

LAMPIRAN 2
HASIL PENGOLAHAN STATA

```
set more off
drop firm
encode kode, gen(firm)
sort kode quarter
*panel identifier
iis firm

tis quarter

xtset firm quarter
```

```
. xtset firm quarter
      panel variable:  firm (weakly balanced)
      time variable:  quarter, 1 to 264
                   delta:  1 unit
```

1. Uji Common Effect/Pooled Least Square

```
. reg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7
```

Source	SS	df	MS	Number of obs	=	264
Model	17722.1031	7	2531.72902	F(7, 256)	=	30.96
Residual	20930.8651	256	81.7611919	Prob > F	=	0.0000
				R-squared	=	0.4585
				Adj R-squared	=	0.4437
Total	38652.9683	263	146.969461	Root MSE	=	9.0422

roey	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
emx1	.0062965	.0011295	5.57	0.000	.0040723 .0085208
tatox2	.2681883	.1317175	2.04	0.043	.0088006 .5275761
opmx3	.3109585	.0461485	6.74	0.000	.2200796 .4018375
ibx4	.0021182	.0110035	0.19	0.847	-.0195506 .023787
tbx5	-.0018839	.0011934	-1.58	0.116	-.004234 .0004662
fdrx6	-.0497949	.0174198	-2.86	0.005	-.0840992 -.0154906
npfx7	-.6128611	.2092638	-2.93	0.004	-1.024959 -.2007633
_cons	1.788673	2.828193	0.63	0.528	-3.780814 7.35816

2. Output Uji Chow (Fixed Effect)

```
. xtreg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7, fe
```

```
Fixed-effects (within) regression      Number of obs   =      264
Group variable: firm                  Number of groups =       11

R-sq:                                  Obs per group:
    within = 0.3957                    min       =      24
    between = 0.3708                    avg       =     24.0
    overall = 0.3794                    max       =      24
```

```
corr(u_i, Xb) = 0.0936                  F(7,246)       =     23.02
                                          Prob > F        =     0.0000
```

roey	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
emx1	.0008687	.0014681	0.59	0.555	-.0020228 .0037603	
tatox2	-.2370111	.16923	-1.40	0.163	-.5703356 .0963134	
opmx3	.2603617	.0458825	5.67	0.000	.1699889 .3507344	
ibx4	.006143	.0098179	0.63	0.532	-.0131948 .0254808	
tbx5	-.002881	.0010799	-2.67	0.008	-.0050081 -.0007539	
fdrx6	-.0540019	.0232714	-2.32	0.021	-.0998385 -.0081653	
npfx7	-.4797429	.2403833	-2.00	0.047	-.9532149 -.0062709	
_cons	12.00785	3.320842	3.62	0.000	5.46694 18.54876	
sigma_u	5.8692621					
sigma_e	8.0129159					
rho	.34917862	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(10, 246) = 8.0055 Prob > F = 0.0000
```

3. Output Uji Random Effect (RE)

```
. xtreg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7, re

Random-effects GLS regression              Number of obs   =       264
Group variable: firm                      Number of groups =        11

R-sq:                                     Obs per group:
      within = 0.3874                      min =           24
      between = 0.5753                     avg =          24.0
      overall = 0.4310                     max =           24

corr(u_i, X) = 0 (assumed)                Wald chi2(7)    =     170.74
                                           Prob > chi2     =     0.0000
```

roey	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
emx1	.0030866	.0013095	2.36	0.018	.00052 .0056532	
tatox2	-.0538815	.1546981	-0.35	0.728	-.3570842 .2493211	
opmx3	.2764759	.045193	6.12	0.000	.1878993 .3650525	
ibx4	.0046894	.0101057	0.46	0.643	-.0151174 .0244962	
tbx5	-.0025735	.0011069	-2.33	0.020	-.0047429 -.0004041	
fdrx6	-.0580024	.0201843	-2.87	0.004	-.0975629 -.0184419	
npfx7	-.5348873	.2242501	-2.39	0.017	-.9744095 -.0953651	
_cons	8.684172	3.222297	2.70	0.007	2.368586 14.99976	
sigma_u	2.9144806					
sigma_e	8.0129159					
rho	.11683739	U (fraction of variance due to u_i)				

4. Uji LM Test

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

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

Estimated results:
-----
          Var      sd = sqrt(Var)
-----
roey      146.9695      12.1231
e          64.20682      8.012916
u          8.494197      2.914481

Test:  Var(u) = 0
      chibar2(01) =     54.17
      Prob > chibar2 =     0.0000
```

