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# L A M P I R A N



Lampiran 1

Daftar Populasi Perusahaan Manufaktur Sektor Dasar dan Kimia  
Yang Terdaftar Di Bursa Efek Indonesia 2020-2024

| No | Kode | Nama Perusahaan                      |
|----|------|--------------------------------------|
| 1  | INTP | Indocement Tunggul Prakasa Tbk       |
| 2  | SMBR | Semen Baturaja Tbk                   |
| 3  | SMCB | Solusi Bangun Indonesia Tbk          |
| 4  | SMGR | Semen Indonesia (Persero) Tbk        |
| 5  | WSBP | Waskita Beton Precast Tbk            |
| 6  | WTON | Wijaya Karya Beton Tbk               |
| 7  | AMFG | Asahimas Flat Glass Tbk              |
| 8  | ARNA | Arwana Citramulia Tbk                |
| 9  | CAKK | Cahayaputra Asa Keramik Tbk          |
| 10 | KIAS | Keramika Indonesia Asosiasi Tbk      |
| 11 | MARK | Mark Dynamics Indonesia Tbk          |
| 12 | MLIA | Mulia Industrindo Tbk                |
| 13 | TOTO | Surya Toto Indonesia Tbk             |
| 14 | ALKA | Alakasa Industrindo Tbk              |
| 15 | ALMI | Alumindo Light Metal Industry Tbk    |
| 16 | BAJA | Saranacentral Bajatama Tbk           |
| 17 | BTON | Betonjaya Manunggal Tbk              |
| 18 | CTBN | Citra Tubindo Tbk                    |
| 19 | GDST | Gunawan Dianjaya Steel Tbk           |
| 20 | GGRP | Gunung Raja Paksi Tbk                |
| 21 | INAI | Indal Aluminium Industry Tbk         |
| 22 | ISSP | Steel Pipe Industry of Indonesia Tbk |
| 23 | KRAS | Krakatau Steel (Persero) Tbk         |
| 24 | LION | Lion Metal Works Tbk                 |

|    |      |                                 |
|----|------|---------------------------------|
| 25 | LMSH | Lionmesh Prima Tbk              |
| 26 | NIKL | Pelat Timah Nusantara Tbk       |
| 27 | PICO | Pelangi Indah Canindo Tbk       |
| 28 | PURE | Trinitan Metals and Mineral Tbk |
| 29 | TBMS | Tembaga Mulia Semanan Tbk       |
| 30 | AGII | Aneka Gas Industri Tbk          |
| 31 | BRPT | Barito Pasific Tbk              |
| 32 | BUDI | Budi Starch and Sweetener Tbk   |
| 33 | DPNS | Duta Pertiwi Nusantara Tbk      |
| 34 | EKAD | Ekadharma International Tbk     |
| 35 | ETWA | Eterindo Wahanatama Tbk         |
| 36 | INCI | Intan Wijaya International Tbk  |
| 37 | MOLI | Madusari Murni Indah Tbk        |
| 38 | MDKI | Emdeki Utama Tbk                |
| 39 | SRSN | Indo Acitama Tbk                |
| 40 | TPIA | Chandra Asri Petrochemical      |
| 41 | UNIC | Unggul Indah Cahaya Tbk         |
| 42 | AKPI | Argha Karya Prima Industry Tbk  |
| 43 | ALPI | Asiaplast Industries Tbk        |
| 44 | BRNA | Berlina Tbk                     |
| 45 | AKKU | Alam Karya Unggul Tbk           |
| 46 | ESIP | Sinergi Inti Plastindo Tbk      |
| 47 | FPNI | Lotte Chemical Titan Tbk        |
| 48 | IGAR | Champion Pacific Indonesia Tbk  |
| 49 | IMPC | Impack Pratama Industri Tbk     |
| 50 | IPOL | Indopoly Swakarsa Industry Tbk  |
| 51 | PBID | Panca Budi Idaman Tbk           |

|    |      |                                     |
|----|------|-------------------------------------|
| 52 | SMKL | Satyamitra Kemas Lestari Tbk        |
| 53 | TALF | Tunas Alfin Tbk                     |
| 54 | SIMA | Siwani Makmur Tbk                   |
| 55 | YPAS | Yana Prima Hasta Persada Tbk        |
| 56 | CPIN | Charoen Pokphand Indonesia Tbk      |
| 57 | JPFA | Japfa Comfeed Indonesia Tbk         |
| 58 | MAIN | Malindo Feedmill Tbk                |
| 59 | SIPD | Sreeya Sewu Indonesia Tbk           |
| 60 | IFII | Indonesia Fibreboard Industry Tbk   |
| 61 | SINI | Singaraja Putra Tbk                 |
| 62 | SULI | SLJ Global Tbk                      |
| 63 | TIRT | Tirta Mahakam Resources Tbk         |
| 64 | ALDO | Alkindo Naratama Tbk                |
| 65 | FASW | Fajar Surya Wisesa Tbk              |
| 66 | INKP | Indah Kiat Pulp & Paper Tbk         |
| 67 | INRU | Toba Pulp Lestari Tbk               |
| 68 | KBRI | Kertas Basuki Rachmat Indonesia Tbk |
| 69 | KDSI | Kedawung Setia Industrial Tbk       |
| 70 | SPMA | Suparma Tbk                         |
| 71 | SWAT | Sriwahana Adityakarta Tbk           |
| 72 | TKIM | Pabrik Kertas Tjiwi Kimia Tbk       |

Lampiran 2

Daftar Sampel Perusahaan Manufaktur Sektor Industri Dasar dan  
Kimia Yang Terdaftar Di Bursa Efek Indonesia 2020-2024

| No | Kode Perusahaan | Nama Perusahaan                   |
|----|-----------------|-----------------------------------|
| 1  | INTP            | Indocement Tunggul Prakasa Tbk    |
| 2  | SMBR            | Semen Baturaja Tbk                |
| 3  | SMCB            | Solusi Bangun Indonesia Tbk       |
| 4  | SMGR            | Semen Indonesia (Persero) Tbk     |
| 5  | AMFG            | Asahimas Flat Glass Tbk           |
| 6  | TOTO            | Surya Toto Indonesia Tbk          |
| 7  | GDST            | Gunawan Dianjaya Steel Tbk        |
| 8  | INAI            | Indal Aluminium Industry Tbk      |
| 9  | MOLI            | Madusari Murni Indah Tbk          |
| 10 | SRSN            | Indo Acitama Tbk                  |
| 11 | JPFA            | Japfa Comfeed Indonesia Tbk       |
| 12 | MAIN            | Malindo Feedmill Tbk              |
| 13 | SIPD            | Sreeya Sewu Indonesia Tbk         |
| 14 | IFII            | Indonesia Fibreboard Industry Tbk |
| 15 | SPMA            | Suparma Tbk                       |

Lampiran 3

**Daftar Perusahaan Yang Memenuhi Kriteria Sampel**

| Perusahaan Manufaktur Sektor Industri                            |      |                                 | Mempublikasi Annual Report |      |      |      |      | Mengikuti Proper |      |      |      |      | Menggunakan Mata uang Rupiah |      |      |      |      |
|------------------------------------------------------------------|------|---------------------------------|----------------------------|------|------|------|------|------------------|------|------|------|------|------------------------------|------|------|------|------|
| Dasar dan Kimia Yang Terdaftar Di Bursa Efek Indonesia 2020-2024 |      |                                 |                            |      |      |      |      |                  |      |      |      |      |                              |      |      |      |      |
| No                                                               | Kode | Nama Perusahaan                 | 2020                       | 2021 | 2022 | 2023 | 2024 | 2020             | 2021 | 2022 | 2023 | 2024 | 2020                         | 2021 | 2022 | 2023 | 2024 |
| 1                                                                | INTP | Indocement Tungal Prakasa Tbk   | ✓                          | ✓    | ✓    | ✓    | ✓    | ✓                | ✓    | ✓    | ✓    | ✓    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 2                                                                | SMBR | Semen Baturaja Tbk              | ✓                          | ✓    | ✓    | ✓    | ✓    | ✓                | ✓    | ✓    | ✓    | ✓    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 3                                                                | SMCB | Solusi Bangun Indonesia Tbk     | ✓                          | ✓    | ✓    | ✓    | ✓    | ✓                | ✓    | ✓    | ✓    | ✓    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 4                                                                | SMGR | Semen Indonesia (Persero) Tbk   | ✓                          | ✓    | ✓    | ✓    | ✓    | ✓                | ✓    | ✓    | ✓    | ✓    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 5                                                                | WSBP | Waskita Beton Precast Tbk       | ✓                          | ✓    | ✓    | ✓    | ✓    | ✗                | ✗    | ✗    | ✓    | ✗    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 6                                                                | WTON | Wijaya Karya Beton Tbk          | ✓                          | ✓    | ✓    | ✓    | ✓    | ✗                | ✗    | ✗    | ✗    | ✗    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 7                                                                | AMFG | Asahimas Flat Glass Tbk         | ✓                          | ✓    | ✓    | ✓    | ✓    | ✓                | ✓    | ✓    | ✓    | ✓    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 8                                                                | ARNA | Arwana Citramulia Tbk           | ✓                          | ✓    | ✓    | ✓    | ✓    | ✗                | ✗    | ✗    | ✗    | ✗    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 9                                                                | CAKK | Cahayaputra Asa Keramik Tbk     | ✓                          | ✓    | ✓    | ✓    | ✓    | ✗                | ✗    | ✗    | ✗    | ✗    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 10                                                               | KIAS | Keramika Indonesia Asosiasi Tbk | ✓                          | ✓    | ✓    | ✓    | ✓    | ✗                | ✗    | ✗    | ✗    | ✗    | ✓                            | ✓    | ✓    | ✓    | ✓    |
| 11                                                               | MARK | Mark Dynamics Indonesia Tbk     | ✓                          | ✓    | ✓    | ✓    | ✓    | ✗                | ✗    | ✗    | ✗    | ✗    | ✓                            | ✓    | ✓    | ✓    | ✓    |

[illegible]

|    |      |                                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----|------|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | AGII | Aneka Gas Industri Tbk         | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | ✓ | ✓ | × | × | × | × | × |
| 31 | BRPT | Barito Pasific Tbk             | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × |
| 32 | BUDI | Budi Starch and Sweetener Tbk  | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 33 | DPNS | Duta Pertiwi Nusantara Tbk     | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 34 | EKAD | Ekadharma International Tbk    | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 35 | ETWA | Eterindo Wahanatama Tbk        | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 36 | INCI | Intan Wijaya International Tbk | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 37 | MOLI | Madusari Murni Indah Tbk       | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 38 | MDKI | Emdeki Utama Tbk               | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 39 | SRSN | Indo Acitama Tbk               | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 40 | TPIA | Chandra Asri Petrochemical     | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × |
| 41 | UNIC | Unggul Indah Cahaya Tbk        | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | × | × | × | × | × |
| 42 | AKPI | Argha Karya Prima Industry Tbk | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 43 | ALPI | Asiaplast Industries Tbk       | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 44 | BRNA | Berlina Tbk                    | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 45 | AKKU | Alam Karya Unggul Tbk          | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 46 | ESIP | Sinergi Inti Plastindo Tbk     | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 47 | FPNI | Lotte Chemical Titan Tbk       | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × |
| 48 | IGAR | Champion Pacific Indonesia Tbk | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |

|    |      |                                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----|------|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | IMPC | Impack Pratama Industri Tbk       | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 50 | IPOL | Indopoly Swakarsa Industry Tbk    | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × |
| 51 | PBID | Panca Budi Idaman Tbk             | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 52 | SMKL | Satyamitra Kemas Lestari Tbk      | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 53 | TALF | Tunas Alfin Tbk                   | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 54 | SIMA | Siwani Makmur Tbk                 | × | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| 55 | YPAS | Yana Prima Hasta Persada Tbk      | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 56 | CPIN | Charoen Pokphand Indonesia Tbk    | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 57 | JPFA | Japfa Comfeed Indonesia Tbk       | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 58 | MAIN | Malindo Feedmill Tbk              | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 59 | SIPD | Sreeya Sewu Indonesia Tbk         | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 60 | IFII | Indonesia Fibreboard Industry Tbk | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 61 | SINI | Singaraja Putra Tbk               | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 62 | SULI | SLJ Global Tbk                    | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | × | × | × | × | × |
| 63 | TIRT | Tirta Mahakam Resources Tbk       | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| 64 | ALDO | Alkindo Naratama Tbk              | ✓ | ✓ | ✓ | ✓ | ✓ | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |

[illegible]

Lampiran 4

Hasil Olah Data *Green Accounting*

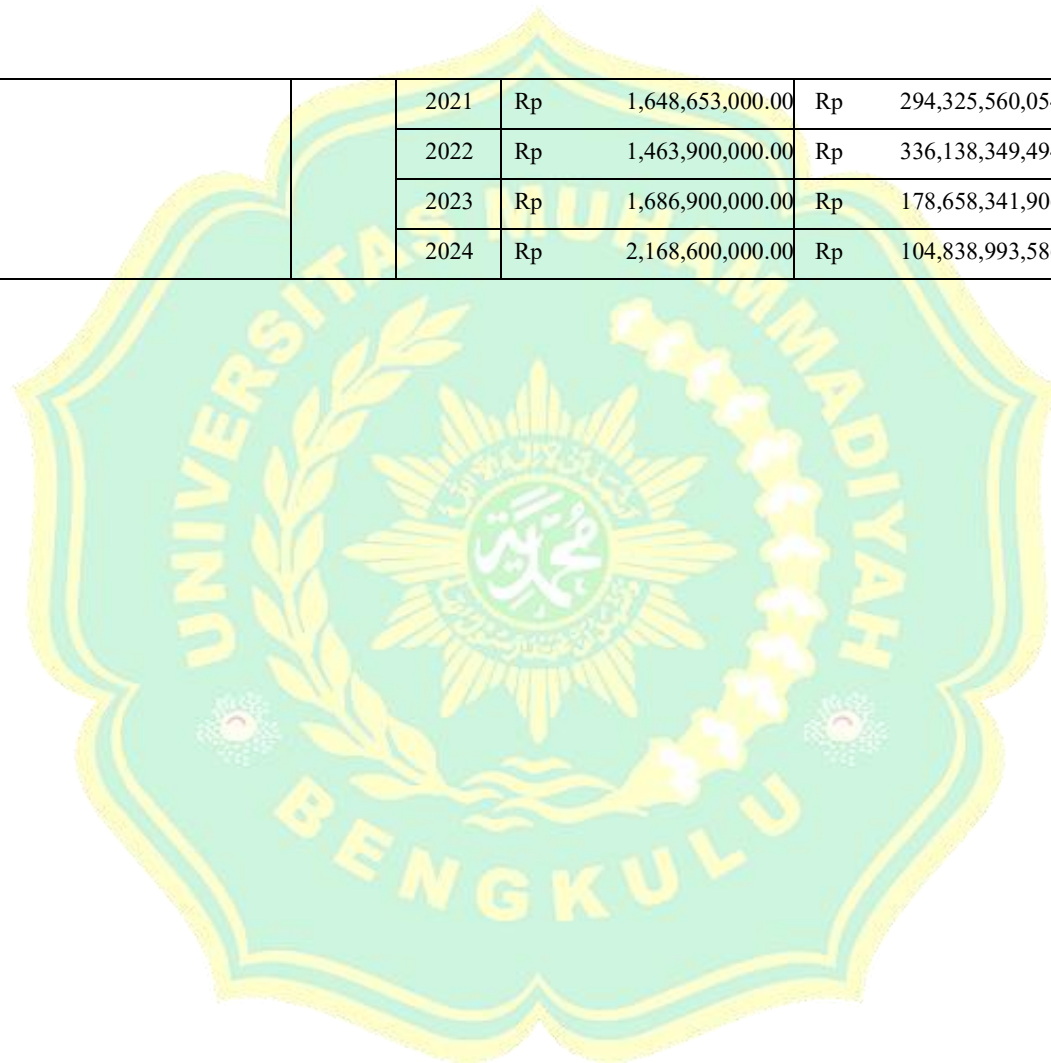
| <p><b>Total Biaya Lingkungan</b></p> <p><b>Green Accounting = _____</b></p> <p><b>Laba Bersih</b></p> |                               |      |       |                        |                         |                  |
|-------------------------------------------------------------------------------------------------------|-------------------------------|------|-------|------------------------|-------------------------|------------------|
| No                                                                                                    | Nama Persahaan                | Kode | Tahun | Total Biaya Lingkungan | Laba Bersih             | Biaya Lingkungan |
| 1                                                                                                     | Indocement Tungal Prakasa Tbk | INTP | 2020  | Rp 227,165,000,000.00  | Rp 1,806,337,000,000.00 | 0.125760033      |
|                                                                                                       |                               |      | 2021  | Rp 252,812,000,000.00  | Rp 1,788,496,000,000.00 | 0.141354524      |
|                                                                                                       |                               |      | 2022  | Rp 257,637,000,000.00  | Rp 1,842,434,000,000.00 | 0.139835131      |
|                                                                                                       |                               |      | 2023  | Rp 211,584,000,000.00  | Rp 1,950,266,000,000.00 | 0.108489816      |
|                                                                                                       |                               |      | 2024  | Rp 286,000,000,000.00  | Rp 2,007,947,000,000.00 | 0.142434038      |
| 2                                                                                                     | Semen Baturaja Tbk            | SMBR | 2020  | Rp 3,909,242,000.00    | Rp 10,981,673,000.00    | 0.355978729      |
|                                                                                                       |                               |      | 2021  | Rp 1,752,000,000.00    | Rp 51,817,305,000.00    | 0.033811098      |
|                                                                                                       |                               |      | 2022  | Rp 2,645,892,000.00    | Rp 94,827,889,000.00    | 0.027902045      |
|                                                                                                       |                               |      | 2023  | Rp 3,906,000,000.00    | Rp 121,572,505,000.00   | 0.032128975      |
|                                                                                                       |                               |      | 2024  | Rp 2,423,554,988.00    | Rp 129,253,093,000.00   | 0.01875046       |
| 3                                                                                                     | Solusi Bangun Indonesia Tbk   | SMCB | 2020  | Rp 36,670,000,000.00   | Rp 650,988,000,000.00   | 0.056329763      |
|                                                                                                       |                               |      | 2021  | Rp 16,350,000,000.00   | Rp 720,933,000,000.00   | 0.022678945      |
|                                                                                                       |                               |      | 2022  | Rp 15,190,000,000.00   | Rp 839,276,000,000.00   | 0.018098933      |

|   |                               |      |      |    |                   |     |                      |              |
|---|-------------------------------|------|------|----|-------------------|-----|----------------------|--------------|
|   |                               |      | 2023 | Rp | 14,800,000,000.00 | Rp  | 894,645,000,000.00   | 0.016542875  |
|   |                               |      | 2024 | Rp | 15,000,000,000.00 | Rp  | 745,090,000,000.00   | 0.020131796  |
| 4 | Semen Indonesia (Persero) Tbk | SMGR | 2020 | Rp | 48,290,000,000.00 | Rp  | 2,674,343,000,000.00 | 0.018056771  |
|   |                               |      | 2021 | Rp | 50,746,171,343.00 | Rp  | 2,082,347,000,000.00 | 0.0243697    |
|   |                               |      | 2022 | Rp | 56,708,441,569.00 | Rp  | 2,499,083,000,000.00 | 0.0226917    |
|   |                               |      | 2023 | Rp | 71,400,000,000.00 | Rp  | 2,295,601,000,000.00 | 0.031102966  |
|   |                               |      | 2024 | Rp | 62,240,000,000.00 | Rp  | 771,674,000,000.00   | 0.080655821  |
| 5 | Asahimas Flat Glass Tbk       | AMFG | 2020 | Rp | 6,300,000,000.00  | -Rp | 430,987,000,000.00   | -0.01461761  |
|   |                               |      | 2021 | Rp | 14,000,000,000.00 | Rp  | 318,672,000,000.00   | 0.043932319  |
|   |                               |      | 2022 | Rp | 10,690,000,000.00 | Rp  | 437,370,000,000.00   | 0.024441548  |
|   |                               |      | 2023 | Rp | 1,050,000,000.00  | Rp  | 583,297,000,000.00   | 0.001800112  |
|   |                               |      | 2024 | Rp | 1,510,000,000.00  | Rp  | 238,610,000,000.00   | 0.006328318  |
| 6 | Surya Toto Indonesia Tbk      | TOTO | 2020 | Rp | 3,900,000,000.00  | -Rp | 30,689,667,468.00    | -0.127078601 |
|   |                               |      | 2021 | Rp | 5,600,000,000.00  | Rp  | 160,987,891,641.00   | 0.034785225  |
|   |                               |      | 2022 | Rp | 2,400,000,000.00  | Rp  | 313,410,762,339.00   | 0.007657682  |
|   |                               |      | 2023 | Rp | 4,100,000,000.00  | Rp  | 242,417,754,641.00   | 0.016912953  |
|   |                               |      | 2024 | Rp | 1,400,000,000.00  | Rp  | 314,633,432,509.00   | 0.004449622  |
| 7 | Gunawan Dianjaya Steel Tbk    | GDST | 2020 | Rp | 8,200,000,000.00  | -Rp | 77,845,328,805.00    | -0.105337085 |
|   |                               |      | 2021 | Rp | 7,800,000,000.00  | -Rp | 63,711,545,268.00    | -0.12242679  |
|   |                               |      | 2022 | Rp | 3,700,000,000.00  | Rp  | 273,673,913,875.00   | 0.013519739  |

