Programs and Data for Tables in "Inference of Signs of Interaction Effects in Simultaneous Games with Incomplete Information" (Aureo de Paula and Xun Tang)

SIMULATIONS:

Tables 1 and 2 are calculated using the Matlab function MCP1 which takes as arguments G, B, alpha (=0.10), Lambda, S (=1000) and jobnum. G, B and lambda are set to different values depending on the entry of the table.

The computations from MCP1 are stored in the workspace "MCP1_*jobnum*.mat" where *jobnum* is an additional argument in the function MCP1. When the workspace is opened in Matlab, the results are obtained from the matrices DecMat1, DecMat2, DecMat3 and DecSgn. These matrices are S by 3. A row corresponds to a Monte Carlo simulation and each column corresponds to a player.

Table 1: RP1 is the first component of mean(DecMat1).

Table 1: RP2 is the first component of mean(DecMat2).

Table 1: RP3 is the first component of mean(DecMat3).

Table 2: $\mathbf{q}_+$ is mean((DecSgn>0)) and $\mathbf{q}_-$ is mean((DecSgn<0)).

Table 3 is calculated using the Matlab function CalEQ3.m which takes as arguments δ and the support values array S (={[1],[-1,2],[-1/2,3/2],[-1,3]}). The parameter δ is set to different values depending on the column in the table.

Table 4 is calculated using the Matlab function MCP2 which takes as arguments G, S2 (=1000 and is denoted by S in the paper), delta and jobnum. G and delta are set to different values depending on the column of the table.

The computations are stored in the workspace "MCP2_*jobnum*.mat" where *jobnum* is an argument in the function MCP2. When the workspace is opened in Matlab, the results are obtained from the matrices StatMat1, StatMat2 and StatMat3. These matrices are S by 2. Each matrix corresponds to a player. A row corresponds to a Monte Carlo simulation and each column corresponds to a value in the support of X_i.

Table 4: The rows for X_i (where i is 1, 2 or 3) are obtained from StatMati.
mean((StatMati>1.64)) is a vector containing q_+ for each value in the support of Xi.
mean((StatMati<-1.64)) is a vector containing q_- for each value in the support of Xi.

The scripts used for the tables are:

MCP1.m: main function used in the computations for Tables 1 and 2. MCP1.m calls the functions CalT.m, FindCV.m and NP_FindCV.m. (Tables 1 and 2)

CalT.m: function used to calculate statistics for each simulation. CalT.m is called by MCP1.m and NP_FindCV.m. (Tables 1 and 2)

FindCV.m: function used to calculate critical values for the non-studentized test with parametric simulations. FindCV.m is called by MCP1.m. (Tables 1 and 2)

NP_FindCV.m: function used to calculate critical values for the Romano and Wolf (2005) procedure. NP_FindCV.m calls the function CalT.m and is called by MCP1.m. (Tables 1 and 2)

MCP2.m: main function used in the computations in Table 4. MCP2.m calls the functions CalEQ3.m. (Table 4)

CalEQ3.m: function used to calculate equilibrium choice probabilities in Design 2. CalEQ3.m is called by MCP2.m. (Tables 3 and 4)

The results were obtained using Matlab 7.11.01(R2010b).

EMPIRICAL ILLUSTRATION:

The Stata program and data for the results displayed on **Tables 5 through 8** are radio_ema.do and radio.dta, respectively.

The results are presented in two files: depaulatang.log and depaula.smcl. They both contain the same information.

The results were obtained using Stata 11.