

REFERENCES

- Abbas, Q. *et al.* (2014) 'Financial performance of banks in Pakistan after Merger and Acquisition', *Journal of Global Entrepreneurship Research*, 4(1), pp. 1–15. doi: 10.1186/s40497-014-0013-4.
- Ahmed, M. and Ahmed, Z. (2014) 'Mergers and Acquisitions: Effect on Financial Performance of Manufacturing Companies of Pakistan', *Middle-East Journal of Scientific Research*, 21(4), pp. 706–716. doi: 10.5829/idosi.mejsr.2014.21.04.21442.
- Alhenawi, Y. and Stilwell, M. (2017) 'Value creation and the probability of success in merger and acquisition transactions', *Review of Quantitative Finance and Accounting*, 49(4), pp. 1041–1085. doi: 10.1007/s11156-017-0616-2.
- Alhuja, G. and Katila, R. (2011) 'technological acquisition and the innovation performance of acquiring firms: A longitudinal study. strate', *Strategic Management Journal*.
- Andini, N. L. (2020) 'The effect of earning management, managerial ownership and firm size in the return of acquisition companies in Indonesia Stock Exchange 2011-2017 period', *International Research Journal of Management, IT and Social sciences*, 7(3), pp. 116–125. doi: 10.21744/irjmis.v7n3.928.
- Ashfaq, K. *et al.* (2014a) 'Investigating the Impact of Merger & Acquisition on Post Merger Financial Performance (Relative & Absolute) of Companies (Evidence from Non-Financial Sector of Pakistan)', *International Journal of Academic Research in Business and Social Sciences*, 4(11). doi: 10.6007/ijarbss/v4-i11/1307.
- Ashfaq, K. *et al.* (2014b) 'Investigating the Impact of Merger & Acquisition on Post Merger Financial Performance (Relative & Absolute) of Companies (Evidence from Non-Financial Sector of Pakistan)', *International Journal of Academic Research in Business and Social Sciences*, 4(11), pp. 258–281. doi: 10.6007/ijarbss/v4-i11/1307.
- Babalola, Y. A. and Abiola, F. R. (2013) 'Financial Ratio Analysis of Firms: A Tool for Decision Making', *International Journal of Management Sciences*, 1(4), pp. 132–137.
- Bommaraju, R. *et al.* (2018) 'The impact of mergers and acquisitions on the sales force', *Journal of Marketing Research*, 55(2), pp. 254–264. doi: 10.1509/jmr.16.0059.
- Bragg, S. M. (2012) 'Financial Analysis 3 rd Edition'.

Braun, M. and Bergaiman, S. (2017) *Mergers and Acquisitions Integration and Transformation Management as the Gateway to Success*.

Brealey, Myers and Marcus (2007) *Fundamental of Corporate Finance*. ninth edit. Mcgraw Hill.

Brigham, E. and Houston, J. (2001) *Manajemen Keuangan*. 8th edn. Edited by Erlangga. jakarta.

Bruton *et al.* (1994) 'Performance of Acquisition of Distressed Firms', *Academy of Management Journal*,.

Chanmugam, R. *et al.* (2005) 'The intelligent clean room: Ensuring value capture in mergers and acquisitions', *Journal of Business Strategy*, 26(3), pp. 43–49. doi: 10.1108/02756660510597092.

Charnes, A., Cooper, W. W. and Rhodes, E. (1978) 'Measuring the efficiency of decision making units', *European Journal of Operational Research*, 2(6), pp. 429–444. doi: 10.1016/0377-2217(78)90138-8.

Chen, J. *et al.* (2020) 'Does M & A Financing Affect Firm Performance under Different Ownership Types?', pp. 1–15.

Cooper, william W., Seiford, lawrence M. and Tone, K. (2007) *Data Envelopment Analysis, Controlling*. doi: 10.15358/0935-0381-2005-10-565.

Dani, B. (2018) 'Merger and Acquisition: Effect on Financial and Efficiency Performance of Company Listed in Indonesia Stock Exchange', (February).

Demsetz, H. (2009) 'Industry structure, market rivalry, and public policy', *Readings in Applied Microeconomics: The Power of the Market*, 18(1), pp. 326–333. doi: 10.4324/9780203878460.

