Introduction Findings Investment

Discussion of: Firms' Perceived Cost of Capital Niels Joachim Gormsen and Kilian Huber

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The Financial Market and the Real Economy

- In perfectly functioning, competitive capital markets, each firm should act as a (frictionless) intermediary between its investors and projects.
- Firms should select their projects and the level of investment in each project exactly as their investors would select.
 - The marginal rates of substitution and transformation should be equal, and both should price security and investment returns (Cochrane, 1991).
 - The (marginal) NPV of any additional investment in each project should be zero.
 - The expected return on firm's securities should equal the (weighted) costs of capital on its projects (Miller and Modigliani, 1961).
 - all cash flows, including growth options, must be included
- However, individual project discount rates won't necessarily equal firm discount rates.
 - eg., the appropriate discount rate for new projets may be far higher than the firm's costs of capital.

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- This is one in a series of papers by GH that investigate how firms make capital allocation decisions
- In Gormsen and Huber (2023), they show that firms' discount rates for new projects are higher than their *perceived cost of capital* and that these discount-rate wedges are associated with investment fluctuations.
 - Moreover, they argue that their evidence on the increasing average discount rate wedge is consistent with the missing investment puzzle (see, e.g., Gutiérrez and Philippon, 2017).
- In this paper, they explore how the relation between traded firms' perceived cost of capital and the empirically-estimated expected return to their securities.
 - Both use an amazing dataset of transcripts from >2500 publicly traded firms' conference calls over 2002:01–2022:12.

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Aggregate x-sectional – size and beta other factors

Aggregate variations in PCoC

- The aggregate perceived cost of capital (PCoC) moves over time in a way that is consistent with movements in earnings yield and long-term interest rates.
- Can reject the hypothesis that managers are using a cost of equity capital equal to the long-bond rate plus a constant premium.

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Aggregate perceived cost of capital and debt



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Leverage, Beta, Size and Value



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Aggregate x-sectional – size and beta other factors

Leverage, Beta, Size and Value

The PCoC is \dots

- negatively related to leverage
 - more debt \Rightarrow lower PCoC.
 - does it reflect the asset beta (plus the tax-shield)?
- strongly positively related to the CAPM Beta
- strongly negatively related to firms' ME
- only weakly related to value

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Size and Beta

• Empirically, beta is weakly related to average returns (Black, Jensen, and Scholes, 1972; Fama and MacBeth, 1973)

• Firm size (ME) is weakly related to future returns (Banz, 1981; Keim, 1983)

- Note that Banz and Keim both used EW portfolios and found a large size effect. With VW portfolios the effect is small, and explained by mkt. beta (Asness, Frazzini, Israel, Moskowitz, and Pedersen, 2018)
- After controlling for size, beta is unrelated to returns (Fama and French, 1992; Daniel and Titman, 1997)
- Empirically there has never been a value premium for large cap firms, only for small. Do the PCoCs reflect this?

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Size effect, 2002:01–2022:12



using KRF's value-weighted, ME-sorted portfolios

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Factor Wedges



Fin. mkt. premia are based on long-run $\mathbb{E}[R]$ s from van Binsbergen et al. (2023)

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Realized- and Perceived-CoC and Investment (Asset Expansion)



Figure 6 – see also Tables 8 (PCoCs) and 9 (discount rates)

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Finding	s Defining Investment
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BBBY	

• Matt Levine's April 24 2023 *Bloomberg* column entitled "Bed Bath Moves into the Beyond" notes:

On Jan. 20, Bed Bath & Beyond Inc. had about 117.3 million shares of common stock outstanding; the stock closed that day at \$3.35 per share. On March 27, it had about 428.1 million shares outstanding, at \$0.7881 each. On April 10, it had 558.7 million shares outstanding, at \$0.2961 each. Yesterday, April 23, when it filed for bankruptcy, it had 739,056,836 shares outstanding. The stock closed at \$0.2935 on Friday.

• From 1/20 to 4/10, when it filed for Ch. 11 protection, BBBY sold 622 million shares and raised about \$2 million in cash. Over this period, its shares returned -91%.

