

Derivative-Market Leverage and Risk Premia Implications

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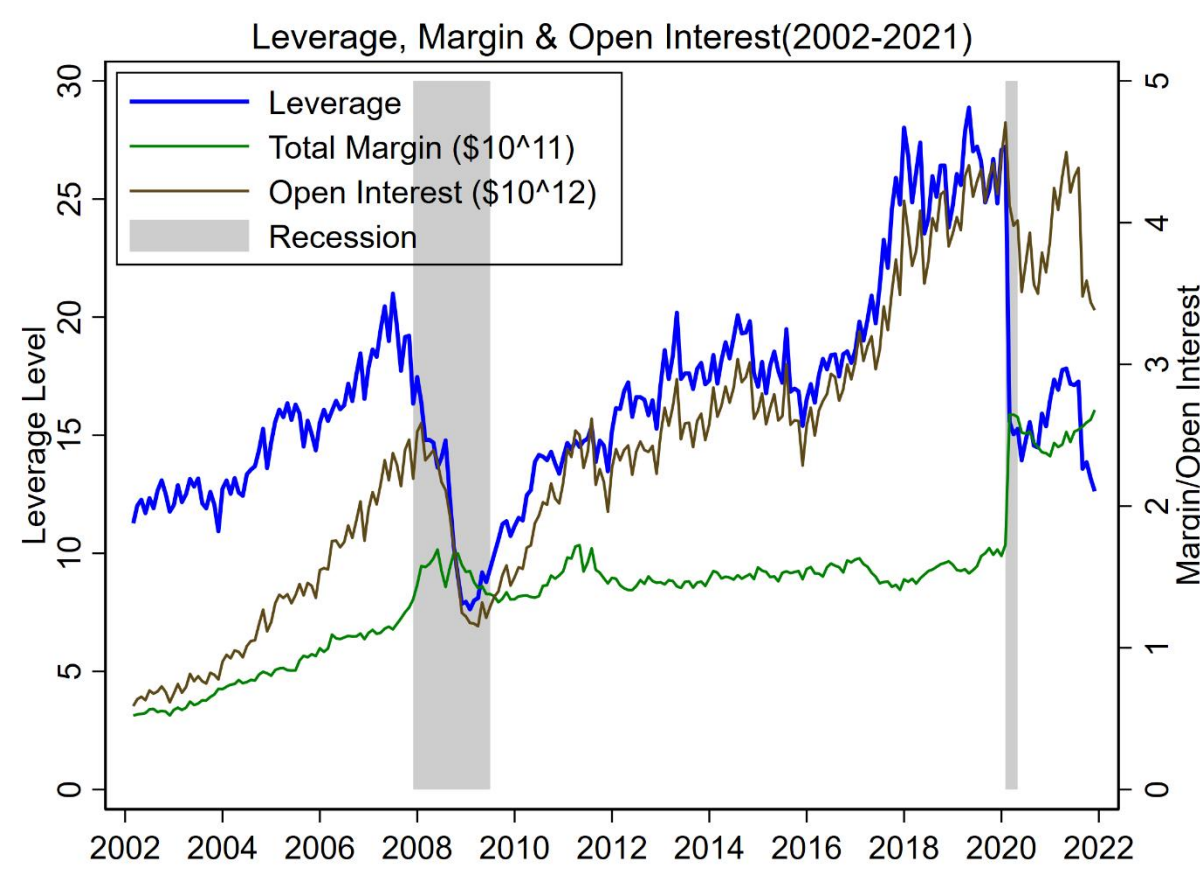


