

BIBLIOGRAPHY

- Afnan, G., Downing, G., & Sawalha, M. (2023). The impact of political instability on inflation volatility: The case of the Middle East and North Africa region. *Cogent Economics and Finance*, 11(1). <https://doi.org/10.1080/23322039.2023.2213016>
- Ajayi, V. O. (2023). Comparison between Primary Data and Secondary Data Basis for Comparison Primary Data Secondary Data. *European Journal of Education and Pedagogy*, 2(3). [www.ej-edu.orgDOI:http://dx.doi.org/19810.21091/](http://dx.doi.org/19810.21091/)
- AlQuraishi, A. A. (2025). Market anomalies during COVID-19: the case of Kuwait, a GCC emerging market. *Cogent Business and Management*, 12(1). <https://doi.org/10.1080/23311975.2025.2485404>
- Alvia, L., & Sulistiawan, D. (2011). Pengujian Efek Resensi dan Pengetahuan pada Penyajian Informasi Analisis Fundamental & Teknis*: Studi Eksperimen pada Pengambilan Keputusan Investasi Saham. *Simposium Nasional Akuntansi 12 Palembang*.
- Andrade, C. (2020). Sample size and its importance in research. *Indian Journal of Psychological Medicine*, 42, 102–103. https://doi.org/10.4103/IJPSYM.IJPSYM_504_19
- Ariani, R., & Kristianto, A. H. (2024). Comparative Analysis Stock Price Volatility and Abnormal Return Before and After One Round Election (Event Study on the Composite Stock Price Index). In *ProBusiness: Management Journal* (Vol. 15, Number 3). www.jonhariono.org/index.php/ProBisnis
- Australian Research Council. (2016). *2015-2016 State of Australian University Research Volume 1 ERA National Report*.
- Berggrun, L., Cardona, E., & Lizarzaburu, E. (2025). Return reversal of Latin American industries. *Journal of Economics, Finance and Administrative Science*, 1–14. <https://doi.org/10.1108/jefas-05-2025-0165>
- Brouwer, I., Put, J. van der, & Veld, C. (1996). *CONTRARIAN INVESTMENT STRATEGIES IN A EUROPEAN CONTEXT*.
- Budiarso, N. S., Hasyim, A. W., Soleman, R., Zam, I. Z., & Pontoh, W. (2020). Investor behavior under the Covid-19 pandemic: The case of Indonesia. In *Investment Management and Financial Innovations* (Vol. 17, Number 3, pp.

- 308–318). LLC CPC Business Perspectives.
[https://doi.org/10.21511/imfi.17\(3\).2020.23](https://doi.org/10.21511/imfi.17(3).2020.23)
- Caldara, D., Conlisk, S., Iacoviello, M., & Penn, M. (2026). Do geopolitical risks raise or lower inflation? *Journal of International Economics*, 159.
<https://doi.org/10.1016/j.jinteco.2025.104188>
- Chandna, H. (2024). *THE INFLUENCE OF BEHAVIORAL BIASES ON INDIVIDUAL INVESTMENT DECISION-MAKING: A COMPREHENSIVE STUDY OF OVERCONFIDENCE, LOSS AVERSION, AND ANCHORING*.
www.economicshelp.org
- Dai, J. (2020). INVESTOR SENTIMENT AND MISPRICING ANOMALIES. *International Journal of Economics, Business and Entrepreneurship*, 3(1).
- DBS Treasures. (2023, June 2). *The Differences of Long, Medium and Short Term Investments*. DBS Treasures.
<https://www.dbs.id/id/treasures/articles/bedanya-investasi-jangka-panjang>
- De Bondt, W. F. M., & Thaler, R. (1985). Does the Stock Market Overreact? *Source: The Journal of Finance*, 11(3), 793–805.
- Dewi, D. R., Nugraha, A. A., & Wahyudi, S. (2024). Macroeconomic Stability, Financial Inclusion, and Financial Literacy towards Economic Growth in Indonesia: Systematic Literature Review. *Research Horizon*, 04(06), 91–100.
- Dzuranin, A. C., Geerts, G., & Lenk, M. (2022). *Data and Analytics in Accounting*. Wiley Global Education US.
- Fama, E. F. (1970). EFFICIENT CAPITAL MARKETS: A REVIEW OF THEORY AND EMPIRICAL WORK*. *Source: The Journal of Finance*, 25(2), 383–417.
- Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds*. *Journal of Financial Economics*, 33, 3–56.
- Hamonangan, M. D., Sumirat, E., & Sunitiyoso, Y. (2024). Analysing Risk & Return Profiles: A Comparative Study of the Indonesian Stock Market against International Benchmarks. *International Journal of Current Science Research and Review*, 07(01). <https://doi.org/10.47191/ijcsrr/V7-i1-14>
- Haris Roba'in. (2022). *Pengaruh Keberagaman Gender dan Pengungkapan Risiko Terhadap Efisiensi Investasi*.
- He, H. (Heather), Jones, L., Lu, Y., & Gepp, A. (2025). Technology-enabled innovations in financial markets and retail investors: a systematic literature

- review. In *Journal of Accounting Literature*. Emerald Publishing.
<https://doi.org/10.1108/JAL-11-2024-0331>
- Idris, H. (2024). The Effects of FOMO on Investment Behavior in the Stock Market. *Golden Ratio of Data in Summary*, 4(2), 19–25.
<https://doi.org/10.52970/grdis.v4i2.460>
- Indonesia Stock Exchange. (2025). *Press Release Details*.
- Indonesia Stock Exchange. (2026). *Stock Index*.
<https://www.idx.co.id/en/products/index/>
- Investopedia.com. (2024, May 13). *Stocks: What They Are, Main Types, How They Differ From Bonds*.
- Jannils, L. (2021). The concept of political instability in economic research. *International Journal of Management and Economics*, 57(3), 268–284.
<https://doi.org/10.2478/ijme-2021-0016>
- Jegadeesh, N., & Titman, S. (1993). Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. In *Source: The Journal of Finance* (Vol. 48, Number 1).
<http://www.jstor.orgURL:http://www.jstor.org/stable/2328882>
- Kowalke, K. (2023). The effectiveness of the contrarian and momentum strategies on the US REIT market. *Management*, 27(1), 1–19.
<https://doi.org/10.58691/man/162862>
- Kusmayadi, I., Suprayetno, D., Wardani, L., Abidin, Z., & Ahyar, M. (2024). Contrarian Strategy: Evidence of Price Reversal on Winner-Loser Portfolio. *Jurnal Distribusi FEB Universitas Mataram*, 12(2).
- Laly, F. (2025). High-frequency momentum and contrarian strategies in U.S. blue chips. *Investment Management and Financial Innovations*, 22(3), 395–413.
[https://doi.org/10.21511/imfi.22\(3\).2025.30](https://doi.org/10.21511/imfi.22(3).2025.30)
- Lee, M. J., & Choi, S. Y. (2023). Comparing Market Efficiency in Developed, Emerging, and Frontier Equity Markets: A Multifractal Detrended Fluctuation Analysis. *Fractal and Fractional*, 7(6).
<https://doi.org/10.3390/fractalfract7060478>
- Lim, W. M. (2025). What Is Quantitative Research? An Overview and Guidelines. *Australasian Marketing Journal*, 33(3), 325–348.
<https://doi.org/10.1177/14413582241264622>

- Memon, M. A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). SAMPLE SIZE FOR SURVEY RESEARCH: REVIEW AND RECOMMENDATIONS. *Journal of Applied Structural Equation Modeling*, 4(2), 2590–4221.
- Merbouh, H. El, & Sonmezer, S. (2023). The Profitability of Contrarian and Momentum Strategies: Evidence from Emergent Markets. *International Journal of Innovative Research and Development*. <https://doi.org/10.24940/ijird/2023/v12/i5/may23022>
- Michaud, R. O. (1999). *Investment Styles, Market Anomalies, and Global Stock Selection*.
- Muktiyanto, I. (2015). *Determinant Factors of Market Liquidity in the Indonesian Equity Market*.
- Munir, A. F., Sukor, M. E. A., & Shahrudin, S. S. (2022). Adaptive Market Hypothesis and Time-varying Contrarian Effect: Evidence From Emerging Stock Markets of South Asia. *SAGE Open*, 12. <https://doi.org/10.1177/21582440211068490>
- Musianto, L. S. (2002). Perbedaan Pendekatan Kuantitatif Dengan Pendekatan Kualitatif Dalam Metode Penelitian. *Jurnal Manajemen & Kewirausahaan*, 4(2).
- Naseem, S., Mohsin, M., Hui, W., Liyan, G., & Penglai, K. (2021). The Investor Psychology and Stock Market Behavior During the Initial Era of COVID-19: A Study of China, Japan, and the United States. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.626934>
- Northwestern Medicine. (2025). *When Did the Pandemic Start and End? COVID-19 Pandemic Timeline*. <https://www.nm.org/healthbeat/medical-advances/new-therapies-and-drug-trials/covid-19-pandemic-timeline>
- Pradhana, R. W. (2018). PENGARUH FINANCIAL LITERACY, COGNITIVE BIAS, DAN EMOTIONAL BIAS TERHADAP KEPUTUSAN INVESTASI (STUDI PADA INVESTOR GALERI INVESTASI UNIVERSITAS NEGERI SURABAYA). *Jurnal Ilmu Manajemen*, 6(3).
- Pratama, A. K. Y., & As'ari, H. (2023). PENGARUH SUKU BUNGA DAN NILAI TUKAR RUPIAH (KURS) TERHADAP INDEKS HARGA SAHAM GABUNGAN (IHSG) (PERIODE TAHUN 2020 - 2022). *JURNAL KEWIRAUSAHAAN, AKUNTANSI DAN MANAJEMEN TRI BISNIS*, 5(1). <https://doi.org/10.59806/tribisnis.v5i1.249>

- Radiyanti, E., Hasnawati, S., Manajemen, J., Ekonomi, F., & Bisnis, D. (2024). ANALISIS OVERREACTION HYPOTHESIS PADA HARGA SAHAM (STUDI PADA PERUSAHAAN MANUFAKTUR YANG TERDAFTAR DI BURSA EFEK INDONESIA PADA TAHUN 2018-2022). *Jurnal Bisnis Dan Manajemen*, 20(1), 1–9. <https://doi.org/10.23960/jbm.v11i2.442>
- Rahmawati, R. N. (2016). *ANALISIS PENGARUH INTERDEPENDENCE INDEKS HARGASAHAM DI BURSA GLOBAL TERHADAP INDEKS HARGA SAHAM GABUNGAN DI BEL*.
- Ren, F. (2024). A Comprehensive Analysis of Behavioral Finance and its Impact on Investment Decisions. *Business, Economics and Management PEER*, 32.
- Ricciardi, V., & Simon, H. K. (2000). What is Behavioral Finance? *Business, Education and Technology Journal Fall*.
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences* (2nd ed.). New York : Holt, Rinehart and Winston.
- Rose, J. B. D., & Armansyah, R. F. (2022). RECENCY BIAS DAN CONFIRMATION BIAS PADA KEPUTUSAN INVESTASI INVESTOR PASAR MODAL INDONESIA. *Jurnal Ilmiah Manajemen Dan Bisnis (JIMBis)*, 1(2). <https://doi.org/10.24034/jimbis.v1i2.5366>
- Rosid, A., Aprica Isabella, A., Hartoto, Siswantini, T., & Suharyati. (2024). Behavioral Finance In Decision Making: An Experimental Study Of Investor Bias And Indonesian Private Market Anomalies. *Jurnal Ekonomi*, 13. <https://doi.org/10.54209/ekonomi.v13i03>
- Sari, M., Rachman, H., Juli Astuti, N., Afgani, M. W., & Siroj, R. A. (2022). Explanatory Survey dalam Metode Penelitian Deskriptif Kuantitatif. *Jurnal Pendidikan Sains Dan Komputer*, 3(01), 10–16. <https://doi.org/10.47709/jpsk.v3i01.1953>
- Sekaran, U., & Bougie, R. (2019). *Research Methods For Business: A Skill Building Approach* (8th ed.). Wiley Global Education US. <https://bookshelf.vitalsource.com/books/9781119561248>
- Shukla, S. (2020). *CONCEPT OF POPULATION AND SAMPLE*.
- Sibarani, B. B., & Suparno. (2024). Jurnal Riset Manajemen Sains Indonesia HERDING BEHAVIOR IN FINANCIAL MARKET-SYSTEMATIC LITERATURE REVIEW. *Jurnal Riset Manajemen Sains Indonesia*, 15(1), 33–45. <https://doi.org/10.21109/JRMSI.015.1.04>

- Tanjung, A. A., Muliyani, & Sari, D. P. (2025). Analisis Dinamika Volatilitas Indeks Harga Saham Gabungan (IHSG): Aplikasi Model Threshold GARCH. *Journal of Trends Economics and Accounting Research*, 5(4), 441–447. <https://doi.org/10.47065/jtear.v5i4.2096>
- The Economist Intelligence Unit. (2024). *Democracy Index 2024*.
- The Week UK. (2026, February 17). *Are we heading for World War Three?* The Week UK. <https://theweek.com/92967/are-we-heading-towards-world-war-3>
- Trading View. (2025, September 5). *Emerging Markets vs Developed Markets*. <https://id.tradingview.com/chart/BTCUSD/NdPg2mhj-Emerging-Markets-vs-Developed-Markets/>
- Wiranata, J. W., & Mendari, A. S. (2021). ANALISIS ABNORMAL RETURN PORTOFOLIO WINNER - LOSER PADA PERUSAHAAN YANG TERDAFTAR DI INDEKS KOMPAS 100. *Manajemen: Jurnal Ekonomi*, 3(1).
- World Bank. (2024, May 7). *Volatility of Stock Price Index for United States*. Federal Reserve Economic Data. <https://fred.stlouisfed.org/series/DDSM01USA066NWDB>
- Yahoo Finance. (2025). *The world's largest stock exchanges: 10 biggest by market capitalization*. <https://finance.yahoo.com/news/world-largest-stock-exchanges-10-181701563.html>
- Zhang, Z., Xing, R., Liu, J., & Shao, Y. (2023). Correlation-based investment strategies: A comparison between Chinese and US stock markets. *Pacific Basin Finance Journal*, 82. <https://doi.org/10.1016/j.pacfin.2023.102167>

