LAMPIRAN

Lampiran 1 Tabulasi Data Sekunder

No.	CROSS SECTION	KODE	PERIODE	UP	DK	KL	ED
1	PT ASTRA OTOPARTS Tbk	**AUTO**	2019	43.00	8.00	3.00	0.31
			2020	44.00	8.00	3.00	0.34
			2021	45.00	8.00	3.00	0.31
			2022	46.00	8.00	3.00	0.28
			2023	47.00	8.00	3.00	0.31
			2024	48.00	6.00	3.00	0.50
2	PT CHANDRA ASRI PETROCHEMICAL Tbk	**TPIA**	2019	35.00	14.00	4.00	0.28
			2020	36.00	7.00	3.00	0.46
			2021	37.00	14.00	4.00	0.31
			2022	38.00	14.00	4.00	0.96
			2023	39.00	15.00	4.00	0.96
			2024	40.00	10.00	4.00	0.96
3	PT GUNUNG RAJA PAKSI Tbk	**GGRP**	2019	49.00	9.00	3.00	0.06
			2020	50.00	9.00	3.00	0.06
			2021	51.00	5.00	3.00	0.15
			2022	52.00	5.00	0.00	0.12
			2023	53.00	5.00	3.00	0.43
			2024	54.00	3.00	3.00	0.43
4	PT INDAL ALUMINIUM INDUSTRY Tbk	**INAI**	2019	48.00	3.00	2.00	0.00
			2020	49.00	3.00	3.00	0.12
			2021	50.00	3.00	3.00	0.12
			2022	51.00	3.00	3.00	0.12
			2023	52.00	2.00	3.00	0.31
			2024	53.00	2.00	3.00	0.12
5	PT INDOCEMENT TUNGGAL PRAKARSA Tbk	**INTP**	2019	44.00	6.00	4.00	0.25
			2020	45.00	6.00	3.00	0.40
			2021	46.00	7.00	4.00	0.78

			2022	47.00	7.00	4.00	0.78
			2023	48.00	7.00	5.00	0.81
			2024	49.00	7.00	5.00	0.81
6	PT INDUSTRI JAMU & FARMASI SIDO MUNCUL Tbk	**SIDO**	2019	44.00	5.00	4.00	0.43
			2020	45.00	5.00	5.00	0.53
			2021	46.00	6.00	5.00	0.59
			2022	47.00	6.00	5.00	0.59
			2023	48.00	5.00	5.00	0.68
			2024	49.00	6.00	5.00	0.68
7	PT JAPFA COMFEED Indonesia Tbk	**JPFA**	2019	48.00	6.00	3.00	0.25
			2020	49.00	5.00	3.00	0.65
			2021	50.00	3.00	3.00	0.71
			2022	51.00	4.00	3.00	0.53
			2023	52.00	4.00	3.00	0.59
			2024	53.00	4.00	3.00	0.53
8	PT KALBE FARMA Tbk	**KLBF**	2019	53.00	7.00	4.00	0.18
			2020	54.00	7.00	4.00	0.34
			2021	55.00	7.00	4.00	0.43
			2022	56.00	7.00	4.00	0.56
			2023	57.00	6.00	4.00	0.65
			2024	58.00	6.00	4.00	0.65
9	PT MERCK Tbk	**MERK**	2019	49.00	2.00	3.00	0.93
			2020	50.00	2.00	3.00	0.96
			2021	51.00	2.00	3.00	0.43
			2022	52.00	2.00	3.00	0.31
			2023	53.00	2.00	0.00	0.31
			2024	54.00	2.00	0.00	0.31
10	PT SEMEN Indonesia (PERSERO) Tbk	**SMGR**	2019	62.00	7.00	4.00	0.09
			2020	63.00	7.00	3.00	0.59
			2021	64.00	7.00	4.00	0.84
			2022	65.00	7.00	4.00	0.71
			2023	66.00	7.00	3.00	0.81
			2024	67.00	7.00	3.00	0.87

11	PT SOLUSI BANGUN INDONESIA Tbk	**SMCB**	2019	48.00	3.00	3.00	0.56
			2020	49.00	3.00	4.00	0.75
			2021	50.00	4.00	4.00	0.75
			2022	51.00	4.00	5.00	0.81
			2023	52.00	3.00	0.00	0.75
			2024	53.00	4.00	3.00	0.75
12	PT TOBA PULP LESTARI Tbk	**INRU**	2019	36.00	3.00	3.00	0.12
			2020	37.00	3.00	3.00	0.12
			2021	38.00	4.00	0.00	0.12
			2022	39.00	4.00	0.00	0.87
			2023	40.00	4.00	0.00	0.87
			2024	41.00	4.00	0.00	0.84
13	PT UNILEVER Indonesia Tbk	**UNVR**	2019	86.00	5.00	3.00	0.21
			2020	87.00	6.00	3.00	0.25
			2021	88.00	6.00	3.00	0.37
			2022	89.00	6.00	3.00	0.46
			2023	90.00	6.00	3.00	0.78
			2024	91.00	6.00	3.00	0.78