Depamphilis, D. (2010) *Mergers and acquisitions basics: all you need to know*. Academic press. Available at: https://www.academia.edu/9788965/Mergers_and_Acquisitions_Basics_All_You_Need_to_Know.

Dewi, S. L. and Widjaja, I. (2020) '34 Analisis Pengaruh Merger Dan Akuisisi Terhadap Kinerja Keuangan Dan Abnormal Return Pada Perusahaan Di Bursa Efek Indonesia Tahun 2014-2018', *Orphanet Journal of Rare Diseases*, 21(1), pp. 1–9.

Ekabiakto, S. and BambangMulyana (2020) 'Financial Performance and Corporate Value Post Merger and Acquisition (Study on Manufacturing Industry Issuer in Indonesia)', *International Journal of Engineering Technologies and Management Research*, 5(11), pp. 25–33. doi: 10.29121/ijetmr.v5.i11.2018.314.

- Faff, R., Prasad, S. and Shams, S. (2019) 'Merger and acquisition research in the Asia-Pacific region: A review of the evidence and future directions', *Research in International Business and Finance*, 50(May 2018), pp. 267–278. doi: 10.1016/j.ribaf.2019.06.002.
- Fannani, S. I. (2018) *Analisis Pengaruh Merger Dan Akuisisi Terhadap Kinerja Perusahaan Go Public Di Bursa Efek Indonesia*, Director.
- Farrell, M. J. (1957) 'The Measurement of Productive Efficiency <http://www.jstor.org/stab>', *Journal of the Royal Statistical Society. Series A (General)*, 120(3), pp. 253–290. Available at: <http://goo.gl/AFhm2N>.
- Fatihudin, D., Jusni and Mochklas, M. (2018) 'How measuring financial performance', *International Journal of Civil Engineering and Technology*, 9(6), pp. 553–557.
- Florian bauer. And Matzler Kurt. (2013) 'Antecedents Of M&A Success: The Role Of Strategic Complementarity, Cultural Fit, And Degree And Speed Of Integration', *Strategic Management Journal*.
- Gao, F., Tian, S. and Hu, L. (2013) 'Research on Influencing Factors of MaA Performance in China Listed Companies Based on the Perspective of Property', pp. 317–320. doi: 10.2991/iaw-sc.2013.68.
- Georgios, K. and Georgios, H. (2011) 'Du Pont Analysis of a Bank Merger and Acquisition between Laiki Bank from Cyprus and Marfin Investment Group from Greece . Is there an increase of profitability of the new bank ?', *MIBES Transactions*, 5(2), pp. 30–49.
- Gheorghe and Marinela (2015) 'THE ROLE OF STRATEGIC PLANNING IN Annals of Spiru Haret University', (January 2010).
- Gitman, L. and Zutter, C. (2012) *Principles of Managerial Finance*. Edinburgh, England: Pearson.
- Goddard, J., Molyneux, P. and Zhou, T. M. (2012) 'Bank Mergers and Acquisitions in Emerging Markets: Evidence from Asia and Latin America', *SSRN Electronic Journal*, (September 2020). doi: 10.2139/ssrn.2006372.
- Gomes, E. *et al.* (2013) 'Critical Success Factors through the Mergers and Acquisitions Process: Revealing Pre- and Post-M&A Connections for Improved Performance', *Thunderbird International Business Review*, 49(5), pp. 630–631. doi: 10.1002/tie.
- Gratton, L. *et al.* (1999) *Strategic Human Resource Management*. Oxford University Press, Oxford.

