

Joint strike/expiry asymptotics of implied volatility

Roger Lee

U. Chicago, USA

Abstract / Resumo:

Asymptotic formulas for implied volatility in which strike *and* expiry are jointly assumed large can be remarkably more accurate (across essentially all strikes and expiries) than approximations in which only one of those coordinates is assumed large. I will outline the derivation, with rigorous error estimates, of explicit asymptotics in joint regimes. Numerical examples will illustrate the importance of carefully choosing the asymptotic regime. Joint work with Kun Gao.