Lampiran 2. Sintaks R

#Common Effect Model semua variabel

```
> library(plm)
> common=plm(Produksi~LLS+LAP+RRP+LSH+JP+JKT, data=panel, model="pooling")
> summary(common)
Pooling Model

Call:
plm(formula = Produksi ~ LLS + LAP + RRP + LSH + JP + JKT, data = panel,
    model = "pooling")

Balanced Panel: n = 12, T = 10, N = 120

Residuals:
    Min.   1st Qu.    Median   3rd Qu.      Max.
-2118.13  -378.16     11.28    286.43   1960.50

Coefficients:
               Estimate  Std. Error t-value  Pr(>|t|)
(Intercept) -470.678363  469.664084 -1.0022  0.318408
LLS            0.134333    0.443331  0.3030  0.762442
LAP            6.517747    0.217367 29.9850 < 2.2e-16 ***
RRP            8.735648    3.868209  2.2583  0.025846 *
LSH            0.392161    0.357210  1.0978  0.274606
JP            -0.066866    0.023347 -2.8640  0.004989 **
JKT            0.631002    2.348530  0.2687  0.788666
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:     2968800000
Residual Sum of Squares: 43409000
R-Squared:       0.98538
Adj. R-Squared: 0.9846
F-statistic: 1269.2 on 6 and 113 DF, p-value: < 2.22e-16
```

Common Effect Model tanpa variabel JKT

```
> common=plm(Produksi~LAP+LLS+JP+RRP+LSH, data=panel, model="pooling")
> summary(common)
Pooling Model

Call:
plm(formula = Produksi ~ LAP + LLS + JP + RRP + LSH, data = panel,
    model = "pooling")

Balanced Panel: n = 12, T = 10, N = 120

Residuals:
     Min.    1st Qu.     Median    3rd Qu.       Max.
-2121.327  -377.143     13.175    269.583   1973.500

Coefficients:
               Estimate  Std. Error t-value  Pr(>|t|)
(Intercept) -389.969663  359.568227 -1.0845  0.280409
LAP            6.517461    0.216478 30.1069 < 2.2e-16 ***
LLS            0.134198    0.441523  0.3039  0.761726
JP            -0.066731    0.023247 -2.8706  0.004885 **
RRP            8.805743    3.843664  2.2910  0.023803 *
LSH            0.376219    0.350811  1.0724  0.285794
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:     2968800000
Residual Sum of Squares: 43436000
R-Squared:       0.98537
Adj. R-Squared: 0.98473
F-statistic: 1535.52 on 5 and 114 DF, p-value: < 2.22e-16
```

Common Effect Model tanpa variabel JKT dan LLS

```
> common=plm(Produksi~LAP+JP+RRP+LSH, data=panel, model="pooling")
> summary(common)
Pooling Model

Call:
plm(formula = Produksi ~ LAP + JP + RRP + LSH, data = panel,
    model = "pooling")

Balanced Panel: n = 12, T = 10, N = 120

Residuals:
     Min.    1st Qu.    Median    3rd Qu.      Max.
-2107.294  -379.520    19.958    269.438   2005.710

Coefficients:
               Estimate   Std. Error t-value  Pr(>|t|)
(Intercept) -357.466121  341.940100  -1.0454  0.298028
LAP            6.578600     0.079684  82.5584  < 2.2e-16 ***
JP            -0.066791     0.023154  -2.8847  0.004679 **
RRP            8.649986     3.794287   2.2797  0.024467 *
LSH            0.371678     0.349107   1.0647  0.289264
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    2968800000
Residual Sum of Squares: 43472000
R-Squared:      0.98536
Adj. R-Squared: 0.98485
F-statistic: 1934.65 on 4 and 115 DF, p-value: < 2.22e-16
```

#Common Effect Model variabel yang signifikan

```
> common=plm(Produksi~LAP+JP+RRP, data=panel, model="pooling")
> summary(common)
Pooling Model

Call:
plm(formula = Produksi ~ LAP + JP + RRP, data = panel, model = "pooling")

Balanced Panel: n = 12, T = 10, N = 120

Residuals:
     Min.    1st Qu.    Median    3rd Qu.      Max.
-2112.338  -360.620    26.065    280.673   1962.174

Coefficients:
               Estimate   Std. Error t-value  Pr(>|t|)
(Intercept) -320.748685  340.392138  -0.9423  0.348002
LAP            6.598419     0.077524  85.1149  < 2.2e-16 ***
JP            -0.065235     0.023121  -2.8215  0.005626 **
RRP            8.264648     3.779157   2.1869  0.030757 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    2968800000
Residual Sum of Squares: 43900000
R-Squared:      0.98521
Adj. R-Squared: 0.98483
F-statistic: 2576.19 on 3 and 116 DF, p-value: < 2.22e-16
```

#Fixed Effect Model semua variabel

```
> fixed=plm(Produksi~LLS+LAP+RRP+LSH+JP+JKT, data=panel, model="within")
> summary(fixed)
Oneway (individual) effect Within Model

Call:
plm(formula = Produksi ~ LLS + LAP + RRP + LSH + JP + JKT, data = panel,
    model = "within")

Balanced Panel: n = 12, T = 10, N = 120

Residuals:
     Min.    1st Qu.    Median    3rd Qu.       Max.
-1769.658  -314.991   -84.468    383.779   1547.442

Coefficients:
     Estimate Std. Error t-value  Pr(>|t|)
LLS -1.418494   2.469109 -0.5745 0.5668969
LAP  6.508107   0.223804 29.0795 < 2.2e-16 ***
RRP 16.152578   4.744613  3.4044 0.0009491 ***
LSH  0.528512   0.395759  1.3354 0.1847057
JP   0.010929   0.144538  0.0756 0.9398777
JKT  5.634237   3.423964  1.6455 0.1029387
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    364240000
Residual Sum of Squares: 36098000
R-Squared:       0.90089
Adj. R-Squared: 0.88438
F-statistic: 154.535 on 6 and 102 DF, p-value: < 2.22e-16
```

