Week 2 – February 1st, 2006

POL 606 – SAMPLE PROGRAM FOR RATS

FINDING UNIVARIATE ARIMA MODELS

```
calendar 1978 1 12
allocate 1997:12
open data usdata.txt
data(format=free,org=obs) / pres npros3 npros1 npros2 nret ppros pret dstorm $
 iranp rally19 iranc reagan tien bush irann clinton hinkley

source bjident.src

statistics ppros
graph(key=loright,header='Aggregated Personal Economic Expectations',subhead='1978-1997') 1
# ppros

@bjident ppros
diff ppros / pprosd
@bjident pprosd
boxjenk(ar=1,ma=||1||) pprosd / resid

compute aic = T*log(rss) + 2*n
compute sbc = T*log(rss) + n*log(T)
compute rms = (sqrt(rss))/T

display 'aic = ' aic '   sbc '  sbc  '    rms = '  rms

** for above diagnostics:
** T is the number of time points -- careful to get this right given lags.
** rss is residual sum of squares
** n is the number of parameters estimated: p+q+constant

** Try presidential approval -- its very strange!
statistics pres
graph(key=loright,header='Presidential Approval',subhead='1978-1997') 1
# pres

@bjident pres

correlate(number=50,partial=prespart,stderrs=auto, $
 qstats) pres / presaut
print / auto
graph(style=bargraph,key=loright,nodates,number=0, $
 max=1.0,min=-1.0) 3
# presaut
# prespart
# auto

boxjenk(ar=1) pres / resids
compute aic = 239*log(4756.23) + 2*1
compute sbc = 239*log(4756.23) + 1*log(239)
compute rms = (sqrt(4756.23))/239

display 'aic = ' aic '   sbc = ' sbc '   rms = ' rms

diff pres / presd
@bjident presd

boxjenk(diffs=0,ar=||10,13||) presd / resids
graph 1
# resids
@bjident resids
```