Lampiran 2 Hasil Uji Analisis Statistik Deskriptif

Date: 07/17/25
Time: 18:14
Sample: 2019 2024

	ED	UP	DK	KL
Mean	0.496667	52.11538	5.679487	3.141026
Median	0.480000	50.00000	6.000000	3.000000
Maximum	0.960000	91.00000	15.00000	5.000000
Minimum	0.000000	35.00000	2.000000	0.000000
Std. Dev.	0.275198	12.61105	2.812281	1.266187
Skewness	0.019678	1.712825	1.251232	-1.194091
Kurtosis	1.777505	5.915001	5.220635	4.539116
Jarque-Bera	4.862139	65.75499	36.37902	26.23494

Probability	0.087943	0.000000	0.000000	0.000002
Sum	38.74000	4065.000	443.0000	245.0000
Sum Sq. Dev.	5.831533	12245.96	608.9872	123.4487
Observations	78	78	78	78

Lampiran 3 Estimasi Model Regresi Data Panel

Common Effect Model

Dependent Variable: ED
Method: Panel Least Squares
Date: 07/17/25 Time: 18:18
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.314314	0.162647	1.932491	0.0571
UP	0.000845	0.002517	0.335768	0.7380
DK	0.006922	0.012164	0.569110	0.5710
KL	0.031519	0.026838	1.174411	0.2440

Root MSE	0.268623	R-squared	0.034844
Mean dependent var	0.496667	Adjusted R-squared	-0.004283
S.D. dependent var	0.275198	S.E. of regression	0.275787
Akaike info criterion	0.311546	Sum squared resid	5.628337
Schwarz criterion	0.432403	Log likelihood	-8.150306
Hannan-Quinn criter.	0.359928	F-statistic	0.890527
Durbin-Watson stat	0.542978	Prob(F-statistic)	0.450162

Fixed Effect Model

Dependent Variable: ED
Method: Panel Least Squares

Date: 07/17/25 Time: 18:19
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.523567	0.738980	-4.768151	0.0000
UP	0.074375	0.013349	5.571604	0.0000
DK	0.005899	0.020168	0.292482	0.7709
KL	0.035233	0.027480	1.282120	0.2046

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.174502	R-squared	0.592702
Mean dependent var	0.496667	Adjusted R-squared	0.494162
S.D. dependent var	0.275198	S.E. of regression	0.195728
Akaike info criterion	-0.243505	Sum squared resid	2.375174
Schwarz criterion	0.239923	Log likelihood	25.49668
Hannan-Quinn criter.	-0.049980	F-statistic	6.014838
Durbin-Watson stat	1.116940	Prob(F-statistic)	0.000000

Random Effcet Model

Dependent Variable: ED
Method: Panel EGLS (Cross-section random effects)
Date: 07/17/25 Time: 18:20
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.082219	0.249988	0.328891	0.7432
UP	0.006577	0.004086	1.609847	0.1117
DK	0.003605	0.014795	0.243686	0.8081
KL	0.016299	0.024830	0.656422	0.5136

Effects Specification

	S.D.	Rho

Cross-section random	0.173790	0.4408
Idiosyncratic random	0.195728	0.5592

Weighted Statistics

Root MSE	0.222194	R-squared	0.029512
Mean dependent var	0.207478	Adjusted R-squared	-0.009832
S.D. dependent var	0.227007	S.E. of regression	0.228120
Sum squared resid	3.850881	F-statistic	0.750102
Durbin-Watson stat	0.761556	Prob(F-statistic)	0.525746

Unweighted Statistics

R-squared	-0.043155	Mean dependent var	0.496667
Sum squared resid	6.083191	Durbin-Watson stat	0.482093

Lampiran 4 Hasil Uji Chow

Redundant Fixed Effects Tests
Equation: MODEL_FEM
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	7.076538	(12,62)	**0.0000**
Cross-section Chi-square	67.293981	12	0.0000

Cross-section fixed effects test equation:
Dependent Variable: ED
Method: Panel Least Squares
Date: 07/17/25 Time: 18:22
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.314314	0.162647	1.932491	0.0571
UP	0.000845	0.002517	0.335768	0.7380
DK	0.006922	0.012164	0.569110	0.5710
KL	0.031519	0.026838	1.174411	0.2440

