```
-------------------------------------------------------------------------------------------
> --------
      name:  <unnamed>
       log:  C:\Users\bomim\Dropbox\6TStriangles\fpa\data\lee-multiplerivals-appendix.
> log
  log type:  text
 opened on:   7 Aug 2025, 13:25:51

.
. * Table A1
. use "japancleaned2.dta", clear

. tab age gender, col

+--------------------+
| Key                |
|--------------------|
|     frequency      |
| column percentage  |
+--------------------+

           |        gender
       age |         1          2 |     Total
-----------+----------------------+----------
         2 |        72         72 |       144
           |     13.28      12.46 |     12.86
-----------+----------------------+----------
         3 |        30         37 |        67
           |      5.54       6.40 |      5.98
-----------+----------------------+----------
         4 |        38         39 |        77
           |      7.01       6.75 |      6.88
-----------+----------------------+----------
         5 |        37         37 |        74
           |      6.83       6.40 |      6.61
-----------+----------------------+----------
         6 |        39         43 |        82
           |      7.20       7.44 |      7.32
-----------+----------------------+----------
         7 |        42         44 |        86
           |      7.75       7.61 |      7.68
-----------+----------------------+----------
         8 |        33         35 |        68
           |      6.09       6.06 |      6.07
-----------+----------------------+----------
         9 |        34         38 |        72
           |      6.27       6.57 |      6.43
-----------+----------------------+----------
        10 |        32         37 |        69
           |      5.90       6.40 |      6.16
-----------+----------------------+----------
        11 |       185        196 |       381
           |     34.13      33.91 |     34.02
-----------+----------------------+----------
     Total |       542        578 |     1,120
           |    100.00     100.00 |    100.00


.
. * Table B1
```

```
. use jpappterr2014nomiss.dta, clear

.
. * Approval Ratings
. dfuller approval

Dickey-Fuller test for unit root                   Number of obs   =       203

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -5.054            -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller approval, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -4.792            -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0001

. pperron approval

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(rho)         -45.746           -20.143           -13.906          -11.137
 Z(t)            -5.063            -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

.
. * JPN -> CHN
. dfuller jcmo

Dickey-Fuller test for unit root                   Number of obs   =       203

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)            -12.218            -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller jcmo, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -9.978            -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000
```

```
. pperron jcmo

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                            ---------- Interpolated Dickey-Fuller ---------
                 Test       1% Critical       5% Critical      10% Critical
               Statistic       Value             Value            Value
------------------------------------------------------------------------------
 Z(rho)        -178.953         -20.143           -13.906          -11.137
 Z(t)           -12.260          -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

.
. * CHN -> JPN
. dfuller cjmo

Dickey-Fuller test for unit root                   Number of obs   =       203

                            ---------- Interpolated Dickey-Fuller ---------
                 Test       1% Critical       5% Critical      10% Critical
               Statistic       Value             Value            Value
------------------------------------------------------------------------------
 Z(t)           -10.992          -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller cjmo, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                            ---------- Interpolated Dickey-Fuller ---------
                 Test       1% Critical       5% Critical      10% Critical
               Statistic       Value             Value            Value
------------------------------------------------------------------------------
 Z(t)            -6.630          -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. pperron cjmo

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                            ---------- Interpolated Dickey-Fuller ---------
                 Test       1% Critical       5% Critical      10% Critical
               Statistic       Value             Value            Value
------------------------------------------------------------------------------
 Z(rho)        -175.318         -20.143           -13.906          -11.137
 Z(t)           -11.373          -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

.
. * JPN -> SK
. dfuller jkmo

Dickey-Fuller test for unit root                   Number of obs   =       203

                            ---------- Interpolated Dickey-Fuller ---------
                 Test       1% Critical       5% Critical      10% Critical
               Statistic       Value             Value            Value
------------------------------------------------------------------------------
 Z(t)           -14.476          -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000
```

```
. dfuller jkmo, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)            -10.679           -3.476            -2.883            -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. pperron jkmo

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(rho)         -191.560          -20.143           -13.906           -11.137
 Z(t)            -14.546           -3.476            -2.883            -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

.
. * SK -> JPN
. dfuller kjmo

Dickey-Fuller test for unit root                   Number of obs   =       203

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)            -14.610           -3.476            -2.883            -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller kjmo, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(t)            -10.609           -3.476            -2.883            -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000

. pperron kjmo

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
 Z(rho)         -212.613          -20.143           -13.906           -11.137
 Z(t)            -14.607           -3.476            -2.883            -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0000
```

```
.
