

Lampiran 01. Tabulasi Data

| No | Kode | Nama Perusahaan                    | Tahun | X <sub>1</sub> | X <sub>2</sub> | Z    | Y    | X <sub>1</sub> .Z | X <sub>2</sub> .Z |
|----|------|------------------------------------|-------|----------------|----------------|------|------|-------------------|-------------------|
| 1  | AKRA | PT AKR Corporindo Tbk              | 2022  | 20,90          | 0,62           | 0,33 | 3,05 | 6,97              | 0,21              |
|    |      |                                    | 2023  | 20,90          | 0,89           | 0,33 | 3,11 | 6,97              | 0,30              |
|    |      |                                    | 2024  | 20,90          | 0,89           | 0,33 | 3,02 | 6,97              | 0,30              |
| 2  | PGAS | PT Perusahaan Gas Negara Tbk       | 2022  | 23,02          | 0,64           | 0,60 | 3,13 | 13,81             | 0,38              |
|    |      |                                    | 2023  | 23,02          | 0,90           | 0,60 | 3,05 | 13,81             | 0,54              |
|    |      |                                    | 2024  | 23,02          | 0,87           | 0,60 | 3,06 | 13,81             | 0,52              |
| 3  | ENRG | PT Energi Mega Persada Tbk         | 2022  | 31,59          | 0,00           | 0,40 | 2,47 | 12,64             | 0,00              |
|    |      |                                    | 2023  | 31,59          | 0,00           | 0,40 | 2,34 | 12,64             | 0,00              |
|    |      |                                    | 2024  | 31,59          | 0,00           | 0,40 | 2,36 | 12,64             | 0,00              |
| 4  | ITMG | PT Indo Tambangraya Megah Tbk      | 2022  | 31,83          | 0,63           | 0,30 | 4,59 | 9,55              | 0,19              |
|    |      |                                    | 2023  | 31,83          | 0,65           | 0,30 | 4,41 | 9,55              | 0,19              |
|    |      |                                    | 2024  | 31,83          | 0,65           | 0,30 | 4,43 | 9,55              | 0,19              |
| 5  | MEDC | PT Medco Energi Internasional Tbk  | 2022  | 35,93          | 0,13           | 0,25 | 3,01 | 8,98              | 0,03              |
|    |      |                                    | 2023  | 35,93          | 0,21           | 0,25 | 3,06 | 8,98              | 0,05              |
|    |      |                                    | 2024  | 35,93          | 0,21           | 0,25 | 3,04 | 8,98              | 0,05              |
| 6  | ELSA | PT Elnusa Tbk                      | 2022  | 38,01          | 0,14           | 0,67 | 2,49 | 25,34             | 0,10              |
|    |      |                                    | 2023  | 38,01          | 0,38           | 0,67 | 2,59 | 25,34             | 0,25              |
|    |      |                                    | 2024  | 38,01          | 0,33           | 0,67 | 2,64 | 25,34             | 0,22              |
| 7  | INDY | PT Indika Energy Tbk               | 2022  | 40,20          | 0,09           | 0,00 | 3,02 | 0,00              | 0,00              |
|    |      |                                    | 2023  | 40,20          | 0,60           | 0,33 | 3,23 | 13,40             | 0,20              |
|    |      |                                    | 2024  | 40,20          | 0,27           | 0,33 | 3,26 | 13,40             | 0,09              |
| 8  | PTBA | PT Bukit Asam Tbk                  | 2022  | 44,24          | 1,00           | 0,50 | 3,27 | 22,12             | 0,50              |
|    |      |                                    | 2023  | 44,24          | 0,75           | 0,50 | 3,39 | 22,12             | 0,37              |
|    |      |                                    | 2024  | 44,24          | 0,75           | 0,43 | 3,44 | 18,96             | 0,32              |
| 9  | ADRO | PT Alamtri Resources Indonesia Tbk | 2022  | 46,60          | 0,40           | 0,40 | 3,20 | 18,64             | 0,16              |
|    |      |                                    | 2023  | 46,60          | 2,10           | 0,40 | 3,39 | 18,64             | 0,84              |
|    |      |                                    | 2024  | 46,60          | 0,15           | 0,40 | 3,39 | 18,64             | 0,06              |
| 10 | HRUM | PT Harum Energy Tbk                | 2022  | 49,20          | 0,27           | 0,40 | 3,21 | 19,68             | 0,11              |
|    |      |                                    | 2023  | 49,20          | 0,00           | 0,40 | 3,13 | 19,68             | 0,00              |
|    |      |                                    | 2024  | 49,20          | 0,00           | 0,40 | 3,01 | 19,68             | 0,00              |
| 11 | ADMR | PT Alamtri Minerals Indonesia Tbk  | 2022  | 54,02          | 0,00           | 0,33 | 2,49 | 18,01             | 0,00              |
|    |      |                                    | 2023  | 54,02          | 0,00           | 0,33 | 2,49 | 18,01             | 0,00              |
|    |      |                                    | 2024  | 54,02          | 0,31           | 0,33 | 2,49 | 18,01             | 0,10              |