#Fixed Effect Model variabel yang signifikan

```
> fixed=plm(Produksi~LAP+RRP, data=panel, model="within")
> summary(fixed)
Oneway (individual) effect Within Model

Call:
plm(formula = Produksi ~ LAP + RRP, data = panel, model = "within")

Balanced Panel: n = 12, T = 10, N = 120

Residuals:
     Min.    1st Qu.    Median    3rd Qu.       Max.
-1792.311  -340.462   -78.386    362.572   1544.621

Coefficients:
    Estimate Std. Error t-value  Pr(>|t|)
LAP  6.55887    0.21987 29.8303 < 2.2e-16 ***
RRP 15.52160    4.58887  3.3824  0.001007 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    364240000
Residual Sum of Squares: 37424000
R-Squared:       0.89725
Adj. R-Squared: 0.88465
F-statistic: 462.838 on 2 and 106 DF, p-value: < 2.22e-16
```

Random Effect Model semua variabel

```
> random=plm(Produksi~LLS+LAP+RRP+LSH+JP+JKT, data=panel, model="random")
> summary(random)
Oneway (individual) effect Random Effect Model
   (Swamy-Arora's transformation)

Call:
plm(formula = Produksi ~ LLS + LAP + RRP + LSH + JP + JKT, data = panel,
    model = "random")

Balanced Panel: n = 12, T = 10, N = 120

Effects:
                 var  std.dev share
idiosyncratic 353903.7   594.9 0.928
individual     27541.4   166.0 0.072
theta: 0.2501

Residuals:
    Min.  1st Qu.   Median  3rd Qu.     Max.
-2042.74  -353.78   -12.26   317.64  1854.56

Coefficients:
              Estimate  Std. Error z-value  Pr(>|z|)
(Intercept) -775.321428 541.754300 -1.4311  0.152393
LLS            0.127458   0.457447  0.2786  0.780529
LAP            6.532918   0.215704 30.2865 < 2.2e-16 ***
RRP           10.922722   4.070874  2.6831  0.007293 **
LSH            0.417385   0.366127  1.1400  0.254286
JP            -0.072079   0.028865 -2.4971  0.012520 *
JKT            1.810213   2.607555  0.6942  0.487545
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1




Total Sum of Squares:    1828900000
Residual Sum of Squares: 40800000
R-Squared:      0.97769
Adj. R-Squared: 0.97651
Chisq: 4952.37 on 6 DF, p-value: < 2.22e-16
.
```

#Random Effect Model variabel yang signifikan

```
> random=plm(Produksi~LAP+JP+RRP, data=panel, model="random")
> summary(random)
Oneway (individual) effect Random Effect Model
   (Swamy-Arora's transformation)

Call:
plm(formula = Produksi ~ LAP + JP + RRP, data = panel, model = "random")

Balanced Panel: n = 12, T = 10, N = 120

Effects:
                  var  std.dev share
idiosyncratic 356366.0   597.0 0.962
individual     13938.7   118.1 0.038
theta: 0.1522

Residuals:
     Min.    1st Qu.    Median    3rd Qu.       Max.
-2068.854  -338.628    18.542    294.668   1912.902

Coefficients:
              Estimate  Std. Error z-value  Pr(>|z|)
(Intercept) -409.627292 374.386211 -1.0941  0.273898
LAP            6.603520    0.087304 75.6383 < 2.2e-16 ***
JP            -0.068257    0.026093 -2.6159  0.008899 **
RRP            9.642059    3.902874  2.4705  0.013492 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Total Sum of Squares:    2236500000
Residual Sum of Squares: 42310000
R-Squared:      0.98108
Adj. R-Squared: 0.98059
Chisq: 6015.71 on 3 DF, p-value: < 2.22e-16
```

#Uji *Chow*

```
> #uji chow
> pFtest(fixed,common)

        F test for individual effects

data:  Produksi.Padi ~ LAP + RRP
F = 1.8342, df1 = 10, df2 = 106, p-value = 0.06321
alternative hypothesis: significant effects
```

#Uji *Hausman*

```
> #uji hausman
> phtest(fixed,random)

        Hausman Test

data:  Produksi ~ LAP + RRP
chisq = 6.2281, df = 2, p-value = 0.04442
alternative hypothesis: one model is inconsistent
```

.

#Uji Uji *Breusch Pagan*

```
> #uji braus pagan
> plmtest(random,effect="twoways",type="bp")

        Lagrange Multiplier Test - two-ways effects (Breusch-Pagan) for
        balanced panels

data:  Produksi ~ LAP + JP + RRP
chisq = 71.657, df = 2, p-value = 2.753e-16
alternative hypothesis: significant effects

> plmtest(random,effect="individual",type="bp")

        Lagrange Multiplier Test - (Breusch-Pagan) for balanced panels

data:  Produksi ~ LAP + JP + RRP
chisq = 0.42136, df = 1, p-value = 0.5163
alternative hypothesis: significant effects

> plmtest(random,effect="time",type="bp")

        Lagrange Multiplier Test - time effects (Breusch-Pagan) for balanced
        panels

data:  Produksi ~ LAP + JP + RRP
chisq = 71.236, df = 1, p-value < 2.2e-16
alternative hypothesis: significant effects
```