. * Unemployment
. dfuller unemployment

Dickey-Fuller test for unit root                   Number of obs   =       203

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -1.422           -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.5716

. dfuller unemployment, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -1.340           -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.6105

. pperron unemployment

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(rho)           -4.874          -20.143           -13.906          -11.137
 Z(t)             -1.458           -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.5540

.
. * Consumer Price Index
. dfuller cpi

Dickey-Fuller test for unit root                   Number of obs   =       203

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -2.101           -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.2442

. dfuller cpi, lags(1)

Augmented Dickey-Fuller test for unit root         Number of obs   =       202

                              ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical      10% Critical
               Statistic           Value             Value            Value
------------------------------------------------------------------------------
 Z(t)             -2.691           -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0757
```

```
. pperron cpi

Phillips-Perron test for unit root                 Number of obs   =       203
                                                   Newey-West lags =         4

                            ---------- Interpolated Dickey-Fuller ---------
                 Test         1% Critical       5% Critical     10% Critical
               Statistic         Value             Value            Value
------------------------------------------------------------------------------
 Z(rho)          -13.097          -20.143           -13.906          -11.137
 Z(t)             -2.464           -3.476            -2.883           -2.573
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.1245

.
.
. * Table B2
. varsoc jcmo cjmo approval, maxlag(15)

   Selection-order criteria
   Sample:  1999m4 - 2014m12                       Number of obs      =       189
  +---------------------------------------------------------------------------+
  |lag |    LL      LR      df    p      FPE       AIC      HQIC      SBIC    |
  |----+----------------------------------------------------------------------|
  |  0 | -1519.04                      1983.58   16.1063   16.1271   16.1577  |
  |  1 | -1424.71  188.67    9  0.000   804.07   15.2033   15.2867*  15.4091* |
  |  2 | -1413.47  22.481    9  0.007  785.297*  15.1796*  15.3255   15.5398  |
  |  3 | -1409.34   8.266    9  0.508  826.963   15.2311   15.4396   15.7457  |
  |  4 | -1400.88  16.924    9  0.050  831.982   15.2368   15.5078   15.9057  |
  |  5 | -1397.69  6.3675    9  0.703  885.298   15.2983   15.6319   16.1216  |
  |  6 | -1393.87  7.6489    9  0.570  935.908   15.3531   15.7492   16.3308  |
  |  7 | -1391.76  4.2142    9  0.897  1007.87    15.426   15.8847   16.5581  |
  |  8 | -1386.69  10.133    9  0.340  1052.28   15.4677   15.9888   16.7541  |
  |  9 | -1383.41   6.569    9  0.682  1120.03   15.5282   16.1118   16.9689  |
  | 10 |  -1378.9  9.0281    9  0.435  1177.28   15.5756   16.2219   17.1708  |
  | 11 | -1368.64  20.522    9  0.015  1165.05   15.5623    16.271   17.3118  |
  | 12 | -1362.52  12.236    9  0.200  1205.32   15.5928   16.3641   17.4967  |
  | 13 | -1353.71   17.62*   9  0.040  1212.74   15.5948   16.4286    17.653  |
  | 14 | -1348.97  9.4833    9  0.394  1274.78   15.6398   16.5362   17.8525  |
  | 15 | -1341.51  14.912    9  0.093  1303.04   15.6562   16.6151   18.0232  |
  +---------------------------------------------------------------------------+
   Endogenous:  jcmo cjmo approval
    Exogenous:  _cons

. var  cjmo jcmo approval, lags(1/2)

Vector autoregression

Sample:  1998m3 - 2014m12                       Number of obs     =        202
Log likelihood =   -1505.26                     AIC               =   15.11149
FPE            =   733.5815                     HQIC              =   15.25064
