(R)
Statistics/Data Analysis

User: Mark R. Beissinger
Project: The Revolutionary City

```
. * Before running, download the following packages for STATA:
      name:  <unnamed>
       log:  C:\Users\mbeissin\Desktop\Stata files for book\Robustnesstestfiles\Logfiles\robustnesstestschapter3.l
> og
  log type:  text
 opened on:  26 Jan 2022, 09:19:54

. * ================================================================================
. * ROBUSTNESS CHECKS FOR STATISTICAL RESULTS APPEARING IN CHAPTER 3
. * STATA Do file for Chapter 3
. * Robustness checks for results reported in Chapter 3
. * Author: Mark R. Beissinger
. * Date:  January 2022
. * Princeton, NJ
. * ================================================================================
. * BEFORE RUNNING, YOU MUST SET THE DEFAULT PATH FOR WHERE THE DATA
. *   FILES RESIDE
. * ================================================================================
. * The following datafile is used in this file:
. *   Panel data for revolutionary episodes--revspredictbycntryyr.dta
. * ================================================================================
. * Before running, download the following packages for STATA:
. * firthlogit from http://fmwww.bc.edu/RePEc/bocode/f
. * relogit from https://gking.harvard.edu/relogit
. * checkrob from http://fmwww.bc.edu/RePEc/bocode/c
. * qic (as discussed in https://www.stata-journal.com/article.html?article=st0126)
. *       --install from http://www.stata-journal.com/software/sj8-1/
. * ================================================================================
. * The following output is produced by these robustness tests:
. *               Robustnesstestfiles\Logfiles\robustnesstestschapter3.log
. *
. *               In addition, the following graphs of imputed vs. observed observa-
. *                       tions were produced:
. *                               Robustnesstestfiles\Logfiles\mod4impobsunder5mortl.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobspercurbanl.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobstotalyrsschooll.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobsmilperthousl.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobsyouthpercl.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobstottradepernomgdpl.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobslndollexchratel.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobsageincleader.pdf
. *                               Robustnesstestfiles\Logfiles\mod4impobslnmilexppersoldthl.pdf
. *       These files have been combined into a single pdf version of the
. *                       output file, located in the Robustnesstestfiles\Outputfiles folder
. *       In addition, the reworked output from the checkrob procedure run in this
. *          chapter can be viewed in the Excel file checkrob.results.chapter3.xlsx,
. *               also located in the Robustnesstestfiles\Outputfiles folder
. * ================================================================================
.
. use revspredictbycntryyr.dta

.
. * ================================================================================================
. * ROBUSTNESS CHECKS: CHECKING QUADRATURE FOR BIVARIATE REGRESSIONS (FIGURES 3.1 TO 3.4)
. * ================================================================================================
. * Figure 3.1. Polity score
. * Urban civic
. xtcloglog urbancivicny  polityl c.polityl#c.polityl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform
> nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,328
Group variable: cowcode                         Number of groups  =        159

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         10
                                                              avg =       71.2
                                                              max =        115

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(5)      =      45.58
Log pseudolikelihood  = -286.70449              Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for 159 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                polityl |   .9097204   .0249435    -3.45   0.001     .8621224    .9599464
                        |
    c.polityl#c.polityl |   .9836101   .0049711    -3.27   0.001     .9739151    .9934016
                        |
                 time1 |   .9544682   .0784993    -0.57   0.571     .8123725    1.121418
                        |
       c.time1#c.time1 |   1.001478    .001393     1.06   0.288     .9987515    1.004212
                        |
c.time1#c.time1#c.time1 |   .9999932   6.95e-06    -0.98   0.325     .9999795    1.000007
                        |
                 _cons |   .0005532   .0009291    -4.47   0.000     .0000206    .0148737
-------------------------+----------------------------------------------------------------
               /lnsig2u |  -.8144803   .8784393                     -2.53619    .9072291
-------------------------+----------------------------------------------------------------
                sigma_u |   .6654844   .2922938                      .2813672    1.573991
                    rho |   .2121222   .1468104                      .0459181    .6009749
------------------------------------------------------------------------------------------
```

```
52 . * Quadrature test
53 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                         Quadrature check

              Fitted       Comparison     Comparison
            quadrature     quadrature     quadrature
            12 points      8 points       16 points
-------------------------------------------------------
Log          -286.70449     -286.70447     -286.70449
likelihood                   .00002103     -3.912e-07   Difference
                            -7.336e-08      1.364e-09   Relative difference
-------------------------------------------------------
urbancivicny:-.09461795     -.09461795     -.09461792
 polityl                     4.669e-12      2.593e-08   Difference
                            -4.935e-11     -2.741e-07   Relative difference
-------------------------------------------------------
urbancivicny:-.01652568     -.01652568     -.01652568
c.polityl#~l                 3.238e-13      1.242e-09   Difference
                            -1.959e-11     -7.518e-08   Relative difference
-------------------------------------------------------
urbancivicny:-.04660099     -.04660099     -.04660097
   time1                     4.433e-12      2.412e-08   Difference
                            -9.513e-11     -5.176e-07   Relative difference
-------------------------------------------------------
urbancivicny: .00147696      .00147696      .00147696
c.time1#c.~1                -8.007e-14     -3.925e-10   Difference
                            -5.421e-11     -2.657e-07   Relative difference
-------------------------------------------------------
urbancivicny:-6.839e-06     -6.839e-06     -6.839e-06
c.time1#c.~1                 3.526e-16      1.566e-12   Difference
                            -5.156e-11     -2.290e-07   Relative difference
-------------------------------------------------------
urbancivicny: -7.499734      -7.499734     -7.4997334
    cons                     9.024e-11      6.142e-07   Difference
                            -1.203e-11     -8.189e-08   Relative difference
-------------------------------------------------------
lnsig2u:     -.81448027     -.81448027     -.81448463
   _cons                    -5.261e-10     -4.362e-06   Difference
                             6.459e-10      5.355e-06   Relative difference
-------------------------------------------------------

54 . * --Passed:  all coefficients change by less than .01
55 . * Social
56 . xtcloglog leftistny polityl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,328
Group variable: cowcode                         Number of groups  =        159

Random effects u i ~ Gaussian                   Obs per group:
                                                              min =         10
                                                              avg =       71.2
                                                              max =        115

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      32.63
Log pseudolikelihood  = -368.40781              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 159 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
               leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                polityl |   1.010763   .0206784     0.52   0.601     .9710356    1.052115
                  time1 |   .9587571   .0313343    -1.29   0.198     .8992686    1.022181
                        |
        c.time1#c.time1 |   1.001584   .0007652     2.07   0.038     1.000085    1.003085
                        |
c.time1#c.time1#c.time1 |    .999986   4.92e-06    -2.85   0.004     .9999763    .9999956
                        |
                  _cons |    .007374   .0033865   -10.69   0.000     .0029977    .0181392
-------------------------+----------------------------------------------------------------
               /lnsig2u |  -.7080202   .6085355                     -1.900728    .4846875
-------------------------+----------------------------------------------------------------
                sigma_u |   .7018679   .2135558                      .3866003    1.274232
                    rho |   .2304591   .1079224                      .0832926    .4967468
------------------------------------------------------------------------------------------

57 . * Quadrature test
58 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                         Quadrature check
```

```
                Fitted       Comparison     Comparison
              quadrature     quadrature     quadrature
              12 points      8 points       16 points
-------------------------------------------------------
Log          -368.40781     -368.40766     -368.40781
likelihood                   .00015759      1.646e-07   Difference
                            -4.278e-07     -4.469e-10   Relative difference
-------------------------------------------------------
leftistny:    .01070522      .01070522       .0107052
 polityl                     7.083e-15     -1.830e-08   Difference
                             6.616e-13     -1.709e-06   Relative difference
-------------------------------------------------------
leftistny:    -.0421175      -.0421175      -.0421175
   time1                     4.075e-14      9.783e-10   Difference
                            -9.674e-13     -2.323e-08   Relative difference
-------------------------------------------------------
leftistny:    .00158261      .00158261      .00158261
c.time1#c.~1                -7.839e-16      1.763e-11   Difference
                            -4.953e-13      1.114e-08   Relative difference
-------------------------------------------------------
leftistny:   -.00001402     -.00001402     -.00001402
c.time1#c.~1                 2.692e-18     -5.465e-13   Difference
                            -1.921e-13      3.899e-08   Relative difference
-------------------------------------------------------
leftistny:    -4.909801      -4.909801     -4.9097983
   _cons                     7.104e-12      2.677e-06   Difference
                            -1.447e-12     -5.453e-07   Relative difference
-------------------------------------------------------
lnsig2u:     -.70802021     -.70802021     -.70802962
    cons                    -2.019e-11     -9.409e-06   Difference
                             2.852e-11      .00001329   Relative difference
-------------------------------------------------------
```

```
59 . * --Passed:  all coefficients change by less than .01
60 .
61 . * On relationship of non-democratic regime-types to probability of onset for urban civic and social revolutionar
   > y episodes (Geddes data)
62 . * Urban civic
63 . xtcloglog urbancivicny  gedpartyautoc gedmilautoc gedmonautoc gedpersautoc c.time1##c.time1##c.time1 if indstate
   > ==1, vce(robust) eform nolog

   Calculating robust standard errors:

   Random-effects complementary log-log model      Number of obs     =      7,699
   Group variable: cowcode                         Number of groups  =        148

   Random effects u_i ~ Gaussian                   Obs per group:
                                                                 min =         17
                                                                 avg =       52.0
                                                                 max =         65

   Integration method: mvaghermite                 Integration pts.  =         12

                                                   Wald chi2(7)      =     101.45
   Log pseudolikelihood  = -226.49849              Prob > chi2       =     0.0000

                                        (Std. Err. adjusted for 148 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
              urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
          gedpartyautoc |   4.185325   2.137913     2.80   0.005     1.537891    11.39024
            gedmilautoc |   16.82953   8.762122     5.42   0.000     6.066006    46.69188
            gedmonautoc |   3.093933   3.643171     0.96   0.337     .3077538    31.10416
           gedpersautoc |   6.316402    2.95918     3.93   0.000     2.521675     15.8216
                  time1 |   .5916528   .3517203    -0.88   0.377     .1845238    1.897061
                        |
        c.time1#c.time1 |   1.007509   .0076581     0.98   0.325     .9926108    1.022631
                        |
c.time1#c.time1#c.time1 |   .9999689   .0000316    -0.98   0.325     .9999069    1.000031
                        |
                  _cons |   16.45375   248.4718     0.19   0.853     2.30e-12    1.18e+14
-------------------------+----------------------------------------------------------------
                /lnsig2u |  -1.057451     1.3848                      -3.77161    1.656708
-------------------------+----------------------------------------------------------------
                 sigma_u |   .5893556   .4080699                      .1517069    2.289547
                     rho |   .1743435    .199339                      .0137984    .7611523
------------------------------------------------------------------------------------------

64 . * Quadrature test
65 . quadchk, nooutput

   Refitting model intpoints() =  8
   Refitting model intpoints() = 16

                           Quadrature check

                Fitted       Comparison     Comparison
              quadrature     quadrature     quadrature
              12 points      8 points       16 points
-------------------------------------------------------
Log          -226.49849     -226.49849     -226.49849
likelihood                   1.739e-06     -1.439e-08   Difference
                            -7.679e-09      6.353e-11   Relative difference
-------------------------------------------------------
urbancivicny: 1.4315845      1.4315845      1.4315844
gedpartyau~c                -3.649e-10     -3.490e-08   Difference
                            -2.549e-10     -2.438e-08   Relative difference
-------------------------------------------------------
urbancivicny: 2.8231353      2.8231353      2.8231353
gedmilautoc                 -4.001e-10     -1.723e-08   Difference
```

```
                            -1.417e-10     -6.102e-09   Relative difference
-------------------------------------------------------------
urbancivicny: 1.1294432      1.1294432      1.1294432
gedmonautoc                 -2.940e-10     -2.778e-08   Difference
                            -2.603e-10     -2.459e-08   Relative difference
-------------------------------------------------------------
urbancivicny: 1.8431497      1.8431497      1.8431497
gedpersautoc                -2.570e-10     -3.005e-08   Difference
                            -1.394e-10     -1.630e-08   Relative difference
-------------------------------------------------------------
urbancivicny:-.52483537     -.52483537     -.52483536
   time1                     2.252e-10      1.704e-08   Difference
                            -4.290e-10     -3.246e-08   Relative difference
-------------------------------------------------------------
urbancivicny: .00748101      .00748101      .00748101
c.time1#c.~1                -2.897e-12     -2.289e-10   Difference
                            -3.872e-10     -3.059e-08   Relative difference
-------------------------------------------------------------
urbancivicny:-.00003113     -.00003113     -.00003113
c.time1#c.~1                 1.163e-14      9.542e-13   Difference
                            -3.737e-10     -3.065e-08   Relative difference
-------------------------------------------------------------
urbancivicny: 2.8005533      2.8005533       2.800553
   _cons                    -4.482e-09     -3.008e-07   Difference
                            -1.600e-09     -1.074e-07   Relative difference
-------------------------------------------------------------
lnsig2u:      -1.057451      -1.057451     -1.0574514
   _cons                    -3.618e-09     -4.481e-07   Difference
                             3.421e-09      4.237e-07   Relative difference
-------------------------------------------------------------
```

```
66 . * --Passed:  all coefficients change by less than .01
67 . * Social
68 . xtcloglog leftistny  gedpartyautoc gedmilautoc gedmonautoc gedpersautoc c.time1##c.time1##c.time1 if indstate==1
   > , vce(robust) eform nolog

   Calculating robust standard errors:

   Random-effects complementary log-log model      Number of obs     =      7,699
   Group variable: cowcode                         Number of groups  =        148

   Random effects u_i ~ Gaussian                   Obs per group:
                                                                 min =         17
                                                                 avg =       52.0
                                                                 max =         65

   Integration method: mvaghermite                 Integration pts.  =         12

                                                   Wald chi2(7)      =      15.57
   Log pseudolikelihood  = -236.49565              Prob > chi2       =     0.0293

                                        (Std. Err. adjusted for 148 clusters in cowcode)
------------------------------------------------------------------------------------------
                       |               Robust
            leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----------------------+------------------------------------------------------------------
          gedpartyautoc |   .5607227   .2773734    -1.17   0.242     .2126587    1.478472
            gedmilautoc |   1.244463   .6393433     0.43   0.670       .45465    3.406333
            gedmonautoc |   .9610481    .562433    -0.07   0.946     .3052091    3.026166
           gedpersautoc |   1.606716   .7111051     1.07   0.284     .6748569    3.825308
                  time1 |   .5108565   .5117237    -0.67   0.503      .071722    3.638693
                        |
        c.time1#c.time1 |   1.011495   .0140998     0.82   0.412      .984234    1.039511
                        |
c.time1#c.time1#c.time1 |    .999937   .0000634    -0.99   0.321     .9998127    1.000061
                        |
                  _cons |   2540.501   59795.73     0.33   0.739     2.35e-17    2.75e+23
-----------------------+------------------------------------------------------------------
               /lnsig2u |  -.7267684     .83941                     -2.371982     .918445
-----------------------+------------------------------------------------------------------
              sigma_u |   .6953192    .291829                      .3054434    1.582843
                  rho |    .227151   .1473613                      .0536728    .6036614
------------------------------------------------------------------------------------------
```

```
69 . * Quadrature test
70 . quadchk, nooutput

   Refitting model intpoints() =  8
   Refitting model intpoints() = 16

                          Quadrature check

                Fitted       Comparison     Comparison
              quadrature     quadrature     quadrature
              12 points      8 points       16 points
-------------------------------------------------------------
Log          -236.49565     -236.49562     -236.49565
likelihood                   .00002598     -3.662e-07   Difference
                            -1.099e-07      1.548e-09   Relative difference
-------------------------------------------------------------
leftistny:   -.57852871     -.57852871     -.57852904
gedpartyau~c                -2.998e-15     -3.382e-07   Difference
                             5.181e-15      5.847e-07   Relative difference
-------------------------------------------------------------
leftistny:    .21870442      .21870442      .21870409
gedmilautoc                 -1.971e-15     -3.287e-07   Difference
                            -9.011e-15     -1.503e-06   Relative difference
-------------------------------------------------------------
leftistny:    -.0397308      -.0397308     -.03973067
gedmonautoc                  2.630e-15      1.305e-07   Difference
                            -6.619e-14     -3.284e-06   Relative difference
```

```
------------------------------------------------------
leftistny:    .47419219      .47419219      .47419166
gedpersautoc                -3.719e-15     -5.225e-07   Difference
                            -7.843e-15     -1.102e-06   Relative difference
------------------------------------------------------
leftistny:   -.67166646     -.67166646     -.67166636
   time1                     8.882e-16      1.038e-07   Difference
                            -1.322e-15     -1.545e-07   Relative difference
------------------------------------------------------
leftistny:    .01142936      .01142936      .01142936
c.time1#c.~1                -1.561e-17     -1.692e-09   Difference
                            -1.366e-15     -1.481e-07   Relative difference
------------------------------------------------------
leftistny:   -.00006297     -.00006297     -.00006297
c.time1#c.~1                 8.132e-20      8.265e-12   Difference
                            -1.291e-15     -1.312e-07   Relative difference
------------------------------------------------------
leftistny:    7.8401167      7.8401167      7.8401169
   _cons                     4.441e-15      2.545e-07   Difference
                             5.664e-16      3.247e-08   Relative difference
------------------------------------------------------
lnsig2u:      -.7267684      -.7267684     -.72677692
   _cons                    -6.761e-14     -8.523e-06   Difference
                             9.303e-14      .00001173   Relative difference
------------------------------------------------------
```

```
71 . * --Passed:  all coefficients change by less than .01
72 .
73 . * Figure 3.2. Years incumbent leader in power
74 . * Statistically significant relationship between yrsincleaderinpower and urban civic episodes
75 . * No statistically significant relationship between yrsincleaderinpower and social revolutionary episodes (vario
   > us polynomial forms tested)
76 . * Urban civic
77 . xtcloglog urbancivicny yrsincleaderinpower c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

   Calculating robust standard errors:

   Random-effects complementary log-log model      Number of obs     =     11,661
   Group variable: cowcode                         Number of groups  =        164

   Random effects u_i ~ Gaussian                   Obs per group:
                                                                 min =         10
                                                                 avg =       71.1
                                                                 max =        115

   Integration method: mvaghermite                 Integration pts.  =         12

                                                   Wald chi2(4)      =      32.16
   Log pseudolikelihood  = -298.85435              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
                       |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----------------------+------------------------------------------------------------------
    yrsincleaderinpower |   1.059296     .01397     4.37   0.000     1.032266    1.087034
                  time1 |   .9782771   .0773353    -0.28   0.781     .8378615    1.142225
                        |
        c.time1#c.time1 |    1.00111   .0013404     0.83   0.407     .9984868    1.003741
                        |
c.time1#c.time1#c.time1 |   .9999944   6.73e-06    -0.83   0.408     .9999812    1.000008
                        |
                  cons |   .0001371   .0002396    -5.09   0.000     4.46e-06    .0042146
-----------------------+------------------------------------------------------------------
               /lnsig2u |  -.5252071   .6315522                     -1.763027    .7126124
-----------------------+------------------------------------------------------------------
                sigma_u |   .7690467   .2428466                      .4141557    1.428045
                    rho |   .2644615   .1228505                      .0944282    .5535222
------------------------------------------------------------------------------------------

78 . * Quadrature test
79 . quadchk, noutput

   Refitting model intpoints() =  8
   Refitting model intpoints() = 16

                           Quadrature check

                 Fitted       Comparison     Comparison
               quadrature     quadrature     quadrature
               12 points      8 points       16 points
------------------------------------------------------
Log          -298.85435     -298.85424     -298.85435
likelihood                   .00011281     -1.987e-06   Difference
                            -3.775e-07      6.648e-09   Relative difference
------------------------------------------------------
urbancivicny: .05760461      .05760461      .05760447
yrsinclead~r                -4.440e-13     -1.330e-07   Difference
                            -7.708e-12     -2.309e-06   Relative difference
------------------------------------------------------
urbancivicny: -.0219623      -.0219623      -.0219624
   time1                    -3.533e-13     -1.033e-07   Difference
                             1.609e-11      4.704e-06   Relative difference
------------------------------------------------------
urbancivicny: .00110977      .00110977      .00110977
c.time1#c.~1                 3.960e-15      1.148e-09   Difference
                             3.568e-12      1.034e-06   Relative difference
------------------------------------------------------
urbancivicny:-5.573e-06     -5.573e-06     -5.573e-06
c.time1#c.~1                -1.687e-17     -4.946e-12   Difference
                             3.028e-12      8.875e-07   Relative difference
```

```
------------------------------------------------------
urbancivicny:-8.8951082     -8.8951082      -8.895098
   _cons                     3.252e-11      .00001018   Difference
                            -3.656e-12     -1.145e-06   Relative difference
------------------------------------------------------
lnsig2u:     -.52520713     -.52520713     -.52522674
   _cons                    -5.790e-11     -.00001961   Difference
                             1.102e-10      .00003734   Relative difference
------------------------------------------------------
```

```
80 . * --Passed:  all coefficients change by less than .01
81 . * Social
82 . xtcloglog leftistny yrsincleaderinpower c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,661
Group variable: cowcode                         Number of groups  =        164

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         10
                                                              avg =       71.1
                                                              max =        115

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      29.89
Log pseudolikelihood  = -379.30202              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
                leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
    yrsincleaderinpower |    1.00156   .0155939     0.10   0.920     .9714583    1.032595
                  time1 |      .9657    .030468    -1.11   0.269     .9077926    1.027301
                        |
        c.time1#c.time1 |   1.001435   .0007522     1.91   0.056      .999962    1.002911
                        |
c.time1#c.time1#c.time1 |   .9999868   4.89e-06    -2.71   0.007     .9999772    .9999964
                        |
                  _cons |   .0068245   .0028516   -11.94   0.000     .0030088    .0154789
-------------------------+----------------------------------------------------------------
               /lnsig2u |  -.7040494   .6019727                     -1.883894    .4757955
-------------------------+----------------------------------------------------------------
                sigma u |   .7032627   .2116725                      .389868    1.268579
                    rho |   .2311641    .106987                      .084587     .494524
------------------------------------------------------------------------------------------
```

```
83 . * Quadrature test
84 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                         Quadrature check

              Fitted       Comparison     Comparison
            quadrature     quadrature     quadrature
            12 points      8 points       16 points
------------------------------------------------------
Log          -379.30202     -379.30186     -379.30202
likelihood                   .00016133      2.277e-07   Difference
                            -4.253e-07     -6.003e-10   Relative difference
------------------------------------------------------
leftistny:    .00155899      .00155899      .00155899
yrsinclead~r                -2.027e-14      2.425e-09   Difference
                            -1.300e-11      1.556e-06   Relative difference
------------------------------------------------------
leftistny:   -.03490207     -.03490207     -.03490207
   time1                     1.934e-13      6.910e-09   Difference
                            -5.542e-12     -1.980e-07   Relative difference
------------------------------------------------------
leftistny:    .00143424      .00143424      .00143424
c.time1#c.~1                -3.709e-15     -1.080e-10   Difference
                            -2.586e-12     -7.527e-08   Relative difference
------------------------------------------------------
leftistny:   -.00001323     -.00001323     -.00001323
c.time1#c.~1                 1.383e-17      5.752e-14   Difference
                            -1.045e-12     -4.349e-09   Relative difference
------------------------------------------------------
leftistny:   -4.9872362     -4.9872362     -4.9872335
   _cons                     2.996e-11      2.691e-06   Difference
                            -6.006e-12     -5.397e-07   Relative difference
------------------------------------------------------
lnsig2u:     -.70404941     -.70404941     -.70405895
   _cons                    -8.871e-11     -9.542e-06   Difference
                             1.260e-10      .00001355   Relative difference
------------------------------------------------------
```

```
85 . * --Passed:  all coefficients change by less than .01
86 . * Testing polynomial forms
87 . xtcloglog leftistny c.yrsincleaderinpower##c.yrsincleaderinpower c.time1##c.time1##c.time1 if indstate==1, vce(r
   > obust) eform nolog

   Calculating robust standard errors:

   Random-effects complementary log-log model      Number of obs     =     11,661
   Group variable: cowcode                         Number of groups  =        164

   Random effects u_i ~ Gaussian                   Obs per group:
                                                                 min =         10
                                                                 avg =       71.1
                                                                 max =        115

   Integration method: mvaghermite                 Integration pts.  =         12

                                                   Wald chi2(5)      =      34.59
   Log pseudolikelihood  = -379.06874              Prob > chi2       =     0.0000

                                                                 (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------------------------------
                                       |               Robust
                             leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------------------------------+--------------------------------------------------------------------------
                 yrsincleaderinpower |   .9811257   .0284628    -0.66   0.511     .9268959    1.038528
                                       |
c.yrsincleaderinpower#c.yrsincleaderinpower |   1.000648   .0006204     1.04   0.296     .9994327    1.001865
                                       |
                                 time1 |   .9675876   .0311459    -1.02   0.306     .9084285    1.030599
                                       |
                       c.time1#c.time1 |   1.001421   .0007535     1.89   0.059      .999945    1.002899
                                       |
             c.time1#c.time1#c.time1 |   .9999868   4.87e-06    -2.71   0.007     .9999772    .9999963
                                       |
                                 _cons |   .0067637   .0029014   -11.65   0.000     .0029178    .0156789
---------------------------------------+--------------------------------------------------------------------------
                              /lnsig2u |  -.6733001    .592526                     -1.83463    .4880294
---------------------------------------+--------------------------------------------------------------------------
                              sigma_u |   .7141587   .2115788                      .3995906    1.276363
                                  rho |   .2366742   .1070455                      .0884806    .4975823
------------------------------------------------------------------------------------------------------------------

88 . * Not statistically significant
89 . xtcloglog leftistny c.yrsincleaderinpower##c.yrsincleaderinpower##c.yrsincleaderinpower c.time1##c.time1##c.time
   > 1 if indstate==1, vce(robust) eform nolog

   Calculating robust standard errors:

   Random-effects complementary log-log model      Number of obs     =     11,661
   Group variable: cowcode                         Number of groups  =        164

   Random effects u_i ~ Gaussian                   Obs per group:
                                                                 min =         10
                                                                 avg =       71.1
                                                                 max =        115

   Integration method: mvaghermite                 Integration pts.  =         12

                                                   Wald chi2(6)      =      39.84
   Log pseudolikelihood  = -377.90403              Prob > chi2       =     0.0000

                                                                 (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------------------------------
                                       |               Robust
                             leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------------------------------+--------------------------------------------------------------------------
                 yrsincleaderinpower |   .8900168   .0637121    -1.63   0.104     .7735078    1.024075
                                       |
 c.yrsincleaderinpower#c.yrsincleaderinpower |   1.007882   .0048397     1.64   0.102      .998441    1.017413
                                       |
 c.yrsincleaderinpower#c.yrsincleaderinpower#|
                       c.yrsincleaderinpower |   .9998825   .0000789    -1.49   0.136     .9997279    1.000037
                                       |
                                 time1 |      .9688   .0323907    -0.95   0.343     .9073507    1.034411
                                       |
                       c.time1#c.time1 |   1.001411   .0007719     1.83   0.067     .9998988    1.002924
                                       |
             c.time1#c.time1#c.time1 |   .9999868   4.94e-06    -2.68   0.007     .9999771    .9999965
                                       |
                                 _cons |   .0076618   .0034678   -10.76   0.000     .0031555    .0186034
---------------------------------------+--------------------------------------------------------------------------
                              /lnsig2u |   -.674261   .6089088                     -1.8677    .5191783
---------------------------------------+--------------------------------------------------------------------------
                              sigma_u |   .7138157   .2173243                      .3930375    1.296397
                                  rho |   .2365006   .1099495                      .0858494    .5053693
------------------------------------------------------------------------------------------------------------------

90 . * Not statistically significant
```

```
91 .
92 . * V-Dem executive corruption measure
93 . * Urban civic
94 . xtcloglog urbancivicny v2x_execorr c.time1##c.time1##c.time1 if indstate==1,  eform nolog vce(robust)

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,580
Group variable: cowcode                         Number of groups  =        161

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       71.9
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      29.38
Log pseudolikelihood  = -297.91275              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 161 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
             urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
              v2x_execorr |   8.632152   5.003908     3.72   0.000     2.771356    26.88721
                    time1 |   .9615505   .0831322    -0.45   0.650     .8116714    1.139106
                          |
          c.time1#c.time1 |   1.001318   .0013954     0.95   0.344     .9985872    1.004057
                          |
c.time1#c.time1#c.time1   |   .9999936   6.88e-06    -0.93   0.351     .9999801    1.000007
                          |
                    _cons |   .0001329     .00027    -4.39   0.000     2.47e-06    .0071319
-------------------------+----------------------------------------------------------------
                 /lnsig2u |  -2.532605    2.80237                      -8.025149     2.95994
-------------------------+----------------------------------------------------------------
                  sigma_u |   .2818719   .3949547                      .0180868    4.392813
                      rho |   .0460754   .1231711                      .0001988    .9214519
------------------------------------------------------------------------------------------

95 . * Quadrature test
96 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                         Quadrature check

              Fitted       Comparison     Comparison
            quadrature     quadrature     quadrature
            12 points      8 points       16 points
-----------------------------------------------------
Log          -297.91275     -297.91275     -297.91275
likelihood                  -2.035e-10      4.820e-11   Difference
                             6.831e-13     -1.618e-13   Relative difference
-----------------------------------------------------
urbancivicny: 2.1554938      2.1554947      2.1554947
v2x_execorr                  8.719e-07      8.774e-07   Difference
                             4.045e-07      4.071e-07   Relative difference
-----------------------------------------------------
urbancivicny:-.03920817     -.03920816     -.03920816
   time1                     1.201e-08      1.209e-08   Difference
                            -3.062e-07     -3.083e-07   Relative difference
-----------------------------------------------------
urbancivicny: .00131743      .00131743      .00131743
c.time1#c.~1                -7.513e-11     -7.577e-11   Difference
                            -5.703e-08     -5.751e-08   Relative difference
-----------------------------------------------------
urbancivicny:-6.420e-06     -6.420e-06     -6.420e-06
c.time1#c.~1                 1.547e-13      1.566e-13   Difference
                            -2.410e-08     -2.439e-08   Relative difference
-----------------------------------------------------
urbancivicny:-8.9262364     -8.9262396     -8.9262396
   _cons                    -3.148e-06     -3.164e-06   Difference
                             3.527e-07      3.545e-07   Relative difference
-----------------------------------------------------
lnsig2u:     -2.5326048     -2.5325696     -2.5325693
   _cons                     .00003524      .00003549   Difference
                            -.00001391     -.00001401   Relative difference
-----------------------------------------------------

97 . * --Passed:  all coefficients change by less than .01
98 . * Social
99 . xtcloglog leftistny v2x_execorr c.time1##c.time1##c.time1 if indstate==1,  eform nolog vce(robust)

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,580
Group variable: cowcode                         Number of groups  =        161

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       71.9
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      30.42
Log pseudolikelihood  = -378.06417              Prob > chi2       =     0.0000
```

```
                                    (Std. Err. adjusted for 161 clusters in cowcode)
------------------------------------------------------------------------------------------
                        |               Robust
             leftistny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------------------+-----------------------------------------------------------------
            v2x_execorr |   1.786318   .7119443     1.46   0.145     .8179168    3.901294
                  time1 |   .9557295   .0327221    -1.32   0.186     .8936998    1.022064
                        |
          c.time1#c.time1 |   1.001647   .0007747     2.13   0.033      1.00013    1.003166
                        |
c.time1#c.time1#c.time1 |   .9999855   4.95e-06    -2.93   0.003     .9999758    .9999952
                        |
                   cons |   .0060524   .0035095    -8.81   0.000     .0019425     .018858
------------------------+-----------------------------------------------------------------
                /lnsig2u |  -.7424384    .670923                     -2.057423    .5725464
------------------------+-----------------------------------------------------------------
                 sigma_u |   .6898927   .2314324                      .3574672    1.331456
                     rho |   .2244118   .1167749                       .072083    .5187028
------------------------------------------------------------------------------------------
```

```
100 . * Quadrature test
101 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                           Quadrature check

                 Fitted       Comparison     Comparison
               quadrature     quadrature     quadrature
               12 points      8 points       16 points
    ----------------------------------------------------------
    Log          -378.06417     -378.06404     -378.06417
    likelihood                   .00013284      1.530e-07   Difference
                                -3.514e-07     -4.047e-10   Relative difference
    ----------------------------------------------------------
    leftistny:    .58015678      .58015678       .580157
    v2x execorr                 -1.312e-11      2.179e-07   Difference
                                -2.262e-11      3.756e-07   Relative difference
    ----------------------------------------------------------
    leftistny:   -.04528041     -.04528041      -.0452804
       time1                     8.364e-13      1.126e-08   Difference
                                -1.847e-11     -2.488e-07   Relative difference
    ----------------------------------------------------------
    leftistny:    .00164549      .00164549      .00164549
    c.time1#c.~1                -1.623e-14     -2.349e-10   Difference
                                -9.864e-12     -1.428e-07   Relative difference
    ----------------------------------------------------------
    leftistny:   -.00001451     -.00001451     -.00001451
    c.time1#c.~1                 6.741e-17      9.794e-13   Difference
                                -4.647e-12     -6.752e-08   Relative difference
    ----------------------------------------------------------
    leftistny:   -5.1073016     -5.1073016     -5.1072998
       _cons                     1.234e-10      1.887e-06   Difference
                                -2.417e-11     -3.695e-07   Relative difference
    ----------------------------------------------------------
    lnsig2u:     -.74243845     -.74243845     -.74244805
       _cons                    -3.944e-10     -9.602e-06   Difference
                                 5.313e-10      .00001293   Relative difference
    ----------------------------------------------------------

102 . * --Passed:  all coefficients change by less than .01
103 .
104 . * Figure 3.3. GDP per capita
105 . * Urban civic
106 . * Linear vs. Quadratic specification: quadratic is better (lower BIC and AIC)
107 . xtcloglog urbancivicny c.gdppcthl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,042
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
                                                                  avg =       67.3
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      34.82
    Log pseudolikelihood  = -304.05918              Prob > chi2       =     0.0000

                                        (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
                        |               Robust
          urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------------------+-----------------------------------------------------------------
              gdppcthl |    .937886   .0200535    -3.00   0.003     .8993941    .9780253
                 time1 |   .9387496   .0731789    -0.81   0.417     .8057412    1.093714
                        |
          c.time1#c.time1 |   1.001663   .0013059     1.27   0.202      .999107    1.004226
                        |
c.time1#c.time1#c.time1 |   .9999923   6.57e-06    -1.17   0.240     .9999794    1.000005
                        |
                   cons |   .0008494   .0014368    -4.18   0.000     .0000308    .0233871
------------------------+-----------------------------------------------------------------
                /lnsig2u |  -2.052453   1.975434                     -5.924232    1.819326
------------------------+-----------------------------------------------------------------
                 sigma_u |   .3583567   .3539549                      .0517094    2.483485
                     rho |   .0724162    .132694                      .0016229     .789452
```

```
108 . estat ic

    Akaike's information criterion and Bayesian information criterion

    -------------------------------------------------------------------------------
           Model |        Obs  ll(null)  ll(model)      df         AIC        BIC
    -------------+-----------------------------------------------------------------
               . |     11,042         .  -304.0592       6    620.1184   663.9751
    -------------------------------------------------------------------------------
                   Note: N=Obs used in calculating BIC; see [R] BIC note.

109 . xtcloglog urbancivicny c.gdppcthl##c.gdppcthl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,042
    Group variable: cowcode                         Number of groups  =        164

    Random effects u i ~ Gaussian                   Obs per group:
                                                                  min =         10
                                                                  avg =       67.3
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(5)      =      44.40
    Log pseudolikelihood  = -298.49629              Prob > chi2       =     0.0000

                                            (Std. Err. adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
                           |               Robust
                urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------------------+----------------------------------------------------------------
                  gdppcthl |   1.352199   .1456203     2.80   0.005     1.094898    1.669967
                           |
      c.gdppcthl#c.gdppcthl |   .9748752   .0073925    -3.36   0.001     .9604932    .9894725
                           |
                     time1 |   .9331617   .0731267    -0.88   0.377     .8003002     1.08808
                           |
            c.time1#c.time1 |   1.001773   .0013091     1.36   0.175     .9992101    1.004342
                           |
    c.time1#c.time1#c.time1 |   .9999917   6.56e-06    -1.27   0.205     .9999788    1.000005
                           |
                      cons |   .0004842   .0008109    -4.56   0.000     .0000182    .0128982
    -------------------------+----------------------------------------------------------------
                  /lnsig2u |  -3.246525      6.543                     -16.07057    9.577519
    -------------------------+----------------------------------------------------------------
                   sigma_u |   .1972541   .6453169                      .0003238    120.1522
                       rho |   .0231074   .1476979                      6.38e-08    .9998861
    ------------------------------------------------------------------------------

110 . estat ic

    Akaike's information criterion and Bayesian information criterion

    -------------------------------------------------------------------------------