Root MSE	0.268623	R-squared	0.034844

Mean dependent var	0.496667	Adjusted R-squared	-0.004283
S.D. dependent var	0.275198	S.E. of regression	0.275787
Akaike info criterion	0.311546	Sum squared resid	5.628337
Schwarz criterion	0.432403	Log likelihood	-8.150306
Hannan-Quinn criter.	0.359928	F-statistic	0.890527
Durbin-Watson stat	0.542978	Prob(F-statistic)	0.450162

Lampiran 5 Hasil Uji Hausman

Correlated Random Effects - Hausman Test
Equation: MODEL_REM
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	29.520900	3	**0.0000**

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
UP	0.074375	0.006577	0.000162	0.0000
DK	0.005899	0.003605	0.000188	0.8671
KL	0.035233	0.016299	0.000139	0.1078

Cross-section random effects test equation:
Dependent Variable: ED
Method: Panel Least Squares
Date: 07/17/25 Time: 18:24
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.523567	0.738980	-4.768151	0.0000
UP	0.074375	0.013349	5.571604	0.0000
DK	0.005899	0.020168	0.292482	0.7709
KL	0.035233	0.027480	1.282120	0.2046

Effects Specification			
Cross-section fixed (dummy variables)			
Root MSE	0.174502	R-squared	0.592702
Mean dependent var	0.496667	Adjusted R-squared	0.494162
S.D. dependent var	0.275198	S.E. of regression	0.195728
Akaike info criterion	-0.243505	Sum squared resid	2.375174
Schwarz criterion	0.239923	Log likelihood	25.49668
Hannan-Quinn criter.	-0.049980	F-statistic	6.014838
Durbin-Watson stat	1.116940	Prob(F-statistic)	0.000000

Lampiran 6 Hasil Uji Lagrange Multiplier

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided
(all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	10.58346 **(0.0011)**	13.14574 (0.0003)	23.72920 (0.0000)
Honda	3.253223 (0.0006)	3.625706 (0.0001)	4.864137 (0.0000)
King-Wu	3.253223 (0.0006)	3.625706 (0.0001)	4.810510 (0.0000)
Standardized Honda	4.306121 (0.0000)	4.094352 (0.0000)	2.529940 (0.0057)
Standardized King-Wu	4.306121 (0.0000)	4.094352 (0.0000)	2.599966 (0.0047)
Gourieroux, et al.	--	--	23.72920 (0.0000)

Lampiran 7 Hasil Uji Multikolinieritas

	UP	DK	KL
UP	1.000000	**-0.117221**	**0.024994**
DK	-0.117221	1.000000	**0.373926**
KL	0.024994	0.373926	1.000000

Lampiran 8 Hasil Uji Heteroskedastisitas

Dependent Variable: ABSRES
Method: Panel Least Squares
Date: 07/17/25 Time: 18:41
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.405556	0.306992	1.321061	0.1913
UP	-0.006881	0.005545	-1.240841	**0.2193**
DK	0.011596	0.008378	1.384091	**0.1713**
KL	0.005166	0.011416	0.452496	**0.6525**

Effects Specification

Cross-section fixed (dummy variables)

Root MSE	0.072493	R-squared	0.619232
Mean dependent var	0.129032	Adjusted R-squared	0.527111
S.D. dependent var	0.118241	S.E. of regression	0.081311
Akaike info criterion	-2.000400	Sum squared resid	0.409907
Schwarz criterion	-1.516972	Log likelihood	94.01559
Hannan-Quinn criter.	-1.806875	F-statistic	6.721918
Durbin-Watson stat	2.006425	Prob(F-statistic)	0.000000

Lampiran 9 Hasil Uji Analisis Regresi Data Panel

Estimation Command:
==========
LS(CX=F) ED C UP DK KL

Estimation Equation:
==========
ED = C(1) + C(2)*UP + C(3)*DK + C(4)*KL + [CX=F]

Substituted Coefficients:
==========
ED = -3.52356689665 + 0.0743746551954*UP + 0.0058986575973*DK + 0.0352332214431*KL + [CX=F]

Lampiran 10 Hasil Uji t

Dependent Variable: ED
Method: Panel Least Squares
Date: 07/17/25 Time: 18:31
Sample: 2019 2024
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.523567	0.738980	-4.768151	0.0000
UP	0.074375	0.013349	**5.571604**	**0.0000**
DK	0.005899	0.020168	**0.292482**	**0.7709**
KL	0.035233	0.027480	**1.282120**	**0.2046**

Lampiran 11 Hasil Uji Simultan (Uji F)

R-squared	0.592702
Adjusted R-squared	0.494162
S.E. of regression	0.195728
Sum squared resid	2.375174
Log likelihood	25.49668
F-statistic	**6.014838**
Prob(F-statistic)	**0.000000**