## Lampiran 02. Hasil Pengujian STATA

### Uji Statistik Deskriptif

| Variable | Obs | Mean     | Std. dev. | Min      | Max      |
|----------|-----|----------|-----------|----------|----------|
| Y        | 33  | 7.135249 | 1.265175  | 5.393628 | 10.57201 |
| X1       | 33  | 37.77636 | 10.15283  | 20.9     | 54.02    |
| X2       | 33  | .4483147 | .4407296  | 0        | 2.098896 |
| Z        | 33  | .3983405 | .1422052  | 0        | .6666667 |

### Common Effect Model (CEM)

| Source   | SS         | df | MS         | Number of obs | = | 33     |
|----------|------------|----|------------|---------------|---|--------|
| Model    | 15.3202902 | 3  | 5.10676341 | F(3, 29)      | = | 4.13   |
| Residual | 35.9010562 | 29 | 1.23796746 | Prob > F      | = | 0.0149 |
|          |            |    |            | R-squared     | = | 0.2991 |
|          |            |    |            | Adj R-squared | = | 0.2266 |
| Total    | 51.2213464 | 32 | 1.60066708 | Root MSE      | = | 1.1126 |

| Y     | Coefficient | Std. err. | t     | P> t  | [95% conf. interval] |
|-------|-------------|-----------|-------|-------|----------------------|
| X1    | -.0073542   | .0201621  | -0.36 | 0.718 | -.0485902 .0338819   |
| X2    | 1.373875    | .4694212  | 2.93  | 0.007 | .4138004 2.333949    |
| Z     | 3.074857    | 1.413096  | 2.18  | 0.038 | 5.964963 .1847503    |
| _cons | 8.021974    | 1.042372  | 7.70  | 0.000 | 5.890084 10.15386    |

### Fixed Effect Model (FEM)

|                                   |                  |   |        |
|-----------------------------------|------------------|---|--------|
| Fixed-effects (within) regression | Number of obs    | = | 33     |
| Group variable: ID                | Number of groups | = | 11     |
| R-squared:                        | Obs per group:   |   |        |
| Within = 0.2059                   | min =            |   | 3      |
| Between = 0.0332                  | avg =            |   | 3.0    |
| Overall = 0.0218                  | max =            |   | 3      |
|                                   | F(2,20)          | = | 2.59   |
| corr(u_i, Xb) = -0.2858           | Prob > F         | = | 0.0997 |

| Y     | Coefficient | Std. err. | t     | P> t  | [95% conf. interval] |
|-------|-------------|-----------|-------|-------|----------------------|
| X1    | .0861234    | .1081154  | 0.84  | 0.436 | -.136960 .1312456    |
| X2    | .0836259    | .1065314  | 0.78  | 0.442 | -.1385947 .3058465   |
| Z     | 1.222902    | .6246636  | 1.96  | 0.064 | -.0801236 2.525927   |
| _cons | 6.610627    | .2464341  | 26.83 | 0.000 | 6.096575 7.12468     |

|                                           |           |                                   |  |          |          |
|-------------------------------------------|-----------|-----------------------------------|--|----------|----------|
| sigma_u                                   | 1.3407626 |                                   |  |          |          |
| sigma_e                                   | .17093137 |                                   |  |          |          |
| rho                                       | .98400671 | (fraction of variance due to u_i) |  |          |          |
| F test that all u_i=0: F(10, 20) = 121.44 |           |                                   |  |          |          |
|                                           |           |                                   |  | Prob > F | = 0.1081 |

