LAMPIRAN 3

HASIL PENGOLAHAN STATA

```
set more off
encode bank,  gen(index)
gen datevar=yq(year,quarter)
format datevar %tq
```

```
. tsset index datevar
        panel variable:  index (strongly balanced)
         time variable:  datevar, 2010q1 to 2015q4
                 delta:  1 quarter
```

1. Uji Common Effect / Pooled Least Square

```
. reg roe em tato opm ib tb ldr npl
```

Source	SS	df	MS	Number of obs	=	624
				F(7, 616)	=	52.56
Model	38423.2193	7	5489.03132	Prob > F	=	0.0000
Residual	64328.8153	616	104.429895	R-squared	=	0.3739
				Adj R-squared	=	0.3668
Total	102752.035	623	164.931035	Root MSE	=	10.219

roe	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
em	.0153416	.0016531	9.28	0.000	.0120951	.018588
tato	1.802968	.1465563	12.30	0.000	1.515157	2.090778
opm	.5955866	.0557865	10.68	0.000	.4860318	.7051414
ib	.1695299	.0402279	4.21	0.000	.0905294	.2485303
tb	-.032348	.0271974	-1.19	0.235	-.0857589	.0210628
ldr	.1091363	.0271337	4.02	0.000	.0558506	.162422
npl	-.4783592	.2163586	-2.21	0.027	-.9032491	-.0534692
_cons	-50.65837	5.913313	-8.57	0.000	-62.27106	-39.04567

2. Output Uji Chow (Fixed Effect)

```
. xtreg roe em tato opm ib tb ldr npl, fe

Fixed-effects (within) regression               Number of obs      =       624
Group variable: index                           Number of groups   =        26

R-sq:                                           Obs per group:
     within  = 0.2655                                         min =        24
     between = 0.6781                                         avg =      24.0
     overall = 0.3644                                         max =        24

                                                F(7,591)           =     30.52
corr(u_i, Xb)  = 0.0921                         Prob > F           =    0.0000

------------------------------------------------------------------------------
         roe |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          em |     .01108   .0019977     5.55   0.000     .0071565    .0150034
        tato |   1.737913   .1741984     9.98   0.000      1.39579    2.080036
         opm |   .5680176   .0642106     8.85   0.000      .441909    .6941262
          ib |   .1314721   .0453262     2.90   0.004     .0424522    .2204921
          tb |  -.0402736   .0278127    -1.45   0.148    -.0948973    .0143501
         ldr |   .1192896   .0302358     3.95   0.000      .059907    .1786722
         npl |  -.3850628   .2859096    -1.35   0.179    -.9465854    .1764597
       _cons |  -41.23673   6.529815    -6.32   0.000     -54.0612   -28.41227
-------------+----------------------------------------------------------------
     sigma_u |  3.693771
     sigma_e |  9.8372809
         rho |   .1235685   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(25, 591) = 2.95                     Prob > F = 0.0000
```

3. Output Uji Random Effect (RE)

```
. xtreg roe em tato opm ib tb ldr npl, re

Random-effects GLS regression                   Number of obs     =       624
Group variable: index                           Number of groups  =        26

R-sq:                                           Obs per group:
     within  = 0.2608                                         min =        24
     between = 0.7384                                         avg =      24.0
     overall = 0.3736                                         max =        24

                                                Wald chi2(7)      =    328.90
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =    0.0000
```

roe	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
em	.0144968	.0017066	8.49	0.000	.0111518	.0178417
tato	1.787081	.1512735	11.81	0.000	1.490591	2.083572
opm	.5846997	.0571259	10.24	0.000	.4727349	.6966644
ib	.159895	.0411615	3.88	0.000	.07922	.2405701
tb	-.0345973	.0272181	-1.27	0.204	-.0879437	.0187491
ldr	.1132133	.0276339	4.10	0.000	.0590518	.1673747
npl	-.4726551	.2275371	-2.08	0.038	-.9186197	-.0266905
_cons	-48.46787	6.027252	-8.04	0.000	-60.28107	-36.65467
sigma_u	1.237954					
sigma_e	9.8372809					
rho	.0155896	(fraction of variance due to u_i)				

4. Uji LM Test

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        roe[index,t] = Xb + u[index] + e[index,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+-----------------------------
                     roe |     164.931       12.84255
                       e |     96.7721       9.837281
                       u |     1.53253       1.237954

        Test:   Var(u) = 0
                                 chibar2(01) =    26.38
                              Prob > chibar2 =   0.0000
```

5. HAUSMAN (FE><RE=FE)

quietly xtreg roe em tato opm ib tb ldr npl, fe

estimates store fe

quietly xtreg roe em tato opm ib tb ldr npl, re

estimates store re

```
. hausman fe re
```

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
em	.01108	.0144968	-.0034168	.0010383
tato	1.737913	1.787081	-.0491684	.0863795
opm	.5680176	.5846997	-.0166821	.0293193
ib	.1314721	.159895	-.0284229	.0189787
tb	-.0402736	-.0345973	-.0056763	.0057204
ldr	.1192896	.1132133	.0060764	.0122707
npl	-.3850628	-.4726551	.0875922	.1731218

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)
= 136.48
Prob>chi2 = 0.0000

6. Uji Multikolinieritas