- Gümüş, Y. and Çelikkol, H. (2011) 'Data envelopment analysis: An augmented method for the analysis of firm performance', *International Research Journal of Finance and Economics*, 79(December 2011), pp. 137–142.
- Gupta, D., Gerchak, Y. and Buzacott, J. A. (1992) 'The optimal mix of flexible and dedicated manufacturing capacities: Hedging against demand uncertainty', *International Journal of Production Economics*, 28(3), pp. 309–319. doi: 10.1016/0925-5273(92)90019-4.
- Hackbarth, D. and Morellec, E. (2008) 'Stock Returns in Mergers and Acquisitions', *the american finance association*.
- Halim, C. C. and Widjaja, I. (2020) 'Analisis Kinerja Perusahaan Sebelum dan Sesudah Merger dan Akuisisi (Studi Empiris pada Perusahaan Non-Keuangan yang Terdaftar di Bursa Efek Indonesia Tahun 2009-2017)', *Jurnal Manajemen Bisnis dan Kewirausahaan*, 4(2), p. 69. doi: 10.24912/jmbk.v4i2.7524.
- Harris, M. and Raviv, A. (1990) 'Capital Structure and the Informational Role of Debt', *The Journal of Finance*, 45(2), pp. 321–349. doi: 10.1111/j.1540-6261.1990.tb03693.x.
- Haspeslagh *et al.* (1991) 'Managing acquisitions: Creating value through corporate renewal', (Academy of management review).
- Homberg, F., Rost, K. and Osterloh, M. (2009) 'Do synergies exist in related acquisitions? A meta-analysis of acquisition studies', *Review of Managerial Science*, 3(2), pp. 75–116. doi: 10.1007/s11846-009-0026-5.
- I Made, M. and Ulfiyani, A. (2019) 'analisis Kinerja Keuangan Perusahaan Merger Dan Akuisisi(Studi Kasus Perusahaan Manufaktur Di Bursa Efek Indonesia Tahun 2014 –2016)', *Сахарный Диабет*, 22(4), pp. 1–13.
- Ismail, T. H., Abdou, A. A. and Annis, R. M. (2011) 'Review of Literature Linking Corporate Performance to Mergers and Acquisitions', *The Review of Financial and Accounting Studies*, 1(1), pp. 89–104.
- Jack Hampton (1989) *Financial Decision Making: Concepts, Problems, and Cases*. 4th edn. Prentice Hall.
- Jayaraman, A. R. and Srinivasan, M. R. (2014) 'Performance Evaluation of Banks in India – A Shannon-DEA Approach', *Eurasian Journal of Business and Economics*, 7(13), pp. 51–68
- Jensen, M. C. (1986) 'Agency costs of free cash flow, corporate finance and takeovers.', *The American Economic Review*.

- Kandil, T. and Chowdhury, D. (2014) *Islamic banks' mergers and acquisitions - Impacts on performance and financial crisis in the United Kingdom, Contemporary Studies in Economic and Financial Analysis*. Emerald Group Publishing Limited. doi: 10.1108/S1569-3759(2014)0000095016.
- Kenny, G. (2020) *Don't Make This Common M&A Mistake*, *Harvard business review*. Available at: <https://hbr.org/2020/03/dont-make-this-common-ma-mistake>.
- Kishwar, A. and Ullah, A. (2019) 'The Role and Impact of Merger & Acquisition of Banking Sector in Pakistan', *Financial Markets, Institutions and Risks*, 3(3), pp. 113–121. doi: 10.21272/fmir.3(3).113-121.2019.
- Koltai, T. and Uzonyi-Kecskés, J. (2017) 'The comparison of data envelopment analysis (DEA) and financial analysis results in a production simulation game', *Acta Polytechnica Hungarica*, 14(4), pp. 167–185. doi: 10.12700/APH.14.4.2017.4.10.
- KPPU (2019) *Perbaikan Perjanjian KPPU Periode September Tahun 2019.pdf*.
- KPPU (2020) *Indonesia Competition Commission Guidelines For The Assessment Of Mergers, Consolidations, Or Acquisitions Published and put into effect as from October 6, 2020*.
- Krug, J. A., Wright, P. and Kroll, M. J. (2014) 'Top management turnover following mergers and acquisitions: Solid research to date but still much to be learned', *Academy of Management Perspectives*, 28(2), pp. 147–163. doi: 10.5465/amp.2011.0091.
- Larasati, N. D. *et al.* (2018) 'Do Merger And Acquisition Affect On Company's Financial Performance?', *Sriwijaya International Journal of Dynamic Economics and Business*, 1(4), p. 375. doi: 10.29259/sijdeb.v1i4.375-386.
- Liputri, O. and Tirok, J. (2009) 'analysis of corporate governance and relative efficiency of public companies listed in indonesian stock exchange', *journal of applied finance and accounting*, 2(2), pp. 31–50.
- Lubatkin, M. (1983) 'Mergers and the Performance of the Acquiring Firm.', *Academy of Management Review*, 8(2), pp. 218–225. doi: 10.5465/amr.1983.4284724.
- Ludwin, W. G. and Guthrie, T. L. (1989) 'Assessing Productivity with Data Envelopment Analysis', *Public Productivity Review*, 12(4), pp. 361–372. doi: 10.2307/3380150.
- Mallikarjunappa, T. and Nayak, P. (2007) 'Why do Mergers and Acquisitions quite often Fail?', *Advances in Management*, 5(5), pp. 21–28.