           Model |        Obs  ll(null)  ll(model)      df         AIC        BIC
    -------------+-----------------------------------------------------------------
               . |     11,042         .  -298.4963       7    610.9926   662.1588
    -------------------------------------------------------------------------------
                   Note: N=Obs used in calculating BIC; see [R] BIC note.

111 . * Quadrature test on quadratic
112 . quietly: xtcloglog urbancivicny c.gdppcthl##c.gdppcthl c.time1##c.time1##c.time1 if indstate==1, vce(robust) efo
    > rm nolog

113 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                              Quadrature check

                    Fitted       Comparison     Comparison
                  quadrature     quadrature     quadrature
                  12 points      8 points       16 points
    ---------------------------------------------------------
    Log          -298.49629     -298.49629     -298.49629
    likelihood                   2.103e-11      2.188e-11   Difference
                                -7.046e-14     -7.332e-14   Relative difference
    ---------------------------------------------------------
    urbancivicny: .30173245       .30173243      .30173243
    gdppcthl                    -2.047e-08     -2.046e-08   Difference
                                -6.783e-08     -6.782e-08   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.02544586     -.02544586     -.02544586
    c.gdppcthl~l                 1.848e-09      1.848e-09   Difference
                                -7.263e-08     -7.262e-08   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.06917681     -.06917682     -.06917682
       time1                    -3.088e-09     -3.088e-09   Difference
                                 4.464e-08      4.464e-08   Relative difference
    ---------------------------------------------------------
    urbancivicny: .00177103       .00177103      .00177103
    c.time1#c.~1                  7.803e-12      7.802e-12   Difference
                                  4.406e-09      4.405e-09   Relative difference
    ---------------------------------------------------------
    urbancivicny:-8.325e-06     -8.325e-06     -8.325e-06
    c.time1#c.~1                  5.977e-14      5.976e-14   Difference
```

```
                            -7.179e-09     -7.178e-09   Relative difference
-------------------------------------------------------------
urbancivicny:-7.6330351      -7.633034      -7.633034
   _cons                      1.056e-06      1.056e-06   Difference
                            -1.384e-07     -1.384e-07   Relative difference
-------------------------------------------------------------
lnsig2u:     -3.2465246     -3.2465819     -3.2465819
   _cons                    -.00005727     -.00005726   Difference
                             .00001764      .00001764   Relative difference
-------------------------------------------------------------

114 . * --Passed:  all coefficients change by less than .01
115 . * Social
116 . * Linear vs. quadratic specification: linear is better (lower BIC and AIC; quadratic not significant)
117 . xtcloglog leftistny gdppcthl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,042
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
                                                                  avg =       67.3
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      41.83
    Log pseudolikelihood  = -371.60028              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
               leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                gdppcthl |   .8990926   .0422104    -2.27   0.023     .8200539    .9857493
                   time1 |   .9601783   .0310018    -1.26   0.208     .9012985    1.022905
                         |
          c.time1#c.time1 |   1.001404   .0007465     1.88   0.060     .9999422    1.002868
                         |
c.time1#c.time1#c.time1  |   .9999876   4.75e-06    -2.62   0.009     .9999783    .9999969
                         |
                   _cons |   .0140395   .0064059    -9.35   0.000     .0057407    .0343348
-------------------------+----------------------------------------------------------------
                /lnsig2u |  -1.205998   .8547113                     -2.881202     .469205
-------------------------+----------------------------------------------------------------
                 sigma_u |   .5471681   .2338354                      .2367854    1.264406
                     rho |   .1539828    .111345                      .0329614    .4928767
------------------------------------------------------------------------------------------

118 . estat ic

    Akaike's information criterion and Bayesian information criterion

-------------------------------------------------------------------------------
       Model |        Obs  ll(null)  ll(model)      df         AIC        BIC
-------------+-----------------------------------------------------------------
           . |     11,042         .  -371.6003       6    755.2006   799.0573
-------------------------------------------------------------------------------
               Note: N=Obs used in calculating BIC; see [R] BIC note.

119 . xtcloglog leftistny c.gdppcthl##c.gdppcthl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,042
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
                                                                  avg =       67.3
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(5)      =      46.63
    Log pseudolikelihood  = -371.22786              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
               leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                gdppcthl |   1.010522    .127126     0.08   0.934     .7897004     1.29309
                         |
  c.gdppcthl#c.gdppcthl  |   .9888158   .0098853    -1.13   0.261     .9696296    1.008382
                         |
                   time1 |   .9576359   .0311506    -1.33   0.183     .8984874    1.020678
                         |
          c.time1#c.time1 |   1.001465   .0007487     1.96   0.050     .9999987    1.002934
                         |
c.time1#c.time1#c.time1  |   .9999872   4.75e-06    -2.69   0.007     .9999779    .9999965
                         |
                   _cons |   .0120346   .0056612    -9.40   0.000     .0047865    .0302584
-------------------------+----------------------------------------------------------------
                /lnsig2u |  -1.184168   .8603013                     -2.870328    .5019914
-------------------------+----------------------------------------------------------------
                 sigma_u |   .5531732   .2379478                      .2380764    1.285305
                     rho |   .1568482   .1137721                      .0333098    .5010728
------------------------------------------------------------------------------------------
```

```
120 . estat ic

    Akaike's information criterion and Bayesian information criterion

    ------------------------------------------------------------------------------
           Model |        Obs  ll(null)  ll(model)      df         AIC        BIC
    -------------+----------------------------------------------------------------
               . |     11,042         .  -371.2279       7    756.4557   807.6219
    ------------------------------------------------------------------------------
                   Note: N=Obs used in calculating BIC; see [R] BIC note.

121 . * Quadrature test on linear
122 . quietly: xtcloglog leftistny gdppcthl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

123 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
    ------------------------------------------------------------
    Log          -371.60028     -371.60027     -371.60028
    likelihood                   7.670e-06     -4.093e-08   Difference
                                -2.064e-08      1.102e-10   Relative difference
    ------------------------------------------------------------
    leftistny:   -.10636923     -.10636923     -.10636926
    gdppcthl                    -2.744e-13     -2.974e-08   Difference
                                 2.580e-12      2.796e-07   Relative difference
    ------------------------------------------------------------
    leftistny:   -.04063633     -.04063633     -.04063633
       time1                     5.266e-14      1.707e-09   Difference
                                -1.296e-12     -4.200e-08   Relative difference
    ------------------------------------------------------------
    leftistny:    .00140325      .00140325      .00140325
    c.time1#c.~1                -1.463e-15     -4.984e-11   Difference
                                -1.042e-12     -3.552e-08   Relative difference
    ------------------------------------------------------------
    leftistny:   -.00001244     -.00001244     -.00001244
    c.time1#c.~1                 8.226e-18      3.149e-13   Difference
                                -6.614e-13     -2.531e-08   Relative difference
    ------------------------------------------------------------
    leftistny:   -4.2658807     -4.2658807     -4.2658803
       _cons                     8.264e-12      3.952e-07   Difference
                                -1.937e-12     -9.263e-08   Relative difference
    ------------------------------------------------------------
    lnsig2u:     -1.2059984     -1.2059984     -1.2060038
       _cons                    -4.271e-11     -5.462e-06   Difference
                                 3.542e-11      4.529e-06   Relative difference
    ------------------------------------------------------------

124 . * --Passed:  all coefficients change by less than .01
125 .
126 . * Figure 3.4. Economic growth
127 . * Urban civic
128 . xtcloglog urbancivicny gdppcgrow1yrl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,980
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =          9
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      33.01
    Log pseudolikelihood  = -306.04863              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |               Robust
              urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------------------+----------------------------------------------------------------
              gdppcgrow1yrl |   1.023162   .0099809     2.35   0.019     1.003786    1.042912
                      time1 |   .9220375   .0741837    -1.01   0.313     .7875245    1.079526
                            |
             c.time1#c.time1 |   1.001959   .0013547     1.45   0.148      .999307    1.004617
                            |
    c.time1#c.time1#c.time1 |   .9999907   6.81e-06    -1.37   0.171     .9999773    1.000004
                            |
                      _cons |   .0009143   .0015393    -4.16   0.000     .0000337    .0247856
    -------------------------+----------------------------------------------------------------
                  /lnsig2u |  -1.796819   1.469043                      -4.67609    1.082451
    -------------------------+----------------------------------------------------------------
                   sigma_u |   .4072168   .2991094                      .0965162    1.718111
                       rho |   .0915779   .1222117                      .0056312    .6421599
    ------------------------------------------------------------------------------
```

```
129 . * Quadrature test
130 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
    -----------------------------------------------------
    Log          -306.04863     -306.04863     -306.04863
    likelihood                  -3.231e-08      1.091e-11   Difference
                                 1.056e-10     -3.566e-14   Relative difference
    -----------------------------------------------------
    urbancivicny: .02289775      .02289775      .02289775
    gdppcgrow1~l                -4.921e-11     -2.824e-11   Difference
                                -2.149e-09     -1.234e-09   Relative difference
    -----------------------------------------------------
    urbancivicny:-.08116934     -.08116934     -.08116934
       time1                    -7.987e-10     -4.001e-10   Difference
                                 9.840e-09      4.930e-09   Relative difference
    -----------------------------------------------------
    urbancivicny: .00195679      .00195679      .00195679
    c.time1#c.~1                -1.181e-11     -4.907e-12   Difference
                                -6.035e-09     -2.508e-09   Relative difference
    -----------------------------------------------------
    urbancivicny:-9.333e-06     -9.333e-06     -9.333e-06
    c.time1#c.~1                 1.030e-13      4.494e-14   Difference
                                -1.103e-08     -4.815e-09   Relative difference
    -----------------------------------------------------
    urbancivicny:-6.9974042     -6.9974035     -6.9974039
       _cons                     7.329e-07      3.401e-07   Difference
                                -1.047e-07     -4.861e-08   Relative difference
    -----------------------------------------------------
    lnsig2u:     -1.7968192     -1.7968282     -1.7968239
        cons                    -8.985e-06     -4.705e-06   Difference
                                 5.001e-06      2.619e-06   Relative difference
    -----------------------------------------------------

131 . * --Passed:  all coefficients change by less than .01
132 . * Social
133 . xtcloglog leftistny gdppcgrow1yrl c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,980
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =          9
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      49.72
    Log pseudolikelihood  = -368.21201              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------------
                            |               Robust
                 leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ------------------------+-----------------------------------------------------------------
              gdppcgrow1yrl |   .9457661   .0112912    -4.67   0.000     .9238926    .9681574
                      time1 |   .9412079   .0323814    -1.76   0.078      .879834    1.006863
                            |
            c.time1#c.time1 |    1.00184   .0007972     2.31   0.021     1.000279    1.003404
                            |
    c.time1#c.time1#c.time1 |   .9999845   5.18e-06    -2.99   0.003     .9999743    .9999947
                            |
                      _cons |   .0140165   .0067618    -8.85   0.000     .0054451    .0360805
    ------------------------+-----------------------------------------------------------------
                   /lnsig2u |  -.8113529   .6521318                     -2.089508     .466802
    ------------------------+-----------------------------------------------------------------
                    sigma_u |   .6665258   .2173313                      .3517784    1.262888
                        rho |   .2126453   .1091847                      .0699662     .492276
    ------------------------------------------------------------------------------------------

134 . * Quadrature test
135 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
    -----------------------------------------------------
    Log          -368.21201     -368.21192     -368.21201
    likelihood                   .00009483     -1.722e-08   Difference
                                -2.575e-07      4.677e-11   Relative difference
    -----------------------------------------------------
    leftistny:   -.05576004     -.05576004     -.05576003
    gdppcgrow1~l                 7.999e-14      1.092e-08   Difference
                                -1.435e-12     -1.959e-07   Relative difference
    -----------------------------------------------------
    leftistny:   -.06059118     -.06059118     -.06059117
```

```
   time1                     2.612e-13      9.489e-09   Difference
                            -4.311e-12     -1.566e-07   Relative difference
-------------------------------------------------------
leftistny:     .0018384       .0018384       .0018384
c.time1#c.~1               -5.243e-15     -2.088e-10   Difference
                           -2.852e-12     -1.136e-07   Relative difference
-------------------------------------------------------
leftistny:   -.00001549     -.00001549     -.00001549
c.time1#c.~1                2.408e-17      8.035e-13   Difference
                           -1.554e-12     -5.186e-08   Relative difference
-------------------------------------------------------
leftistny:   -4.2675215     -4.2675215     -4.2675192
    cons                    2.660e-11      2.241e-06   Difference
                           -6.234e-12     -5.252e-07   Relative difference
-------------------------------------------------------
lnsig2u:     -.81135288     -.81135288     -.81136457
   _cons                   -1.027e-10     -.00001169   Difference
                            1.265e-10      .00001441   Relative difference
-------------------------------------------------------
```

```
136 . * --Passed:  all coefficients change by less than .01
137 .
138 . * Absence of relationship of economic growth to urban civic revolution in upper-income countries
139 . *       More consistent relationship among lower middle-income countries
140 . xtcloglog urbancivicny i.gdppcquartersl##c.gdppcgrow1yrl c.time1##c.time1##c.time1 if indstate==1, vce(robust) e
    > form nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,980
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =          9
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      72.92
    Log pseudolikelihood  = -298.23054              Prob > chi2       =     0.0000

                                                    (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------------------
                                    |               Robust
                      urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
------------------------------------+-----------------------------------------------------------------
                    gdppcquartersl |
                                  2 |   1.135674    .319499     0.45   0.651     .6543124    1.971161
                                  3 |   1.120237   .5574428     0.23   0.820     .4224181    2.970828
                                  4 |   .1173629   .1237091    -2.03   0.042     .0148697    .9263167
                                    |
                     gdppcgrow1yrl |   .9775867   .0154451    -1.43   0.151     .9477787    1.008332
                                    |
gdppcquartersl#c.gdppcgrow1yrl |
                                  2 |   1.051118    .020754     2.52   0.012     1.011218    1.092592
                                  3 |   1.089363   .0498515     1.87   0.061     .9959091    1.191586
                                  4 |   .9735261   .0193323    -1.35   0.177     .9363634    1.012164
                                    |
                              time1 |   .9216375   .0751456    -1.00   0.317     .7855206    1.081341
                                    |
                    c.time1#c.time1 |   1.001971   .0013681     1.44   0.149     .9992927    1.004656
                                    |
           c.time1#c.time1#c.time1 |   .9999907   6.87e-06    -1.35   0.177     .9999773    1.000004
                                    |
                             _cons |   .0009348   .0015908    -4.10   0.000     .0000333    .0262592
------------------------------------+-----------------------------------------------------------------
                         /lnsig2u |  -3.572014   8.848644                     -20.91504    13.77101
------------------------------------+-----------------------------------------------------------------
                          sigma_u |   .1676282   .7416411                      .0000287    977.9951
                              rho |   .0167954   .1461202                      5.02e-10    .9999983
------------------------------------------------------------------------------------------------------
```

```
141 . * Quadrature test
142 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
-------------------------------------------------------
Log          -298.23054     -298.23054     -298.23054
likelihood                   1.023e-12      6.253e-13   Difference
                            -3.431e-15     -2.097e-15   Relative difference
-------------------------------------------------------
urbancivicny: .12722613       .1272261       .1272261
2.gdppcqua~l                -2.561e-08     -2.277e-08   Difference
                            -2.013e-07     -1.790e-07   Relative difference
-------------------------------------------------------
urbancivicny: .11354054      .11354049       .1135405
3.gdppcqua~l                -4.746e-08     -4.219e-08   Difference
                            -4.180e-07     -3.716e-07   Relative difference
-------------------------------------------------------
urbancivicny:-2.1424843     -2.1424843     -2.1424843
4.gdppcqua~l                 9.850e-09      8.756e-09   Difference
                            -4.598e-09     -4.087e-09   Relative difference
-------------------------------------------------------
```

```
urbancivicny:-.02266826     -.02266826     -.02266826
gdppcgrow1~l                -3.433e-09     -3.051e-09   Difference
                             1.514e-07      1.346e-07   Relative difference
-------------------------------------------------------
urbancivicny: .04985406      .04985407      .04985407
2.gdppcqua~l                 5.302e-09      4.713e-09   Difference
                             1.063e-07      9.453e-08   Relative difference
-------------------------------------------------------
urbancivicny: .08559276      .08559276      .08559276
3.gdppcqua~l                 5.534e-09      4.919e-09   Difference
                             6.465e-08      5.747e-08   Relative difference
-------------------------------------------------------
urbancivicny:-.02683063     -.02683063     -.02683063
4.gdppcqua~l                 4.657e-10      4.139e-10   Difference
                            -1.736e-08     -1.543e-08   Relative difference
-------------------------------------------------------
urbancivicny:-.08160327     -.08160326     -.08160326
   time1                     1.991e-09      1.770e-09   Difference
                            -2.440e-08     -2.169e-08   Relative difference
-------------------------------------------------------
urbancivicny: .00196857      .00196857      .00196857
c.time1#c.~1                -1.197e-11     -1.064e-11   Difference
                            -6.081e-09     -5.406e-09   Relative difference
-------------------------------------------------------
urbancivicny:-9.275e-06     -9.275e-06     -9.275e-06
c.time1#c.~1                 1.714e-14      1.524e-14   Difference
                            -1.848e-09     -1.643e-09   Relative difference
-------------------------------------------------------
urbancivicny:-6.9752198     -6.9752202     -6.9752201
    cons                    -3.880e-07     -3.449e-07   Difference
                             5.563e-08      4.945e-08   Relative difference
-------------------------------------------------------
lnsig2u:     -3.5720137     -3.5719957     -3.5719977
   _cons                     .00001791      .00001592   Difference
                            -5.015e-06     -4.458e-06   Relative difference
-------------------------------------------------------
```

```
143 . * --Passed:  all coefficients change by less than .01
144 .
145 . * Lack of bivariate relationship between oil production and revolution (either social or urban civic)
146 . * Urban civic
147 . xtcloglog urbancivicny lnoill c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,560
Group variable: cowcode                         Number of groups  =        162

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         22
                                                              avg =       71.4
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      24.91
Log pseudolikelihood  = -306.89631              Prob > chi2       =     0.0001

                                          (Std. Err. adjusted for 162 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
             urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                  lnoill |   1.010538    .030809     0.34   0.731     .9519217    1.072763
                   time1 |   .9444761   .0792696    -0.68   0.496     .8012164    1.113351
                         |
         c.time1#c.time1 |   1.001622   .0013847     1.17   0.241     .9989115     1.00434
                         |
c.time1#c.time1#c.time1  |   .9999922   6.89e-06    -1.14   0.256     .9999787    1.000006
                         |
                    cons |   .0005282   .0009415    -4.23   0.000     .0000161    .0173779
-------------------------+----------------------------------------------------------------
                /lnsig2u |  -1.737055   1.410395                     -4.501378    1.027269
-------------------------+----------------------------------------------------------------
                 sigma_u |    .419569    .295879                      .1053266    1.671354
                     rho |   .0966726   .1231656                       .006699    .6293824
------------------------------------------------------------------------------------------
```

```
148 . * Quadrature test
149 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                         Quadrature check

              Fitted       Comparison     Comparison
            quadrature     quadrature     quadrature
            12 points      8 points       16 points
-------------------------------------------------------
Log          -306.89631     -306.89631     -306.89631
likelihood                  -4.949e-08      2.268e-11   Difference
                             1.612e-10     -7.390e-14   Relative difference
-------------------------------------------------------
urbancivicny: .01048243      .01048244      .01048244
  lnoill                     9.593e-09      4.582e-09   Difference
                             9.152e-07      4.372e-07   Relative difference
-------------------------------------------------------
urbancivicny:-.05712494     -.05712493     -.05712493
   time1                     7.770e-09      3.636e-09   Difference
                            -1.360e-07     -6.365e-08   Relative difference
```

```
------------------------------------------------------
urbancivicny: .00162057      .00162057      .00162057
c.time1#c.~1               -1.433e-10     -6.738e-11   Difference
                           -8.842e-08     -4.158e-08   Relative difference
------------------------------------------------------
urbancivicny:-7.834e-06     -7.834e-06     -7.834e-06
c.time1#c.~1                6.975e-13      3.286e-13   Difference
                           -8.904e-08     -4.195e-08   Relative difference
------------------------------------------------------
urbancivicny:-7.5459413     -7.5459404     -7.5459408
   _cons                    8.902e-07      4.279e-07   Difference
                           -1.180e-07     -5.671e-08   Relative difference
------------------------------------------------------
lnsig2u:     -1.7370548     -1.7370679     -1.7370618
   _cons                   -.00001312     -7.079e-06   Difference
                            7.551e-06      4.075e-06   Relative difference
------------------------------------------------------

150 . * --Passed:  all coefficients change by less than .01
151 . * Social
152 . xtcloglog leftistny lnoill c.time1##c.time1##c.time1 if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,560
    Group variable: cowcode                         Number of groups  =        162

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         22
                                                                  avg =       71.4
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      30.60
    Log pseudolikelihood  =  -371.9194              Prob > chi2       =     0.0000

                                          (Std. Err. adjusted for 162 clusters in cowcode)
------------------------------------------------------------------------------------------
                         |               Robust
              leftistny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------------------+----------------------------------------------------------------
                 lnoill |   1.057081   .0398787     1.47   0.141     .9817396    1.138204
                  time1 |   .9528851   .0334684    -1.37   0.169     .8894951    1.020793
                        |
        c.time1#c.time1 |   1.001618   .0007878     2.06   0.040     1.000075    1.003163
                        |
c.time1#c.time1#c.time1 |   .9999858   5.01e-06    -2.83   0.005      .999976    .9999956
                        |
                  _cons |   .0080904   .0039277    -9.92   0.000     .0031241    .0209512
-------------------------+----------------------------------------------------------------
               /lnsig2u |  -.7691891   .6475971                     -2.038456    .5000778
-------------------------+----------------------------------------------------------------
                sigma_u |   .6807266   .2204183                      .3608734    1.284075
                    rho |   .2197902   .1110515                       .073362    .5005944
------------------------------------------------------------------------------------------

153 . * Quadrature test
154 . quadchk, noutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                 Fitted       Comparison     Comparison
               quadrature     quadrature     quadrature
               12 points      8 points       16 points
------------------------------------------------------
Log            -371.9194     -371.91928      -371.9194
likelihood                    .00011788      1.690e-07   Difference
                             -3.169e-07     -4.543e-10   Relative difference
------------------------------------------------------
leftistny:     .05551105      .05551105       .0555111
  lnoill                     -4.145e-14      5.106e-08   Difference
                             -7.466e-13      9.198e-07   Relative difference
------------------------------------------------------
leftistny:    -.0482609       -.0482609      -.04826089
   time1                      7.131e-14      7.883e-09   Difference
                             -1.478e-12     -1.634e-07   Relative difference
------------------------------------------------------
leftistny:    .00161672      .00161672      .00161672
c.time1#c.~1               -9.886e-16     -1.409e-10   Difference
                           -6.115e-13     -8.714e-08   Relative difference
------------------------------------------------------
leftistny:    -.0000142      -.0000142      -.0000142
c.time1#c.~1                2.428e-18      4.144e-13   Difference
                           -1.709e-13     -2.918e-08   Relative difference
------------------------------------------------------
leftistny:   -4.8170772     -4.8170772     -4.8170756
   _cons                    1.186e-11      1.581e-06   Difference
                           -2.463e-12     -3.281e-07   Relative difference
------------------------------------------------------
lnsig2u:     -.76918914     -.76918914     -.76920122
   _cons                   -4.463e-11     -.00001208   Difference
                            5.802e-11       .0000157   Relative difference
------------------------------------------------------
```

```
155 . * --Passed:  all coefficients change by less than .01
156 .
157 .
158 . * ================================================================================
159 . * ROBUSTNESS TESTS FOR URBAN CIVIC REVOLUTIONARY EPISODES MODEL  (TABLE 3.1)
160 . * ================================================================================
161 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
162 . * Robustness test for possible issues of multicollinearity
163 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
164 . * Checking for possible multicollinearity using variance inflation factors, with variables in Model 4 in Table 3
    > .1
165 . quietly: reg urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill post
    > coldwar if indstate==1

166 . estat vif

    Variable |       VIF       1/VIF
-------------+----------------------
    gdppcthl |     13.23    0.075609
   gdppcthl2 |      9.61    0.104008
     polityl |      1.98    0.505850
 v2x_execorr |      1.94    0.516175
      lnoill |      1.60    0.623168
    polityl2 |      1.49    0.671228
 postcoldwar |      1.28    0.779371
      lnpopl |      1.26    0.796809
yrsinclead~r |      1.24    0.804525
-------------+----------------------
    Mean VIF |      3.74

167 . * RESULT:  GDP per capita and its quadratic term are potentially problematic,
168 . *       as VIF approaches or is greater than 10
169 . *  To test this whetheer multicollinearity affected the results, as recommended
170 . *       in some sources, I centered the variable and re-ran the regression to see
171 . *       if centering the variable changed any parameters of the model
172 . sum gdppcthl if indstate==1

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    gdppcthl |     11,042    4.658525    5.382156     .20654   42.91624

173 . local gdppcmean = r(mean)

174 . generate centeredgdppcthl= gdppcthl - `gdppcmean' if indstate==1
(7,347 missing values generated)

175 . generate centeredgdppcthl2 = centeredgdppcthl * centeredgdppcthl if indstate==1
(7,347 missing values generated)

176 . quietly: reg urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill post
    > coldwar if indstate==1

177 . estat vif

    Variable |       VIF       1/VIF
-------------+----------------------
    gdppcthl |     13.23    0.075609
   gdppcthl2 |      9.61    0.104008
     polityl |      1.98    0.505850
 v2x_execorr |      1.94    0.516175
      lnoill |      1.60    0.623168
    polityl2 |      1.49    0.671228
 postcoldwar |      1.28    0.779371
      lnpopl |      1.26    0.796809
yrsinclead~r |      1.24    0.804525
-------------+----------------------
    Mean VIF |      3.74

178 . * New gdppcthl variables now have variance inflation factor within reasonable limits
179 . * Then checked to see if it made a difference in the regression outcomes
180 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 gdppcgrow1yrl polityl polityl2 yrsincleaderinpower v2x_execorr
    > lnoill postcoldwar if indstate==1, eform nolog

Random-effects complementary log-log model      Number of obs     =     10,494
Group variable: cowcode                         Number of groups  =        157

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       66.8
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(10)     =      83.36
Log likelihood  = -263.48094                    Prob > chi2       =     0.0000

------------------------------------------------------------------------------
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------
             lnpopl |   1.508058   .1639838     3.78   0.000     1.218596    1.866278
          gdppcthl |   1.805861   .2720535     3.92   0.000     1.344158    2.426152
         gdppcthl2 |   .9678286    .011487    -2.76   0.006     .9455743    .9906067
      gdppcgrow1yrl |   1.011886   .0227608     0.53   0.599     .9682448    1.057494
            polityl |   .9271115    .027432    -2.56   0.011     .8748751    .9824669
           polityl2 |   .9842485   .0055676    -2.81   0.005     .9733964    .9952216
yrsincleaderinpower |    1.03299   .0142368     2.36   0.019      1.00546    1.061274
        v2x_execorr |   5.073153   3.401343     2.42   0.015      1.36327    18.87878
             lnoill |   .8794047   .0319671    -3.54   0.000     .8189302    .9443451
        postcoldwar |   6.911917   2.977811     4.49   0.000     2.970855    16.08109
              _cons |   6.13e-06   7.82e-06    -9.42   0.000     5.04e-07    .0000746
--------------------+---------------------------------------------------------
```

```
           /lnsig2u |  -10.56401   25.71614                      -60.96672    39.83869
--------------------+----------------------------------------------------------------
            sigma_u |   .0050822   .0653475                      5.77e-14    4.48e+08
                rho |   .0000157   .0004038                      2.02e-27           1
------------------------------------------------------------------------------------
LR test of rho=0: chibar2(01) = 5.8e-05                Prob >= chibar2 = 0.497

181 . estimates store mod1

182 . xtcloglog urbancivicny lnpopl centeredgdppcthl centeredgdppcthl2 gdppcgrow1yrl polityl polityl2 yrsincleaderinpo
    > wer v2x_execorr lnoill postcoldwar if indstate==1, eform nolog

    Random-effects complementary log-log model      Number of obs     =     10,494
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       66.8
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      83.36
    Log likelihood  = -263.48094                    Prob > chi2       =     0.0000

    ------------------------------------------------------------------------------
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    --------------------+---------------------------------------------------------
                 lnpopl |   1.508058   .1639838     3.78   0.000     1.218596    1.866278
       centeredgdppcthl |   1.331582   .0830366     4.59   0.000     1.178386    1.504694
      centeredgdppcthl2 |   .9678287    .011487    -2.76   0.006     .9455743    .9906067
          gdppcgrow1yrl |   1.011886   .0227608     0.53   0.599     .9682448    1.057494
                polityl |   .9271115    .027432    -2.56   0.011     .8748751    .9824669
               polityl2 |   .9842485   .0055676    -2.81   0.005     .9733964    .9952216
    yrsincleaderinpower |    1.03299   .0142368     2.36   0.019      1.00546    1.061274
            v2x_execorr |   5.073152   3.401343     2.42   0.015      1.36327    18.87878
                lnoill |   .8794047   .0319671    -3.54   0.000     .8189302    .9443451
            postcoldwar |   6.911917   2.977811     4.49   0.000     2.970855    16.08109
                  _cons |   .0000473   .0000576    -8.18   0.000     4.36e-06    .0005139
    --------------------+---------------------------------------------------------
               /lnsig2u |  -10.56401   25.71614                      -60.96672    39.83869
    --------------------+---------------------------------------------------------
                sigma_u |   .0050822   .0653475                      5.77e-14    4.48e+08
                    rho |   .0000157   .0004038                      2.02e-27           1
    ------------------------------------------------------------------------------
    LR test of rho=0: chibar2(01) = 5.8e-05                Prob >= chibar2 = 0.497

183 . estimates store mod2

184 . * RESULT: No difference in patterns of statistical significance on visual inspection
185 . * Hausman test of the two models
186 . hausman mod1 mod2

                    ---- Coefficients ----
                 |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
                 |      mod1         mod2        Difference          S.E.
    -------------+------------------------------------------------------------
          lnpopl |    .4108228     .4108228        1.15e-09               .
    gdppcgrow1~l |     .011816      .011816       -1.66e-10               .
         polityl |   -.0756814    -.0756814       -6.29e-11        9.34e-07
        polityl2 |   -.0158769    -.0158769       -6.97e-11        1.63e-07
    yrsinclead~r |    .0324576     .0324576       -1.06e-10        3.26e-07
     v2x execorr |    1.623962     1.623962        1.42e-08        .0000328
          lnoill |     -.12851      -.12851       -1.05e-09        8.29e-07
     postcoldwar |    1.933247     1.933247        1.90e-09               .
    ------------------------------------------------------------------------------
                          b = consistent under Ho and Ha; obtained from xtcloglog
            B = inconsistent under Ha, efficient under Ho; obtained from xtcloglog

        Test:  Ho:  difference in coefficients not systematic

                      chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                              =        0.00
                    Prob>chi2 =      1.0000
                    (V_b-V_B is not positive definite)

187 . * RESULT:  No difference in the regression coefficients of the two models: can
188 . *       safely keep gdppcthl and gdppcthl2 in the specification
189 . drop _est_mod1 _est_mod2

190 . macro drop _all

191 . drop centeredgdppcthl centeredgdppcthl2

192 .
193 . * ++++++++++++++++++++++++++++
194 . * Bootstrap country-clusters
195 . * ++++++++++++++++++++++++++++
196 . * WARNING:  CAN TAKE A WHILE TO COMPUTE
```

```
197 . * Must use pooled model, with clustered standard errors
198 . * Warning:  will be reloading dataset after this command
199 . clear

200 . use revspredictbycntryyr, clear

201 . xtset, clear

202 . bootstrap , reps(1000) cluster(cowcode) idcluster(newid) : cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polity
    > l polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar if indstate==1, vce(cluster cowcode) eform
    (running cloglog on estimation sample)

    Bootstrap replications (1000)
    ----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5
    .................................................    50
    .................................................   100
    .................................................   150
    .................................................   200
    .................................................   250
    .................................................   300
    .................................................   350
    .................................................   400
    .................x...............................   450
    .................................................   500
    .................................................   550
    .................................................   600
    .................................................   650
    .................................................   700
    .................................................   750
    .................................................   800
    .................................................   850
    .................................................   900
    .................................................   950
    ................................................. 1000

    Complementary log-log regression                Number of obs     =     10,516
                                                    Zero outcomes     =     10,466
                                                    Nonzero outcomes  =         50

                                                    Wald chi2(9)      =      75.44
    Log pseudolikelihood = -263.63106               Prob > chi2       =     0.0000

                                         (Replications based on 157 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |   Observed   Bootstrap                         Normal-based
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------------
                  lnpopl |   1.518912   .1692926     3.75   0.000     1.220845    1.889751
               gdppcthl |   1.824335   .2693241     4.07   0.000     1.365976      2.4365
              gdppcthl2 |   .9673957   .0107368    -2.99   0.003     .9465792    .9886699
                polityl |   .9269707    .035077    -2.00   0.045     .8607086    .9983341
               polityl2 |   .9841294   .0063199    -2.49   0.013     .9718203    .9965944
    yrsincleaderinpower |    1.03303   .0127873     2.63   0.009     1.008269    1.058399
            v2x_execorr |   5.163875   4.268555     1.99   0.047     1.021778    26.09725
                lnoill |   .8778001   .0285184    -4.01   0.000     .8236474    .9355132
            postcoldwar |   6.900119   3.170393     4.20   0.000     2.803855    16.98078
                  _cons |   5.73e-06   8.36e-06    -8.27   0.000     3.28e-07    .0001001
    ------------------------------------------------------------------------------
    Note: One or more parameters could not be estimated in 1 bootstrap replicate;
          standard-error estimates include only complete replications.

203 . estat bootstrap, eform all

    Complementary log-log regression                Number of obs     =     10,516
                                                    Replications      =        999

                                    (Replications based on 157 clusters in cowcode)
    ------------------------------------------------------------------------------
                 |    Observed               Bootstrap
    urbancivicny |      exp(b)       Bias    Std. Err.  [95% Conf. Interval]
    -------------+----------------------------------------------------------------
          lnpopl |   1.5189117   .0062957   .16929261    1.220845   1.889751   (N)
                 |                                      1.234494   1.905959   (P)
                 |                                      1.222955   1.897449  (BC)
        gdppcthl |   1.8243353   .0515036   .26932415    1.365976    2.4365   (N)
                 |                                      1.443315   2.587939   (P)
                 |                                      1.381965   2.468799  (BC)
       gdppcthl2 |   .96739568  -.0027637   .01073679    .9465792   .9886699   (N)
                 |                                      .9403872   .9815044   (P)
                 |                                      .9434382   .9824724  (BC)
         polityl |   .92697075  -.0052524   .03507704    .8607086   .9983341   (N)
                 |                                      .8520005    .987633   (P)
                 |                                      .8589333   .9949931  (BC)
        polityl2 |   .98412937  -.0005179   .00631986    .9718203   .9965944   (N)
                 |                                      .9701071   .9967226   (P)
                 |                                      .9714537   .9972732  (BC)
    yrsinclead~r |   1.0330301   .0014379    .0127873    1.008269   1.058399   (N)
                 |                                      1.011081   1.060986   (P)
                 |                                      1.009744   1.058194  (BC)
     v2x_execorr |   5.1638749   .0841462   4.2685546    1.021778   26.09725   (N)
                 |                                      1.237899   29.03565   (P)
                 |                                      1.242753   29.03565  (BC)
          lnoill |    .8778001  -.0031151   .02851844    .8236474   .9355132   (N)
                 |                                      .8192704   .9350024   (P)
                 |                                      .8247999    .942234  (BC)
     postcoldwar |   6.9001189   .4122237   3.1703928    2.803855   16.98078   (N)
                 |                                      3.137168    19.3746   (P)
                 |                                      3.041644   17.49635  (BC)
    ------------------------------------------------------------------------------
    (N)    normal confidence interval
    (P)    percentile confidence interval
```

```
(BC)   bias-corrected confidence interval
Note: One or more parameters could not be estimated in 1 bootstrap replicate;
      standard-error estimates include only complete replications.

. *  Result:  no changes in signs or patterns of statistical significance
. clear

. use revspredictbycntryyr.dta

.
. * ++++++++++++++++++++++++++++
. * Other estimation techniques
. * ++++++++++++++++++++++++++++
. * Rare event framework for Model 4
. * probability of an urban civic revolt across all cases in the sample (.005) taken as the pc parameter
. relogit urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
> ar if indstate==1, cluster(cowcode) pc (.0048)
(7,786 missing values generated)


Corrected logit estimates                           Number of obs =    10516

------------------------------------------------------------------------------
             |               Robust
urbancivicny |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnpopl |   .4209999   .0980301     4.29   0.000     .2288644    .6131354
    gdppcthl |   .5640568   .1312309     4.30   0.000      .306849    .8212647
   gdppcthl2 |  -.0291225   .0092573    -3.15   0.002    -.0472664   -.0109785
     polityl |  -.0740166   .0322446    -2.30   0.022    -.1372148   -.0108184
    polityl2 |  -.0154494   .0056158    -2.75   0.006     -.026456   -.0044427
yrsincleaderinpower |    .034092   .0114406     2.98   0.003     .0116687    .0565152
  v2x_execorr |   1.577716   .8003907     1.97   0.049     .0089788    3.146453
       lnoill |  -.1296778   .0304235    -4.26   0.000    -.1893067   -.0700489
  postcoldwar |   1.874305   .4183023     4.48   0.000     1.054448    2.694163
        _cons |  -11.88128   1.370856    -8.67   0.000    -14.56811    -9.19445
------------------------------------------------------------------------------

. *       RESULT: all findings remain unchanged
.
. * Population-averaged complementary log-log panel framework with different correlation structures for Model 4
. xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
> dwar time1 timesq timecub if  indstate==1, pa corr(exc) eform nolog vce(robust)

GEE population-averaged model                   Number of obs     =     10,516
Group variable:                      cowcode    Number of groups  =        157
Link:                                cloglog    Obs per group:
Family:                             binomial                  min =         21
Correlation:                    exchangeable                  avg =       67.0
                                                              max =        114
                                                Wald chi2(12)     =     105.68
Scale parameter:                           1    Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------
