

Michael Tehranchi: “Implied Volatility at Long Maturities”

Abstract:

This talk considers some properties of the implied volatility surface for large times to maturity. In particular, the implied volatility smile flattens at long maturities in a rather precise manner. The long implied volatility is almost surely non-decreasing as a function of calendar time, in analogy with the Dybvig-Ingersoll-Ross theorem on long interest rates. An asymptotic formula for the level and slope of the long implied volatility smile is given and is illustrated by examples.