Jurnal Ekonomi Indonesia, 15(1) 2026, 120-138

Check for updates

IEJ Indonesian Economic Journal

P-ISSN 0854-1507 | E-ISSN 2721-222x
Available at https://jurnal.isei.or.id

Stock return movements of companies affiliated with danantara

Ivan Wahyu Hidayatulloh

Arghajata Consulting, South Jakarta, Indonesia

*Corresponding author: ivan.downstream@gmail.com

Abstract

Purpose — This study examines whether firms affiliated with Indonesia's newly established sovereign wealth entity, Danantara, exhibit significant stock return interconnectedness or whether firm-specific dynamics continue to dominate, thereby preserving diversification benefits within the portfolio.
Method — Using daily stock return data for ten state-owned enterprises over 2021–2024, the study applies a Vector Autoregression (VAR) model alongside Granger causality and variance decomposition analyses.
Findings — The results show that return dynamics are largely dominated by idiosyncratic shocks, while cross-firm spillovers are limited and selective. The Jakarta Composite Index (JKSE) serves as the main external driver, indicating the relevance of market-wide conditions. Despite some directional linkages, systemic co-movement remains weak, preserving diversification benefits. However, forecast results reveal heterogeneous performance and potential downside risks across issuers.
Implications — Portfolio performance depends more on firm-level governance and active allocation than ownership consolidation.
Originality — This study offers early evidence on return interconnectedness within a newly established sovereign wealth fund portfolio in an emerging market context.
Keywords: Sovereign Wealth Fund; Stock Returns; Vector Autoregression; Connectedness; Public Investment Policy
JEL Classification: G11; G14; G23; H7

Recommended Citation
Hidayatulloh, I. W. (2026). Stock return movements of companies affiliated with danantara. *Jurnal Ekonomi Indonesia.* 15(1) 2026, 120-138. DOI: https://doi.org/10.52813/jei.v15i1.783

Introduction

The Investment Management Agency Daya Anagata Nusantara (Danantara) is a state institution established in 2025 to optimize and manage the strategic investments of State-Owned Enterprises (Badan Usaha Milik Negara, BUMN) and their subsidiaries, with the objectives of improving capital efficiency, ownership transparency and the competitiveness of public assets in both domestic and global markets. Danantara's organizational structure is governed by Peraturan Pemerintah No. 10/2025.

Submitted: 21 September 2025 – Revised: 28 April 2026 – Accepted: 30 April 2026

It provides for an independent Supervisory Board and an independent Executive Agency, and is supported by Undang-Undang No. 1/2025, which amended BUMN provisions and mandated the establishment of this investment management body. In the initial phase, ownership of more than 800 SOEs, including strategic listed companies such as PT Bank Mandiri Tbk (BMRI), PT Telkom Indonesia Tbk (TLKM) and PT Perusahaan Gas Negara Tbk (PGAS), was transferred to Danantara. This policy framework provides a robust legal basis for Danantara to implement investment governance oriented toward national value-added and to strengthen accountability and corporate governance (GCG). Thus, Danantara functions not merely as a holding company of SOEs but as a strategic investment manager with the potential to drive Indonesia's economic growth of optimizing public assets.

Drawing on the experience of countries that have implemented sovereign wealth funds (SWFs), the creation of an SWF such as Danantara is expected to generate economic effects through: (1) improved capital allocation efficiency by consolidating SOE assets, thereby reducing investment duplication and enabling more optimal restructurings and joint ventures; (2) diversification of the national portfolio into international asset classes, infrastructure and renewable energy, which historically reduces volatility of public revenue and enhances resilience to external shocks; and (3) potential increases in fiscal revenues via investment returns (dividends, capital gains and interest) that can be reallocated to the State Budget or reinvested in strategic projects. Supporting policies such as Keputusan Presiden No. 30/2025 and Peraturan Menteri BUMN No. 5/2025 clarify the independence and transparency of fund management, thereby minimizing political risk and market-based misappropriation.

With a strong regulatory framework and a professional investment strategy, the Danantara SWF has the potential to become a key driver of medium- to long-term economic growth, increase national productivity, broaden the fiscal base, and reinforce Indonesia's macroeconomic stability. Wan Chi Chen (2021), shows that sovereign wealth funds (SWFs) such as the GPFG and Temasek act not only as long-term investors but also as buffers and instruments of state policy that can stabilize the economy and influence industrial policy, depending on governance design and the degree of managerial independence. Oleka (2014), finds that the mere existence of an SWF does not automatically spur economic growth.