APPENDIX

Appendix 1.1 U.S. Stocks Returns in Formation Period

Sector	Stocks	Formation Period (t)											
		t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Technology	TSM	-1.83%	-1.36%	-14.76%	1.28%	5.64%	15.58%	-5.69%	0.63%	-12.94%	0.95%	-4.41%	13.32%
	IBM	-7.66%	7.38%	-27.00%	4.26%	1.06%	3.68%	-0.04%	-2.55%	-5.68%	-0.57%	-4.93%	6.48%
	SONY	-8.98%	-2.44%	-11.20%	6.49%	5.09%	5.26%	8.51%	2.70%	-5.11%	-4.24%	5.11%	6.43%
	LLY	-2.00%	8.99%	1.05%	2.12%	6.69%	14.67%	1.02%	4.79%	4.67%	1.19%	-5.59%	-3.63%
Healthcare	JNJ	-12.32%	4.82%	1.31%	3.22%	1.62%	8.82%	2.17%	-5.58%	-1.30%	-0.71%	-6.20%	-1.09%
	ABBV	-2.24%	20.21%	-19.47%	-1.46%	5.00%	-0.45%	-6.57%	3.47%	1.99%	-20.19%	3.88%	14.86%
	V	-6.96%	2.76%	-8.51%	2.30%	7.16%	3.18%	1.48%	2.98%	5.90%	-2.57%	-1.05%	8.58%
	MA	-6.37%	1.82%	-11.88%	3.22%	8.62%	0.75%	3.31%	6.58%	1.76%	-0.35%	4.08%	11.20%
Financials	BAC	-14.21%	3.22%	-6.41%	-4.87%	0.19%	9.10%	-2.57%	-2.99%	0.16%	-6.80%	0.30%	8.09%
	BABA	-16.01%	12.28%	-14.67%	-6.04%	-6.75%	0.91%	-6.51%	10.35%	-2.76%	-1.41%	-9.30%	16.95%
	HD	-4.23%	2.49%	-16.37%	3.64%	1.63%	1.24%	5.04%	0.94%	4.18%	-2.23%	-9.73%	5.83%
	MCD	-5.36%	6.36%	5.58%	3.70%	2.93%	1.18%	-2.10%	-4.54%	6.83%	-0.23%	-8.16%	-0.57%
Consumer Cyclical	DIS	-5.19%	0.57%	-1.82%	4.30%	-0.57%	8.02%	5.23%	-0.86%	-0.10%	-2.68%	-5.20%	1.88%
	VZ	-7.00%	6.58%	6.70%	-1.82%	6.30%	2.61%	5.39%	-2.22%	3.15%	0.16%	-11.32%	3.62%
	T	-8.99%	3.77%	-9.03%	4.98%	1.93%	-0.43%	-0.65%	0.72%	-8.62%	-1.83%	-1.35%	-2.71%
	CAT	-6.54%	11.81%	-22.86%	9.36%	-2.89%	5.81%	-11.30%	5.60%	-2.08%	-4.80%	-4.67%	3.24%
Industrial	RTX	-12.91%	-1.94%	-11.82%	6.51%	-3.03%	8.22%	0.73%	3.81%	-4.60%	-6.30%	-2.40%	7.87%
	KO	-5.44%	5.12%	4.43%	3.58%	-4.54%	7.02%	1.98%	-0.48%	0.36%	0.51%	-9.65%	3.68%
	PG	-2.77%	7.24%	6.35%	0.34%	3.42%	3.56%	6.46%	2.06%	-9.16%	0.97%	-8.73%	-6.22%
	UL	-2.98%	2.44%	-3.68%	-2.60%	-0.24%	3.07%	0.90%	-1.24%	0.73%	8.23%	-9.02%	2.02%
Consumer Non-Cyclical	XOM	-14.33%	-0.23%	-6.48%	6.91%	-1.65%	-1.49%	2.82%	4.39%	4.11%	-0.48%	-14.20%	4.28%
	CVX	-7.94%	6.32%	-9.09%	4.12%	-6.37%	-0.13%	2.57%	-0.65%	9.27%	2.86%	-11.34%	0.13%
	SHEL	-2.05%	-4.51%	-7.55%	5.77%	-4.69%	-1.26%	0.83%	-0.47%	9.11%	2.29%	-10.44%	5.15%
	NEE	-3.83%	5.22%	2.86%	-0.83%	1.52%	0.99%	0.73%	1.15%	0.36%	7.79%	-4.02%	1.41%
Utilities	VST	-2.58%	3.71%	-9.47%	5.51%	4.06%	-4.56%	-3.60%	7.07%	9.28%	9.42%	-2.86%	6.25%
	BHP	8.46%	-4.00%	-4.91%	3.69%	-8.41%	4.38%	0.49%	6.28%	7.48%	-4.54%	-5.29%	6.41%
	APD	-0.51%	4.14%	-7.26%	0.46%	1.28%	5.98%	-3.55%	-0.54%	2.73%	-1.10%	-4.61%	3.79%
	AMT	-3.91%	5.42%	7.53%	-2.59%	0.59%	3.34%	4.11%	1.99%	-6.37%	4.22%	-5.83%	3.96%
Materials	WELL	-2.85%	9.04%	2.69%	-2.29%	6.36%	-0.14%	9.93%	7.59%	-1.84%	5.21%	-13.31%	-6.15%
	CBRE	-8.70%	8.08%	-9.04%	-10.15%	-2.01%	4.22%	3.30%	1.92%	-4.13%	1.00%	2.29%	5.35%
Real Estate													

Appendix 1.2 Indonesian Stocks Returns in Formation Period

Sector	Stocks	Formation Period (t)											
		t-1	t-2	t-3	t-4	t-5	t-6	t-7	t-8	t-9	t-10	t-11	t-12
Technology	MTDL	5.34%	13.70%	-2.07%	1.37%	-1.37%	-3.46%	-17.91%	18.56%	-4.50%	15.62%	-0.73%	5.25%
	MLPT	19.11%	-3.24%	-11.42%	0.00%	-1.13%	-3.86%	22.99%	4.65%	26.30%	-26.98%	16.09%	1.60%
	PTSN	142.63%	27.80%	14.86%	-14.31%	26.58%	17.37%	3.51%	0.89%	-2.66%	6.33%	0.93%	12.55%
	KLBF	-0.33%	10.72%	-0.73%	-2.57%	3.79%	7.99%	-11.60%	-9.40%	0.33%	-6.45%	-3.98%	-1.49%
Healthcare	SIDO	1.30%	5.47%	-4.88%	1.20%	1.21%	8.45%	-11.49%	7.10%	18.11%	0.00%	9.23%	12.89%
	SIL0	19.30%	25.23%	-23.87%	-5.98%	-0.64%	-51.56%	-28.89%	-0.71%	-13.00%	-6.65%	-3.17%	-8.16%
Financials	BBCA	-0.19%	9.67%	-2.09%	-2.66%	6.35%	8.05%	-5.55%	3.44%	-5.29%	0.54%	1.96%	7.98%
	BBRI	1.10%	13.91%	0.00%	-0.95%	3.52%	7.79%	-8.11%	-1.44%	-11.16%	-4.88%	2.14%	1.63%
	BMRI	-0.34%	7.72%	1.84%	-2.57%	3.69%	-2.96%	-2.88%	-1.06%	-4.85%	-7.83%	1.82%	1.86%
	ACES	-8.06%	16.45%	-4.98%	5.72%	3.75%	3.10%	3.45%	-3.92%	-2.28%	0.00%	-1.49%	15.60%
Consumer Cyclical	MAPL	-8.34%	8.96%	-3.08%	-1.20%	-5.82%	-1.68%	7.08%	2.10%	5.93%	2.28%	4.03%	16.33%
	BOGA	-0.72%	6.64%	0.00%	1.54%	3.95%	0.00%	1.63%	-0.82%	0.82%	2.49%	-2.49%	-1.63%
	TLKM	1.88%	-4.52%	5.61%	4.21%	-2.27%	-4.92%	10.84%	-8.44%	6.19%	-10.54%	0.25%	-10.69%
	ISAT	-16.39%	-19.40%	-23.55%	-6.04%	-8.00%	9.87%	-1.45%	-13.58%	-22.84%	-16.46%	1.35%	14.08%
Communication	BMTR	-27.31%	-3.10%	-20.84%	-6.70%	-3.12%	-20.97%	6.51%	-10.92%	8.08%	-12.30%	-21.48%	24.00%
Industrial	ASII	-3.88%	8.76%	7.22%	1.37%	1.39%	8.00%	-2.64%	-3.56%	-2.08%	-10.09%	-5.13%	2.38%
	JSMR	3.57%	-0.48%	-7.43%	-1.33%	-3.47%	11.51%	-6.26%	3.14%	-4.69%	-15.54%	-6.34%	-11.58%
	ICBP	6.56%	9.86%	1.13%	1.71%	-0.57%	0.42%	1.71%	0.29%	4.72%	-8.12%	2.83%	-1.99%
	UNVR	8.19%	-2.28%	-8.43%	6.99%	1.38%	-5.27%	1.09%	-1.63%	-6.63%	-8.47%	-0.92%	-2.72%
Consumer Non-Cyclical	MYOR	2.71%	0.00%	-6.45%	-5.72%	-7.04%	4.83%	-0.67%	1.35%	0.00%	20.22%	7.32%	10.34%
Energy	ITMG	-4.82%	-10.22%	-3.74%	-9.06%	-0.62%	24.11%	-14.34%	15.44%	-18.65%	-7.76%	1.64%	38.10%
	ADRO	-5.60%	-25.00%	-10.63%	-1.62%	-2.12%	6.23%	-1.54%	2.69%	-14.91%	-9.83%	-4.17%	29.81%
	BYAN	-0.13%	1.52%	5.51%	-6.27%	0.00%	36.46%	26.89%	1.13%	2.54%	-0.47%	0.47%	0.94%
	PGAS	8.10%	-12.71%	-1.34%	5.01%	23.02%	-16.00%	-2.04%	4.19%	-14.73%	-14.92%	2.27%	39.97%
Utilities	RAJA	-18.03%	-20.02%	-11.17%	-2.79%	-22.13%	11.69%	-19.45%	0.68%	33.65%	-25.87%	71.09%	10.74%
Materials	ANTM	21.82%	-10.05%	-21.73%	-2.92%	-5.04%	2.77%	2.85%	2.55%	8.65%	-20.88%	4.28%	38.12%
	UNTR	-0.55%	-18.59%	1.50%	-4.15%	-2.44%	10.93%	-10.36%	4.39%	6.36%	-10.66%	-8.86%	9.43%
Real Estate	PWON	4.96%	21.05%	-7.46%	0.00%	1.14%	-2.87%	-5.51%	-5.22%	-6.56%	-6.90%	-5.06%	3.59%
	CTRA	-4.36%	25.20%	-6.49%	3.49%	-16.34%	-1.55%	0.99%	-8.54%	-6.60%	-9.34%	-5.28%	13.77%
	MKPI	7.86%	0.00%	-14.31%	-2.06%	2.48%	3.30%	2.63%	-0.44%	-15.38%	-12.02%	-9.61%	-9.18%

Appendix 1.3 CARs Ranking & Portfolio Formation

RANK	US STOCK	CAR	ID STOCK	CAR	PORTFOLIO
1	LLY	2.83%	PTSN	19.71%	WINNER
2	MA	1.90%	BYAN	5.72%	
3	VST	1.85%	SIDO	4.05%	
4	V	1.27%	MLPT	3.68%	
5	WELL	1.19%	MTDL	2.48%	
6	NEE	1.11%	ACES	2.28%	
7	AMT	1.04%	MYOR	2.24%	IGNORED
8	VZ	1.01%	MAPI	2.22%	
9	BHP	0.84%	BBCA	1.85%	
10	SONY	0.64%	PGAS	1.74%	
11	KO	0.55%	ANTM	1.70%	
12	MCD	0.47%	ICBP	1.55%	
13	DIS	0.30%	BOGA	0.95%	
14	PG	0.29%	ITMG	0.84%	
15	APD	0.06%	RAJA	0.70%	
16	ABBV	-0.08%	BBRI	0.30%	
17	UL	-0.20%	ASII	0.15%	
18	TSM	-0.30%	BMRI	-0.46%	
19	JNJ	-0.44%	KLBF	-0.72%	
20	HD	-0.63%	PWON	-0.74%	
21	SHEL	-0.65%	TLKM	-1.03%	
22	CBRE	-0.65%	CTRA	-1.25%	
23	CVX	-0.86%	UNVR	-1.56%	
24	RTX	-1.32%	UNTR	-1.92%	
25	XOM	-1.36%	ADRO	-3.06%	LOSER
26	BAC	-1.40%	JSMR	-3.24%	
27	CAT	-1.61%	MKPI	-3.89%	
28	T	-1.85%	BMTR	-7.35%	
29	BABA	-1.91%	SILO	-8.17%	
30	IBM	-2.13%	ISAT	-8.54%	