|    |                              |      |      |    |                   |     |                      |              |
|----|------------------------------|------|------|----|-------------------|-----|----------------------|--------------|
|    |                              |      | 2023 | Rp | 3,000,000,000.00  | Rp  | 212,988,116,470.00   | 0.014085293  |
|    |                              |      | 2024 | Rp | 15,400,000,000.00 | Rp  | 104,677,999,298.00   | 0.147117829  |
| 8  | Indal Aluminium Industry Tbk | INAI | 2020 | Rp | 3,272,947,899.00  | Rp  | 3,991,581,552.00     | 0.819962678  |
|    |                              |      | 2021 | Rp | 3,477,677,609.00  | Rp  | 4,319,665,242.00     | 0.805080351  |
|    |                              |      | 2022 | Rp | 1,111,578,667.00  | -Rp | 113,952,927,004.00   | -0.009754718 |
|    |                              |      | 2023 | Rp | 1,717,564,606.00  | -Rp | 57,836,592,852.00    | -0.02969685  |
|    |                              |      | 2024 | Rp | 2,169,668,128.00  | -Rp | 98,683,418,057.00    | -0.021986147 |
| 9  | Madasari Murni Indah Tbk     | MOLI | 2020 | Rp | 3,764,000,000.00  | Rp  | 79,288,256,000.00    | 0.047472352  |
|    |                              |      | 2021 | Rp | 5,096,000,000.00  | Rp  | 38,800,766,000.00    | 0.131337613  |
|    |                              |      | 2022 | Rp | 4,627,000,000.00  | Rp  | 11,310,348,000.00    | 0.409094397  |
|    |                              |      | 2023 | Rp | 6,534,000,000.00  | Rp  | 94,137,935,000.00    | 0.069408788  |
|    |                              |      | 2024 | Rp | 3,690,000,000.00  | Rp  | 17,751,696,000.00    | 0.207867462  |
| 10 | Indo Acitama Tbk             | SRSN | 2020 | Rp | 2,496,671,000.00  | Rp  | 44,152,245,000.00    | 0.056546864  |
|    |                              |      | 2021 | Rp | 1,495,493,000.00  | Rp  | 26,542,985,000.00    | 0.056342307  |
|    |                              |      | 2022 | Rp | 1,213,703,850.00  | Rp  | 33,640,328,000.00    | 0.036078835  |
|    |                              |      | 2023 | Rp | 918,199,000.00    | Rp  | 58,018,151,000.00    | 0.015826065  |
|    |                              |      | 2024 | Rp | 643,323,500.00    | Rp  | 22,502,000,000.00    | 0.028589614  |
| 11 | Japfa Comfeed Indonesia Tbk  | JPFA | 2020 | Rp | 18,805,000,000.00 | Rp  | 1,221,904,000,000.00 | 0.015389916  |
|    |                              |      | 2021 | Rp | 7,293,000,000.00  | Rp  | 2,130,896,000,000.00 | 0.003422504  |
|    |                              |      | 2022 | Rp | 6,333,000,000.00  | Rp  | 1,490,931,000,000.00 | 0.004247681  |

|    |                                   |      |      |    |                   |     |                      |              |
|----|-----------------------------------|------|------|----|-------------------|-----|----------------------|--------------|
|    |                                   |      | 2023 | Rp | 8,691,000,000.00  | Rp  | 945,922,000,000.00   | 0.009187861  |
|    |                                   |      | 2024 | Rp | 28,208,000,000.00 | Rp  | 3,212,338,000,000.00 | 0.008781143  |
| 12 | Malindo Feedmill Tbk              | MAIN | 2020 | Rp | 10,617,000,000.00 | -Rp | 38,953,042,000.00    | -0.272558944 |
|    |                                   |      | 2021 | Rp | 11,593,000,000.00 | Rp  | 60,376,485,000.00    | 0.19201184   |
|    |                                   |      | 2022 | Rp | 8,052,000,000.00  | Rp  | 26,217,657,000.00    | 0.307121266  |
|    |                                   |      | 2023 | Rp | 5,529,000,000.00  | Rp  | 63,162,746,000.00    | 0.087535776  |
|    |                                   |      | 2024 | Rp | 2,670,000,000.00  | Rp  | 487,957,583,000.00   | 0.005471787  |
| 13 | Sreeya Sewu Indonesia Tbk         | SIPD | 2020 | Rp | 1,100,000,000.00  | Rp  | 24,173,000,000.00    | 0.045505316  |
|    |                                   |      | 2021 | Rp | 527,000,000.00    | -Rp | 11,777,000,000.00    | -0.044748238 |
|    |                                   |      | 2022 | Rp | 472,000,000.00    | -Rp | 218,103,000,000.00   | -0.002164115 |
|    |                                   |      | 2023 | Rp | 546,000,000.00    | -Rp | 17,315,000,000.00    | -0.031533353 |
|    |                                   |      | 2024 | Rp | 278,000,000.00    | Rp  | 3,325,000,000.00     | 0.083609023  |
| 14 | Indonesia Fibreboard Industry Tbk | IFII | 2020 | Rp | 749,758,872.00    | Rp  | 73,585,850,462.00    | 0.0101889    |
|    |                                   |      | 2021 | Rp | 711,238,265.00    | Rp  | 82,349,452,240.00    | 0.008636831  |
|    |                                   |      | 2022 | Rp | 838,388,478.00    | Rp  | 97,118,215,205.00    | 0.008632659  |
|    |                                   |      | 2023 | Rp | 1,161,426,071.00  | Rp  | 100,902,985,814.00   | 0.011510324  |
|    |                                   |      | 2024 | Rp | 518,576,491.00    | Rp  | 179,025,233,782.00   | 0.002896667  |
| 15 | Suparma Tbk                       | SPMA | 2020 | Rp | 1,629,544,500.00  | Rp  | 162,524,650,713.00   | 0.010026445  |

|  |  |      |    |                  |    |                    |             |
|--|--|------|----|------------------|----|--------------------|-------------|
|  |  | 2021 | Rp | 1,648,653,000.00 | Rp | 294,325,560,054.00 | 0.005601461 |
|  |  | 2022 | Rp | 1,463,900,000.00 | Rp | 336,138,349,494.00 | 0.004355052 |
|  |  | 2023 | Rp | 1,686,900,000.00 | Rp | 178,658,341,906.00 | 0.009442044 |
|  |  | 2024 | Rp | 2,168,600,000.00 | Rp | 104,838,993,586.00 | 0.020685052 |



Lampiran 5

Hasil Olah Data Kinerja Lingkungan (X2)

| No | Nama Persahaan                | Tahun | Kode | Point | Rangking |
|----|-------------------------------|-------|------|-------|----------|
| 1  | Indocement Tungal Prakasa Tbk | 2020  | INTP | Biru  | 3        |
|    |                               | 2021  |      | Hijau | 4        |
|    |                               | 2022  |      | Hijau | 4        |
|    |                               | 2023  |      | Hijau | 4        |
|    |                               | 2024  |      | Emas  | 5        |
| 2  | Semen Baturaja Tbk            | 2020  | SMBR | Biru  | 3        |
|    |                               | 2021  |      | Biru  | 3        |
|    |                               | 2022  |      | Biru  | 3        |
|    |                               | 2023  |      | Hijau | 4        |
|    |                               | 2024  |      | Hijau | 4        |
| 3  | Solusi Bangun Indonesia Tbk   | 2020  | SMCB | Hijau | 4        |
|    |                               | 2021  |      | Hijau | 4        |
|    |                               | 2022  |      | Emas  | 5        |
|    |                               | 2023  |      | Hijau | 4        |
|    |                               | 2024  |      | Emas  | 5        |
| 4  | Semen Indonesia (Persero) Tbk | 2020  | SMGR | Hijau | 4        |
|    |                               | 2021  |      | Hijau | 4        |
|    |                               | 2022  |      | Emas  | 5        |
|    |                               | 2023  |      | Emas  | 5        |
|    |                               | 2024  |      | Emas  | 5        |
| 5  | Asahimas Flat Glass Tbk       | 2020  | AMFG | Biru  | 3        |
|    |                               | 2021  |      | Hijau | 4        |
|    |                               | 2022  |      | Biru  | 3        |
|    |                               | 2023  |      | Hijau | 4        |

|    |                              |      |      |       |   |
|----|------------------------------|------|------|-------|---|
|    |                              | 2024 |      | Hijau | 4 |
| 6  | Surya Toto Indonesia Tbk     | 2020 | TOTO | Biru  | 3 |
|    |                              | 2021 |      | Biru  | 3 |
|    |                              | 2022 |      | Biru  | 3 |
|    |                              | 2023 |      | Biru  | 3 |
|    |                              | 2024 |      | Biru  | 3 |
| 7  | Gunawan Dianjaya Steel Tbk   | 2020 | GDST | Biru  | 3 |
|    |                              | 2021 |      | Biru  | 3 |
|    |                              | 2022 |      | Biru  | 3 |
|    |                              | 2023 |      | Biru  | 3 |
|    |                              | 2024 |      | Biru  | 3 |
| 8  | Indal Aluminium Industry Tbk | 2020 | INAI | Biru  | 3 |
|    |                              | 2021 |      | Biru  | 3 |
|    |                              | 2022 |      | Biru  | 3 |
|    |                              | 2023 |      | Biru  | 3 |
|    |                              | 2024 |      | Biru  | 3 |
| 9  | Madusari Murni Indah Tbk     | 2020 | MOLI | Biru  | 3 |
|    |                              | 2021 |      | Biru  | 3 |
|    |                              | 2022 |      | Biru  | 3 |
|    |                              | 2023 |      | Biru  | 3 |
|    |                              | 2024 |      | Biru  | 3 |
| 10 | Indo Acitama Tbk             | 2020 | SRSN | Biru  | 3 |
|    |                              | 2021 |      | Biru  | 3 |
|    |                              | 2022 |      | Biru  | 3 |
|    |                              | 2023 |      | Biru  | 3 |
|    |                              | 2024 |      | Biru  | 3 |
| 11 | Japfa Comfeed Indonesia Tbk  | 2020 | JPFA | Biru  | 3 |
|    |                              | 2021 |      | Biru  | 3 |

|    |                                   |      |      |      |   |
|----|-----------------------------------|------|------|------|---|
|    |                                   | 2022 |      | Biru | 3 |
|    |                                   | 2023 |      | Biru | 3 |
|    |                                   | 2024 |      | Biru | 3 |
| 12 | Malindo Feedmill Tbk              | 2020 | MAIN | Biru | 3 |
|    |                                   | 2021 |      | Biru | 3 |
|    |                                   | 2022 |      | Biru | 3 |
|    |                                   | 2023 |      | Biru | 3 |
|    |                                   | 2024 |      | Biru | 3 |
| 13 | Sreeya Sewu Indonesia Tbk         | 2020 | SIPD | Biru | 3 |
|    |                                   | 2021 |      | Biru | 3 |
|    |                                   | 2022 |      | Biru | 3 |
|    |                                   | 2023 |      | Biru | 3 |
|    |                                   | 2024 |      | Biru | 3 |
| 14 | Indonesia Fibreboard Industry Tbk | 2020 | IFII | Biru | 3 |
|    |                                   | 2021 |      | Biru | 3 |
|    |                                   | 2022 |      | Biru | 3 |
|    |                                   | 2023 |      | Biru | 3 |
|    |                                   | 2024 |      | Biru | 3 |
| 15 | Suparma Tbk                       | 2020 | SPMA | Biru | 3 |
|    |                                   | 2021 |      | Biru | 3 |
|    |                                   | 2022 |      | Biru | 3 |
|    |                                   | 2023 |      | Biru | 3 |
|    |                                   | 2024 |      | Biru | 3 |

Lampiran 6

Hasil Olah Data Nilai Perusahaan (Y)

| $\text{Tobin's Q} = \frac{\text{Harga saham} \times \text{Jumlah Saham Beredar} + \text{Total Utang}}{\text{Total Aset}}$ |                                |       |      |                                             |                      |                          |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------|------|---------------------------------------------|----------------------|--------------------------|
| No                                                                                                                        | Nama Perusahaan                | Tahun | Kode |                                             |                      |                          |
|                                                                                                                           |                                |       |      | Market Value of all Outstanding Stock (MVS) |                      |                          |
|                                                                                                                           |                                |       |      | Harga Saham                                 | Jumlah Saham Beredar | MVS                      |
| 1                                                                                                                         | Indocement Tunggak Prakasa Tbk | 2020  | INTP | Rp 14,475.00                                | 3,681,231,699        | Rp 53,285,828,843,025.00 |
|                                                                                                                           |                                | 2021  |      | Rp 12,100.00                                | 3,549,811,099        | Rp 42,952,714,297,900.00 |
|                                                                                                                           |                                | 2022  |      | Rp 9,900.00                                 | 3,431,073,399        | Rp 33,967,626,650,100.00 |
|                                                                                                                           |                                | 2023  |      | Rp 9,400.00                                 | 3,431,073,399        | Rp 32,252,089,950,600.00 |
|                                                                                                                           |                                | 2024  |      | Rp 7,400.00                                 | 3,349,973,899        | Rp 24,789,806,852,600.00 |
| 2                                                                                                                         | Semen Baturaja Tbk             | 2020  | SMBR | Rp 1,065.00                                 | 9,932,534,336        | Rp 10,578,149,067,840.00 |
|                                                                                                                           |                                | 2021  |      | Rp 620.00                                   | 9,932,534,336        | Rp 6,158,171,288,320.00  |
|                                                                                                                           |                                | 2022  |      | Rp 386.00                                   | 9,932,534,336        | Rp 3,833,958,253,696.00  |
|                                                                                                                           |                                | 2023  |      | Rp 278.00                                   | 9,932,534,336        | Rp 2,761,244,545,408.00  |