The detected relationship does not show a positive effect, indicating that SWF effectiveness is highly contingent on institutional capacity, transparency, and protection against political intervention. Affuso (2022) finds that sovereign wealth funds may contribute to economic growth through macroeconomic stabilization, long-term savings mobilization, and strategic capital allocation, although these positive effects depend heavily on governance quality, institutional capacity, and disciplined investment management. Aris Wahyu Raharjo et al. (2022) underscore a shifting role for SWFs in the context of scarce infrastructure financing and emphasize the need to adjust mandates, financing mechanisms, and synergy with public policy to generate tangible impacts on national development.

Kemme (2026) emphasizes that the overall effectiveness of sovereign wealth funds remains conditional on transparency, managerial independence, and political neutrality. Overall, the literature consistently finds that SWFs have the potential to significantly influence the national economy through macroeconomic stabilization, financing of strategic projects, and sectoral intervention, but the realization of these impacts is contingent on governance and transparency.

Divakaran et al. (2022) argue that sovereign wealth funds increasingly function not only as long-term investment vehicles but also as strategic instruments for economic diversification, governance improvement, and national development, while well-structured strategic investment funds can enhance the efficiency of public assets and support long-term growth. Korniyenko et al. (2025) find that in emerging and resource-based economies, sovereign wealth funds are associated with broader economic transformation and sectoral diversification objectives. Fernandes (2014) demonstrates that ownership by sovereign wealth funds is associated with increases in firm market value and improvements in operational performance, driven by mechanisms that likely include enhanced governance oversight, managerial pressure, and better access to capital. Fernandes (2014) also argues that SWF entry can sustainably raise the valuations of target firms' equities.

Habermann (2025) and Chen et al. (2025), suggest that sovereign wealth fund engagement may influence firm market valuation, governance outcomes, and investor perceptions through signaling effects. Fotak et al. (2008) document a positive and significant short-term market reaction to announcements of SWF investments (abnormal returns of roughly +0.8% on the announcement day and the following day), while long-term effects are more heterogeneous and influenced by factors such as acquisition size and SWF transparency. The combination of this evidence suggests two hypotheses regarding interdependence among stocks of firms owned or invested in by SWFs: (1) an information/announcement effect that produces simultaneous value jumps in targets at the time of announcement, yielding short-term price correlations across targets; and (2) a fundamental effect, via performance improvement and improved access to capital, that can align valuation trends across firms within an SWF portfolio (leading to medium-term or long-term co-movement).

However, Fernandes (2014) and Bortolotti & Megginson (2008) also stress important limitations: potential endogeneity (SWFs may select firms that already have strong prospects) and heterogeneity across SWFs in objectives, governance, and transparency, such that causal evidence and explicit analyses of return spillovers among SWF firms remain limited. These findings indicate a positive influence of SWF formation/entry on the stock prices of firms included in SWF portfolios.

Figure 1.