Appendix 1.4 U.S. Winner Raw Return

		WINNER US												Annual Average Return
		Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	
month	LLY	MA		VST		V		WELL		NEE				
2019	0	105.1		180.81		19.55		125.4		55.3		36.33		2.16%
	1	108.87	3.52%	202.35	11.26%	21.45	9.27%	128.32	2.30%	61.74	11.02%	37.41	2.93%	
	2	114.71	5.23%	215.8	6.44%	22.24	3.62%	140.78	9.27%	59.21	-4.18%	39.24	4.78%	
	3	118.5	3.25%	226.05	4.64%	22.24	0.00%	148.7	5.47%	62.55	5.49%	40.68	3.60%	
	4	106.88	-10.32%	244.09	7.68%	23.39	5.04%	156.55	5.14%	60.07	-4.05%	40.92	0.59%	
	5	105.88	-0.94%	241.79	-0.95%	20.22	-14.56%	153.6	-1.90%	65.46	8.59%	41.71	1.91%	
	6	101.74	-3.99%	254.33	5.06%	19.43	-3.99%	165.49	7.46%	66.46	1.52%	43.38	3.93%	
	7	100.05	-1.68%	261.77	2.88%	18.52	-4.80%	169.73	2.53%	67.76	1.94%	43.87	1.12%	
	8	103.74	3.62%	270.85	3.41%	21.53	15.06%	172.42	1.57%	73.01	7.46%	46.39	5.59%	
	9	103.27	-0.45%	261.41	-3.55%	23.06	6.87%	164.26	-4.85%	74.63	2.19%	49.62	6.73%	
	10	105.23	1.88%	266.46	1.91%	23.43	1.59%	170.8	3.90%	74.67	0.05%	50.75	2.25%	
	11	108.37	2.94%	281.64	5.54%	23	-1.85%	176.19	3.11%	69.63	-6.99%	49.79	-1.91%	
	12	122.07	11.90%	287.77	2.15%	19.93	-14.33%	179.73	1.99%	68.04	-2.31%	51.84	4.03%	
2020	avg 3		4.00%		7.44%		4.30%		5.68%		4.11%		3.77%	0.77%
	avg 6		-0.54%		5.69%		-0.10%		4.62%		3.06%		2.96%	
	avg 9		-0.20%		4.10%		1.83%		3.00%		3.33%		3.46%	
	avg 12		1.25%		3.87%		0.16%		3.00%		1.73%		2.96%	
	1	129.69	6.06%	304.49	5.65%	19.62	-1.57%	190.32	5.73%	70.65	3.76%	57.42	10.22%	
	2	117.15	-10.17%	280.11	-8.35%	16.76	-15.76%	173.86	-9.05%	62.25	-12.66%	54.11	-5.94%	
	3	129.51	10.03%	233.12	-18.36%	13.91	-18.64%	154.34	-11.91%	38.47	-48.13%	51.78	-4.40%	
	4	144.37	10.86%	265.36	12.95%	17.18	21.11%	171.2	10.37%	43.05	11.25%	49.74	-4.02%	
	5	142.79	-1.10%	290.82	9.16%	17.97	4.50%	187.02	8.84%	42.58	-1.10%	55	10.05%	
	6	154	7.56%	285.81	-1.74%	16.37	-9.33%	185.35	-0.90%	44.15	3.62%	51.69	-6.21%	
	7	140.97	-8.84%	298.21	4.25%	16.51	0.85%	182.69	-1.45%	45.69	3.43%	60.74	16.13%	
	8	139.19	-1.27%	346.67	15.06%	17.02	3.04%	203.41	10.74%	49.07	7.14%	60.41	-0.54%	
	9	139.52	0.24%	327.29	-5.75%	16.69	-1.96%	192.16	-5.69%	47.51	-3.23%	60.36	-0.08%	
10	122.97	-12.63%	279.35	-15.84%	15.48	-7.53%	174.62	-9.57%	46.37	-2.43%	63.69	5.37%		
11	137.28	11.01%	326.06	15.46%	16.65	7.29%	202.14	14.63%	54.31	15.81%	64.02	0.52%		
12	159.96	15.29%	345.86	5.90%	17.52	5.09%	210.51	4.06%	56.35	3.69%	67.43	5.19%		
avg		2.25%		1.53%		-1.07%		1.32%		-1.57%		2.19%		
2021	1	197.03	20.84%	306.47	-12.09%	17.93	2.31%	185.98	-12.39%	52.84	-6.43%	70.68	4.71%	1.69%
	2	194.11	-1.49%	343.3	11.35%	15.49	-14.63%	204.4	9.44%	59.21	11.38%	64.22	-9.58%	
	3	177.73	-8.82%	345.44	0.62%	15.88	2.49%	204.09	-0.15%	63.02	6.24%	66.43	3.38%	
	4	173.88	-2.19%	370.67	7.05%	15.27	-3.92%	225.13	9.81%	66.02	4.65%	68.1	2.48%	
	5	190.02	8.88%	350.25	-5.67%	14.64	-4.21%	219.09	-2.72%	65.79	-0.35%	64.33	-5.70%	
	6	219.32	14.34%	354.63	1.24%	16.79	13.70%	225.71	2.98%	73.72	11.38%	64.38	0.08%	
	7	232.68	5.91%	374.88	5.55%	17.48	4.03%	237.84	5.23%	77.05	4.42%	68.8	6.64%	
	8	246.81	5.90%	336.7	-10.74%	17.43	-0.29%	221.15	-7.28%	77.65	0.78%	74.18	7.53%	
	9	221.49	-10.82%	338.11	0.42%	15.61	-11.03%	215.31	-2.68%	73.63	-5.32%	69.67	-6.27%	
	10	244.22	9.77%	326.29	-3.56%	18.03	14.41%	204.7	-5.05%	71.84	-2.46%	75.71	8.31%	
	11	237.78	-2.67%	306.64	-6.21%	18.3	1.49%	187.3	-8.88%	71.14	-0.98%	77	1.69%	
	12	265.66	11.09%	349.87	13.19%	20.96	13.57%	209.84	11.36%	77.19	8.16%	83.2	7.74%	
	avg		4.23%		0.10%		1.49%		-0.03%		2.62%		1.75%	
2022	1	236.01	-11.83%	376.22	7.26%	20.22	-3.59%	219	4.27%	77.96	0.99%	69.62	-17.82%	-0.06%
	2	240.39	1.84%	351.8	-6.71%	21.16	4.54%	209.27	-4.54%	74.96	-3.92%	69.76	0.20%	
	3	276.57	14.02%	348.44	-0.96%	21.56	1.87%	215.09	2.74%	87.15	15.07%	75.91	8.45%	
	4	282.13	1.99%	354.29	1.66%	23.38	8.10%	206.71	-3.97%	82.32	-5.70%	63.64	-17.63%	
	5	302.71	7.04%	349.4	-1.39%	24.64	5.25%	205.78	-0.45%	80.76	-1.91%	67.83	6.38%	
	6	314.19	3.72%	308.02	-12.61%	21.35	-14.33%	191.33	-7.28%	75.17	-7.17%	69.81	2.88%	
	7	319.48	1.67%	345.42	11.46%	24.34	13.11%	206.12	7.45%	78.81	4.73%	76.15	8.69%	
	8	291.9	-9.03%	317.18	-8.53%	23.31	-4.32%	193.1	-6.53%	69.97	-11.90%	76.66	0.67%	
	9	314.36	7.41%	278.04	-13.17%	19.78	-16.42%	172.94	-11.03%	59.17	-16.77%	71.01	-7.66%	
	10	352.02	11.31%	320.91	14.34%	21.79	9.68%	201.66	15.36%	56.15	-5.24%	70.19	-1.16%	
	11	360.76	2.45%	349.06	8.41%	23.08	5.75%	211.24	4.64%	65.34	15.16%	76.71	8.88%	
	12	356.66	-1.14%	340.57	-2.46%	22.01	-4.75%	202.7	-4.13%	60.84	-7.14%	76.1	-0.80%	
	avg		2.45%		-0.22%		0.41%		-0.29%		-1.98%		-0.74%	
2023	1	335.51	-6.11%	362.97	6.37%	22.05	0.18%	224.6	10.26%	69.65	13.52%	67.93	-11.36%	2.10%
	2	303.41	-10.06%	348.54	-4.06%	21.03	-4.74%	214.58	-4.56%	68.8	-1.23%	64.65	-4.95%	
	3	335.88	10.17%	356.51	2.26%	22.95	8.74%	220.4	2.68%	67.09	-2.52%	70.61	8.82%	
	4	387.17	14.21%	372.81	4.47%	23	0.22%	227.51	3.18%	74.13	9.98%	70.2	-0.58%	
	5	420.04	8.15%	358.65	-3.87%	23.1	0.43%	216.07	-5.16%	69.82	-5.99%	67.3	-4.22%	
	6	459.88	9.06%	386.44	7.46%	25.3	9.10%	232.6	7.37%	76.28	8.85%	68.41	1.64%	
	7	445.73	-3.13%	387.4	0.25%	27.27	7.50%	232.85	0.11%	77.47	1.55%	67.58	-1.22%	
	8	543.45	19.82%	406.02	4.69%	30.53	11.29%	240.63	3.29%	78.16	0.89%	61.59	-9.28%	
	9	527.84	-2.91%	389.56	-4.14%	32.24	5.45%	225.71	-6.40%	77.82	-0.44%	53.19	-14.66%	
	10	544.35	3.08%	370.32	-5.07%	31.99	-0.78%	230.7	2.19%	79.42	2.04%	54.12	1.73%	
	11	580.82	6.48%	407.79	9.64%	34.62	7.90%	251.88	8.78%	84.64	6.37%	54.32	0.37%	
	12	573.89	-1.20%	420.28	3.02%	37.66	8.42%	256.02	1.63%	86.27	1.91%	56.85	4.55%	
	avg		3.96%		1.75%		4.48%		1.95%		2.91%		-2.43%	
2024	1	635.61	10.21%	442.67	5.19%	40.34	6.87%	268.72	4.84%	82.76	-4.15%	54.87	-3.54%	2.52%
	2	742.01	15.48%	468.56	5.68%	53.63	28.48%	277.94	3.37%	88.17	6.33%	51.65	-6.05%	
	3	767.26	3.35%	475.28	1.42%	68.49	24.46%	274.96	-1.08%	89.98	2.03%	60.36	15.58%	
	4	770.35	0.40%	445.31	-6.51%	74.83	8.85%	264.64	-3.83%	91.75	1.95%	63.25	4.68%	
	5	809.05	4.90%	441.85	-0.78%	97.76	26.73%	268.43	1.42%	99.83	8.44%	75.58	17.81%	
	6	894.45	10.03%	436	-1.33%	84.83	-14.19%	259.07	-3.55%	101.01	1.18%	66.88	-12.23%	
	7	794.56	-11.84%	458.29	4.99%	78.37	-7.92%	262.23	1.21%	107.79	6.50%	72.62	8.23%	
	8	948.43	17.70%	478.4	4.29%	84.51	7.54%	272.79	3.95%	116.93	8.14%	76.53	5.24%	
	9	876.46	-7.89%	488.75	2.14%	117.26	32.75%	271.93	-0.32%	124.76	6.48%	80.88	5.53%	
	10	820.86	-6.55%	494.48	1.17%	123.91	5.52%	286.67	5.28%	131.44	5.22%	75.82	-6.46%	
	11	786.84	-4.23%	528.19	6.59%	158.5	24.62%	311.62	8.35%	134.65	2.41%	75.27	-0.73%	
	12	765.01	-2.81%	521.88	-1.20%	136.71	-14.79%	313.17	0.50%	123.42	-8.71%	69.05	-8.63%	
	avg		-0.03%		1.04%		7.68%		1.45%		3.51%		1.49%	
2025	1	803.73	4.94%	550.48	5.34%	166.89	19.95%	338.69	7.83%	133.65	7.96%	68.93	-0.17%	1.73%
	2	912.29	12.67%	572.02	3.84%	132.75	-22.89%	359.41	5.94%	150.33	11.76%	67.59	-1.96%	
	3	819.84	-10.68%	544.04	-5.02%	116.64	-12.64%	347.86	-3.27%	150.71	0.25%	68.84	1.83%	
	4	892.34	8.47%	543.98	-0.01%	128.97	10.05%	342.93	-1.43%	150.1	-0.41%	64.95	-5.82%	
	5	732.25	-19.77%	582.16	6.78%	159.75	21.40%	362.48	5.54%	151.76	1.10%	68.6	5.47%	
	6	775.39	5.72%	558.64	-4.12%	192.82	18.81%	353	-2.65%	151.92	0.11%	67.42	-1.74%	
	7	736.14	-5.19%	563.14	0.80%	207.74	5.43%	343.47	-2.74%	163.13	0.12%	69.57	3.14%	
	8	728.69	-1.02%	592.6	5.10%	188.39	-9.78%	349.75	1.81%	166.3	1.92%	70.54	1.38%	
9	760.61	4.29%	566.23	-4.55%	195.17	5.54%	340	-2.83%	176.82	1.31%	74.47	5.42%		
10	860.16	12.30%	549.49	-3.00%	187.78	-3.86%	339.37	-0.19%	177.9	1.62%	80.3	7.54%		
11	1072.1	22.03%	548.76	-0.13%	178.37	-5.14%	333.09	-1.87%	206.68	13.99%	85.13	5.84%		
12	1072.89	0.07%	569.05	3.63%	160.89	-10.31%	349.99	4.95%	184.95	-11.11%	79.74	-6.54%		
avg		2.82%		0.72%		1.36%		0.93%		3.37%		1.20%		