```
. vif, uncentered
```

Variable	VIF	1/VIF
ib	48.59	0.020579
tb	26.26	0.038080
ldr	22.41	0.044629
tato	19.71	0.050733
em	12.67	0.078948
opm	12.49	0.080043
npl	2.14	0.467294
Mean VIF	20.61	

7. Uji Heteroskedastisitas

quietly reg roe em tato opm ib tb ldr npl

```
. hettest

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

         chi2(1)      =   351.64
         Prob > chi2  =   0.0000
```

8. Metode Robust

```
. xtreg roe em tato opm ib tb ldr npl, fe ro

Fixed-effects (within) regression               Number of obs      =       624
Group variable: index                           Number of groups   =        26

R-sq:                                           Obs per group:
     within  = 0.2655                                         min =        24
     between = 0.6781                                         avg =      24.0
     overall = 0.3644                                         max =        24

                                                F(7,25)            =      9.56
corr(u_i, Xb)  = 0.0921                         Prob > F           =    0.0000

                                    (Std. Err. adjusted for 26 clusters in index)
------------------------------------------------------------------------------
             |               Robust
         roe |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          em |     .01108   .0027712     4.00   0.000     .0053726    .0167874
        tato |   1.737913   .3284783     5.29   0.000     1.061399    2.414427
         opm |   .5680176   .1196435     4.75   0.000     .3216072     .814428
          ib |   .1314721   .0824487     1.59   0.123    -.0383341    .3012784
          tb |  -.0402736   .0322055    -1.25   0.223    -.1066021    .0260548
         ldr |   .1192896   .0563442     2.12   0.044     .0032466    .2353326
         npl |  -.3850628   .2653194    -1.45   0.159    -.9314983    .1613727
       _cons |  -41.23673   13.51212    -3.05   0.005    -69.06547     -13.408
-------------+----------------------------------------------------------------
     sigma_u |  3.693771
     sigma_e |  9.8372809
         rho |  .1235685   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

9. Metode GLS

```
. xtgls roe em tato opm ib tb ldr npl

Cross-sectional time-series FGLS regression

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

Estimated covariances      =         1        Number of obs     =       624
Estimated autocorrelations =         0        Number of groups  =        26
Estimated coefficients     =         8        Time periods      =        24
                                              Wald chi2(7)      =    372.71
Log likelihood             = -2331.729        Prob > chi2       =    0.0000
```

roe	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
em	.0153416	.0016425	9.34	0.000	.0121223	.0185608
tato	1.802968	.1456138	12.38	0.000	1.51757	2.088365
opm	.5955866	.0554277	10.75	0.000	.4869502	.704223
ib	.1695299	.0399692	4.24	0.000	.0911917	.247868
tb	-.032348	.0270225	-1.20	0.231	-.0853111	.020615
ldr	.1091363	.0269592	4.05	0.000	.0562973	.1619753
npl	-.4783592	.2149673	-2.23	0.026	-.8996872	-.0570311
_cons	-50.65837	5.875284	-8.62	0.000	-62.17371	-39.14302

10. PERBANDINGAN FE, RE dan OLS

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
em	.01449678***	.01449678***	.01449678***	.01449678***
tato	1.7870813***	1.7870813***	1.7870813***	1.7870813***
opm	.58469969***	.58469969***	.58469969***	.58469969***
ib	.15989504***	.15989504***	.15989504***	.15989504***
tb	-.03459734	-.03459734	-.03459734	-.03459734
ldr	.11321326***	.11321326***	.11321326***	.11321326***
npl	-.47265506*	-.47265506*	-.47265506*	-.47265506*
_cons	-48.467872***	-48.467872***	-48.467872***	-48.467872***
N	624	624	624	624
r2				
r2_a				

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

11. Uji R-Square

```
R-sq:                                   Obs per group:
     within  = 0.2655                                 min =        24
     between = 0.6781                                 avg =      24.0
     overall = 0.3644                                 max =        24

                                        F(7,591)            =     30.52
corr(u_i, Xb)  = 0.0921                 Prob > F            =    0.0000
```

12. Uji t

roe	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
em	.0153416	.0016425	9.34	0.000	.0121223	.0185608
tato	1.802968	.1456138	12.38	0.000	1.51757	2.088365
opm	.5955866	.0554277	10.75	0.000	.4869502	.704223
ib	.1695299	.0399692	4.24	0.000	.0911917	.247868
tb	-.032348	.0270225	-1.20	0.231	-.0853111	.020615
ldr	.1091363	.0269592	4.05	0.000	.0562973	.1619753
npl	-.4783592	.2149673	-2.23	0.026	-.8996872	-.0570311
_cons	-50.65837	5.875284	-8.62	0.000	-62.17371	-39.14302

13. Uji F

```
. xtreg roe em tato opm ib tb ldr npl, fe

Fixed-effects (within) regression               Number of obs      =       624
Group variable: index                           Number of groups   =        26

R-sq:                                           Obs per group:
     within  = 0.2655                                         min =        24
     between = 0.6781                                         avg =      24.0
     overall = 0.3644                                         max =        24

                                                F(7,591)           =     30.52
corr(u_i, Xb)  = 0.0921                         Prob > F           =    0.0000
```