Discussion of "Unlocking ESG Premium from Options"

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Recap of Reasoning

- The effect of stochastic volatility and jumps on option prices is well-known, e.g. Heston (1993), Merton (1976). Options become more expensive when volatility uncertainty or jump risk is high (the value of insurance is high).

- In the cross-section, such risks can lead to lower delta-hedged options return because of associated risk premiums.

- Anything increasing volatilities and/or crash risk may reduce options returns for the buyer of both call and put options. In this study, the authors examine ESG.

The Main Findings

• There is a positive relation between ESG scores and delta-hedged option returns. In other words, the higher ESG risk (low ESG score), the lower option returns.

• The result is mainly driven by jump risk (Gamma) rather than stochastic volatilities (Vega).

• The relation exists for E, S, and G separately, and strengthens when public attention on ESG is high, for firms closer to end-consumers, and for firms that do not hedge.

Contributions

- Derivatives researchers usually model exogenous risks to price derivatives. While jump risk can be naturally related to firm default, the economic interpretation for other risks can be challenging, especially stochastic volatility.

- Endogenizing these risks in the intersection of asset pricing and corporate finance is interesting. Literature on real options has shown how corporate behavior can be modeled in option pricing, e.g. leverage (Toft and Prucyk, 1997). The current study examines ESG as a new source of real risk that affects capital markets.

Main Comment

- How shall we link stochastic vol/jump to firm fundamentals?
    - Benchmark: many firm characteristics affect tail events, e.g. firm size, net income, leverage, cash holdings, market-to-book ratio in Campbell et al. (2008). Should these characteristics be included in the analysis when examining other sources of risk?
    - Does ESG affect vol/jump directly or through some of the benchmark characteristics?
        - The results using investor attention seem to suggest a channel outside the firm characteristics
        - The results based on firm hedging seem to suggest otherwise

Minor Comment

- What is the right way of calculating delta-hedged options returns?
  - Most people scale portfolio PnL by (delta_call*Spot – call price) for calls and (put price – delta_put*Spot) for puts, similar to the stock return calculation $R\_t+1 = (P\_t+1 – P\_t)/P\_t$
  - This leads to unrealistically low capital requirement and can exaggerate the return to options strategies because options trading requires margin deposit, and margins can be high for short positions and unhedged positions.
  - In reality, excess capital is often set aside for margin calls and all price risk factors have an additional effect on investor's utility due to uncertain funding requirements

Suggestions

- An event study plus some anecdotes
  - It is helpful to show how options markets respond to ESG news or scandals
  - It may also allow further study of informed trading around ESG events

- Asymmetric effects: does the ESG data have enough time-series variation to examine the asymmetry?

- Spillover effects