- Masulis, R. W., Wang, C. and Xie, F. (2007) 'Corporate governance and acquirer returns', *Journal of Finance*, 62(4), pp. 1851–1889. doi: 10.1111/j.1540-6261.2007.01259.x.
- Mfon *et al.* (2018) 'Strategies for integrating ICT in entrepreneurial education in tertiary institutions.', *Nigerian Journal of Business Education*, (A publication of association of business educator of nigeria).
- Moeller, S., Schlingemann, F. and Stulz, R. (2004) 'Firm Size and the Gains from Acquisitions', *Journal of Financial Economics*.
- Muhammad Rizwan (2015) 'Impact of Privatization in Banking Sector: A Case Study of MCB and ABL', *IOSR Journal of Business and Management (IOSR-JBM)*, 17(1), pp. 92–100. doi: 10.9790/487X-171195100.
- Naz, F., Ijaz, F. and Naqvi, F. (2016) 'Financial Performance of Firms: Evidence From Pakistan Cement Industry', *Journal of Teaching and Education*, 05(August), pp. 81–94.
- Nusa, D. (2017) 'proceeding international seminar academic network on competition policy', in. Available at: http://eprints.undip.ac.id/66376/1/Prosiding_PKPU.pdf.
- Nuswandari, C. (2009) 'Pengaruh Corporate Governance Perception Index Terhadap Kinerja Perusahaan Pada Perusahaan Yang Terdaftar Di Bursa Efek Jakarta Oleh: Cahyani Nuswandari Fakultas Ekonomi Universitas Stikubank Semarang', *Jurnal Bisnis dan Ekonomi (JBE)*, 16(2), pp. 70–84.
- Pandey (1992) *Venture capital and entrepreneurial development: the Indian experience*.
- Parasad, Mubasheruddin, A. and Maheshwara, R. D. (2011) 'Financial characteristics of Indian pharmaceutical industry', *Asia Pacific Journal of Research in Business Management*.
- Parkan, C. (1987) 'Measuring the efficiency of service operations: An application to bank branches', *Engineering Costs and Production Economics*, 12(1–4), pp. 237–242. doi: 10.1016/0167-188X(87)90083-8.
- Pinprayong, B. and Siengthai, D. S. (2012) 'Restructuring for Organizational Efficiency in the Banking Sector in Thailand: a Case Study of Siam Commercial Bank', *Far East Journal of Psychology and Business*, 8 No 2 Pap(2), pp. 29–42.
- PWC (2019) *Creating value beyond the deal*, Pwc. Available at: <https://www.pwc.com/gx/en/services/deals/deals-report.html>.

