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A New Approach to Model Regime Switching[*]

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Abstract

This paper introduces a new approach to model regime switching using an autoregressive latent factor, which determines regimes depending upon whether it takes a value above or below some threshold level. In our approach, the latent factor is allowed to be correlated with the innovation to the observed time series. If the latent factor becomes exogenous, our approach reduces to the conventional Markov switching. We develop a modified Markov switching filter to estimate the mean and volatility models with Markov switching that are frequently analyzed, and find that the presence of endogeneity in regime switching is indeed strong and ubiquitous.

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