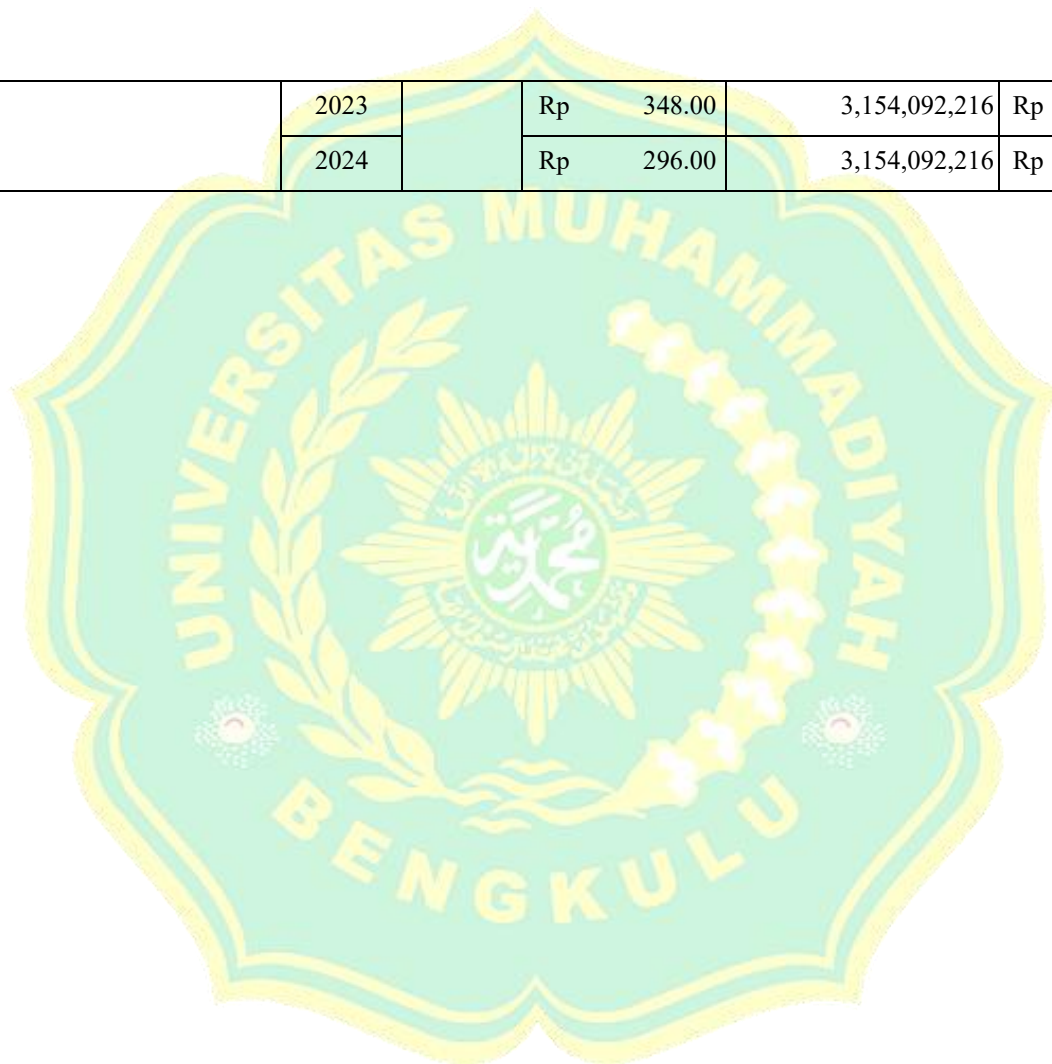
|   |                               |      |      |              |               |                          |
|---|-------------------------------|------|------|--------------|---------------|--------------------------|
|   |                               | 2024 |      | Rp 204.00    | 9,932,534,336 | Rp 2,026,237,004,544.00  |
| 3 | Solusi Bangun Indonesia Tbk   | 2020 | SMCB | Rp 1,440.00  | 7,662,900,000 | Rp 11,034,576,000,000.00 |
|   |                               | 2021 |      | Rp 1,690.00  | 9,019,381,973 | Rp 15,242,755,534,370.00 |
|   |                               | 2022 |      | Rp 1,425.00  | 9,019,381,973 | Rp 12,852,619,311,525.00 |
|   |                               | 2023 |      | Rp 1,345.00  | 9,019,381,973 | Rp 12,131,068,753,685.00 |
|   |                               | 2024 |      | Rp 750.00    | 9,019,381,973 | Rp 6,764,536,479,750.00  |
| 4 | Semen Indonesia (Persero) Tbk | 2020 | SMGR | Rp 12,425.00 | 5,931,520,000 | Rp 73,699,136,000,000.00 |
|   |                               | 2021 |      | Rp 7,250.00  | 5,931,520,000 | Rp 43,003,520,000,000.00 |
|   |                               | 2022 |      | Rp 6,575.00  | 6,751,540,089 | Rp 44,391,376,085,175.00 |
|   |                               | 2023 |      | Rp 6,400.00  | 6,751,540,089 | Rp 43,209,856,569,600.00 |
|   |                               | 2024 |      | Rp 3,290.00  | 6,751,540,089 | Rp 22,212,566,892,810.00 |
| 5 | Asahimas Flat Glass Tbk       | 2020 | AMFG | Rp 2,700.00  | 434,000,000   | Rp 1,171,800,000,000.00  |
|   |                               | 2021 |      | Rp 4,440.00  | 434,000,000   | Rp 1,926,960,000,000.00  |
|   |                               | 2022 |      | Rp 5,550.00  | 434,000,000   | Rp 2,408,700,000,000.00  |
|   |                               | 2023 |      | Rp 5,900.00  | 434,000,000   | Rp 2,560,600,000,000.00  |
|   |                               | 2024 |      | Rp 4,290.00  | 434,000,000   | Rp 1,861,860,000,000.00  |

|   |                              |      |      |           |                |                         |
|---|------------------------------|------|------|-----------|----------------|-------------------------|
|   |                              | 2020 |      | Rp 238.00 | 10,320,000,000 | Rp 2,456,160,000,000.00 |
|   |                              | 2021 |      | Rp 220.00 | 10,320,000,000 | Rp 2,270,400,000,000.00 |
| 6 | Surya Toto Indonesia Tbk     | 2022 | TOTO | Rp 270.00 | 10,320,000,000 | Rp 2,786,400,000,000.00 |
|   |                              | 2023 |      | Rp 228.00 | 10,320,000,000 | Rp 2,352,960,000,000.00 |
|   |                              | 2024 |      | Rp 220.00 | 10,320,000,000 | Rp 2,270,400,000,000.00 |
| 7 | Gunawan Dianjaya Steel Tbk   | 2020 | GDST | Rp 110.00 | 9,242,500,000  | Rp 1,016,675,000,000.00 |
|   |                              | 2021 |      | Rp 100.00 | 9,242,500,000  | Rp 924,250,000,000.00   |
|   |                              | 2022 |      | Rp 151.00 | 9,242,500,000  | Rp 1,395,617,500,000.00 |
|   |                              | 2023 |      | Rp 132.00 | 9,242,500,000  | Rp 1,220,010,000,000.00 |
|   |                              | 2024 |      | Rp 96.00  | 9,242,500,000  | Rp 887,280,000,000.00   |
| 8 | Indal Aluminium Industry Tbk | 2020 | INAI | Rp 334.00 | 633,600,000    | Rp 211,622,400,000.00   |
|   |                              | 2021 |      | Rp 292.00 | 633,600,000    | Rp 185,011,200,000.00   |
|   |                              | 2022 |      | Rp 264.00 | 633,600,000    | Rp 167,270,400,000.00   |
|   |                              | 2023 |      | Rp 204.00 | 633,600,000    | Rp 129,254,400,000.00   |
|   |                              | 2024 |      | Rp 96.00  | 633,600,000    | Rp 60,825,600,000.00    |
| 9 | Madusari Murni Indah Tbk     | 2020 | MOLI | Rp 850.00 | 2,724,036,581  | Rp 2,315,431,093,850.00 |

|    |                             |      |      |             |                |                          |
|----|-----------------------------|------|------|-------------|----------------|--------------------------|
|    |                             | 2021 |      | Rp 428.00   | 2,724,036,581  | Rp 1,165,887,656,668.00  |
|    |                             | 2022 |      | Rp 208.00   | 2,724,036,581  | Rp 566,599,608,848.00    |
|    |                             | 2023 |      | Rp 376.00   | 2,724,036,581  | Rp 1,024,237,754,456.00  |
|    |                             | 2024 |      | Rp 214.00   | 2,724,036,581  | Rp 582,943,828,334.00    |
| 10 | Indo Acitama Tbk            | 2020 | SRSN | Rp 58.00    | 6,020,000,000  | Rp 349,160,000,000.00    |
|    |                             | 2021 |      | Rp 55.00    | 6,020,000,000  | Rp 331,100,000,000.00    |
|    |                             | 2022 |      | Rp 52.00    | 6,020,000,000  | Rp 313,040,000,000.00    |
|    |                             | 2023 |      | Rp 67.00    | 6,020,000,000  | Rp 403,340,000,000.00    |
|    |                             | 2024 |      | Rp 50.00    | 6,020,000,000  | Rp 301,000,000,000.00    |
| 11 | Japfa Comfeed Indonesia Tbk | 2020 | JPFA | Rp 1,465.00 | 11,726,575,201 | Rp 17,179,432,669,465.00 |
|    |                             | 2021 |      | Rp 1,720.00 | 11,726,575,201 | Rp 20,169,709,345,720.00 |
|    |                             | 2022 |      | Rp 1,295.00 | 11,726,575,201 | Rp 15,185,914,885,295.00 |
|    |                             | 2023 |      | Rp 1,180.00 | 11,726,575,201 | Rp 13,837,358,737,180.00 |
|    |                             | 2024 |      | Rp 1,940.00 | 11,726,575,201 | Rp 22,749,555,889,940.00 |
| 12 | Malindo Feedmill Tbk        | 2020 | MAIN | Rp 740.00   | 2,238,750,000  | Rp 1,656,675,000,000.00  |
|    |                             | 2021 |      | Rp 670.00   | 2,238,750,000  | Rp 1,499,962,500,000.00  |