             |             Semirobust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnpopl |   1.539009   .1586731     4.18   0.000     1.257424    1.883653
    gdppcthl |   1.802543    .229785     4.62   0.000     1.404028     2.31417
   gdppcthl2 |   .9683197   .0089517    -3.48   0.000     .9509327    .9860246
     polityl |   .9319431   .0287559    -2.28   0.022     .8772531    .9900427
    polityl2 |   .9838383   .0056203    -2.85   0.004     .9728842    .9949157
yrsincleaderinpower |   1.035554   .0126602     2.86   0.004     1.011035    1.060667
  v2x_execorr |   5.249923   4.154952     2.10   0.036     1.112975    24.76397
       lnoill |   .8776276   .0262353    -4.37   0.000     .8276848     .930584
  postcoldwar |   9.787698   7.173675     3.11   0.002      2.32708    41.16705
        time1 |   1.183889   .1884751     1.06   0.289     .8665623    1.617418
       timesq |   .9975108   .0022579    -1.10   0.271     .9930953    1.001946
      timecub |   1.000011   9.98e-06     1.08   0.281     .9999912     1.00003
         cons |   2.23e-07   8.88e-07    -3.84   0.000     9.00e-11    .0005509
------------------------------------------------------------------------------

. xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
> dwar time1 timesq timecub if  indstate==1, pa corr(ar1) eform nolog vce(robust)

note:  observations not equally spaced
       modal spacing is delta year = 1 unit
       14 groups omitted from estimation

GEE population-averaged model                   Number of obs     =      9,258
Group and time vars:           cowcode year     Number of groups  =        143
Link:                                cloglog    Obs per group:
Family:                             binomial                  min =         21
Correlation:                           AR(1)                  avg =       64.7
                                                              max =        114
                                                Wald chi2(12)     =     105.42
Scale parameter:                           1    Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------
             |             Semirobust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnpopl |   1.592512   .1769869     4.19   0.000     1.280805     1.98008
    gdppcthl |   1.729006   .2579446     3.67   0.000      1.29065    2.316245
   gdppcthl2 |   .9687264   .0106991    -2.88   0.004     .9479818    .9899249
     polityl |   .9387431   .0326896    -1.82   0.069     .8768101    1.005051
    polityl2 |   .9832496   .0057472    -2.89   0.004     .9720496    .9945787
yrsincleaderinpower |   1.032845   .0139451     2.39   0.017     1.005872    1.060542
  v2x_execorr |   9.072505   7.859185     2.55   0.011      1.66097    49.55558
```

```
             lnoill |   .8875043   .0294681    -3.59   0.000     .8315872    .9471814
        postcoldwar |   23.97104   22.26209     3.42   0.001     3.883017    147.9805
              time1 |    5.00036   2.395371     3.36   0.001     1.955429    12.78676
             timesq |   .9796681   .0060442    -3.33   0.001     .9678931    .9915864
            timecub |   1.000083   .0000252     3.27   0.001     1.000033    1.000132
              _cons |   1.49e-23   1.79e-22    -4.37   0.000     8.73e-34    2.54e-13
------------------------------------------------------------------------------

219 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar time1 timesq timecub if  indstate==1, pa corr(ind) eform nolog vce(robust)

GEE population-averaged model                   Number of obs     =     10,516
Group variable:                     cowcode     Number of groups  =        157
Link:                               cloglog     Obs per group:
Family:                            binomial                   min =         21
Correlation:                   independent                    avg =       67.0
                                                              max =        114
                                                Wald chi2(12)     =     107.17
Scale parameter:                           1    Prob > chi2       =     0.0000

Pearson chi2(10516):              21868.40      Deviance          =     525.74
Dispersion (Pearson):             2.079536      Dispersion        =   .0499947

                                      (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------
                   |             Semirobust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
             lnpopl |   1.539534   .1586379     4.19   0.000     1.257995     1.88408
          gdppcthl |   1.806283   .2314335     4.61   0.000     1.405154    2.321922
         gdppcthl2 |   .9681599   .0090524    -3.46   0.001      .950579    .9860659
           polityl |   .9310612   .0288044    -2.31   0.021     .8762832    .9892634
          polityl2 |   .9837383   .0056208    -2.87   0.004     .9727833    .9948168
yrsincleaderinpower |   1.035713   .0125962     2.89   0.004     1.011317    1.060698
        v2x_execorr |   5.233018   4.148334     2.09   0.037     1.106586    24.74682
             lnoill |    .877631   .0261404    -4.38   0.000     .8278636    .9303903
        postcoldwar |     9.7927   7.158151     3.12   0.002     2.337229     41.0302
              time1 |   1.185286   .1906103     1.06   0.290     .8648451    1.624457
             timesq |   .9974958   .0022789    -1.10   0.272     .9930392    1.001972
            timecub |   1.000011   .0000101     1.08   0.282     .9999911    1.000031
              _cons |   2.15e-07   8.62e-07    -3.83   0.000     8.31e-11    .0005565
------------------------------------------------------------------------------

220 . *       RESULT:  all findings remain unchanged
221 . * QIC (quasilikelihood under the independence model criterion, QIC) test for model selection for a population-av
    > eraged model (Model 4)
222 . *       For testing which correlation structure is best
223 . *       The correlation structure with the smallest QIC is the preferred correlation structure
224 . *       See Cui, James. 2007. "QIC Program and Model Selection in GEE Analyses," The Stata Journal 7, 2: 209-220
    > .
225 . * Generate common sample
226 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar time1 timesq timecub if indstate==1, pa corr(ar1) vce(robust) eform nolog

note:  observations not equally spaced
       modal spacing is delta year = 1 unit
       14 groups omitted from estimation

GEE population-averaged model                   Number of obs     =      9,258
Group and time vars:          cowcode year      Number of groups  =        143
Link:                               cloglog     Obs per group:
Family:                            binomial                   min =         21
Correlation:                          AR(1)                    avg =       64.7
                                                              max =        114
                                                Wald chi2(12)     =     105.42
Scale parameter:                           1    Prob > chi2       =     0.0000

                                      (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------
                   |             Semirobust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
             lnpopl |   1.592512   .1769869     4.19   0.000     1.280805     1.98008
          gdppcthl |   1.729006   .2579446     3.67   0.000      1.29065    2.316245
         gdppcthl2 |   .9687264   .0106991    -2.88   0.004     .9479818    .9899249
           polityl |   .9387431   .0326896    -1.82   0.069     .8768101    1.005051
          polityl2 |   .9832496   .0057472    -2.89   0.004     .9720496    .9945787
yrsincleaderinpower |   1.032845   .0139451     2.39   0.017     1.005872    1.060542
        v2x_execorr |   9.072505   7.859185     2.55   0.011      1.66097    49.55558
             lnoill |   .8875043   .0294681    -3.59   0.000     .8315872    .9471814
        postcoldwar |   23.97104   22.26209     3.42   0.001     3.883017    147.9805
              time1 |    5.00036   2.395371     3.36   0.001     1.955429    12.78676
             timesq |   .9796681   .0060442    -3.33   0.001     .9678931    .9915864
            timecub |   1.000083   .0000252     3.27   0.001     1.000033    1.000132
              _cons |   1.49e-23   1.79e-22    -4.37   0.000     8.73e-34    2.54e-13
------------------------------------------------------------------------------

227 . generate sample=e(sample)
```

```
228 . * Testing ar1 on common sample
229 . qic urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar t
    > ime1 timesq timecub if indstate==1 & sample,  corr(ar1) link(cloglog) family(binomial) robust eform nolog

GEE population-averaged model                   Number of obs     =      9,258
Group variable:                     cowcode     Number of groups  =        143
Link:                               cloglog     Obs per group:
Family:                            binomial                     min =         21
Correlation:                    independent                     avg =       64.7
                                                                max =        114
                                                Wald chi2(12)     =      69.22
Scale parameter:                           1    Prob > chi2       =     0.0000

Pearson chi2(9258):                 7253.82     Deviance          =     454.23
Dispersion (Pearson):               .783519     Dispersion        =   .0490635

------------------------------------------------------------------------------
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------
              lnpopl |   1.593217   .1955276     3.80   0.000     1.252596    2.026463
           gdppcthl |   1.729357   .2950501     3.21   0.001     1.237824    2.416074
          gdppcthl2 |   .9687331    .013763    -2.24   0.025     .9421302    .9960873
            polityl |   .9388087    .031726    -1.87   0.062     .8786415    1.003096
           polityl2 |   .9832393   .0061029    -2.72   0.006     .9713504    .9952738
yrsincleaderinpower |   1.033155   .0159068     2.12   0.034     1.002444    1.064807
        v2x_execorr |   9.090422   7.031894     2.85   0.004     1.995893     41.4029
              lnoill |     .88745   .0355946    -2.98   0.003     .8203576    .9600295
        postcoldwar |   23.82614   24.82182     3.04   0.002     3.092295    183.5804
              time1 |   4.980471   4.179081     1.91   0.056     .9616847    25.79337
             timesq |   .9797174   .0100253    -2.00   0.045      .960264    .9995649
            timecub |   1.000082   .0000402     2.05   0.040     1.000004    1.000161
              _cons |   1.64e-23   3.66e-22    -2.35   0.019     1.55e-42    .0001734
------------------------------------------------------------------------------

GEE population-averaged model                   Number of obs     =      9,258
Group and time vars:          cowcode year      Number of groups  =        143
Link:                               cloglog     Obs per group:
Family:                            binomial                     min =         21
Correlation:                          AR(1)                     avg =       64.7
                                                                max =        114
                                                Wald chi2(12)     =     105.42
Scale parameter:                           1    Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------
                    |             Semirobust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------
              lnpopl |   1.592512   .1769869     4.19   0.000     1.280805     1.98008
           gdppcthl |   1.729006   .2579446     3.67   0.000      1.29065    2.316245
          gdppcthl2 |   .9687264   .0106991    -2.88   0.004     .9479818    .9899249
            polityl |   .9387431   .0326896    -1.82   0.069     .8768101    1.005051
           polityl2 |   .9832496   .0057472    -2.89   0.004     .9720496    .9945787
yrsincleaderinpower |   1.032845   .0139451     2.39   0.017     1.005872    1.060542
        v2x_execorr |   9.072505   7.859185     2.55   0.011      1.66097    49.55558
              lnoill |   .8875043   .0294681    -3.59   0.000     .8315872    .9471814
        postcoldwar |   23.97104   22.26209     3.42   0.001     3.883017    147.9805
              time1 |    5.00036   2.395371     3.36   0.001     1.955429    12.78676
             timesq |   .9796681   .0060442    -3.33   0.001     .9678931    .9915864
            timecub |   1.000083   .0000252     3.27   0.001     1.000033    1.000132
              _cons |   1.49e-23   1.79e-22    -4.37   0.000     8.73e-34    2.54e-13
------------------------------------------------------------------------------


             QIC and QIC_u
_____________________________________
Corr =                  ar1
Family =           binomial
Link =              cloglog
p =                      13
Trace =               10.712
QIC =                571.407
QIC_u =              575.984
_____________________________________

230 . * Testing exc on common sample)
231 . qic urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar t
    > ime1 timesq timecub if indstate==1 & sample,  corr(exc) link(cloglog) family(binomial) robust eform nolog

GEE population-averaged model                   Number of obs     =      9,258
Group variable:                     cowcode     Number of groups  =        143
Link:                               cloglog     Obs per group:
Family:                            binomial                     min =         21
Correlation:                    independent                     avg =       64.7
                                                                max =        114
                                                Wald chi2(12)     =      69.22
Scale parameter:                           1    Prob > chi2       =     0.0000

Pearson chi2(9258):                 7253.82     Deviance          =     454.23
Dispersion (Pearson):               .783519     Dispersion        =   .0490635
```

```
------------------------------------------------------------------------------
urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.593217   .1955276     3.80   0.000     1.252596    2.026463
     gdppcthl |   1.729357   .2950501     3.21   0.001     1.237824    2.416074
    gdppcthl2 |   .9687331    .013763    -2.24   0.025     .9421302    .9960873
      polityl |   .9388087    .031726    -1.87   0.062     .8786415    1.003096
     polityl2 |   .9832393   .0061029    -2.72   0.006     .9713504    .9952738
yrsincleaderinpower |   1.033155   .0159068     2.12   0.034     1.002444    1.064807
  v2x_execorr |   9.090422   7.031894     2.85   0.004     1.995893     41.4029
       lnoill |     .88745   .0355946    -2.98   0.003     .8203576    .9600295
  postcoldwar |   23.82614   24.82182     3.04   0.002     3.092295    183.5804
        time1 |   4.980471   4.179081     1.91   0.056     .9616847    25.79337
       timesq |   .9797174   .0100253    -2.00   0.045      .960264    .9995649
      timecub |   1.000082   .0000402     2.05   0.040     1.000004    1.000161
        _cons |   1.64e-23   3.66e-22    -2.35   0.019     1.55e-42    .0001734
------------------------------------------------------------------------------

GEE population-averaged model                   Number of obs     =      9,258
Group variable:                     cowcode     Number of groups  =        143
Link:                               cloglog     Obs per group:
Family:                            binomial                   min =         21
Correlation:                   exchangeable                   avg =       64.7
                                                              max =        114
                                               Wald chi2(12)     =     104.92
Scale parameter:                         1     Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------
             |             Semirobust
urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.594632   .1774098     4.19   0.000     1.282214    1.983172
     gdppcthl |     1.7263   .2577657     3.66   0.000     1.288301     2.31321
    gdppcthl2 |   .9688383   .0106994    -2.87   0.004     .9480931    .9900374
      polityl |   .9395631   .0326142    -1.80   0.073     .8777665     1.00571
     polityl2 |    .983273   .0057425    -2.89   0.004     .9720821    .9945927
yrsincleaderinpower |   1.032873   .0140321     2.38   0.017     1.005733    1.060745
  v2x_execorr |   9.116573    7.88956     2.55   0.011     1.671839    49.71285
       lnoill |   .8875373   .0296219    -3.57   0.000     .8313376    .9475361
  postcoldwar |   23.94649   22.29661     3.41   0.001     3.860885    148.5241
        time1 |   4.999492   2.394948     3.36   0.001     1.955095    12.78451
       timesq |   .9796692   .0060469    -3.33   0.001     .9678889    .9915929
      timecub |   1.000083   .0000253     3.27   0.001     1.000033    1.000132
        _cons |   1.48e-23   1.78e-22    -4.38   0.000     8.88e-34    2.48e-13
------------------------------------------------------------------------------


             QIC and QIC_u
_____________________________________
Corr =                  exc
Family =            binomial
Link =               cloglog
p =                       13
Trace =               10.717
QIC =                571.444
QIC_u =              576.009
_____________________________________

232 . * Testing ind on common sample
233 . qic urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar t
    > ime1 timesq timecub if indstate==1 & sample,  corr(ind) link(cloglog) family(binomial) robust eform nolog

GEE population-averaged model                   Number of obs     =      9,258
Group variable:                     cowcode     Number of groups  =        143
Link:                               cloglog     Obs per group:
Family:                            binomial                   min =         21
Correlation:                   independent                    avg =       64.7
                                                              max =        114
                                               Wald chi2(12)     =      69.22
Scale parameter:                         1     Prob > chi2       =     0.0000

Pearson chi2(9258):                7253.82     Deviance          =     454.23
Dispersion (Pearson):               .783519     Dispersion        =   .0490635

------------------------------------------------------------------------------
urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.593217   .1955276     3.80   0.000     1.252596    2.026463
     gdppcthl |   1.729357   .2950501     3.21   0.001     1.237824    2.416074
    gdppcthl2 |   .9687331    .013763    -2.24   0.025     .9421302    .9960873
      polityl |   .9388087    .031726    -1.87   0.062     .8786415    1.003096
     polityl2 |   .9832393   .0061029    -2.72   0.006     .9713504    .9952738
yrsincleaderinpower |   1.033155   .0159068     2.12   0.034     1.002444    1.064807
  v2x_execorr |   9.090422   7.031894     2.85   0.004     1.995893     41.4029
       lnoill |     .88745   .0355946    -2.98   0.003     .8203576    .9600295
  postcoldwar |   23.82614   24.82182     3.04   0.002     3.092295    183.5804
        time1 |   4.980471   4.179081     1.91   0.056     .9616847    25.79337
       timesq |   .9797174   .0100253    -2.00   0.045      .960264    .9995649
      timecub |   1.000082   .0000402     2.05   0.040     1.000004    1.000161
        _cons |   1.64e-23   3.66e-22    -2.35   0.019     1.55e-42    .0001734
------------------------------------------------------------------------------
```

```
GEE population-averaged model                   Number of obs     =      9,258
Group variable:                      cowcode    Number of groups  =        143
Link:                                cloglog    Obs per group:
Family:                             binomial                  min =         21
Correlation:                     independent                  avg =       64.7
                                                              max =        114
                                                Wald chi2(12)     =     105.40
Scale parameter:                            1   Prob > chi2       =     0.0000

Pearson chi2(9258):                  7253.82    Deviance          =     454.23
Dispersion (Pearson):                .783519    Dispersion        =   .0490635

                                          (Std. Err. adjusted for clustering on cowcode)
------------------------------------------------------------------------------------------
                       |             Semirobust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------------
             lnpopl |   1.593217   .1771497     4.19   0.000     1.281238    1.981162
          gdppcthl |   1.729357   .2580324     3.67   0.000      1.29086    2.316807
         gdppcthl2 |   .9687331   .0106972    -2.88   0.004     .9479922    .9899278
           polityl |   .9388087   .0327724    -1.81   0.070      .876724     1.00529
          polityl2 |   .9832393   .0057572    -2.89   0.004       .97202    .9945882
yrsincleaderinpower |   1.033155   .0139624     2.41   0.016     1.006148    1.060886
        v2x_execorr |   9.090422    7.87991     2.55   0.011     1.662385    49.70918
              lnoill |     .88745   .0294754    -3.60   0.000     .8315196    .9471425
        postcoldwar |   23.82614   22.09665     3.42   0.001     3.869357     146.713
              time1 |   4.980471   2.384467     3.35   0.001     1.948706      12.729
              timesq |   .9797174   .0060423    -3.32   0.001     .9679459     .991632
             timecub |   1.000082   .0000252     3.26   0.001     1.000033    1.000132
                cons |   1.64e-23   1.97e-22    -4.37   0.000     9.81e-34    2.74e-13
------------------------------------------------------------------------------------------


             QIC and QIC_u
_____________________________________
Corr =                  ind
Family =           binomial
Link =              cloglog
p =                      13
Trace =              10.722
QIC =                571.341
QIC_u =              575.897
_____________________________________
```

```
234 . * an exchangeable (equal correlation) structure proved the most efficient (lowest qic)
235 . drop sample

236 .
237 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
238 . * Testing robustness of specification to inclusion or exclusion of variables
239 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
240 . * checkrob procedure using Model 4
241 . * Testing if signs are stable and z-statistics for Beta/S.E. of Beta are >=1.96 (i.e., .05 level of significance
    > )
242 . *       or >=1.65 (i.e., .10 levels of significance)
243 . *   z-statistics were calculated in Excel (as comma-separated tables) from the output produced by checkrob
244 . * BE AWARE that running checkrob can take a considerable amount of time
245 . * There is also sometimes a glitch in the checkrob procedure
246 . *    In the tables produced, the results for the first variable of a quadratic specification sometimes falsely
247 . *       include some results from the squared variable
248 . *    MUST VISUALLY INSPECT AND, IF PRESENT, HAND-CORRECT AND RECALCULATE RESULTS FOR THOSE VARIABLES
249 . *    (This was done for gdppcthl and gdppcthl2 and polityl and polityl2 below)
250 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
251 . ** Model 4 (testing additional elements)
252 . * postcoldwar kept in all specifications as time control
253 . * I HAVE PROVIDED THE EXCEL TABLE WITH RESULTS OF THE TEST BELOW, CORRECTED FOR THE ABOVE PROBLEMS
254 . * THE RESULTS ARE PRESENTED WITH OTHER ROBUSTNESS TESTS FILES IN THE FILE checkrob.results.chapter3.xlsx
255 . * COMMAND USED: checkrob 1 8 ch3tab1mod4.txt: xtcloglog urbancivicny postcoldwar lnpopl gdppcthl gdppcthl2 polit
    > yl polityl2 yrsincleaderinpower v2x_execorr lnoill if indstate==1
256 . * RESULTS:  All variables had stable signs and were statistically significant, with exceptions of v2x_execorr an
    > d lnoill
257 . *               v2x_execorr:  no change of signs, but significant at the .05 level in only 75 percent of specifi
    > cations (problematic when gdppcthl is dropped)
258 . *               lnoill:  change of signs in 12.5% of specifications (when gdppcthl is not included)
259 . *                              significant at the .05 or .10 levels only in 40.5% of specifications (insignifi
    > cant when either gdppcthl or polityl are dropped)
260 .
261 . * Follow-up test: Likelihood ratio test for whether inclusion of oil production improves the accuracy of the mod
    > el
262 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar if indstate==1, eform nolog

Random-effects complementary log-log model      Number of obs     =     10,516
Group variable: cowcode                         Number of groups  =        157

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       67.0
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(9)      =      82.87
Log likelihood  = -263.63109                    Prob > chi2       =     0.0000
```

```
------------------------------------------------------------------------------
       urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
              lnpopl |   1.518909    .165332     3.84   0.000     1.227097    1.880115
           gdppcthl |   1.824338   .2727876     4.02   0.000     1.360905    2.445585
          gdppcthl2 |   .9673954   .0114607    -2.80   0.005     .9451915    .9901208
            polityl |   .9269684   .0274565    -2.56   0.010     .8746868    .9823749
           polityl2 |   .9841294   .0055479    -2.84   0.005     .9733155    .9950634
yrsincleaderinpower |   1.033032   .0141883     2.37   0.018     1.005595    1.061219
       v2x_execorr |   5.163556   3.462523     2.45   0.014     1.387264    19.21935
             lnoill |   .8778001   .0318752    -3.59   0.000     .8174972    .9425512
        postcoldwar |   6.900293   2.971396     4.49   0.000     2.967046    16.04763
               cons |   5.73e-06   7.31e-06    -9.46   0.000     4.70e-07    .0000698
--------------------+---------------------------------------------------------------
          /lnsig2u |  -10.47004   26.33272                     -62.08123    41.14115
--------------------+---------------------------------------------------------------
            sigma_u |   .0053267   .0701335                      3.31e-14    8.58e+08
                rho |   .0000172   .0004542                      6.64e-28           1
------------------------------------------------------------------------------
LR test of rho=0: chibar2(01) = 5.6e-05                Prob >= chibar2 = 0.497

263 . generate sample=e(sample)

264 . estimates store mod1

265 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr  postcoldwar i
    > f indstate==1 & sample==1, eform nolog

Random-effects complementary log-log model      Number of obs     =     10,516
Group variable: cowcode                         Number of groups  =        157

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       67.0
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(8)      =      59.67
Log likelihood  = -269.72432                    Prob > chi2       =     0.0000

------------------------------------------------------------------------------
       urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
              lnpopl |   1.308963   .1358553     2.59   0.009     1.068028    1.604251
           gdppcthl |   1.505077   .2092764     2.94   0.003     1.146045    1.976586
          gdppcthl2 |    .976202   .0106457    -2.21   0.027     .9555581    .9972918
            polityl |   .9419149   .0292063    -1.93   0.054     .8863764    1.000933
           polityl2 |   .9849077   .0057389    -2.61   0.009     .9737235    .9962203
yrsincleaderinpower |   1.034489   .0158226     2.22   0.027     1.003937     1.06597
       v2x_execorr |    3.16023   2.197507     1.65   0.098     .8087691    12.34846
        postcoldwar |   6.348414   2.798882     4.19   0.000     2.675398    15.06406
              _cons |   .0000287   .0000365    -8.21   0.000     2.36e-06    .0003481
--------------------+---------------------------------------------------------------
          /lnsig2u |  -1.559771   2.373613                     -6.211966    3.092425
--------------------+---------------------------------------------------------------
            sigma_u |   .4584585   .5441015                      .0447805    4.693658
                rho |   .1132996   .2384599                      .0012176    .9305213
------------------------------------------------------------------------------
LR test of rho=0: chibar2(01) = 0.19                Prob >= chibar2 = 0.329

266 . estimates store mod2

267 . lrtest mod1 mod2

Likelihood-ratio test                                 LR chi2(1)  =     12.19
(Assumption: mod2 nested in mod1)                     Prob > chi2 =    0.0005

268 . drop _est_mod1 _est_mod2

269 . * RESULT:  Significant improvement of the model when lnoill is included
270 .
271 . * ++++++++++++++++++++++++++++++++++++++++++++
272 . * Tests for omitted variable bias in Model 4
273 . * ++++++++++++++++++++++++++++++++++++++++++++
274 . * Logged military spending per soldier: lnmilexppersoldthl
275 . * Bivariate, controlling for time
276 . xtcloglog urbancivicny lnmilexppersoldthl time1 timesq timecub if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =      9,925
Group variable: cowcode                         Number of groups  =        163

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =          3
                                                              avg =       60.9
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      27.14
Log pseudolikelihood  = -282.09125              Prob > chi2       =     0.0000
```

```
                                (Std. Err. adjusted for 163 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
lnmilexppersoldthl |   .7879725   .0844068    -2.22   0.026     .6387505     .972055
             time1 |   .9620568   .0854738    -0.44   0.663     .8083061    1.145053
             timesq |   1.001306   .0014532     0.90   0.369     .9984616    1.004158
            timecub |   .9999939   7.28e-06    -0.84   0.400     .9999796    1.000008
              _cons |    .000701   .0013567    -3.75   0.000     .0000158    .0311196
-------------+----------------------------------------------------------------
          /lnsig2u |  -10.19514   7250.598                     -14221.11    14200.72
-------------+----------------------------------------------------------------
           sigma_u |   .0061116   22.15631                             0           .
               rho |   .0000227   .1646314                             0           .
------------------------------------------------------------------------------
```

```
277 . * Result:  negative and statistically signficant at the .05 level in bivariate relationship, controlling for tim
> e
278 . * Multivariate cloglog panel, Model 4 from Table 3.1
279 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
> dwar lnmilexppersoldthl if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =      9,442
Group variable: cowcode                         Number of groups  =        157

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =          3
                                                              avg =       60.1
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(10)     =      81.09
Log pseudolikelihood  = -245.86764              Prob > chi2       =     0.0000

                                (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
             lnpopl |   1.508538   .1503821     4.12   0.000     1.240802    1.834046
           gdppcthl |   1.877562   .2456885     4.81   0.000     1.452815    2.426489
          gdppcthl2 |    .965933   .0094272    -3.55   0.000     .9476318    .9845878
            polityl |   .9159754   .0342922    -2.34   0.019     .8511706    .9857141
           polityl2 |   .9841753   .0056707    -2.77   0.006     .9731234    .9953527
yrsincleaderinpower |   1.031159   .0136979     2.31   0.021     1.004658    1.058358
       v2x_execorr |   5.427939   5.094584     1.80   0.072     .8624015    34.16334
             lnoill |   .8804331   .0284401    -3.94   0.000     .8264194    .9379771
        postcoldwar |   6.541995    3.19343     3.85   0.000     2.513055    17.03015
 lnmilexppersoldthl |   .9811839   .1686608    -0.11   0.912       .70054    1.374257
              _cons |   5.95e-06   8.59e-06    -8.34   0.000     3.52e-07    .0001006
-------------+----------------------------------------------------------------
          /lnsig2u |  -11.06566    35909.4                     -70392.2    70370.06
-------------+----------------------------------------------------------------
           sigma_u |   .0039548   71.00708                             0           .
               rho |   9.51e-06   .3414275                             0           .
------------------------------------------------------------------------------

280 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                        Quadrature check

              Fitted       Comparison     Comparison
            quadrature     quadrature     quadrature
            12 points      8 points       16 points
-------------------------------------------------------
Log          -245.86764     -245.86761     -245.86761
likelihood                   .00003277      .00003277   Difference
                            -1.333e-07     -1.333e-07   Relative difference
-------------------------------------------------------
urbancivicny: .41114122      .41113425      .41113425
  lnpopl                    -6.967e-06     -6.967e-06   Difference
                            -.00001695     -.00001695   Relative difference
-------------------------------------------------------
urbancivicny: .62997439      .62999964      .62999964
gdppcthl                     .00002525      .00002525   Difference
                             .00004009      .00004009   Relative difference
-------------------------------------------------------
urbancivicny:-.03466075     -.03466317     -.03466317
gdppcthl2                   -2.420e-06     -2.420e-06   Difference
                             .00006981      .00006981   Relative difference
-------------------------------------------------------
urbancivicny: -.0877658      -.0877805      -.0877805
 polityl                    -.00001469     -.00001469   Difference
                             .00016743      .00016743   Relative difference
-------------------------------------------------------
urbancivicny:-.01595124       -.015951       -.015951
polityl2                     2.363e-07      2.363e-07   Difference
                            -.00001481     -.00001481   Relative difference
-------------------------------------------------------
urbancivicny: .03068297      .03069429      .03069429
yrsinclead~r                 .00001132      .00001132   Difference
                             .00036898      .00036898   Relative difference
-------------------------------------------------------
urbancivicny: 1.6915594      1.6912104      1.6912104
```

```
v2x_execorr                -.00034896     -.00034896   Difference
                            -.0002063      -.0002063   Relative difference
-------------------------------------------------------
urbancivicny:-.12734132     -.12734203     -.12734203
  lnoill                   -7.064e-07     -7.064e-07   Difference
                            5.547e-06      5.547e-06   Relative difference
-------------------------------------------------------
urbancivicny: 1.8782422      1.8784157      1.8784157
postcoldwar                  .00017348      .00017348   Difference
                             .00009236      .00009236   Relative difference
-------------------------------------------------------
urbancivicny:-.01899542     -.01903773     -.01903773
lnmilexppe~l                -.00004231     -.00004231   Difference
                             .00222715      .00222715   Relative difference
-------------------------------------------------------
urbancivicny:-12.031929      -12.03227      -12.03227
    _cons                   -.00034099     -.00034099   Difference
                             .00002834      .00002834   Relative difference
-------------------------------------------------------
lnsig2u:     -11.065655     -12.935561     -12.935561
    cons                    -1.8699056     -1.8699056   Difference
                             .16898282      .16898282   Relative difference
-------------------------------------------------------
```

```
281 . * Failed quadchk--recalculate using pooled model
282 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar lnmilexppersoldthl if indstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =      9,442
                                                Zero outcomes     =      9,395
                                                Nonzero outcomes  =         47

                                                Wald chi2(10)     =      69.18
Log pseudolikelihood =  -245.8676               Prob > chi2       =     0.0000

------------------------------------------------------------------------------
             |               Robust
  urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.508533   .1654569     3.75   0.000     1.216731    1.870316
     gdppcthl |   1.877587   .2795405     4.23   0.000     1.402396    2.513792
    gdppcthl2 |   .9659318   .0100881    -3.32   0.001     .9463604     .985908
      polityl |   .9159682   .0313853    -2.56   0.010     .8564743    .9795948
     polityl2 |   .9841754   .0056009    -2.80   0.005     .9732589    .9952145
yrsincleaderinpower |   1.031165   .0125572     2.52   0.012     1.006845    1.056072
    v2x execorr |   5.426927   4.488472     2.05   0.041      1.07287    27.45118
       lnoill |   .8804328   .0307872    -3.64   0.000     .8221123    .9428906
    postcoldwar |     6.5426   2.955942     4.16   0.000     2.698846    15.86071
lnmilexppersoldthl |   .9811617   .1635099    -0.11   0.909      .707764    1.360169
         _cons |   5.95e-06   8.63e-06    -8.29   0.000     3.47e-07    .0001022
------------------------------------------------------------------------------

283 . *  Result:
284 . *    --lnmilexppersoldthl statistically insignificant
285 . *    --no sign changes or change in statistical significance of all other variables
286 .
287 . * Military soldiers per 1000 pop:  milperthousl
288 . * Bivariate, controlling for time
289 . xtcloglog urbancivicny milperthousl time1 timesq timecub if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,038
Group variable: cowcode                         Number of groups  =        163

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       67.7
                                                              max =        115

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      22.93
Log pseudolikelihood  = -300.94917              Prob > chi2       =     0.0001

                              (Std. Err. adjusted for 163 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
milperthousl |   1.006657   .0061963     1.08   0.281     .9945852    1.018875
       time1 |   .9527984   .0796308    -0.58   0.563     .8088375    1.122382
      timesq |   1.001456   .0013763     1.06   0.290     .9987619    1.004157
     timecub |    .999993   6.86e-06    -1.02   0.308     .9999796    1.000006
       _cons |    .000485   .0008798    -4.21   0.000     .0000138    .0169824
-------------+----------------------------------------------------------------
    /lnsig2u |   -1.57399   1.210761                     -3.947038    .7990586
-------------+----------------------------------------------------------------
     sigma_u |   .4552107   .2755757                      .1389669    1.491123
         rho |    .111879   .1203038                      .0116039    .5747745
------------------------------------------------------------------------------
```

```
290 . * Result:  postive and statistically insignificant in bivariate relationship, controlling for time
291 . * Multivariate cloglog panel, Model 4 from Table 3.1
292 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar milperthousl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,174
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       64.8
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =     100.76
    Log pseudolikelihood  = -262.00125              Prob > chi2       =     0.0000

                                       (Std. Err. adjusted for 157 clusters in cowcode)
    ------------------------------------------------------------------------------------
                         |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------------
                 lnpopl |    1.49426   .1432002     4.19   0.000     1.238376    1.803017
               gdppcthl |   1.956732   .2621333     5.01   0.000     1.504875    2.544266
              gdppcthl2 |   .9631455   .0093453    -3.87   0.000     .9450021    .9816372
                polityl |    .919448   .0300766    -2.57   0.010     .8623489    .9803279
               polityl2 |   .9850346   .0054946    -2.70   0.007     .9743241    .9958629
    yrsincleaderinpower |   1.036047   .0129243     2.84   0.005     1.011023     1.06169
            v2x_execorr |   4.981983   4.359783     1.84   0.067     .8964115    27.68835
                  lnoill |   .8682425   .0262672    -4.67   0.000     .8182564    .9212821
           postcoldwar |   6.885376   2.985909     4.45   0.000     2.943039    16.10866
           milperthousl |   .9769901   .0161216    -1.41   0.158     .9458979    1.009104
                  _cons |   6.95e-06   9.21e-06    -8.96   0.000     5.16e-07    .0000935
    ---------------------+--------------------------------------------------------------
              /lnsig2u |  -11.08886   27008.58                     -52946.94    52924.76
    ---------------------+--------------------------------------------------------------
               sigma_u |   .0039092    52.7905                              0           .
                   rho |   9.29e-06   .2509072                              0           .
    ------------------------------------------------------------------------------------

293 . quadchk, noutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                   Fitted       Comparison     Comparison
                 quadrature     quadrature     quadrature
                 12 points      8 points       16 points
    ---------------------------------------------------------
    Log          -262.00125     -262.00122     -262.00122
    likelihood                   .00002423      .00002423   Difference
                                -9.249e-08     -9.249e-08   Relative difference
    ---------------------------------------------------------
    urbancivicny: .40163115      .40161671      .40161671
      lnpopl                    -.00001444     -.00001444   Difference
                                -.00003595     -.00003595   Relative difference
    ---------------------------------------------------------
    urbancivicny: .67127585      .67127814      .67127814
    gdppcthl                     2.289e-06      2.289e-06   Difference
                                 3.410e-06      3.410e-06   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.03755078     -.03755188     -.03755188
    gdppcthl2                   -1.104e-06     -1.104e-06   Difference
                                 .00002939      .00002939   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.08398174     -.08399469     -.08399469
     polityl                    -.00001295     -.00001295   Difference
                                 .00015421      .00015421   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.01507848     -.01507923     -.01507923
    polityl2                    -7.567e-07     -7.567e-07   Difference
                                 .00005019      .00005019   Relative difference
    ---------------------------------------------------------
    urbancivicny: .03541266      .03542271      .03542271
    yrsinclead~r                 .00001005      .00001005   Difference
                                 .00028377      .00028377   Relative difference
    ---------------------------------------------------------
    urbancivicny:  1.605828      1.6054304      1.6054304
    v2x_execorr                 -.00039761     -.00039761   Difference
                                 -.0002476      -.0002476   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.14128425     -.14127878     -.14127878
      lnoill                     5.473e-06      5.473e-06   Difference
                                -.00003874     -.00003874   Relative difference
    ---------------------------------------------------------
    urbancivicny: 1.9293997       1.929512       1.929512
    postcoldwar                  .00011221      .00011221   Difference
                                 .00005816      .00005816   Relative difference
    ---------------------------------------------------------
    urbancivicny:-.02327872      -.0232813      -.0232813
    milperthousl                -2.579e-06     -2.579e-06   Difference
                                 .00011078      .00011078   Relative difference
    ---------------------------------------------------------
    urbancivicny:-11.877097     -11.877254     -11.877254
       _cons                    -.00015681     -.00015681   Difference
                                  .0000132       .0000132   Relative difference
```

```
------------------------------------------------------
lnsig2u:     -11.088863     -12.955897     -12.955897
   _cons                    -1.8670337     -1.8670338   Difference
                             .16837017      .16837017   Relative difference
------------------------------------------------------
```

```
294 . * Failed quadchk--recalculate using pooled model
295 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar milperthousl if indstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =     10,174
                                                Zero outcomes     =     10,124
                                                Nonzero outcomes  =         50

                                                Wald chi2(10)     =      73.56
Log pseudolikelihood = -262.00122               Prob > chi2       =     0.0000

------------------------------------------------------------------------------
             |               Robust
  urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.494249   .1580583     3.80   0.000     1.214464    1.838489
     gdppcthl |   1.956735   .2834476     4.63   0.000     1.473089    2.599171
    gdppcthl2 |   .9631449   .0099531    -3.63   0.000     .9438335    .9828515
      polityl |   .9194417    .029975    -2.58   0.010     .8625295    .9801092
     polityl2 |   .9850342   .0054106    -2.75   0.006     .9744865    .9956961
yrsincleaderinpower |   1.036053   .0131453     2.79   0.005     1.010606     1.06214
    v2x_execorr |   4.980927   3.880098     2.06   0.039     1.082011    22.92919
       lnoill |    .868245   .0310405    -3.95   0.000     .8094893    .9312654
    postcoldwar |   6.885788   2.895671     4.59   0.000     3.019945    15.70031
   milperthousl |   .9769888   .0147518    -1.54   0.123     .9484995    1.006334
          _cons |   6.95e-06   9.81e-06    -8.41   0.000     4.37e-07    .0001105
------------------------------------------------------------------------------
```

```
296 . *  Result
297 . *    --milperthousl marginally statistically significant at the .10 level
298 . *    --no sign change or change in statistical significance of all other variables
299 .
300 . * Mean years of schooling: totalyrsschooll
301 . * Bivariate, controlling for time
302 . xtcloglog urbancivicny totalyrsschooll time1 timesq timecub if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =      7,132
Group variable: cowcode                         Number of groups  =        136

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         19
                                                              avg =       52.4
                                                              max =         61

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      14.52
Log pseudolikelihood  = -228.32667              Prob > chi2       =     0.0058

                                (Std. Err. adjusted for 136 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
   urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
totalyrsschooll |     .91524   .0470484    -1.72   0.085     .8275201    1.012258
       time1 |   1.604486   1.496109     0.51   0.612     .2580058    9.977971
      timesq |   .9949528   .0109657    -0.46   0.646     .9736909    1.016679
     timecub |    1.00002    .000043     0.46   0.647     .9999354    1.000104
       _cons |   1.00e-09   2.62e-08    -0.79   0.427     6.07e-32    1.66e+13
-------------+----------------------------------------------------------------
      /lnsig2u |  -2.867047    5.30092                     -13.25666    7.522566
-------------+----------------------------------------------------------------
      sigma_u |   .2384672   .6320478                      .0013224    43.00356
          rho |   .0334155   .1712141                     1.06e-06    .9991113
------------------------------------------------------------------------------
```

```
303 . * Result:  negative and statistically insignificant in bivariate relationship, controlling for time
304 . * Multivariate cloglog panel, Model 4 from Table 3.1
305 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar totalyrsschooll if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =      6,853
Group variable: cowcode                         Number of groups  =        132

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         18
                                                              avg =       51.9
                                                              max =         61

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(10)     =      74.55
Log pseudolikelihood  = -189.65536              Prob > chi2       =     0.0000
```