Abstract

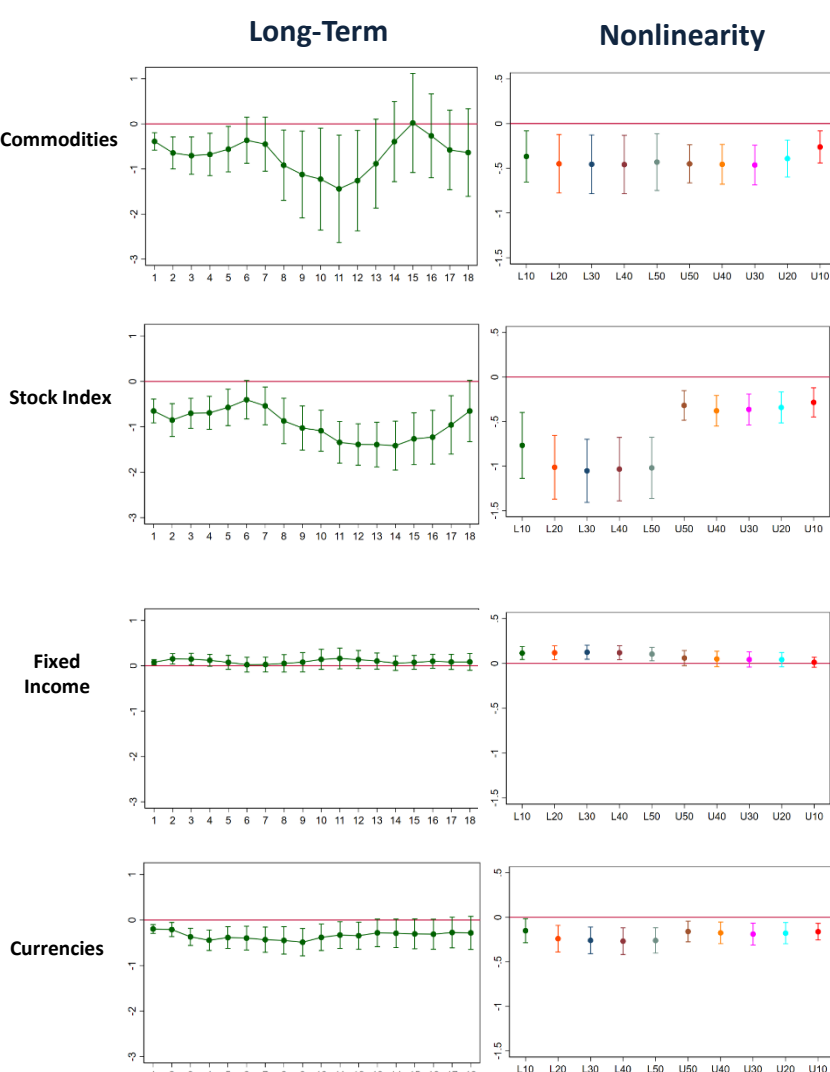
We use the futures commission merchants (FCMs) reports released by CFTC to construct a **frequent (monthly) and timely (one-month delay) market-level leverage measure**, based on the total margin of market participants. The derivative-market leverage **negatively (positively) predicts returns of risky (safe) assets**, as a market indicator of the **investors' risk tolerance**. This effect is robust across both futures and spot markets, persistent for about **one year**, and stronger during the **deleveraging periods**. The derivative-market leverage is responding to market uncertainty, co-moves with economic activities, but preceding capital demands. These results are consistent with a stylized model for the futures and spot markets.

Derivative-Market Leverage

$$Leverage_t = \frac{\sum_i Open\ Interest_{i,t} * Price_{i,t}}{\sum_j Margin_{j,t}}$$



Broad Risk Premia Implications



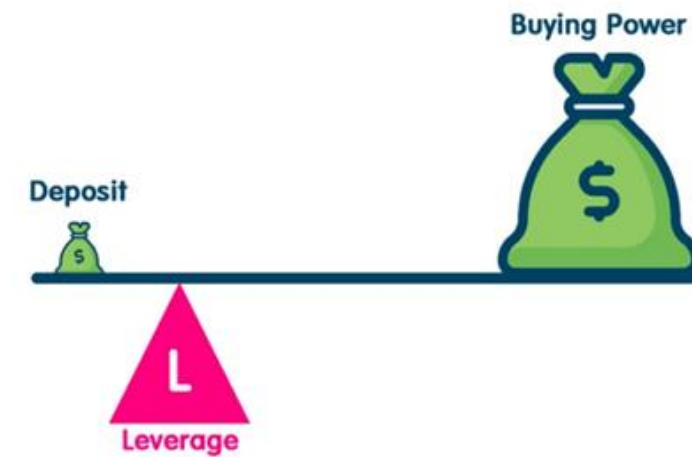
Strong return predictability in both futures and spot markets:

1. A negative relation between leverage and risk premia
2. Covering many asset classes, e.g. stocks, bonds, commodities...
3. Persistent up to one year
4. Nonlinearity - stronger when deleveraging

Graphic Illustration

How?

