DISCRETIONARY ACCRUALS MODEL

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Discretionary accruals

- Net Income = Cash Earnings + Non-cash Earnings
  - Cash Flow from Operations is a measure of Cash Earnings
  - Non-cash Earnings are "Accruals"
    - e.g., sales made on account, depreciation expense, warranty expense
- In general, accruals improve the measurement of firm performance by tying earnings to business activities, rather than to cash flows
- But, accruals are also the easiest portion of earnings to manipulate because they are based on managerial judgment and estimates
- Revenue and expense ratios only detect big manipulations to those accounts
  - May also be easier for outsiders to detect
- What if managers make small manipulations to multiple accounts?
  - Discretionary accruals models are designed to detect this

Modified Jones Model of Discretionary Accruals

- **Accruals should be a function of revenue growth and tangible assets**
  - **Revenue growth -> growth in working capital -> increase in non-cash earnings**
  - **High PP&E -> higher depreciation in non-cash earnings**
- **Accruals = α + β*(Cash Revenue Growth)+ χ*PP&E + ε**
  - **Accruals = Net Income – Cash from Operations**
  - **Cash revenue growth = Change in Revenue – Change in Accounts Receivable**
  - **PP&E = Gross Property, Plant, and Equipment**
- **Accruals that fit this model are "normal accruals" that are explained by normal business activities**
- **Accruals that do not fit this model are "discretionary accruals" and are more likely to reflect earnings management**
  - **Caveat: changes in the business, changes in the industry, or bad model fit could also create "discretionary" accruals**

Estimation Approach

- **Accruals = α + β*(Cash Revenue Growth)+ χ*PP&E + ε**
  - **Scale all variables by prior total assets**
    - **Removes a firm size effect**
- **Estimate a regression to get estimated parameters a, b, and c**
  - **Time-series: use past history for company**
    - **Cons: can't do for younger firms, parameters change over time**
  - **Cross-sectional: use industry at a point in time**
    - **Cons: sensitive to definition of industry**
  - **Assumes no manipulation on average in estimation sample**
- **Normal Accruals = a + b*(Cash Revenue Growth) + c*PPE**
  - **Where a, b, and c are estimated regression coefficients**
- **Discretionary Accruals = Accruals – Normal Accruals**


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