it}$$

Two types of earning management

- When firms choose to use real earning management:
  - From Cohen and Zarowin (2010): firms with Big 8 and long-tenure auditors, in litigation industries, high net operating assets, and after SOX Act tend to choose real earning management
- How to know firms choose which method? In Kothari et al. (2016):

	Abnormal Accruals > 0	Abnormal Accruals < 0
Abnormal R&D > 0	Group 1: AM only	Group 2: non AM & RAM
Abnormal R&D < 0	Group 3: both AM & RAM	Group 4: RAM only

Conclusion

- In the past, a study about earning management focuses mainly on accrual-based earning management
- Now, a study needs to consist of two types of management
  - A real earning management is more important and effective now
  - So, more challenge now!

Thank you

Thank you for your listening and welcome for your comments and questions.

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