

## LAMPIRAN 2

### HASIL PENGOLAHAN STATA

#### 1. Uji *Pooled Least Square*

```
. reg lr vkredit cof npl bo spread vdpk birate inft1
```

Source	SS	df	MS	Number of obs =	1043
Model	19869.6314	8	2483.70392	F( 8, 1034) =	1482.57
Residual	1732.22674	1034	1.67526764	Prob > F =	0.0000
				R-squared =	0.9198
				Adj R-squared =	0.9192
Total	21601.8581	1042	20.7311498	Root MSE =	1.2943

lr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
vkredit	-5.98e-08	3.97e-09	-15.04	0.000	-6.76e-08	-5.20e-08
cof	1.173139	.0271578	43.20	0.000	1.119848	1.22643
npl	-.0046131	.0127512	-0.36	0.718	-.0296344	.0204082
bo	.0484747	.0291378	1.66	0.096	-.0087012	.1056506
spread	1.490758	.0378261	39.41	0.000	1.416533	1.564982
vdpk	4.70e-08	3.11e-09	15.09	0.000	4.08e-08	5.31e-08
birate	.0960575	.0826307	1.16	0.245	-.0660854	.2582004
inft1	-.1238968	.0293179	-4.23	0.000	-.1814261	-.0663675
_cons	.2522216	.4826741	0.52	0.601	-.6949109	1.199354

```
. estimates store ols
```

2. Uji *Random Effect* (RE)

```
. xtreg lrv kredit cof np1 bo spread vdpk birate inft1, re
```

```
Random-effects GLS regression           Number of obs   =   1043
Group variable: firm                   Number of groups =    64

R-sq:  within = 0.9377                  Obs per group:  min =    1
      between = 0.9413                      avg   =   16.3
      overall  = 0.9189                      max   =   36

Random effects u_i ~ Gaussian          wald chi2(8)    =  14130.49
corr(u_i, X) = 0 (assumed)             Prob > chi2     =    0.0000
```

lrv	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
kredit	-6.55e-08	4.97e-09	-13.17	0.000	-7.52e-08	-5.57e-08
cof	1.174129	.0280891	41.80	0.000	1.119075	1.229182
np1	.012236	.0128762	0.95	0.342	-.0130008	.0374728
bo	.0295209	.0277838	1.06	0.288	-.0249343	.0839761
spread	1.503284	.0410089	36.66	0.000	1.422908	1.58366
vdpk	5.29e-08	4.22e-09	12.54	0.000	4.46e-08	6.12e-08
birate	.0868156	.0745921	1.16	0.244	-.0593824	.2330135
inft1	-.1181447	.02614	-4.52	0.000	-.1693782	-.0669112
_cons	.0774018	.4399892	0.18	0.860	-.7849612	.9397647
sigma_u	.35037155					
sigma_e	1.0778973					
rho	.09556129	(fraction of variance due to u_i)				

```
. estimates store re
```

## 3. Uji Fixed Effect

```
. xtreg lr vkredit cof npl bo spread vdpk birate inft1,fe
```

```
Fixed-effects (within) regression      Number of obs   =   1043
Group variable: firm                  Number of groups =    64
R-sq:  within = 0.9391                Obs per group:  min =    1
      between = 0.9195                  avg   =   16.3
      overall  = 0.8639                 max   =   36
corr(u_i, Xb) = -0.2322                F(8,971)       =  1870.19
                                      Prob > F        =    0.0000
```

lr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
vkredit	-1.04e-07	9.21e-09	-11.24	0.000	-1.22e-07	-8.55e-08
cof	1.155109	.0288724	40.01	0.000	1.09845	1.211768
npl	.017886	.012803	1.40	0.163	-.0072387	.0430106
bo	.0074107	.0270704	0.27	0.784	-.0457126	.0605339
spread	1.598723	.0439464	36.38	0.000	1.512483	1.684964
vdpk	9.34e-08	9.37e-09	9.97	0.000	7.50e-08	1.12e-07
birate	.079355	.0728153	1.09	0.276	-.0635386	.2222485
inft1	-.108241	.0254532	-4.25	0.000	-.1581906	-.0582914
_cons	-.3450966	.4298316	-0.80	0.422	-1.188603	.4984093
sigma_u	1.3395832					
sigma_e	1.0778973					
rho	.60699367	(fraction of variance due to u_i)				

```
F test that all u_i=0:      F(63, 971) =      8.25      Prob > F = 0.0000
```

```
. estimates store fe
```

