1112-60-663 **Roger Lee*** (rogerlee@math.uchicago.edu) and **Ruming Wang**. *How Leverage Shifts and Scales a Volatility Skew: Asymptotics for Continuous and Jump Dynamics.*

To model leveraged investments such as leveraged ETFs, define the *β-leveraged product* on a positive semimartingale S to be the stochastic exponential of β times the stochastic logarithm of S.

In various asymptotic regimes, we relate rigorously the implied volatility surfaces of the β-leveraged product and the underlying S, via explicit shifting/scaling transformations. In particular, a family of regimes with *jump* risk admit a shift coefficient of $-3/2$, unlike the previously conjectured $+1/2$ shift. The $+1/2$, we prove, holds in a family of continuous stochastic volatility regimes at short expiry and at small volatility-of-volatility. In another regime, which does not admit a simple spatial shifting/scaling rule, we find an *expiry* scaling together with a spatial transformation. (Received August 11, 2015)