A Cost of Capital Approach to Extrapolating an Implied Volatility Surface

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Abstract[1]

This paper develops an option pricing model that takes cost of capital concepts as its foundation rather than dynamic replication. The resulting model, called the '*C*' measure in this paper, is related to the family of Affine Jump Diffusion models that are well known in the finance literature, so it is fairly easy to understand and implement. We argue that this is a reasonable model to use for estimating equity implied volatilities that are beyond the five- to 10-year horizon that can typically be observed in today's capital markets. The paper concludes with a short discussion of how to grade from observable market data to the '*C*' measure.

[1] The views and opinions expressed in this paper are those of the author and not the author's employer AEGON NV.