Discussion of:

Financial Intermediaries and the Cross-Section of Asset Returns

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Overview

1. Model Intuition
2. Empirical Tests
   - Funding Liquidity Proxy
   - Leverage-factor Mimicking Portfolio construction
   - Timing Issues

Funding Liquidity (BP, 2009)

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  - Risk-neutral speculators will try to buy low-priced and sell high-priced assets, but they are constrained by margin requirements, given their limited capital. Thus,

$$\phi_1 = 1 + \max_j \left\{ \max \left(\frac{v_1^j - p_1^j}{m_1^{j+}}, \frac{-(v_1^j - p_1^j)}{m_1^{j-}} \right) \right\}$$

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    where m_1^{j+} and m_1^{j-} are the margin requirements for, respectively, long and short positions in security j.
- Therefore the RN speculator, at time 0, selects a portfolio so as to maximize $E_0[\tilde{\phi}_1 \tilde{W}_1]$

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- If the speculator sets prices, the FOC from the speculator's optimization will give time 0 prices:

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- Intuitively, if the ratio of mispricing/margin-required (ϕ_1) grows large, an extra dollar is really valuable to a speculator.
- and, assets that give you a high return when $\tilde{\phi}$ is big must command a high price, and have a low expected return.
  - They are insurance against these bad states.

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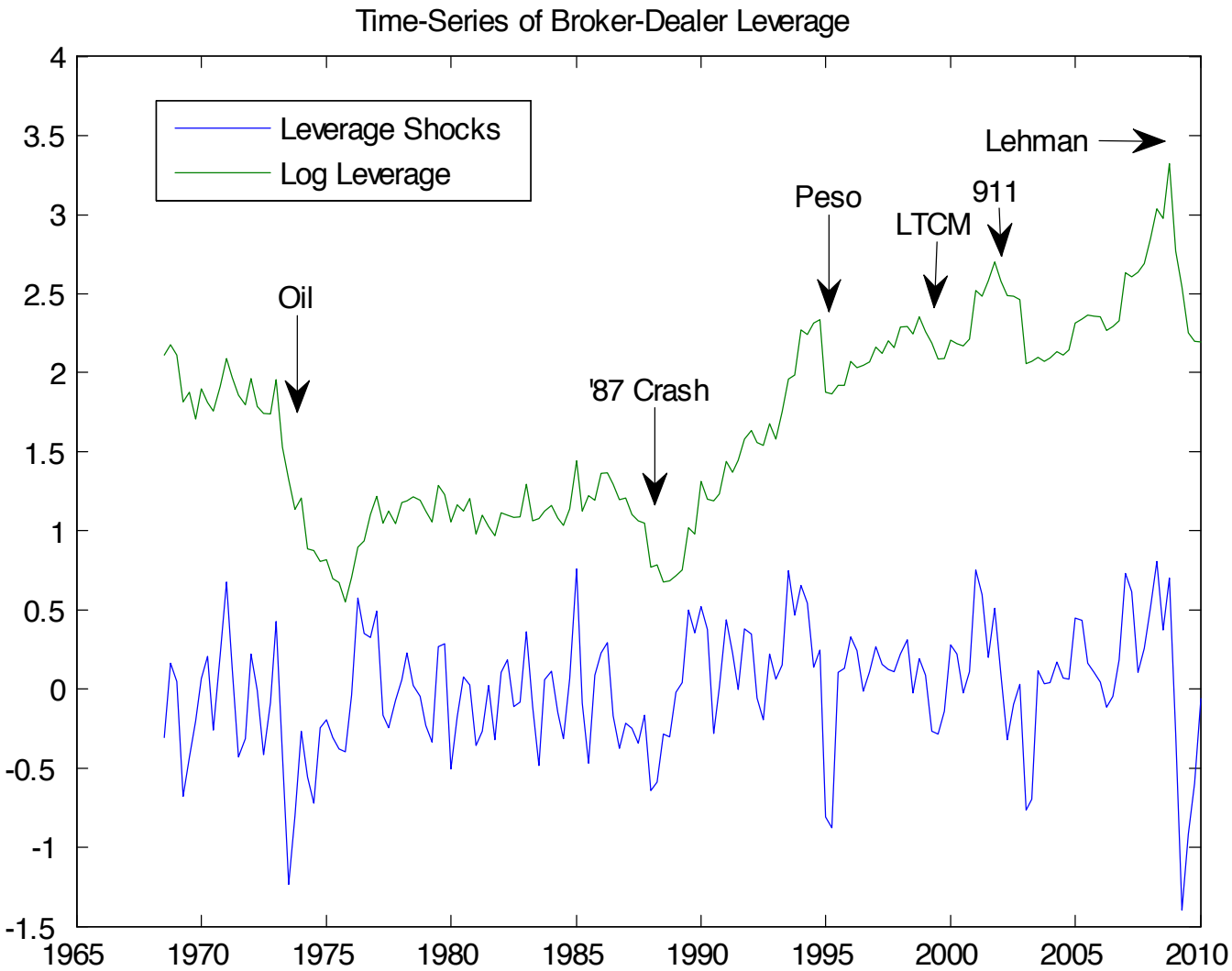
- broker-dealers will (probably) reduce leverage as volatility increases in a crisis, as margin requirements increase, leading to greater mispricings per dollar of margin.
- However, it would be interesting to better document the relation between the 2-q innovations changes and the ratio of investment opportunities to margin requirements.