Stock Price Movements of Companies before Affiliation with Danantara

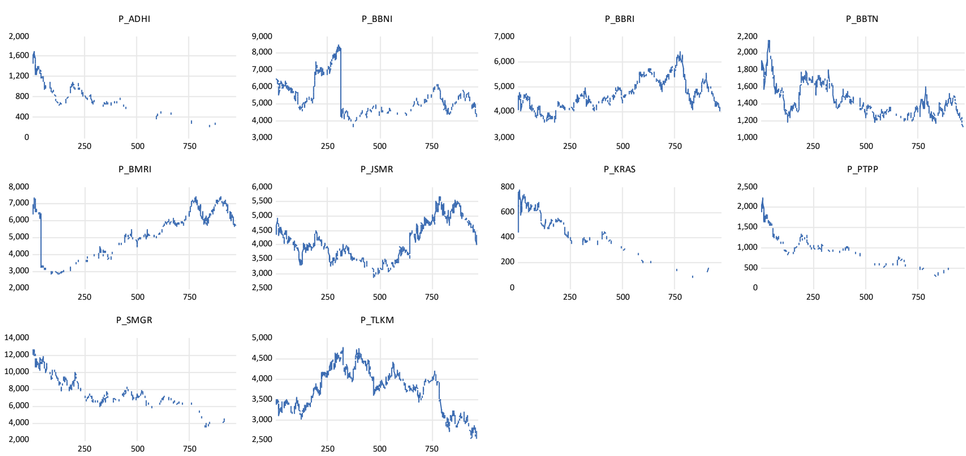


Figure 1, Daily return charts of the ten companies before affiliated with Danantara:PT Bank Rakyat Indonesia (Persero) Tbk (BBRI), PT Bank Mandiri (Persero) Tbk (BMRI), PT Bank Negara Indonesia (Persero) Tbk (BBNI), PT Bank Tabungan Negara (Persero) Tbk (BBTN), PT Krakatau Steel (Persero) Tbk (KRAS), PT Adhi Karya (Persero) Tbk (ADHI), PT Pembangunan Perumahan (Persero) Tbk (PTPP), PT Telkom Indonesia (Persero) Tbk (TLKM), PT Jasa Marga (Persero) Tbk (JSMR) and PT Semen Indonesia (Persero) Tbk (SMGR), exhibit diversified movement patterns.

The banking sector shows heterogeneous trends; BBRI and BBTN tend to decline, possibly due to pressure from rising non-performing loans or from interest-rate policies less favorable to banks with a retail and mortgage focus. BMRI is dynamic and highly volatile, potentially driven by greater exposure to corporate lending and capital market fluctuations that are sensitive to institutional investor sentiment. BBNI displays an initial rise followed by stagnation, which may reflect early operational efficiency gains that were later offset by intense competition within the national banking industry. Construction issuers such as ADHI and PTPP consistently face downward pressure due to multiple challenges in the infrastructure sector, including project delays, liquidity constraints, and reduced government infrastructure spending in recent years.

TLKM also records a downward trend, resulting from intense price competition in the telecommunications industry and/or a shift in consumer preferences toward data services that require substantial investment. KRAS shows significant fluctuations with upward tendencies in certain phases, likely related to volatile global steel commodity prices or domestic industry protection policies. Lastly, JSMR and SMGR demonstrate relatively sharp declines, driven by negative sentiment or macroeconomic factors affecting their sectors, such as reduced traffic volumes and lower construction activity that depresses cement demand. The diversity of these daily return patterns highlights the complexity of dynamics in the Indonesian stock market, where each issuer's performance is influenced not only by firm-specific factors but also by sectoral conditions and macroeconomic fluctuations.

Zhu (2018) proposes a SpVAR/spatial econometrics framework as an effective approach for capturing spillovers among firms in modeling exercises. Fernandes (2014) finds that inflows from sovereign wealth funds (SWFs) are associated with higher firm valuations and improvements on several performance metrics, suggesting that SWF ownership can alter market assessments via monitoring, access to capital, or political/strategic signaling. However, Zhu (2018) and Fernandes (2014) indicate two key points. First, direct evidence on price or return transmission among companies held by SWFs remains limited, as many studies focus on firm valuation or credit risk rather than equity-market connectedness.

Second, spatial and VAR methodologies, network approaches based on portfolio overlap, and event studies of SWF investments provide a solid foundation for testing the hypothesis that firms with SWF ownership or portfolio overlap exhibit greater price or return interconnectedness through channels of common exposure, market responses to SWF signals, or liquidity spillovers. In other words, mutual influence is plausible. However, prior studies have mainly focused on sovereign wealth funds at the macroeconomic, governance, or firm valuation levels, whereas evidence is limited on whether firms grouped under a newly established sovereign wealth entity exhibit short-run stock return interconnectedness, particularly in emerging markets such as Indonesia. This constitutes the main research gap addressed in this study.

Prior literature provides mixed evidence regarding market integration and spillover dynamics. Bekaert and Harvey (2003) argue that financial liberalization tends to increase cross-market correlations and reduce diversification benefits, whereas Solnik (1974) and Errunza (1977) document that international diversification can still generate meaningful portfolio gains. Likewise, Forbes and Rigobon (2002) find limited contagion effects from global shocks, while Daryl and Biekpe (2002) report significant crisis spillovers across several emerging markets.

These findings suggest that the magnitude of spillovers depends on market structure, crisis episodes, and empirical methodology. In the sovereign wealth fund context, Knill et al. (2012) show that political motives may influence SWF investment decisions toward particular countries or firms, indicating potential non-financial channels of transmission. Boako and Alagidede (2017) further document nonlinear dependence and asymmetric spillovers across markets using copula and CoVaR approaches, while Mitra (2015) synthesizes evidence that returns and volatility may propagate through multiple channels depending on the degree of integration and macroeconomic conditions. More recently, studies on sovereign wealth funds also reveal heterogeneous market responses. Habermann and Steindl (2025) show that sovereign wealth fund sustainability engagement generated negative stock market reactions among European portfolio firms, particularly those with weak ESG performance.

