

**Acceptance Speech for the 1997 Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security**

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I would like to join my co-authors John and Craig in thanking TIAA-CREF and the panel of judges for this wonderful award. Although any kind of public recognition by one's peers is always a welcome occasion, the Paul A. Samuelson Award is particularly gratifying because of Paul's seminal role in the development of financial economics and financial engineering. Also, this happens to be a very special year to receive the Paul A. Samuelson Award, both because it's the fiftieth anniversary of Paul's *Principles* text, and because Bob Merton and Myron Scholes were awarded the Nobel Prize in economics this year for their work on derivatives, something which Paul also had a hand in. Although this is my tenth year on MIT's faculty, I still feel like a house-guest in the house that Paul Samuelson and Bob Merton built. Perhaps at some point I'll be able to claim squatter's rights!

In the Chinese culture, it's imperative to acknowledge one's intellectual debts to prior generations of scholars - we see farther because we sit on the shoulders of giants, as another Merton, Robert K. Merton, once said. But in this case the intellectual debt is so obvious that it seems almost unnecessary to spell it out. Financial econometrics would not be a viable subject without the contributions of Samuelson and the other giants of modern finance. In fact, one small measure of the growing impact that this handful of academics have had on the financial industry is that as recently as ten years ago when I first arrived at MIT, practitioners distinguished between finance and quantitative finance - today, it is simply called finance because all of finance is now quantitative; hence the adjective is superfluous.

But having acknowledged the importance of finance theory for financial econometrics, let me now reverse the argument to say that financial econometrics has become equally important to the growth and vitality of finance theory. It's a happy coincidence that some of the most rigorous and mathematically sophisticated models of economics - financial models - also happen to be the most practically relevant ones as well. Indeed, practical relevance has been rather forcefully demonstrated by the recent success of Long-Term Capital Management (I believe they now have the highest number of Nobel Prize winners of any corporation with the exception of Bell Labs, and certainly the highest number per capita!). It should be noted that Paul Samuelson was engaged in similar activities long before it became fashionable, both for TIAA-CREF and for Commodities Corporation.

After we received the great news of our award, I spoke with Tom Pinto, of Public Relations at TIAA-CREF, about the press release he was preparing and he asked me, very politely. 'So what does financial econometrics have to do with lifelong financial security?' This, no doubt, is a question that must have occurred to some, if not all, of the judges! John has already touched on this issue in his remarks, but let me add that the reason I chose to specialize in this field is that financial models comprise the most natural applications of econometrics because uncertainty has always been the central focus of finance, unlike many other branches of economics in which uncertainty is an afterthought, an error term slapped onto an otherwise deterministic relationship.

The starting point of all financial models is the nature and sources of uncertainty, and this is music to an econometrician's ears. And so questions about the risks of the stock market in the long run, the returns to active management, the possibility of timing the market, the benefits (and costs) of international diversification, and other issues surrounding lifelong financial security, are all questions that financial econometrics is designed to grapple with.

It was our hope and conceit when we embarked on this project as assistant professors over a decade ago that we might be able to do for empirical finance what Paul and his followers have done for theoretical finance. Although we still have a long way to go before we reach that lofty goal, we hope our book is the first step in that direction.