Readme

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The Matlab files in this zip file allow the computation of identification robust and two-step confidence sets for GMM models following the approach described in the paper "Valid Two-Step Identification-Robust Confidence Sets in GMM" by Isaiah Andrews. In particular, the file "Twostep_CS_calc.m" reports vectors of values contained in robust and non-robust confidence sets, as well as a vector of values gamma_hat. The results reported in the paper are produced by the file HS_CS_calc.m.

The file "Twostep_CS_calc.m" can be used to calculate robust and nonrobust confidence sets (along with values $\hat{\gamma}$) for discretized parameter spaces and (potentially nonlinear) GMM moment conditions and weighting matrices. When constructing confidence sets for functions of GMM parameters, the functions of interest are assumed to be of the form $f(\theta) = F\theta$ for some fixed matrix F (i.e. the hypotheses are assumed to be linear). The file "Robust_CS_calc.m" can be used to calculate robust confidence sets based on linear combination statistics as discussed in the paper, again for general (differentiable) GMM moment conditions and weighting matrices.

For an example of how to use this code in an application, see the replication files for the nonlinear Euler equation example discussed in the paper.