HW: Selection and Strategic Models

As usual, write your results as if you're writing a lab report. Clearly lead the reader through your model, results, and your interpretation/discussion. Additionally, while I do not expect you to be an expert in these substantive areas, do treat them seriously, as if you were actually conducting research on these topics.

The file war1800.dta is a sample of nineteenth-century militarized interstate disputes. Assume that state 1 has the option of using force or not. If it doesn't, the status quo results. If it uses force against state 2, then state 2 must decide whether to respond with force (resulting in war), or not (resulting in capitulation by state 2). The variables in the dataset are:

MIDNUM = MID number
YEAR = year
CCODE1 = state 1 country code
ABBREV1 = 3-letter name
CAP_1 = state 1's % system capabilities
BALANC = cap_1/(cap_1+cap_2)
S_WT_RE1 = S score, weighted for 1's region
DEM1 = state 1's democracy score
DISTANCE = distance between states 1 and 2
REVIS1 = whether state 1 is revisionist
SQ = status quo outcome dummy
CAPIT = capitulation by 2 outcome dummy
WAR = war outcome dummy

1. One common model for this situation would be a Heckman bivariate probit selection model. Specify and estimate this selection model. What are the model assumptions? What factors influence the likelihood of attack? of war? Interpret and discuss your results.

2. Now suppose you wanted to estimate a strategic deterrence model to explain interstate conflict. Specify and estimate a strategic probit model. What are the model assumptions? What factors influence the likelihood of attack? of war? Interpret and discuss your results.

3. Conduct Clarke and Vuong tests of the above two models. Interpret your results.

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Variable        Mean   Minimum   Maximum
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CCODE1      235.6390      2       740
CCODE2      320.6230      2       800
YEAR       1867.2204   1817      1899
CAP_1         0.0953    0.0001    0.3388
CAP_2         0.0613    0.0002    0.3329
BALANC        0.6085    0.0038    0.9980
S_WT_RE1      0.4393   -0.6105    1
S_WT_RE2      0.4281   -0.8922    1
DEM1          -----      -10      10
DEM2          -----      -10      10
DISTANCE   1656.6166      0       7407
PEACEYRS     14.0543      0       74
MIDNUM      961.8626      8       3725
REVIS1        0.7412      0       1
REVIS2        0.1949      0       1
SQ            0.4249      0       1
CAPIT         0.2748      0       1
WAR           0.3003      0       1
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