Det(Sigma_ml)  =   595.8177                     SBIC              =   15.45542

Equation           Parms      RMSE     R-sq      chi2     P>chi2
------------------------------------------------------------------
cjmo                   7     1.43127   0.1675   40.64925   0.0000
jcmo                   7     1.79145   0.0503    10.6912   0.0984
approval               7     10.3097   0.6168   325.1349   0.0000
------------------------------------------------------------------

------------------------------------------------------------------------------
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
cjmo         |
        cjmo |
         L1. |   .1440092   .0682364     2.11   0.035     .0102683    .2777501
         L2. |   .2365127   .0673908     3.51   0.000     .1044291    .3685964
             |
        jcmo |
         L1. |   .0427711   .0583729     0.73   0.464    -.0716376    .1571799
         L2. |   .0694395   .0573013     1.21   0.226    -.0428689    .1817479
             |
```

```
    approval |
         L1. |   .0026128   .0098485     0.27   0.791    -.0166898    .0219154
         L2. |  -.0168716    .009814    -1.72   0.086    -.0361067    .0023636
             |
       _cons |    .563568   .3314934     1.70   0.089    -.0861471    1.213283
-------------+----------------------------------------------------------------
jcmo         |
        cjmo |
         L1. |   .0341377   .0854077     0.40   0.689    -.1332584    .2015337
         L2. |   .1256533   .0843493     1.49   0.136    -.0396684    .2909749
             |
        jcmo |
         L1. |   .1304213   .0730621     1.79   0.074    -.0127777    .2736204
         L2. |  -.1162067   .0717208    -1.62   0.105    -.2567769    .0243634
             |
    approval |
         L1. |   -.010068   .0123268    -0.82   0.414     -.034228     .014092
         L2. |   .0018944   .0122837     0.15   0.877    -.0221812    .0259699
             |
       _cons |    .829501   .4149117     2.00   0.046      .016289    1.642713
-------------+----------------------------------------------------------------
approval     |
        cjmo |
         L1. |  -.6816647   .4915193    -1.39   0.165    -1.645025    .2816953
         L2. |  -.9767657   .4854285    -2.01   0.044    -1.928188   -.0253434
             |
        jcmo |
         L1. |   .1661064   .4204705     0.40   0.693    -.6580006    .9902134
         L2. |  -.0215241   .4127514    -0.05   0.958    -.8305019    .7874537
             |
    approval |
         L1. |   .7714225   .0709402    10.87   0.000     .6323822    .9104628
         L2. |  -.0254359   .0706922    -0.36   0.719      -.16399    .1131183
             |
       _cons |   11.64452   2.387807     4.88   0.000     6.964501    16.32453
------------------------------------------------------------------------------

. vargranger

  Granger causality Wald tests
  +-------------------------------------------------------------------------+
  |          Equation           Excluded |   chi2     df Prob > chi2 |
  |-------------------------------------+-----------------------------|
  |              cjmo               jcmo |  2.2661     2    0.322    |
  |              cjmo           approval |  5.6817     2    0.058    |
  |              cjmo                ALL |  9.3369     4    0.053    |
  |-------------------------------------+-----------------------------|
  |              jcmo               cjmo |  2.8027     2    0.246    |
  |              jcmo           approval |  1.2153     2    0.545    |
  |              jcmo                ALL |  4.8023     4    0.308    |
  |-------------------------------------+-----------------------------|
  |          approval               cjmo |  7.6674     2    0.022    |
  |          approval               jcmo |  .15607     2    0.925    |
  |          approval                ALL |  7.8131     4    0.099    |
  +-------------------------------------------------------------------------+

.
. * Figure B1
. irf create irf1, set(jpnchn) replace
(file jpnchn.irf now active)
(file jpnchn.irf updated)
```

```
. irf graph irf, set(jpnchn) plot1(lcolor(gs2)) yline(0, lcolor(gs6)) legend(off)
(file jpnchn.irf now active)

.
