Time Varying Autoregressive Conditional Duration Models

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Recently, there has been a growing interest in studying the auto regressive conditional duration models, originally introduced by Engle and Russell (1998). These models are useful in modeling times between the events. We study the time varying autoregressive conditional duration models by allowing the parameters of the model to vary as functions of time. Some probabilistic and inferential aspects of such models are considered. We develop a local polynomial procedure for the estimation of the parameter functions of the proposed model. Several asymptotic properties of the estimators have been established including the asymptotic optimality. It has been found that the time varying autoregressive conditional duration models performs better than many of the standard the auto regressive conditional duration models for various real data sets.

Key Words: Duration modeling, local polynomial estimation