Embedded Leverage of Derivative Contracts:
“increase the amount of market exposure per unit of committed capital” (Frazzini and Pedersen, 2021).



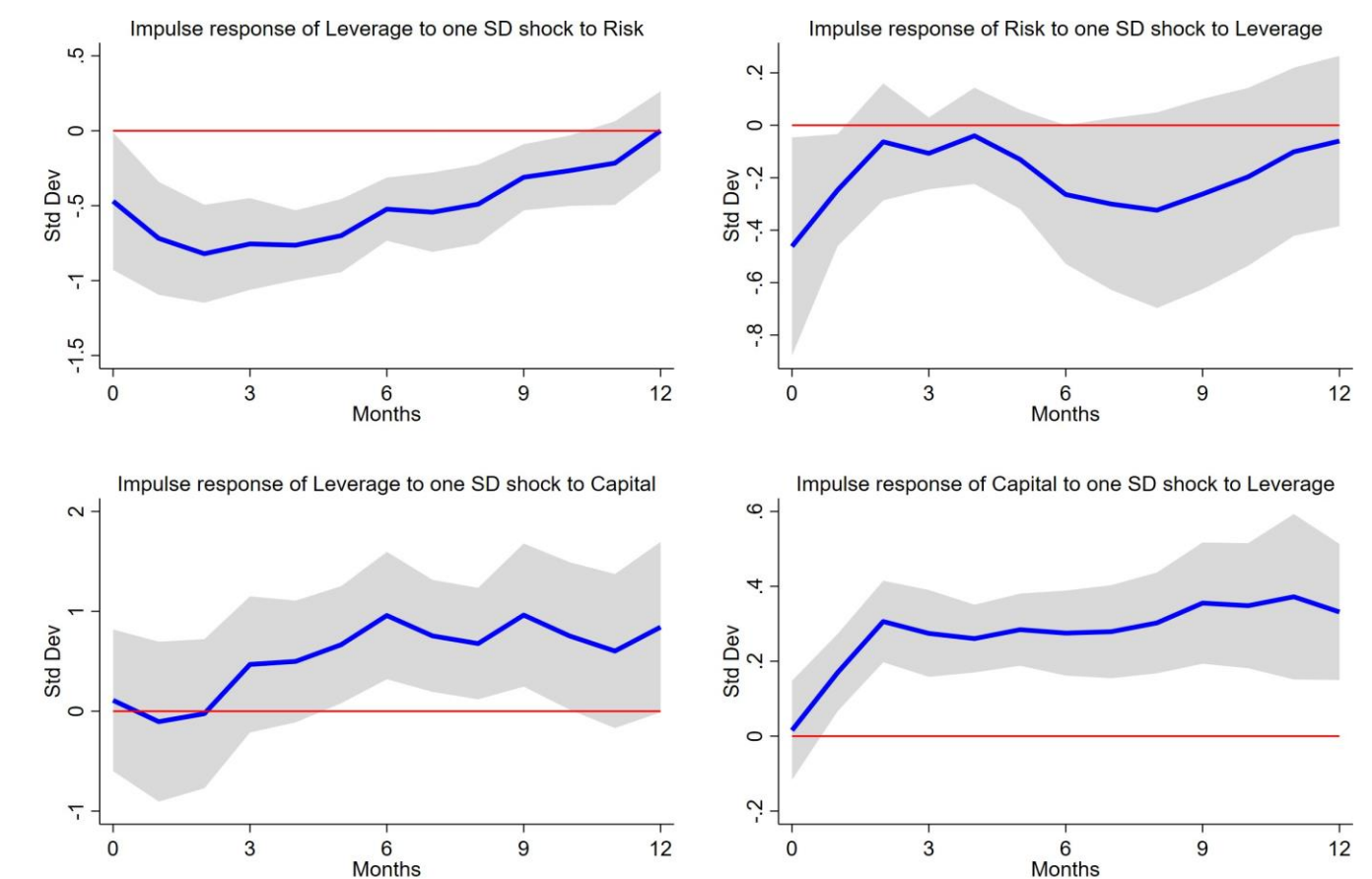
Why?

