```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
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Notes:
      1.  Unicode is supported; see help unicode_advice.
      2.  Maximum number of variables is set to 5000; see help set_maxvar.

. use "C:\Users\User\Desktop\Base de dados\Journal_RBGN\Fase 3 -
Aprovação\Supplementary data\Supplementary Data 1 -Database PRMV.dta", clear

. do "C:\Users\User\AppData\Local\Temp\STD00000000.tmp"

. **PRMV**
.
. **DESCRIPTIVE ANALYSIS**
. summarize prmv_w age_w ad_w rd_w sg_w ss_w prof_w lnsi_w gdp_w wgi_w

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
      prmv_w |      2,498    462.3133    912.7168        .13       3500
       age_w |      1,209    7.117452    5.162855          2         21
        ad_w |      2,159    .0146299    .0209869      .0002      .0772
        rd_w |      1,275    .0278862     .037138      .0003      .1353
        sg_w |      2,397    .0999052     .366455     -.5186      1.077
-------------+---------------------------------------------------------
        ss_w |      2,457    26.05048    47.49053        .03     181.29
      prof_w |      2,357    .0842644    .0676611      .0128      .2729
      lnsi_w |      2,498    9.731197    1.345945      7.696     11.518
       gdp_w |      2,498    .0434547    .0385467     -.0673      .0818
       wgi_w |      2,498   -.2362637    .1234205     -.4765     -.0675

.
. **NUMBER OF FINANCING ROUNDS**
. tab country, summarize (prmv_w)

           |          Summary of Prmv
   country |        Mean   Std. Dev.       Freq.
-----------+------------------------------------
         1 |   12.218776    29.72773          49
         2 |   316.30569   759.54662       1,264
         3 |   384.88521   904.50391          73
         4 |   172.42747   589.79693         296
         5 |   827.59108   1118.0966         816
-----------+------------------------------------
     Total |   462.31328   912.71683       2,498

. tab stage,summarize (prmv_w)

           |          Summary of Prmv
     Stage |        Mean   Std. Dev.       Freq.
-----------+------------------------------------
         1 |   8.3671905   115.74583         929
         2 |   439.16498   868.04071         839
         3 |   889.30953   997.77163         445
         4 |   1343.4502   1326.7972         285
```

```
------------+------------------------------------
      Total |   462.31328   912.71683       2,498

. tab year,summarize (prmv_w)

           |          Summary of Prmv
      year |        Mean   Std. Dev.       Freq.
-----------+------------------------------------
      2010 |   293.56615   688.49781          26
      2011 |   297.51938   516.15058          65
      2012 |    331.3562   831.03941          50
      2013 |   113.60412   407.55056          80
      2014 |   301.90368   676.46775         125
      2015 |   416.73424   839.39686         198
      2016 |   339.64849   747.14827         199
      2017 |   453.33606   932.27665         175
      2018 |   541.66386   1006.0048         262
      2019 |   385.74606   808.23984         264
      2020 |   616.51148   1104.2642         298
      2021 |   633.21669   1059.0943         386
      2022 |   440.97516   864.14548         370
-----------+------------------------------------
      Total |   462.31328   912.71683       2,498

.
. **SETUP PAINEL**
. xtset id date
       panel variable:  id (unbalanced)
        time variable:  date, 04/02/2010 to 31/12/2022, but with gaps
                delta:  1 day

.
. **CREATION OF THE DEPENDENT VARIABLE WITH 1 TIME LAG**
.
. gen lnprmv_w1 = lnprmv_w[_n-1]
(52,587 missing values generated)

.
. **TESTING THE BEST REGRESSION TYPE**
.
. quietly xtreg lnprmv_w lnage_w stage ad_w rd_w sg_w lnss_w prof_w lnsi_w
gdp_w wgi_w, re

.
. estimates store aleatorio

.