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BBBY	

• Levine's column on Tuesday (10/31/23) entitled "Bed Bath from the Beyond" states:

On Sept. 29, 2023, Bed Bath & Beyond exited bankruptcy with an approved plan that resulted in zero recovery for shareholders. ... The last price ... on Bloomberg was on Sept. 29 with a closing price of \$0.0789.

	Bed, Bath & Beyond
Investment	

BBBY

 $\bullet\,$ and, in the same column, $\ldots\,$

Bed Bath & Beyond breached its debt covenants in December 2022. ... But [BBBY] found a way to delay the inevitable: It had enthusiastic retail meme-stock investors, and it did a series of weird deals to sell them an absolute ton of stock, for ever-declining prices, to raise a bit more money to hand over to its creditors. This was pretty clearly the plan, and it was pretty clearly disclosed; Bed Bath was not tricking shareholders about what it was doing. But it did it anyway, and the shareholders happily tricked themselves, pouring money into a worthless company for it to hand over to creditors.

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BBBY—borrow costs



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What is "investment"?

• As GH note, the FF and HXZ factors CMA and I/A are based on "investment" defined as the one-year change in balance sheet Total Assets:¹

$$\frac{\mathrm{TA}_{t\!-\!1}-\mathrm{TA}_{t\!-\!2}}{\mathrm{TA}_{t\!-\!2}}$$

- However, Cooper, Gulen, and Ion (2023) show that the ability of these factors to price the cross-section of security returns "... decreases significantly when the investment factor is constructed using traditional investment measures."
 - either physical (eg., CAPX) or intangible investment (Eisfeldt and Papanikolaou, 2013; Peters and Taylor, 2017)
- They argue further that the performance of asset growth is attributable to "its ability to capture aggregate shocks to equity financing costs" as opposed to either tangible or intangible investment.

Net Issuance and Future Returns

- Baker and Wurgler (2000) shows that the equity share (equity-vs-debt issuance) forecasts aggregate market returns.
 - Dichev (2007) shows that the dollar-weighted US market return is 1.3%/year lower than the buy-and-hold return (1926-2002).
 - The NASDAQ dollar-weighted return was lower by 5.3%/year (1973-2002).
 - The reason for this difference is that firms have historically issued shares, and investors have bought, when future returns were low.
- \bullet Daniel and Titman (2006) show that net-issuance forecasts future returns. 2
 - Moreover, issuance increases following run-ups in the share price not supported by improvement in firm fundamentals.
- These results suggest that the market doesn't fully incorporate the information contained in firm issuance (Myers and Majluf, 1984).

Issuance and Repurchase Activity as Investment

- Stein (1996) "Rational Capital Budgeting in an Irrational World" models manager decisions when prices can be wrong.
- The essence of the Stein model is that the firm has a set of real investment projects, but that it can also "invest" in the firm's traded common shares and debt.
- The manager acts in the interest of long-term investors in the firm's stock, who do not participate in new equity issues or repurchases.
 - If shares are overpriced, the firm is uniquely positioned to take large "short" positions by issuing new equity without the usual frictions associated with the share-lending market.
 - Think BBBY (or AMC) in recent years.
 - If shares are underpriced, at the firm is not financially constrained, it can sell debt and repurchase shares.

Investment Net-Issuance and Future Returns Stein (1996) — Figure 1 Issue and Repurchase and Invest Invest k' Return on Investment Issue Repurchase and and Don't Invest Don't Invest k*

Conditional Expected Return on Stock

Fig. 1.—Investment and financing policies when capital structure is not a constraint.





Fig. 2.—Optimal hurdle rates with binding capital structure constraint and no price-pressure effects.

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Conclusions and Suggestions

- This paper and this research agenda is really interesting and seems really important.
- We need a better understanding of firms' sources and uses of funds.
- It would great to have a better understanding of what managers think "cost-of-capital" and "discount rate" mean.
 - Is it something they got out of Berk & DeMarzo or Brealey & Meyers?
 - Is it the expected return on the firm's securities a horizon of n years?
 - Is it the (required) return that will make their investors better off
 - If so, which investors?
 - Do they use project-specific discount rates?
 - How do the think about timing differentials between issuance and (actual) investment?

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