Appendix 1.5 U.S. Loser Raw Return

		LOSER US												Annual Average Return
		Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	
	month	XOM		BAC		CAT		T		BABA		IBM		
2019	0	48.93		20.56		108.82		12.72		130.17		79.65		2.32%
	1	52.58	7.19%	23.89	15.01%	114.04	4.69%	13.4	5.21%	160.01	20.64%	94.19	16.77%	
	2	56.7	7.54%	24.4	2.11%	118.37	3.73%	14.18	5.66%	173.82	8.28%	96.79	2.72%	
	3	58.62	3.33%	23.27	-4.74%	116.78	-1.35%	14.29	0.77%	173.27	-0.32%	100.03	3.29%	
	4	58.24	-0.65%	25.79	10.28%	120.16	2.85%	14.11	-1.27%	176.23	1.69%	99.44	-0.59%	
	5	51.34	-12.61%	22.44	-13.91%	103.89	-14.55%	14.23	0.85%	141.75	-21.77%	90.02	-9.95%	
	6	56.23	9.10%	24.46	8.62%	118.18	12.89%	15.6	9.19%	160.93	12.69%	98.92	9.43%	
	7	54.56	-3.01%	26.02	6.18%	114.17	-3.45%	15.85	1.59%	164.4	2.13%	106.34	7.23%	
	8	50.25	-8.23%	23.33	-10.91%	103.98	-9.35%	16.74	5.46%	166.23	1.11%	97.22	-8.97%	
	9	52.46	4.30%	24.74	5.87%	110.37	5.96%	17.96	7.03%	158.82	-4.56%	105.54	8.21%	
	10	50.2	-4.40%	26.69	7.59%	120.41	8.71%	18.27	1.71%	167.78	5.49%	97.06	-8.38%	
	11	50.61	0.81%	28.44	6.35%	127.46	5.69%	18.07	-1.10%	189.94	12.41%	97.58	0.53%	
	12	52.46	3.59%	30.06	5.54%	130.05	2.01%	18.89	4.44%	201.43	5.87%	98.43	0.87%	
avg 3			6.02%		4.13%		2.35%		3.88%		9.53%		7.59%	
avg 6			2.32%		2.89%		1.38%		3.40%		3.54%		3.61%	
avg 9			0.77%		2.06%		0.16%		3.83%		2.21%		3.13%	
avg 12			0.58%		3.17%		1.49%		3.30%		3.64%		1.76%	
2020	1	46.71	-11.61%	28.18	-6.46%	115.67	-11.72%	18.19	-3.78%	196.2	-2.63%	105.55	6.98%	-0.66%
	2	38.68	-18.86%	24.46	-14.16%	110.18	-4.86%	17.33	-4.84%	197.54	0.68%	95.58	-9.92%	
	3	28.96	-28.94%	18.22	-29.45%	102.91	-6.83%	14.34	-18.94%	184.7	-6.72%	82.31	-14.95%	
	4	35.44	20.19%	20.77	13.10%	103.21	0.29%	14.99	4.43%	192.47	4.12%	93.17	12.39%	
	5	34.68	-2.17%	20.83	0.29%	107.51	4.08%	15.54	3.60%	196.96	2.31%	92.68	-0.53%	
	6	34.77	0.26%	20.51	-1.55%	113.21	5.17%	15.22	-2.08%	204.85	3.93%	90.82	-2.03%	
	7	32.71	-6.11%	21.64	5.36%	118.92	4.92%	14.9	-2.12%	238.39	15.16%	92.45	1.78%	
	8	31.05	-5.21%	22.39	3.41%	128.32	7.61%	15.36	3.04%	272.59	13.41%	92.73	0.30%	
	9	27.22	-13.16%	20.95	-6.65%	134.48	4.69%	14.69	-4.46%	279.19	2.39%	92.69	-0.04%	
	10	25.86	-5.13%	20.76	-0.91%	141.61	5.17%	13.92	-5.38%	289.36	3.58%	85.07	-8.58%	
	11	30.23	15.61%	24.66	17.22%	157.48	10.62%	15.18	8.67%	250.11	-14.58%	94.1	10.09%	
	12	33.47	10.18%	26.55	7.38%	165.13	4.74%	15.18	0.00%	221.02	-12.36%	97.29	3.33%	
	avg			-3.75%		-1.03%		1.99%		-1.82%		0.77%		
2021	1	36.41	8.42%	26.13	-1.59%	165.87	0.45%	15.11	-0.46%	241.06	8.68%	92.06	-5.53%	0.59%
	2	44.14	19.25%	30.59	15.76%	196.88	17.14%	15.07	-0.27%	225.8	-6.54%	91.92	-0.15%	
	3	46.1	4.34%	34.1	10.86%	211.47	7.15%	16.35	8.15%	215.32	-4.75%	104.37	12.70%	
	4	47.26	2.49%	35.89	5.12%	208.04	-1.64%	16.97	3.72%	219.33	1.85%	111.12	6.27%	
	5	48.2	1.97%	37.54	4.49%	220.86	5.98%	16.26	-4.27%	203.2	-7.64%	112.58	1.31%	
	6	52.84	9.19%	36.51	-2.78%	199.38	-10.23%	15.9	-2.24%	215.37	5.82%	116.09	3.07%	
	7	48.23	-9.13%	34.12	-6.77%	189.41	-5.13%	15.5	-2.55%	185.37	-15.00%	111.63	-3.92%	
	8	45.67	-5.45%	37.13	8.45%	194.22	2.51%	15.52	0.13%	158.59	-15.60%	111.14	-0.44%	
	9	50.02	9.10%	37.75	1.66%	176.81	-9.39%	15.29	-1.49%	140.6	-12.04%	111.29	0.13%	
	10	54.82	9.16%	42.71	12.34%	187.9	6.08%	14.3	-6.69%	156.64	10.80%	100.21	-10.49%	
	11	50.89	-7.44%	39.75	-7.18%	179.07	-4.81%	13.26	-7.55%	121.11	-25.73%	98.12	-2.11%	
	12	52.73	3.55%	39.77	0.05%	191.47	6.70%	14.29	7.48%	112.81	-7.10%	113.49	14.55%	
	avg			3.79%		3.37%		1.23%		-0.50%		-5.60%		
2022	1	65.46	21.63%	41.44	4.11%	186.67	-2.54%	14.81	3.57%	119.46	5.73%	113.41	-0.07%	0.54%
	2	67.58	3.19%	39.7	-4.29%	174.57	-6.70%	14.13	-4.70%	99.9	-17.88%	104.02	-8.64%	
	3	71.97	6.29%	37.02	-6.99%	207.36	17.21%	14.09	-0.28%	103.33	-3.38%	111.73	7.15%	
	4	74.28	3.16%	32.21	-13.92%	195.93	-5.67%	14.89	5.52%	92.21	-11.39%	113.61	1.67%	
	5	83.65	11.88%	33.58	4.17%	201.84	2.97%	17.05	13.55%	91.22	-1.08%	119.31	4.90%	
	6	75.39	-10.40%	28.1	-17.82%	167.16	-18.85%	16.79	-1.54%	107.96	16.85%	122.8	2.88%	
	7	85.33	12.39%	30.69	8.82%	185.38	10.35%	15.04	-11.01%	84.87	-24.06%	113.75	-7.66%	
	8	84.15	-1.39%	30.51	-0.59%	173.92	-6.38%	14.24	-5.47%	90.61	6.54%	111.72	-1.80%	
	9	77.61	-8.09%	27.42	-10.68%	154.5	-11.84%	12.45	-13.43%	75.97	-17.62%	104.64	-6.55%	
	10	98.49	23.83%	32.93	18.31%	203.82	27.70%	14.8	17.29%	60.38	-22.97%	121.79	15.18%	
	11	98.97	0.49%	34.59	4.92%	224.09	9.48%	15.93	7.36%	83.16	32.01%	131.14	7.40%	
	12	98.83	-0.14%	30.26	-13.37%	227.08	1.33%	15.21	-4.63%	83.66	0.60%	125.56	-4.35%	
	avg			5.24%		-2.28%		1.42%		0.52%		-2.49%		
2023	1	103.95	5.05%	32.61	7.48%	239.15	5.18%	16.83	10.12%	104.66	22.40%	120.07	-4.47%	0.36%
	2	98.48	-5.41%	31.53	-3.37%	228.15	-4.71%	15.85	-6.00%	83.37	-22.74%	115.23	-4.11%	
	3	99.01	0.54%	26.29	-18.18%	217.95	-4.57%	16.13	1.75%	97.04	15.18%	118.26	2.60%	
	4	106.85	7.62%	27.09	3.00%	208.39	-4.49%	14.81	-8.54%	80.43	-18.77%	114.04	-3.63%	
	5	92.26	-14.68%	25.71	-5.23%	197.03	-5.61%	13.37	-10.23%	75.55	-6.26%	116.01	1.71%	
	6	97.68	5.71%	26.54	3.18%	235.62	17.89%	13.56	1.41%	79.16	4.67%	122.36	5.33%	
	7	97.67	-0.01%	29.84	11.72%	253.93	7.48%	12.34	-9.43%	97.02	20.34%	131.85	7.47%	
	8	101.27	3.62%	26.73	-11.01%	270.54	6.34%	12.79	3.58%	88.23	-9.50%	134.27	1.82%	
	9	107.96	6.40%	25.74	-3.77%	262.72	-2.93%	12.99	1.55%	82.38	-6.86%	129.77	-3.41%	
	10	97.19	-10.51%	24.77	-3.84%	217.54	-18.87%	13.32	2.51%	78.39	-4.96%	133.79	3.05%	
	11	94.34	-2.98%	28.67	14.62%	242.52	10.87%	14.61	9.24%	71.11	-9.75%	146.66	9.18%	
	12	92.64	-1.82%	31.91	10.71%	286	16.49%	14.79	1.22%	73.61	3.46%	153	4.23%	
	avg			-0.54%		0.44%		1.92%		-0.23%		-1.07%		
2024	1	95.26	2.79%	32.23	1.00%	290.49	1.56%	15.6	5.33%	69.46	-5.80%	171.81	11.60%	1.99%
	2	96.85	1.66%	32.72	1.51%	324.54	11.08%	15.17	-2.80%	71.25	2.54%	173.09	0.74%	
	3	108.71	11.55%	36.19	10.08%	356.09	9.28%	15.77	3.88%	69.64	-2.29%	180.27	4.06%	
	4	110.61	1.73%	35.32	-2.43%	325.13	-9.10%	15.13	-4.14%	72.04	3.39%	156.89	-13.89%	
	5	109.66	-0.86%	38.17	7.76%	330.17	1.54%	16.59	9.21%	75.4	4.56%	157.51	0.39%	
	6	108.54	-1.03%	37.96	-0.55%	324.88	-1.62%	17.4	4.77%	69.3	-8.44%	164.89	4.58%	
	7	111.81	2.97%	38.71	1.96%	337.66	3.86%	17.53	0.74%	77.54	11.23%	183.18	10.52%	
	8	111.2	-0.55%	39.13	1.08%	348.73	3.23%	18.39	4.79%	81.95	5.53%	192.7	5.07%	
	9	111.41	0.19%	38.1	-2.67%	383.03	9.38%	20.34	10.08%	104.36	24.17%	212.61	9.83%	
	10	110.99	-0.38%	40.42	5.91%	368.41	-3.89%	20.84	2.43%	96.35	-7.99%	198.8	-6.72%	
	11	112.11	1.00%	45.92	12.76%	399.13	8.01%	21.68	3.95%	85.92	-11.46%	218.7	9.54%	
	12	103.07	-8.41%	42.48	-7.79%	356.53	-11.29%	21.32	-1.67%	83.38	-3.00%	213.08	-2.60%	
	avg			0.89%		2.38%		1.84%		3.05%		1.04%		
2025	1	102.37	-0.68%	45	5.76%	365.06	2.36%	22.22	4.13%	97.2	15.34%	247.85	15.12%	2.62%
	2	106.68	4.12%	44.8	-0.45%	339.28	-7.32%	25.99	15.67%	130.31	29.31%	244.69	-1.28%	
	3	114.98	7.49%	40.56	-9.94%	325.32	-4.20%	26.81	3.11%	130.03	-0.22%	242.63	-0.85%	
	4	102.12	-11.86%	39	-3.92%	305.07	-4.43%	26.26	-2.07%	117.44	-10.18%	235.95	-2.79%	
	5	98.9	-3.20%	43.16	10.14%	344.96	12.29%	26.64	1.44%	111.95	-4.78%	252.78	6.89%	
	6	105.18	6.16%	46.28	6.98%	384.78	10.92%	27.73	4.01%	111.53	-0.38%	289.54	13.58%	
	7	108.93	3.50%	46.5	0.47%	434.16	12.07%	26.26	-5.45%	120.63	7.84%	246.65	-15.22%	
	8	111.51	2.34%	49.92	7.10%	416.86	-4.07%	28.35	7.66%	135	11.25%	239.17	-3.89%	
	9	111.03	-0.43%	50.75	1.65%	474.67	12.99%	27.33	-3.66%	178.73	28.60%	279.02	15.41%	
	10	112.62	1.42%	52.87	4.09%	574.26	19.05%	23.95	-13.20%	170.43	-4.76%	303.99	8.57%	
	11	114.15	1.35%	53.07	0.38%	574.12	0.03%	25.45	6.07%	157.3	-8.02%	305.15	0.38%	
	12	119.54	4.61%	54.41	2.49%	571.53	-0.50%	24.3	-4.62%	146.58	-7.06%	294.53	-3.54%	
	avg			1.24%		2.06%		3.93%		1.09%		4.70%		