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        lnprmv_w[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                lnprmv_w |   5.281224       2.298091
                       e |   .3857164       .6210607
                       u |    2.22009       1.489997

        Test:   Var(u) = 0
                                chibar2(01) =    71.04
                             Prob > chibar2 =   0.0000

.
. **EFFECT TYPE TEST**
.
```

```
. quietly xtreg lnprmv_w lnage_w stage ad_w rd_w sg_w lnss_w prof_w lnsi_w
gdp_w wgi_w, fe

.
. estimate store FE

.
. quietly xtreg lnprmv_w lnage_w stage ad_w rd_w sg_w lnss_w prof_w lnsi_w
gdp_w wgi_w, re

.
. estimate store RE

.
. hausman FE RE

                ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |       FE           RE         Difference          S.E.
-------------+------------------------------------------------------------
     lnage_w |    1.068667      .366761         .701906        .3037643
       stage |    .2742969     .7842974       -.5100005        .0876004
        ad_w |   -.2954247     .3234485       -.6188731        6.783728
        rd_w |     5.81513     5.812629        .0025005        7.205332
        sg_w |   -.4507565    -.1499288       -.3008277        .1996823
      lnss_w |    .8675092     .1009241        .7665851        .3041052
      prof_w |    .5312691     -4.87176         5.40303        2.662991
      lnsi_w |    .9496944    -.7673485        1.717043        .3355993
       gdp_w |   -2.256648    -3.663321        1.406673        1.254076
       wgi_w |    1.991831     3.090669       -1.098838        1.686367
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                 chi2(10) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =      112.65
                Prob>chi2 =      0.0000

.
. **HOMOCESDASTICITY TEST**
.
. quietly xtreg lnprmv_w lnage_w stage ad_w rd_w sg_w lnss_w prof_w lnsi_w
gdp_w wgi_w, fe

.
. xttest3

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (453)  =  27918.22
Prob>chi2 =      0.0000


.
. **REGRESSION TESTS**
.
. **MODEL 1**
.
. xtreg lnprmv_w lnsi_w gdp_w wgi_w i.sector, fe robust

Fixed-effects (within) regression               Number of obs     =      2,498
Group variable: id                              Number of groups  =      2,014
```

```
R-sq:                                           Obs per group:
     within  = 0.4446                                        min =         1
     between = 0.2314                                        avg =       1.2
     overall = 0.1705                                        max =         9

                                                F(3,2013)         =     82.93
corr(u_i, Xb)  = -0.8979                        Prob > F          =    0.0000

                                (Std. Err. adjusted for 2,014 clusters in id)
------------------------------------------------------------------------------
             |               Robust
    lnprmv_w |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      lnsi_w |   2.167065   .2570742     8.43   0.000     1.662906    2.671225
       gdp_w |  -1.228926   1.069565    -1.15   0.251    -3.326496    .8686437
       wgi_w |   8.847752   1.279843     6.91   0.000     6.337796    11.35771
       _cons |  -15.32732    2.66349    -5.75   0.000    -20.55081   -10.10383
-------------+----------------------------------------------------------------
     sigma_u |  5.5128631
     sigma_e |  .79206201
         rho |  .97977492   (fraction of variance due to u_i)
------------------------------------------------------------------------------

.
. **MODEL 2**
.