. * Table B3
. varsoc jkmo kjmo approval, maxlag(15)

   Selection-order criteria
   Sample:  1999m4 - 2014m12                  Number of obs      =       189
  +---------------------------------------------------------------------------+
  |lag |    LL      LR      df    p      FPE       AIC      HQIC      SBIC    |
  |----+----------------------------------------------------------------------|
  |  0 | -1647.47                       7720.72   17.4653   17.4861   17.5167  |
  |  1 | -1560.11  174.73    9  0.000  3369.22*   16.636*  16.7194*  16.8419* |
  |  2 | -1557.25  5.7146    9  0.768   3595.8   16.7011    16.847   17.0612  |
  |  3 | -1551.32  11.863    9  0.221  3715.19   16.7335    16.942   17.2481  |
  |  4 | -1543.51  15.618    9  0.075  3763.65   16.7461   17.0171   17.4151  |
  |  5 | -1540.05  6.9109    9  0.646  3993.33   16.8048   17.1383   17.6281  |
  |  6 |  -1535.2  9.6969    9  0.376  4176.13   16.8487   17.2448   17.8264  |
  |  7 | -1532.68  5.0459    9  0.830  4477.48   16.9173   17.3759   18.0493  |
  |  8 | -1523.83  17.707    9  0.039  4491.15   16.9188     17.44   18.2052  |
  |  9 | -1521.12  5.4184    9  0.796  4809.48   16.9854   17.5691   18.4262  |
  | 10 | -1514.56  13.118    9  0.157   4947.1   17.0112   17.6575   18.6064  |
  | 11 | -1507.58  13.969    9  0.123  5068.44   17.0325   17.7413   18.7821  |
  | 12 | -1497.77  19.608    9  0.020  5043.05    17.024   17.7953   18.9279  |
  | 13 | -1490.66  14.224    9  0.115  5166.09    17.044   17.8779   19.1023  |
  | 14 | -1487.08  7.1527    9  0.621  5497.73   17.1014   17.9978    19.314  |
  | 15 | -1475.44   23.28*   9  0.006  5376.26   17.0735   18.0324   19.4405  |
  +---------------------------------------------------------------------------+
   Endogenous:  jkmo kjmo approval
    Exogenous:  _cons

. var  kjmo jkmo approval, lags(1)

Vector autoregression

Sample:  1998m2 - 2014m12                  Number of obs     =        203
Log likelihood =  -1661.653                AIC               =   16.48919
FPE            =   2909.033                HQIC              =   16.56843
Det(Sigma_ml)  =   2584.621                SBIC              =   16.68505

Equation           Parms      RMSE     R-sq      chi2     P>chi2
------------------------------------------------------------------
kjmo                   4     2.04101   0.0322   6.743893   0.0805
jkmo                   4     2.50418   0.0027     .55042   0.9077
approval               4     10.2689   0.6130   321.4984   0.0000
------------------------------------------------------------------

------------------------------------------------------------------------------
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
kjmo         |
        kjmo |
         L1. |  -.0430603   .0693929    -0.62   0.535    -.1790679    .0929473
             |
        jkmo |
         L1. |  -.0742532    .057143    -1.30   0.194    -.1862514    .0377449
             |
    approval |
         L1. |  -.0189115   .0086925    -2.18   0.030    -.0359484   -.0018746
             |
       _cons |   1.205659   .4311864     2.80   0.005     .3605493    2.050769
-------------+----------------------------------------------------------------
jkmo         |
        kjmo |
         L1. |   .0518744   .0851403     0.61   0.542    -.1149976    .2187464
             |
        jkmo |
         L1. |  -.0214378   .0701105    -0.31   0.760    -.1588519    .1159762
             |
    approval |
         L1. |   .0036506    .010665     0.34   0.732    -.0172525    .0245537
```

```
             |
       _cons |   1.039016   .5290361     1.96   0.050     .0021246    2.075908
-------------+----------------------------------------------------------------
approval     |
        kjmo |
         L1. |  -.8067314   .3491357    -2.31   0.021    -1.491025    -.122438
             |
        jkmo |
         L1. |   .0113742   .2875028     0.04   0.968    -.5521209    .5748693
             |
    approval |
         L1. |   .7683545   .0437342    17.57   0.000      .682637    .8540721
             |
       _cons |   10.94547   2.169423     5.05   0.000     6.693477    15.19746
------------------------------------------------------------------------------

. vargranger

   Granger causality Wald tests
  +-------------------------------------------------------------------------+
  |          Equation           Excluded |   chi2     df Prob > chi2 |
  |-------------------------------------+-----------------------------|
  |              kjmo               jkmo |  1.6885     1    0.194    |
  |              kjmo           approval |  4.7333     1    0.030    |
  |              kjmo                ALL |  6.5235     2    0.038    |
  |-------------------------------------+-----------------------------|
  |              jkmo               kjmo |  .37122     1    0.542    |
  |              jkmo           approval |  .11716     1    0.732    |
  |              jkmo                ALL |  .46111     2    0.794    |
  |-------------------------------------+-----------------------------|
  |          approval               kjmo |  5.3391     1    0.021    |
  |          approval               jkmo |  .00157     1    0.968    |
  |          approval                ALL |  5.3402     2    0.069    |
  +-------------------------------------------------------------------------+

.
. * Figure B2
. irf create irf2, set(jpnkor) replace
(file jpnkor.irf now active)
(file jpnkor.irf updated)

. irf graph irf, set(jpnkor) plot1(lcolor(gs2)) yline(0, lcolor(gs6)) legend(off)
(file jpnkor.irf now active)

.
. log close
      name:  <unnamed>
       log:  C:\Users\bomim\Dropbox\6TStriangles\fpa\data\lee-multiplerivals-appendix.
> log
  log type:  text
 closed on:   7 Aug 2025, 13:26:22
-------------------------------------------------------------------------------------
> --------
```