The correlation risk premium: Term structure & hedging by Goncalo Faria & Robert Kosowski

Discussion by Joost Driessen

Quick summary

- Correlations vary over time, in a systematic way
- Measure implied correlation (IC) from option prices or correlation swaps
- Calculate “returns”: difference between realized correlation (RC) and IC
- Paper examines term structure of IC and RC-IC
- Paper examines benefits of hedging correlation using dynamic trading strategies

Comments: Methodology

- Three ways to measure Implied Correlation:

1. Correlation swap rate: most direct way, but potentially illiquid market
2. Calculating IC from index and individual option prices
3. CBOE Correlation Index: methodology very similar to 2? Needs more explanation

Calculating IC from index and individual option prices

- The IC implied by option prices is not exactly the correlation swap rate

- Driessen, Maenhout and Vilkov show that only when individual stock variances are constant, IC is exactly the correlation swap rate
  - Otherwise it is an approximation

Term structures

- Key finding: term structure of IC is typically strongly upward sloping
  - Only in bad times it becomes flat

- Why? Puzzling…
  - Actual correlations are strongly mean reverting
  - Can only be explained by high risk premiums on long-term correlations, but long-term correlation risk seem small

Correlation risk premiums

- Highest risk premium for long maturities
- Why? As discussed earlier, actual correlations mean revert quickly
- Compare to other puzzles on term structure of expected returns
  - Term structure of variance risk premiums
  - Term structure of equity (dividend strips, Brandt, Koijen and van Binsbergen)

Ex-ante correlation risk premium

- Paper focuses on realized returns on correlation swaps
- Also try to measure ex-ante premium?
- Bollerslev, Tauchen and Zhou: ex-ante measure of variance risk premium
  - Lots of time-series variation
  - Predicts equity market returns
- One can do something similar here

Broader picture

- How persistent is correlation risk?
- How relevant for long-term investors?
- If indeed it is a short-term risk, can long-term investors benefit from this?