(Std. Err. adjusted for 132 clusters in cowcode)

urbancivicny	exp(b)	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnpopl	1.612605	.3014676	2.56	0.011	1.117893	2.326245
gdppcthl	1.759588	.4210221	2.36	0.018	1.100883	2.812423
gdppcthl2	.96753	.0145951	-2.19	0.029	.9393428	.996563
polityl	.8822173	.0459945	-2.40	0.016	.7965225	.9771317
polityl2	.9823618	.0080239	-2.18	0.029	.9667605	.9982149
yrsincleaderinpower	1.030952	.0172164	1.83	0.068	.9977546	1.065254
v2x_execorr	10.12854	15.04034	1.56	0.119	.5515173	186.0094
lnoill	.8734333	.0534986	-2.21	0.027	.7746275	.9848421
postcoldwar	4.350833	2.145254	2.98	0.003	1.655285	11.43595
totalyrsschooll	1.041538	.1156556	0.37	0.714	.8378286	1.294778
_cons	2.77e-06	5.58e-06	-6.34	0.000	5.29e-08	.0001445
/lnsig2u	-12.19078	291613			-571563.2	571538.8
sigma_u	.0022532	328.5357			0	.
rho	3.09e-06	.9000508			0	.

306 . quadchk, nooutput

Refitting model intpoints() = 8
Refitting model intpoints() = 16

Quadrature check

	Fitted quadrature 12 points	Comparison quadrature 8 points	Comparison quadrature 16 points	
Log likelihood	-189.65536	-189.65535	-189.65535	
		9.978e-06	9.978e-06	Difference
		-5.261e-08	-5.261e-08	Relative difference
urbancivicny: .47785059 lnpopl		.47778627	.47778627	
		-.00006432	-.00006432	Difference
		-.0001346	-.0001346	Relative difference
urbancivicny: .56507957 gdppcthl		.56501499	.56501499	
		-.00006458	-.00006458	Difference
		-.00011429	-.00011429	Relative difference
urbancivicny:-.03300887 gdppcthl2		-.03300533	-.03300533	
		3.539e-06	3.539e-06	Difference
		-.00010722	-.00010722	Relative difference
urbancivicny:-.12531684 polityl		-.12532655	-.12532655	
		-9.705e-06	-9.705e-06	Difference
		.00007744	.00007744	Relative difference
urbancivicny:-.01779557 polityl2		-.01779663	-.01779663	
		-1.056e-06	-1.056e-06	Difference
		.00005936	.00005936	Relative difference
urbancivicny: .03048253 yrsinclead~r		.03048815	.03048815	
		5.620e-06	5.620e-06	Difference
		.00018436	.00018436	Relative difference
urbancivicny: 2.3153576 v2x_execorr		2.3149903	2.3149903	
		-.00036731	-.00036731	Difference
		-.00015864	-.00015864	Relative difference
urbancivicny:-.13532351 lnoill		-.13530758	-.13530758	
		.00001593	.00001593	Difference
		-.00011772	-.00011772	Relative difference
urbancivicny: 1.4703674 postcoldwar		1.4704218	1.4704218	
		.00005444	.00005444	Difference
		.00003703	.00003703	Relative difference
urbancivicny: .04069866 totalyrss~ll		.04072657	.04072657	
		.00002791	.00002791	Difference
		.00068587	.00068587	Relative difference
urbancivicny:-12.798292 cons		-12.79786	-12.79786	
		.00043166	.00043166	Difference
		-.00003373	-.00003373	Relative difference
lnsig2u: _cons	-12.19078	-15.063088	-15.063088	
		-2.8723075	-2.8723075	Difference
		.23561309	.23561309	Relative difference

307 . * Failed quadchk--recalculate using pooled model
308 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
> ar totalyrsschooll if indstate==1, vce(robust) eform nolog

Complementary log-log regression Number of obs = 6,853
Zero outcomes = 6,816
Nonzero outcomes = 37

Wald chi2(10) = 57.49
Log pseudolikelihood = -189.65535 Prob > chi2 = 0.0000

```
------------------------------------------------------------------------------
                    |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
             lnpopl |   1.612569    .234512     3.29   0.001     1.212635    2.144403
          gdppcthl |   1.759545   .3474985     2.86   0.004     1.194796    2.591237
         gdppcthl2 |   .9675314   .0140561    -2.27   0.023     .9403703    .9954769
           polityl |   .8822144   .0386202    -2.86   0.004     .8096766    .9612507
          polityl2 |   .9823615   .0076424    -2.29   0.022     .9674964     .997455
yrsincleaderinpower |   1.030954   .0158624     1.98   0.048     1.000328    1.062517
        v2x_execorr |   10.12724   10.59462     2.21   0.027     1.303185    78.70028
             lnoill |   .8734382   .0416227    -2.84   0.005      .795553    .9589483
        postcoldwar |   4.350914   2.099248     3.05   0.002     1.690009    11.20139
    totalyrsschooll |   1.041548     .08298     0.51   0.609     .8909727    1.217572
              _cons |   2.77e-06   5.59e-06    -6.33   0.000     5.26e-08    .0001454
------------------------------------------------------------------------------
```

```
309 . *  Result
310 . *    --sample is highly reduced since data for totalyrsschooll only exist since 1951 (n=6,853)
311 . *    --totalyrsschooll is statistically insignificant
312 . *    --no sign change or change in statistical significance for all other variables
313 .
314 . * Levels of urbanization:  percurbanl
315 . * Bivariate, controlling for time
316 . xtcloglog urbancivicny percurbanl time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,318
    Group variable: cowcode                         Number of groups  =        162

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         22
                                                                  avg =       69.9
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      25.18
    Log pseudolikelihood  = -306.45261              Prob > chi2       =     0.0000

                               (Std. Err. adjusted for 162 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  percurbanl |   .9942573    .006083    -0.94   0.347      .982406    1.006252
       time1 |    .936245   .0768522    -0.80   0.422     .7971098    1.099666
      timesq |   1.001762   .0013701     1.29   0.198     .9990805    1.004451
     timecub |   .9999916   6.83e-06    -1.23   0.218     .9999782    1.000005
       _cons |   .0007806   .0013615    -4.10   0.000     .0000256    .0238283
-------------+----------------------------------------------------------------
    /lnsig2u |  -1.781988   1.474068                     -4.671108    1.107133
-------------+----------------------------------------------------------------
     sigma_u |   .4102479   .3023667                      .0967568    1.739446
         rho |   .0928192   .1241222                      .0056591    .6478115
------------------------------------------------------------------------------

317 . * Result:  statistically insignificant in bivariate relationship, controlling for time
318 . * Multivariate cloglog panel, Model 4 from Table 3.1
319 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar percurbanl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,421
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       66.4
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      97.12
    Log pseudolikelihood  = -263.52536              Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
                    |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
             lnpopl |   1.522103   .1513272     4.23   0.000     1.252615    1.849568
          gdppcthl |   1.804233   .2642903     4.03   0.000     1.353959    2.404249
         gdppcthl2 |    .967959   .0092175    -3.42   0.001     .9500605    .9861947
           polityl |   .9268481   .0306156    -2.30   0.021     .8687437    .9888386
          polityl2 |   .9840493   .0054686    -2.89   0.004     .9733892    .9948262
yrsincleaderinpower |   1.032788   .0126262     2.64   0.008     1.008335    1.057834
        v2x_execorr |   5.247074   4.572288     1.90   0.057     .9510035    28.95024
             lnoill |   .8773833    .025648    -4.47   0.000     .8285272    .9291203
        postcoldwar |   6.753046   2.945594     4.38   0.000      2.87221    15.87754
         percurbanl |   1.001048    .009967     0.11   0.916     .9817023    1.020775
              _cons |   5.60e-06   8.15e-06    -8.31   0.000     3.23e-07     .000097
--------------------+---------------------------------------------------------------
           /lnsig2u |  -10.19778   10891.01                     -21356.18    21335.78
--------------------+---------------------------------------------------------------
            sigma_u |   .0061035   33.23679                             0           .
                rho |   .0000226   .2466391                             0           .
------------------------------------------------------------------------------
```

```
320 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                 Fitted       Comparison     Comparison
               quadrature     quadrature     quadrature
               12 points      8 points       16 points
    ------------------------------------------------------------
    Log          -263.52536     -263.52533     -263.52533
    likelihood                   .00003304      .00003304   Difference
                                -1.254e-07     -1.254e-07   Relative difference
    ------------------------------------------------------------
    urbancivicny:  .4200929      .42008655      .42008655
      lnpopl                    -6.350e-06     -6.350e-06   Difference
                                -.00001512     -.00001512   Relative difference
    ------------------------------------------------------------
    urbancivicny: .59013531      .59012003      .59012003
    gdppcthl                    -.00001529     -.00001529   Difference
                                 -.0000259      -.0000259   Relative difference
    ------------------------------------------------------------
    urbancivicny:-.03256557     -.03256615     -.03256615
    gdppcthl2                   -5.786e-07     -5.786e-07   Difference
                                 .00001777      .00001777   Relative difference
    ------------------------------------------------------------
    urbancivicny:-.07596564      -.0759812      -.0759812
     polityl                    -.00001556     -.00001556   Difference
                                 .00020483      .00020483   Relative difference
    ------------------------------------------------------------
    urbancivicny:-.01607929      -.0160793      -.0160793
    polityl2                    -1.489e-08     -1.489e-08   Difference
                                 9.259e-07      9.259e-07   Relative difference
    ------------------------------------------------------------
    urbancivicny:  .0322619      .03227483      .03227483
    yrsinclead~r                 .00001293      .00001293   Difference
                                 .00040067      .00040067   Relative difference
    ------------------------------------------------------------
    urbancivicny: 1.6576705      1.6573313      1.6573313
    v2x_execorr                 -.00033918     -.00033918   Difference
                                -.00020461     -.00020461   Relative difference
    ------------------------------------------------------------
    urbancivicny:-.13081136     -.13081278     -.13081278
      lnoill                    -1.423e-06     -1.423e-06   Difference
                                 .00001088      .00001088   Relative difference
    ------------------------------------------------------------
    urbancivicny: 1.9099936      1.9101112      1.9101112
    postcoldwar                  .00011759      .00011759   Difference
                                 .00006156      .00006156   Relative difference
    ------------------------------------------------------------
    urbancivicny: .00104744      .00104966      .00104966
    percurbanl                   2.225e-06      2.225e-06   Difference
                                 .00212471      .00212471   Relative difference
    ------------------------------------------------------------
    urbancivicny:-12.092939     -12.093373     -12.093373
       _cons                    -.00043398     -.00043398   Difference
                                 .00003589      .00003589   Relative difference
    ------------------------------------------------------------
    lnsig2u:     -10.197776     -12.057939     -12.057939
       _cons                    -1.8601632     -1.8601632   Difference
                                 .18240871      .18240871   Relative difference
    ------------------------------------------------------------

321 . * Failed quadchk--recalculate using pooled model
322 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar percurbanl if indstate==1, vce(robust) eform nolog

    Complementary log-log regression                Number of obs     =     10,421
                                                    Zero outcomes     =     10,371
                                                    Nonzero outcomes  =         50

                                                    Wald chi2(10)     =      74.20
    Log pseudolikelihood = -263.52532               Prob > chi2       =     0.0000

    ------------------------------------------------------------------------------
                 |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------------+----------------------------------------------------------------
                lnpopl |   1.522098    .164885     3.88   0.000     1.230932    1.882136
              gdppcthl |   1.804217   .2640801     4.03   0.000     1.354254    2.403686
             gdppcthl2 |   .9679587   .0095473    -3.30   0.001      .949426    .9868532
               polityl |   .9268404   .0307565    -2.29   0.022     .8684773    .9891256
              polityl2 |   .9840493   .0051954    -3.05   0.002      .973919     .994285
    yrsincleaderinpower |   1.032795   .0125855     2.65   0.008     1.00842    1.057759
            v2x_execorr |   5.246124   4.189434     2.08   0.038     1.096702    25.09507
                 lnoill |   .8773826   .0298906    -3.84   0.000     .8207111    .9379673
            postcoldwar |   6.753469   2.875851     4.49   0.000     2.931278    15.55954
             percurbanl |   1.001049   .0087029     0.12   0.904     .9841362    1.018253
                  _cons |   5.60e-06   8.22e-06    -8.24   0.000     3.15e-07    .0000994
    ------------------------------------------------------------------------------
```

```
323 . *  Result
324 . *    --percurbanl is statistically insignificant
325 . *    --no sign change or change in statistical significance for all other variables
326 . * Urbanization is significant when gdppcthl is dropped due to high correlation between the two (r=.68)
327 . cloglog urbancivicny lnpopl  polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar percurbanl if i
    > ndstate==1, vce(robust) eform nolog

    Complementary log-log regression                Number of obs     =     10,887
                                                    Zero outcomes     =     10,837
                                                    Nonzero outcomes  =         50

                                                    Wald chi2(8)      =      62.59
    Log pseudolikelihood = -271.18246               Prob > chi2       =     0.0000

    ------------------------------------------------------------------------------
                         |               Robust
               urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------
                   lnpopl |   1.601348    .180299     4.18   0.000     1.284243    1.996752
                 polityl |   .9232448   .0315287    -2.34   0.019     .8634724     .987155
                polityl2 |   .9846334   .0049246    -3.10   0.002     .9750286    .9943329
    yrsincleaderinpower |   1.027622    .012095     2.31   0.021     1.004187    1.051603
            v2x_execorr |   4.253801   3.254018     1.89   0.058     .9498083    19.05103
                 lnoill |   .9080004   .0299803    -2.92   0.003      .851101    .9687037
            postcoldwar |   6.363599   2.734185     4.31   0.000     2.741419    14.77169
              percurbanl |    1.02456   .0096048     2.59   0.010     1.005906    1.043558
                   _cons |   4.87e-06   7.54e-06    -7.89   0.000     2.33e-07    .0001016
    ------------------------------------------------------------------------------

328 .
329 . * Population density: lnpopdensityl
330 . * Bivariate, controlling for time
331 . xtcloglog urbancivicny lnpopdensityl time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,742
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
                                                                  avg =       71.6
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      33.36
    Log pseudolikelihood  = -305.08382              Prob > chi2       =     0.0000

                                (Std. Err. adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |               Robust
          urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------
    lnpopdensityl |   1.257399   .1290367     2.23   0.026     1.028303    1.537535
            time1 |   .9468991    .075459    -0.68   0.494     .8099736    1.106972
            timesq |   1.001579   .0013267     1.19   0.234     .9989821    1.004183
          timecub |   .9999922   6.65e-06    -1.17   0.244     .9999792    1.000005
            _cons |   .0002425   .0004099    -4.92   0.000     8.83e-06     .006661
    ---------------------+--------------------------------------------------------
         /lnsig2u |  -1.954086   1.689017                     -5.264498    1.356326
    ---------------------+--------------------------------------------------------
          sigma_u |   .3764225    .317892                      .0719165    1.970255
              rho |    .079308    .123329                      .0031343    .7023734
    ------------------------------------------------------------------------------

332 . * Result:  positive and statistically significant in bivariate relationship, controlling for time
333 . * Multivariate cloglog panel, Model 4 from Table 3.1
334 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar lnpopdensityl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      97.01
    Log pseudolikelihood  = -263.04523              Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for 157 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |               Robust
               urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------
                   lnpopl |   1.446015   .1414679     3.77   0.000     1.193705    1.751654
                gdppcthl |   1.767041   .2123614     4.74   0.000     1.396208    2.236368
               gdppcthl2 |   .9691344    .007969    -3.81   0.000     .9536406      .98488
                 polityl |   .9272299   .0306583    -2.29   0.022     .8690463     .989309
                polityl2 |   .9837056   .0055993    -2.89   0.004     .9727921    .9947416
    yrsincleaderinpower |   1.033548   .0127456     2.68   0.007     1.008867    1.058833
            v2x_execorr |   5.149315    4.42188     1.91   0.056      .956744    27.71426
                 lnoill |    .892814    .029765    -3.40   0.001     .8363408    .9531004
            postcoldwar |   6.430312   2.887754     4.14   0.000     2.666678    15.50578
          lnpopdensityl |   1.168286   .1705093     1.07   0.287     .8776424    1.555179
```

```
               _cons |   5.34e-06   7.25e-06    -8.94   0.000     3.73e-07    .0000765
---------------------+------------------------------------------------------------------
           /lnsig2u |   -11.0056   25953.72                     -50879.37    50857.36
---------------------+------------------------------------------------------------------
            sigma u |   .0040753   52.88524                             0           .
                rho |   .0000101   .2620427                             0           .
------------------------------------------------------------------------------

335 . quadchk, nooutput

Refitting model intpoints() =  8
Refitting model intpoints() = 16

                         Quadrature check

              Fitted       Comparison     Comparison
            quadrature     quadrature     quadrature
            12 points      8 points       16 points
-------------------------------------------------------
Log          -263.04523     -263.04521     -263.04521
likelihood                   .00001916      .00001916   Difference
                            -7.286e-08     -7.286e-08   Relative difference
-------------------------------------------------------
urbancivicny: .36881142      .36881404      .36881404
  lnpopl                     2.621e-06      2.621e-06   Difference
                             7.105e-06      7.105e-06   Relative difference
-------------------------------------------------------
urbancivicny: .56930658      .56929921      .56929921
gdppcthl                    -7.370e-06     -7.370e-06   Difference
                            -.00001294     -.00001294   Relative difference
-------------------------------------------------------
urbancivicny:-.03135197     -.03135066     -.03135066
gdppcthl2                    1.314e-06      1.314e-06   Difference
                            -.00004191     -.00004191   Relative difference
-------------------------------------------------------
urbancivicny: -.0755537     -.07554516     -.07554516
 polityl                     8.541e-06      8.541e-06   Difference
                            -.00011304     -.00011304   Relative difference
-------------------------------------------------------
urbancivicny:-.01642857     -.01642893     -.01642893
polityl2                    -3.595e-07     -3.595e-07   Difference
                             .00002188      .00002188   Relative difference
-------------------------------------------------------
urbancivicny: .03299766       .0329898       .0329898
yrsinclead~r                -7.860e-06     -7.860e-06   Difference
                             -.0002382      -.0002382   Relative difference
-------------------------------------------------------
urbancivicny: 1.6388637      1.6390703      1.6390703
v2x_execorr                  .00020661      .00020661   Difference
                             .00012607      .00012607   Relative difference
-------------------------------------------------------
urbancivicny:-.11337704     -.11337319     -.11337319
  lnoill                     3.852e-06      3.852e-06   Difference
                            -.00003397     -.00003397   Relative difference
-------------------------------------------------------
urbancivicny: 1.8610231      1.8609246      1.8609246
postcoldwar                 -.00009853     -.00009853   Difference
                            -.00005295     -.00005295   Relative difference
-------------------------------------------------------
urbancivicny: .15553737      .15554167      .15554167
lnpopdensi~l                 4.294e-06      4.294e-06   Difference
                             .00002761      .00002761   Relative difference
-------------------------------------------------------
urbancivicny:-12.140224      -12.13997      -12.13997
   _cons                     .00025462      .00025462   Difference
                            -.00002097     -.00002097   Relative difference
-------------------------------------------------------
lnsig2u:     -11.005598     -13.885605     -13.885605
   _cons                    -2.8800076     -2.8800077   Difference
                             .26168571      .26168571   Relative difference
-------------------------------------------------------

336 . * Failed quadchk--recalculate using pooled model
337 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar lnpopdensityl if indstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =     10,516
                                                Zero outcomes     =     10,466
                                                Nonzero outcomes  =         50

                                                Wald chi2(10)     =      76.17
Log pseudolikelihood = -263.04521               Prob > chi2       =     0.0000

------------------------------------------------------------------------------
                     |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
---------------------+--------------------------------------------------------------
             lnpopl |   1.446016   .1716687     3.11   0.002     1.145829    1.824847
           gdppcthl |   1.767036   .2356873     4.27   0.000     1.360543    2.294979
          gdppcthl2 |   .9691349   .0085746    -3.54   0.000     .9524739    .9860873
            polityl |   .9272327   .0307582    -2.28   0.023     .8688657    .9895206
           polityl2 |   .9837055   .0052464    -3.08   0.002     .9734764    .9940421
yrsincleaderinpower |   1.033545   .0121086     2.82   0.005     1.010083    1.057552
        v2x_execorr |   5.149685   4.020113     2.10   0.036     1.115034    23.78335
              lnoill |   .8928152   .0351818    -2.88   0.004     .8264556     .964503
         postcoldwar |   6.430092   2.741057     4.37   0.000     2.788444    14.82765
       lnpopdensityl |   1.168287   .1894085     0.96   0.337     .8502541    1.605279
               _cons |   5.34e-06   7.60e-06    -8.53   0.000     3.28e-07    .0000869
------------------------------------------------------------------------------
```

```
338 . *  Result
339 . *    --lnpopdensityl is statistically insignificant
340 . *    --no sign change or change in statistical significance for all other variables
341 .
342 . * Youth as proportion of population: youthpercl
343 . * Bivariate, controlling for time
344 . xtcloglog urbancivicny youthpercl time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      8,527
    Group variable: cowcode                         Number of groups  =        159

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         22
                                                                  avg =       53.6
                                                                  max =         64

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      16.94
    Log pseudolikelihood  = -286.35358              Prob > chi2       =     0.0020

                                (Std. Err. adjusted for 159 clusters in cowcode)
    ------------------------------------------------------------------------------
                 |               Robust
    urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------+----------------------------------------------------------------
      youthpercl |   1.017022   .0185508     0.93   0.355     .9813053    1.054039
           time1 |   .9552909    .588357    -0.07   0.941     .2856844    3.194367
           timesq |   1.001204   .0070343     0.17   0.864     .9875118    1.015087
         timecub |   .9999948   .0000265    -0.20   0.843     .9999429    1.000047
           _cons |   .0004627   .0082267    -0.43   0.666     3.40e-19    6.29e+11
    -------------+----------------------------------------------------------------
        /lnsig2u |  -1.342937   .9978627                     -3.298712    .6128377
    -------------+----------------------------------------------------------------
         sigma_u |   .5109577   .2549328                      .1921736    1.358551
             rho |   .1369759   .1179609                      .0219582    .5287526
    ------------------------------------------------------------------------------

345 . * Result:  positive and statistically insignificant in bivariate relationship, controlling for time
346 . * Multivariate cloglog panel, Model 4 from Table 3.1
347 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar youthpercl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      8,111
    Group variable: cowcode                         Number of groups  =        154

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       52.7
                                                                  max =         64

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      91.54
    Log pseudolikelihood  =  -242.6724              Prob > chi2       =     0.0000

                                       (Std. Err. adjusted for 154 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------------
                  lnpopl |   1.520115   .1566097     4.06   0.000     1.242172    1.860251
               gdppcthl |   1.589385   .2468546     2.98   0.003     1.172263     2.15493
              gdppcthl2 |   .9715734   .0093737    -2.99   0.003      .953374    .9901203
                polityl |   .9213099    .031802    -2.37   0.018     .8610409    .9857974
               polityl2 |   .9791664    .005994    -3.44   0.001     .9674887    .9909851
    yrsincleaderinpower |   1.032727   .0142193     2.34   0.019      1.00523    1.060976
            v2x_execorr |   7.259798   6.788685     2.12   0.034     1.161343    45.38253
                  lnoill |   .8881935   .0287825    -3.66   0.000     .8335351    .9464361
            postcoldwar |   4.677402   2.116475     3.41   0.001     1.926837    11.35441
             youthpercl |   .9474893   .0268652    -1.90   0.057      .896271    1.001635
                  _cons |   .0000553   .0000998    -5.43   0.000     1.61e-06    .0018995
    ---------------------+--------------------------------------------------------------
              /lnsig2u |  -10.63202   20180.35                     -39563.4    39542.14
    ---------------------+--------------------------------------------------------------
               sigma_u |   .0049123   49.56604                           0           .
                   rho |   .0000147   .2960318                           0           .
    ------------------------------------------------------------------------------

348 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check
```

```
                Fitted       Comparison     Comparison
              quadrature     quadrature     quadrature
              12 points      8 points       16 points
-------------------------------------------------------
Log           -242.6724     -242.67237     -242.67237
likelihood                   .00003175      .00003175   Difference
                            -1.309e-07     -1.309e-07   Relative difference
-------------------------------------------------------
urbancivicny: .41878627       .41877444      .41877444
  lnpopl                    -.00001183     -.00001183   Difference
                            -.00002824     -.00002824   Relative difference
-------------------------------------------------------
urbancivicny: .46334726       .46333245      .46333245
gdppcthl                    -.00001481     -.00001481   Difference
                            -.00003196     -.00003196   Relative difference
-------------------------------------------------------
urbancivicny:-.02883842     -.02883856     -.02883856
gdppcthl2                   -1.309e-07     -1.309e-07   Difference
                             4.539e-06      4.539e-06   Relative difference
-------------------------------------------------------
urbancivicny:-.08195886     -.08196905     -.08196905
 polityl                    -.00001018     -.00001018   Difference
                             .00012425      .00012425   Relative difference
-------------------------------------------------------
urbancivicny:-.02105366     -.02105376     -.02105376
polityl2                    -1.000e-07     -1.000e-07   Difference
                             4.752e-06      4.752e-06   Relative difference
-------------------------------------------------------
urbancivicny: .03220293       .0322128       .0322128
yrsinclead~r                 9.871e-06      9.871e-06   Difference
                             .00030654      .00030654   Relative difference
-------------------------------------------------------
urbancivicny:  1.982352       1.9821434      1.9821434
v2x_execorr                 -.00020867     -.00020867   Difference
                            -.00010526     -.00010526   Relative difference
-------------------------------------------------------
urbancivicny:-.11856563     -.11856439     -.11856439
  lnoill                     1.234e-06      1.234e-06   Difference
                            -.00001041     -.00001041   Relative difference
-------------------------------------------------------
urbancivicny: 1.5427428       1.5428394      1.5428394
postcoldwar                   .0000966       .0000966   Difference
                              .00006262      .00006262   Relative difference
-------------------------------------------------------
urbancivicny: -.0539396       -.0539435      -.0539435
youthpercl                  -3.904e-06     -3.904e-06   Difference
                              .00007237      .00007237   Relative difference
-------------------------------------------------------
urbancivicny:-9.8020837     -9.8021667     -9.8021667
   _cons                    -.00008302     -.00008302   Difference
                             8.470e-06      8.470e-06   Relative difference
-------------------------------------------------------
lnsig2u:     -10.632024      -13.49935      -13.49935
   _cons                    -2.8673264     -2.8673264   Difference
                             .26968774      .26968774   Relative difference
-------------------------------------------------------
```

```
349 . * Failed quadchk--recalculate using pooled model
350 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar youthpercl if indstate==1, vce(robust) eform nolog

Complementary log-log regression               Number of obs     =      8,111
                                               Zero outcomes     =      8,064
                                               Nonzero outcomes  =         47

                                               Wald chi2(10)     =      68.40
Log pseudolikelihood = -242.67237              Prob > chi2       =     0.0000

------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnpopl |   1.520109   .1816424     3.50   0.000     1.202713    1.921266
    gdppcthl |   1.589377   .2488757     2.96   0.003     1.169337    2.160299
   gdppcthl2 |   .9715734   .0097137    -2.88   0.004     .9527203    .9907996
     polityl |   .9213066   .0321254    -2.35   0.019     .8604454    .9864727
    polityl2 |   .9791664   .0057613    -3.58   0.000     .9679392    .9905238
yrsincleader~r |   1.032731   .0132854     2.50   0.012     1.007017    1.059101
  v2x_execorr |   7.259271    6.32651     2.27   0.023      1.31542    40.06099
      lnoill |   .8881939   .0313503    -3.36   0.001     .8288258    .9518146
  postcoldwar |   4.677559   2.109186     3.42   0.001     1.932854    11.31982
   youthpercl |    .947488   .0264917    -1.93   0.054     .8969623     1.00086
        _cons |   .0000553   .0001056    -5.14   0.000     1.31e-06    .0023302
------------------------------------------------------------------------------

351 . *  Result
352 . *    --sample is reduced because data on youthpercl only begins in 1951 (n=8,111)
353 . *    --youthpercl is negative (opposite of what theory would say) and marginally significant at the .10 level
354 . *    --no sign change or change in statistical significance for all other variables
```

```
355 .
356 . * Trade as percent of GDP: tottradepernomgdpl
357 . * Bivariate, controlling for time
358 . xtcloglog urbancivicny tottradepernomgdpl time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      9,310
    Group variable: cowcode                         Number of groups  =        155

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         13
                                                                  avg =       60.1
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      16.64
    Log pseudolikelihood  =  -267.8544              Prob > chi2       =     0.0023

                                      (Std. Err. adjusted for 155 clusters in cowcode)
    ------------------------------------------------------------------------------
                 |               Robust
      urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------------+----------------------------------------------------------------
    tottradepernomgdpl |   .9011295   .2078925    -0.45   0.652     .5733412    1.416319
                time1 |   .9392492   .0748268    -0.79   0.431     .8034678    1.097977
                timesq |   1.001482    .001421     1.04   0.297     .9987008    1.004271
               timecub |   .9999933   7.37e-06    -0.92   0.360     .9999788    1.000008
                  cons |    .001287   .0020078    -4.27   0.000     .0000605    .0273848
    -------------------+----------------------------------------------------------------
              /lnsig2u |  -1.600983    1.40914                      -4.362847    1.160881
    -------------------+----------------------------------------------------------------
               sigma_u |   .4491081   .3164282                      .1128807    1.786825
                   rho |   .1092248    .137102                       .0076867    .6599745
    ------------------------------------------------------------------------------

359 . * Result:  negative and statistically insignificant  in bivariate relationship, controlling for time
360 . * Multivariate cloglog panel, Model 4 from Table 3.1
361 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar tottradepernomgdpl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      8,941
    Group variable: cowcode                         Number of groups  =        150

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         13
                                                                  avg =       59.6
                                                                  max =        113

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      67.13
    Log pseudolikelihood  = -232.66896              Prob > chi2       =     0.0000

                                      (Std. Err. adjusted for 150 clusters in cowcode)
    ------------------------------------------------------------------------------
                 |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------------+----------------------------------------------------------------
                lnpopl |   1.515821    .160891     3.92   0.000      1.23112     1.86636
             gdppcthl |    1.84326   .3073524     3.67   0.000     1.329395    2.555756
            gdppcthl2 |   .9633932   .0111714    -3.22   0.001     .9417445    .9855395
              polityl |   .9259625   .0327386    -2.18   0.030     .8639689    .9924045
             polityl2 |   .9868385   .0056916    -2.30   0.022     .9757459    .9980572
    yrsincleaderinpower |   1.024044   .0138642     1.75   0.079     .9972279    1.051581
           v2x_execorr |   6.097566   5.824717     1.89   0.058     .9376567    39.65237
                lnoill |   .8803553   .0318038    -3.53   0.000     .8201767    .9449493
           postcoldwar |    5.46203   2.306125     4.02   0.000     2.387636    12.49511
     tottradepernomgdpl |   .9815083   .0664018    -0.28   0.783     .8596224    1.120676
                 _cons |   6.81e-06   .0000101    -8.03   0.000     3.74e-07    .0001241
    -------------------+----------------------------------------------------------------
              /lnsig2u |  -10.13963   13290.36                     -26058.76    26038.48
    -------------------+----------------------------------------------------------------
               sigma_u |   .0062836   41.75544                              0           .
                   rho |    .000024   .3189923                              0           .
    ------------------------------------------------------------------------------

362 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
    ------------------------------------------------------------
    Log          -232.66896     -232.66892     -232.66892
    likelihood                   .00003976      .00004186   Difference
                                -1.709e-07     -1.799e-07   Relative difference
    ------------------------------------------------------------
    urbancivicny: .41595741      .41592578      .41593166
      lnpopl                    -.00003163     -.00002575   Difference
                                -.00007604      -.0000619   Relative difference
    ------------------------------------------------------------
    urbancivicny:   .611536      .61153254      .61153319
    gdppcthl                    -3.459e-06     -2.816e-06   Difference
```

```
                            -5.657e-06     -4.605e-06   Relative difference
-------------------------------------------------------
urbancivicny:-.03729368     -.03729487     -.03729465
gdppcthl2                   -1.195e-06     -9.727e-07   Difference
                             .00003204      .00002608   Relative difference
-------------------------------------------------------
urbancivicny:-.07692149     -.07693404      -.0769317
 polityl                    -.00001255     -.00001021   Difference
                             .00016312      .00013279   Relative difference
-------------------------------------------------------
urbancivicny:-.01324888     -.01324971     -.01324956
polityl2                    -8.302e-07     -6.759e-07   Difference
                             .00006266      .00005101   Relative difference
-------------------------------------------------------
urbancivicny:  .0237594      .02376968      .02376777
yrsinclead~r                 .00001029      8.373e-06   Difference
                             .00043291      .00035241   Relative difference
-------------------------------------------------------
urbancivicny: 1.8078897      1.8074946      1.8075681
v2x_execorr                 -.00039514     -.00032166   Difference
                            -.00021856     -.00017792   Relative difference
-------------------------------------------------------
urbancivicny:-.12742975     -.12742394     -.12742502
  lnoill                     5.813e-06      4.732e-06   Difference
                            -.00004561     -.00003713   Relative difference
-------------------------------------------------------
urbancivicny: 1.6978206      1.6978878      1.6978753
postcoldwar                  .00006719       .0000547   Difference
                             .00003958      .00003222   Relative difference
-------------------------------------------------------
urbancivicny:-.01866486     -.01866255     -.01866298
tottradepe~l                 2.309e-06      1.880e-06   Difference
                            -.00012369      -.0001007   Relative difference
-------------------------------------------------------
urbancivicny:-11.897148      -11.89713     -11.897134
   _cons                     .00001794       .0000146   Difference
                            -1.508e-06     -1.227e-06   Relative difference
-------------------------------------------------------
lnsig2u:     -10.139634     -12.128681      -12.5055
   _cons                    -1.9890471     -2.3658658   Difference
                             .19616557      .23332852   Relative difference
-------------------------------------------------------
```

```
363 . *  Result
364 . *    --sample is reduced because of missing data on tottradepernomgdpl (n=9,310), with only 43 urban civic episo
    > des and 150 countries
365 . *    --tottradepernomgdpl is statistically insignificant
366 . *    --yrsincleaderinpower and v2x_execorr grow marginally significant at .10 level
367 . *    --no sign change or change in statistical significance for all other variables
368 .
369 . * Logged dollar exchange rate:  lndollexchratel
370 . * Bivariate, controlling for time
371 . xtcloglog urbancivicny lndollexchratel time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      8,826
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =          3
                                                                  avg =       56.2
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      21.30
    Log pseudolikelihood  = -263.21349              Prob > chi2       =     0.0003

                                  (Std. Err. adjusted for 157 clusters in cowcode)
    ------------------------------------------------------------------------------
                    |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ----------------+-------------------------------------------------------------
    lndollexchratel |   1.070681    .065281     1.12   0.263     .9500824    1.206589
              time1 |   .9324823     .07856    -0.83   0.407     .7905483    1.099899
             timesq |   1.001305   .0013867     0.94   0.347     .9985903    1.004026
            timecub |    .999995   6.88e-06    -0.73   0.466     .9999815    1.000008
              _cons |   .0017802   .0031157    -3.62   0.000     .0000576    .0549845
    ----------------+-------------------------------------------------------------
           /lnsig2u |  -.9347804   .7106071                     -2.327545     .457984
    ----------------+-------------------------------------------------------------
            sigma_u |   .6266355   .2226458                      .3123058    1.257332
                rho |   .1927125   .1105523                      .0559751    .4900722
    ------------------------------------------------------------------------------

372 . * Result:  positive and statistically insignificant in bivariate relationship, controlling for time
373 . * Multivariate cloglog panel, Model 4 from Table 3.1
374 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar lndollexchratel if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      8,455
    Group variable: cowcode                         Number of groups  =        150

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =          6
                                                                  avg =       56.4
                                                                  max =        114
```