## 4. Uji Chow

```
. xtreg lr vkredit cof npl bo spread vdpk birate inft1,fe
```

```
Fixed-effects (within) regression      Number of obs   =   1043
Group variable: firm                  Number of groups =    64
R-sq:  within = 0.9391                Obs per group:  min =    1
      between = 0.9195                  avg   =   16.3
      overall  = 0.8639                  max   =   36

corr(u_i, Xb) = -0.2322                F(8, 971)       =  1870.19
                                          Prob > F         =    0.0000
```

lr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
vkredit	-1.04e-07	9.21e-09	-11.24	0.000	-1.22e-07	-8.55e-08
cof	1.155109	.0288724	40.01	0.000	1.09845	1.211768
npl	.017886	.012803	1.40	0.163	-.0072387	.0430106
bo	.0074107	.0270704	0.27	0.784	-.0457126	.0605339
spread	1.598723	.0439464	36.38	0.000	1.512483	1.684964
vdpk	9.34e-08	9.37e-09	9.97	0.000	7.50e-08	1.12e-07
birate	.079355	.0728153	1.09	0.276	-.0635386	.2222485
inft1	-.108241	.0254532	-4.25	0.000	-.1581906	-.0582914
_cons	-.3450966	.4298316	-0.80	0.422	-1.188603	.4984093
sigma_u	1.3395832					
sigma_e	1.0778973					
rho	.60699367	(fraction of variance due to u_i)				

```
F test that all u_i=0: F(63, 971) = 8.25 Prob > F = 0.0000
```

Pada uji ini dipilih FE dari pada OLS, dikarenakan  $\text{Prob} > F = 0.0000$  ; lebih kecil dari  $\text{Alpha} = 0.05$ .

## 5. Uji LM

```
. xttest0
```

Breusch and Pagan Lagrangian multiplier test for random effects

$$l_r[\text{firm},t] = Xb + u[\text{firm}] + e[\text{firm},t]$$

Estimated results:

	Var	sd = sqrt(Var)
l <sub>r</sub>	20.73115	4.553147
e	1.161863	1.077897
u	.1227602	.3503716

Test: Var(u) = 0

chi2(1) = 1202.97  
 Prob > chi2 = 0.0000

Pada uji ini RE dipilih dari pada OLS, dikarenakan Prob> Chi<sup>2</sup>= 0.0000 ; lebih kecil

dari Alpha= 0.05.

## 6. Uji Hausman

Quietly xtreg lr vkredit cof npl bo spread vdpk birate inft1, re

Estimates store re

Quietly xtreg lr vkredit cof npl bo spread vdpk birate inft1, fe

Estimates store fe

Hausman fe re

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
	(b) fe	(B) re		
vkredit	-1.04e-07	-6.55e-08	-3.81e-08	7.76e-09
cof	1.155109	1.174129	-.0190196	.0066795
npl	.017886	.012236	.0056499	.
bo	.0074107	.0295209	-.0221103	.
spread	1.598723	1.503284	.0954396	.0157972
vdpk	9.34e-08	5.29e-08	4.05e-08	8.37e-09
birate	.079355	.0868156	-.0074606	.
inft1	-.108241	-.1181447	.0099037	.

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

$$\text{chi2}(6) = (b-B)' [(V_b-V_B)^{-1}] (b-B)$$

$$= 184.51$$

$$\text{Prob}>\text{chi2} = 0.0000$$

(V\_b-V\_B is not positive definite)

Pada uji ini FE dipilih dari pada RE, dikarenakan ,  $\text{Prob}>\text{Chi}^2 = 0.0000$  ; lebih kecil

dari  $\text{Alpha} = 0.05$ .

## 7. Uji Multikolinieritas

```
. vif, uncentered
```

variable	VIF	1/VIF
vkredit	52.48	0.019054
vdpk	50.92	0.019638
birate	22.71	0.044031
inft1	13.89	0.071985
cof	8.26	0.121107
spread	8.10	0.123400
bo	6.22	0.160811
np1	2.24	0.445958
Mean VIF	20.60	

Pada uji ini terbukti terdapat multikolinieritas pada data, dikarenakan ada Nilai VIF yang lebih besar 10.

## 8. Uji Heterokedastisitas

```
. xttest3
```

```
Modified Wald test for groupwise heteroskedasticity  
in fixed effect regression model
```

**H0:  $\sigma(i)^2 = \sigma^2$  for all i**

```
chi2 (64) = 1695.59  
Prob>chi2 = 0.0000
```

Pada uji ini terbukti terdapat heteroskedastisitas, dikarenakan Prob> Chi<sup>2</sup> = 0.0000 (kurang dari Alpha=0.05).