|    |                                   |      |      |             |               |                         |
|----|-----------------------------------|------|------|-------------|---------------|-------------------------|
|    |                                   | 2022 |      | Rp 490.00   | 2,238,750,000 | Rp 1,096,987,500,000.00 |
|    |                                   | 2023 |      | Rp 515.00   | 2,238,750,000 | Rp 1,152,956,250,000.00 |
|    |                                   | 2024 |      | Rp 765.00   | 2,238,750,000 | Rp 1,712,643,750,000.00 |
|    |                                   | 2020 |      | Rp 1,500.00 | 1,339,102,579 | Rp 2,008,653,868,500.00 |
| 13 | Sreeya Sewu Indonesia Tbk         | 2021 | SIPD | Rp 2,000.00 | 1,339,102,579 | Rp 2,678,205,158,000.00 |
|    |                                   | 2022 |      | Rp 1,425.00 | 1,339,102,579 | Rp 1,908,221,175,075.00 |
|    |                                   | 2023 |      | Rp 1,350.00 | 1,839,102,056 | Rp 2,482,787,775,600.00 |
|    |                                   | 2024 |      | Rp 825.00   | 1,839,102,056 | Rp 1,517,259,196,200.00 |
| 14 | Indonesia Fibreboard Industry Tbk | 2020 | IFII | Rp 148.00   | 9,412,000,000 | Rp 1,392,976,000,000.00 |
|    |                                   | 2021 |      | Rp 147.00   | 9,412,000,000 | Rp 1,383,564,000,000.00 |
|    |                                   | 2022 |      | Rp 158.00   | 9,412,000,000 | Rp 1,487,096,000,000.00 |
|    |                                   | 2023 |      | Rp 153.00   | 9,412,000,000 | Rp 1,440,036,000,000.00 |
|    |                                   | 2024 |      | Rp 204.00   | 9,412,000,000 | Rp 1,920,048,000,000.00 |
| 15 | Suparma Tbk                       | 2020 | SPMA | Rp 310.00   | 2,114,570,958 | Rp 655,516,996,980.00   |
|    |                                   | 2021 |      | Rp 805.00   | 2,791,233,198 | Rp 2,246,942,724,390.00 |
|    |                                   | 2022 |      | Rp 610.00   | 3,154,092,216 | Rp 1,923,996,251,760.00 |

|  |  |      |  |           |               |                         |
|--|--|------|--|-----------|---------------|-------------------------|
|  |  | 2023 |  | Rp 348.00 | 3,154,092,216 | Rp 1,097,624,091,168.00 |
|  |  | 2024 |  | Rp 296.00 | 3,154,092,216 | Rp 933,611,295,936.00   |



| Nilai Perusahaan (Tobin's Q) |                          |                          |           |
|------------------------------|--------------------------|--------------------------|-----------|
| Total Utang                  | MVS+Utang                | Total Aset               | Tobin's Q |
| Rp 5,168,424,000,000.00      | Rp 58,454,252,843,025.00 | Rp 27,344,672,000,000.00 | 2.14      |
| Rp 5,515,150,000,000.00      | Rp 48,467,864,297,900.00 | Rp 26,136,114,000,000.00 | 1.85      |
| Rp 6,139,263,000,000.00      | Rp 40,106,889,650,100.00 | Rp 25,706,169,000,000.00 | 1.56      |
| Rp 8,680,134,000,000.00      | Rp 40,932,223,950,600.00 | Rp 29,649,645,000,000.00 | 1.38      |
| Rp 8,305,656,000,000.00      | Rp 33,095,462,852,600.00 | Rp 30,420,006,000,000.00 | 1.09      |
| Rp 2,329,286,953,000.00      | Rp 12,907,436,020,840.00 | Rp 5,737,175,560,000.00  | 2.25      |
| Rp 2,271,787,404,000.00      | Rp 8,429,958,692,320.00  | Rp 5,817,745,619,000.00  | 1.45      |
| Rp 2,167,586,907,000.00      | Rp 6,001,545,160,696.00  | Rp 5,211,248,525,000.00  | 1.15      |
| Rp 1,694,318,282,000.00      | Rp 4,455,562,827,408.00  | Rp 4,856,730,638,000.00  | 0.92      |
| Rp 1,639,441,913,000.00      | Rp 3,665,678,917,544.00  | Rp 4,907,686,845,000.00  | 0.75      |
| Rp 13,171,946,000,000.00     | Rp 24,206,522,000,000.00 | Rp 20,738,125,000,000.00 | 1.17      |
| Rp 10,291,951,000,000.00     | Rp 25,534,706,534,370.00 | Rp 21,491,716,000,000.00 | 1.19      |
| Rp 9,518,472,000,000.00      | Rp 22,371,091,311,525.00 | Rp 21,378,510,000,000.00 | 1.05      |

|                          |                           |                          |      |
|--------------------------|---------------------------|--------------------------|------|
| Rp 9,702,125,000,000.00  | Rp 21,833,193,753,685.00  | Rp 22,206,739,000,000.00 | 0.98 |
| Rp 8,132,242,000,000.00  | Rp 14,896,778,479,750.00  | Rp 21,046,352,000,000.00 | 0.71 |
| Rp 40,571,674,000,000.00 | Rp 114,270,810,000,000.00 | Rp 78,006,244,000,000.00 | 1.46 |
| Rp 37,110,080,000,000.00 | Rp 80,113,600,000,000.00  | Rp 76,504,240,000,000.00 | 1.05 |
| Rp 33,270,652,000,000.00 | Rp 77,662,028,085,175.00  | Rp 82,960,012,000,000.00 | 0.94 |
| Rp 31,769,553,000,000.00 | Rp 74,979,409,569,600.00  | Rp 81,820,529,000,000.00 | 0.92 |
| Rp 26,635,871,000,000.00 | Rp 48,848,437,892,810.00  | Rp 76,993,082,000,000.00 | 0.63 |
| Rp 5,031,820,000,000.00  | Rp 6,203,620,000,000.00   | Rp 7,961,657,000,000.00  | 0.78 |
| Rp 4,110,107,000,000.00  | Rp 6,037,067,000,000.00   | Rp 7,403,476,000,000.00  | 0.82 |
| Rp 3,746,348,000,000.00  | Rp 6,155,048,000,000.00   | Rp 7,466,520,000,000.00  | 0.82 |
| Rp 3,259,927,000,000.00  | Rp 5,820,527,000,000.00   | Rp 7,500,664,000,000.00  | 0.78 |
| Rp 2,778,081,000,000.00  | Rp 4,639,941,000,000.00   | Rp 7,271,566,000,000.00  | 0.64 |
| Rp 1,183,847,184,535.00  | Rp 3,640,007,184,535.00   | Rp 3,107,410,113,178.00  | 1.17 |
| Rp 1,108,490,026,661.00  | Rp 3,378,890,026,661.00   | Rp 3,262,675,759,061.00  | 1.04 |
| Rp 1,002,210,741,085.00  | Rp 3,788,610,741,085.00   | Rp 3,304,972,191,991.00  | 1.15 |
| Rp 982,493,481,408.00    | Rp 3,335,453,481,408.00   | Rp 3,333,890,799,976.00  | 1.00 |

|                         |                         |                         |      |
|-------------------------|-------------------------|-------------------------|------|
| Rp 989,206,172,452.00   | Rp 3,259,606,172,452.00 | Rp 3,451,053,901,000.00 | 0.94 |
| Rp 741,251,635,985.00   | Rp 1,757,926,635,985.00 | Rp 1,588,136,471,649.00 | 1.11 |
| Rp 795,881,703,057.00   | Rp 1,720,131,703,057.00 | Rp 1,583,979,016,422.00 | 1.09 |
| Rp 1,046,603,698,108.00 | Rp 2,442,221,198,108.00 | Rp 2,106,446,579,086.00 | 1.16 |
| Rp 954,226,747,571.00   | Rp 2,174,236,747,571.00 | Rp 2,228,129,147,603.00 | 0.98 |
| Rp 1,399,270,861,628.00 | Rp 2,286,550,861,628.00 | Rp 2,755,475,158,820.00 | 0.83 |
| Rp 1,074,565,554,861.00 | Rp 1,286,187,954,861.00 | Rp 1,395,969,637,457.00 | 0.92 |
| Rp 1,162,189,008,725.00 | Rp 1,347,200,208,725.00 | Rp 1,543,478,061,330.00 | 0.87 |
| Rp 1,257,313,269,665.00 | Rp 1,424,583,669,665.00 | Rp 1,554,795,974,228.00 | 0.92 |
| Rp 1,202,948,785,324.00 | Rp 1,332,203,185,324.00 | Rp 1,476,872,833,252.00 | 0.90 |
| Rp 1,045,017,291,687.00 | Rp 1,105,842,891,687.00 | Rp 1,241,083,094,623.00 | 0.89 |
| Rp 889,592,205,000.00   | Rp 3,205,023,298,850.00 | Rp 2,279,580,714,000.00 | 1.41 |
| Rp 781,382,414,000.00   | Rp 1,947,270,070,668.00 | Rp 2,275,216,679,000.00 | 0.86 |
| Rp 640,559,702,000.00   | Rp 1,207,159,310,848.00 | Rp 2,182,945,756,000.00 | 0.55 |
| Rp 669,321,468,000.00   | Rp 1,693,559,222,456.00 | Rp 2,019,929,220,000.00 | 0.84 |
| Rp 578,323,545,000.00   | Rp 1,161,267,373,334.00 | Rp 1,932,495,722,000.00 | 0.60 |

|                          |                          |                          |      |
|--------------------------|--------------------------|--------------------------|------|
| Rp 318,959,497,000.00    | Rp 668,119,497,000.00    | Rp 906,846,895,000.00    | 0.74 |
| Rp 251,955,480,000.00    | Rp 583,055,480,000.00    | Rp 860,162,908,000.00    | 0.68 |
| Rp 218,259,872,000.00    | Rp 531,299,872,000.00    | Rp 876,602,301,000.00    | 0.61 |
| Rp 226,110,331,000.00    | Rp 629,450,331,000.00    | Rp 936,697,851,000.00    | 0.67 |
| Rp 396,871,660,000.00    | Rp 697,871,660,000.00    | Rp 1,135,429,000,000.00  | 0.61 |
| Rp 14,539,790,000,000.00 | Rp 31,719,222,669,465.00 | Rp 25,951,760,000,000.00 | 1.22 |
| Rp 15,486,946,000,000.00 | Rp 35,656,655,345,720.00 | Rp 28,589,656,000,000.00 | 1.25 |
| Rp 19,036,110,000,000.00 | Rp 34,222,024,885,295.00 | Rp 32,690,887,000,000.00 | 1.05 |
| Rp 19,942,219,000,000.00 | Rp 33,779,577,737,180.00 | Rp 34,109,431,000,000.00 | 0.99 |
| Rp 18,093,761,000,000.00 | Rp 40,843,316,889,940.00 | Rp 34,666,283,000,000.00 | 1.18 |
| Rp 2,528,717,093,000.00  | Rp 4,185,392,093,000.00  | Rp 4,674,206,873,000.00  | 0.90 |
| Rp 3,048,242,414,000.00  | Rp 4,548,204,914,000.00  | Rp 5,436,745,210,000.00  | 0.84 |
| Rp 3,352,507,765,000.00  | Rp 4,449,495,265,000.00  | Rp 5,746,998,087,000.00  | 0.77 |
| Rp 3,021,300,745,000.00  | Rp 4,174,256,995,000.00  | Rp 5,517,296,880,000.00  | 0.76 |
| Rp 2,159,250,951,000.00  | Rp 3,871,894,701,000.00  | Rp 5,380,045,840,000.00  | 0.72 |
| Rp 1,686,705,000,000.00  | Rp 3,695,358,868,500.00  | Rp 2,607,437,000,000.00  | 1.42 |

