

Discussion of
“Does Risk-Neutral Skewness Predict the Cross-Section
of Equity Option Portfolio Returns? “
by Turan Bali and Scott Murray

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Peter H. Gruber*

*University of Lugano, Switzerland

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The paper

Context

- ▶ Is skewness risk priced?

In a nutshell

- ▶ Information content of the cross-sectional dispersion of the option-implied, risk-neutral skewness using three new assets
 - ▶ Hedge the first two moments of the return distribution (Δ , Vega)
 - ▶ Almost pure skewness exposure
 - ▶ Separate left tail and right tail using PUT and CALL assets
- ▶ Hold these assets until maturity \rightarrow payoff is difference between risk-neutral and realized skewness
- ▶ Explain returns in a Fama-French and Fama-McBeth framework

Contribution:

- ▶ First analysis of cross-section of skewness returns
- ▶ Methodological extensions to Goyal-Saretto (2009) methods

Results

Main Results

- ▶ Strong negative cross-sectional relation between risk-neutral skew signal and returns of skewness assets.
- ▶ This is driven by the left (loss) side of the risk-neutral distribution.
- ▶ Cannot be explained away by several standard measures of risk.

Comments

Praise

- ▶ An interesting and relevant topic
- ▶ A natural progression from Goyal-Saretto 2009
- ▶ Very good and detailed econometric work

Questions

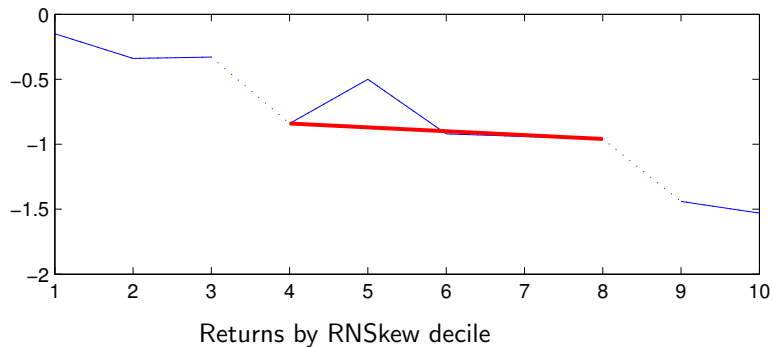
- ▶ Why not use excess skewness as signal variable?

Improvements – exposition

- ▶ Summary statistics of the data (fraction of days w/ insufficient data)
- ▶ Influence of the crisis (pre-crisis analysis as robustness check?)
- ▶ Appendix: add relation of PUTCALL asset to the skew
- ▶ Provide more details on the Fama-McBeth regressions, add R^2
- ▶ Explain in more detail, *why and how* the robustness checks support your hypothesis

Comments (2)

Is this a tail effect?



Comments (3)

Risk-based explanation

Long putcall asset			Short PUTCALL asset		
Quantile pf	(1)	(10)	Quantile pf	(1)	(10)
return	-0.15	-1.5	return	0.15	1.5
σ	3.17	4.12	σ	3.17	4.12
ES	7.28	11.74	ES	(?)	(?)
	Higher return, lower vol			Higher return, higher vol	

Related paper: volatility premia

- ▶ How are these results similar or different to Goyal-Saretto (2009)

Related paper: volatility and skewness premia

- ▶ Kozhan-Neuberger-Schneider (wp, 2010) find that the volatility and skewness premium in option prices is 99% correlated
- ▶ If one of these risks is hedged away, the premium for the other one is insignificant → contradiction to this paper?

(Minor) Comments (4)

Definition of excess return

- ▶ Short positions require lots of margin → over-estimate returns
- ▶ Alternative denominators
 - ▶ Estimate of margin (difficult)
 - ▶ Sum of absolute asset prices: $|put| + |call| + stock$
 - ▶ (Absolute) Notional value

Robustness check: transaction cost/liquidity

- ▶ Why restrict to large cap stocks?
- ▶ Open interest, trading volume?
- ▶ Slightly larger bid-offer spread to increase “liquid” sample
- ▶ Options still traded at midquote → problem?

Additional robustness

- ▶ Extra question: violations of put-call parity?

Ideas

Alternative interpretation (1): This is a hedge fund strategy

- ▶ Literature on hedge fund managers' performance:
 - ▶ Do not control for some risk factors \rightarrow spurious α
 - ▶ Add more and better risk factors
- ▶ See Kosowski, Naik, Teo (JFE 2007)

Alternative interpretation (2): differences in beliefs

- ▶ Differences in beliefs can explain the cross-section of option prices
- ▶ See Buraschi, Trojani, Vedolin (wp)

Alternative interpretation (3): mean reversion of skew

- ▶ Similar phenomenon to mean reversion in VIX options