```
  ___  ____  ____  ____  ____(R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/
  Statistics/Data Analysis
```

```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
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Notes:
      1.  Unicode is supported; see help unicode_advice.

Checking for updates...
(contacting http://www.stata.com)
bad serial number
unable to check for update; verify Internet settings are correct.

. *(11 variables, 144 observations pasted into data editor)

. set more off

.
.
.
. drop firm
variable firm not found
r(111);

.
.
.
.  encode kode, gen(firm)

.
.
.
.  sort kode tahun

.
.
.
.  *panel identifier

.
.
.
.  iis firm
```

```
23 .
24 .
25 .
26 .  tis tahun

27 .
28 .
29 .
30 .  xtset firm tahun
        panel variable:  firm (weakly balanced)
         time variable:  tahun, 1 to 144
                 delta:  1 unit

31 . reg lendingrate cof npl bep ldr size oc inflasi pdb
```

Source	SS	df	MS		
Model	2023.38027	8	252.922534	Number of obs	= 144
Residual	46.1970363	135	.342200269	F(8, 135)	= 739.11
				Prob > F	= 0.0000
				R-squared	= 0.9777
				Adj R-squared	= 0.9764
Total	2069.57731	143	14.4725686	Root MSE	= .58498

lendingrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cof	1.129137	.050505	22.36	0.000	1.029254	1.22902
npl	.1505736	.0529801	2.84	0.005	.0457952	.255352
bep	1.630265	.0954213	17.08	0.000	1.441551	1.818979
ldr	-.0514334	.0050885	-10.11	0.000	-.061497	-.0413698
size	-.1362225	.10659	-1.28	0.203	-.3470246	.0745797
oc	.9332087	.0723017	12.91	0.000	.7902181	1.076199
inflasi	-.0745258	.0306074	-2.43	0.016	-.1350578	-.0139938
pdb	-.0322359	.0211868	-1.52	0.130	-.0741368	.0096651
_cons	7.08039	2.321872	3.05	0.003	2.48844	11.67234

```
32 . xtreg lendingrate cof npl bep ldr size oc inflasi pdb,fe
```

Fixed-effects (within) regression — Number of obs = 144
Group variable: firm — Number of groups = 4

R-sq:
within = 0.9841
between = 0.3827
overall = 0.9338

Obs per group:
min = 36
avg = 36.0
max = 36

F(8,132) = 1022.47
corr(u_i, Xb) = -0.2034 — Prob > F = 0.0000

lendingrate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cof	1.032024	.0522133	19.77	0.000	.9287405	1.135307
npl	.1443762	.0446162	3.24	0.002	.056121	.2326314
bep	1.504236	.0900679	16.70	0.000	1.326073	1.682399
ldr	-.0934714	.0073698	-12.68	0.000	-.1080497	-.0788931
size	.2163199	.1263847	1.71	0.089	-.0336815	.4663212
oc	1.080765	.0680072	15.89	0.000	.9462399	1.21529
inflasi	-.0739822	.0255961	-2.89	0.005	-.1246139	-.0233505
pdb	-.0104083	.018343	-0.57	0.571	-.0466925	.0258759
_cons	3.97126	2.372765	1.67	0.097	-.7223029	8.664823
sigma_u	1.0092223					
sigma_e	.4881377					
rho	.81040986	(fraction of variance due to u_i)				

F test that all u_i=0: F(3, 132) = 20.63 — Prob > F = 0.0000

```
33 . xtreg lendingrate cof npl bep ldr size oc inflasi pdb,re

Random-effects GLS regression                   Number of obs     =        144
Group variable: firm                            Number of groups  =          4

R-sq:                                           Obs per group:
     within  = 0.9799                                         min =         36
     between = 0.9729                                         avg =       36.0
     overall = 0.9777                                         max =         36

                                                Wald chi2(8)      =    5912.85
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0000

------------------------------------------------------------------------------
 lendingrate |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         cof |   1.129137    .050505    22.36   0.000     1.030149    1.228125
         npl |   .1505736   .0529801     2.84   0.004     .0467345    .2544128
         bep |   1.630265   .0954213    17.08   0.000     1.443242    1.817287
         ldr |  -.0514334   .0050885   -10.11   0.000    -.0614068    -.04146
        size |  -.1362225     .10659    -1.28   0.201    -.3451349     .07269
          oc |   .9332087   .0723017    12.91   0.000     .7914999    1.074917
     inflasi |  -.0745258   .0306074    -2.43   0.015    -.1345152   -.0145364
         pdb |  -.0322359   .0211868    -1.52   0.128    -.0737612    .0092895
       _cons |    7.08039   2.321872     3.05   0.002     2.529603    11.63118
-------------+----------------------------------------------------------------
     sigma_u |          0
     sigma_e |   .4881377
         rho |          0   (fraction of variance due to u_i)
------------------------------------------------------------------------------

34 . xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        lendingrate[firm,t] = Xb + u[firm] + e[firm,t]

        Estimated results:
                        |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                lending~e |   14.47257       3.804283
                        e |   .2382784       .4881377
                        u |          0              0

        Test:   Var(u) = 0
                             chibar2(01) =     0.00
                          Prob > chibar2 =   1.0000

35 . queitly xtreg lendingrate cof npl bep ldr size oc inflasi pdb,fe
command queitly is unrecognized
r(199);

36 . quietly xtreg lendingrate cof npl bep ldr size oc inflasi pdb,fe
```

```
37 . estimates store fe

38 . quietly xtreg lendingrate cof npl bep ldr size oc inflasi pdb,re

39 . estimates store re

40 . hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
cof	1.032024	1.129137	-.0971134	.0132467
npl	.1443762	.1505736	-.0061974	.
bep	1.504236	1.630265	-.126029	.
ldr	-.0934714	-.0514334	-.042038	.0053312
size	.2163199	-.1362225	.3525424	.0679092
oc	1.080765	.9332087	.1475562	.
inflasi	-.0739822	-.0745258	.0005436	.
pdb	-.0104083	-.0322359	.0218275	.

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(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 226.40
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