An Effective Risk Aversion Measure:
Equilibrium leverage is endogenously determined by investors' risk tolerance and affects asset prices (see, e.g., Kupiec and Sharpe, 1991; Geanakoplos, 2010; Santos and Veronesi, 2022).



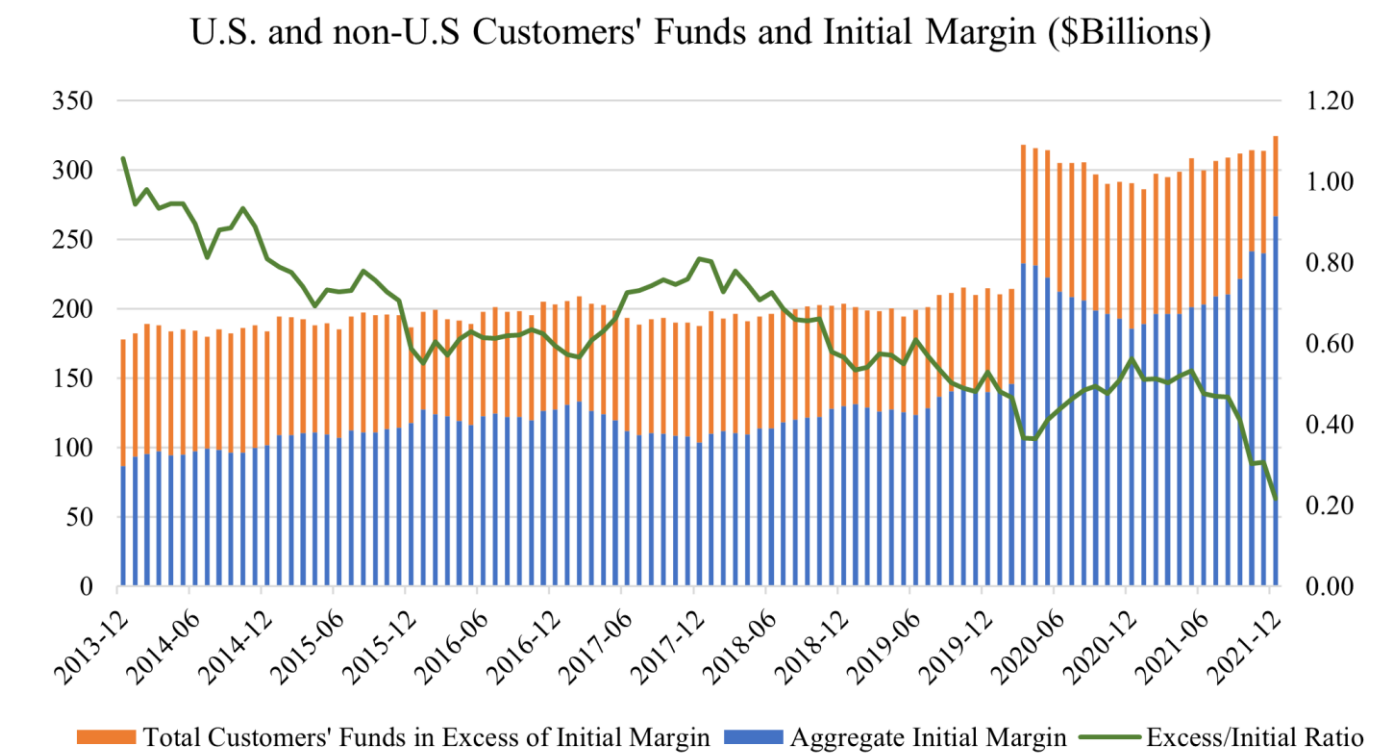
Mechanism

- ↑ Risk/Uncertainty ⇒ ↓ Market Leverage
- ↑ Economic Activity ⇒ ↑ Leverage-Taking
- ↑ Market Leverage ⇒ ↑ Capital Demand



Note: 95% confidence bands displayed

Margin variations suggest investors' discretionary choice of own funds



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Picture Sources:

- ChatGPT4.0;
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What?