Leverage Shocks



LMP Construction

- AEM construct a Leverage Mimicking Portfolio (LMP).
- The idea here is to find the portfolio that is maximially corrlated with $\tilde{\phi}$, as proxied by innovations in leverage.
  - If the 2-q leverage innovations are a good model for the pricing kernel, this portfolio will be MVE.
- To construct the LMP, they project their leverage shock variable onto the 6 Fama and French (1993) size/BM portfolio and the Carhart (1997) momentum portfolio (UMD).
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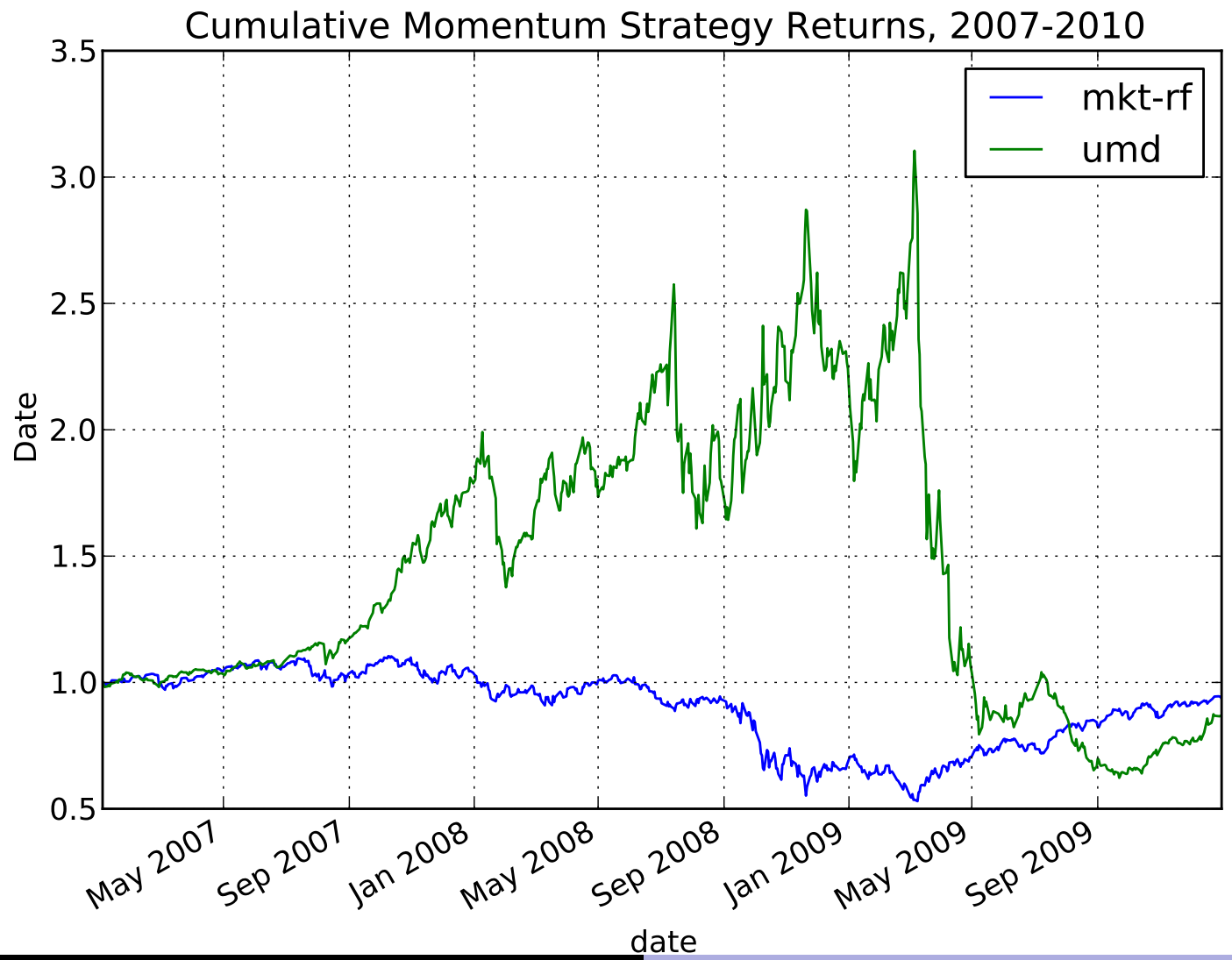
- Impressively, this projections picks out almost the most efficient combination of seven portfolios.
- However, it would be more convincing to study the projection onto the full return space.