Lampiran 12 Hasil Uji R Square

R-squared	0.592702
Adjusted R-squared	**0.494162**
S.E. of regression	0.195728
Sum squared resid	2.375174
Log likelihood	25.49668
F-statistic	6.014838
Prob(F-statistic)	0.000000

Lampiran 13 Tabel Standar GRI

Ind.	Aspek	Item
301	Material	1. Material yang digunakan berat atau volumenya. 2. Material input dari daur ulang yang digunakan. 3. Produk pemerolehan ulang dan material kemasannya.
302	Energi	4. Konsumsi energi dalam organisasi. 5. Konsumsi energi di luar organisasi. 6. Intensitas energi. 7. Pengurangan kosumsi energi. 8. Pengurangan pada energi yang dibutuhkan untuk produk dan jasa.
303	Air dan Efluen	9. Interaksi dengan air sebagai sumber daya bersama. 10. Manajemen dampak yang berkaitan dengan pembuangan air. 11. Pengambilan air. 12. Pembuangan air. 13. Konsumsi air.
304	Keanekaragaman Hayati	14. Lokasi operasi yang dimiliki, disewa, dikelola atau berdekatan dengan kawasan lindung dan kawasan dengan nilai keanekaragaman hayati tinggi di luar kawasan lindung. 15. Dampak signifikan dari aktivitas, produk, dan jasa pada keanekaragaman hayati. 16. Habitat yang dilindungi atau direstorasi. 17. Spesies Daftar Merah IUCN dan spesies daftar konvservasi nasional dengan habitat dalam wilayah yang terkena efek operasi.
305	Emisi	18. Emisi gas rumah kaca (Cakupan 1) langsung. 19. Emisi energi gas rumah kaca (Cakupan 2) tidak langsung. 20. Emisi gas rumah kaca (Cakupan 3) tidak langsung lainnya. 21. Intensitas emisi gas rumah kaca. 22. Pengurangan emisi gas rumah kaca. 23. Emisi zat perusak ozon (ODS). 24. Nitrogen oksida (NO_X), belerang oksida (SO_X), dan emisi udara signifikan lainnya.

306	Efluen dan Limbah	25. Pelepasan air berdasarkan mutu dan tujuan. 26. Limbah berdasarkan jenis dan metode pembuangan. 27. Tumpahan yang signifikan. 28. Pengangkutan limbah berbahaya. 29. Badan air yang dipengaruhi oleh pelepasan dan/atau limpahan air.
307	Kepatuhan Lingkungan	30. Ketidakpatuhan terhadap undang – undang dan peraturan tentang lingkungan hidup.
308	Penilaian Lingkungan Pemasok	31. Seleksi pemasok baru dengan menggunakan kriteria lingkungan. 32. Dampak lingkungan negatif dalam rantai pasokan dan tindakan yang telah diambil.

Lampiran 14 Riwayat Hidup

RIWAYAT HIDUP

A. IDENTITAS

1. Nama : Hasna Alifa Rosyada
2. Tempat tanggal lahir : Batang, 04 April 2004
3. Alamat Rumah : Perum Griya Mustika 2 Jalan Poros Desa, Desa Wuled, Kabupaten Pekalongan
4. Nomor Handphone : 085803156842
5. Email : hasna.alifa04@gmail.com
6. Nama ayah : Sudiyanto
7. Pekerjaan ayah : Swasta
8. Nama ibu : Laela Mukaromah
9. Pekerjaan ibu : Ibu rumah tangga

B. RIWAYAT PENDIDIKAN

1. SD : SD Bendan 04 (2009 - 2015)
2. MTs : MTs Nurul Qomar (2015 - 2018)
3. MAN : MAN 1 Kota Pekalongan (2018 - 2021)

Pekalongan, 29 Juni 2025

Hasna Alifa Rosyada

RIWAYAT HIDUP

A. IDENTITAS

1.	Nama	: Hasna Alifa Rosyada
2.	Tempat tanggal lahir	: Batang, 04 April 2004
3.	Alamat Rumah	: Perum Griya Mustika 2 Jalan Poros Desa, Desa Wuled, Kabupaten Pekalongan
4.	Nomor Handphone	: 085803156842
5.	Email	: hasna.alifa04@gmail.com
6.	Nama ayah	: Sudiyanto
7.	Pekerjaan ayah	: Swasta
8.	Nama ibu	: Laela Mukaromah
9.	Pekerjaan ibu	: Ibu rumah tangga

B. RIWAYAT PENDIDIKAN

1.	SD	: SD Bendan 04 (2009 - 2015)
2.	MTs	: MTs Nurul Qomar (2015 - 2018)
3.	MAN	: MAN 1 Kota Pekalongan (2018 - 2021)

Pekalongan, 29 Juni 2025

Hasna Alifa Rosyada