LAMPIRAN 2

HASIL PENGOLAHAN STATA

1. Uji Common Effect/ Pooled Least Square

```
.  xtset firm tahun
       panel variable:  firm (weakly balanced)
        time variable:  tahun, 1 to 252
                delta:  1 unit

. reg ldr lr12 cof12 dar1 teta opm tato12
```

Source	SS	df	MS		
Model	2500871.44	6	416811.907	Number of obs	= 252
Residual	752431.685	245	3071.14973	F(6, 245)	= 135.72
				Prob > F	= 0.0000
Total	3253303.13	251	12961.367	R-squared	= 0.7687
				Adj R-squared	= 0.7631
				Root MSE	= 55.418

ldr	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lr12	-6.370035	.803388	-7.93	0.000	-7.952464	-4.787607
cof12	1.18649	1.482136	0.80	0.424	-1.732864	4.105843
dar1	-2.910425	.2544094	-11.44	0.000	-3.411533	-2.409316
teta	6.726516	.579132	11.61	0.000	5.585803	7.867228
opm	.5377378	.2529757	2.13	0.035	.039453	1.036023
tato12	.3586434	.3053513	1.17	0.241	-.2428051	.960092
_cons	267.5581	17.30863	15.46	0.000	233.4654	301.6508

2. Output Uji Chow (Fixed Effect)

```
. xtreg ldr lr12 cof12 dar1 teta opm tato12, fe

Fixed-effects (within) regression               Number of obs      =       252
Group variable: firm                            Number of groups   =         9

R-sq:                                           Obs per group:
     within  = 0.2385                                         min =        28
     between = 0.6721                                         avg =      28.0
     overall = 0.5409                                         max =        28

                                                F(6,237)           =     12.37
corr(u_i, Xb)  = 0.5259                         Prob > F           =    0.0000
```

ldr	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lr12	-3.102484	.7780942	-3.99	0.000	-4.635348	-1.56962
cof12	-.0176451	1.277107	-0.01	0.989	-2.533576	2.498286
dar1	-2.062381	.3433923	-6.01	0.000	-2.738872	-1.38589
teta	-.7845318	1.494161	-0.53	0.600	-3.728064	2.159001
opm	.3769848	.2428211	1.55	0.122	-.1013787	.8553483
tato12	-.0009399	.3045962	-0.00	0.998	-.6010018	.5991219
_cons	266.2046	20.09499	13.25	0.000	226.617	305.7922
sigma_u	79.934731					
sigma_e	43.976981					
rho	.76764985	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(8, 237) = 19.01                     Prob > F = 0.0000
```

3. Output Uji Ramdom Effect (RE)

```
. xtreg ldr lr12 cof12 dar1 teta opm tato12, re

Random-effects GLS regression                   Number of obs     =       252
Group variable: firm                            Number of groups  =         9

R-sq:                                           Obs per group:
     within  = 0.2175                                         min =        28
     between = 0.9210                                         avg =      28.0
     overall = 0.7577                                         max =        28

                                                Wald chi2(6)      =    128.58
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =    0.0000
```

ldr	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
lr12	-3.49007	.7963601	-4.38	0.000	-5.050907	-1.929233
cof12	.1767829	1.324511	0.13	0.894	-2.419211	2.772777
dar1	-2.450193	.3289528	-7.45	0.000	-3.094929	-1.805457
teta	3.59792	1.128099	3.19	0.001	1.386887	5.808953
opm	.3857009	.2484978	1.55	0.121	-.1013459	.8727477
tato12	-.0479245	.3084586	-0.16	0.877	-.6524924	.5566433
_cons	255.0468	22.18441	11.50	0.000	211.5662	298.5275
sigma_u	30.0217					
sigma_e	43.976981					
rho	.31788864	(fraction of variance due to u_i)				

4. Uji LM Test

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

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

        Estimated results:
                         |       Var     sd = sqrt(Var)
                 --------+------------------------------
                     ldr |    12961.37        113.848
                       e |    1933.975       43.97698
                       u |    901.3025        30.0217

        Test:   Var(u) = 0
                                 chibar2(01) =   161.13
                              Prob > chibar2 =   0.0000
```

5. Uji Hausman (FE><RE=FE)

```
. quietly xtreg ldr lr12 cof12 dar1 teta opm tato12, fe

. estimates store fe

. quietly xtreg ldr lr12 cof12 dar1 teta opm tato12, re

. estimates store re

. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
lr12	-3.102484	-3.49007	.3875862	.
cof12	-.0176451	.1767829	-.194428	.
dar1	-2.062381	-2.450193	.3878118	.098531
teta	-.7845318	3.59792	-4.382452	.9797495
opm	.3769848	.3857009	-.0087161	.
tato12	-.0009399	-.0479245	.0469846	.

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(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 39.36
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

6. Uji Multikolinieritas