By contrast, Liang and Vansteenkiste (2022) report positive market responses to a board-diversity campaign. Collectively, these findings indicate that market reactions and spillover effects remain context-dependent, thereby strengthening the relevance of examining the Danantara portfolio setting. The literature review moves beyond a purely descriptive discussion by synthesizing prior findings and highlighting several unresolved debates. For instance, Bekaert and Harvey (2003) argue that financial liberalization tends to increase cross-market correlations, thereby reducing diversification benefits, whereas Solnik (1974) and Errunza (1977) document that international diversification can still generate meaningful portfolio gains. This inconsistency suggests that the benefits of cross-border diversification may vary depending on the degree of market integration and the period under examination. Likewise, studies on spillover transmission provide mixed conclusions.

Forbes and Rigobon (2002) find no significant contagion effects of global shocks on South Africa, whereas Daryl and Biekpe (2002) report evidence of shock transmission from the Asian financial crisis to several African markets, including South Africa, Egypt, Namibia, and Morocco. These contrasting outcomes indicate that contagion effects may depend on the type of crisis, the sample period, and the empirical methodology used. Debate also emerges regarding whether African markets remain insulated from global developments.

Alagidede (2008) finds that, aside from South Africa, African equity markets respond more strongly to domestic information than to global factors, implying partial segmentation. In contrast, Senbet and Gande (2009) contend that even weakly integrated African markets were ultimately affected by the Global Financial Crisis through real-sector channels, including exports, commodity prices, and capital flows. This suggests that low financial integration does not necessarily guarantee immunity from external shocks. More recently, research on sovereign wealth funds also presents differing interpretations of market reactions. Habermann and Steindl (2025) show that a sovereign wealth fund's sustainability engagement generated negative stock market reactions among European portfolio firms, particularly those with weak ESG performance, implying disciplinary market pressure.

By contrast, Liang and Vansteenkiste (2022), as cited in the same study, report positive reactions to a board-diversity campaign, suggesting that investors may reward some governance initiatives while penalizing others, depending on the nature of engagement. This reveals that not all sovereign wealth fund interventions are interpreted uniformly by the market. Although Fernandes (2014) and Fotak et al. (2008), report that SWF ownership is often linked to higher valuations and improved corporate performance and Zhu (2018), demonstrates the suitability of SpVAR econometric methods to capture cross-entity risk transmission, an empirical gap remains: few studies explicitly test whether and how SWF ownership amplifies co-movement or return spillovers among issuers within SWF portfolios using multivariate dynamic approaches.

Empirical evidence is needed to determine whether the portfolio generates financial gains or exposes Danantara to losses, informing its mandate to manage and optimize state-owned enterprises (BUMN) to support economic growth and national investment. This study contributes to the literature by providing one of the earliest empirical assessments of stock return interconnectedness among firms affiliated with the newly established Danantara sovereign wealth entity using a multivariate time-series framework. Moreover, Danantara's status as a shareholder may directly affect issuers' stock prices and volatility. The objective of this research is to assess whether the selection of issuers in Danantara's portfolio is appropriate by evaluating the returns and price dynamics of each firm.

This study initially hypothesizes that stocks affiliated with Danantara do not exhibit excessively strong correlations within the portfolio, thereby preserving diversification benefits and supporting more favorable return prospects. To examine this proposition more formally, the study tests two hypotheses: H1: Danantara-affiliated firms exhibit significant dynamic interconnectedness in stock returns; H2: market-wide shocks, as represented by the JKSE, significantly influence the returns of Danantara-affiliated firms. To strengthen the reliability of the results, additional robustness checks, including alternative lag specifications and model stability diagnostics, are incorporated into the revised analysis. Empirical findings indicate that firm-specific shocks dominate most return movements, while the JKSE acts as the main external contributor, and cross-firm spillovers remain limited.