Appendix 1.6 Indonesia Winner Raw Return

	month	WINNER INDO												Annual Average Return				
		Adj Close		Return		Adj Close		Return		Adj Close		Return			Adj Close		Return	
		PTS	BYAN	SIDO	MLPT	MTDL	ACES											
2019	0	611.79		1,399.51		292.98		535.78		143.25		1,181.23						
	1	471.91	-25.96%	1,337.90	-4.50%	286	-2.41%	527.04	-1.64%	148.22	3.41%	1,347.71	13.19%					
	2	482.67	2.25%	1,336.14	-0.13%	360.99	23.29%	497.92	-5.68%	160.64	8.05%	1,391.31	3.18%					
	3	421.18	-13.63%	1,330.86	-0.40%	352.27	-2.45%	824.05	50.38%	183.82	13.48%	1,415.10	1.70%					
	4	324.34	-26.13%	1,337.90	0.53%	355.76	0.99%	524.13	-45.25%	178.86	-2.74%	1,308.07	-7.86%					
	5	364.31	11.62%	1,330.86	-0.53%	341.91	-3.97%	483.36	-8.10%	188.79	5.40%	1,375.46	5.02%					
	6	408.88	11.54%	1,373.11	3.13%	357.94	4.58%	428.1	-12.14%	205.35	8.41%	1,459.38	5.92%					
	7	437.17	6.69%	1,272.97	-7.57%	359.72	0.50%	428.1	0.00%	218.91	6.39%	1,479.54	1.37%					
	8	389.21	-11.62%	1,227.77	-3.62%	458.88	23.69%	428.1	0.00%	230.74	5.26%	1,390.85	-6.18%		-0.65%			
	9	378.14	-2.89%	1,250.37	1.82%	438.07	-3.99%	428.1	0.00%	243.42	5.35%	1,427.13	2.58%					
	10	356.01	-6.03%	1,035.70	-18.84%	438.07	0.00%	428.1	0.00%	273.85	11.78%	1,362.63	-4.62%					
	11	263.78	-29.98%	1,039.46	0.36%	452.32	3.20%	351.65	-19.67%	289.91	5.70%	1,273.94	-6.73%					
12	247.17	-6.50%	1,197.64	14.17%	462.37	2.20%	273.98	-24.96%	316.11	8.65%	1,205.40	-5.53%						
	avg 3		-12.44%		-1.68%		6.14%		14.35%		8.31%		6.02%					
	avg 6		-6.72%		-0.32%		3.34%		-3.74%		6.00%		3.52%					
	avg 9		-5.35%		-1.25%		4.47%		-2.49%		5.89%		2.10%					
	avg 12		-7.55%		-1.30%		3.80%		-5.59%		6.60%		0.17%					
2020	1	225.04	-9.38%	1,144.82	-4.50%	433.36	-6.48%	214.05	-24.68%	283.15	-11.01%	1,386.82	14.02%					
	2	197.37	-13.12%	1,144.92	0.00%	446.05	2.89%	225.06	5.02%	259.48	-8.73%	1,221.53	-12.69%					
	3	134.65	-38.24%	1,092.19	-4.71%	424.29	-5.00%	209.16	-7.33%	191.02	-30.63%	1,048.18	-15.30%					
	4	157.71	15.81%	1,092.19	0.00%	456.93	7.41%	225.06	7.33%	205.39	7.25%	1,225.56	15.63%					
	5	148.49	-6.02%	1,088.42	-0.35%	452.69	-0.93%	327.19	37.42%	220.6	7.14%	1,253.78	2.28%					
	6	170.62	13.89%	943.43	-14.30%	450.84	-0.41%	382.23	15.55%	218.91	-0.77%	1,217.50	-2.94%					
	7	193.68	12.68%	996.15	5.44%	482.38	6.76%	399.99	4.54%	243.42	10.61%	1,411.01	14.75%		0.97%			
	8	217.66	11.67%	967.91	-2.88%	513.92	6.33%	406.83	1.70%	276.95	12.90%	1,245.72	-12.46%					
	9	182.61	-17.56%	952.84	-1.57%	552.88	7.31%	389.73	-4.29%	278.68	0.62%	1,300.43	4.30%					
	10	189.99	3.96%	960.18	0.77%	593.7	7.12%	403.41	3.45%	277.82	-0.31%	1,275.97	-1.90%					
	11	208.44	9.27%	1,195.40	21.91%	564.01	-5.13%	471.78	15.66%	275.22	-0.94%	1,292.27	1.27%					
	12	213.97	2.62%	1,193.47	-0.16%	606.89	7.33%	485.46	2.86%	273.49	-0.63%	1,398.26	7.88%					
	avg		-1.20%		-0.03%		2.27%		4.77%		-1.21%		1.24%					
2021	1	174.31	-20.50%	1,118.28	-6.51%	550.35	-9.78%	574.34	16.81%	252.72	-7.90%	1,271.89	-9.47%					
	2	186.3	6.65%	1,041.15	-7.15%	599.35	8.53%	765.79	28.77%	276.09	8.84%	1,243.36	-2.27%					
	3	181.69	-2.51%	962.10	-7.90%	591.81	-1.27%	796.56	3.94%	279.55	1.25%	1,243.36	0.00%					
	4	188.15	3.49%	1,122.13	15.39%	599.35	1.27%	1,340.14	52.02%	285.61	2.14%	1,206.67	-3.00%					
	5	188.15	0.00%	1,091.28	-2.79%	598.59	-0.13%	977.75	-31.53%	294.26	2.98%	1,218.90	1.01%					
	6	250.86	28.77%	1,145.83	4.88%	548.39	-8.76%	2,918.13	109.34%	379.08	25.33%	1,019.14	-17.90%					
	7	267.47	6.41%	1,213.23	5.72%	621.76	12.56%	3,077.83	5.33%	465.1	20.45%	1,101.60	7.78%		4.26%			
	8	263.78	-1.39%	1,249.04	2.91%	614.04	-1.25%	2,576.96	-17.76%	470.41	1.14%	1,160.02	5.17%					
	9	256.4	-2.84%	2,481.23	68.64%	610.88	-0.52%	2,555.18	-0.85%	512.85	8.64%	1,059.88	-9.03%					
	10	245.33	-4.41%	2,190.56	-12.46%	670.38	9.29%	2,533.40	-0.86%	652.55	24.09%	1,176.71	10.46%					
	11	221.35	-10.29%	2,329.57	6.15%	725.92	7.96%	2,518.88	-0.57%	663.17	1.61%	1,089.09	-7.74%					
	12	215.82	-2.53%	2,274.81	-2.38%	686.25	-5.62%	2,547.92	1.15%	675.54	1.85%	1,068.22	-1.93%					
	avg		0.07%		5.38%		1.02%		13.82%		7.54%		-2.24%					
2022	1	206.59	-4.37%	3,100.48	30.97%	737.82	7.25%	2,366.45	-7.39%	596.85	-12.38%	1,030.67	-3.58%					
	2	204.75	-0.89%	3,163.67	2.02%	773.52	4.73%	2,944.12	21.84%	548.22	-8.50%	892.97	-14.34%					
	3	206.59	0.89%	3,652.34	14.36%	809.22	4.51%	2,534.18	-14.99%	601.27	9.24%	855.41	-4.30%					
	4	193.68	-6.45%	3,580.72	-1.98%	745.75	-8.17%	2,414.92	-4.82%	632.22	5.02%	872.10	1.93%					
	5	191.84	-0.95%	4,530.67	23.53%	829.25	10.61%	2,325.48	-3.77%	610.11	-3.56%	801.17	-8.48%					
	6	182.61	-4.93%	7,140.14	45.49%	812.99	-1.98%	2,117.02	-9.39%	521.69	-15.66%	642.60	-22.06%					
	7	184.46	1.01%	6,226.44	-13.69%	735.75	-9.98%	1,890.20	-11.33%	534.75	2.47%	607.24	-5.66%		0.29%			
	8	182.61	-1.01%	5,827.99	-6.61%	577.22	-24.27%	1,814.59	-4.08%	629.12	16.25%	615.79	1.40%					
	9	178.93	-2.04%	6,137.13	5.17%	577.22	0.00%	1,693.62	-6.90%	525.76	-17.95%	521.71	-16.58%					
	10	169.7	-5.30%	6,732.53	9.26%	601.61	4.14%	1,712.61	1.12%	525.76	0.00%	483.23	-7.66%					
	11	181.69	6.83%	8,527.87	23.64%	638.19	5.90%	1,664.81	-2.83%	548.23	4.19%	427.63	-12.22%					
	12	177.08	-2.57%	19,235.79	81.34%	625.13	-2.07%	1,617.02	-2.91%	521.27	-5.04%	424.21	-0.80%					
	avg		-1.65%		17.79%		-0.78%		-3.79%		-2.16%		-7.70%					
2023	1	175.24	-1.04%	19,041.51	-1.02%	625.13	0.00%	1,541.35	-4.79%	503.29	-3.51%	419.08	-1.22%					
	2	175.24	0.00%	18,188.91	-4.58%	728.63	15.32%	1,557.28	1.03%	539.24	6.90%	431.91	3.02%					
	3	183.54	4.63%	19,680.97	7.88%	720.35	-1.14%	1,561.26	0.26%	521.27	-3.39%	408.82	-5.49%					
	4	191.84	4.42%	20,367.79	3.43%	654.11	-9.65%	1,569.23	0.51%	512.28	-1.74%	384.87	-6.04%					
	5	217.66	12.63%	14,210.08	-36.00%	617.4	-5.78%	1,469.66	-6.56%	494.31	-3.57%	538.82	33.65%					
	6	204.75	-6.11%	14,939.67	5.01%	621.66	0.69%	1,583.56	7.46%	471.84	-4.65%	577.3	6.90%					
	7	228.9	11.15%	19,132.42	24.74%	545.02	-13.16%	1,657.72	4.58%	475.5	0.77%	615.79	6.45%		0.21%			
	8	225.12	-1.67%	18,096.28	-5.57%	527.98	-3.18%	1,570.47	-5.41%	484.73	1.92%	655.42	6.24%					
	9	208.09	-7.87%	18,192.67	0.53%	502.44	-4.96%	1,535.57	-2.25%	457.96	-5.68%	673.38	2.70%					
	10	219.44	5.31%	17,566.16	-3.50%	434.31	-14.57%	1,369.80	-11.42%	466.27	1.80%	718.27	6.45%					
	11	232.68	5.86%	18,578.21	5.60%	425.79	-1.98%	1,374.16	0.32%	480.12	2.93%	677.87	-5.79%					
	12	230.79	-0.82%	19,180.61	3.19%	458.41	7.38%	1,369.80	-0.32%	493.97	2.84%	646.45	-4.75%					
	avg		2.21%		-0.02%		-2.58%		-1.38%		-0.45%		3.51%					
2024	1	230.79	0.00%	19,217.21	0.19%	445.31	-2.90%	1,487.59	8.25%	480.12	-2.84%	763.17	16.60%					
	2	227.01	-1.65%	19,022.11	-1.02%	536.99	18.72%	1,317.45	-12.15%	540.13	11.78%	749.7	-1.78%					
	3	200.52	-12.41%	18,534.36	-2.60%	541.36	0.81%	1,387.25	5.16%	549.37	1.70%	790.1	5.25%					
	4	206.2	2.79%	18,485.59	-0.26%	637.41	16.33%	1,334.90	-3.85%	540.13	-1.70%	839.48	6.06%					
	5	206.2	0.00%	17,534.48	-5.28%	619.94	-2.78%	1,065.71	-23.46%	507.82	-6.17%	736.23	-13.12%					
	6	198.63	-3.74%	15,388.40	-13.06%	694.56	11.37%	1,153.72	8.88%	530.9	4.44%	767.65	4.18%					
	7	206.97	4.11%	16,632.15	7.77%	649.75	-6.67%	1,242.47	7.41%	579.97	8.84%	747.39	-2.67%		4.09%			
	8	203.07	-1.90%	16,418.23	-1.29%	591.5	-9.39%	1,522.72	20.34%	575.17	-0.83%	667.98	-11.23%					
	9	201.11	-0.97%	16,024.98	-2.42%	595.98	0.75%	6,252.82	141.25%	608.72	5.67%	859.49	25.21%					
	10	199.16	-0.97%	16,909.79	5.37%	546.69	-8.63%	15,345.57	89.78%	608.72	0.00%	840.81	-2.20%					
	11	193.33	-2.99%	19,244.72	12.93%	515.32	-5.91%	21,324.37	32.90%	589.55	-3.20%	719.36	-15.60%					
	12	192.33	-0.50%	19,908.33	3.39%	544.98	5.60%	18,434.62	-14.56%	594.34	0.81%	738.04	2.56%					
	avg		-1.52%		0.31%		1.44%		21.66%		1.54%		1.10%					
2025	1	191.35	-0.51%	20,223.50	1.57%	531.12	-2.58%	18,110.76	-1.77%	541.62	-9.29%	714.69	-3.21%					
	2	228.45	17.72%	19,084.85	-5.80%	512.65	-3.54%	39,858.63	78.88%	556	2.62%	602.58	-17					