|                         |                         |                         |      |
|-------------------------|-------------------------|-------------------------|------|
| Rp 1,874,034,000,000.00 | Rp 4,552,239,158,000.00 | Rp 2,787,550,000,000.00 | 1.63 |
| Rp 2,300,107,000,000.00 | Rp 4,208,328,175,075.00 | Rp 3,002,424,000,000.00 | 1.40 |
| Rp 2,088,422,000,000.00 | Rp 4,571,209,775,600.00 | Rp 3,281,471,000,000.00 | 1.39 |
| Rp 1,915,653,000,000.00 | Rp 3,432,912,196,200.00 | Rp 3,119,496,000,000.00 | 1.10 |
| Rp 74,720,281,430.00    | Rp 1,467,696,281,430.00 | Rp 1,074,238,575,525.00 | 1.37 |
| Rp 75,361,117,834.00    | Rp 1,458,925,117,834.00 | Rp 1,158,730,182,419.00 | 1.26 |
| Rp 604,327,481,288.00   | Rp 2,091,423,481,288.00 | Rp 1,746,807,361,866.00 | 1.20 |
| Rp 673,472,085,858.00   | Rp 2,113,508,085,858.00 | Rp 1,894,388,459,807.00 | 1.12 |
| Rp 447,462,972,579.00   | Rp 2,367,510,972,579.00 | Rp 1,753,404,635,182.00 | 1.35 |
| Rp 784,672,948,574.00   | Rp 1,440,189,945,554.00 | Rp 2,316,065,006,133.00 | 0.62 |
| Rp 930,679,950,301.00   | Rp 3,177,622,674,691.00 | Rp 2,746,153,295,147.00 | 1.16 |
| Rp 1,092,943,225,203.00 | Rp 3,016,939,476,963.00 | Rp 3,239,231,499,990.00 | 0.93 |
| Rp 984,503,543,994.00   | Rp 2,082,127,635,162.00 | Rp 3,303,922,519,911.00 | 0.63 |
| Rp 1,008,005,049,539.00 | Rp 1,941,616,345,475.00 | Rp 3,392,686,914,315.00 | 0.57 |

## Hasil Olahan Data Profitabilitas (Z)

| $ROA = \frac{\text{Laba Bersih}}{\text{Total Aset}} \times 100\%$ |                                |      |       |                         |      |                          |         |
|-------------------------------------------------------------------|--------------------------------|------|-------|-------------------------|------|--------------------------|---------|
| No                                                                | Nama Persahaan                 | Kode | Tahun | Laba Bersih             | 100% | Total Aset               | ROA     |
| 1                                                                 | Indocement Tunggak Prakasa Tbk | INTP | 2020  | Rp 1,806,337,000,000.00 | 100% | Rp 27,344,672,000,000.00 | 0.06606 |
|                                                                   |                                |      | 2021  | Rp 1,788,496,000,000.00 | 100% | Rp 26,136,114,000,000.00 | 0.06843 |
|                                                                   |                                |      | 2022  | Rp 1,842,434,000,000.00 | 100% | Rp 25,706,169,000,000.00 | 0.07167 |
|                                                                   |                                |      | 2023  | Rp 1,950,266,000,000.00 | 100% | Rp 29,649,645,000,000.00 | 0.06578 |
|                                                                   |                                |      | 2024  | Rp 2,007,947,000,000.00 | 100% | Rp 30,420,006,000,000.00 | 0.06601 |
| 2                                                                 | Semen Baturaja Tbk             | SMBR | 2020  | Rp 10,981,673,000.00    | 100% | Rp 5,737,175,560,000.00  | 0.00191 |
|                                                                   |                                |      | 2021  | Rp 51,817,305,000.00    | 100% | Rp 5,817,745,619,000.00  | 0.00891 |
|                                                                   |                                |      | 2022  | Rp 94,827,889,000.00    | 100% | Rp 5,211,248,525,000.00  | 0.0182  |
|                                                                   |                                |      | 2023  | Rp 121,572,505,000.00   | 100% | Rp 4,856,730,638,000.00  | 0.02503 |
|                                                                   |                                |      | 2024  | Rp 129,253,093,000.00   | 100% | Rp 4,907,686,845,000.00  | 0.02634 |
| 3                                                                 | Solusi Bangun Indonesia Tbk    | SMCB | 2020  | Rp 650,988,000,000.00   | 100% | Rp 20,738,125,000,000.00 | 0.03139 |
|                                                                   |                                |      | 2021  | Rp 720,933,000,000.00   | 100% | Rp 21,491,716,000,000.00 | 0.03354 |

|   |                               |      |      |                         |      |                          |         |
|---|-------------------------------|------|------|-------------------------|------|--------------------------|---------|
|   |                               |      | 2022 | Rp 839,276,000,000.00   | 100% | Rp 21,378,510,000,000.00 | 0.03926 |
|   |                               |      | 2023 | Rp 894,645,000,000.00   | 100% | Rp 22,206,739,000,000.00 | 0.04029 |
|   |                               |      | 2024 | Rp 745,090,000,000.00   | 100% | Rp 21,046,352,000,000.00 | 0.0354  |
| 4 | Semen Indonesia (Persero) Tbk | SMGR | 2020 | Rp 2,674,343,000,000.00 | 100% | Rp 78,006,244,000,000.00 | 0.03428 |
|   |                               |      | 2021 | Rp 2,082,347,000,000.00 | 100% | Rp 76,504,240,000,000.00 | 0.02722 |
|   |                               |      | 2022 | Rp 2,499,083,000,000.00 | 100% | Rp 82,960,012,000,000.00 | 0.03012 |
|   |                               |      | 2023 | Rp 2,295,601,000,000.00 | 100% | Rp 81,820,529,000,000.00 | 0.02806 |
|   |                               |      | 2024 | Rp 771,674,000,000.00   | 100% | Rp 76,993,082,000,000.00 | 0.01002 |
| 5 | Asahimas Flat Glass Tbk       | AMFG | 2020 | -Rp 430,987,000,000.00  | 100% | Rp 7,961,657,000,000.00  | -0.0541 |
|   |                               |      | 2021 | Rp 318,672,000,000.00   | 100% | Rp 7,403,476,000,000.00  | 0.04304 |
|   |                               |      | 2022 | Rp 437,370,000,000.00   | 100% | Rp 7,466,520,000,000.00  | 0.05858 |
|   |                               |      | 2023 | Rp 583,297,000,000.00   | 100% | Rp 7,500,664,000,000.00  | 0.07777 |
|   |                               |      | 2024 | Rp 238,610,000,000.00   | 100% | Rp 7,271,566,000,000.00  | 0.03281 |
| 6 | Surya Toto Indonesia Tbk      | TOTO | 2020 | -Rp 30,689,667,468.00   | 100% | Rp 3,107,410,113,178.00  | -0.0099 |
|   |                               |      | 2021 | Rp 160,987,891,641.00   | 100% | Rp 3,262,675,759,061.00  | 0.04934 |
|   |                               |      | 2022 | Rp 313,410,762,339.00   | 100% | Rp 3,304,972,191,991.00  | 0.09483 |
|   |                               |      | 2023 | Rp 242,417,754,641.00   | 100% | Rp 3,333,890,799,976.00  | 0.07271 |
|   |                               |      | 2024 | Rp 314,633,432,509.00   | 100% | Rp 3,451,053,901,000.00  | 0.09117 |

|    |                              |      |      |                        |      |                         |         |
|----|------------------------------|------|------|------------------------|------|-------------------------|---------|
| 7  | Gunawan Dianjaya Steel Tbk   | GDST | 2020 | -Rp 77,845,328,805.00  | 100% | Rp 1,588,136,471,649.00 | -0.049  |
|    |                              |      | 2021 | -Rp 63,711,545,268.00  | 100% | Rp 1,583,979,016,422.00 | -0.0402 |
|    |                              |      | 2022 | Rp 273,673,913,875.00  | 100% | Rp 2,106,446,579,086.00 | 0.12992 |
|    |                              |      | 2023 | Rp 212,988,116,470.00  | 100% | Rp 2,228,129,147,603.00 | 0.09559 |
|    |                              |      | 2024 | Rp 104,677,999,298.00  | 100% | Rp 2,755,475,158,820.00 | 0.03799 |
| 8  | Indal Aluminium Industry Tbk | INAI | 2020 | Rp 3,991,581,552.00    | 100% | Rp 1,395,969,637,457.00 | 0.00286 |
|    |                              |      | 2021 | Rp 4,319,665,242.00    | 100% | Rp 1,543,478,061,330.00 | 0.0028  |
|    |                              |      | 2022 | -Rp 113,952,927,004.00 | 100% | Rp 1,554,795,974,228.00 | -0.0733 |
|    |                              |      | 2023 | -Rp 57,836,592,852.00  | 100% | Rp 1,476,872,833,252.00 | -0.0392 |
|    |                              |      | 2024 | -Rp 98,683,418,057.00  | 100% | Rp 1,241,083,094,623.00 | -0.0795 |
| 9  | Madusari Murni Indah Tbk     | MOLI | 2020 | Rp 79,288,256,000.00   | 100% | Rp 2,279,580,714,000.00 | 0.03478 |
|    |                              |      | 2021 | Rp 38,800,766,000.00   | 100% | Rp 2,275,216,679,000.00 | 0.01705 |
|    |                              |      | 2022 | Rp 11,310,348,000.00   | 100% | Rp 2,182,945,756,000.00 | 0.00518 |
|    |                              |      | 2023 | Rp 94,137,935,000.00   | 100% | Rp 2,019,929,220,000.00 | 0.0466  |
|    |                              |      | 2024 | Rp 17,751,696,000.00   | 100% | Rp 1,932,495,722,000.00 | 0.00919 |
| 10 | Indo Acitama Tbk             | SRSN | 2020 | Rp 44,152,245,000.00   | 100% | Rp 906,846,895,000.00   | 0.04869 |
|    |                              |      | 2021 | Rp 26,542,985,000.00   | 100% | Rp 860,162,908,000.00   | 0.03086 |

|    |                             |      |      |                         |      |                          |         |
|----|-----------------------------|------|------|-------------------------|------|--------------------------|---------|
|    |                             |      | 2022 | Rp 33,640,328,000.00    | 100% | Rp 876,602,301,000.00    | 0.03838 |
|    |                             |      | 2023 | Rp 58,018,151,000.00    | 100% | Rp 936,697,851,000.00    | 0.06194 |
|    |                             |      | 2024 | Rp 22,502,000,000.00    | 100% | Rp 1,135,429,000,000.00  | 0.01982 |
| 11 | Japfa Comfeed Indonesia Tbk | JPFA | 2020 | Rp 1,221,904,000,000.00 | 100% | Rp 25,951,760,000,000.00 | 0.04708 |
|    |                             |      | 2021 | Rp 2,130,896,000,000.00 | 100% | Rp 28,589,656,000,000.00 | 0.07453 |
|    |                             |      | 2022 | Rp 1,490,931,000,000.00 | 100% | Rp 32,690,887,000,000.00 | 0.04561 |
|    |                             |      | 2023 | Rp 945,922,000,000.00   | 100% | Rp 34,109,431,000,000.00 | 0.02773 |
|    |                             |      | 2024 | Rp 3,212,338,000,000.00 | 100% | Rp 34,666,283,000,000.00 | 0.09266 |
| 12 | Malindo Feedmill Tbk        | MAIN | 2020 | -Rp 38,953,042,000.00   | 100% | Rp 4,674,206,873,000.00  | -0.0083 |
|    |                             |      | 2021 | Rp 60,376,485,000.00    | 100% | Rp 5,436,745,210,000.00  | 0.01111 |
|    |                             |      | 2022 | Rp 26,217,657,000.00    | 100% | Rp 5,746,998,087,000.00  | 0.00456 |
|    |                             |      | 2023 | Rp 63,162,746,000.00    | 100% | Rp 5,517,296,880,000.00  | 0.01145 |
|    |                             |      | 2024 | Rp 487,957,583,000.00   | 100% | Rp 5,380,045,840,000.00  | 0.0907  |
| 13 | Sreeya Sewu Indonesia Tbk   | SIPD | 2020 | Rp 24,173,000,000.00    | 100% | Rp 2,607,437,000,000.00  | 0.00927 |
|    |                             |      | 2021 | -Rp 11,777,000,000.00   | 100% | Rp 2,787,550,000,000.00  | -0.0042 |
|    |                             |      | 2022 | -Rp 218,103,000,000.00  | 100% | Rp 3,002,424,000,000.00  | -0.0726 |
|    |                             |      | 2023 | -Rp 17,315,000,000.00   | 100% | Rp 3,281,471,000,000.00  | -0.0053 |
|    |                             |      | 2024 | Rp 3,325,000,000.00     | 100% | Rp 3,119,496,000,000.00  | 0.00107 |

