

**Title:** FORCED LIQUIDATIONS, FIRE SALES & THE COST OF ILLIQUIDITY

**Speaker:** Richard R. Lindsay and Andrew B. Weisman  
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**Importance:** Why this matters:

Investors in hedge funds must believe that the funds' returns will be sufficient to compensate them for their illiquidity. The other side of the coin is that in adverse conditions a fund may receive collateral calls that forces sales of securities at unfavorable prices, and may even cause the fund to collapse. These fire sales happen infrequently, so it is difficult to know how much reduce the funds' expected returns for this contingency.

The authors pose a solution to this dilemma in the form of implicitly being short a barrier put option. The cost of the put naturally translates into a de facto price for investing in a less liquid portfolio that may have to be liquidated at adverse prices.

**Investigation:** "Speaker analyzed XXX data to address the questions yyy, zzz, etc."

The authors analyzed data on 3500 hedge funds to estimate their vulnerability. Their proxy measure for fund vulnerability was based on serial correlation in the funds' returns, combined with fund volatility. Highly volatile funds and funds with a high degree of positive serial correlation are most at risk of being force to sell at prices that are significantly below the last appraisals. Their studies showed that the magnitude and frequency (not the timing) of forced liquidations are reasonably predictable.

**Innovation:** Are there new techniques of interest in the data or approach to the problem?

Serial correlations in returns are induced by asset valuations that are smoothed, resulting in an accounting artifact that can significantly overestimate fund asset values. Fund data can be used to provide forward-looking estimates of vulnerability.

**Insights:** 1-2-3, what are the three most important things the speaker offered?

1. Fund vulnerability -- of being forced into an abrupt sale into sharply declining markets -- can be estimated fund's serial correlations. The higher the serial correlation, the more likely there is smoothing, and market prices may be significantly less than recent valuations.
2. In cases of fraud or collapse, transactions in illiquid markets have caused losses to hedge fund investors averaging around 50% of stated fund values.
3. This barrier option model provides a straightforward method of combining priors about the market to price this core risk.

**Audience rating:** 4.49