

The Return of Return Dominance: Decomposing the Cross-Section of Prices

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Introduction



- **Summary:**
 - Vast majority of variation in P/E ratios driven by future returns rather than future cash flow growth
 - Past results finding large role for earnings largely driven by current profitability
 - Many existing models struggle to match this finding
- **This discussion:**
 - Connection to the past literature
 - Relationship between variance decomposition and value premium
 - Expected vs. realized outcomes

Intuition: Gordon Growth Model



- Intuition from MBA-style analysis (Gordon Growth Model)
- Constant growth of cash flows: stock price is

$$P_0 = \frac{D_1}{r - g} = \frac{(1 + g)D_0}{r - g} = \frac{(1 + g)(1 - b)E_0}{r - g}$$

where r is discount rate, g is growth rate, b is plowback ratio.

- Market-to-book ratio:

$$\frac{P_0}{BE_0} = \frac{(1 + g)(1 - b)E_0}{r - g} \times \frac{1}{BE_0} = \frac{(1 + g)(1 - b)}{r - g} \times \frac{E_0}{BE_0}$$

Intuition: Gordon Growth Model



- Defining $ROE = E/BE$, rewrite this expression as:

$$\frac{P_0}{BE_0} = \underbrace{\frac{(1 + g)(1 - b)}{r - g}}_{PE \text{ Ratio}} \times ROE_0$$

- A high market-to-book ratio is associated with:
 - Higher growth rate of cash flows (g, b)
 - Lower discount rate (r)
 - Higher return on equity (ROE)
- This paper, interpreted in this setting:
 - **Discount rates** explain ~3x more variation than **cash flow growth**
 - Variation in **ROE** important for explaining market-to-book

Main result: growth stocks don't grow!



- My main takeaway from the paper
- “Growth” stocks are mostly companies with **high ROE** and **low discount rates** (expected returns)
 - Only small minority of variation due to **expected earnings growth**
- Note: this holds in the future, not in the past
 - High market/book firms often had high past earnings growth
 - Documented in e.g., Fama-French (1995)
- Still, seems important for e.g., how we write down models
 - Cross-sectional model targets are a big contribution

Comment #1: relation to past literature



- Why did Fama and French (1995) miss this distinction between P/E and market-to-book?
 - Confounding future earnings growth with current ROE seems like an obvious error
- My interpretation: they didn't.
 - Trying to argue that earnings properties of value vs. growth firms are **causing** variation in risk premia (not market inefficiency)
 - To do so, they show that value and growth stocks have **different cash flow properties**, including persistent profitability

Market-to-book and expected returns



- Why do value and growth stocks have different risk premia?
 1. Their identifying characteristics (expected cash flow growth or current ROE) may be **priced risk factors**
 2. But if there is **any other variation** in expected returns (including mispricings) this will show up as a value premium through r .
- In my reading, Fama-French are arguing for #1, against #2.
 - Prefer “rational” story: cash flow fundamentals → risk premia
 - Argue against behavioral stories where stocks are mispriced
- But seem well aware of future earnings patterns
 - Find small variation in future earnings growth by book-to-market

Market-to-book and expected returns



- Does this paper tell us anything about this **earnings properties** vs. **residual variation in r** debate?
 - More challenging to think about the variance decomposition when earnings growth or profitability correlated with r .
- Ideally, we would want to know both the “direct” effects of earnings properties (**ROE** and g) on cash flows, as well as their “indirect” effects through r
 - Seems possible that large indirect effects would be consistent with the authors’ result
 - Is it possible to estimate these indirect effects?

Comment #2: variance of P/E vs. level of returns



- How much of the results do we already know just from the **level of the value premium**?
- Linearly approximate the log market/book ratio under GGM by

$$pb_i \simeq A_0 + A_g \times g_i + A_{ROE} \times ROE_i + A_r \times r_i$$

- Under efficient markets, value premium based on $Cov(pb_i, r_i)$
 - But variance share is just $A_r \times Cov(pb_i, r_i) / Var(pb_i)$
- Aside: might be interesting to consider what alternative sizes of the value premium would mean for this

Comment #3: expected vs. realized growth rates



- A challenge of this analysis is that it is trying to establish long-term covariances from ~50 years of annual data
 - Sample moments can conflate properties of ex-post realized returns with ex-ante expected returns
 - This particular period may have had unusual relationships between P/E ratio and realized earnings growth
- Greenwald, Lettau, Ludvigson (2023): large increase in profit share of output over this period
 - Did this disproportionately benefit value firms?
 - If so, realizations could offset ex-ante expectations

Why didn't growth stocks do well?



- This sample features large variation in real risk-free rates
 - Potentially important for realized returns
- Exposure to changing real rates likely varies with P/E ratio
 - Gordon Growth Model: duration very close to P/D ratio
 - High P/E firms should be much more affected by falling rates
- Real rates fell ~4pp since the 1980s, why don't we see a huge realized growth premium over this period?
 - If value stocks have duration 30, growth stocks have duration 60, Δr permanent, growth stocks could get extra ~120% return from this mechanism
 - One explanation is that these discounting effects were offset by cash flow changes. If so, could be influencing realized P/E decomposition.

Conclusion



- Very nice paper with intuitive and plausible results.
- Maybe not as contrary to the past literature as it seems.
 - Focus of past work was more on causal link to firm fundamentals rather than statistical decomposition
- How much do we already know from cross-sectional returns?
 - Seems like results are closely tied to value or P/E premia
- How should we think about expected vs. realized returns
 - Large changes in profit shares, perhaps unequal across firms
 - Why didn't growth stocks do well under falling rates?