Integration method: mvaghermite Integration pts. = 12

Wald chi2(10) = 83.53
Log pseudolikelihood = -221.80978 Prob > chi2 = 0.0000

(Std. Err. adjusted for 150 clusters in cowcode)

urbancivicny	exp(b)	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnpopl	1.603057	.1544958	4.90	0.000	1.327131	1.936351
gdppcthl	2.054207	.3531792	4.19	0.000	1.466551	2.877339
gdppcthl2	.9568569	.0126349	-3.34	0.001	.9324106	.9819442
polityl	.9391928	.0327854	-1.80	0.072	.8770835	1.0057
polityl2	.9906228	.0060861	-1.53	0.125	.9787657	1.002623
yrsincleaderinpower	1.043605	.0146423	3.04	0.002	1.015297	1.072701
v2x_execorr	20.67751	17.90218	3.50	0.000	3.78918	112.837
lnoill	.8623863	.0300927	-4.24	0.000	.8053774	.9234307
postcoldwar	5.236605	2.486387	3.49	0.000	2.064866	13.2803
lndollexchratel	1.010282	.0688474	0.15	0.881	.8839674	1.154647
cons	1.04e-06	1.50e-06	-9.55	0.000	6.12e-08	.0000175
/lnsig2u	-4.105003	23.44746			-50.06118	41.85117
sigma_u	.1284133	1.505482			1.35e-11	1.22e+09
rho	.0099252	.230411			1.10e-22	1