- PWC (2020) *Government and Public Services*. Available at: <https://www.pwc.com/id/en/industry-sectors/government-public-services.html>.
- PWC (2021) *Global M&A Industry Trends*. Available at: <https://www.pwc.com/gx/en/services/deals/trends.html>.
- Rajiv D, B. (1982) 'Estimating most productive scale size with double frontiers data envelopment analysis', *Economic Modelling*, 33, pp. 182–186. doi: 10.1016/j.econmod.2013.04.021.
- Ramli, M. (2019) *Merger and acquisition towards banj efficiency and profitability in indonesia*. swiss german university.
- Rifai, M., Arifati, R. and Magdalena, M. (2015) 'Pengaruh Ukuran Perusahaan, Struktur Modal Dan Pertumbuhan Perusahaan Terhadap Profitabilitas', *Jurnal Ilmiah Mahasiswa S1 Akuntansi Universitas Pandanaran*, 1(2502–7697), pp. 1–8.
- Ross, S., Westerfield, R. and Jordan, B. (2014) *Fundamental of Corporate finance*. second. Mc -Graw Hill education.
- Rudden, J. (2020) *Value of mergers and acquisitions (M&A) worldwide from 1985 to 2020*. Available at: <https://www.statista.com/statistics/267369/volume-of-mergers-and-acquisitions-worldwide/>.
- Sekaran, U. and Bougie, R. (2013) *Research Method for Business*. 17th edn. wiley.
- Seth, A. (1990) 'Value creation in acquisitions: A re-examination of performance issues', *strategic managemnet journal*. Available at: <https://www.jstor.org/stable/2486658?seq=1>.
- Shitole, G. *et al.* (2012) 'Referred Journal of CMR College of Engineering & Technology', *Journal of Management*, 1(2).
- Sinclair, R. and Keller, K. L. (2017) 'Brand value, accounting standards, and mergers and acquisitions: "the Moribund Effect"', *Journal of Brand Management*, 24(2), pp. 178–192. doi: 10.1057/s41262-016-0025-1.
- Singh, A. (1971) *Take-Overs Their Relevance to the Stock Market and the Theory of the Firm*. university of cambridge.
- Singh, S. and Das, S. (2018) 'Impact of post-merger and acquisition activities on the financial performance of banks: A study of Indian private sector and public sector banks', *Espacios*, 39(26).
- Smith, P. (1990) 'Data envelopment analysis applied to financial statements', *Omega*, 18(2), pp. 131–138. doi: 10.1016/0305-0483(90)90060-M.

- Soewignyo, T. (2010) 'Analyzing Listed Indonesian Securities Companies ' Performance Using Data Envelopment Analysis', 9(1), pp. 29–34.
- Stallworthy, Ernest and Kharbanda., O. P. (1988) *Takeovers, Acquisitions and Mergers: Strategies for Rescuing Companies in Distress*. Kogan Page, London.
- Stebbins, R. (2001) 'Exploratory research in the social sciences'.
- Sufian, F. and Abdul Majid, M.-Z. (2007) 'Deregulation, consolidation and banks efficiency in Singapore: Evidence from event study window approach and Tobit analysis', *International Review of Economics*, 54(2), pp. 261–283. doi: 10.1007/s12232-007-0017-2.
- Sumanth, D. J. (1998) *total productivity management*. 1 edition. Edited by C. Press. CRC Press.
- Syukur, M. and Bungkilo, D. A. (2020) 'The aftermaths of acquisition in Indonesia', *International Journal of Monetary Economics and Finance*, 13(1), pp. 16–33. doi: 10.1504/IJMEF.2020.105331.
- Tambunan, M., Togatorop, G. and Mareli, S. (2020) 'Indonesia Debt to Equity Ratio (DER) Policy of Listed Companies on International Taxation Best Practices', (August). doi: 10.4108/eai.30-10-2019.2299415.
- Tarigan, J., Alfonsia, C. and Hatane, S. E. (2018) 'Analysis Of Merger & Acquisition Motives In Indonesian Listed Companies Through Financial Performance Perspective Petra Christian University', *Kinerja*, 22(1), pp. 95–112.
- Ubabuko, K. (2011) 'The Consequences of Post-Merger & Acquisition Performance in Listed and Non-Listed Companies in Sweden'.
- Winarno, W., Nur Hidayati, L. And Darmawati, A. (2015) 'Faktor-Faktor Yang Memengaruhi Profitabilitas Perusahaan Manufaktur Yang Listed Di Bursa Efek Indonesia'.
- Yazar Soyadı, E. (2019) 'How Merger and Acquisition Affect Firm Performance and Its Quality', *journal of accounting finance and auditing studies (JAFAS)*, 5(3), pp. 42–53. doi: 10.32602/jafas.2019.30.
- Yeh, Q.-J. (1996) 'The Application of Data Envelopment Analysis in Conjunction with Financial Ratios for Bank Performance Evaluation', *Journal of the Operational Research Society*, 47(8), pp. 980–988. doi: 10.1057/palgrave.jors.0470802.

