Comments on "A Narrow and Wide Replication of Mixed Regressive, Spatial Autoregressive Model"

This paper replicates the simulation results of various GMM estimators in Lee (2007), arguing that we shall impose restricted parameter space on the minimization program. Two extended replications in terms of endogeneity and unbalanced panel data is also discussed.

Main comments:

1. For the comparison between unconstrained parameter space and constrained parameter space, the authors are not clear (also Lee (2007)) whether the Ohio crime weights matrix in the simulation is row-normalized or not. I think it makes sense to discuss the particular $[-1, 1]$ range only when the W is row-normalized. Let us assume that W is row-normalized.

Given the theoretical range [-1,1], which shall be $[-\frac{1}{|w_{\min}|}, \frac{1}{w_{\max}}]$ to be precise where $w_{\max} = 1$ under row-normalization, the constrained search shall be better than the unconstrained search. However, under large sample size, the unconstrained search shall also be valid. Therefore, the improvement of the performance is minor, both in theory and in the simulation. Therefore, I am not sure the contribution of this part will be appreciated by researchers.

2. For the GMM with endogenous regressor, if I read the paper right, the linear IVs are still constructed from X, which are endogenous. This is theoretically incorrect, as these linear IVs such as WX are correlated with disturbances. Please see Liu and Saraiva (2015).

3. For the unbalanced panel data, the current paper now uses a time varying spatial weights matrix. How can we have equation (6) while the DGP has $W_t Y_t$ from beginning?

Minor comments:

1. In footnote 1, authors argues that β's cannot be all zero in GMM. While this statement is true for 2SLS, it is not true for GMM and MLE. Particularly, for the GMM in Lee (2007), the quadratic moments can help to identify parameters even if all the β's are zero.

2. The matrix D_n shall be D_T as it is related to time. Also, the dimension of $D_n Y_{it}$ is confusing.

Reference.

Xiaodong Liu and Paulo Saraiva (2015) "GMM Estimation of SAR Models with Endogenous Regressors", Regional Science and Urban Economics 55, 68-79.