. xtreg lnprmv_w lnage_w stage lnsi_w gdp_w wgi_w i.sector, fe robust

Fixed-effects (within) regression               Number of obs     =      1,209
Group variable: id                              Number of groups  =        925

R-sq:                                           Obs per group:
     within  = 0.6500                                        min =         1
     between = 0.0436                                        avg =       1.3
     overall = 0.0099                                        max =         9

                                                F(5,924)          =     66.37
corr(u_i, Xb)  = -0.7107                        Prob > F          =    0.0000

                                (Std. Err. adjusted for 925 clusters in id)
------------------------------------------------------------------------------
             |               Robust
    lnprmv_w |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     lnage_w |   1.475591   .2987908     4.94   0.000     .8892035    2.061978
       stage |   .3026027   .0850152     3.56   0.000     .1357575     .469448
      lnsi_w |   1.036826   .2966908     3.49   0.000     .4545602    1.619092
       gdp_w |   .9116938   1.169488     0.78   0.436    -1.383467    3.206855
       wgi_w |   3.216925   1.480277     2.17   0.030     .3118307    6.122019
       _cons |  -7.422414   2.621309    -2.83   0.005    -12.56682   -2.278005
-------------+----------------------------------------------------------------
     sigma_u |  3.4426251
     sigma_e |  .68087273
         rho |  .96235663   (fraction of variance due to u_i)
------------------------------------------------------------------------------

.
. **MODEL 3**
.
. xtreg lnprmv_w lnage_w stage ad_w rd_w sg_w lnss_w prof_w lnsi_w gdp_w wgi_w
i.sector, fe robust

Fixed-effects (within) regression               Number of obs     =        580
Group variable: id                              Number of groups  =        453

R-sq:                                           Obs per group:
     within  = 0.6253                                        min =         1
     between = 0.0133                                        avg =       1.3
```

```
     overall = 0.0125                                        max =         7

                                             F(10,452)         =     19.38
corr(u_i, Xb)  = -0.5144                     Prob > F          =    0.0000

                                (Std. Err. adjusted for 453 clusters in id)
------------------------------------------------------------------------------
             |               Robust
    lnprmv_w |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     lnage_w |   1.068667   .5385092     1.98   0.048     .0103747    2.126959
       stage |   .2742969   .1248841     2.20   0.029     .0288714    .5197224
        ad_w |  -.2954247   5.625064    -0.05   0.958    -11.34995     10.7591
        rd_w |    5.81513   8.027432     0.72   0.469     -9.96059    21.59085
        sg_w |  -.4507565   .2564537    -1.76   0.079    -.9547459     .053233
      lnss_w |   .8675092   .4282509     2.03   0.043     .0258993    1.709119
      prof_w |   .5312691   2.982992     0.18   0.859    -5.330985    6.393524
      lnsi_w |   .9496944    .386293     2.46   0.014     .1905414    1.708847
       gdp_w |  -2.256648   1.879417    -1.20   0.230    -5.950128    1.436832
       wgi_w |   1.991831   2.440535     0.82   0.415    -2.804373    6.788034
       _cons |  -19.67713   7.604112    -2.59   0.010    -34.62093    -4.73333
-------------+----------------------------------------------------------------
     sigma_u |  2.6350657
     sigma_e |  .62106074
         rho |  .94737327   (fraction of variance due to u_i)
------------------------------------------------------------------------------

.
. **MODEL 4**
.
. xtreg lnprmv_w lnprmv_w1 lnsi_w gdp_w wgi_w i.sector, fe robust

Fixed-effects (within) regression               Number of obs     =      2,497
Group variable: id                              Number of groups  =      2,013

R-sq:                                           Obs per group:
     within  = 0.4496                                         min =          1
     between = 0.2280                                         avg =        1.2
     overall = 0.1646                                         max =          9

                                                F(4,2012)         =      63.29
corr(u_i, Xb)  = -0.8910                        Prob > F          =     0.0000

                                (Std. Err. adjusted for 2,013 clusters in id)
------------------------------------------------------------------------------
             |               Robust
    lnprmv_w |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   lnprmv_w1 |   .0362987   .0198162     1.83   0.067    -.0025637     .075161
      lnsi_w |   2.110121   .2508991     8.41   0.000     1.618072     2.60217
       gdp_w |  -1.182458    1.07855    -1.10   0.273     -3.29765    .9327334
       wgi_w |   8.350173   1.352764     6.17   0.000     5.697208    11.00314
       _cons |  -15.02124   2.624916    -5.72   0.000    -20.16908   -9.873406
-------------+----------------------------------------------------------------
     sigma_u |  5.3705464
     sigma_e |  .78934597
         rho |  .97885459   (fraction of variance due to u_i)
------------------------------------------------------------------------------

.
