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?