```
41 . vif,uncentered
```

Variable	VIF	1/VIF
size	92.11	0.010857
ldr	76.84	0.013015
oc	15.89	0.062939
bep	15.61	0.064054
inflasi	10.75	0.093020
cof	9.40	0.106428
npl	8.50	0.117650
pdb	1.47	0.681445
Mean VIF	28.82	

```
42 . quietly reg lendingrate cof npl bep ldr size oc inflasi pdb

43 . hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of lendingrate

         chi2(1)      =    42.04
         Prob > chi2  =   0.0000
```

```
44 . xtgls lendingrate cof npl bep ldr size oc inflasi pdb

Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        homoskedastic
Correlation:   no autocorrelation

Estimated covariances      =         1          Number of obs      =       144
Estimated autocorrelations =         0          Number of groups   =         4
Estimated coefficients     =         9          Time periods       =        36
                                                Wald chi2(8)       =   6307.04
Log likelihood             = -122.4705          Prob > chi2        =    0.0000
```

lendingrate	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
cof	1.129137	.0489013	23.09	0.000	1.033292	1.224982
npl	.1505736	.0512978	2.94	0.003	.0500318	.2511155
bep	1.630265	.0923913	17.65	0.000	1.449181	1.811348
ldr	-.0514334	.004927	-10.44	0.000	-.0610901	-.0417767
size	-.1362225	.1032053	-1.32	0.187	-.3385011	.0660562
oc	.9332087	.0700058	13.33	0.000	.7959998	1.070418
inflasi	-.0745258	.0296355	-2.51	0.012	-.1326103	-.0164413
pdb	-.0322359	.020514	-1.57	0.116	-.0724426	.0079709
_cons	7.08039	2.248143	3.15	0.002	2.67411	11.48667

```
45 . xtreg lendingrate cof npl bep ldr size oc inflasi pdb,fe ro

Fixed-effects (within) regression               Number of obs      =       144
Group variable: firm                            Number of groups   =         4

R-sq:                                           Obs per group:
     within  = 0.9841                                         min =        36
     between = 0.3827                                         avg =      36.0
     overall = 0.9338                                         max =        36

                                                F(3,3)             =         .
corr(u_i, Xb)  = -0.2034                        Prob > F           =         .

                                (Std. Err. adjusted for 4 clusters in firm)
```

lendingrate	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
cof	1.032024	.1434083	7.20	0.006	.5756344	1.488413
npl	.1443762	.0667571	2.16	0.119	-.0680746	.356827
bep	1.504236	.1466927	10.25	0.002	1.037394	1.971077
ldr	-.0934714	.0112997	-8.27	0.004	-.129432	-.0575108
size	.2163199	.1113697	1.94	0.147	-.1381084	.5707481
oc	1.080765	.1269443	8.51	0.003	.6767715	1.484758
inflasi	-.0739822	.0261646	-2.83	0.066	-.1572496	.0092852
pdb	-.0104083	.0149123	-0.70	0.535	-.0578658	.0370492
_cons	3.97126	2.708131	1.47	0.239	-4.647221	12.58974
sigma_u	1.0092223					
sigma_e	.4881377					
rho	.81040986	(fraction of variance due to u_i)				

```
46 . estimates store pls

47 . estimates store fe

48 . estimates store re

49 . estimates store gls

50 . estimates table fe re pls gls, star stats(N r2 r2_a)
```

Variable	fe	re	pls	gls
cof	1.0320236**	1.0320236**	1.0320236**	1.0320236**
npl	.1443762	.1443762	.1443762	.1443762
bep	1.5042357**	1.5042357**	1.5042357**	1.5042357**
ldr	-.09347138**	-.09347138**	-.09347138**	-.09347138**
size	.21631988	.21631988	.21631988	.21631988
oc	1.0807649**	1.0807649**	1.0807649**	1.0807649**
inflasi	-.0739822	-.0739822	-.0739822	-.0739822
pdb	-.01040833	-.01040833	-.01040833	-.01040833
_cons	3.9712602	3.9712602	3.9712602	3.9712602
N	144	144	144	144
r2	.98411887	.98411887	.98411887	.98411887
r2_a	.98317776	.98317776	.98317776	.98317776

legend: * p<0.05; ** p<0.01; *** p<0.001

```
51 .
```