Appendix 1.7 Indonesia Loser Raw Return

	month	LOSER INDO												Annual Average Return
		Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	Adj Close	Return	
2019	0	ADRO		JSMR		MKPI		BMTR		SILO		ISAT		
	1	324.97		3,952.02		20,065.78		242		425.47		330.34		
	2	382.25	16.23%	4,542.97	13.94%	15,138.51	-28.18%	368	41.91%	381.62	-10.88%	537.17	-48.62%	
	3	360.25	-5.93%	4,824.60	6.01%	14,112.93	-7.02%	396	7.33%	402.95	5.44%	646.96	18.60%	
	4	368.5	2.26%	5,517.13	13.41%	14,447.36	2.34%	348	-12.92%	450.35	11.12%	492.08	-27.36%	
	5	358.87	-2.65%	5,632.55	2.07%	15,316.88	5.84%	402	14.42%	483.54	7.11%	511.69	3.91%	
	6	356.12	-0.77%	5,263.20	-6.78%	14,714.90	-4.01%	412	2.46%	506.06	4.55%	401.9	-24.15%	
	7	391.16	9.38%	5,330.81	1.28%	14,564.00	-1.03%	374	-9.68%	557.02	9.59%	515.61	24.91%	
	8	365.28	-6.85%	5,586.88	4.69%	15,547.13	6.53%	388	3.67%	746.64	29.30%	668.53	25.97%	
	9	323.57	-12.12%	5,214.42	-6.90%	13,260.79	-15.91%	338	-13.80%	767.38	2.74%	715.58	6.80%	2.48%
	10	371.03	13.69%	5,307.53	1.77%	15,158.45	13.37%	340	0.59%	841.45	9.21%	558.74	-24.74%	
	11	376.78	1.54%	5,074.75	-4.48%	12,346.25	-20.52%	374	9.53%	853.3	1.40%	650.88	15.26%	
	12	353.77	-6.30%	4,599.86	-9.83%	12,346.25	0.00%	322	-14.97%	835.52	-2.11%	560.7	-14.91%	
	12	447.25	23.45%	4,818.68	4.65%	14,815.50	18.23%	348	7.77%	823.67	-1.43%	570.5	1.73%	
avg3		4.19%		11.12%		-10.95%		12.11%		1.89%		13.28%		
avg6		3.09%		4.99%		-5.34%		7.26%		4.49%		7.42%		
avg9		1.47%		3.28%		-3.12%		3.78%		7.58%		5.84%		
avg12		2.66%		1.65%		-2.53%		3.03%		5.50%		4.55%		
2020	1	352.33	-23.85%	4,283.27	-11.78%	14,815.50	0.00%	340	-2.33%	782.19	-5.17%	448.95	-23.96%	
	2	347.42	-1.40%	4,357.76	1.72%	14,746.91	-0.46%	310	-9.24%	758.49	-3.08%	399.94	-11.56%	
	3	297.79	-15.41%	2,365.11	-61.11%	14,495.41	-1.72%	191	-48.43%	711.08	-6.45%	304.86	-27.15%	
	4	276.73	-7.33%	2,933.11	21.52%	14,495.41	0.00%	210	9.48%	622.2	-13.35%	421.51	32.40%	
	5	330.87	17.87%	3,305.57	11.95%	14,495.41	0.00%	189	-10.54%	648.86	4.20%	396.02	-6.24%	
	6	299.29	-10.03%	4,097.04	21.47%	14,449.68	-0.32%	185	-2.14%	616.27	-5.15%	460.72	15.13%	
	7	339.21	12.52%	3,672.93	-10.93%	13,443.70	-7.22%	214	14.56%	555.83	-10.32%	450.91	-2.15%	0.81%
	8	339.21	0.00%	3,654.24	-0.51%	11,614.62	-14.62%	296	32.44%	504.87	-9.62%	450.91	0.00%	
	9	354.84	4.50%	3,373.86	-7.98%	18,290.74	45.41%	224	-27.87%	566.5	11.52%	390.14	-14.48%	
	10	351.72	-0.86%	3,327.13	-1.39%	22,272.05	19.69%	230	2.64%	592.57	4.50%	394.06	1.00%	
	11	434.56	21.15%	3,915.92	16.29%	23,244.43	4.27%	268	15.29%	592.57	0.00%	431.31	9.03%	
	12	447.07	2.84%	4,327.14	9.99%	25,930.04	10.93%	290	7.89%	651.83	9.53%	990.05	83.09%	
	avg		0.00%		-0.90%		4.66%		-1.52%		-1.95%		4.59%	
	2021	1	375.16	-17.54%	4,037.42	-6.93%	26,670.90	2.82%	248	-15.65%	616.27	-5.61%	985.15	-0.50%
2		368.91	-1.68%	3,897.23	-3.53%	25,443.86	-4.71%	262	5.49%	634.05	2.84%	1,088.07	9.94%	
3		367.35	-0.42%	3,775.73	-3.17%	25,027.12	-1.65%	254	-3.10%	575.98	-9.61%	1,230.21	12.28%	
4		389.23	5.79%	3,878.54	2.69%	24,540.93	-1.96%	268	5.37%	986.63	53.82%	1,289.02	4.67%	
5		372.04	-4.52%	3,691.62	-4.94%	23,892.68	-2.68%	272	1.48%	989.59	0.30%	1,244.91	-3.48%	
6		397.82	6.70%	3,289.75	-11.53%	23,244.43	-2.75%	276	1.46%	1,006.34	1.68%	1,342.94	7.78%	
7		440.74	10.25%	3,682.27	11.27%	23,343.01	0.42%	262	-5.21%	1,003.33	-0.30%	1,156.69	-14.93%	
8		415.98	-5.78%	3,700.96	0.51%	23,250.01	-0.40%	282	7.36%	988.27	-1.51%	1,240.01	6.96%	
9		581.05	33.42%	3,626.20	-2.04%	23,250.01	0.00%	264	-6.60%	1,181.10	17.82%	1,303.73	5.01%	
10		554.64	-4.65%	3,925.27	7.92%	23,180.26	-0.30%	270	2.25%	1,036.47	-13.06%	1,357.64	4.05%	
11		561.24	1.18%	3,803.77	-3.14%	23,180.26	0.00%	266	-1.49%	1,169.05	12.04%	1,597.80	16.29%	
12		742.82	28.03%	3,635.54	-4.52%	23,180.26	0.00%	260	-2.28%	1,033.46	-12.33%	1,215.50	-27.95%	
avg			4.23%		-1.45%		-0.93%		-0.91%		3.84%		1.71%	
2022		1	794.61	6.74%	3,074.79	-16.75%	23,180.26	0.00%	252	-3.13%	997.31	-3.56%	1,250.20	2.81%
	2	869.10	8.96%	3,158.90	2.70%	23,180.26	0.00%	254	0.79%	940.06	-5.91%	1,195.60	-4.47%	
	3	954.24	9.35%	3,598.16	13.02%	22,506.01	-2.95%	260	2.33%	967.18	2.84%	1,130.09	-5.64%	
	4	1,184.82	21.64%	3,766.39	4.57%	21,111.01	-6.40%	264	1.53%	1,002.73	3.61%	1,528.63	30.21%	
	5	1,159.99	-2.12%	3,738.35	-0.75%	21,018.01	-0.44%	270	2.25%	1,089.50	8.30%	1,162.85	-27.35%	
	6	1,061.29	-8.89%	3,308.44	-12.22%	21,018.01	0.00%	292	7.83%	964.16	-12.22%	1,430.36	20.71%	
	7	1,206.02	12.78%	3,327.13	0.56%	21,111.01	0.44%	406	32.96%	986.13	2.25%	1,457.66	1.89%	
	8	1,313.63	8.55%	3,214.98	-3.43%	21,033.90	-0.37%	360	-12.02%	1,020.47	3.42%	1,566.84	7.22%	
	9	1,469.48	11.21%	3,028.06	-5.99%	21,454.58	1.98%	306	-16.25%	1,010.66	-0.97%	1,639.71	4.55%	
	10	1,476.91	0.50%	3,186.94	5.11%	21,127.39	-1.54%	300	-1.98%	1,074.44	6.12%	1,532.28	-6.78%	
	11	1,436.09	-2.80%	2,906.57	-9.21%	21,407.84	1.32%	292	-2.70%	1,246.15	14.83%	1,345.70	-12.98%	
	12	1,428.66	-0.52%	2,785.07	-4.27%	36,458.77	53.24%	278	-4.91%	1,236.34	-0.79%	1,396.58	3.71%	
	avg		5.45%		-2.22%		3.77%		0.56%		1.49%		1.16%	
	2023	1	1,098.40	-26.29%	2,953.30	5.87%	33,560.76	-8.28%	284	2.14%	1,197.09	-3.23%	1,379.62	-1.22%
2		1,187.01	7.76%	3,037.41	2.81%	27,110.36	-21.34%	286	0.70%	1,285.40	7.12%	1,543.59	11.23%	
3		1,151.28	-3.06%	3,009.37	-0.93%	25,334.17	-6.78%	276	-3.56%	1,486.55	14.54%	1,571.86	1.81%	
4		1,242.59	7.63%	3,074.79	2.15%	25,053.71	-1.11%	278	0.72%	1,697.52	13.27%	1,583.17	0.72%	
5		809.86	-42.81%	3,112.18	1.21%	25,193.94	0.56%	290	4.23%	1,619.02	-4.73%	1,877.19	17.03%	
6		981.35	19.21%	3,629.93	15.39%	25,193.94	0.00%	304	4.71%	1,839.79	12.78%	2,015.73	7.12%	
7		1,060.56	7.76%	3,696.80	1.83%	25,053.71	-0.56%	342	11.78%	1,934.71	5.03%	2,150.11	6.45%	1.16%
8		1,174.97	10.24%	4,107.56	10.54%	26,569.96	5.88%	306	-11.12%	1,954.55	1.02%	2,243.60	4.26%	
9		1,254.19	6.52%	4,098.01	-0.23%	32,867.85	21.27%	282	-8.17%	2,024.00	3.49%	2,296.18	2.32%	
10		1,126.57	-10.73%	4,069.35	-0.70%	26,498.66	-21.54%	272	-3.61%	2,381.18	16.25%	2,208.54	-3.89%	
11		1,152.97	2.32%	4,441.89	8.76%	25,476.74	-3.93%	260	-4.51%	2,718.51	13.25%	2,226.07	0.79%	
12		1,047.35	-9.61%	4,652.05	4.62%	25,856.99	1.48%	268	3.03%	2,162.90	-22.86%	2,191.01	-1.59%	
avg			-2.59%		4.28%		-2.86%		-0.31%		4.66%		3.75%	
2024		1	1,144.90	8.91%	4,776.23	2.63%	26,379.84	2.00%	256	-4.58%	2,202.59	1.82%	2,237.75	2.11%
	2	1,154.44	0.83%	5,182.21	8.16%	26,047.12	-1.27%	238	-7.29%	2,281.96	3.54%	2,670.11	17.66%	
	3	1,288.01	10.95%	5,301.62	2.28%	25,904.52	-0.55%	248	4.12%	2,381.18	4.26%	2,611.69	-2.21%	
	4	1,292.78	0.37%	5,158.33	-2.74%	26,379.84	1.82%	234	-5.81%	2,381.18	0.00%	2,570.79	-1.58%	
	5	1,321.40	2.19%	4,566.08	-12.20%	25,904.52	-1.82%	232	-0.86%	2,401.02	0.83%	2,383.82	-7.55%	
	6	1,435.65	8.29%	4,793.42	4.86%	25,643.10	-1.01%	218	-6.22%	2,678.82	10.95%	2,500.67	4.79%	
	7	1,656.91	14.33%	5,342.07	10.84%	25,571.80	-0.28%	228	4.49%	2,780.00	3.71%	2,664.26	6.34%	0.79%
	8	1,831.87	10.04%	5,149.56	-3.67%	26,185.24	2.37%	228	0.00%	2,820.00	1.43%	2,490.25	-6.75%	
	9	1,960.51	6.79%	4,745.30	-8.18%	25,797.31	-1.49%	224	-1.77%	3,170.00	11.70%	2,628.26	5.39%	
	10	1,862.74	-5.12%	4,668.29	-1.64%	25,215.42	-2.28%	222	-0.90%	3,750.00	16.80%	2,400.24	-9.08%	
	11	1,070.30	-55.41%	4,283.28	-8.61%	25,191.17	-0.10%	197	-11.95%	3,150.00	-17.44%	2,304.23	-4.08%	
	12	1,985.01	61.77%	4,167.78	-2.73%	24,148.61	-4.23%	183	-7.37%	3,240.00	2.82%	2,381.04	3.28%	
	avg		-2.59%		4.28%		-2.86%		-0.31%		4.66%		3.75%	
	2025	1	1,144.90	8.91%	4,776.23	2.63%	26,379.84	2.00%	256	-4.58%	2,202.59	1.82%	2,237.75	2.11%
2		1,154.44	0.83%	5,182.21	8.16%	26,047.12	-1.27%	238	-7.29%	2,281.96	3.54%	2,670.11	17.66%	
3		1,288.01	10.95%	5,301.62	2.28%	25,904.52	-0.55%	248	4.12%	2,381.18	4.26%	2,611.69	-2.21%	
4		1,292.78	0.37%	5,158.33	-2.74%	26,379.84	1.82%	234	-5.81%	2,381.18	0.00%	2,570.79	-1.58%	
5		1,321.40	2.19%	4,566.08	-12.20%	25,904.52	-1.82%	232	-0.86%	2,401.02	0.83%	2,383.82	-7.55%	
6		1,435.65	8.29%	4,793.42	4.86%	25,643.10	-1.01%	218	-6.22%	2,678.82	10.95%	2,500.67	4.79%	
7		1,656.91	14.33%	5,342.07	10.84%	25,571.80	-0.28%							

Appendix 1.8 Portfolio Raw Return

Investment Duration	Year	K	US		INDO	
			WINNER	LOSER	WINNER	LOSER
Short-term	2019	3	4.88%	5.59%	3.45%	5.27%
		6	2.61%	2.86%	0.35%	3.65%
		9	2.59%	2.03%	0.56%	3.14%
Medium-term	2019	12	2.16%	2.32%	-0.65%	2.48%
	2020	24	0.77%	-0.66%	0.97%	0.81%
	2021	36	1.69%	0.59%	4.26%	1.08%
	2022	48	-0.06%	0.54%	0.29%	1.70%
	2023	60	2.10%	0.36%	0.21%	1.16%
Long-term	2024	72	2.52%	1.99%	4.09%	0.79%
	2025	84	1.73%	2.62%	1.43%	-1.17%

Appendix 1.9 Contrarian (Loser Minus Winner) Return

Investment Duration	Year	K	LMW	
			US	INDO
Short-term	2019	3	0.70%	1.82%
		6	0.24%	3.30%
		9	-0.56%	2.58%
Medium-term	2019	12	0.16%	3.12%
	2020	24	-1.43%	-0.16%
	2021	36	-1.10%	-3.18%
	2022	48	0.60%	1.42%
	2023	60	-1.74%	0.94%
Long-term	2024	72	-0.53%	-3.30%
	2025	84	0.89%	-2.60%