Timing of Momentum Returns

- Authors find that low-momentum (past-loser) stocks are a good hedge against increasing broker-dealer constraints.
- This is surprising, given the timing of momentum returns in crisis episodes.
- low-momentum stocks typically do poorly going into a crisis, and do very well coming out of it.

Timing of Momentum Returns



Other Issues:

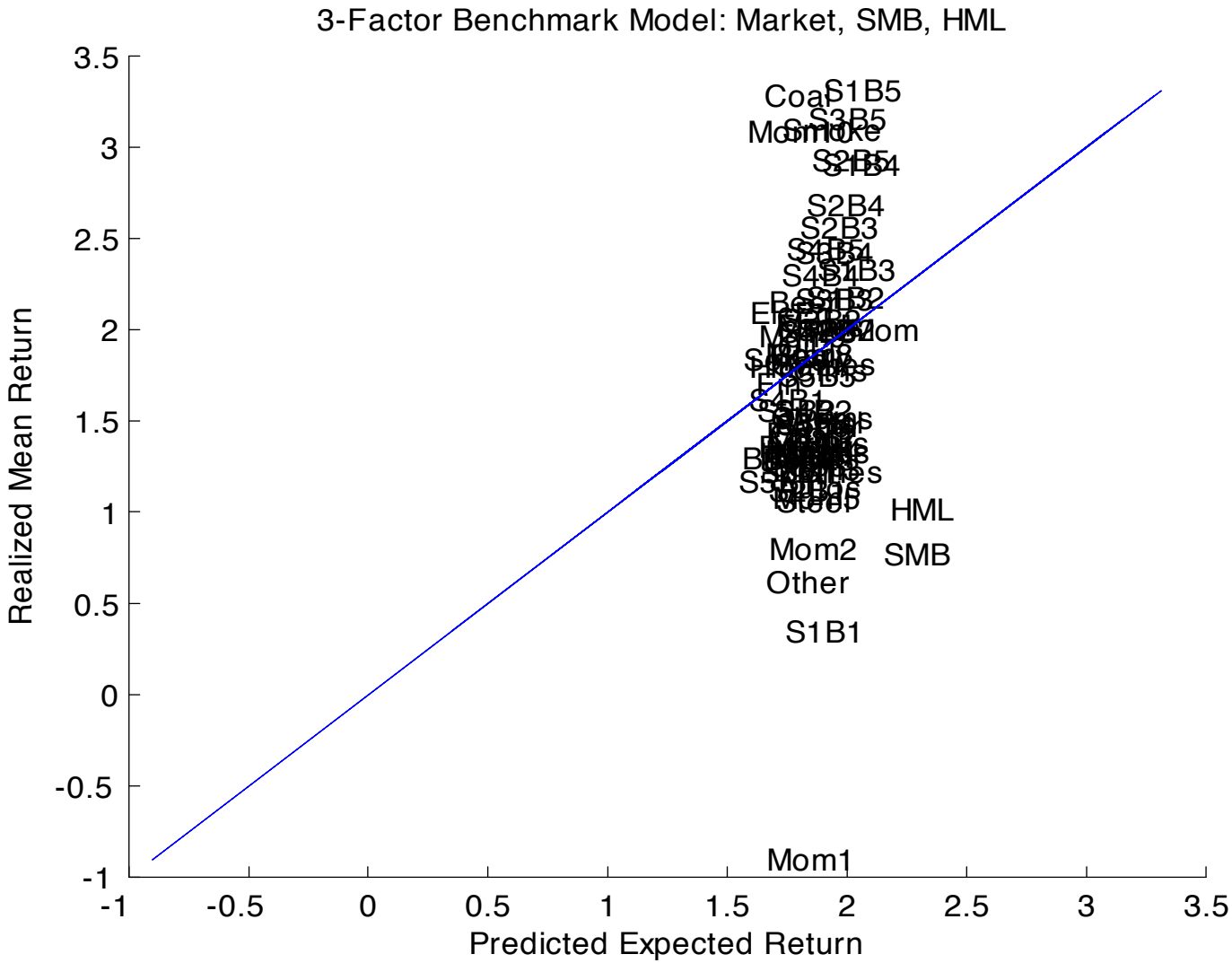
- Is the model pricing the residuals over a relatively short period?:

  Figure 3 shows that the strong performance of the leverage factor stems largely from the correct pricing of the industry portfolios and the momentum portfolios (p. 17)

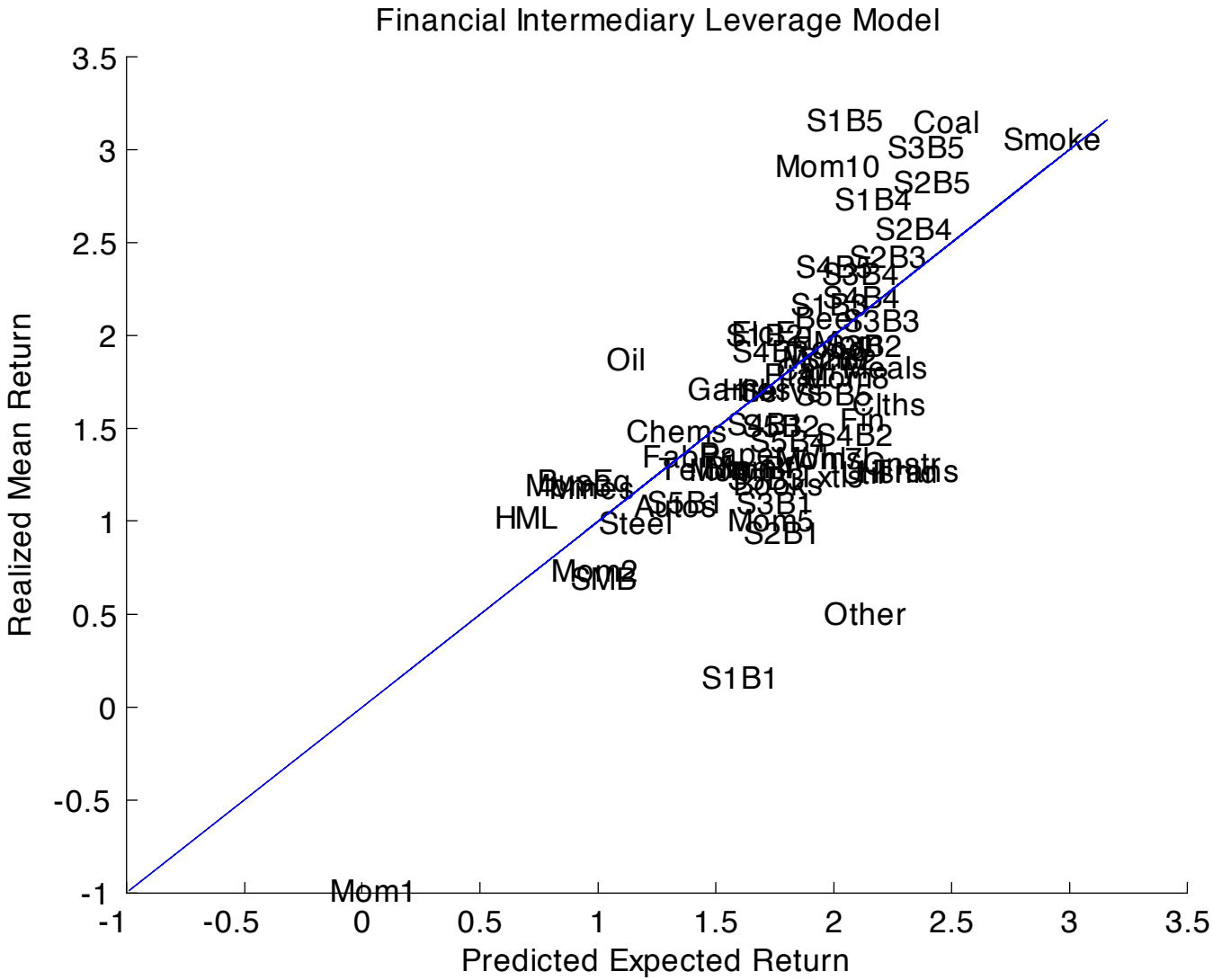
- Are the model comparisons reasonable?

  Yet, and perhaps most notably, the leverage factor is able to correctly price the value factor (HML) and size factor (SMB) – a dimension where the Fama-French model itself performs quite poorly (see Fig. 4). (p. 17)

3-factor model performance



Leverage model performance



Conclusions

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Suggestions:

- Better document the link of the 2-q leverage innovations with the marginal value of a dollar for the broker-dealers.
- Construct a leverage-mimicking-porfolio using the primitive assets (*e.g.*, individual stocks).
- Better understand the timing relationships of some of the variables (*e.g.,* momentum)

References I

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