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**