Appendix 1.10 Market Return & Standard Deviation

Date	NYSE				IDX			
	Adj Close	Return	Annual Average Return	Std deviation	Adj Close	Return	Annual Average Return	Std deviation
Dec 1, 2025	22,003.93	0.82%	1.18%	2.29%	8,646.94	1.61%	1.67%	5.31%
Nov 1, 2025	21,824.67	1.69%			8,508.71	4.14%		
Oct 1, 2025	21,459.58	-0.49%			8,163.88	1.27%		
Sep 1, 2025	21,564.54	1.93%			8,061.06	2.90%		
Aug 1, 2025	21,151.47	3.33%			7,830.49	4.52%		
Jul 1, 2025	20,458.44	0.14%			7,484.34	7.73%		
Jun 1, 2025	20,429.55	3.21%			6,927.68	-3.52%		
May 1, 2025	19,783.81	3.44%			7,175.82	5.87%		
Apr 1, 2025	19,114.24	-1.46%			6,766.79	3.86%		
Mar 1, 2025	19,395.86	-3.21%			6,510.62	3.76%		
Feb 1, 2025	20,028.19	0.15%			6,270.60	12.55%		
Jan 1, 2025	19,998.82	4.61%			7,109.20	0.41%		
Dec 1, 2024	19,097.10	-5.97%	1.04%	3.46%	7,079.90	-0.48%	-0.22%	3.02%
Nov 1, 2024	20,272.04	5.23%			7,114.27	-6.26%		
Oct 1, 2024	19,238.95	-1.43%			7,574.02	0.61%		
Sep 1, 2024	19,516.44	1.16%			7,527.93	-1.88%		
Aug 1, 2024	19,292.23	3.06%			7,670.73	5.56%		
Jul 1, 2024	18,710.01	3.72%			7,255.76	2.68%		
Jun 1, 2024	18,026.50	-0.32%			7,063.58	1.32%		
May 1, 2024	18,083.69	2.69%			6,970.74	-3.71%		
Apr 1, 2024	17,603.34	-3.95%			7,234.20	-0.75%		
Mar 1, 2024	18,312.67	3.93%			7,288.81	-0.37%		
Feb 1, 2024	17,607.43	4.03%			7,316.11	1.49%		
Jan 1, 2024	16,911.13	0.34%			7,207.94	-0.90%		
Dec 1, 2023	16,852.89	4.64%	0.87%	4.46%	7,272.80	2.68%	0.50%	2.53%
Nov 1, 2023	16,088.84	7.55%			7,080.74	4.75%		

Oct 1, 2023	14,919.20	-3.16%			6,752.21	-2.74%		
Sep 1, 2023	15,398.21	-3.84%			6,939.89	-0.19%		
Aug 1, 2023	16,000.37	-2.63%			6,953.26	0.32%		
Jul 1, 2023	16,427.29	3.41%			6,931.36	3.97%		
Jun 1, 2023	15,875.91	6.43%			6,661.88	0.43%		
May 1, 2023	14,887.14	-4.33%			6,633.26	-4.17%		
Apr 1, 2023	15,545.88	1.11%			6,915.72	1.61%		
Mar 1, 2023	15,374.91	-0.35%			6,805.28	-0.56%		
Feb 1, 2023	15,428.97	-3.86%			6,843.24	0.06%		
Jan 1, 2023	16,036.39	5.46%			6,839.34	-0.16%		
Dec 1, 2022	15,184.31	-3.85%	-1.02%	6.05%	6,850.62	-3.31%	0.33%	2.42%
Nov 1, 2022	15,780.02	6.77%			7,081.31	-0.25%		
Oct 1, 2022	14,747.03	9.04%			7,098.89	0.82%		
Sep 1, 2022	13,472.18	-9.41%			7,040.80	-1.94%		
Aug 1, 2022	14,801.24	-3.50%			7,178.59	3.22%		
Jul 1, 2022	15,327.71	5.64%			6,951.12	0.57%		
Jun 1, 2022	14,487.64	-8.84%			6,911.58	-3.38%		
May 1, 2022	15,827.05	1.35%			7,148.97	-1.11%		
Apr 1, 2022	15,615.25	-6.54%			7,228.91	2.20%		
Mar 1, 2022	16,670.91	2.16%			7,071.44	2.63%		
Feb 1, 2022	16,313.89	-2.10%			6,888.17	3.80%		
Jan 1, 2022	16,659.77	-2.98%			6,631.15	0.75%		
Dec 1, 2021	17,164.13	5.05%	1.39%	3.27%	6,581.48	0.73%	0.80%	2.80%
Nov 1, 2021	16,318.97	-4.18%			6,533.93	-0.87%		
Oct 1, 2021	17,016.41	5.26%			6,591.35	4.73%		
Sep 1, 2021	16,144.92	-4.02%			6,286.94	2.20%		
Aug 1, 2021	16,806.44	1.22%			6,150.30	1.31%		
Jul 1, 2021	16,602.29	0.28%			6,070.04	1.40%		
Jun 1, 2021	16,555.35	0.00%			5,985.49	0.64%		
May 1, 2021	16,555.66	2.05%			5,947.46	-0.81%		

Apr 1, 2021	16,219.33	3.88%			5,995.62	0.17%		
Mar 1, 2021	15,601.74	3.86%			5,985.52	-4.19%		
Feb 1, 2021	15,010.47	4.17%			6,241.80	6.27%		
Jan 1, 2021	14,397.20	-0.88%			5,862.35	-1.97%		
Dec 1, 2020	14,524.80	3.63%	0.36%	8.28%	5,979.07	6.33%	-0.44%	7.95%
Nov 1, 2020	14,006.46	11.95%			5,612.42	9.02%		
Oct 1, 2020	12,429.33	-2.17%			5,128.23	5.17%		
Sep 1, 2020	12,701.89	-2.67%			4,870.04	-7.29%		
Aug 1, 2020	13,045.60	4.55%			5,238.49	1.71%		
Jul 1, 2020	12,465.05	4.69%			5,149.63	4.86%		
Jun 1, 2020	11,893.78	0.77%			4,905.39	3.14%		
May 1, 2020	11,802.95	3.72%			4,753.61	0.79%		
Apr 1, 2020	11,372.34	9.89%			4,716.40	3.84%		
Mar 1, 2020	10,301.87	18.38%			4,538.93	18.34%		
Feb 1, 2020	12,380.97	-9.49%			5,452.70	-8.56%		
Jan 1, 2020	13,614.10	-2.17%			5,940.05	-5.88%		
Dec 1, 2019	13,913.03	2.68%	1.68%	3.68%	6,299.54	4.67%	0.14%	2.92%
Nov 1, 2019	13,545.21	2.80%			6,011.83	-3.54%		
Oct 1, 2019	13,171.81	1.28%			6,228.32	0.96%		
Sep 1, 2019	13,004.74	2.08%			6,169.10	-2.55%		
Aug 1, 2019	12,736.88	-2.56%			6,328.47	-0.98%		
Jul 1, 2019	13,066.60	0.13%			6,390.50	0.50%		
Jun 1, 2019	13,049.71	6.21%			6,358.63	2.38%		
May 1, 2019	12,264.49	-6.29%			6,209.12	-3.89%		
Apr 1, 2019	13,060.65	2.82%			6,455.35	-0.21%		
Mar 1, 2019	12,696.88	0.41%			6,468.75	0.39%		
Feb 1, 2019	12,644.81	2.77%			6,443.35	-1.38%		
Jan 1, 2019	12,299.03	7.82%			6,532.97	5.32%		
Dec 1, 2018	11,374.39	-9.10%	-0.99%	4.13%	6,194.50	2.26%	-0.21%	3.14%
Nov 1, 2018	12,457.55	2.02%			6,056.12	3.78%		

Oct 1, 2018	12,208.06	-6.92%		5,831.65	-2.45%	
Sep 1, 2018	13,082.52	0.50%		5,976.55	-0.70%	
Aug 1, 2018	13,016.89	0.41%		6,018.46	1.37%	
Jul 1, 2018	12,963.28	3.61%		5,936.44	2.34%	
Jun 1, 2018	12,504.25	-0.18%		5,799.24	-3.13%	
May 1, 2018	12,527.14	0.09%		5,983.59	-0.18%	
Apr 1, 2018	12,515.36	0.51%		5,994.60	-3.19%	
Mar 1, 2018	12,452.06	-1.60%		6,188.99	-6.39%	
Feb 1, 2018	12,652.55	-5.50%		6,597.22	-0.13%	
Jan 1, 2018	13,367.96	4.27%		6,605.63	3.86%	
Dec 1, 2017	12,808.84			6,355.65		

Appendix 1.11 Market State Determination

Year	Market Return		Difference		Market State	
	NYSE	IDX	NYSE	IDX	NYSE	IDX
2018	-0.99%	-0.21%				
2019	1.68%	0.14%	2.67%	0.35%	positive	positive
2020	0.36%	-0.44%	-1.32%	-0.58%	negative	negative
2021	1.39%	0.80%	1.03%	1.24%	positive	positive
2022	-1.02%	0.33%	-2.41%	-0.47%	negative	negative
2023	0.87%	0.50%	1.89%	0.16%	positive	positive
2024	1.04%	-0.22%	0.17%	-0.72%	positive	negative
2025	1.18%	1.67%	0.14%	1.89%	positive	positive

Appendix 1.12 Market Volatility Determination

Year	Std Dev		Difference		Market Volatility	
	NYSE	IDX	NYSE	IDX	NYSE	IDX
2018	4.13%	3.14%				
2019	3.68%	2.92%	-0.45%	-0.22%	Low	Low
2020	8.28%	7.95%	4.60%	5.03%	High	High
2021	3.27%	2.80%	-5.01%	-5.15%	Low	Low
2022	6.05%	2.42%	2.79%	-0.39%	High	Low
2023	4.46%	2.53%	-1.59%	0.12%	Low	High
2024	3.46%	3.02%	-1.00%	0.48%	Low	High
2025	2.29%	5.31%	-1.16%	2.29%	Low	High

Appendix 1.13 Market Capitalization & Book to Market Ratio of U.S. Stocks

RANK	MARKET CAP		CATEGORY	B/M		CATEGORY
	<i>Averaged (2019-2025)</i>			<i>Averaged (2019-2025)</i>		
1	V	508,906.0	Big	BAC	0.90	High
2	LLY	432,866.2		T	0.80	
3	MA	390,057.6		XOM	0.58	
4	XOM	363,962.2		WELL	0.46	
5	BABA	353,050.4		BABA	0.38	
6	BAC	313,524.9		NEE	0.28	
7	IBM	157,076.8	Small	VST	0.26	Low
8	T	155,816.3		IBM	0.15	
9	NEE	151,191.0		CAT	0.13	
10	CAT	143,251.2		V	0.07	
11	WELL	55,892.6		LLY	0.03	
12	VST	22,191.8		MA	0.02	

Appendix 1.14 Market Capitalization & Book to Market Ratio of Indonesian Stocks

RANK	MARKET CAP		CATEGORY	B/M		CATEGORY
	<i>Averaged (2019-2025)</i>			<i>Averaged (2019-2025)</i>		
1	BYAN	25,286.3	Big	BMTR	3.33	High
2	ADRO	4,650.2		PTSN	1.11	
3	ISAT	3,321.8		ADRO	1.04	
4	JSMR	2,030.1		JSMR	0.76	
5	MKPI	1,611.6		MTDL	0.55	
6	MLPT	1,464.4		ISAT	0.42	
7	SILO	1,420.6	Small	SILO	0.35	Low
8	SIDO	1,338.1		ACES	0.32	
9	ACES	1,148.5		MKPI	0.25	
10	MTDL	433.5		SIDO	0.16	
11	BMTR	271.9		BYAN	0.07	
12	PTSN	85.1		MLPT	0.03	

Appendix 1.15 Annual Average Returns Based on Market Capitalization & Book to Market Ratio