## Random Effect Model (REM)

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Random-effects GLS regression              Number of obs   =       33
Group variable: ID                        Number of groups  =       11

R-squared:                                Obs per group:
  Within = 0.2002                          min =           3
  Between = 0.0004                         avg =          3.0
  Overall = 0.0011                         max =           3

corr(u_i, X) = 0 (assumed)                Wald chi2(3)      =       4.02
                                           Prob > chi2       =     0.2591

```

| Y       | Coefficient | Std. err.                         | z     | P> z  | [95% conf. interval] |          |
|---------|-------------|-----------------------------------|-------|-------|----------------------|----------|
| X1      | -.0149478   | .0368231                          | -0.41 | 0.685 | -.0871196            | .0572241 |
| X2      | .1085114    | .1141877                          | 0.95  | 0.342 | -.1152924            | .3323152 |
| Z       | .9804162    | .6548047                          | 1.50  | 0.134 | -.3029774            | 2.26381  |
| _cons   | 7.260735    | 1.469063                          | 4.94  | 0.000 | 4.381425             | 10.14004 |
| sigma_u | 1.1283825   |                                   |       |       |                      |          |
| sigma_e | .17093137   |                                   |       |       |                      |          |
| rho     | .9775675    | (fraction of variance due to u_i) |       |       |                      |          |

## Uji Chow

F test that all  $u_i=0$ :  $F(10, 20) = 121.44$  Prob > F = 0.1081

## Uji Langrange Multiplier

Breusch and Pagan Lagrangian multiplier test for random effects

$$Y[ID,t] = Xb + u[ID] + e[ID,t]$$

Estimated results:

|   | Var      | SD = sqrt(Var) |
|---|----------|----------------|
| Y | 1.600667 | 1.265175       |
| e | .0292175 | .1709314       |
| u | 1.273247 | 1.128382       |

Test:  $Var(u) = 0$

chibar2(01) = 19.52  
Prob > chibar2 = 0.0610

## Uji Normalitas

Skewness and kurtosis tests for normality

| Variable | Obs | Pr(skewness) | Pr(kurtosis) | ----- Joint test ----- |           |
|----------|-----|--------------|--------------|------------------------|-----------|
|          |     |              |              | Adj chi2(2)            | Prob>chi2 |
| Y        | 33  | 0.0077       | 0.0601       | 8.94                   | 0.0615    |
| X1       | 33  | 0.6707       | 0.1325       | 2.65                   | 0.2659    |
| X2       | 33  | 0.0005       | 0.0023       | 16.03                  | 0.0503    |
| Z        | 33  | 0.8423       | 0.1730       | 2.04                   | 0.3597    |

## Uji Multikolinearitas

| Variable | VIF  | 1/VIF    |
|----------|------|----------|
| X2       | 1.11 | 0.903835 |
| X1       | 1.08 | 0.923240 |
| Z        | 1.04 | 0.958042 |
| Mean VIF | 1.08 |          |

## Uji Heteroskedastisitas

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity  
 Assumption: Normal error terms  
 Variable: Fitted values of Y

H0: Constant variance

chi2(1) = 6.78  
 Prob > chi2 = 0.0692

## Uji Moderasi

| Source   | SS         | df | MS         | Number of obs | = | 33     |
|----------|------------|----|------------|---------------|---|--------|
| Model    | 9.36926502 | 2  | 4.68463251 | F(2, 30)      | = | 3.36   |
| Residual | 41.8520814 | 30 | 1.39506938 | Prob > F      | = | 0.0483 |
|          |            |    |            | R-squared     | = | 0.1829 |
|          |            |    |            | Adj R-squared | = | 0.1284 |
| Total    | 51.2213464 | 32 | 1.60066708 | Root MSE      | = | 1.1811 |

  

| Y     | Coefficient | Std. err. | t     | P> t  | [95% conf. interval] |
|-------|-------------|-----------|-------|-------|----------------------|
| X1Z   | -.0661024   | .0343646  | -1.92 | 0.064 | -.1362842 .0040794   |
| X2Z   | 2.148221    | 1.062436  | 2.02  | 0.052 | -.0215634 4.318006   |
| _cons | 7.709999    | .5579478  | 13.82 | 0.000 | 6.570517 8.84948     |