375 . quadchk, nooutput

Refitting model intpoints() = 8
Refitting model intpoints() = 16

Quadrature check

	Fitted quadrature 12 points	Comparison quadrature 8 points	Comparison quadrature 16 points	
Log likelihood	-221.80978	-221.80978	-221.80978	
		1.923e-07	1.923e-07	Difference
		-8.667e-10	-8.667e-10	Relative difference
urbancivicny: .47191246		.47192001	.47192001	
lnpopl		7.551e-06	7.551e-06	Difference
		.000016	.000016	Relative difference
urbancivicny: .71988973		.71988799	.71988799	
gdppcthl		-1.744e-06	-1.744e-06	Difference
		-2.422e-06	-2.422e-06	Relative difference
urbancivicny: -.0441014		-.04410091	-.04410091	
gdppcthl2		4.900e-07	4.900e-07	Difference
		-.00001111	-.00001111	Relative difference
urbancivicny:-.06273453		-.06273061	-.06273061	
polityl		3.920e-06	3.920e-06	Difference
		-.00006249	-.00006249	Relative difference
urbancivicny:-.00942148		-.00942128	-.00942128	
polityl2		2.041e-07	2.041e-07	Difference
		-.00002166	-.00002166	Relative difference
urbancivicny: .04268073		.04267686	.04267686	
yrsinclead~r		-3.876e-06	-3.876e-06	Difference
		-.00009082	-.00009082	Relative difference
urbancivicny: 3.0290469		3.0290884	3.0290884	
v2x_execorr		.00004155	.00004155	Difference
		.00001372	.00001372	Relative difference
urbancivicny:-.14805192		-.14805577	-.14805577	
lnoill		-3.855e-06	-3.855e-06	Difference
		.00002604	.00002604	Relative difference
urbancivicny: 1.6556734		1.6556558	1.6556558	
postcoldwar		-.00001762	-.00001762	Difference
		-.00001064	-.00001064	Relative difference
urbancivicny: .01022994		.01023129	.01023129	
lndollexch~l		1.353e-06	1.353e-06	Difference
		.0001323	.0001323	Relative difference
urbancivicny:-13.780144		-13.780049	-13.780049	
_cons		.00009504	.00009504	Difference
		-6.897e-06	-6.897e-06	Relative difference
lnsig2u:	-4.1050031	-4.1205478	-4.1205478	
_cons		-.01554474	-.01554473	Difference
		.00378678	.00378678	Relative difference

```
376 . *  Result
377 . *    --sample is highly reducted (n=8,455)
378 . *    --lndollexchratel is statistically insignificant
379 . *    --polity grows marginally significant at the .10 level, and polityl2 becomes statistically insignificant
380 . *    --no sign change or change in statistical significance for all other variables
381 .
382 . * Presence of financial crisis: rrfinstressl
383 . * Bivariate, controlling for time
384 . xtcloglog urbancivicny rrfinstressl time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      6,319
    Group variable: cowcode                         Number of groups  =         68

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         37
                                                                  avg =       92.9
                                                                  max =        111

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =       8.65
    Log pseudolikelihood  = -122.45495              Prob > chi2       =     0.0703

                                  (Std. Err. adjusted for 68 clusters in cowcode)
    ------------------------------------------------------------------------------
                 |               Robust
    urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------+----------------------------------------------------------------
    rrfinstressl |    1.03612    .246415     0.15   0.881      .6500892    1.651379
           time1 |   .9446754   .0798596    -0.67   0.501       .800433    1.114911
          timesq |   1.001771   .0016831     1.05   0.292      .9984772    1.005075
         timecub |   .9999902   9.54e-06    -1.02   0.306      .9999715    1.000009
           _cons |   .0005531   .0008544    -4.85   0.000      .0000268     .011423
    -------------+----------------------------------------------------------------
        /lnsig2u |  -.7222647   .9319663                     -2.548885    1.104356
    -------------+----------------------------------------------------------------
         sigma_u |   .6968868   .3247375                      .2795868    1.737032
             rho |   .2279426   .1640119                      .0453651    .6471775
    ------------------------------------------------------------------------------

385 . * Result:  positive and statistically insignificant in bivariate relationship, controlling for time
386 . * Multivariate cloglog panel, Model 4 from Table 3.1
387 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar rrfinstressl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =      5,887
    Group variable: cowcode                         Number of groups  =         67

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         36
                                                                  avg =       87.9
                                                                  max =        111

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      88.07
    Log pseudolikelihood  = -99.700843              Prob > chi2       =     0.0000

                                       (Std. Err. adjusted for 67 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |               Robust
               urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------
                    lnpopl |   1.477598   .2316562     2.49   0.013     1.086691    2.009124
                  gdppcthl |   2.799558   .8030736     3.59   0.000     1.595571    4.912051
                 gdppcthl2 |     .93281   .0230474    -2.82   0.005     .8887143    .9790936
                   polityl |   .8812119    .051461    -2.17   0.030     .7859084    .9880726
                  polityl2 |   .9917685   .0098616    -0.83   0.406     .9726273    1.011286
    yrsincleaderinpower |   1.022568   .0194561     1.17   0.241     .9851368    1.061421
            v2x_execorr |    32.2791   36.31766     3.09   0.002     3.558139    292.8329
                 lnoill |   .9023739   .0440181    -2.11   0.035     .8200958    .9929067
           postcoldwar |   4.032789   2.077574     2.71   0.007     1.469236    11.06928
           rrfinstressl |   .9623199   .2081809    -0.18   0.859     .6297628    1.470489
                  _cons |   7.70e-07   1.56e-06    -6.94   0.000     1.44e-08    .0000411
    ---------------------+--------------------------------------------------------
              /lnsig2u |  -12.97288          .                           .           .
    ---------------------+--------------------------------------------------------
                sigma_u |    .001524          .                           .           .
                    rho |   1.41e-06          .                           .           .
    ------------------------------------------------------------------------------

388 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check
```

```
                Fitted       Comparison     Comparison
              quadrature     quadrature     quadrature
              12 points      8 points       16 points
-------------------------------------------------------
Log          -99.700843     -99.700834     -99.700834
likelihood                   8.843e-06      8.843e-06   Difference
                            -8.869e-08     -8.869e-08   Relative difference
-------------------------------------------------------
urbancivicny: .39041781       .39029879      .39029879
  lnpopl                    -.00011902     -.00011902   Difference
                            -.00030486     -.00030486   Relative difference
-------------------------------------------------------
urbancivicny: 1.0294615       1.0294719      1.0294719
gdppcthl                     .00001032      .00001032   Difference
                             .00001003      .00001003   Relative difference
-------------------------------------------------------
urbancivicny:-.06955372     -.06955865     -.06955865
gdppcthl2                   -4.931e-06     -4.931e-06   Difference
                             .00007089      .00007089   Relative difference
-------------------------------------------------------
urbancivicny:-.12645711     -.12644603     -.12644603
 polityl                     .00001108      .00001108   Difference
                            -.00008763     -.00008763   Relative difference
-------------------------------------------------------
urbancivicny:-.00826552     -.00826623     -.00826623
polityl2                    -7.032e-07     -7.032e-07   Difference
                             .00008508      .00008508   Relative difference
-------------------------------------------------------
urbancivicny: .02231694       .0223251       .0223251
yrsinclead~r                 8.157e-06      8.157e-06   Difference
                             .00036553      .00036553   Relative difference
-------------------------------------------------------
urbancivicny: 3.4744199       3.4739056      3.4739056
v2x_execorr                 -.00051436     -.00051436   Difference
                            -.00014804     -.00014804   Relative difference
-------------------------------------------------------
urbancivicny:-.10272633     -.10268847     -.10268847
  lnoill                     .00003786      .00003786   Difference
                            -.00036858     -.00036858   Relative difference
-------------------------------------------------------
urbancivicny: 1.3944582       1.3943174      1.3943174
postcoldwar                 -.00014085     -.00014085   Difference
                            -.00010101     -.00010101   Relative difference
-------------------------------------------------------
urbancivicny:-.03840834     -.03837135     -.03837135
rrfinstressl                 .00003699      .00003699   Difference
                            -.00096312     -.00096312   Relative difference
-------------------------------------------------------
urbancivicny:-14.077371     -14.076293     -14.076293
   _cons                     .00107762      .00107762   Difference
                            -.00007655     -.00007655   Relative difference
-------------------------------------------------------
lnsig2u:     -12.972882     -14.345926     -14.345926
   _cons                    -1.3730436     -1.3730436   Difference
                             .10583952      .10583952   Relative difference
-------------------------------------------------------
```

```
389 . * Does not pass quadchk--recalculate using pooled model
390 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar rrfinstressl if indstate==1, vce(robust) eform nolog

Complementary log-log regression               Number of obs     =      5,887
                                               Zero outcomes     =      5,868
                                               Nonzero outcomes  =         19

                                               Wald chi2(10)     =      35.57
Log pseudolikelihood = -99.700832              Prob > chi2       =     0.0001

------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnpopl |    1.47747   .2842763     2.03   0.042     1.013307    2.154251
    gdppcthl |   2.799579   .9850481     2.93   0.003     1.404729     5.57947
   gdppcthl2 |   .9328067   .0285384    -2.27   0.023     .8785164    .9904519
     polityl |    .881219   .0550219    -2.03   0.043     .7797156    .9959362
    polityl2 |    .991768   .0099423    -0.82   0.410     .9724717    1.011447
yrsincleader~r |   1.022574   .0232116     0.98   0.325     .9780771    1.069095
  v2x_execorr |   32.26702   41.04327     2.73   0.006     2.667109    390.3706
      lnoill |   .9023987    .051556    -1.80   0.072     .8068029    1.009321
   postcoldwar |   4.032376   2.224648     2.53   0.011     1.367591    11.88956
  rrfinstressl |   .9623458   .1936148    -0.19   0.849     .6487502    1.427529
         _cons |   7.70e-07   1.80e-06    -6.04   0.000     7.97e-09    .0000745
------------------------------------------------------------------------------

391 . *  Result
392 . *    --sample is highly reduced because of missing data on tradepergdpl (n=5,887) with 19 urban civic episodes a
    > nd 67 countries
393 . *    --rrfinstressl is statistically insignificant
```

```
394 . *    --polityl2 and yrsincleaderinpower grow statistically insignificant
395 . *    --no sign change or change in statistical significance for all other variables
396 .
397 . *  Child mortality:  under5mortl
398 . * Bivariate, controlling for time
399 . xtcloglog urbancivicny under5mortl time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,537
    Group variable: cowcode                         Number of groups  =        159

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         22
                                                                  avg =       72.6
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      30.83
    Log pseudolikelihood  = -295.83097              Prob > chi2       =     0.0000

                                (Std. Err. adjusted for 159 clusters in cowcode)
    ------------------------------------------------------------------------------
                 |               Robust
    urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------+----------------------------------------------------------------
     under5mortl |   .9982437   .0019249    -0.91   0.362     .9944781    1.002024
           time1 |    .958165   .0789565    -0.52   0.604     .8152634    1.126115
           timesq |   1.001251   .0013473     0.93   0.353     .9986134    1.003895
         timecub |   .9999942   6.69e-06    -0.87   0.383      .999981    1.000007
           _cons |    .000747   .0014898    -3.61   0.000      .000015    .0372356
    -------------+----------------------------------------------------------------
        /lnsig2u |  -1.456446   1.082795                     -3.578685    .6657935
    -------------+----------------------------------------------------------------
         sigma_u |   .4827662   .2613684                      .16707    1.395003
             rho |    .124102   .1177006                     .0166856    .5419246
    ------------------------------------------------------------------------------

400 . * Result:  negative and statistically insignificant in bivariate relationship, controlling for time
401 . * Multivariate cloglog panel, Model 4 from Table 3.1
402 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar under5mortl if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,355
    Group variable: cowcode                         Number of groups  =        154

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.2
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      82.86
    Log pseudolikelihood  =  -255.0694              Prob > chi2       =     0.0000

                                       (Std. Err. adjusted for 154 clusters in cowcode)
    ------------------------------------------------------------------------------------
                       |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    -------------------+----------------------------------------------------------------
                 lnpopl |   1.484726   .1483977     3.95   0.000     1.220588    1.806024
              gdppcthl |   1.587072   .2438918     3.01   0.003     1.174327    2.144886
            gdppcthl2 |   .9726204   .0091475    -2.95   0.003     .9548559    .9907154
               polityl |    .929496    .031685    -2.14   0.032     .8694237     .993719
              polityl2 |   .9832012   .0057981    -2.87   0.004     .9719027    .9946312
    yrsincleaderinpower |   1.028801    .013646     2.14   0.032       1.0024    1.055898
            v2x_execorr |   6.057373   5.337391     2.04   0.041     1.077102    34.06525
                lnoill |   .8900747     .02843    -3.65   0.000     .8360613    .9475776
            postcoldwar |   4.293506   2.051575     3.05   0.002     1.682987    10.95326
            under5mortl |   .9955264   .0025216    -1.77   0.077     .9905964    1.000481
                  _cons |   .0000208   .0000321    -6.99   0.000     1.01e-06    .0004283
    -------------------+----------------------------------------------------------------
              /lnsig2u |  -10.62306   15085.82                     -29578.28    29557.04
    -------------------+----------------------------------------------------------------
               sigma_u |   .0049344   37.21955                             0           .
                   rho |   .0000148   .2232914                             0           .
    ------------------------------------------------------------------------------------

403 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                            Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
    ------------------------------------------------------------
    Log           -255.0694     -255.06938     -255.06938
    likelihood                   .00001728      .00001728   Difference
                                -6.777e-08     -6.777e-08   Relative difference
    ------------------------------------------------------------
    urbancivicny: .39523043      .39521088      .39521088
      lnpopl                    -.00001955     -.00001955   Difference
                                -.00004946     -.00004946   Relative difference
    ------------------------------------------------------------
```

```
urbancivicny: .46189087      .46187924      .46187924
gdppcthl                    -.00001163     -.00001163   Difference
                            -.00002517     -.00002517   Relative difference
-------------------------------------------------------
urbancivicny:-.02776142     -.02776183     -.02776183
gdppcthl2                   -4.105e-07     -4.105e-07   Difference
                             .00001479      .00001479   Relative difference
-------------------------------------------------------
urbancivicny:-.07311278     -.07312193     -.07312193
 polityl                    -9.143e-06     -9.143e-06   Difference
                             .00012505      .00012505   Relative difference
-------------------------------------------------------
urbancivicny:-.01694146     -.01694135     -.01694135
polityl2                     1.141e-07      1.141e-07   Difference
                            -6.733e-06     -6.733e-06   Relative difference
-------------------------------------------------------
urbancivicny:  .0283941       .0284027       .0284027
yrsinclead~r                 8.598e-06      8.598e-06   Difference
                              .0003028       .0003028   Relative difference
-------------------------------------------------------
urbancivicny: 1.8012762      1.8010905      1.8010905
v2x_execorr                 -.00018564     -.00018564   Difference
                            -.00010306     -.00010306   Relative difference
-------------------------------------------------------
urbancivicny:-.11644985     -.11645156     -.11645156
  lnoill                    -1.709e-06     -1.709e-06   Difference
                             .00001467      .00001467   Relative difference
-------------------------------------------------------
urbancivicny: 1.4571037      1.4571541      1.4571541
postcoldwar                  .00005037      .00005037   Difference
                             .00003457      .00003457   Relative difference
-------------------------------------------------------
urbancivicny:-.00448368     -.00448426     -.00448426
under5mortl                 -5.856e-07     -5.856e-07   Difference
                              .0001306       .0001306   Relative difference
-------------------------------------------------------
urbancivicny: -10.77951       -10.7795       -10.7795
    cons                     9.820e-06      9.820e-06   Difference
                            -9.110e-07     -9.110e-07   Relative difference
-------------------------------------------------------
lnsig2u:     -10.623058     -12.482866     -12.482866
   _cons                    -1.8598078     -1.8598078   Difference
                             .17507274      .17507274   Relative difference
-------------------------------------------------------
```

```
404 . * Does not pass quadchk--recalculate using pooled model
405 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar under5mortl if indstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =     10,355
                                                Zero outcomes     =     10,307
                                                Nonzero outcomes  =         48

                                                Wald chi2(10)     =      73.32
Log pseudolikelihood = -255.06938               Prob > chi2       =     0.0000

------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnpopl |   1.484711   .1705262     3.44   0.001     1.185434    1.859544
    gdppcthl |   1.587062   .2599104     2.82   0.005     1.151315     2.18773
   gdppcthl2 |   .9726202   .0098242    -2.75   0.006     .9535544    .9920672
     polityl |   .9294915   .0320019    -2.12   0.034     .8688384    .9943787
    polityl2 |   .9832013     .00548    -3.04   0.002     .9725192    .9940007
yrsincleade~r |   1.028806   .0133333     2.19   0.028     1.003002    1.055273
  v2x_execorr |   6.056773   4.913762     2.22   0.026     1.235023    29.70348
      lnoill |   .8900739    .031775    -3.26   0.001     .8299249    .9545823
  postcoldwar |   4.293621   2.153868     2.90   0.004      1.60629    11.47687
  under5mortl |    .995526   .0025223    -1.77   0.077     .9905946    1.000482
         cons |   .0000208    .000034    -6.61   0.000     8.51e-07    .0005094
------------------------------------------------------------------------------

406 . *  Result
407 . *    --under5mortl is negative and marginally significant at the .10 level
408 . *    --no sign change or change in statistical significance for all other variables
409 .
410 . * Age of incumbent leader: ageincleader
411 . * Bivariate, controlling for time
412 . xtcloglog urbancivicny ageincleader time1 timesq timecub if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     11,651
Group variable: cowcode                         Number of groups  =        164

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         10
                                                              avg =       71.0
                                                              max =        115

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(4)      =      37.12
Log pseudolikelihood  = -302.27288              Prob > chi2       =     0.0000
```

```
                              (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ageincleader |   1.039878   .0135262     3.01   0.003     1.013703     1.06673
       time1 |    .948284   .0742057    -0.68   0.497     .8134477    1.105471
      timesq |   1.001578   .0013024     1.21   0.225     .9990283    1.004134
     timecub |   .9999922   6.53e-06    -1.19   0.233     .9999794    1.000005
       _cons |   .0000506   .0000944    -5.30   0.000     1.31e-06    .0019594
-------------+----------------------------------------------------------------
    /lnsig2u |  -1.331257   .9242479                     -3.14275    .4802351
-------------+----------------------------------------------------------------
     sigma_u |   .5139503   .2375087                      .2077593    1.271399
         rho |   .1383625   .1101873                      .0255696    .4956338
------------------------------------------------------------------------------

413 . * Result:  positive and statistically significant in bivariate relationship, controlling for time
414 . * Multivariate cloglog panel, Model 4 from Table 3.1
415 . xtcloglog urbancivicny ageincleader time1 timesq timecub if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     11,651
    Group variable: cowcode                         Number of groups  =        164

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
                                                                  avg =       71.0
                                                                  max =        115

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(4)      =      37.12
    Log pseudolikelihood  = -302.27288              Prob > chi2       =     0.0000

                              (Std. Err. adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ageincleader |   1.039878   .0135262     3.01   0.003     1.013703     1.06673
       time1 |    .948284   .0742057    -0.68   0.497     .8134477    1.105471
      timesq |   1.001578   .0013024     1.21   0.225     .9990283    1.004134
     timecub |   .9999922   6.53e-06    -1.19   0.233     .9999794    1.000005
        cons |   .0000506   .0000944    -5.30   0.000     1.31e-06    .0019594
-------------+----------------------------------------------------------------
    /lnsig2u |  -1.331257   .9242479                     -3.14275    .4802351
-------------+----------------------------------------------------------------
     sigma_u |   .5139503   .2375087                      .2077593    1.271399
         rho |   .1383625   .1101873                      .0255696    .4956338
------------------------------------------------------------------------------

416 . * Result:  positive and statistically signficant in bivariate relationship, controlling for time
417 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar ageincleader if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,506
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       66.9
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =     105.94
    Log pseudolikelihood  = -263.01675              Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |      exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.473954   .1499327     3.81   0.000     1.207531    1.799158
     gdppcthl |   1.812074    .238164     4.52   0.000     1.400558    2.344503
    gdppcthl2 |   .9676281   .0087637    -3.63   0.000     .9506032    .9849579
      polityl |   .9247697   .0307695    -2.35   0.019     .8663868    .9870867
     polityl2 |   .9837359   .0055412    -2.91   0.004     .9729352    .9946565
yrsincleaderinpower |   1.024639   .0134511     1.85   0.064     .9986117    1.051345
    v2x_execorr |   5.044055   4.324269     1.89   0.059     .9398199    27.07167
       lnoill |   .8776232   .0259852    -4.41   0.000     .8281428     .93006
    postcoldwar |   6.810804   2.981213     4.38   0.000     2.888098    16.06145
   ageincleader |    1.01577   .0133112     1.19   0.232     .9900126    1.042197
           cons |   3.43e-06   4.47e-06    -9.67   0.000     2.68e-07     .000044
-------------+----------------------------------------------------------------
    /lnsig2u |  -10.23365   12220.48                     -23961.94    23941.48
-------------+----------------------------------------------------------------
     sigma_u |    .005995   36.63102                             0           .
         rho |   .0000218   .2669944                             0           .
------------------------------------------------------------------------------
```

```
418 . quadchk, nooutput

    Refitting model intpoints() =  8
    Refitting model intpoints() = 16

                             Quadrature check

                  Fitted       Comparison     Comparison
                quadrature     quadrature     quadrature
                12 points      8 points       16 points
    -----------------------------------------------------
    Log         -263.01675     -263.01672     -263.01672
    likelihood                  .00003151      .00003151   Difference
                               -1.198e-07     -1.198e-07   Relative difference
    -----------------------------------------------------
    urbancivicny:  .3879484      .38792942      .38792942
      lnpopl                   -.00001898     -.00001898   Difference
                               -.00004894     -.00004894   Relative difference
    -----------------------------------------------------
    urbancivicny: .59447205      .59446784      .59446784
    gdppcthl                   -4.203e-06     -4.203e-06   Difference
                               -7.069e-06     -7.069e-06   Relative difference
    -----------------------------------------------------
    urbancivicny:-.03290746      -.0329085      -.0329085
    gdppcthl2                  -1.039e-06     -1.039e-06   Difference
                                .00003158      .00003158   Relative difference
    -----------------------------------------------------
    urbancivicny: -.0782106     -.07822606     -.07822606
     polityl                   -.00001546     -.00001546   Difference
                                .00019769      .00019769   Relative difference
    -----------------------------------------------------
    urbancivicny: -.0163978     -.01639769     -.01639769
    polityl2                    1.168e-07      1.168e-07   Difference
                               -7.123e-06     -7.123e-06   Relative difference
    -----------------------------------------------------
    urbancivicny: .02434048      .02435212      .02435212
    yrsinclead~r                .00001165      .00001165   Difference
                                .00047844      .00047844   Relative difference
    -----------------------------------------------------
    urbancivicny: 1.6182103      1.6178826      1.6178826
    v2x_execorr                -.00032773     -.00032773   Difference
                               -.00020253     -.00020253   Relative difference
    -----------------------------------------------------
    urbancivicny:-.13053792      -.1305389      -.1305389
      lnoill                   -9.781e-07     -9.781e-07   Difference
                                7.493e-06      7.493e-06   Relative difference
    -----------------------------------------------------
    urbancivicny: 1.9185102      1.9186566      1.9186566
    postcoldwar                 .00014636      .00014636   Difference
                                .00007629      .00007629   Relative difference
    -----------------------------------------------------
    urbancivicny: .01564679      .01565152      .01565152
    ageincleader                4.730e-06      4.730e-06   Difference
                                .00030233      .00030233   Relative difference
    -----------------------------------------------------
    urbancivicny:-12.581928     -12.582518     -12.582518
       _cons                   -.00058998     -.00058998   Difference
                                .00004689      .00004689   Relative difference
    -----------------------------------------------------
    lnsig2u:     -10.233653     -12.092652     -12.092652
       _cons                   -1.8589992     -1.8589992   Difference
                                .18165549      .18165549   Relative difference
    -----------------------------------------------------

419 . *  Result
420 . *    --ageincleader is statistically insignificant
421 . *    --yrsincleaderinpower grows statistically insignificant
422 . *    --no sign change or change in statistical significance for all other variables
423 .
424 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
425 . * Further testing for omitted variable bias in Multiple Imputation Model 4
426 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
427 . * Under 5 child mortality--under5mortl
428 . * On 10 imputed datasets, testing Model 4 from Table 3.1
429 . clear

430 . use revspredictbycntryyr, clear

431 . drop if indstate==0
    (6,647 observations deleted)

432 . misstable sum under5mortl, gen(miss)
                                                               Obs<.
                                                +------------------------------
                   |                            | Unique
          Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
      -------------+--------------------------------+------------------------------
       under5mortl |       205              11,537  |   >500        2.1       577.9
      -----------------------------------------------------------------------------
```

```
433 . mi set wide

434 . mi register regular lnpopl postcoldwar cowcode year urbancivicny

435 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill under5mortl

436 . mi xtset cowcode year
           panel variable:  cowcode (unbalanced)
            time variable:  year, 1900 to 2014, but with gaps
                    delta:  1 unit

437 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill under5mortl = lnpopl po
    > stcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill under5mortl polityl gdppcthl lnpopl postcoldwar ,
                         knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill under5mortl polityl gdppcthl lnpopl postcoldwar ,
                         knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr under5mortl polityl gdppcthl lnpopl postcoldwar ,
                         knn(10)
           under5mortl: pmm under5mortl yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar ,
                         knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill under5mortl gdppcthl lnpopl postcoldwar ,
                         knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill under5mortl polityl lnpopl postcoldwar ,
                         knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

                polityl: predictive mean matching
               gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
           under5mortl: predictive mean matching

    ------------------------------------------------------------------
                        |               Observations per m
                        |-----------------------------------------------
              Variable |   Complete   Incomplete   Imputed |     Total
    -------------------+-----------------------------------+-----------
               polityl |      11328          414       414 |     11742
              gdppcthl |      11042          700       700 |     11742
        yrsincleader~r |      11661           81        81 |     11742
           v2x execorr |      11580          162       162 |     11742
                lnoill |      11560          182       182 |     11742
           under5mortl |      11537          205       205 |     11742
    ------------------------------------------------------------------
    (complete + incomplete = total; imputed is the minimum across m
     of the number of filled-in observations.)

438 . qui mi xeq 1: twoway (kdensity under5mortl if missunder5mortl==0) || (kdensity under5mortl if missunder5mortl==1
    > ) || (kdensity under5mortl), legend(label(1 "Observed") label(2 "Imputed") label(3 "Completed"))

439 . graph export Robustnesstestfiles\Logfiles\mod4impobsunder5mortl.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobsunder5mortl.pdf written in PDF format)

440 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar under5mortl, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0084
                                                    Largest FMI       =     0.0311
    DF adjustment:   Large sample                   DF:     min       =   9,408.81
                                                            avg       =   6.59e+15
                                                            max       =   7.91e+16
    Model F test:       Equal FMI                   F(  10,879964.4)  =      10.09
    Within VCE type:       Robust                   Prob > F          =     0.0000
```

```
                                        (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
         urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------------+-------------------------------------------------------------------
               lnpopl |    1.50557   .1367414     4.51   0.000     1.260061    1.798913
             gdppcthl |   1.575265   .2107111     3.40   0.001     1.211971    2.047459
                      |
c.gdppcthl#c.gdppcthl |    .975205   .0077071    -3.18   0.001     .9602155    .9904285
                      |
              polityl |   .9213349   .0302926    -2.49   0.013      .863835    .9826622
                      |
  c.polityl#c.polityl |   .9842567    .005743    -2.72   0.007     .9730636    .9955786
                      |
  yrsincleaderinpower |   1.031881   .0130949     2.47   0.013     1.006532    1.057869
          v2x_execorr |    5.55415   4.720105     2.02   0.044     1.050117    29.37633
               lnoill |   .8800006    .026027    -4.32   0.000      .830439    .9325201
          postcoldwar |   4.821381   2.375851     3.19   0.001     1.835358     12.6655
          under5mortl |   .9953468    .002413    -1.92   0.054      .990628    1.000088
                _cons |   .0000163   .0000235    -7.63   0.000     9.55e-07    .0002766
----------------------+-------------------------------------------------------------------
             /lnsig2u |  -9.599654   9245.853                     -18131.14    18111.94
----------------------+-------------------------------------------------------------------
              sigma_u |   .0082312   38.05209                             0           .
                  rho |   .0000412   .3807902                             0           .
------------------------------------------------------------------------------------------
```

```
441 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny under5mortl time1 timesq time
    > cub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                 min =         10
    Integration points = 12                                      avg =       71.6
                                                                 max =        115
                                                    Average RVI       =     0.0027
                                                    Largest FMI       =     0.0132
    DF adjustment:   Large sample                   DF:     min       =  52,239.38
                                                            avg       =   3.97e+11
                                                            max       =   2.14e+12
    Model F test:       Equal FMI                   F(   4, 1.9e+06)  =       7.86
    Within VCE type:       Robust                   Prob > F          =     0.0000

                                 (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
    urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    -------------+----------------------------------------------------------------
     under5mortl |   .9979424   .0018979    -1.08   0.279     .9942295    1.001669
           time1 |   .9425166   .0753212    -0.74   0.459     .8058705    1.102333
          timesq |   1.001581   .0013334     1.19   0.235     .9989706    1.004197
         timecub |   .9999924   6.69e-06    -1.14   0.254     .9999793    1.000005
           _cons |   .0009376   .0017936    -3.64   0.000     .0000221    .0398404
    -------------+----------------------------------------------------------------
        /lnsig2u |  -1.514862   1.127029                     -3.723797    .6940734
    -------------+----------------------------------------------------------------
         sigma_u |   .4688694   .2642146                      .1553773    1.414869
             rho |   .1178903   .1172021                      .0144644    .5489361
    ------------------------------------------------------------------------------

442 . *       RESULTS:  under5mortl--negative and marginally signficiant at the .10 level, did not change significance
    >  or signs of other variables
443 . *                 no bivariate relationship
444 .
445 . * Percent urban--percurbanl
446 . * On 10 imputed datasets, testing Model 4 from Table 3.1
447 . clear

448 . use revspredictbycntryyr, clear

449 . drop if indstate==0
    (6,647 observations deleted)

450 . misstable sum percurbanl, gen(miss)
                                                                  Obs<.
                                                  +------------------------------
                 |                                | Unique
         Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
      -------------+--------------------------------+------------------------------
        percurbanl |       424              11,318  |   >500   1.533333      99.061
      ------------------------------------------------------------------------------

451 . mi set wide

452 . mi register regular lnpopl postcoldwar cowcode year urbancivicny
```

```
453 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill percurbanl

454 . mi xtset cowcode year
        panel variable:  cowcode (unbalanced)
         time variable:  year, 1900 to 2014, but with gaps
                 delta:  1 unit

455 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill percurbanl = lnpopl pos
    > tcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl percurbanl gdppcthl lnpopl postcoldwar ,
                         knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl percurbanl gdppcthl lnpopl postcoldwar ,
                         knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl percurbanl gdppcthl lnpopl postcoldwar ,
                         knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill percurbanl gdppcthl lnpopl postcoldwar ,
                         knn(10)
            percurbanl: pmm percurbanl yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar ,
                         knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl percurbanl lnpopl postcoldwar ,
                         knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

               polityl: predictive mean matching
              gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
            percurbanl: predictive mean matching

    ------------------------------------------------------------------
                      |               Observations per m               
                      |-----------------------------------------------
             Variable |   Complete   Incomplete   Imputed |     Total
    ------------------+-----------------------------------+-----------
               polityl |      11328          414       414 |     11742
              gdppcthl |      11042          700       700 |     11742
        yrsincleader~r |      11661           81        81 |     11742
           v2x_execorr |      11580          162       162 |     11742
                lnoill |      11560          182       182 |     11742
            percurbanl |      11318          424       424 |     11742
    ------------------------------------------------------------------
    (complete + incomplete = total; imputed is the minimum across m
     of the number of filled-in observations.)

456 . qui mi xeq 1: twoway (kdensity percurbanl  if misspercurbanl==0) || (kdensity percurbanl if misspercurbanl==1) |
    > | (kdensity percurbanl), legend(label(1 "Observed") label(2 "Imputed") label(3 "Completed"))

457 . graph export Robustnesstestfiles\Logfiles\mod4impobspercurbanl.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobspercurbanl.pdf written in PDF format)

458 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar percurbanl, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0040
                                                    Largest FMI       =     0.0256
    DF adjustment:   Large sample                   DF:     min       =  13,843.21
                                                            avg       =   2.75e+20
                                                            max       =   3.30e+21
    Model F test:       Equal FMI                   F(  10, 4.0e+06)  =      10.65
    Within VCE type:        Robust                  Prob > F          =     0.0000
```

```
                                        (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
         urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------------+-------------------------------------------------------------------
               lnpopl |   1.528524   .1424377     4.55   0.000     1.273362    1.834817
             gdppcthl |    1.84581   .2775717     4.08   0.000     1.374623    2.478507
                      |
c.gdppcthl#c.gdppcthl |   .9665431   .0096338    -3.41   0.001     .9478445    .9856106
                      |
              polityl |   .9263343   .0301467    -2.35   0.019     .8690929    .9873459
                      |
  c.polityl#c.polityl |   .9846686   .0054772    -2.78   0.005     .9739908    .9954634
                      |
  yrsincleaderinpower |   1.034863   .0123127     2.88   0.004     1.011009    1.059279
          v2x_execorr |   5.387003   4.607703     1.97   0.049     1.007588    28.80125
               lnoill |   .8761542   .0254238    -4.56   0.000      .827715    .9274283
          postcoldwar |   7.410517   3.248223     4.57   0.000     3.138663    17.49655
           percurbanl |   1.000335    .010026     0.03   0.973     .9808764     1.02018
                _cons |   4.44e-06   6.09e-06    -8.97   0.000     3.00e-07    .0000655
----------------------+-------------------------------------------------------------------
             /lnsig2u |  -10.06206   8982.548                     -17615.53    17595.41
----------------------+-------------------------------------------------------------------
              sigma_u |   .0065321   29.33731                             0           .
                  rho |   .0000259   .2329861                             0           .
------------------------------------------------------------------------------------------
```

```
459 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny percurbanl time1 timesq timec
    > ub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0000
                                                    Largest FMI       =     0.0000
    DF adjustment:   Large sample                   DF:     min       =   5.34e+11
                                                            avg       =   1.52e+14
                                                            max       =   9.04e+14
    Model F test:       Equal FMI                   F(   4, 1.3e+13)  =       6.48
    Within VCE type:       Robust                   Prob > F          =     0.0000

                                 (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
    urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    -------------+----------------------------------------------------------------
      percurbanl |   .9942739   .0060803    -0.94   0.348     .9824278    1.006263
           time1 |   .9468013   .0751918    -0.69   0.491     .8103249    1.106263
          timesq |   1.001644   .0013364     1.23   0.218     .9990285    1.004267
         timecub |    .999992   6.70e-06    -1.19   0.233     .9999789    1.000005
           _cons |   .0005471   .0009319    -4.41   0.000     .0000194     .015418
    -------------+----------------------------------------------------------------
        /lnsig2u |  -1.790042   1.485225                     -4.701031    1.120946
    -------------+----------------------------------------------------------------
         sigma_u |   .4085989   .3034307                        .09532    1.751501
             rho |   .0921432   .1242433                      .0054932    .6509563
    ------------------------------------------------------------------------------

460 . *       RESULTS:  percurbanl--positive and statistically insignificant, did not change significance or signs of
    > other variables
461 . *                 no bivariate relationship
462 .
463 . * Average years of schooling--totalyrsschooll
464 . * On 10 imputed datasets, testing Model 4 from Table 3.1
465 . clear

466 . use revspredictbycntryyr, clear

467 . drop if indstate==0
    (6,647 observations deleted)

468 . misstable sum totalyrsschooll, gen(miss)
                                                                  Obs<.
                                                  +------------------------------
                 |                                | Unique
         Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
      -------------+--------------------------------+------------------------------
      totalyrss~ll |     4,610               7,132  |   >500          0    13.42363
      ------------------------------------------------------------------------------

469 . mi set wide

470 . mi register regular lnpopl postcoldwar cowcode year urbancivicny
```

```
471 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill totalyrsschooll

472 . mi xtset cowcode year
           panel variable:  cowcode (unbalanced)
            time variable:  year, 1900 to 2014, but with gaps
                    delta:  1 unit

473 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill totalyrsschooll = lnpop
    > l postcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl totalyrsschooll lnpopl
                         postcoldwar , knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl totalyrsschooll lnpopl
                         postcoldwar , knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl totalyrsschooll lnpopl
                         postcoldwar , knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl totalyrsschooll lnpopl
                         postcoldwar , knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl totalyrsschooll lnpopl
                         postcoldwar , knn(10)
        totalyrssch~ll: pmm totalyrsschooll yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl
                         postcoldwar , knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

               polityl: predictive mean matching
              gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
        totalyrssch~ll: predictive mean matching

    ------------------------------------------------------------------
                       |               Observations per m
                       |-----------------------------------------------
              Variable |   Complete   Incomplete   Imputed |     Total
    -------------------+-----------------------------------+-----------
               polityl |      11328          414       414 |     11742
              gdppcthl |      11042          700       700 |     11742
        yrsincleader~r |      11661           81        81 |     11742
           v2x_execorr |      11580          162       162 |     11742
                lnoill |      11560          182       182 |     11742
        totalyrssch~ll |       7132         4610      4610 |     11742
    ------------------------------------------------------------------
    (complete + incomplete = total; imputed is the minimum across m
     of the number of filled-in observations.)

474 . qui mi xeq 1: twoway (kdensity totalyrsschooll if misstotalyrsschooll==0) || (kdensity totalyrsschooll if missto
    > talyrsschooll==1) || (kdensity totalyrsschooll), legend(label(1 "Observed") label(2 "Imputed") label(3 "Complete
    > d"))

475 . graph export Robustnesstestfiles\Logfiles\mod4impobstotalyrsschooll.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobstotalyrsschooll.pdf written in PDF format)

476 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar totalyrsschooll, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0446
                                                    Largest FMI       =     0.3122
    DF adjustment:   Large sample                   DF:     min       =     100.84
                                                            avg       =   1.78e+15
                                                            max       =   2.14e+16
    Model F test:       Equal FMI                   F(  10,34181.7)   =      10.01
    Within VCE type:        Robust                  Prob > F          =     0.0000
```

```
                                        (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
         urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------------+-------------------------------------------------------------------
               lnpopl |   1.528589   .1384029     4.69   0.000     1.280031    1.825412
             gdppcthl |   1.807232   .2599954     4.11   0.000     1.362953    2.396331
                      |
c.gdppcthl#c.gdppcthl |   .9674209   .0090008    -3.56   0.000      .949938    .9852255
                      |
              polityl |   .9231045   .0320233    -2.31   0.021     .8624201    .9880589
                      |
  c.polityl#c.polityl |   .9850328   .0055392    -2.68   0.007     .9742349    .9959505
                      |
  yrsincleaderinpower |   1.034225   .0123173     2.83   0.005     1.010362     1.05865
          v2x_execorr |   5.365301   4.464485     2.02   0.043     1.050283    27.40829
               lnoill |   .8768288    .026024    -4.43   0.000     .8272779    .9293475
          postcoldwar |   7.288228   3.251317     4.45   0.000     3.039741     17.4746
      totalyrsschooll |   1.023622   .0835888     0.29   0.776     .8705354    1.203629
                _cons |   4.21e-06   5.43e-06    -9.59   0.000     3.35e-07    .0000528
----------------------+-------------------------------------------------------------------
             /lnsig2u |  -9.642299   11198.99                     -21959.27    21939.98
----------------------+-------------------------------------------------------------------
              sigma_u |   .0080575   45.11805                             0           .
                  rho |   .0000395   .4419762                             0           .
------------------------------------------------------------------------------------------
```

```
477 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny totalyrsschooll time1 timesq
    > timecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0475
                                                    Largest FMI       =     0.2228
    DF adjustment:   Large sample                   DF:     min       =     194.93
                                                            avg       = 4260241.93
                                                            max       =   1.50e+07
    Model F test:       Equal FMI                   F(   4, 6781.5)   =       5.88
    Within VCE type:       Robust                   Prob > F          =     0.0001

                                  (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------
       urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    ----------------+-------------------------------------------------------------------
    totalyrsschooll |   .9490958   .0468913    -1.06   0.292     .8609791    1.046231
              time1 |   .9401164   .0742814    -0.78   0.434     .8052405    1.097584
             timesq |   1.001737   .0013403     1.30   0.195     .9991134    1.004367
            timecub |   .9999917   6.72e-06    -1.23   0.218     .9999786    1.000005
              _cons |   .0006015   .0010006    -4.46   0.000     .0000231    .0156713
    ----------------+-------------------------------------------------------------------
           /lnsig2u |  -1.875437   1.656471                     -5.122062    1.371187
    ----------------+-------------------------------------------------------------------
            sigma_u |     .39152   .3242708                      .0772251     1.98495
                rho |   .0852441   .1291676                      .0036124    .7054708
    ------------------------------------------------------------------------------------

478 . *       RESULTS:  totalyrsschooll--positive and statistically insignificant, did not change significance or sign
    > s of other variables
479 . *                 bivariate relationship is negative and insignificant
480 .
481 . * Military personnel per thousand pop--milperthousl
482 . * On 10 imputed datasets, testing Model 4 from Table 3.1
483 . clear

484 . use revspredictbycntryyr, clear

485 . drop if indstate==0
    (6,647 observations deleted)

486 . misstable sum milperthousl, gen(miss)
                                                                  Obs<.
                                                  +------------------------------
                 |                                | Unique
         Variable |     Obs=.     Obs>.     Obs<. | values        Min         Max
      -------------+--------------------------------+------------------------------
      milperthousl |       704              11,038 |   >500          0    556.7766
      ------------------------------------------------------------------------------

487 . mi set wide

488 . mi register regular lnpopl postcoldwar cowcode year urbancivicny
```

```
489 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill milperthousl

490 . mi xtset cowcode year
           panel variable:  cowcode (unbalanced)
            time variable:  year, 1900 to 2014, but with gaps
                    delta:  1 unit

491 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill milperthousl = lnpopl p
    > ostcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl milperthousl lnpopl postcoldwar
                         , knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl milperthousl lnpopl postcoldwar
                         , knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl milperthousl lnpopl postcoldwar
                         , knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl milperthousl lnpopl postcoldwar
                         , knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl milperthousl lnpopl postcoldwar
                         , knn(10)
            milperthousl: pmm milperthousl yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar
                         , knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

               polityl: predictive mean matching
              gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
          milperthousl: predictive mean matching

    ------------------------------------------------------------------
                      |               Observations per m               
                      |-----------------------------------------------
             Variable |   Complete   Incomplete   Imputed |     Total
    ------------------+-----------------------------------+-----------
               polityl |      11328          414       414 |     11742
              gdppcthl |      11042          700       700 |     11742
        yrsincleader~r |      11661           81        81 |     11742
           v2x_execorr |      11580          162       162 |     11742
                lnoill |      11560          182       182 |     11742
          milperthousl |      11038          704       704 |     11742
    ------------------------------------------------------------------
    (complete + incomplete = total; imputed is the minimum across m
     of the number of filled-in observations.)

492 . qui mi xeq 1: twoway (kdensity milperthousl if missmilperthousl==0) || (kdensity milperthousl if missmilperthous
    > l==1) || (kdensity milperthousl), legend(label(1 "Observed") label(2 "Imputed") label(3 "Completed"))

493 . graph export Robustnesstestfiles\Logfiles\mod4impobsmilperthousl.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobsmilperthousl.pdf written in PDF format)

494 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar milperthousl, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0082
                                                    Largest FMI       =     0.0406
    DF adjustment:   Large sample                   DF:     min       =   5,550.36
                                                            avg       =   9.29e+18
                                                            max       =   1.12e+20
    Model F test:       Equal FMI                   F(  10,893903.7)  =      10.87
    Within VCE type:        Robust                  Prob > F          =     0.0000
```

```
                                    (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------------
         urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------------+-------------------------------------------------------------------
               lnpopl |   1.522706   .1356224     4.72   0.000       1.2788    1.813134
            gdppcthl |   1.956082   .2619204     5.01   0.000     1.504562    2.543102
                     |
c.gdppcthl#c.gdppcthl |   .9632304   .0093366    -3.86   0.000     .9451036    .9817048
                     |
              polityl |   .9209285   .0304117    -2.49   0.013     .8632045    .9825125
                     |
  c.polityl#c.polityl |   .9860477   .0055104    -2.51   0.012      .975304    .9969097
                     |
  yrsincleaderinpower |   1.039704   .0125912     3.22   0.001     1.015316    1.064678
         v2x_execorr |   5.172321   4.436777     1.92   0.055     .9627889    27.78689
               lnoill |   .8685976   .0264038    -4.63   0.000     .8183584    .9219209
          postcoldwar |   7.629613   3.238958     4.79   0.000     3.320064    17.53309
        milperthousl |   .9756177   .0161007    -1.50   0.135     .9445653    1.007691
               _cons |   4.58e-06   5.76e-06    -9.77   0.000     3.89e-07     .000054
----------------------+-------------------------------------------------------------------
           /lnsig2u |  -11.28964   43308.19                     -84893.78     84871.2
----------------------+-------------------------------------------------------------------
            sigma_u |   .0035358   76.56425                             0           .
                rho |   7.60e-06   .3291448                             0           .
------------------------------------------------------------------------------------------
```

```
495 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny milperthousl time1 timesq tim
    > ecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0013
                                                    Largest FMI       =     0.0073
    DF adjustment:   Large sample                   DF:     min       = 169,737.59
                                                            avg       =   4.96e+10
                                                            max       =   1.26e+11
    Model F test:       Equal FMI                   F(   4, 7.8e+06)  =       6.17
    Within VCE type:        Robust                  Prob > F          =     0.0001

                                  (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
    urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    -------------+----------------------------------------------------------------
    milperthousl |   1.006053   .0071629     0.85   0.397     .9921112     1.02019
           time1 |   .9481406   .0766298    -0.66   0.510     .8092406    1.110882
          timesq |     1.0016   .0013385     1.20   0.232       .99898    1.004227
         timecub |   .9999922   6.69e-06    -1.17   0.243     .9999791    1.000005
           _cons |   .0004323   .0007586    -4.41   0.000     .0000139    .0134778
    -------------+----------------------------------------------------------------
        /lnsig2u |  -1.662011   1.304071                     -4.217943    .8939202
    -------------+----------------------------------------------------------------
         sigma_u |    .435611   .2840338                      .1213627    1.563552
             rho |   .1034272   .1209265                      .0088746    .5977791
    ------------------------------------------------------------------------------

496 . *       RESULTS:  milperthousl--negative and statistically insignificant, did not change significance or signs o
    > f other variables
497 . *                 no bivariate relationship
498 .
499 . * Population density--lnpopdensityl
500 . * Does not need multiple imputation, testing Model 4 from Table 3.1
501 . clear

502 . use revspredictbycntryyr, clear

503 . drop if indstate==0
    (6,647 observations deleted)

504 . mi set wide

505 . mi register regular lnpopl postcoldwar cowcode year urbancivicny lnpopdensityl

506 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill

507 . mi xtset cowcode year
           panel variable:  cowcode (unbalanced)
            time variable:  year, 1900 to 2014, but with gaps
                    delta:  1 unit

508 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill = lnpopl postcoldwar ln
    > popdensityl, add(10) rseed(1234) force dots chaindots
```

```
Conditional models:
    yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar lnpopdensityl
                    , knn(10)
       v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl lnpopl postcoldwar lnpopdensityl
                    , knn(10)
            lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl lnpopl postcoldwar lnpopdensityl
                    , knn(10)
          polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl lnpopl postcoldwar lnpopdensityl
                    , knn(10)
         gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl lnpopl postcoldwar lnpopdensityl
                    , knn(10)

Performing chained iterations:
  imputing m=1: burn-in 10 .......... done
  imputing m=2: burn-in 10 .......... done
  imputing m=3: burn-in 10 .......... done
  imputing m=4: burn-in 10 .......... done
  imputing m=5: burn-in 10 .......... done
  imputing m=6: burn-in 10 .......... done
  imputing m=7: burn-in 10 .......... done
  imputing m=8: burn-in 10 .......... done
  imputing m=9: burn-in 10 .......... done
  imputing m=10: burn-in 10 .......... done

Multivariate imputation                     Imputations =       10
Chained equations                                 added =       10
Imputed: m=1 through m=10                       updated =        0

Initialization: monotone                     Iterations =      100
                                                burn-in =       10

          polityl: predictive mean matching
         gdppcthl: predictive mean matching
    yrsincleader~r: predictive mean matching
       v2x_execorr: predictive mean matching
            lnoill: predictive mean matching

------------------------------------------------------------------
                  |              Observations per m
                  |-----------------------------------------------
         Variable |   Complete   Incomplete   Imputed |     Total
------------------+-----------------------------------+-----------
          polityl |      11328          414       414 |     11742
         gdppcthl |      11042          700       700 |     11742
    yrsincleader~r |      11661           81        81 |     11742
       v2x execorr |      11580          162       162 |     11742
            lnoill |      11560          182       182 |     11742
------------------------------------------------------------------
(complete + incomplete = total; imputed is the minimum across m
 of the number of filled-in observations.)

509 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar lnpopdensityl, vce(robust)

Imputations (10):
  .........10 done

Multiple-imputation estimates                   Imputations       =         10
Random-effects complementary log-log model      Number of obs     =     11,742

Group variable: cowcode                         Number of groups  =        164
Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         10
Integration points = 12                                       avg =       71.6
                                                              max =        115
                                                Average RVI       =     0.0047
                                                Largest FMI       =     0.0235
DF adjustment:   Large sample                   DF:     min       =  16,453.44
                                                        avg       =   1.88e+19
                                                        max       =   2.25e+20
Model F test:       Equal FMI                   F(  10, 3.3e+06)  =      10.37
Within VCE type:       Robust                   Prob > F          =     0.0000

                                    (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------
         urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------------+-------------------------------------------------------------
               lnpopl |   1.453554   .1254201     4.33   0.000     1.227397    1.721381
             gdppcthl |   1.760876    .209448     4.76   0.000     1.394705    2.223183
                      |
c.gdppcthl#c.gdppcthl |   .9692257   .0079187    -3.83   0.000      .953829     .984871
                      |
              polityl |   .9262116   .0300278    -2.36   0.018     .8691889    .9869752
                      |
  c.polityl#c.polityl |   .9848458   .0057215    -2.63   0.009     .9736946    .9961247
                      |
  yrsincleaderinpower |   1.034893     .01238     2.87   0.004     1.010911    1.059444
         v2x execorr |   5.311932   4.487061     1.98   0.048     1.014451    27.81468
              lnoill |    .894321   .0290834    -3.43   0.001     .8390972    .9531793
          postcoldwar |   6.888919   3.055825     4.35   0.000     2.887822    16.43357
        lnpopdensityl |   1.218547   .1650106     1.46   0.144     .9344934    1.588944
                _cons |   3.60e-06   4.77e-06    -9.46   0.000     2.68e-07    .0000483
----------------------+-------------------------------------------------------------
             /lnsig2u |  -11.35765   46463.12                     -91077.41    91054.69
----------------------+-------------------------------------------------------------
              sigma_u |   .0034176    79.3955                              0           .
                  rho |   7.10e-06   .3299048                              0           .
------------------------------------------------------------------------------------
```

```
510 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopdensityl time1 timesq ti
    > mecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0000
                                                    Largest FMI       =     0.0000
    DF adjustment:   Large sample                   DF:     min       =   1.13e+63