|    |                                   |      |      |                       |      |                         |         |
|----|-----------------------------------|------|------|-----------------------|------|-------------------------|---------|
| 14 | Indonesia Fibreboard Industry Tbk | IFII | 2020 | Rp 73,585,850,462.00  | 100% | Rp 1,074,238,575,525.00 | 0.0685  |
|    |                                   |      | 2021 | Rp 82,349,452,240.00  | 100% | Rp 1,158,730,182,419.00 | 0.07107 |
|    |                                   |      | 2022 | Rp 97,118,215,205.00  | 100% | Rp 1,746,807,361,866.00 | 0.0556  |
|    |                                   |      | 2023 | Rp 100,902,985,814.00 | 100% | Rp 1,894,388,459,807.00 | 0.05326 |
|    |                                   |      | 2024 | Rp 179,025,233,782.00 | 100% | Rp 1,753,404,635,182.00 | 0.1021  |
| 15 | Suparma Tbk                       | SPMA | 2020 | Rp 162,524,650,713.00 | 100% | Rp 2,316,065,006,133.00 | 0.07017 |
|    |                                   |      | 2021 | Rp 294,325,560,054.00 | 100% | Rp 2,746,153,295,147.00 | 0.10718 |
|    |                                   |      | 2022 | Rp 336,138,349,494.00 | 100% | Rp 3,239,231,499,990.00 | 0.10377 |
|    |                                   |      | 2023 | Rp 178,658,341,906.00 | 100% | Rp 3,303,922,519,911.00 | 0.05407 |
|    |                                   |      | 2024 | Rp 104,838,993,586.00 | 100% | Rp 3,392,686,914,315.00 | 0.0309  |

## Lampiran 8

## Hasil Olah Data Seluruh Variabel

| NO | Nama Persahaan                | Kode | Tahun | X1          | X2 | Y    | Z           |
|----|-------------------------------|------|-------|-------------|----|------|-------------|
| 1  | Indocement Tungal Prakasa Tbk | INTP | 2020  | 0.125760033 | 3  | 2.14 | 0.066058097 |
|    |                               |      | 2021  | 0.141354524 | 4  | 1.85 | 0.068430066 |
|    |                               |      | 2022  | 0.139835131 | 4  | 1.56 | 0.071672835 |
|    |                               |      | 2023  | 0.108489816 | 4  | 1.38 | 0.065777044 |
|    |                               |      | 2024  | 0.142434038 | 5  | 1.09 | 0.066007449 |
| 2  | Semen Baturaja Tbk            | SMBR | 2020  | 0.355978729 | 3  | 2.25 | 0.001914125 |
|    |                               |      | 2021  | 0.033811098 | 3  | 1.45 | 0.008906767 |
|    |                               |      | 2022  | 0.027902045 | 3  | 1.15 | 0.01819677  |
|    |                               |      | 2023  | 0.032128975 | 4  | 0.92 | 0.025031758 |
|    |                               |      | 2024  | 0.01875046  | 4  | 0.75 | 0.026336866 |
| 3  | Solusi Bangun Indonesia Tbk   | SMCB | 2020  | 0.056329763 | 4  | 1.17 | 0.03139088  |
|    |                               |      | 2021  | 0.022678945 | 4  | 1.19 | 0.033544692 |
|    |                               |      | 2022  | 0.018098933 | 5  | 1.05 | 0.039257928 |
|    |                               |      | 2023  | 0.016542875 | 4  | 0.98 | 0.040287095 |
|    |                               |      | 2024  | 0.020131796 | 5  | 0.71 | 0.035402335 |
| 4  | Semen Indonesia (Persero) Tbk | SMGR | 2020  | 0.018056771 | 4  | 1.46 | 0.034283704 |
|    |                               |      | 2021  | 0.0243697   | 4  | 1.05 | 0.027218714 |
|    |                               |      | 2022  | 0.0226917   | 5  | 0.94 | 0.030123947 |
|    |                               |      | 2023  | 0.031102966 | 5  | 0.92 | 0.028056541 |
|    |                               |      | 2024  | 0.080655821 | 5  | 0.63 | 0.010022641 |

|   |                              |      |      |              |  |   |  |      |              |
|---|------------------------------|------|------|--------------|--|---|--|------|--------------|
| 5 | Asahimas Flat Glass Tbk      | AMFG | 2020 | -0.01461761  |  | 3 |  | 0.78 | -0.054132827 |
|   |                              |      | 2021 | 0.043932319  |  | 4 |  | 0.82 | 0.043043565  |
|   |                              |      | 2022 | 0.024441548  |  | 3 |  | 0.82 | 0.05857749   |
|   |                              |      | 2023 | 0.001800112  |  | 4 |  | 0.78 | 0.077766048  |
|   |                              |      | 2024 | 0.006328318  |  | 4 |  | 0.64 | 0.032814115  |
| 6 | Surya Toto Indonesia Tbk     | TOTO | 2020 | -0.127078601 |  | 3 |  | 1.17 | -0.009876285 |
|   |                              |      | 2021 | 0.034785225  |  | 3 |  | 1.04 | 0.049342289  |
|   |                              |      | 2022 | 0.007657682  |  | 3 |  | 1.15 | 0.094830075  |
|   |                              |      | 2023 | 0.016912953  |  | 3 |  | 1.00 | 0.072713166  |
|   |                              |      | 2024 | 0.004449622  |  | 3 |  | 0.94 | 0.091170246  |
| 7 | Gunawan Dianjaya Steel Tbk   | GDST | 2020 | -0.105337085 |  | 3 |  | 1.11 | -0.049016775 |
|   |                              |      | 2021 | -0.12242679  |  | 3 |  | 1.09 | -0.040222468 |
|   |                              |      | 2022 | 0.013519739  |  | 3 |  | 1.16 | 0.129922077  |
|   |                              |      | 2023 | 0.014085293  |  | 3 |  | 0.98 | 0.095590562  |
|   |                              |      | 2024 | 0.147117829  |  | 3 |  | 0.83 | 0.037989092  |
| 8 | Indal Aluminium Industry Tbk | INAI | 2020 | 0.819962678  |  | 3 |  | 0.92 | 0.002859361  |
|   |                              |      | 2021 | 0.805080351  |  | 3 |  | 0.87 | 0.002798657  |
|   |                              |      | 2022 | -0.009754718 |  | 3 |  | 0.92 | -0.073291241 |
|   |                              |      | 2023 | -0.02969685  |  | 3 |  | 0.90 | -0.039161525 |
|   |                              |      | 2024 | -0.021986147 |  | 3 |  | 0.89 | -0.079513949 |
| 9 | Madusari Murni Indah Tbk     | MOLI | 2020 | 0.047472352  |  | 3 |  | 1.41 | 0.034781947  |
|   |                              |      | 2021 | 0.131337613  |  | 3 |  | 0.86 | 0.017053658  |
|   |                              |      | 2022 | 0.409094397  |  | 3 |  | 0.55 | 0.005181232  |

|    |                                   |      |      |              |   |      |              |
|----|-----------------------------------|------|------|--------------|---|------|--------------|
|    |                                   |      | 2023 | 0.069408788  | 3 | 0.84 | 0.046604571  |
|    |                                   |      | 2024 | 0.207867462  | 3 | 0.60 | 0.009185891  |
|    |                                   |      | 2020 | 0.056546864  | 3 | 0.74 | 0.048687651  |
| 10 | Indo Acitama Tbk                  | SRSN | 2021 | 0.056342307  | 3 | 0.68 | 0.030858091  |
|    |                                   |      | 2022 | 0.036078835  | 3 | 0.61 | 0.038375815  |
|    |                                   |      | 2023 | 0.015826065  | 3 | 0.67 | 0.061939024  |
|    |                                   |      | 2024 | 0.028589614  | 3 | 0.61 | 0.01981806   |
| 11 | Japfa Comfeed Indonesia Tbk       | JPFA | 2020 | 0.015389916  | 3 | 1.22 | 0.047083666  |
|    |                                   |      | 2021 | 0.003422504  | 3 | 1.25 | 0.07453381   |
|    |                                   |      | 2022 | 0.004247681  | 3 | 1.05 | 0.04560693   |
|    |                                   |      | 2023 | 0.009187861  | 3 | 0.99 | 0.027731978  |
|    |                                   |      | 2024 | 0.008781143  | 3 | 1.18 | 0.092664622  |
| 12 | Malindo Feedmill Tbk              | MAIN | 2020 | -0.272558944 | 3 | 0.90 | -0.008333615 |
|    |                                   |      | 2021 | 0.19201184   | 3 | 0.84 | 0.011105263  |
|    |                                   |      | 2022 | 0.307121266  | 3 | 0.77 | 0.004561974  |
|    |                                   |      | 2023 | 0.087535776  | 3 | 0.76 | 0.011448133  |
|    |                                   |      | 2024 | 0.005471787  | 3 | 0.72 | 0.090697663  |
| 13 | Sreeya Sewu Indonesia Tbk         | SIPD | 2020 | 0.045505316  | 3 | 1.42 | 0.00927079   |
|    |                                   |      | 2021 | -0.044748238 | 3 | 1.63 | -0.004224857 |
|    |                                   |      | 2022 | -0.002164115 | 3 | 1.40 | -0.072642305 |
|    |                                   |      | 2023 | -0.031533353 | 3 | 1.39 | -0.005276597 |
|    |                                   |      | 2024 | 0.083609023  | 3 | 1.10 | 0.001065877  |
| 14 | Indonesia Fibreboard Industry Tbk | IFII | 2020 | 0.0101889    | 3 | 1.37 | 0.068500473  |
|    |                                   |      | 2021 | 0.008636831  | 3 | 1.26 | 0.071068704  |
|    |                                   |      | 2022 | 0.008632659  | 3 | 1.20 | 0.055597553  |
|    |                                   |      | 2023 | 0.011510324  | 3 | 1.12 | 0.053264147  |

|    |             |      |      |             |   |      |             |
|----|-------------|------|------|-------------|---|------|-------------|
|    |             |      | 2024 | 0.002896667 | 3 | 1.35 | 0.102101495 |
| 15 | Suparma Tbk | SPMA | 2020 | 0.010026445 | 3 | 0.62 | 0.07017275  |
|    |             |      | 2021 | 0.005601461 | 3 | 1.16 | 0.107177396 |
|    |             |      | 2022 | 0.004355052 | 3 | 0.93 | 0.103771018 |
|    |             |      | 2023 | 0.009442044 | 3 | 0.63 | 0.054074616 |
|    |             |      | 2024 | 0.020685052 | 3 | 0.57 | 0.030901464 |