. **MODEL 5**
.
. xtreg lnprmv_w lnprmv_w1 lnage_w stage lnsi_w gdp_w wgi_w i.sector, fe
robust

Fixed-effects (within) regression               Number of obs     =      1,209
Group variable: id                              Number of groups  =        925
```

```
R-sq:                                           Obs per group:
     within  = 0.6520                                         min =         1
     between = 0.0371                                         avg =       1.3
     overall = 0.0062                                         max =         9

                                                F(6,924)          =     57.91
corr(u_i, Xb)  = -0.6857                        Prob > F          =    0.0000

                                  (Std. Err. adjusted for 925 clusters in id)
------------------------------------------------------------------------------
             |               Robust
    lnprmv_w |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   lnprmv_w1 |   .0258935   .0276219     0.94   0.349    -.0283154    .0801024
     lnage_w |   1.464422   .2914151     5.03   0.000       .89251    2.036335
       stage |   .2915054   .0827628     3.52   0.000     .1290807    .4539302
      lnsi_w |   .9821707   .2816332     3.49   0.001     .4294559    1.534886
       gdp_w |   .9315195   1.177758     0.79   0.429    -1.379871     3.24291
       wgi_w |   2.872037   1.545117     1.86   0.063    -.1603091    5.904384
       _cons |  -7.049483   2.522902    -2.79   0.005    -12.00077     -2.0982
-------------+----------------------------------------------------------------
     sigma_u |  3.3383383
     sigma_e |  .68016493
         rho |  .96014308   (fraction of variance due to u_i)
------------------------------------------------------------------------------

.
. **MODEL 6**
.
. xtreg lnprmv_w lnprmv_w1 lnage_w stage ad_w rd_w sg_w lnss_w prof_w lnsi_w
gdp_w wgi_w i.sector, fe robust

Fixed-effects (within) regression               Number of obs     =       580
Group variable: id                              Number of groups  =       453

R-sq:                                           Obs per group:
     within  = 0.6263                                         min =         1
     between = 0.0200                                         avg =       1.3
     overall = 0.0186                                         max =         7

                                                F(11,452)         =     18.10
corr(u_i, Xb)  = -0.5034                        Prob > F          =    0.0000

                                  (Std. Err. adjusted for 453 clusters in id)
------------------------------------------------------------------------------
             |               Robust
    lnprmv_w |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
   lnprmv_w1 |   .0175742    .025302     0.69   0.488    -.0321499    .0672984
     lnage_w |   1.070556   .5308051     2.02   0.044      .027404    2.113708
       stage |   .2633298   .1268994     2.08   0.039     .0139438    .5127158
        ad_w |  -.8274883   5.681827    -0.15   0.884    -11.99356    10.33859
        rd_w |   6.195735   8.081878     0.77   0.444    -9.686983    22.07845
        sg_w |  -.4790514   .2659801    -1.80   0.072    -1.001762    .0436597
      lnss_w |   .8867337   .4435107     2.00   0.046     .0151348    1.758333
      prof_w |   .5848494   3.036393     0.19   0.847     -5.38235    6.552048
      lnsi_w |   .9410633   .3857545     2.44   0.015     .1829684    1.699158
       gdp_w |  -2.041631   1.867295    -1.09   0.275    -5.711288    1.628027
       wgi_w |   1.652542   2.301208     0.72   0.473    -2.869853    6.174937
       _cons |  -20.06854   7.882932    -2.55   0.011    -35.56028   -4.576795
-------------+----------------------------------------------------------------
     sigma_u |  2.6055737
     sigma_e |  .62283848
         rho |  .94594804   (fraction of variance due to u_i)
------------------------------------------------------------------------------
.
end of do-file
```