ALEX BADESCU, University of Calgary, 2500 University Drive NW, Calgary, Alberta T2N 1N4
Risk neutral measures for GARCH option pricing with normal variance-mean mixture examples

Under GARCH models the markets are incomplete so there are an infinite number of risk neutral measures for pricing contingent claims. In general the choice of such a measure has to be justified by an economic argument. This paper investigates risk-neutralized dynamics of various classes of normal variance mean mixture GARCH models using different martingale measures approaches. We discuss the properties of these and we show that for some special cases some of the changes of measure considered lead to similar risk neutralized GARCH dynamics. Numerical examples on pricing European options on S&P 500 index emphasize the importance of the choice of the pricing kernel.