Discount Rates Presentation 180522

Intro: Existing data doesn’t tell us much about discount rates

1. Data collection

A new database of corporate discount rates and perceived cost of capital

Data from corporate earnings calls

- Why do they give this information? concern: trying to justify valuation?
- Counter: show that they are careful about not over-investing. cost of capital > required ROR

Neils: they do seem to be earning the hurdle rate they claim.

Extracting:

- Get all conference calls on Thomson One for 2002-2021
- Search for paragraphs containing at least 1 of 20 keywords. 55k in total
- Cost of capital, equity, debt
- Hurdle rates, IRR, and more
- Manually enter relevant figures from all paras with an RA team over 1.5years

Data collection rules

- Required, realized or expected returns? collect all 3 separately
- Unrealized returns? only record figures in context of investment rules
- Multiple discount rates? - record most representative for the firm
- Suggestive and hypothetical questions - record only explicit statements by managers

A lot of int’l companies do the cc transcripts in English. Multiple countries.

Measuring discount rates using hurdle rates or required IRRs

- Hurdle rate = discount rate = required IRRs

Ensuring quality data

- A total of 15 RAs read thru 55k paras
- All outlier observations checked by the authors

Key Features of the New Dataset

Wide coverage

- 2400 unique listed firms
- 20 countries
- Some of the world’s largest corporations

Allows for dynamic analyses (some panel data stuff)

Firms included: skewed towards large firms

- 3% of being in sample (relative to # firms in Compustat).
- 50% of being in sample for top 100 firms
- Included firms account for 50% of investment during past 2 decades

Raw Averages for US firms

- cost of debt
- cost of capital
- discount rate
    - All gone down over time.

Q: Do hurdle rates move with interest rates?

2. Financial cost of capital → Perceived cost of capital → Discount rates → Investment

Country-Level Analysis:

- Financial cost of capital → 0.62 increase in discount rate
- Perceived cost of capital → 0.39 increase in discount rate

The discount rate wedge, estimated using firm FEs: Increased from 7.5% to 9.5% from 2004 to 2021.

Firm-Level Analysis

When discount rates go up, investments go down. (-0.86)

3. Causality or Correlation?

Does change in financial COC causally impact investment?

Challenge: Hard to find exogenous variation in COC

- COC often determined by state of economy in our models
- Expected stock returns an unknown function of investment
- Exogenous variation coming from mispricing often too small

Idea: discount rate wedges allow for variation in discount rates orthogonal to COC

- Discount rate wedge negatively related to investment

4. Model

Adjusted Tobin's Q model

- Adjusted Q implies lower adjustment costs. Adjusted Q is much closer to 1 compared to Q, and doesn't vary over time as much.

    - Increase in wedge over time mitigates the increase in Q
- “Missing Investment”: Why are firms not investing like crazy now if Q is so high? Investment should have gone up more than it did.
    - A: Because ‘actual’ Q is not that high compared to theoretical Q.
- Discount rate wedges dampen sensitivity of financial cost of capital → investment

5. What drives discount rate wedges?

- Risk
- Organizational constraints
- Market power
    - Firms with high market power have experienced higher increase in discount rate wedges
    - Are big firms just lazy and so don’t reduce discount rates?