- Yu, Y.-S. *et al.* (2014) 'A Comparison of Ratios and Data Envelopment Analysis: Efficiency Assessment of Taiwan Public Listed Companies', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4. doi: 10.6007/IJARAFMS/v4-i1/586.
- Yu, Y.-S., Barros, A. and Wu, W.-H. (2013) 'Data Envelopment Analysis and Financial Ratio: A new approach to estimate the efficiency of Taiwan Computer's Peripheral Industry', *Journal of Information and Optimization Sciences*, 34(1), pp. 69–84. doi: 10.1080/02522667.2013.777176.
- Yusgiantoro, I., Wirdiyanti, R. and Harjanti, A. D. (2020) 'How do Banks Fare after Merger and Acquisition?', (December).
- Zollo, M. and Meier, D. (2008) 'What Is M&A Performance? Executive Overview', *Academy of Management Perspectives*, pp. 55–78.
- Zuhri, S. *et al.* (2020) 'the Impact of Merger and Acquisition on Financial Performance in Indonesia', *Journal of Reseach in Business, Economics, and Education*, 2(1), pp. 326–338. Available at: <https://e-journal.stie-kusumanegara.ac.id/index.php/jrbee/article/view/69/45>.

APPENDICES

APPENDIX A: Normality Test

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CR before	.130	21	.200*	.941	21	.231
CR after	.321	21	.000	.748	21	.000

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DER before	.245	21	.002	.816	21	.001
DER after	.139	21	.200*	.921	21	.092

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TATO before	.160	21	.169	.918	21	.078
TATO after	.164	21	.146	.876	21	.012

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROE Before	.289	21	.000	.636	21	.000
ROE AFTER	.157	21	.188	.925	21	.109

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA before	.204	21	.022	.801	21	.001
ROA AFTER	.209	21	.017	.888	21	.021

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NPM Before	.302	21	.000	.711	21	.000
NPM BEFORE	.332	21	.000	.675	21	.000

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Q before	.253	21	.001	.780	21	.000
Q after	.249	21	.001	.607	21	.000

APPENDIX B: Wilcoxon Signed Rank Test

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
CR before	21	2.0376	1.07886	.01	4.96
CR after	21	2.2833	1.62806	.88	6.86

Ranks

		N	Mean Rank	Sum of Ranks
CR after - CR before	Negative Ranks	12 ^a	10.33	124.00
	Positive Ranks	9 ^b	11.89	107.00
	Ties	0 ^c		
	Total	21		

- a. CR after < CR before
- b. CR after > CR before
- c. CR after = CR before

Test Statistics^a

CR after - CR before	
Z	-.295 ^b
Asymp. Sig. (2-tailed)	.768

- a. Wilcoxon Signed Ranks Test
 b. Based on positive ranks.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
DER before	21	.7833	.65236	.13	2.46
DER after	21	.8329	.60513	.08	2.10

Ranks

		N	Mean Rank	Sum of Ranks
DER after - DER before	Negative Ranks	10 ^a	9.40	94.00
	Positive Ranks	10 ^b	11.60	116.00
	Ties	1 ^c		
Total		21		

- a. DER after < DER before
 b. DER after > DER before
 c. DER after = DER before

Test Statistics^a

	DER after - DER before
Z	-.411 ^b
Asymp. Sig. (2-tailed)	.681

- a. Wilcoxon Signed Ranks Test
 b. Based on negative ranks.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
TATO before	21	.8795	.62538	.09	2.63
TATO after	21	.8305	.71741	.02	2.95

Ranks

	N	Mean Rank	Sum of Ranks
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TATO after - TATO before	Negative Ranks	14 ^a	11.54	161.50
	Positive Ranks	7 ^b	9.93	69.50
	Ties	0 ^c		
	Total	21		

- a. TATO after < TATO before
- b. TATO after > TATO before
- c. TATO after = TATO before

Test Statistics^a

TATO after - TATO before	
Z	-1.599 ^b
Asymp. Sig. (2-tailed)	.110

- a. Wilcoxon Signed Ranks Test
- b. Based on positive ranks.