                                                            avg       =   3.81e+64
                                                            max       =          .
    Model F test:       Equal FMI                   F(   4, 1.9e+60)  =       8.34
    Within VCE type:       Robust                   Prob > F          =     0.0000

                                 (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------
     urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    --------------+---------------------------------------------------------------
    lnpopdensityl |   1.257399   .1290367     2.23   0.026     1.028303    1.537535
            time1 |   .9468991    .075459    -0.68   0.494     .8099736    1.106972
           timesq |   1.001579   .0013267     1.19   0.234     .9989821    1.004183
          timecub |   .9999922   6.65e-06    -1.17   0.244     .9999792    1.000005
            _cons |   .0002425   .0004099    -4.92   0.000     8.83e-06     .006661
    --------------+---------------------------------------------------------------
         /lnsig2u |  -1.954086   1.689017                     -5.264498    1.356326
    --------------+---------------------------------------------------------------
          sigma_u |   .3764225    .317892                      .0719165    1.970255
              rho |    .079308    .123329                      .0031343    .7023734
    ------------------------------------------------------------------------------

511 . *       RESULTS:  lnpopdensityl--positive but statistically insignificant; did not change significance or signs
    > of other variables
512 . *                 bivariate relationship significant at the .05 level, controlling for time
513 .
514 . * Youth bulge--youthpercl
515 . * On 10 imputed datasets, testing Model 4 from Table 3.1
516 . clear

517 . use revspredictbycntryyr, clear

518 . drop if indstate==0
    (6,647 observations deleted)

519 . misstable sum youthpercl, gen(miss)
                                                                  Obs<.
                                                  +------------------------------
                 |                                | Unique
        Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
    -------------+--------------------------------+------------------------------
      youthpercl |     3,215               8,527  |   >500   11.22343    42.06414
    ------------------------------------------------------------------------------

520 . mi set wide

521 . mi register regular lnpopl postcoldwar cowcode year urbancivicny

522 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill youthpercl

523 . mi xtset cowcode year
          panel variable:  cowcode (unbalanced)
           time variable:  year, 1900 to 2014, but with gaps
                   delta:  1 unit

524 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill youthpercl = lnpopl pos
    > tcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl youthpercl lnpopl postcoldwar ,
                         knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl youthpercl lnpopl postcoldwar ,
                         knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl youthpercl lnpopl postcoldwar ,
                         knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl youthpercl lnpopl postcoldwar ,
                         knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl youthpercl lnpopl postcoldwar ,
                         knn(10)
            youthpercl: pmm youthpercl yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar ,
                         knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done
```

```
Multivariate imputation                     Imputations =       10
Chained equations                                 added =       10
Imputed: m=1 through m=10                       updated =        0

Initialization: monotone                     Iterations =      100
                                                burn-in =       10

           polityl: predictive mean matching
          gdppcthl: predictive mean matching
    yrsincleader~r: predictive mean matching
       v2x_execorr: predictive mean matching
             lnoill: predictive mean matching
        youthpercl: predictive mean matching

------------------------------------------------------------------
                  |               Observations per m
                  |-----------------------------------------------
         Variable |   Complete   Incomplete   Imputed |     Total
------------------+-----------------------------------+-----------
           polityl |      11328          414       414 |     11742
          gdppcthl |      11042          700       700 |     11742
    yrsincleader~r |      11661           81        81 |     11742
       v2x_execorr |      11580          162       162 |     11742
             lnoill |      11560          182       182 |     11742
        youthpercl |       8527         3215      3215 |     11742
------------------------------------------------------------------
(complete + incomplete = total; imputed is the minimum across m
 of the number of filled-in observations.)
```

```
525 . qui mi xeq 1: twoway (kdensity youthpercl if missyouthpercl==0) || (kdensity youthpercl if missyouthpercl==1) ||
    >  (kdensity youthpercl), legend(label(1 "Observed") label(2 "Imputed") label(3 "Completed"))

526 . graph export Robustnesstestfiles\Logfiles\mod4impobsyouthpercl.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobsyouthpercl.pdf written in PDF format)

527 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar youthpercl, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0065
                                                    Largest FMI       =     0.0396
    DF adjustment:   Large sample                   DF:     min       =   5,844.79
                                                            avg       =   3.93e+18
                                                            max       =   4.71e+19
    Model F test:       Equal FMI                   F(  10, 1.5e+06)  =      10.76
    Within VCE type:        Robust                  Prob > F          =     0.0000

                                        (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------------
             urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    ----------------------+-------------------------------------------------------------------
                   lnpopl |   1.500602   .1346995     4.52   0.000     1.258516    1.789256
                gdppcthl |   1.697755   .2387274     3.76   0.000     1.288792    2.236492
                         |
    c.gdppcthl#c.gdppcthl |   .9696882   .0086678    -3.44   0.001     .9528474    .9868266
                         |
                  polityl |   .9239387    .030061    -2.43   0.015     .8668594    .9847764
                         |
      c.polityl#c.polityl |   .9841892   .0055999    -2.80   0.005      .973274    .9952269
                         |
      yrsincleaderinpower |   1.036077   .0123733     2.97   0.003     1.012108    1.060615
               v2x_execorr |   5.692451   4.857776     2.04   0.042     1.068828     30.3173
                    lnoill |    .881152   .0256893    -4.34   0.000     .8322135    .9329685
                postcoldwar |   7.743649   3.392597     4.67   0.000     3.281124    18.27547
                 youthpercl |   .9651235   .0269487    -1.27   0.204      .913714    1.019425
                      _cons |   .0000179   .0000287    -6.81   0.000     7.68e-07    .0004168
    ----------------------+-------------------------------------------------------------------
                  /lnsig2u |   -10.3085   13658.39                     -26780.26    26759.64
    ----------------------+-------------------------------------------------------------------
                   sigma u |   .0057748   39.43725                             0           .
                       rho |   .0000203   .2768903                             0           .
    ------------------------------------------------------------------------------------------

528 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny youthpercl time1 timesq timec
    > ub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742
```

```
Group variable: cowcode                         Number of groups  =        164
Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         10
Integration points = 12                                       avg =       71.6
                                                              max =        115
                                                Average RVI       =     0.0041
                                                Largest FMI       =     0.0239
DF adjustment:   Large sample                   DF:     min       =  15,973.55
                                                        avg       =   4.98e+08
                                                        max       =   1.19e+09
Model F test:       Equal FMI                   F(   4,771069.2)  =       6.30
Within VCE type:       Robust                   Prob > F          =     0.0000

                             (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------
urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
  youthpercl |   1.012206   .0177347     0.69   0.489     .9780343    1.047572
       time1 |   .9506661   .0762536    -0.63   0.528     .8123674    1.112509
      timesq |   1.001541   .0013344     1.16   0.248     .9989287    1.004159
     timecub |   .9999925   6.68e-06    -1.12   0.264     .9999795    1.000006
       _cons |   .0003099   .0005601    -4.47   0.000     8.97e-06     .010706
-------------+----------------------------------------------------------------
    /lnsig2u |  -1.669258   1.314674                     -4.245972    .9074556
-------------+----------------------------------------------------------------
     sigma_u |   .4340354   .2853076                      .1196737    1.574169
         rho |   .1027571   .1212104                      .0086315    .6010292
------------------------------------------------------------------------------

529 . *       RESULTS:  youthpercl--negative and statistically insignificant, did not change significance or signs of
    > other variables
530 . *                 positive and insignificant in the bivariate relationship
531 .
532 . * Nominal trade as percent of nominal GDP--tottradepernomgdpl
533 . * On 10 imputed datasets, testing Model 4 from Table 3.1
534 . clear

535 . use revspredictbycntryyr, clear

536 . drop if indstate==0
    (6,647 observations deleted)

537 . misstable sum tottradepernomgdpl, gen(miss)
                                                                Obs<.
                                                  +------------------------------
                |                                 | Unique
      Variable |     Obs=.     Obs>.     Obs<.   | values        Min         Max
  -------------+--------------------------------+------------------------------
  tottradepe~l |     2,432               9,310   |   >500   .0012177    51.00711
  ------------------------------------------------------------------------------

538 . mi set wide

539 . mi register regular lnpopl postcoldwar cowcode year urbancivicny

540 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill tottradepernomgdpl

541 . mi xtset cowcode year
        panel variable:  cowcode (unbalanced)
         time variable:  year, 1900 to 2014, but with gaps
                 delta:  1 unit

542 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill tottradepernomgdpl = ln
    > popl postcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl tottradepernomgdpl lnpopl
                        postcoldwar , knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl tottradepernomgdpl lnpopl
                        postcoldwar , knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl tottradepernomgdpl lnpopl
                        postcoldwar , knn(10)
              polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl tottradepernomgdpl lnpopl
                        postcoldwar , knn(10)
             gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl tottradepernomgdpl lnpopl
                        postcoldwar , knn(10)
        tottradepern~l: pmm tottradepernomgdpl yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl
                        postcoldwar , knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10
```

```
           polityl: predictive mean matching
          gdppcthl: predictive mean matching
    yrsincleader~r: predictive mean matching
       v2x_execorr: predictive mean matching
             lnoill: predictive mean matching
    tottradepern~l: predictive mean matching

------------------------------------------------------------------
                    |               Observations per m
                    |----------------------------------------------
          Variable |   Complete   Incomplete   Imputed |     Total
-------------------+-----------------------------------+----------
           polityl |      11328          414       414 |     11742
          gdppcthl |      11042          700       700 |     11742
    yrsincleader~r |      11661           81        81 |     11742
       v2x_execorr |      11580          162       162 |     11742
             lnoill |      11560          182       182 |     11742
    tottradepern~l |       9310         2432      2432 |     11742
------------------------------------------------------------------
(complete + incomplete = total; imputed is the minimum across m
 of the number of filled-in observations.)

543 . qui mi xeq 1: twoway (kdensity tottradepernomgdpl if misstottradepernomgdpl==0) || (kdensity tottradepernomgdpl
    > if misstottradepernomgdpl==1) || (kdensity tottradepernomgdpl), legend(label(1 "Observed") label(2 "Imputed") la
    > bel(3 "Completed"))

544 . graph export Robustnesstestfiles\Logfiles\mod4impobstottradepernomgdpl.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobstottradepernomgdpl.pdf written in PDF format)

545 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar tottradepernomgdpl, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0075
                                                    Largest FMI       =     0.0577
    DF adjustment:   Large sample                   DF:     min       =   2,766.32
                                                            avg       =   1.69e+20
                                                            max       =   2.02e+21
    Model F test:       Equal FMI                   F(  10, 1.1e+06)  =      10.48
    Within VCE type:        Robust                  Prob > F          =     0.0000

                                        (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------------
             urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    ----------------------+-------------------------------------------------------------------
                   lnpopl |   1.524318   .1345996     4.77   0.000     1.282075    1.812333
                gdppcthl |   1.840327   .2380338     4.72   0.000     1.428229    2.371331
                         |
    c.gdppcthl#c.gdppcthl |   .9667681   .0088964    -3.67   0.000     .9494879    .9843629
                         |
                  polityl |   .9264629   .0301625    -2.35   0.019     .8691921    .9875071
                         |
      c.polityl#c.polityl |   .9846532   .0054036    -2.82   0.005     .9741188    .9953015
                         |
      yrsincleaderinpower |   1.034901   .0121961     2.91   0.004     1.011271    1.059083
             v2x_execorr |   5.292873   4.426763     1.99   0.046     1.027491    27.26497
                   lnoill |   .8769088   .0257135    -4.48   0.000     .8279321    .9287828
              postcoldwar |   7.668494   3.297872     4.74   0.000      3.30101    17.81449
       tottradepernomgdpl |   .9687066   .1183437    -0.26   0.795     .7623567     1.23091
                    _cons |   4.64e-06   5.84e-06    -9.77   0.000     3.95e-07    .0000545
    ----------------------+-------------------------------------------------------------------
                /lnsig2u |  -10.01325   8359.556                     -16394.44    16374.41
    ----------------------+-------------------------------------------------------------------
                 sigma_u |   .0066934   27.97711                             0           .
                     rho |   .0000272   .2276723                             0           .
    ------------------------------------------------------------------------------------------

546 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny tottradepernomgdpl time1 time
    > sq timecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0160
                                                    Largest FMI       =     0.0861
    DF adjustment:   Large sample                   DF:     min       =   1,257.46
                                                            avg       =   1.09e+08
                                                            max       =   3.76e+08
    Model F test:       Equal FMI                   F(   4,54715.5)   =       6.08
    Within VCE type:        Robust                  Prob > F          =     0.0001
```

```
                                   (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------------
      urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------------+----------------------------------------------------------------
tottradepernomgdpl |   .8510584   .2763748    -0.50   0.620     .4500614    1.609337
             time1 |   .9450542   .0751685    -0.71   0.477     .8086361    1.104486
            timesq |   1.001649   .0013306     1.24   0.215     .9990446    1.004261
           timecub |    .999992   6.66e-06    -1.20   0.230     .9999789    1.000005
             _cons |   .0005232   .0008888    -4.45   0.000     .0000187    .0146155
-------------------+----------------------------------------------------------------
          /lnsig2u |  -1.750014   1.384248                      -4.46309    .9630621
-------------------+----------------------------------------------------------------
           sigma u |   .4168591   .2885182                      .1073624    1.618551
               rho |   .0955468   .1196234                      .0069586    .6142854
------------------------------------------------------------------------------------

547 . *       RESULTS:  tottradepernomgdpl--negative and statistically insignificant, did not change significance or s
    > igns of other variables
548 . *                 no bivariate relationship
549 .
550 . * Dollar exchange rate--lndollexchratel
551 . * On 10 imputed datasets, testing Model 4 from Table 3.1
552 . clear

553 . use revspredictbycntryyr, clear

554 . drop if indstate==0
    (6,647 observations deleted)

555 . misstable sum lndollexchratel, gen(miss)
                                                                 Obs<.
                                                  +------------------------------
                |                                 | Unique
      Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
  -------------+--------------------------------+------------------------------
  lndollexch~l |     2,916               8,826  |   >500          0    28.91816
  ------------------------------------------------------------------------------

556 . mi set wide

557 . mi register regular lnpopl postcoldwar cowcode year urbancivicny

558 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill lndollexchratel

559 . mi xtset cowcode year
        panel variable:  cowcode (unbalanced)
         time variable:  year, 1900 to 2014, but with gaps
                 delta:  1 unit

560 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill lndollexchratel = lnpop
    > l postcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lndollexchratel lnpopl
                        postcoldwar , knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl lndollexchratel lnpopl
                        postcoldwar , knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl lndollexchratel lnpopl
                        postcoldwar , knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl lndollexchratel lnpopl
                        postcoldwar , knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl lndollexchratel lnpopl
                        postcoldwar , knn(10)
        lndollexchra~l: pmm lndollexchratel yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl
                        postcoldwar , knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

               polityl: predictive mean matching
              gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
        lndollexchra~l: predictive mean matching
```

```
------------------------------------------------------------------
                  |               Observations per m
                  |-----------------------------------------------
         Variable |   Complete   Incomplete   Imputed |     Total
------------------+-----------------------------------+----------
          polityl |      11328          414       414 |     11742
         gdppcthl |      11042          700       700 |     11742
    yrsincleader~r |      11661           81        81 |     11742
       v2x_execorr |      11580          162       162 |     11742
            lnoill |      11560          182       182 |     11742
    lndollexchra~l |       8826         2916      2916 |     11742
------------------------------------------------------------------
(complete + incomplete = total; imputed is the minimum across m
 of the number of filled-in observations.)
```

```
561 . qui mi xeq 1: twoway (kdensity lndollexchratel if misslndollexchratel==0) || (kdensity lndollexchratel if missln
    > dollexchratel==1) || (kdensity lndollexchratel), legend(label(1 "Observed") label(2 "Imputed") label(3 "Complete
    > d"))

562 . graph export Robustnesstestfiles\Logfiles\mod4impobslndollexchratel.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobslndollexchratel.pdf written in PDF format)

563 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar lndollexchratel, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0223
                                                    Largest FMI       =     0.1686
    DF adjustment:   Large sample                   DF:     min       =     335.87
                                                            avg       =   2.33e+18
                                                            max       =   2.80e+19
    Model F test:       Equal FMI                   F(  10,125185.5)  =      10.25
    Within VCE type:       Robust                   Prob > F          =     0.0000

                                      (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------
             urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    ----------------------+-------------------------------------------------------------
                   lnpopl |   1.528321   .1383804     4.68   0.000     1.279803    1.825097
                 gdppcthl |   1.842463   .2407634     4.68   0.000     1.426159    2.380289
                          |
    c.gdppcthl#c.gdppcthl |   .9664899   .0091223    -3.61   0.000     .9487748    .9845357
                          |
                  polityl |   .9266907   .0300039    -2.35   0.019     .8697107    .9874039
                          |
      c.polityl#c.polityl |   .9855795    .005548    -2.58   0.010     .9747645    .9965146
                          |
      yrsincleaderinpower |     1.0349   .0122958     2.89   0.004     1.011079    1.059282
             v2x_execorr |   5.238821    4.47908     1.94   0.053     .9805583    27.98941
                  lnoill |   .8779404   .0274613    -4.16   0.000     .8257326    .9334492
              postcoldwar |   7.528239   3.303645     4.60   0.000     3.185336    17.79228
          lndollexchratel |   1.008887   .0650305     0.14   0.891     .8887463    1.145269
                    cons |   4.24e-06   5.41e-06    -9.68   0.000     3.46e-07    .0000518
    ----------------------+-------------------------------------------------------------
                /lnsig2u |  -10.15835   10086.39                     -19779.12     19758.8
    ----------------------+-------------------------------------------------------------
                 sigma_u |   .0062251   31.39417                           0           .
                     rho |   .0000236   .2376038                           0           .
    ------------------------------------------------------------------------------------

564 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lndollexchratel time1 timesq
    > timecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0263
                                                    Largest FMI       =     0.1383
    DF adjustment:   Large sample                   DF:     min       =     495.15
                                                            avg       =   4.24e+07
                                                            max       =   1.71e+08
    Model F test:       Equal FMI                   F(   4,19981.6)   =       6.55
    Within VCE type:       Robust                   Prob > F          =     0.0000
```

```
                                (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------
   urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
lndollexchratel |   1.068002   .0645819     1.09   0.277     .9483617    1.202736
          time1 |     .95282    .077671    -0.59   0.553     .8121261    1.117888
         timesq |   1.001523    .001342     1.14   0.256      .998896    1.004157
        timecub |   .9999924   6.69e-06    -1.13   0.258     .9999793    1.000006
          _cons |   .0003871   .0006824    -4.46   0.000     .0000122    .0122563
----------------+-------------------------------------------------------------
       /lnsig2u |  -2.025709   1.873117                     -5.696955    1.645537
----------------+-------------------------------------------------------------
        sigma u |   .3631807   .3401399                      .0579324    2.276794
            rho |   .0742333   .1287256                      .0020362    .7591155
------------------------------------------------------------------------------

565 . *       RESULTS:  lndollexchratel--positive and statistically insignificant, did not change significance or sign
    > s of other variables
566 . *                 no bivariate relationship
567 .
568 . * Age of incumbent leader--ageincleader
569 . * On 10 imputed datasets, testing Model 4 from Table 3.1
570 . clear

571 . use revspredictbycntryyr, clear

572 . drop if indstate==0
    (6,647 observations deleted)

573 . misstable sum ageincleader, gen(miss)
                                                                Obs<.
                                                  +------------------------------
                |                                 | Unique
       Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
    -------------+--------------------------------+------------------------------
    ageincleader |        91              11,651  |     82         11          92
    ------------------------------------------------------------------------------

574 . mi set wide

575 . mi register regular lnpopl postcoldwar cowcode year urbancivicny

576 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill ageincleader

577 . mi xtset cowcode year
         panel variable:  cowcode (unbalanced)
          time variable:  year, 1900 to 2014, but with gaps
                  delta:  1 unit

578 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill ageincleader = lnpopl p
    > ostcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower ageincleader v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar
                        , knn(10)
          ageincleader: pmm ageincleader yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl postcoldwar
                        , knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower ageincleader lnoill polityl gdppcthl lnpopl postcoldwar
                        , knn(10)
                lnoill: pmm lnoill yrsincleaderinpower ageincleader v2x_execorr polityl gdppcthl lnpopl postcoldwar
                        , knn(10)
               polityl: pmm polityl yrsincleaderinpower ageincleader v2x_execorr lnoill gdppcthl lnpopl postcoldwar
                        , knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower ageincleader v2x_execorr lnoill polityl lnpopl postcoldwar
                        , knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

               polityl: predictive mean matching
              gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
          ageincleader: predictive mean matching
```

```
------------------------------------------------------------------
                  |               Observations per m
                  |-----------------------------------------------
         Variable |   Complete   Incomplete   Imputed |     Total
------------------+-----------------------------------+----------
           polityl |      11328          414       414 |     11742
          gdppcthl |      11042          700       700 |     11742
    yrsincleader~r |      11661           81        81 |     11742
       v2x_execorr |      11580          162       162 |     11742
             lnoill |      11560          182       182 |     11742
      ageincleader |      11651           91        91 |     11742
------------------------------------------------------------------
(complete + incomplete = total; imputed is the minimum across m
 of the number of filled-in observations.)
```

```
579 . qui mi xeq 1: twoway (kdensity ageincleader if missageincleader==0) || (kdensity ageincleader if missageincleade
    > r==1) || (kdensity ageincleader), legend(label(1 "Observed") label(2 "Imputed") label(3 "Completed"))

580 . graph export Robustnesstestfiles\Logfiles\mod4impobsageincleader.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobsageincleader.pdf written in PDF format)

581 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar ageincleader, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0028
                                                    Largest FMI       =     0.0179
    DF adjustment:   Large sample                   DF:     min       =  28,165.75
                                                            avg       =   1.92e+18
                                                            max       =   2.31e+19
    Model F test:       Equal FMI                   F(  10, 7.7e+06)  =      11.56
    Within VCE type:        Robust                  Prob > F          =     0.0000

                                       (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------------
             urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    ----------------------+-------------------------------------------------------------------
                   lnpopl |    1.47734   .1421702     4.06   0.000     1.223393       1.784
                gdppcthl |   1.825404    .241686     4.55   0.000     1.408182    2.366243
                         |
    c.gdppcthl#c.gdppcthl |   .9669927   .0089796    -3.61   0.000     .9495522    .9847536
                         |
                  polityl |   .9242751   .0303123    -2.40   0.016     .8667333     .985637
                         |
      c.polityl#c.polityl |   .9844544   .0055297    -2.79   0.005     .9736754    .9953527
                         |
      yrsincleaderinpower |   1.026093   .0129234     2.05   0.041     1.001074    1.051738
             v2x_execorr |     5.1004   4.258851     1.95   0.051     .9927686    26.20356
                   lnoill |   .8771625   .0259118    -4.44   0.000     .8278185    .9294477
              postcoldwar |   7.490844   3.208853     4.70   0.000     3.235202    17.34443
             ageincleader |   1.017892    .013133     1.37   0.169     .9924745     1.04396
                    _cons |   2.47e-06   3.05e-06   -10.46   0.000     2.20e-07    .0000278
    ----------------------+-------------------------------------------------------------------
                /lnsig2u |   -10.7042   21237.29                     -41635.02    41613.61
    ----------------------+-------------------------------------------------------------------
                 sigma_u |   .0047382   50.31321                              0           .
                     rho |   .0000136   .2898443                              0           .
    ------------------------------------------------------------------------------------------

582 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny ageincleader time1 timesq tim
    > ecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0000
                                                    Largest FMI       =     0.0000
    DF adjustment:   Large sample                   DF:     min       =   1.41e+10
                                                            avg       =   5.05e+11
                                                            max       =   1.11e+12
    Model F test:       Equal FMI                   F(   4, 2.9e+11)  =       9.29
    Within VCE type:        Robust                  Prob > F          =     0.0000
```

```
                              (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------
urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
ageincleader |   1.040042   .0135113     3.02   0.003     1.013895    1.066864
       time1 |   .9491294   .0745398    -0.66   0.506     .8137226    1.107068
      timesq |   1.001571   .0013039     1.21   0.228     .9990186     1.00413
     timecub |   .9999922   6.53e-06    -1.19   0.233     .9999794    1.000005
       _cons |   .0000483   .0000905    -5.30   0.000     1.23e-06    .0018994
-------------+----------------------------------------------------------------
    /lnsig2u |  -1.307099    .905552                     -3.081949    .4677501
-------------+----------------------------------------------------------------
     sigma u |    .520196   .2355323                      .2141723    1.263487
         rho |   .1412678   .1098536                       .027129     .492513
------------------------------------------------------------------------------

583 . *       RESULTS:  ageincleader--positive but statistically insignificant; did not change significance or signs o
    > f other variables;
584 . *                 bivariate specification--positive and significant at the .001 level
585 .
586 . * Logged military expenditures per soldier--lnmilexppersoldthl
587 . * On 10 imputed datasets, testing Model 4 from Table 3.1
588 . clear

589 . use revspredictbycntryyr, clear

590 . drop if indstate==0
    (6,647 observations deleted)

591 . misstable sum lnmilexppersoldthl, gen(miss)
                                                                 Obs<.
                                                  +------------------------------
                |                                 | Unique
       Variable |     Obs=.     Obs>.     Obs<.  | values        Min         Max
    -------------+--------------------------------+------------------------------
    lnmilexppe~l |     1,817               9,925  |   >500          0    7.790558
    ------------------------------------------------------------------------------

592 . mi set wide

593 . mi register regular lnpopl postcoldwar cowcode year urbancivicny

594 . mi register imputed polityl gdppcthl  yrsincleaderinpower v2x_execorr lnoill lnmilexppersoldthl

595 . mi xtset cowcode year
         panel variable:  cowcode (unbalanced)
          time variable:  year, 1900 to 2014, but with gaps
                  delta:  1 unit

596 . mi impute chained (pmm, knn(10)) polityl gdppcthl yrsincleaderinpower v2x_execorr lnoill lnmilexppersoldthl = ln
    > popl postcoldwar, add(10) rseed(1234) force dots chaindots

    Conditional models:
        yrsincleader~r: pmm yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnmilexppersoldthl lnpopl
                        postcoldwar , knn(10)
           v2x_execorr: pmm v2x_execorr yrsincleaderinpower lnoill polityl gdppcthl lnmilexppersoldthl lnpopl
                        postcoldwar , knn(10)
                lnoill: pmm lnoill yrsincleaderinpower v2x_execorr polityl gdppcthl lnmilexppersoldthl lnpopl
                        postcoldwar , knn(10)
               polityl: pmm polityl yrsincleaderinpower v2x_execorr lnoill gdppcthl lnmilexppersoldthl lnpopl
                        postcoldwar , knn(10)
              gdppcthl: pmm gdppcthl yrsincleaderinpower v2x_execorr lnoill polityl lnmilexppersoldthl lnpopl
                        postcoldwar , knn(10)
        lnmilexppers~l: pmm lnmilexppersoldthl yrsincleaderinpower v2x_execorr lnoill polityl gdppcthl lnpopl
                        postcoldwar , knn(10)

    Performing chained iterations:
      imputing m=1: burn-in 10 .......... done
      imputing m=2: burn-in 10 .......... done
      imputing m=3: burn-in 10 .......... done
      imputing m=4: burn-in 10 .......... done
      imputing m=5: burn-in 10 .......... done
      imputing m=6: burn-in 10 .......... done
      imputing m=7: burn-in 10 .......... done
      imputing m=8: burn-in 10 .......... done
      imputing m=9: burn-in 10 .......... done
      imputing m=10: burn-in 10 .......... done

    Multivariate imputation                     Imputations =       10
    Chained equations                                 added =       10
    Imputed: m=1 through m=10                       updated =        0

    Initialization: monotone                     Iterations =      100
                                                    burn-in =       10

               polityl: predictive mean matching
              gdppcthl: predictive mean matching
        yrsincleader~r: predictive mean matching
           v2x_execorr: predictive mean matching
                lnoill: predictive mean matching
        lnmilexppers~l: predictive mean matching
```

```
------------------------------------------------------------------
                  |               Observations per m
                  |-----------------------------------------------
         Variable |   Complete   Incomplete   Imputed |     Total
------------------+-----------------------------------+----------
           polityl |      11328          414       414 |     11742
          gdppcthl |      11042          700       700 |     11742
    yrsincleader~r |      11661           81        81 |     11742
       v2x_execorr |      11580          162       162 |     11742
             lnoill |      11560          182       182 |     11742
    lnmilexppers~l |       9925         1817      1817 |     11742
------------------------------------------------------------------
(complete + incomplete = total; imputed is the minimum across m
 of the number of filled-in observations.)
```

```
597 . qui mi xeq 1: twoway (kdensity lnmilexppersoldthl if misslnmilexppersoldthl==0) || (kdensity lnmilexppersoldthl
    > if misslnmilexppersoldthl==1) || (kdensity lnmilexppersoldthl), legend(label(1 "Observed") label(2 "Imputed") la
    > bel(3 "Completed"))

598 . graph export Robustnesstestfiles\Logfiles\mod4impobslnmilexppersoldthl.pdf, replace
    (file Robustnesstestfiles\Logfiles\mod4impobslnmilexppersoldthl.pdf written in PDF format)

599 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnpopl c.gdppcthl##c.gdppcthl
    >  c.polityl##c.polityl yrsincleaderinpower v2x_execorr lnoill postcoldwar lnmilexppersoldthl, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0061
                                                    Largest FMI       =     0.0302
    DF adjustment:   Large sample                   DF:     min       =  10,000.42
                                                            avg       =   4.38e+18
                                                            max       =   5.25e+19
    Model F test:       Equal FMI                   F(  10, 1.7e+06)  =      10.49
    Within VCE type:       Robust                   Prob > F          =     0.0000

                                      (Within VCE adjusted for 164 clusters in cowcode)
    ------------------------------------------------------------------------------------
             urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
    ----------------------+-------------------------------------------------------------
                   lnpopl |   1.527361   .1390771     4.65   0.000     1.277714    1.825785
                gdppcthl |   1.862513   .2379256     4.87   0.000     1.449983     2.39241
                         |
    c.gdppcthl#c.gdppcthl |   .9664673   .0089049    -3.70   0.000     .9491706    .9840791
                         |
                  polityl |   .9267306   .0300869    -2.34   0.019     .8695983    .9876164
                         |
      c.polityl#c.polityl |     .98539   .0055661    -2.61   0.009     .9745406    .9963602
                         |
      yrsincleaderinpower |   1.035012   .0121603     2.93   0.003     1.011451    1.059123
             v2x_execorr |   5.203127   4.353929     1.97   0.049     1.009222    26.82515
                   lnoill |   .8799438   .0265822    -4.23   0.000     .8293559    .9336174
             postcoldwar |   8.102034   3.983082     4.26   0.000     3.091221    21.23528
       lnmilexppersoldthl |   .9323281   .1645292    -0.40   0.691     .6596869    1.317649
                    cons |   4.57e-06   5.88e-06    -9.57   0.000     3.69e-07    .0000567
    ----------------------+-------------------------------------------------------------
                /lnsig2u |  -10.52715   14639.81                     -28704.02    28682.97
    ----------------------+-------------------------------------------------------------
                 sigma_u |   .0051768   37.89345                           0           .
                     rho |   .0000163    .238501                           0           .
    ------------------------------------------------------------------------------------

600 . mi estimate, ni(10) post dots eform saving(miest, replace): xtcloglog urbancivicny lnmilexppersoldthl time1 time
    > sq timecub, vce(robust)

    Imputations (10):
      .........10 done

    Multiple-imputation estimates                   Imputations       =         10
    Random-effects complementary log-log model      Number of obs     =     11,742

    Group variable: cowcode                         Number of groups  =        164
    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         10
    Integration points = 12                                       avg =       71.6
                                                                  max =        115
                                                    Average RVI       =     0.0021
                                                    Largest FMI       =     0.0117
    DF adjustment:   Large sample                   DF:     min       =  65,920.03
                                                            avg       =   2.30e+10
                                                            max       =   7.01e+10
    Model F test:       Equal FMI                   F(   4, 3.1e+06)  =       8.08
    Within VCE type:       Robust                   Prob > F          =     0.0000
```

```
                                (Within VCE adjusted for 164 clusters in cowcode)
------------------------------------------------------------------------------
      urbancivicny |     exp(b)   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------------+----------------------------------------------------------------
lnmilexppersoldthl |   .7722179   .0854112    -2.34   0.019     .6217144    .9591549
             time1 |   .9470921   .0756084    -0.68   0.496     .8099141    1.107504
             timesq |   1.001701   .0013369     1.27   0.203     .9990838    1.004324
            timecub |   .9999918   6.72e-06    -1.22   0.223     .9999786    1.000005
              _cons |   .0005209    .000901    -4.37   0.000     .0000176    .0154501
-------------------+----------------------------------------------------------------
          /lnsig2u |  -2.280898   2.329328                     -6.846296    2.284501
-------------------+----------------------------------------------------------------
           sigma_u |   .3196755   .3723145                      .0326096    3.133813
               rho |   .0584917   .1282771                       .000646    .8565346
------------------------------------------------------------------------------
```

```
601 . *       RESULTS:  lnmilexppersoldthl--negative and statistically insignificant, did not change significance or s
    > igns of other variables
602 . *                 bivariate relationship is negative and statistically significant at the .01 level
603 .
604 . * ++++++++++++++
605 . * Further tests
606 . * ++++++++++++++
607 . * Country fixed effects are inappropriate given the rare event character of the data
608 . * Introduction of dummy controls for world regions (North America and Western Europe as omitted regions)
609 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar africa latam mena formercomm soseasia eastasia if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(15)     =     102.07
    Log pseudolikelihood  = -261.16623              Prob > chi2       =     0.0000

                                       (Std. Err. adjusted for 157 clusters in cowcode)
    ------------------------------------------------------------------------------
                         |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------------
                 lnpopl |   1.462708   .1878752     2.96   0.003     1.137173    1.881433
               gdppcthl |   1.629852   .2453428     3.25   0.001     1.213435    2.189174
              gdppcthl2 |   .9730001   .0093079    -2.86   0.004     .9549268    .9914154
                polityl |   .9287636   .0322817    -2.13   0.033     .8675996    .9942396
               polityl2 |   .9839627    .005875    -2.71   0.007      .972515    .9955451
    yrsincleaderinpower |   1.037698   .0130517     2.94   0.003      1.01243    1.063597
            v2x execorr |   3.849391   3.294112     1.58   0.115     .7194113    20.59714
                 lnoill |   .8870057   .0283996    -3.74   0.000     .8330541    .9444514
            postcoldwar |   7.027839   3.363807     4.07   0.000     2.750442    17.95731
                 africa |   .7249007   .5848672    -0.40   0.690     .1491107      3.5241
                  latam |   .8920197    .794307    -0.13   0.898     .1557451    5.108983
                   mena |    .982283   .8461169    -0.02   0.983     .1815643    5.314261
              formercomm |   1.792928   1.453401     0.72   0.471     .3660612    8.781567
                soseasia |   1.611877   1.263028     0.61   0.542     .3470168    7.487092
                eastasia |   .8627882   .8387889    -0.15   0.879     .1283452     5.80001
                   _cons |   .0000108   .0000192    -6.45   0.000     3.35e-07    .0003491
    ---------------------+--------------------------------------------------------------
               /lnsig2u |  -11.35729   48079.98                     -94246.39    94223.67
    ---------------------+--------------------------------------------------------------
                sigma_u |   .0034182   82.17313                             0           .
                    rho |   7.10e-06   .3415078                             0           .
    ------------------------------------------------------------------------------

610 . cloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldw
    > ar africa latam mena formercomm soseasia eastasia if indstate==1, vce(robust) eform nolog

    Complementary log-log regression                Number of obs     =     10,516
                                                    Zero outcomes     =     10,466
                                                    Nonzero outcomes  =         50

                                                    Wald chi2(15)     =      79.75
    Log pseudolikelihood = -261.16621               Prob > chi2       =     0.0000

    ------------------------------------------------------------------------------
                         |               Robust
           urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    ---------------------+--------------------------------------------------------------
                 lnpopl |   1.462713   .2006565     2.77   0.006     1.117868    1.913938
               gdppcthl |   1.629851   .2689151     2.96   0.003     1.179519    2.252116
              gdppcthl2 |   .9730002   .0101642    -2.62   0.009     .9532814     .993127
                polityl |   .9287656   .0325009    -2.11   0.035     .8672003    .9947016
               polityl2 |   .9839629   .0055251    -2.88   0.004     .9731934    .9948517
    yrsincleaderinpower |   1.037697   .0125916     3.05   0.002     1.013309    1.062672
            v2x_execorr |   3.849529   3.102885     1.67   0.094     .7930538    18.68583
                 lnoill |   .8870052   .0326244    -3.26   0.001      .825313    .9533089
            postcoldwar |   7.027597   2.934559     4.67   0.000     3.100025     15.9312
                 africa |   .7249261   .5381194    -0.43   0.665      .169215    3.105622
                  latam |   .8920288   .7587564    -0.13   0.893     .1684031    4.725065
                   mena |   .9823235   .8173828    -0.02   0.983      .192299    5.018015
              formercomm |   1.792948   1.449837     0.72   0.470     .3675006    8.747367
                soseasia |   1.611927   1.169891     0.66   0.511     .3886577    6.685339
                eastasia |   .8628101   .8109212    -0.16   0.875     .1367428    5.444099
                   _cons |   .0000108   .0000201    -6.15   0.000     2.83e-07    .0004138
```

```
611 . firthlogit urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postco
    > ldwar africa latam mena formercomm soseasia eastasia if indstate==1, or

initial:       penalized log likelihood = -282.06973
rescale:       penalized log likelihood = -282.06973
Iteration 0:   penalized log likelihood = -282.06973  (not concave)
Iteration 1:   penalized log likelihood = -253.23825
Iteration 2:   penalized log likelihood = -233.53303  (not concave)
Iteration 3:   penalized log likelihood = -229.96972
Iteration 4:   penalized log likelihood = -227.52923
Iteration 5:   penalized log likelihood = -227.42131
Iteration 6:   penalized log likelihood = -227.42053
Iteration 7:   penalized log likelihood = -227.42053

                                                Number of obs     =     10,516
                                                Wald chi2(15)     =      87.22
Penalized log likelihood = -227.42053           Prob > chi2       =     0.0000

------------------------------------------------------------------------------
       urbancivicny | Odds Ratio   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------
             lnpopl |   1.453318   .2002074     2.71   0.007      1.10943    1.903799
          gdppcthl  |   1.535879   .2684037     2.46   0.014     1.090447    2.163263
         gdppcthl2  |   .9783472   .0121602    -1.76   0.078     .9548016    1.002473
           polityl  |   .9311816   .0281669    -2.36   0.018     .8775801     .988057
          polityl2  |    .984334   .0056731    -2.74   0.006     .9732776    .9955161
yrsincleaderinpower |   1.038965   .0146666     2.71   0.007     1.010613    1.068113
        v2x execorr |   3.591411   2.452695     1.87   0.061     .9417835    13.69554
             lnoill |   .8898207   .0355955    -2.92   0.004     .8227197    .9623945
        postcoldwar |   6.743657   3.036731     4.24   0.000     2.789918    16.30044
             africa |   .5871096   .4765144    -0.66   0.512     .1196356     2.88123
              latam |   .7928475   .6393778    -0.29   0.773     .1632124    3.851466
               mena |   .8405477   .6789286    -0.22   0.830     .1725951    4.093514
         formercomm |   1.498096   1.127824     0.54   0.591     .3425487    6.551743
           soseasia |   1.360755   1.054702     0.40   0.691      .297869    6.216337
           eastasia |   .8377227   .7539963    -0.20   0.844     .1435398    4.889093
              _cons |   .0000181   .0000296    -6.68   0.000     7.35e-07    .0004451
------------------------------------------------------------------------------

612 . * Also rotated each region into the regression separately
613 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar africa if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     10,516
Group variable: cowcode                         Number of groups  =        157

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       67.0
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(10)     =      99.00
Log pseudolikelihood  = -262.96867              Prob > chi2       =     0.0000

                                    (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
                    |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------
             lnpopl |   1.471996    .146196     3.89   0.000     1.211621    1.788325
          gdppcthl  |   1.665063   .2251121     3.77   0.000     1.277469    2.170256
         gdppcthl2  |   .9726031    .008213    -3.29   0.001     .9566385    .9888342
           polityl  |   .9275819   .0309961    -2.25   0.024     .8687774    .9903667
          polityl2  |   .9834074   .0055368    -2.97   0.003     .9726151    .9943195
yrsincleaderinpower |   1.033904   .0123916     2.78   0.005       1.0099    1.058479
        v2x_execorr |   4.756877    4.15855     1.78   0.074     .8574046    26.39113
             lnoill |   .8802943   .0259619    -4.32   0.000     .8308527     .932678
        postcoldwar |   7.630041   3.530168     4.39   0.000     3.081088    18.89512
             africa |   .5880206   .2766986    -1.13   0.259     .2338038    1.478881
              _cons |   .0000106   .0000151    -8.04   0.000     6.48e-07    .0001723
--------------------+---------------------------------------------------------
          /lnsig2u |  -9.935938   8068.035                     -15822.99    15803.12
--------------------+---------------------------------------------------------
            sigma_u |   .0069573   28.06572                             0           .
                rho |   .0000294   .2373945                             0           .
------------------------------------------------------------------------------

614 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar latam if indstate==1, vce(robust) eform nolog

Calculating robust standard errors:

Random-effects complementary log-log model      Number of obs     =     10,516
Group variable: cowcode                         Number of groups  =        157

Random effects u_i ~ Gaussian                   Obs per group:
                                                              min =         21
                                                              avg =       67.0
                                                              max =        114

Integration method: mvaghermite                 Integration pts.  =         12

                                                Wald chi2(10)     =      96.23
Log pseudolikelihood  = -263.39649              Prob > chi2       =     0.0000
```

```
                                  (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.501281   .1426572     4.28   0.000     1.246171    1.808615
     gdppcthl |   1.841609   .2378138     4.73   0.000     1.429811    2.372009
    gdppcthl2 |   .9665163   .0090336    -3.64   0.000     .9489719    .9843849
      polityl |   .9306346   .0322255    -2.08   0.038     .8695695    .9959879
     polityl2 |   .9842977   .0055195    -2.82   0.005      .973539    .9951753
yrsincleaderinpower |    1.03248   .0126486     2.61   0.009     1.007985    1.057571
  v2x_execorr |    5.23742   4.492147     1.93   0.054     .9750794    28.13163
       lnoill |   .8800973   .0253804    -4.43   0.000     .8317324    .9312747
  postcoldwar |   6.562165   2.929475     4.21   0.000     2.735613    15.74126
       latam |   .7214008   .3881917    -0.61   0.544     .2512685    2.071167
       _cons |   6.77e-06   9.13e-06    -8.83   0.000     4.83e-07    .0000951
-------------+----------------------------------------------------------------
     /lnsig2u |  -11.03084   26868.29                     -52671.92    52649.86
-------------+----------------------------------------------------------------
      sigma_u |   .0040242   54.06222                             0           .
          rho |   9.84e-06   .2645152                             0           .
------------------------------------------------------------------------------
```

```
615 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar mena if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =     100.78
    Log pseudolikelihood  = -263.49719              Prob > chi2       =     0.0000

                                  (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.502875   .1507499     4.06   0.000     1.234641    1.829384
     gdppcthl |   1.840792   .2321322     4.84   0.000     1.437687    2.356921
    gdppcthl2 |   .9666116   .0086621    -3.79   0.000     .9497824     .983739
      polityl |   .9251321    .030614    -2.35   0.019     .8670341    .9871231
     polityl2 |   .9840572   .0054683    -2.89   0.004     .9733978    .9948334
yrsincleaderinpower |   1.033737   .0128244     2.67   0.007     1.008904     1.05918
  v2x_execorr |   4.907596   4.149956     1.88   0.060     .9355707    25.74311
       lnoill |   .8823319    .027665    -3.99   0.000      .829742    .9382549
  postcoldwar |   7.061635   3.121188     4.42   0.000     2.969482    16.79306
        mena |     .80638   .3189978    -0.54   0.586     .3713734    1.750929
       _cons |   6.38e-06   8.69e-06    -8.78   0.000     4.42e-07    .0000921
-------------+----------------------------------------------------------------
     /lnsig2u |  -9.944091   8416.862                     -16506.69     16486.8
-------------+----------------------------------------------------------------
      sigma_u |    .006929   29.16005                             0           .
          rho |   .0000292   .2456475                             0           .
------------------------------------------------------------------------------
```

```
616 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar formercomm if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      99.69
    Log pseudolikelihood  =  -262.4573              Prob > chi2       =     0.0000

                                  (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------
             |               Robust
urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       lnpopl |   1.544272   .1546664     4.34   0.000      1.26903    1.879212
     gdppcthl |   1.704235    .259206     3.51   0.000     1.264928    2.296113
    gdppcthl2 |   .9702702   .0095211    -3.08   0.002     .9517875    .9891118
      polityl |   .9301974   .0310933    -2.16   0.030     .8712091    .9931798
     polityl2 |   .9842548   .0055451    -2.82   0.005     .9734465    .9951832
yrsincleaderinpower |   1.035382   .0127544     2.82   0.005     1.010683    1.060684
  v2x_execorr |   4.581523   3.894298     1.79   0.073     .8659402    24.23995
       lnoill |   .8817939   .0268597    -4.13   0.000     .8306905    .9360413
  postcoldwar |    6.88142   3.137401     4.23   0.000     2.815758    16.81748
  formercomm |   1.756216   .7030973     1.41   0.160     .8013113     3.84906
       _cons |   5.42e-06   7.37e-06    -8.91   0.000     3.77e-07     .000078
-------------+----------------------------------------------------------------
     /lnsig2u |  -10.20438   11742.96                     -23025.98    23005.57
-------------+----------------------------------------------------------------
```

```
            sigma_u |   .0060834   35.71854                           0           .
                rho |   .0000225   .2641811                           0           .
------------------------------------------------------------------------------------

617 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar soseasia if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      97.20
    Log pseudolikelihood  = -262.97909              Prob > chi2       =     0.0000

                                      (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------------
                    |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
             lnpopl |   1.459863     .14118     3.91   0.000     1.207799    1.764534
          gdppcthl |    1.82911   .2332419     4.74   0.000     1.424615    2.348455
         gdppcthl2 |    .967506   .0086934    -3.68   0.000     .9506164    .9846957
           polityl |    .924349   .0308894    -2.35   0.019      .865747    .9869177
          polityl2 |   .9841329    .005409    -2.91   0.004     .9735883    .9947916
yrsincleaderinpower |   1.034239   .0128491     2.71   0.007      1.00936    1.059732
        v2x_execorr |   4.487981   3.859622     1.75   0.081     .8318125    24.21456
             lnoill |   .8819112    .026826    -4.13   0.000     .8308698    .9360881
        postcoldwar |   6.767749   2.988205     4.33   0.000     2.848447    16.07979
           soseasia |   1.584282   .5980198     1.22   0.223     .7560129    3.319984
               cons |   8.24e-06    .000011    -8.81   0.000     6.10e-07    .0001114
--------------------+---------------------------------------------------------------
           /lnsig2u |  -10.84116   22089.28                     -43305.04    43283.36
--------------------+---------------------------------------------------------------
            sigma_u |   .0044246   48.86798                           0           .
                rho |   .0000119   .2628865                           0           .
------------------------------------------------------------------------------------

618 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar eastasia if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(10)     =      96.87
    Log pseudolikelihood  = -263.31473              Prob > chi2       =     0.0000

                                      (Std. Err. adjusted for 157 clusters in cowcode)
------------------------------------------------------------------------------------
                    |               Robust
       urbancivicny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
--------------------+---------------------------------------------------------------
             lnpopl |   1.585069   .1863705     3.92   0.000     1.258824    1.995866
          gdppcthl |   1.841917   .2369554     4.75   0.000     1.431417    2.370139
         gdppcthl2 |   .9671254   .0087874    -3.68   0.000     .9500549    .9845027
           polityl |   .9236055   .0304185    -2.41   0.016     .8658698    .9851911
          polityl2 |   .9845575   .0055164    -2.78   0.005     .9738047    .9954289
yrsincleaderinpower |    1.03368   .0124909     2.74   0.006     1.009486    1.058454
        v2x_execorr |   5.276042   4.554128     1.93   0.054     .9717971    28.64448
             lnoill |   .8709142    .026444    -4.55   0.000      .820597    .9243168
        postcoldwar |   6.796266   2.976404     4.38   0.000     2.880642    16.03435
           eastasia |   .6054925   .3915752    -0.78   0.438     .1704639    2.150727
               _cons |   3.80e-06   5.60e-06    -8.48   0.000     2.12e-07    .0000681
--------------------+---------------------------------------------------------------
           /lnsig2u |  -10.58234   16275.47                     -31909.92    31888.75
--------------------+---------------------------------------------------------------
            sigma_u |   .0050359   40.98046                           0           .
                rho |   .0000154   .2509101                           0           .
------------------------------------------------------------------------------------

619 . *  RESULT
620 . *    --none of the regional dummies are statistically significant
621 . *    --no sign change or change in statistical significance for any of the variables
```

```
622 .
623 . * Alternative sample urbancivicaltny with Model 4
624 . *   Includes an additional 11 cases that were quasi-revolutionary but urban civic in character
625 . xtcloglog urbancivicaltny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill post
    > coldwar if indstate==1, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,516
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       67.0
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(9)      =     143.87
    Log pseudolikelihood  = -343.03504              Prob > chi2       =     0.0000

                                       (Std. Err. adjusted for 157 clusters in cowcode)
    ------------------------------------------------------------------------------------
                        |               Robust
        urbancivicaltny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    --------------------+---------------------------------------------------------------
                lnpopl |   1.445421   .1404029     3.79   0.000     1.194846    1.748546
              gdppcthl |   1.786938   .1815527     5.71   0.000     1.464292    2.180678
             gdppcthl2 |   .9732635   .0072907    -3.62   0.000     .9590782    .9876585
               polityl |   .9155248   .0242855    -3.33   0.001     .8691423    .9643825
              polityl2 |   .9828178   .0044201    -3.85   0.000     .9741926    .9915195
    yrsincleaderinpower |   1.032059   .0106202     3.07   0.002     1.011452    1.053085
            v2x_execorr |   3.154828   1.705282     2.13   0.034     1.093641    9.100735
                 lnoill |   .8660159   .0232491    -5.36   0.000     .8216266    .9128034
            postcoldwar |   3.632201   1.230706     3.81   0.000     1.869629    7.056417
                  _cons |   .0000285   .0000319    -9.33   0.000     3.16e-06    .0002563
    --------------------+---------------------------------------------------------------
               /lnsig2u |  -11.20119    21260.4                     -41680.82    41658.42
    --------------------+---------------------------------------------------------------
                sigma_u |   .0036957   39.28558                             0           .
                    rho |   8.30e-06   .1765221                             0           .
    ------------------------------------------------------------------------------------

626 . * failed quadchk--using pooled model
627 . cloglog urbancivicaltny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postco
    > ldwar if indstate==1, vce(robust) eform nolog

    Complementary log-log regression                Number of obs     =     10,516
                                                    Zero outcomes     =     10,450
                                                    Nonzero outcomes  =         66

                                                    Wald chi2(9)      =     113.69
    Log pseudolikelihood = -343.03499               Prob > chi2       =     0.0000

    ------------------------------------------------------------------------------------
                        |               Robust
        urbancivicaltny |     exp(b)   Std. Err.      z    P>|z|     [95% Conf. Interval]
    --------------------+---------------------------------------------------------------
                lnpopl |   1.445414   .1386663     3.84   0.000     1.197655    1.744426
              gdppcthl |   1.786919   .1986485     5.22   0.000     1.437072    2.221935
             gdppcthl2 |   .9732644   .0075477    -3.49   0.000     .9585831    .9881705
               polityl |   .9155183   .0254205    -3.18   0.001     .8670265    .9667223
              polityl2 |   .9828182   .0043862    -3.88   0.000     .9742588    .9914527
    yrsincleaderinpower |   1.032062   .0103677     3.14   0.002     1.011941    1.052584
            v2x_execorr |   3.154979   1.877951     1.93   0.054     .9824994    10.13119
                 lnoill |   .8660128   .0253133    -4.92   0.000     .8177939    .9170747
            postcoldwar |   3.632401   1.067904     4.39   0.000     2.041483    6.463115
                  _cons |   .0000284   .0000318    -9.36   0.000     3.18e-06    .0002545
    ------------------------------------------------------------------------------------

628 . *  RESULT
629 . *    --no sign change or change in statistical significance for all variables
630 .
631 . * Excluded Polity=0 in Model 4
632 . xtcloglog urbancivicny lnpopl gdppcthl gdppcthl2 polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcol
    > dwar if indstate==1 & polityl~=0, vce(robust) eform nolog

    Calculating robust standard errors:

    Random-effects complementary log-log model      Number of obs     =     10,390
    Group variable: cowcode                         Number of groups  =        157

    Random effects u_i ~ Gaussian                   Obs per group:
                                                                  min =         21
                                                                  avg =       66.2
                                                                  max =        114

    Integration method: mvaghermite                 Integration pts.  =         12

                                                    Wald chi2(9)      =      91.25
    Log pseudolikelihood  = -255.37457              Prob > chi2       =     0.0000
```

