

Study on Double Autoregressive Moving Average Models

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Abstract: Motivated by the double autoregressive model with order p (DAR(p) model), we study the moving average model with an alternative GARCH error and a vector double autoregressive model (VDAR). These two models are extensions respectively from DAR(p) model by letting the order p go to infinity and from univariate case to multivariate case. Quasi maximum likelihood estimators of parameters in models are given and shown to be asymptotically normal, without any strong moment conditions. Simulation results show that our estimators perform well. Empirical studies are also done and compared with DAR models.