Comments on Xuanjuan Chen, Tong Yao, and Tong Yu How Do Insurers Manage Credit Risk Exposure of Corporate Bond Portfolios?

Dwight M. Jaffee
Professor of Finance and Real Estate
University of California, Berkeley

For presentation: 10th International Conference on Credit Risk Evaluation, 2011 C.R.E.D.I.T.

The Importance of Background Risk in Finance and Insurance

- I am always surprised that background risk receives relatively limited attention in finance and insurance, since the key proposition has general application.
- The proposition:
  Under appropriate utility conditions, an economic agent facing two risks, one that can be insured and another that cannot be insured (the background risk), will choose to over-insure the insurable risk (relative to the amount of insurance that would have been purchased if it were the only risk at question).

The Two Risks in this Paper

- This paper focuses on insurers each holding its own direct insurance risk as well as an investment portfolio including corporate bonds (of varying possible qualities).
- The hypothesis is that insurers with higher direct insurance risk will select safer bond portfolios.
- The empirical results convince me that this relationship is confirmed in the data.

Measuring the Direct Insurance Risk

- Static measure: Volatility in underwriting income and non-investment cash flow.
- Dynamic measure:
  - Decompose the shocks to the static measure into transitory and permanent components, or
  - Financing constraints that make it more difficult to smooth transitory shocks.
- Response to 2008 financial crisis is final test.

Questions on Direct Insurance Risk

- NAIC database is applied only at company level, not at group level. This raises question whether hedging activity at the group level may make company results misleading?
- I also wonder how the catastrophe line <u>monoline</u> insurers are treated, since most of the time their cash flows are quite stable—i.e. only tail risk.
- Finally, I wonder if reinsurance hedges are properly picked up in the cash flow volatility.

Credit Risk Measures and Controls

- Primary measure is credit rating on bond portfolio.
  - Secondary measure is interest rate spread.
- Control Measures:
  - Firm size, age, bond duration, equity Beta, government bond ratio, equity ratio, group.

Econometric Test

- The basic test is whether risk of bond portfolio is inversely related to underlying insurance risk. The tests confirms this relation.
- My primary question here concerns the risk of other assets and their correlation with the bonds.
- These asset factors are in the controls but I suspect that the equity choice is endogenous, simultaneous with the and bond decisions are simultaneous.

  This suggests canonical correlation or some other estimation method that recognizes simultaneity.