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
ROE Before	21	.1900	.23858	.00	1.09
ROE AFTER	21	.0914	.09855	-.06	.34

Ranks

		N	Mean Rank	Sum of Ranks
ROE AFTER - ROE Before	Negative Ranks	15 ^a	10.93	164.00
	Positive Ranks	5 ^b	9.20	46.00
	Ties	1 ^c		
	Total	21		

- a. ROE AFTER < ROE Before
- b. ROE AFTER > ROE Before
- c. ROE AFTER = ROE Before

Test Statistics^a

ROE AFTER - ROE Before	
Z	-2.206 ^b
Asymp. Sig. (2-tailed)	.027

- a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ROA before	.204	21	.022	.801	21	.001
ROA AFTER	.209	21	.017	.888	21	.021

a. Lilliefors Significance Correction

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
ROA before	21	.1057	.10529	.01	.39
ROA AFTER	21	.0562	.05792	-.03	.18

Ranks

	N	Mean Rank	Sum of Ranks
ROA AFTER - ROA before	Negative Ranks	15 ^a	166.50
	Positive Ranks	5 ^b	43.50
Ties	1 ^c		
Total	21		

a. ROA AFTER < ROA before

b. ROA AFTER > ROA before

c. ROA AFTER = ROA before

Test Statistics^a

	ROA AFTER - ROA before
Z	-2.300 ^b
Asymp. Sig. (2-tailed)	.021

a. Wilcoxon Signed Ranks Test

b. Based on positive rank .

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
NPM Before	21	.2500	.31667	.00	.99
NPM BEFORE	21	.1100	.16149	-.05	.70

Ranks

		N	Mean Rank	Sum of Ranks
NPM BEFORE - NPM Before	Negative Ranks	14 ^a	11.36	159.00
	Positive Ranks	5 ^b	6.20	31.00
	Ties	2 ^c		
	Total	21		

a. NPM BEFORE < NPM Before

b. NPM BEFORE > NPM Before

c. NPM BEFORE = NPM Before

Test Statistics^a

NPM BEFORE - NPM Before	
Z	-2.578 ^b
Asymp. Sig. (2-tailed)	.010

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

APPENDIX D Efficiency Scores Result from The DEA

DMU	T_3	T_2	T_1	T+1	T+2	T+3
AALI	1	1	1	0.551716451	1	0.852291225
AUTO	0.693749261	0.779255048	0.617099627	0.5	0.541328036	0.777479517
CPIN	1	1	1	0.812732894	0.722115527	1
COWL	1	1	0.127906858	0.554323073	1	0.616318691
DSSA	0.401141738	0.430232066	0.337549288	0.370956085	0.49225992	0.874126368
ERAA	1	1	1	1	1	1
GEMS	0.621618655	0.502575444	0.217745565	0.416944764	0.831662678	0.853650763
GWSA	1	1	0.280256646	1	1	1
HRUM	0.311911347	1	0.464151474	0.464298884	0.185316566	0.186015262
INDY	0.266162431	0.314185782	1	0.680874093	0.358060825	0.434982481
ITMG	1	1	0.600618856	0.980392445	0.802504257	0.718935956
JPFA	0.837340767	1	0.791868673	0.839597615	0.87945649	0.103695705
KLBF	0.365722992	0.58902076	0.340904314	0.3	0.448923541	0.492449515
LSIP	0.508563273	0.828525056	0.527893397	0.538637693	0.367278194	0.403303676
KPIG	1	1	0.191357432	1	0.123024299	1
TKIM	0.517159905	0.624960065	0.398625233	0.150285339	0.394986077	0.512599028

PLIN	1	0.233530822	0.183246976	0.554832673	0.281915152	0.373310992
SIMP	1	0.7571603	0.572382273	0.303603634	1	1
UNTR	1	0.197134457	1	0.328520572	1	1
BTEK	1	1	1	1	1	1
MAPI	0.77119236	0.589006845	0.306193197	0.680874093	0.965402057	0.620940135



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