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*Statistical Inference of Structural Vector Autoregressive Integrated Process*

**Abstract:** We consider statistical inference of a structural vector autoregressive model of nonstationary and possibly cointegrated variables without the prior knowledge of unit roots or rank of cointegration. We show that the conventional two and three stage least square estimators are consistent but contain nonstandard distributions without the strict exogeneity assumption, hence the conventional Wald type test statistics may not be chi-square distributed. We propose a lag order augmented two or three stage least squares estimator that is consistent and is asymptotically normally distributed. Limited Monte Carlo studies are also conducted to shed light on the finite sample properties of various estimators.