Methodology

This study uses secondary data from the website www.investing.com consisting of daily stock price returns for the period 2021–2024, calculated as:

$$Return = \frac{(Price_t - Price_{t-1})}{Price_{t-1}} \times 100\% \quad (1)$$

The variables analyzed are:

Table 1. Variables

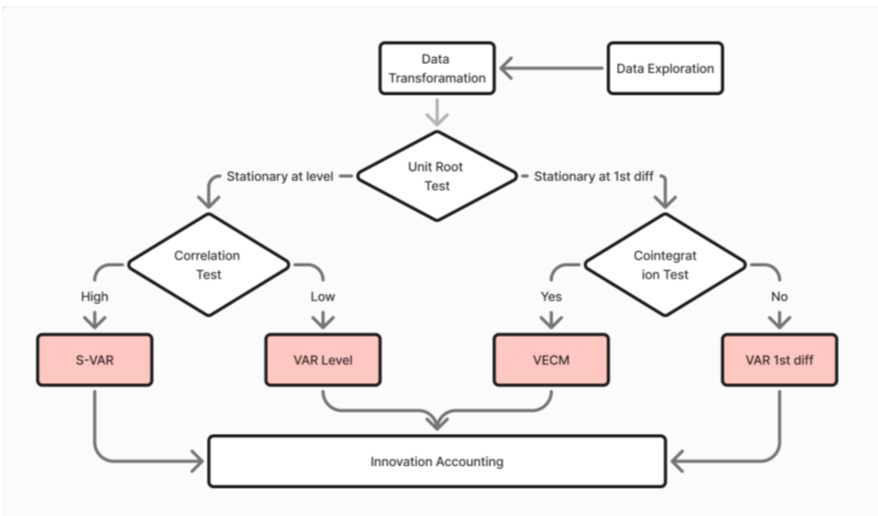
Variables	Description
R_JKSE	Daily Return of Indeks Harga Saham Gabungan(IHSG)
R_BBRI	Daily Return of PT Bank Rakyat Indonesia (Persero) Tbk
R_BMRI	Daily Return of PT Bank Mandiri (Persero) Tbk

Variables	Description
R_BBNI	Daily Return of PT Bank Negara Indonesia (Persero) Tbk
R_BBTN	Daily Return of PT Bank Tabungan Negara (Persero) Tbk
R_KRAS	Daily Return of PT Krakatau Steel (Persero) Tbk
R_ADHI	Daily Return of PT Adhi Karya (Persero) Tbk
R_PTPP	Daily Return of PT Pembangunan Perumahan (Persero) Tbk
R_TLKM	Daily Return of PT Telkom Indonesia (Persero) Tbk
R_JSMR	Daily Return of PT Jasa Marga (Persero) Tbk
R_SMGR	Daily Return of PT Semen Indonesia (Persero) Tbk

Source: Processed by Author

The analyzed variables consist of the daily return of the Composite Stock Price Index (R_JKSE) as the market factor and the daily returns of ten state owned enterprises observed: R_BBRI (Bank Rakyat Indonesia), R_BMRI (Bank Mandiri), R_BBNI (Bank Negara Indonesia), R_BBTN (Bank Tabungan Negara), R_KRAS (Krakatau Steel), R_ADHI (Adhi Karya), R_PTPP (Pembangunan Perumahan), R_TLKM (Telkom Indonesia), R_JSMR (Jasa Marga) and R_SMGR (Semen Indonesia). R_JKSE is included to control for market influences on each variable.

Figure 2. Vector Autoregression (VAR) model



Source: Authors' illustration based on Brooks (2014) and Suharsono et al. (2017).

Several firms were excluded: GIAA (Garuda Indonesia) due to negative equity and its status as equity under monitoring, WIKA (Wijaya Karya) because trading was suspended during the study period, and WSKT (Waskita Karya) due to a petition for PKPU (debt restructuring petition) and monitoring status. The methodology employed is Vector Autoregression (VAR), a multivariate time series technique suited to explain interrelationships among variables. According to Lee & Ryu (2013), VAR is appropriate for studying stock return dynamics, particularly in the context of dynamic and asymmetric relations between returns and implied volatility, and Suharsono et al. (2017) have shown it to be suitable for testing indices in ASEAN countries, including Indonesia.

Figure 2 shows Vector Autoregression flow. Brooks (2014), the initial step is stationarity testing using the Augmented Dickey–Fuller (ADF) test to ensure variables are stationary in levels. If the data are stationary in levels, a cointegration test is then conducted to assess long-run relationships among variables. If no cointegration is found, a VAR in levels will be used. If the series are stationary only after first differencing and cointegration is not present, a VAR on first differences will be employed. After estimating the VAR model, the analysis proceeds with Granger causality tests to identify causal directions among variables and with Variance Decomposition (VD) to decompose the contribution of each variable's contribution to the variability of the dependent variables over time.