5. Hausman (FE)<RE= FE)

```
. quietly xtreg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7, fe
. estimates store fe
. quietly xtreg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7, re
. estimates store re
. hausman fe re
```

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
emx1	.0008687	.0030866	-.0022179	.0006636
tatox2	-.2370111	-.0538815	-.1831296	.0686096
opmx3	.2603617	.2764759	-.0161142	.0079248
ibx4	.006143	.0046894	.0014536	.
tbx5	-.002881	-.0025735	-.0003075	.
fdrx6	-.0540019	-.0580024	.0040005	.0115824
npfx7	-.4797429	-.5348873	.0551444	.0865795

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(7) = (b-B)' [(V_b-V_B)^(-1)] (b-B)
 = 21.76
 Prob>chi2 = 0.0028
 (V_b-V_B is not positive definite)

6. Uji Multikolinearitas

```
. vif, uncentered
```

Variable	VIF	1/VIF
fdrx6	6.43	0.155627
tatox2	6.34	0.157825
npfx7	4.39	0.227584
ibx4	4.32	0.231285
emx1	2.92	0.342102
opmx3	2.46	0.406595
tbx5	1.03	0.970580
Mean VIF	3.98	

7. Uji Heteroskedastisitas

```
. quietly reg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7
```

```
. hettest
```

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of roey

```
chi2(1) = 66.94
```

```
Prob > chi2 = 0.0000
```

8. Metode Robust

```
. xtreg roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7, fe ro
```

Fixed-effects (within) regression

Group variable: firm

R-sq:

within = 0.3957

between = 0.3708

overall = 0.3794

Number of obs = 264

Number of groups = 11

Obs per group:

min = 24

avg = 24.0

max = 24

F(7,10) = 388.81

Prob > F = 0.0000

corr(u_i, Xb) = 0.0936

(Std. Err. adjusted for 11 clusters in firm)

roey	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]
emx1	.0008687	.0017675	0.49	0.634	-.0030696 .0048071
tatox2	-.2370111	.4219454	-0.56	0.587	-1.177164 .7031418
opmx3	.2603617	.0601676	4.33	0.001	.1263 .3944233
ibx4	.006143	.0068913	0.89	0.394	-.0092117 .0214977
tbx5	-.002881	.000268	-10.75	0.000	-.0034782 -.0022838
fdrx6	-.0540019	.0359622	-1.50	0.164	-.1341307 .0261268
npfx7	-.4797429	.5673264	-0.85	0.418	-1.743825 .784339
_cons	12.00785	5.656219	2.12	0.060	-.5949902 24.61069
sigma_u	5.8692621				
sigma_e	8.0129159				
rho	.34917862	(fraction of variance due to u_i)			

9. Metode GLS

```
. xtgls roey emx1 tatox2 opmx3 ibx4 tbx5 fdrx6 npfx7
```

Cross-sectional time-series FGLS regression

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

```
Estimated covariances = 1 Number of obs = 264
Estimated autocorrelations = 0 Number of groups = 11
Estimated coefficients = 8 Time periods = 24
Wald chi2(7) = 223.53
Log likelihood = -951.8399 Prob > chi2 = 0.0000
```

roey	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
emx1	.0062965	.0011122	5.66	0.000	.0041166 .0084764
tatox2	.2681883	.1297064	2.07	0.039	.0139685 .5224082
opmx3	.3109585	.0454439	6.84	0.000	.2218902 .4000268
ibx4	.0021182	.0108354	0.20	0.845	-.0191189 .0233553
tbx5	-.0018839	.0011752	-1.60	0.109	-.0041871 .0004194
fdrx6	-.0497949	.0171538	-2.90	0.004	-.0834157 -.016174
npfx7	-.6128611	.2060688	-2.97	0.003	-1.016749 -.2089738
_cons	1.788673	2.785012	0.64	0.521	-3.669851 7.247196

10. Perbandingan FE, RE, dan OLS

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

Variable	ols	fe	re	gls
emx1	.00629653***	.00629653***	.00629653***	.00629653***
tatox2	.26818833*	.26818833*	.26818833*	.26818833*
opmx3	.31095852***	.31095852***	.31095852***	.31095852***
ibx4	.00211822	.00211822	.00211822	.00211822
tbx5	-.00188387	-.00188387	-.00188387	-.00188387
fdrx6	-.04979487**	-.04979487**	-.04979487**	-.04979487**
npfx7	-.61286115**	-.61286115**	-.61286115**	-.61286115**
_cons	1.7886728	1.7886728	1.7886728	1.7886728
N	264	264	264	264
r2				
r2_a				

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