(Std. Err. adjusted for 157 clusters in cowcode)

urbancivicny	exp(b)	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnpopl	1.493234	.1465466	4.09	0.000	1.231943	1.809944
gdppcthl	1.832062	.2502782	4.43	0.000	1.401707	2.394544
gdppcthl2	.9670077	.0092779	-3.50	0.000	.9489933	.9853641
polityl	.9278296	.0308007	-2.26	0.024	.8693833	.990205
polityl2	.9858537	.0055537	-2.53	0.011	.9750285	.9967991
yrsincleaderinpower	1.030799	.0121476	2.57	0.010	1.007263	1.054885
v2x_execorr	6.863958	5.988571	2.21	0.027	1.241452	37.95065
lnoill	.8762981	.0270052	-4.28	0.000	.8249356	.9308586
postcoldwar	6.505677	2.855933	4.27	0.000	2.751837	15.38021
_cons	5.49e-06	7.68e-06	-8.66	0.000	3.55e-07	.0000851
/lnsig2u	-8.586156	1807.283			-3550.795	3533.623
sigma_u	.0136628	12.34627			0	.
rho	.0001135	.2050495			0	.

```
633 . *  RESULT
634 . *    --no sign change or change in statistical significance for all variables
635 .
636 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
637 . * Substitutability of percurbanl, under5mortl, and youthpercl for gdppcthl
638 . *       without affecting other variables
639 . * ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
640 . cloglog urbancivicny lnpopl percurbanl polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar if in
    > dstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =     10,887
                                                Zero outcomes     =     10,837
                                                Nonzero outcomes  =         50

                                                Wald chi2(8)      =      62.59
Log pseudolikelihood = -271.18246               Prob > chi2       =     0.0000
```

urbancivicny	exp(b)	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnpopl	1.601348	.180299	4.18	0.000	1.284243	1.996752
percurbanl	1.02456	.0096048	2.59	0.010	1.005906	1.043558
polityl	.9232448	.0315287	-2.34	0.019	.8634724	.987155
polityl2	.9846334	.0049246	-3.10	0.002	.9750286	.9943329
yrsincleaderinpower	1.027622	.012095	2.31	0.021	1.004187	1.051603
v2x_execorr	4.253801	3.254018	1.89	0.058	.9498083	19.05103
lnoill	.9080004	.0299803	-2.92	0.003	.851101	.9687037
postcoldwar	6.363599	2.734185	4.31	0.000	2.741419	14.77169
_cons	4.87e-06	7.54e-06	-7.89	0.000	2.33e-07	.0001016

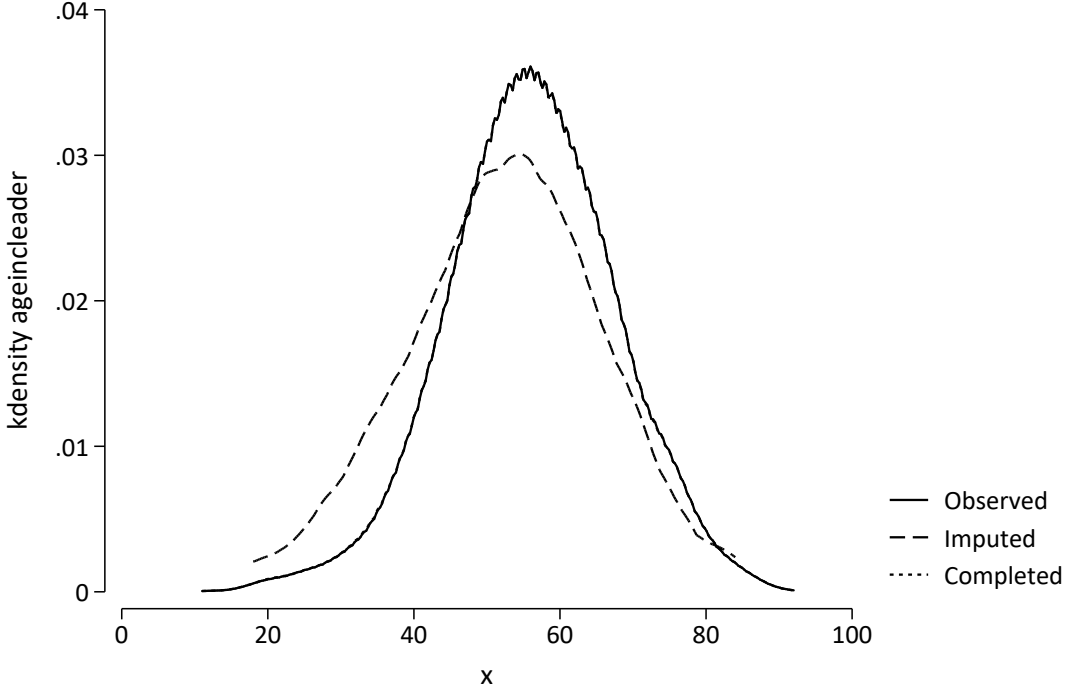
```
641 . cloglog urbancivicny lnpopl under5mortl polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar if i
    > ndstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =     10,944
                                                Zero outcomes     =     10,896
                                                Nonzero outcomes  =         48

                                                Wald chi2(8)      =      61.67
Log pseudolikelihood = -258.69193               Prob > chi2       =     0.0000
```

urbancivicny	exp(b)	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnpopl	1.428122	.1641234	3.10	0.002	1.140101	1.788906
under5mortl	.990033	.0029765	-3.33	0.001	.9842164	.995884
polityl	.9296004	.0317962	-2.13	0.033	.869324	.9940562
polityl2	.9833038	.0052843	-3.13	0.002	.9730012	.9937156
yrsincleaderinpower	1.025574	.0137204	1.89	0.059	.9990323	1.052822
v2x_execorr	5.424964	4.186812	2.19	0.028	1.195273	24.62219
lnoill	.9270108	.0291581	-2.41	0.016	.8715879	.9859579
postcoldwar	3.074548	1.403362	2.46	0.014	1.256767	7.521559
_cons	.0001605	.0002317	-6.05	0.000	9.49e-06	.0027158

```
642 . cloglog urbancivicny lnpopl youthpercl polityl polityl2 yrsincleaderinpower v2x_execorr lnoill postcoldwar if in
    > dstate==1, vce(robust) eform nolog

Complementary log-log regression                Number of obs     =      8,131
                                                Zero outcomes     =      8,084
                                                Nonzero outcomes  =         47

                                                Wald chi2(8)      =      68.46
Log pseudolikelihood =  -246.7512               Prob > chi2       =     0.0000
```

urbancivicny	exp(b)	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
lnpopl	1.473864	.1709468	3.34	0.001	1.174169	1.850054
youthpercl	.907659	.0240812	-3.65	0.000	.8616669	.956106
polityl	.9241333	.0315377	-2.31	0.021	.8643423	.9880602
polityl2	.9776625	.0058983	-3.74	0.000	.9661702	.9892915
yrsincleaderinpower	1.033716	.0132226	2.59	0.010	1.008122	1.059959
v2x_execorr	6.758419	5.816343	2.22	0.026	1.251109	36.50859
lnoill	.9263283	.0310593	-2.28	0.022	.8674104	.9892482
postcoldwar	4.631505	2.078196	3.42	0.001	1.922121	11.15998

```
               _cons |   .0006631   .0010703    -4.53   0.000      .000028    .0156859
    ------------------------------------------------------------------------------

643 .
644 . log close
          name:  <unnamed>
           log:  C:\Users\mbeissin\Desktop\Stata files for book\Robustnesstestfiles\Logfiles\robustnesstestschapter3.l
    > og
      log type:  text
     closed on:  26 Jan 2022, 10:21:02
    ------------------------------------------------------------------------------------------------------------------------
```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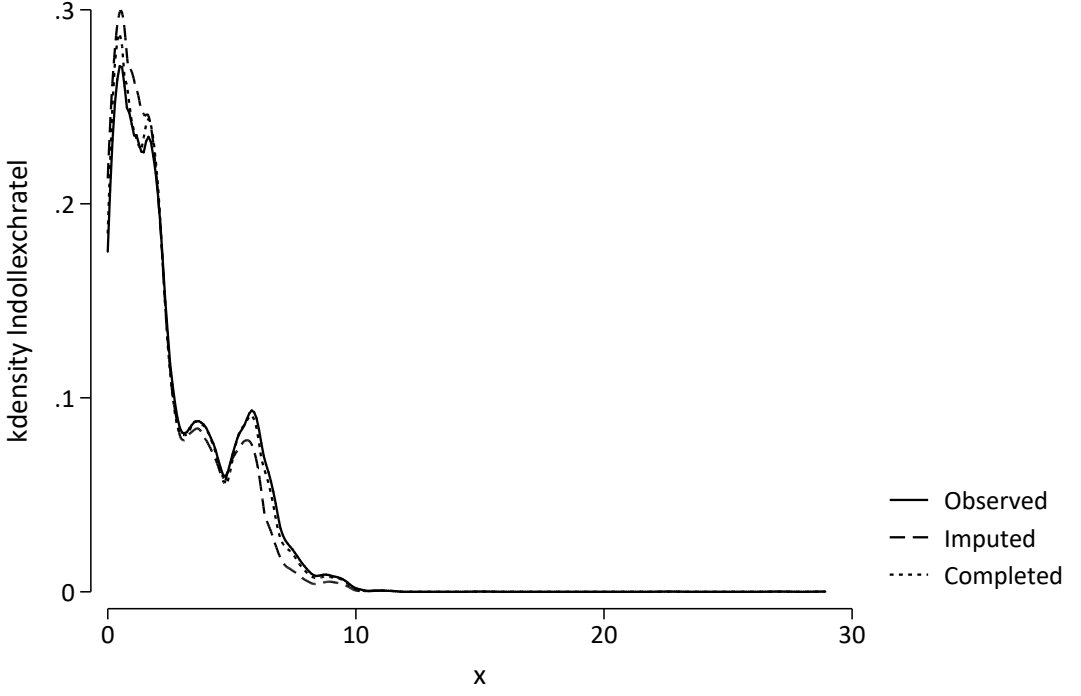
.02
.01
0
kdensity ageincleader
0
20
40
60
80
100
x
Observed
Imputed
Completed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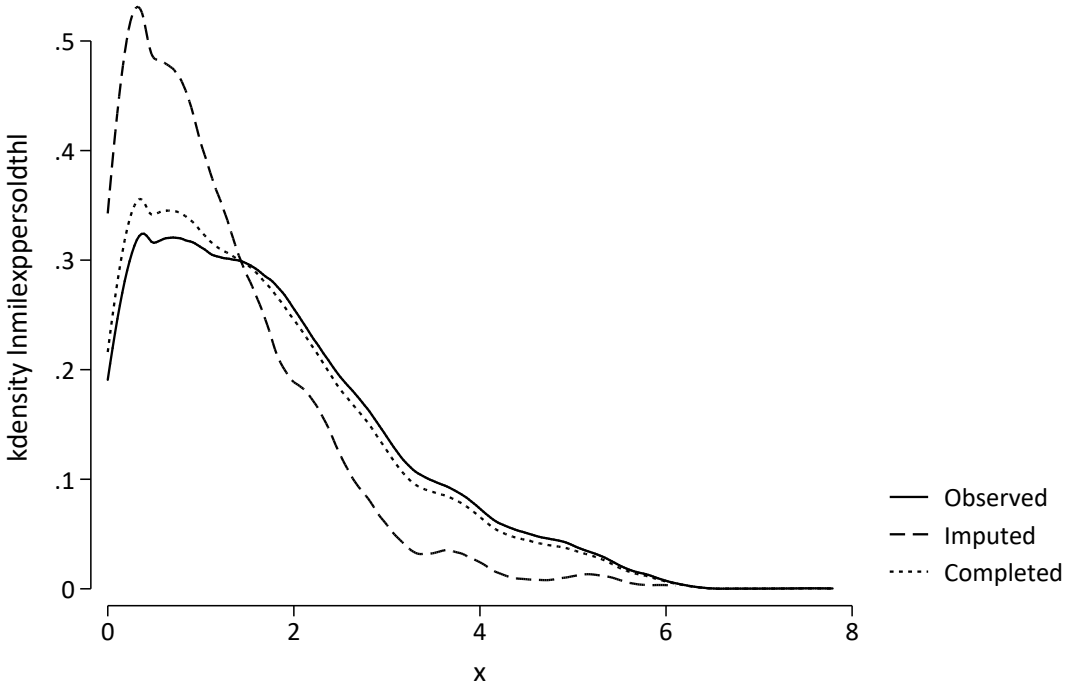
.3
.2
.1
0
0
10
20
30
x
Observed
Imputed
Completed


kdensity lnmilexppersoldthl
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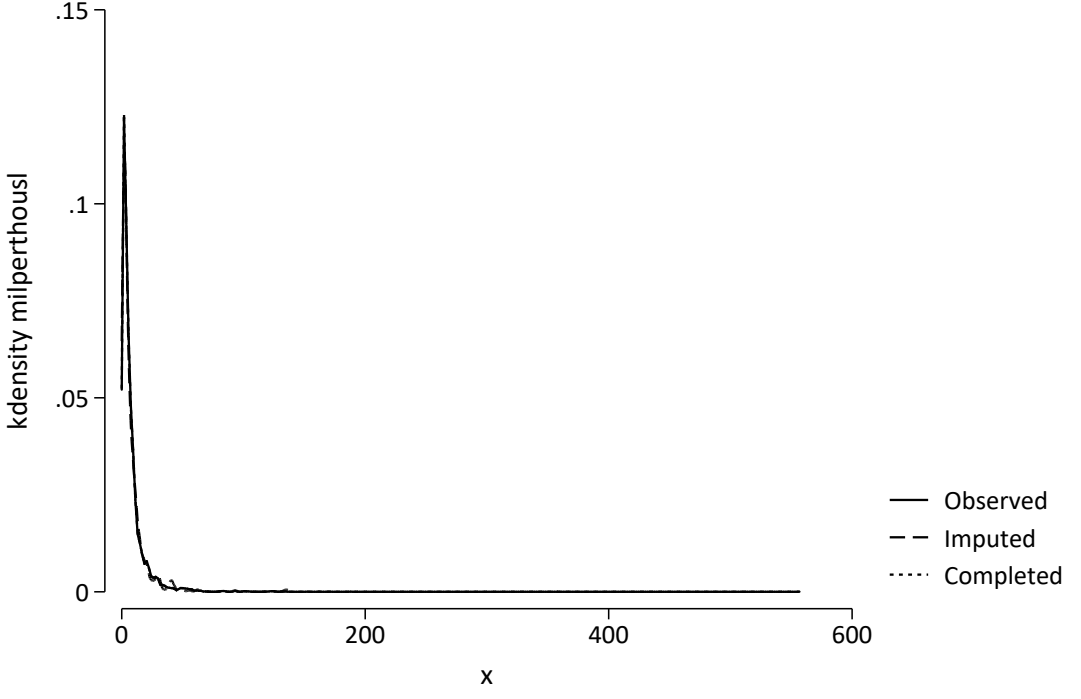
.3
.2
.1
0
0
2
4
6
8
x
Observed
Imputed
Completed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.05
0
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0
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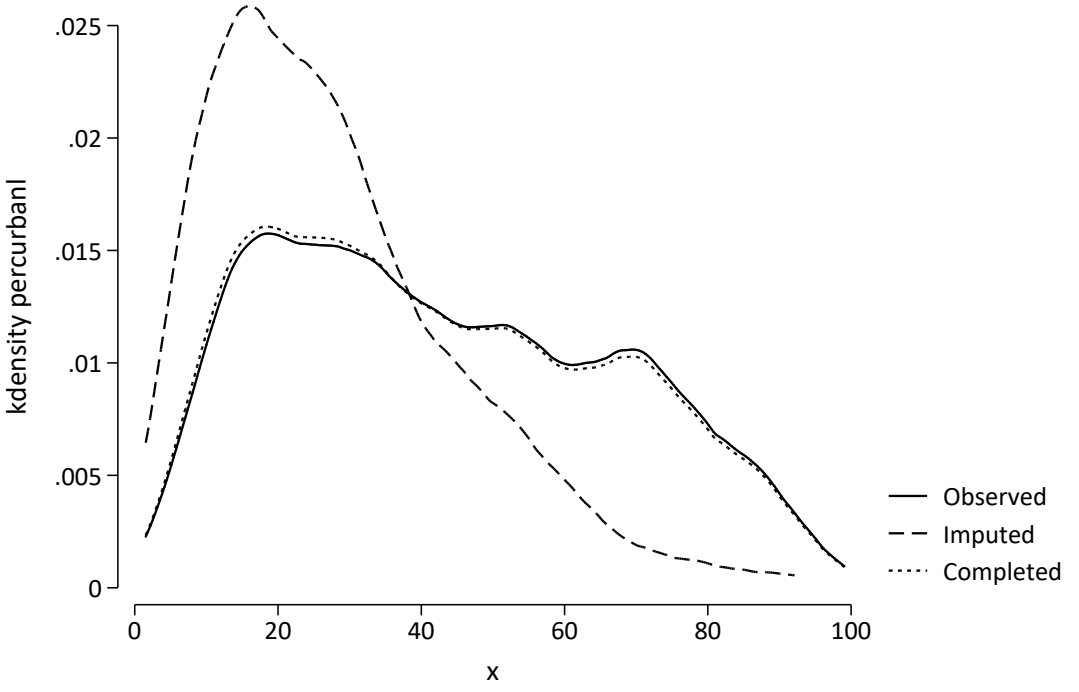
400
600
x
Observed
Imputed
Completed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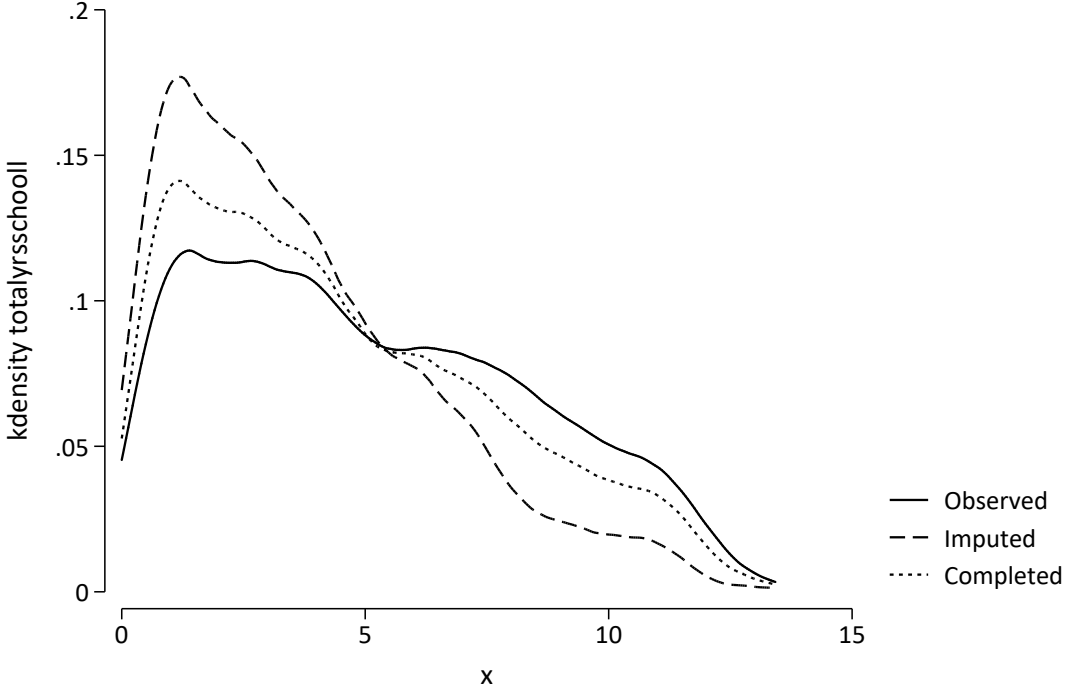
.02
.015
.01
.005
0
kdensity percurbanl
0
20
40
60
80
100
x
Observed
Imputed
Completed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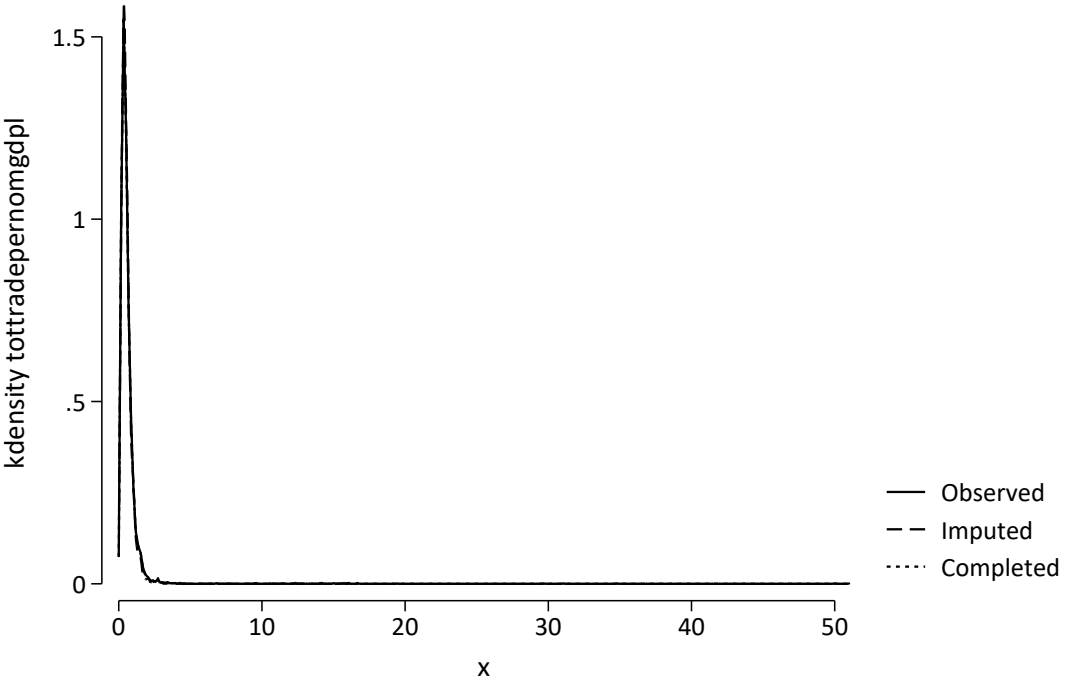
.1
.05
0
kdensity totalyrsschooll
0
5
10
15
x
Observed
Imputed
Completed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0
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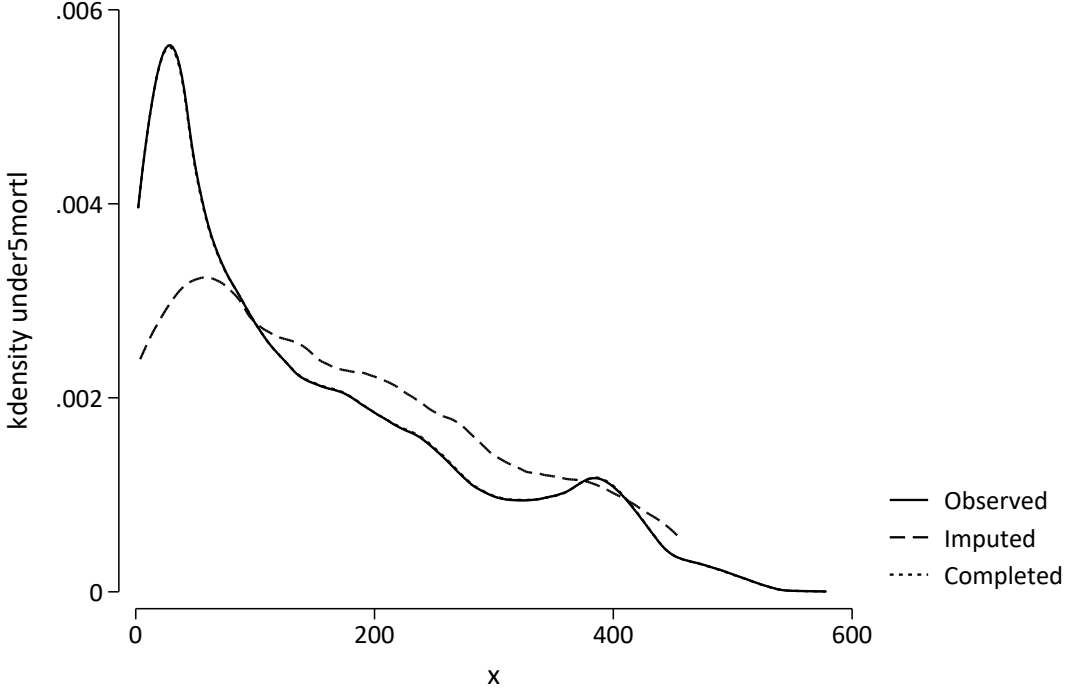
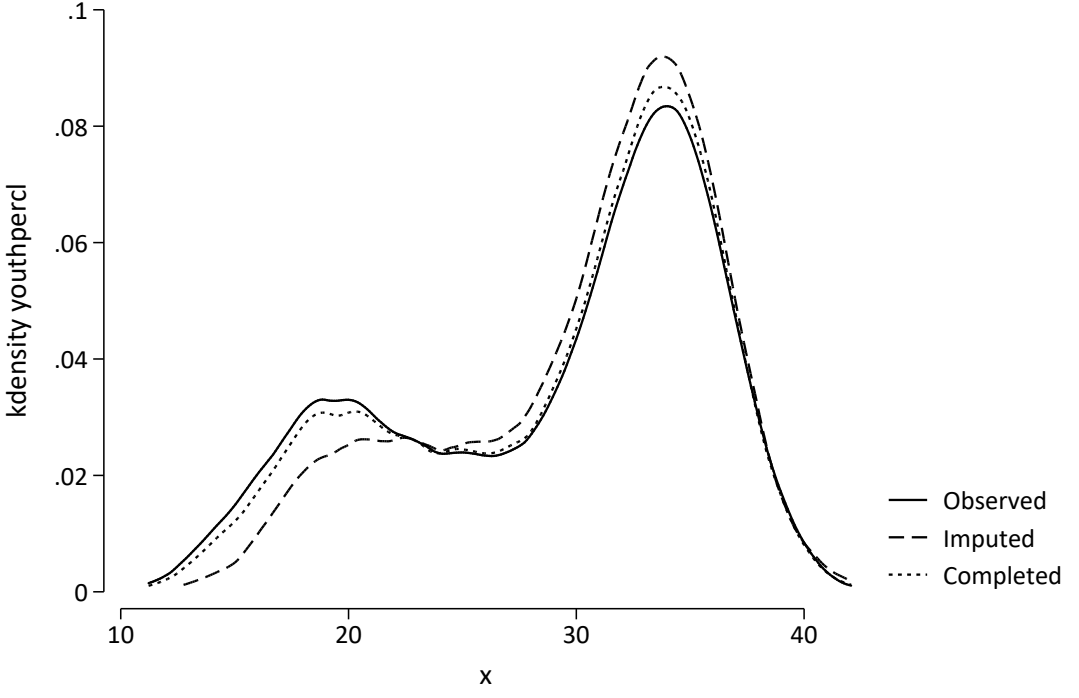
20
30
40
50
x
Observed
Imputed
Completed


.006
.004
.002
0
kdensity under5mortl
0
200
400
600
x
Observed
Imputed
Completed


.1
.08
.06
.04
.02
0
kdensity youthpercl
10
20
30
40
x
Observed
Imputed
Completed