Tabel 1  
Hasil Analisis Statistik Deskriptif

| View         | Proc | Object | Print | Name      | Freeze | Sample   | Sheet | Stats    | Spec |           |
|--------------|------|--------|-------|-----------|--------|----------|-------|----------|------|-----------|
|              |      |        |       | X1        |        | X2       |       | Y        |      | Z         |
| Mean         |      |        |       | 0.060108  |        | 3.333333 |       | 1.037277 |      | 0.033687  |
| Median       |      |        |       | 0.018750  |        | 3.000000 |       | 0.983179 |      | 0.034284  |
| Maximum      |      |        |       | 0.819963  |        | 5.000000 |       | 2.249789 |      | 0.129922  |
| Minimum      |      |        |       | -0.272559 |        | 3.000000 |       | 0.552996 |      | -0.079514 |
| Std. Dev.    |      |        |       | 0.156869  |        | 0.622405 |       | 0.339474 |      | 0.043195  |
| Skewness     |      |        |       | 3.108587  |        | 1.667646 |       | 1.193371 |      | -0.475271 |
| Kurtosis     |      |        |       | 15.48209  |        | 4.522715 |       | 5.024518 |      | 3.350709  |
| Jarque-Bera  |      |        |       | 607.6743  |        | 42.00887 |       | 30.61003 |      | 3.207898  |
| Probability  |      |        |       | 0.000000  |        | 0.000000 |       | 0.000000 |      | 0.201101  |
| Sum          |      |        |       | 4.508099  |        | 250.0000 |       | 77.79577 |      | 2.526531  |
| Sum Sq. Dev. |      |        |       | 1.820988  |        | 28.66667 |       | 8.527971 |      | 0.138068  |
| Observations |      |        |       | 75        |        | 75       |       | 75       |      | 75        |

Tabel 2  
Hasil Uji Model Regresi Common effect model (CEM)

Dependent Variable: Y  
Method: Panel Least Squares  
Date: 05/08/26 Time: 20:43  
Sample: 2020 2024  
Periods included: 5  
Cross-sections included: 15  
Total panel (balanced) observations: 75

| Variable              | Coefficient | Std. Error         | t-Statistic | Prob.     |
|-----------------------|-------------|--------------------|-------------|-----------|
| C                     | 1.326745    | 0.473233           | 2.803580    | 0.0066    |
| X1                    | -0.145702   | 0.250513           | -0.581614   | 0.5627    |
| X2                    | -0.117719   | 0.148044           | -0.795159   | 0.4292    |
| Z                     | -4.275461   | 11.63476           | -0.367473   | 0.7144    |
| X1_Z                  | 46.42155    | 21.80385           | 2.129052    | 0.0368    |
| X2_Z                  | 1.548250    | 3.799885           | 0.407447    | 0.6849    |
| Root MSE              | 0.316835    | R-squared          |             | 0.117159  |
| Mean dependent var    | 1.037277    | Adjusted R-squared |             | 0.053185  |
| S.D. dependent var    | 0.339474    | S.E. of regression |             | 0.330324  |
| Akaike info criterion | 0.699131    | Sum squared resid  |             | 7.528845  |
| Schwarz criterion     | 0.884530    | Log likelihood     |             | -20.21740 |
| Hannan-Quinn criter.  | 0.773158    | F-statistic        |             | 1.831348  |
| Durbin-Watson stat    | 0.464877    | Prob(F-statistic)  |             | 0.118103  |

Tabel 3  
Hasil Uji Model Regresi fixed effect model (FEM)

Dependent Variable: Y  
Method: Panel Least Squares  
Date: 05/08/26 Time: 20:44  
Sample: 2020 2024  
Periods included: 5  
Cross-sections included: 15  
Total panel (balanced) observations: 75

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| C        | 2.828825    | 0.479650   | 5.897680    | 0.0000 |
| X1       | -0.109280   | 0.199647   | -0.547365   | 0.5863 |
| X2       | -0.573765   | 0.151668   | -3.783042   | 0.0004 |
| Z        | -8.747410   | 9.342683   | -0.936285   | 0.3532 |
| X1_Z     | 29.15533    | 38.79060   | 0.751608    | 0.4555 |
| X2_Z     | 3.260850    | 3.058576   | 1.066134    | 0.2910 |

Effects Specification

| Cross-section fixed (dummy variables) |           |                    |          |
|---------------------------------------|-----------|--------------------|----------|
| Root MSE                              | 0.177564  | R-squared          | 0.722715 |
| Mean dependent var                    | 1.037277  | Adjusted R-squared | 0.626926 |
| S.D. dependent var                    | 0.339474  | S.E. of regression | 0.207350 |
| Akaike info criterion                 | -0.085637 | Sum squared resid  | 2.364676 |
| Schwarz criterion                     | 0.532360  | Log likelihood     | 23.21137 |
| Hannan-Quinn criter.                  | 0.161123  | F-statistic        | 7.544846 |
| Durbin-Watson stat                    | 1.684837  | Prob(F-statistic)  | 0.000000 |

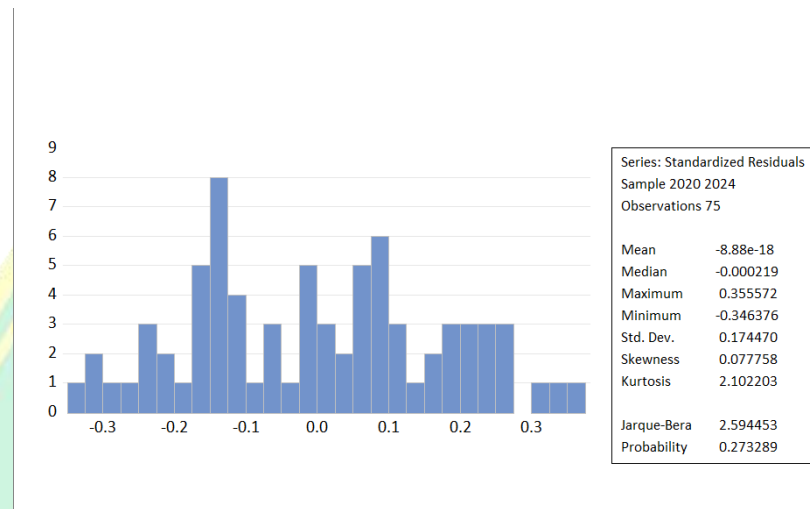
Tabel 4  
Hasil Uji (Uji chow)

| Effects Test             | Statistic | d.f.    | Prob.  |
|--------------------------|-----------|---------|--------|
| Cross-section F          | 8.579528  | (14,55) | 0.0000 |
| Cross-section Chi-square | 86.857541 | 14      | 0.0000 |

Tabel 5  
Hasil Uji (Uji Hausman)

| Test Summary         | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob.  |
|----------------------|-------------------|--------------|--------|
| Cross-section random | 11.479434         | 5            | 0.0427 |

Gambar 1 Hasil Uji Normalitas



Tabel 6  
Hasil Uji Multikolinearitas

|      | X1        | X2        | X1*Z      | X2*Z     |
|------|-----------|-----------|-----------|----------|
| X1   | 1.000000  | -0.033476 | -0.824055 | 0.089897 |
| X2   | -0.033476 | 1.000000  | 0.067193  | 0.082236 |
| X1*Z | -0.824055 | 0.067193  | 1.000000  | 0.372085 |
| X2*Z | 0.089897  | 0.082236  | 0.372085  | 1.000000 |

Tabel 7  
Hasil Uji Heterokedastisitas

Dependent Variable: ABS(RESID01)  
Method: Panel Least Squares  
Date: 06/12/26 Time: 19:08  
Sample: 2020 2024  
Periods included: 5  
Cross-sections included: 15  
Total panel (balanced) observations: 75

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| C        | 0.118976    | 0.016032   | 7.421047    | 0.0000 |
| X1C      | -0.064411   | 0.723197   | -0.089065   | 0.9294 |
| X2C      | -0.050342   | 0.048291   | -1.042470   | 0.3018 |
| ZC       | -0.144295   | 1.667789   | -0.086518   | 0.9314 |
| X1Z      | -5.890689   | 22.18593   | -0.265515   | 0.7916 |
| X2Z      | 0.933949    | 1.749325   | 0.533891    | 0.5956 |

Effects Specification

Cross-section fixed (dummy variables)

|                       |           |                    |          |
|-----------------------|-----------|--------------------|----------|
| Root MSE              | 0.101556  | R-squared          | 0.398940 |
| Mean dependent var    | 0.122824  | Adjusted R-squared | 0.191302 |
| S.D. dependent var    | 0.131875  | S.E. of regression | 0.118592 |
| Akaike info criterion | -1.203076 | Sum squared resid  | 0.773524 |
| Schwarz criterion     | -0.585079 | Log likelihood     | 65.11534 |
| Hannan-Quinn criter.  | -0.956317 | F-statistic        | 1.921319 |
| Durbin-Watson stat    | 2.675286  | Prob(F-statistic)  | 0.031073 |

Tabel 8  
Hasil Uji Autokorelasi

|                    |          |                    |          |
|--------------------|----------|--------------------|----------|
| Root MSE           | 0.173303 | R-squared          | 0.902225 |
| Mean dependent var | 1.897822 | Adjusted R-squared | 0.868448 |
| S.D. dependent var | 1.429107 | S.E. of regression | 0.202374 |
| Sum squared resid  | 2.252546 | F-statistic        | 26.71128 |
| Durbin-Watson stat | 1.967256 | Prob(F-statistic)  | 0.000000 |

Tabel 9  
Hasil Uji Hipotesi ( Uji F, Uji R<sup>2</sup>, Uji T)

| Variable                              | Coefficient | Std. Error         | t-Statistic | Prob.  |
|---------------------------------------|-------------|--------------------|-------------|--------|
| C                                     | 1.045314    | 0.011373           | 91.90883    | 0.0000 |
| X1_C                                  | 1.241863    | 0.475940           | 2.609287    | 0.0117 |
| X2_C                                  | -0.383556   | 0.080228           | -4.780813   | 0.0000 |
| Z_C                                   | 4.048303    | 1.343036           | 3.014292    | 0.0039 |
| X1_Z_C                                | 40.53651    | 14.79481           | 2.739915    | 0.0083 |
| X2_Z_C                                | 2.606588    | 2.677435           | 0.973539    | 0.3345 |
| Effects Specification                 |             |                    |             |        |
| Cross-section fixed (dummy variables) |             |                    |             |        |
| Weighted Statistics                   |             |                    |             |        |
| Root MSE                              | 0.173303    | R-squared          | 0.902225    |        |
| Mean dependent var                    | 1.897822    | Adjusted R-squared | 0.868448    |        |
| S.D. dependent var                    | 1.429107    | S.E. of regression | 0.202374    |        |
| Sum squared resid                     | 2.252546    | F-statistic        | 26.71128    |        |
| Durbin-Watson stat                    | 1.967256    | Prob(F-statistic)  | 0.000000    |        |
| Unweighted Statistics                 |             |                    |             |        |
| R-squared                             | 0.716419    | Mean dependent var | 1.037277    |        |
| Sum squared resid                     | 2.418373    | Durbin-Watson stat | 1.518471    |        |