Do Hedge Funds Hedge?
Evidence from Tail Risk Premia Embedded in Options

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The author addresses the following assumptions:

- Does tail risk in hedge funds come from their tail risk premia strategies?

- Does tail risk premia investing explain the variation in hedge-funds performance, in both the time-series and the cross-section?

- To what extent does hedge-funds alpha arise from managerial skill or from actually selling crash insurance? In particular, do hedge funds can actively time tail risk before market crashes?

- Can hedge-funds managers actively time tail risk by mitigating their exposure to extreme events?

- Tail risk in hedge funds particularly arises from the tradeable volatility *VRP*, skewness *SRP*, and kurtosis *KRP* risk premia strategies that hedge funds pursue.
- Thus, they are instrumental determinants in the variation of hedge-funds performance, both in the time-series and the cross-section.

- Exposures of hedge funds to tail risk premia are statistically significant across most hedge fund investment strategies.
- When considering tail events, adjusted R^2 associated to the augmented Fung-Hsieh model significantly increase for all the investment styles.
- Returns associated to hedge funds that pursue long-short equity strategies are particularly sensitive to tail risk shocks.

- Although most investment styles are sensitive to tail shocks, exposure across investment styles depends on the type of crash risk.
- High negative returns incurring in bad states are compensated by higher returns over long period, suggesting hedge-funds alpha is less managerial skill than selling crash insurance.
- A new statistical measure to evaluate the timing ability and managerial skills of hedge-fund managers to mitigate tail risk exposure is introduced.

Remarks

- Maybe the regression model with 71 observation and 10 variables does not provide very robust reults.

- You have estimated regression models with the Fung-Hsieh seven factors $+$ 3 risk premia variables (10 explicative variables) and the regression model with the last 3 explicative variables. Did you try an intermediate way, that is to select the variables using a statistical procedure, e.g. forward selection, or backward selection?

- Are betas estimated using a regression with only 11 observations?

- Can you exploit the potentiality of copula functions for estimating lower tail dependence starting from a bivariate distribution function?

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