### 9. Uji Autokolerasi

```
. xtserial lr vkredit cof npl bo spread vdpk birate inft1
```

```
wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
F( 1, 27) = 34.552
Prob > F = 0.0000
```

Pada uji ini terbukti terdapat autokorelasi, dikarenakan  $\text{Prob}>F=0.0000$  (kurang dari  $\text{Alpha}=0.05$ ).

### 10. Metode *treatment* Robust

```
. xtreg lr vkredit cof npl bo spread vdpk birate inft1, fe ro
```

```
Fixed-effects (within) regression      Number of obs   =   1043
Group variable: firm                  Number of groups =    64

R-sq:  within = 0.9391                Obs per group:  min =    1
      between = 0.9195                    avg   =   16.3
      overall  = 0.8639                    max   =    36

corr(u_i, Xb) = -0.2322                F(8, 971)       =  1620.82
                                           Prob > F         =    0.0000
```

(Std. Err. adjusted for clustering on firm)

lr	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
vkredit	-1.04e-07	1.36e-08	-7.60	0.000	-1.30e-07	-7.68e-08
cof	1.155109	.0342654	33.71	0.000	1.087866	1.222352
npl	.017886	.0099113	1.80	0.071	-.0015641	.037336
bo	.0074107	.0223463	0.33	0.740	-.036442	.0512633
spread	1.598723	.0575934	27.76	0.000	1.485701	1.711745
vdpk	9.34e-08	1.36e-08	6.89	0.000	6.68e-08	1.20e-07
birate	.079355	.0719625	1.10	0.270	-.061865	.220575
inft1	-.108241	.0291874	-3.71	0.000	-.1655187	-.0509634
_cons	-.3450966	.3909273	-0.88	0.378	-1.112256	.422063
sigma_u	1.3395832					
sigma_e	1.0778973					
rho	.60699367				(fraction of variance due to u_i)	



## 11. Metode *treatment* Generalized Least Square (GLS)

```
. xtgls lr vkredit cof np1 bo spread vdpk birate inft1
```

Cross-sectional time-series FGLS regression

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

Estimated covariances	=	1	Number of obs	=	1043
Estimated autocorrelations	=	0	Number of groups	=	64
Estimated coefficients	=	9	Obs per group: min	=	1
			avg	=	16.29688
			max	=	36
			wald chi2(8)	=	11963.81
			Prob > chi2	=	0.0000

lr	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
vkredit	-5.98e-08	3.96e-09	-15.10	0.000	-6.75e-08 -5.20e-08
cof	1.173139	.0270404	43.38	0.000	1.120141 1.226137
np1	-.0046131	.0126961	-0.36	0.716	-.029497 .0202708
bo	.0484747	.0290118	1.67	0.095	-.0083874 .1053367
spread	1.490758	.0376625	39.58	0.000	1.41694 1.564575
vdpk	4.70e-08	3.10e-09	15.16	0.000	4.09e-08 5.30e-08
birate	.0960575	.0822734	1.17	0.243	-.0651953 .2573103
inft1	-.1238968	.0291911	-4.24	0.000	-.1811103 -.0666833
_cons	.2522216	.4805871	0.52	0.600	-.6897118 1.194155

## 12. Uji R-Square

Fixed-effects (within) regression  
 Group variable: **firm**

R-sq: within = **0.9391**  
 between = **0.9195**  
 overall = **0.8639**

corr(u\_i, Xb) = **-0.2322**

Number of obs = **1043**  
 Number of groups = **64**

Obs per group: min = **1**  
 avg = **16.3**  
 max = **36**

F(8, 971) = **1870.19**  
 Prob > F = **0.0000**

## 13. Uji T

1r	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
vkredit	-5.98e-08	3.96e-09	-15.10	0.000	-6.75e-08	-5.20e-08
cof	1.173139	.0270404	43.38	0.000	1.120141	1.226137
npl	-.0046131	.0126961	-0.36	0.716	-.029497	.0202708
bo	.0484747	.0290118	1.67	0.095	-.0083874	.1053367
spread	1.490758	.0376625	39.58	0.000	1.41694	1.564575
vdpk	4.70e-08	3.10e-09	15.16	0.000	4.09e-08	5.30e-08
birate	.0960575	.0822734	1.17	0.243	-.0651953	.2573103
inft1	-.1238968	.0291911	-4.24	0.000	-.1811103	-.0666833
_cons	.2522216	.4805871	0.52	0.600	-.6897118	1.194155

## 14. Uji F

Fixed-effects (within) regression	Number of obs	=	1043
Group variable: <b>firm</b>	Number of groups	=	64
R-sq: within = 0.9391	Obs per group: min =		1
between = 0.9195	avg =		16.3
overall = 0.8639	max =		36
corr(u_i, xb) = -0.2322	F(8,971)	=	1870.19
	Prob > F	=	0.0000