The Cost of Financing Levered Equity through Futures

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Investors can lever through derivative markets without explicitly borrowing money. Some investment strategies which are popular with institutional fund managers require levering equity indices, either by explicit borrowing or through futures. While explicit borrowing costs are known, costs of financing through futures contracts are unknown.

We develop a theoretical method to infer the cost of financing leverage through index futures. The method makes use of an arbitrage relationship between the prices of the near and next futures contracts, two futures contracts expiring approximately three months apart on the same underlying index. This method overcomes (substantial) complications related to the daily settlement of futures contracts, margin accounts, and market segmentation.

We apply our method to analyze strategies that lever the S&P 500 index. In this setting, spreads of Futures-Implied-Rates over Eurodollar Deposit rates approximately follow Ornstein-Uhlenbeck processes, which are used to determine the statistical significance of the differences in these rates.