```
. vif, uncentered
```

Variable	VIF	1/VIF
lr12	6.85	0.145962
dar1	4.43	0.225666
opm	3.65	0.274313
cof12	3.47	0.288163
tato12	2.83	0.353105
teta	2.75	0.363200
Mean VIF	4.00	

7. Uji Heteroskedastisitas

```
. quietly reg ldr lr12 cof12 dar1 teta opm tato12

. hettest

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

         chi2(1)      =    40.84
         Prob > chi2  =   0.0000
```

8. Metode Robust

```
. xtreg ldr lr12 cof12 dar1 teta opm tato12, fe ro

Fixed-effects (within) regression               Number of obs      =       252
Group variable: firm                            Number of groups   =         9

R-sq:                                           Obs per group:
     within  = 0.2385                                         min =        28
     between = 0.6721                                         avg =      28.0
     overall = 0.5409                                         max =        28

                                                F(6,8)             =     18.94
corr(u_i, Xb)  = 0.5259                         Prob > F           =     0.0003

                                    (Std. Err. adjusted for 9 clusters in firm)
------------------------------------------------------------------------------
             |               Robust
         ldr |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        lr12 |  -3.102484   1.251457    -2.48   0.038    -5.988349   -.2166185
       cof12 |  -.0176451   .9740033    -0.02   0.986    -2.263701    2.228411
        dar1 |  -2.062381   .5773558    -3.57   0.007    -3.393766   -.7309962
        teta |  -.7845318   3.747853    -0.21   0.839    -9.427095    7.858032
         opm |   .3769848   .3089716     1.22   0.257     -.335505    1.089475
      tato12 |  -.0009399   .3324593    -0.00   0.998    -.7675924    .7657126
       _cons |   266.2046   40.28254     6.61   0.000     173.3129    359.0963
-------------+----------------------------------------------------------------
     sigma_u |  79.934731
     sigma_e |  43.976981
         rho |  .76764985   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

9. Metode GLS

```
. xtgls ldr lr12 cof12 dar1 teta opm tato12

Cross-sectional time-series FGLS regression

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

Estimated covariances      =         1          Number of obs      =       252
Estimated autocorrelations =         0          Number of groups   =         9
Estimated coefficients     =         7          Time periods       =        28
                                                Wald chi2(6)       =    837.58
Log likelihood             = -1365.779          Prob > chi2        =    0.0000
```

ldr	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
lr12	-6.370035	.7921513	-8.04	0.000	-7.922623	-4.817447
cof12	1.18649	1.461405	0.81	0.417	-1.677812	4.050792
dar1	-2.910425	.250851	-11.60	0.000	-3.402084	-2.418766
teta	6.726516	.5710318	11.78	0.000	5.607314	7.845718
opm	.5377378	.2494374	2.16	0.031	.0488494	1.026626
tato12	.3586434	.3010804	1.19	0.234	-.2314634	.9487503
_cons	267.5581	17.06654	15.68	0.000	234.1083	301.0079

10. Perbandingan FE, RE dan GLS

```
. estimates store fe

. estimates store ols

. estimates store gls

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

Variable	fe	re	ols	gls
lr12	-6.3700355***	-3.4900702***	-6.3700355***	-6.3700355***
cof12	1.1864898	.17678286	1.1864898	1.1864898
dar1	-2.9104248***	-2.450193***	-2.9104248***	-2.9104248***
teta	6.7265158***	3.5979199**	6.7265158***	6.7265158***
opm	.53773779*	.38570088	.53773779*	.53773779*
tato12	.35864345	-.04792454	.35864345	.35864345
_cons	267.55812***	255.04683***	267.55812***	267.55812***
N	252	252	252	252
r2				
r2_a				

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

11. Uji R-square

```
R-sq:                                       Obs per group:
     within  = 0.2385                                 min =        28
     between = 0.6721                                 avg =      28.0
     overall = 0.5409                                 max =        28

                                            F(6,237)          =     12.37
corr(u_i, Xb)  = 0.5259                     Prob > F          =    0.0000
```

12. Uji t

.

ldr	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
lr12	-6.370035	.7921513	-8.04	0.000	-7.922623	-4.817447
cof12	1.18649	1.461405	0.81	0.417	-1.677812	4.050792
dar1	-2.910425	.250851	-11.60	0.000	-3.402084	-2.418766
teta	6.726516	.5710318	11.78	0.000	5.607314	7.845718
opm	.5377378	.2494374	2.16	0.031	.0488494	1.026626
tato12	.3586434	.3010804	1.19	0.234	-.2314634	.9487503
_cons	267.5581	17.06654	15.68	0.000	234.1083	301.0079

13. Uji f

```
. xtreg ldr lr12 cof12 dar1 teta opm tato12, fe

Fixed-effects (within) regression               Number of obs      =       252
Group variable: firm                            Number of groups   =         9

R-sq:                                           Obs per group:
     within  = 0.2385                                         min =        28
     between = 0.6721                                         avg =      28.0
     overall = 0.5409                                         max =        28

                                                F(6,237)           =     12.37
corr(u_i, Xb)  = 0.5259                         Prob > F           =    0.0000
```