

Peter Carr: "Mix N Match Market Making"

Abstract:

Suppose that at a point in time, an options market maker knows the underlying asset price and also knows a finite number of European options prices. The only constraint on these market prices is that they are arbitrage free. The problem is to consistently extend the given option prices to all strikes and maturities without producing arbitrage and without imposing further structure on these given prices. The option market maker also wants to predict the value of any given option portfolio at any given stock price and any given calendar time before the first maturity. Finally, the market maker must be able to provide a non market quote in real time. We quickly survey previous solutions and present a new solution.