

Unified Risk Management

The trajectory of the application of Mathematical Finance to the business world tends inexorably toward models incorporating more realistic features of how instruments and markets actually work.

Black-Scholes and Merton did Nobel Prize winning research that turned option pricing into a science. The theory progressed from simple stock options to more exotic options on a single stock. Steve Ross showed how to model portfolios of arbitrary instruments over one period. His work was ahead of its time and led to a cottage industry trying to make his mathematical claims more rigorous and extend the theory to work for multiple period models.

In the mid 90's dollar denominated interest rate products with maturities up to 4 years began to be quoted to basis point bid/ask spreads. The theory was a complete success for this class of instruments.

After the Asian Crisis in the late 90's the first steps toward incorporating credit risk to large portfolios appeared. The current XVA menagerie of calculations stem from that lesson.

There is still a lot of work to be done to build systems that have a unified approach to pricing, hedging, and managing the risk of portfolios across all asset classes.

Technology has reached the point where it is now possible to build a system to do this. I have been working for the past 10 years on the mathematical theory to underpin this and am up to date with the latest technology required to implement this.

I am looking for a company that believes getting a complete risk picture is a competitive advantage. Not only will this help with day-to-day management, but it can identify the sort of exposure that can put you out of business.

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