Abstract

Recently, Carlsson and Fuller [C. Carlsson, R. Fuller, On possibilistic mean value and variance of fuzzy numbers, Fuzzy Sets and Systems 122 (2001) 315-326] have introduced possibilistic mean, variance and covariance of fuzzy numbers and Fuller and Majlender [R. Fuller, P. Majlender, On weighted possibilistic mean and variance of fuzzy numbers, Fuzzy Sets and Systems 136 (2003) 363-374] have introduced the notion of crisp weighted possibilistic moments of fuzzy numbers. In this paper, we propose a class of FCV (Fuzzy Coefficient Volatility) models and study the moment properties. The method used here is very similar to the method used in Appadoo et al. [S.S. Appadoo, M. Ghahramani, A. Thavaneswaran, Moment properties of some time series models, Math. Sci. 30 (1) (2005) 50-63]. The proposed models incorporate fuzziness, subjectivity, arbitrariness and uncertainty observed in most financial time series. The usual forecasting method does not incorporate parameter variability. Fuzzy numbers are used to model the parameters to incorporate parameter variability.

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