Based on Market Cap																
Year	BIG STOCKS US						AVERAGE	SMALL STOCKS US						AVERAGE		
	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return		Annual Return	Annual Return	Annual Return	Annual Return	Annual Return				
	V	LLY	MA	XOM	BABA	BAC	IBM	T	NEE	CAT	WELL	VST				
2019	3.00%	1.25%	3.87%	0.58%	3.64%	3.17%	1.76%	3.30%	2.96%	1.49%	1.73%	0.16%	1.90%			
2020	1.32%	2.25%	1.53%	-3.75%	0.77%	-1.03%	-0.10%	-1.82%	2.19%	1.99%	-1.57%	-1.07%	-0.06%			
2021	-0.03%	4.23%	0.10%	3.79%	-5.60%	3.37%	1.28%	-0.50%	1.75%	1.23%	2.62%	1.49%	1.31%			
2022	-0.29%	2.45%	-0.22%	5.24%	-2.49%	2.28%	0.84%	0.52%	-0.74%	1.42%	-1.98%	0.41%	0.08%			
2023	1.95%	3.96%	1.75%	-0.54%	-1.07%	0.44%	1.65%	-0.23%	-2.43%	1.92%	2.91%	4.48%	1.38%			
2024	1.45%	-0.03%	1.04%	0.89%	1.04%	0.38%	1.13%	2.76%	3.05%	1.49%	1.84%	3.51%	7.68%			
2025	0.93%	2.82%	0.72%	1.24%	4.70%	2.06%	2.70%	1.09%	1.20%	3.93%	3.37%	1.36%	2.27%			
Year	BIG STOCKS INDO						AVERAGE	SMALL STOCKS INDO						AVERAGE		
	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return		Annual Return	Annual Return	Annual Return	Annual Return	Annual Return				
	BYAN	ADRO	ISAT	JSMR	MKPI	MLPT	SIL0	SIDO	ACES	MTDL	BMTR	PTSN				
2019	-1.30%	2.66%	4.55%	1.65%	-2.53%	-5.59%	5.50%	3.80%	0.17%	6.60%	3.03%	-7.55%	1.92%			
2020	-0.03%	0.00%	4.59%	-0.90%	4.66%	4.77%	-1.95%	2.27%	1.24%	-1.21%	-1.52%	-1.20%	-0.40%			
2021	5.38%	4.23%	1.71%	-1.45%	-0.93%	13.82%	3.84%	1.02%	-2.24%	7.54%	-0.91%	0.07%	1.55%			
2022	17.79%	5.45%	1.16%	-2.22%	3.77%	-3.79%	1.49%	-0.78%	-7.70%	-2.16%	0.56%	-1.65%	-1.71%			
2023	-0.02%	-2.59%	3.75%	4.28%	-2.86%	-1.38%	4.66%	-2.58%	3.51%	-0.45%	-0.31%	2.21%	1.17%			
2024	0.31%	5.33%	0.69%	-0.92%	-0.57%	21.66%	3.37%	1.44%	1.10%	1.54%	-3.18%	-1.52%	0.46%			
2025	-1.98%	-1.42%	-0.22%	-1.67%	-0.05%	10.16%	-1.40%	-0.08%	-4.90%	-0.06%	-2.29%	5.41%	-0.55%			
Based on B/M Ratio																
Year	HIGH B/M US						AVERAGE	LOW B/M US						AVERAGE		
	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return		Annual Return	Annual Return	Annual Return	Annual Return	Annual Return				
	NEE	BABA	WELL	XOM	T	BAC	MA	LLY	V	CAT	IBM	VST				
2019	2.96%	3.64%	1.73%	0.58%	3.30%	3.17%	3.87%	1.25%	3.00%	1.49%	1.76%	0.16%	1.92%			
2020	2.19%	0.77%	-1.57%	-3.75%	-1.82%	-1.03%	1.53%	2.25%	1.32%	1.99%	-0.10%	-1.07%	0.99%			
2021	1.75%	-5.60%	2.62%	3.79%	-0.50%	3.37%	0.10%	4.23%	-0.03%	1.23%	1.28%	1.49%	1.38%			
2022	-0.74%	-2.49%	-1.98%	5.24%	0.52%	-2.28%	-0.22%	2.45%	-0.29%	1.42%	0.84%	0.41%	0.77%			
2023	-2.43%	-1.07%	2.91%	-0.54%	-0.23%	0.44%	1.75%	3.96%	1.95%	1.92%	1.65%	4.48%	2.62%			
2024	1.49%	1.04%	3.51%	0.89%	3.05%	2.38%	1.04%	-0.03%	1.45%	1.84%	2.76%	7.68%	2.45%			
2025	1.20%	4.70%	3.37%	1.24%	1.09%	2.06%	0.72%	2.82%	0.93%	3.93%	2.70%	1.36%	2.08%			
Year	HIGH B/M INDO						AVERAGE	LOW B/M INDO						AVERAGE		
	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return	Annual Return		Annual Return	Annual Return	Annual Return	Annual Return	Annual Return				
	ISAT	MTDL	JSMR	ADRO	PTSN	BMTR	MLPT	BYAN	SIDO	MKPI	ACES	SIL0				
2019	4.55%	6.60%	1.65%	2.66%	-7.55%	3.03%	-5.59%	-1.30%	3.80%	-2.53%	0.17%	5.50%	0.01%			
2020	4.59%	-1.21%	-0.90%	0.00%	-1.20%	-1.52%	4.77%	-0.03%	2.27%	4.66%	1.24%	-1.95%	1.83%			
2021	1.71%	7.54%	-1.45%	4.22%	0.07%	-0.91%	13.82%	5.38%	1.02%	-0.93%	-2.24%	3.84%	3.48%			
2022	1.16%	-2.16%	-2.22%	5.45%	-1.65%	0.56%	-3.79%	17.79%	-0.78%	3.77%	-7.70%	1.49%	1.80%			
2023	3.75%	-0.45%	4.28%	-2.59%	2.21%	-0.31%	-1.38%	-0.02%	-2.58%	-2.86%	3.51%	4.66%	0.22%			
2024	0.69%	1.54%	-0.92%	5.33%	-1.52%	-3.18%	21.66%	0.31%	1.44%	-0.57%	1.10%	3.37%	4.55%			
2025	-0.22%	-0.06%	-1.67%	-1.42%	5.41%	-2.29%	-0.04%	10.16%	-1.98%	-0.08%	-0.05%	-4.90%	0.29%			

Appendix 1.16 Market Risk Free Rate (%)

Market Yield on U.S. Treasury Securities at 1-Year Constant Maturity (%)		Annual Average	Indonesia 1-Year Bond Yield Historical Data		Annual Average
2025-12-01	3.54	3.91	2025-12-01	-1.96%	-2.74%
2025-11-01	3.66		2025-11-01	7.06%	
2025-10-01	3.61		2025-10-01	-6.41%	
2025-09-01	3.66		2025-09-01	-4.00%	
2025-08-01	3.89		2025-08-01	-6.73%	
2025-07-01	4.08		2025-07-01	-4.84%	
2025-06-01	4.06		2025-06-01	-4.80%	
2025-05-01	4.09		2025-05-01	-1.17%	
2025-04-01	3.95		2025-04-01	-1.77%	
2025-03-01	4.06		2025-03-01	0.90%	
2025-02-01	4.19		2025-02-01	-3.78%	
2025-01-01	4.18		2025-01-01	-5.38%	
2024-12-01	4.23	4.69	2024-12-01	5.09%	0.82%
2024-11-01	4.33		2024-11-01	9.92%	
2024-10-01	4.20		2024-10-01	-1.14%	
2024-09-01	4.03		2024-09-01	-4.08%	
2024-08-01	4.43		2024-08-01	-1.99%	
2024-07-01	4.90		2024-07-01	-1.40%	
2024-06-01	5.11		2024-06-01	0.94%	
2024-05-01	5.16		2024-05-01	-8.64%	
2024-04-01	5.14		2024-04-01	12.83%	
2024-03-01	4.99		2024-03-01	-0.79%	
2024-02-01	4.92		2024-02-01	1.97%	
2024-01-01	4.79		2024-01-01	-2.89%	
2023-12-01	4.96	5.08	2023-12-01	-1.26%	1.31%
2023-11-01	5.28		2023-11-01	5.45%	
2023-10-01	5.42		2023-10-01	0.14%	
2023-09-01	5.44		2023-09-01	-2.11%	
2023-08-01	5.37		2023-08-01	9.84%	
2023-07-01	5.37		2023-07-01	-0.50%	
2023-06-01	5.24		2023-06-01	0.21%	
2023-05-01	4.91		2023-05-01	-4.00%	
2023-04-01	4.68		2023-04-01	1.88%	
2023-03-01	4.68		2023-03-01	-4.76%	
2023-02-01	4.93		2023-02-01	2.77%	

2023-01-01	4.69		2023-01-01	8.06%	
2022-12-01	4.68	2.79	2022-12-01	-8.23%	4.04%
2022-11-01	4.73		2022-11-01	10.35%	
2022-10-01	4.43		2022-10-01	3.10%	
2022-09-01	3.89		2022-09-01	19.15%	
2022-08-01	3.28		2022-08-01	-1.18%	
2022-07-01	3.02		2022-07-01	2.19%	
2022-06-01	2.65		2022-06-01	12.11%	
2022-05-01	2.06		2022-05-01	-8.97%	
2022-04-01	1.89		2022-04-01	22.10%	
2022-03-01	1.34		2022-03-01	5.93%	
2022-02-01	1.00		2022-02-01	-2.22%	
2022-01-01	0.55		2022-01-01	-5.89%	
2021-12-01	0.30	0.10	2021-12-01	-1.66%	-0.84%
2021-11-01	0.18		2021-11-01	-2.55%	
2021-10-01	0.11		2021-10-01	16.96%	
2021-09-01	0.08		2021-09-01	10.09%	
2021-08-01	0.07		2021-08-01	-17.39%	
2021-07-01	0.08		2021-07-01	3.70%	
2021-06-01	0.07		2021-06-01	-2.46%	
2021-05-01	0.05		2021-05-01	-5.83%	
2021-04-01	0.06		2021-04-01	-0.58%	
2021-03-01	0.08		2021-03-01	-4.75%	
2021-02-01	0.07		2021-02-01	-5.50%	
2021-01-01	0.10		2021-01-01	-0.05%	
2020-12-01	0.10	0.38	2020-12-01	7.92%	-1.14%
2020-11-01	0.12		2020-11-01	-5.55%	
2020-10-01	0.13		2020-10-01	6.78%	
2020-09-01	0.13		2020-09-01	-2.58%	
2020-08-01	0.13		2020-08-01	-10.06%	
2020-07-01	0.15		2020-07-01	-9.12%	
2020-06-01	0.18		2020-06-01	-5.89%	
2020-05-01	0.16		2020-05-01	-8.76%	
2020-04-01	0.18		2020-04-01	-2.62%	
2020-03-01	0.33		2020-03-01	20.13%	
2020-02-01	1.41		2020-02-01	-1.95%	
2020-01-01	1.53		2020-01-01	-1.95%	
2019-12-01	1.55	2.05	2019-12-01	-3.62%	-1.09%
2019-11-01	1.57		2019-11-01	-7.38%	
2019-10-01	1.61		2019-10-01	-4.43%	
2019-09-01	1.80		2019-09-01	-4.66%	
2019-08-01	1.77		2019-08-01	0.19%	

2019-07-01	1.96	2019-07-01	-5.00%
2019-06-01	2.00	2019-06-01	0.14%
2019-05-01	2.34	2019-05-01	0.12%
2019-04-01	2.42	2019-04-01	-2.00%
2019-03-01	2.49	2019-03-01	-5.47%
2019-02-01	2.55	2019-02-01	10.51%
2019-01-01	2.58	2019-01-01	8.48%

Appendix 1.17 Components of U.S. Stocks Fama-French 3-Factor Model

Year	Rp	Rf	Rp - Rf	Rm	Rm - Rf	SMB	HML
	LMW Return		Excess Return	Market Return	Market Premium		
2019	0.16%	2.05%	-1.89%	1.68%	-0.37%	-0.68%	0.64%
2020	-1.43%	0.38%	-1.81%	0.36%	-0.02%	-0.25%	-1.85%
2021	-1.10%	0.10%	-1.20%	1.39%	1.29%	0.34%	-0.48%
2022	0.60%	2.79%	-2.19%	-1.02%	-3.81%	-0.32%	-1.06%
2023	-1.74%	5.08%	-6.82%	0.87%	-4.21%	0.30%	-2.77%
2024	-0.53%	4.69%	-5.22%	1.04%	-3.65%	2.26%	-0.39%
2025	0.89%	3.91%	-3.02%	1.18%	-2.73%	0.20%	0.20%

Appendix 1.18 Components of Indonesian Stocks Fama-French 3-Factor Model

Year	Rp	Rf	Rp - Rf	Rm	Rm - Rf	SMB	HML
	LMW Return		Excess Return	Market Return	Market Premium		
2019	3.12%	-1.09%	4.22%	0.14%	1.23%	2.02%	1.81%
2020	-0.16%	-1.14%	0.98%	-0.44%	0.70%	-2.58%	-1.87%
2021	-3.18%	-0.84%	-2.35%	0.80%	1.63%	-2.24%	-1.62%
2022	1.42%	4.04%	-2.62%	0.33%	-3.70%	-5.40%	-1.61%
2023	0.94%	1.31%	-0.37%	0.50%	-0.81%	0.98%	0.93%
2024	-3.30%	0.82%	-4.12%	-0.22%	-1.04%	-3.96%	-4.23%
2025	-2.60%	-2.74%	0.14%	1.67%	4.41%	-1.36%	-0.33%

Appendix 1.19 Contrarian Returns One-Sample T-Test Result Output

One-Sample Test						
Test Value = 0						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
US	-.937	9	.373	-.002767600	-.00944813	.00391293
ID	.484	9	.640	.003941800	-.01449473	.02237833

Appendix 1.20 Contrarian Returns Independent Sample T-Test Result Output

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
LMW	Equal variances assumed	11.631	.003	-.774	18	.449	-.006709400	.008668527	-.024921299	.011502499
	Equal variances not assumed			-.774	11.323	.455	-.006709400	.008668527	-.025722439	.012303639

Appendix 1.21 U.S. Market Behavior Towards Contrarian Return Result Output

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.004	.005		-.861	.438
	Market State	-.174	.377	-.298	-.461	.669
	Market Volatility	-.031	.213	-.095	-.147	.891

a. Dependent Variable: LMW

Appendix 1.22 Indonesian Market Behavior Towards Contrarian Return Result Output

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.004	.012		-.302	.778
	Market State	-.753	1.280	-.293	-.588	.588
	Market Volatility	.067	.410	.081	.162	.879

a. Dependent Variable: LMW

Appendix 1.23 U.S. Risk-Adjusted Contrarian Profit

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.015	.008		-1.930	.149
	Market Premium	.503	.300	.530	1.677	.192
	SMB	-.779	.653	-.359	-1.192	.319
	HML	.586	.518	.334	1.132	.340

a. Dependent Variable: Excess Return

Appendix 1.24 Indonesian Risk-Adjusted Contrarian Profit

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.005	.011		.476	.667
	Market Premium	.187	.396	.172	.472	.669
	SMB	.215	.691	.203	.312	.776
	HML	.810	.832	.586	.974	.402

a. Dependent Variable: Excess Return