Results and Discussion

Table 2. *Unit Root Test*

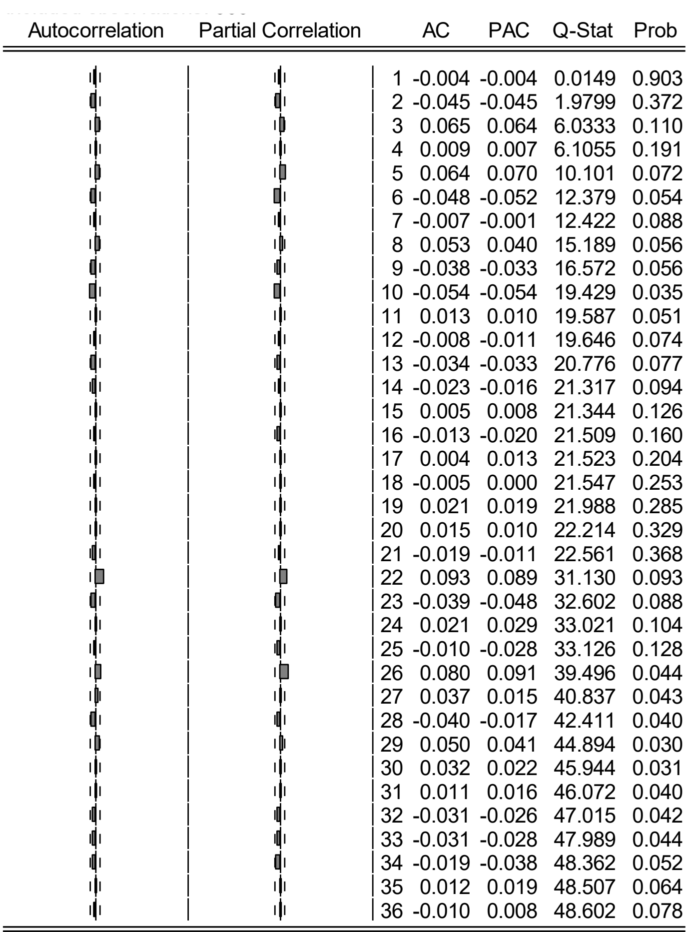
Series	t-Stat	Prob.
R_ADHI	-31.198	0.0000
R_BBNI	-31.360	0.0000
R_BBRI	-34.171	0.0000
R_BBTN	-30.970	0.0000
R_BMRI	-32.803	0.0000
R_JKSE	-33.016	0.0000
R_JSMR	-31.231	0.0000
R_KRAS	-32.774	0.0000
R_PTPP	-32.100	0.0000
R_SMGR	-32.385	0.0000
R_TLKM	-33.266	0.0000

Source: Processed by Author

The results of the unit root (ADF) at Table 2 indicate that all series: R_ADHI, R_BBNI, R_BBRI, R_BBTN, R_BMRI, R_JKSE, R_JSMR, R_KRAS, R_PTPP, R_SMGR, and R_TLKM, exhibit highly negative t-statistics with p-values = 0.0000. Therefore, the null hypothesis of a unit root is rejected, and all series can be considered stationary in levels. Consequently, it is appropriate to proceed with a VAR in levels, and we first perform correlation tests to examine the strength of relationships among the series before finalizing the model specification.

The Ljung–Box correlogram, Figure 3. shows that at low lags up to approximately lag 9 the Q statistic p values are mostly >0.05 (e.g., lag 1 p=0.903; lag 2 p=0.372; lag 3 p=0.110), indicating no evidence of significant serial autocorrelation at low orders; thus, residuals initially appear nearly random and this supports the feasibility of continuing analysis with a VAR in levels. We therefore proceed to select the optimal lag length for the model.

Figure 3. Autocorrelation Test



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.004	-0.004	0.0149	0.903
		2	-0.045	-0.045	1.9799	0.372
		3	0.065	0.064	6.0333	0.110
		4	0.009	0.007	6.1055	0.191
		5	0.064	0.070	10.101	0.072
		6	-0.048	-0.052	12.379	0.054
		7	-0.007	-0.001	12.422	0.088
		8	0.053	0.040	15.189	0.056
		9	-0.038	-0.033	16.572	0.056
		10	-0.054	-0.054	19.429	0.035
		11	0.013	0.010	19.587	0.051
		12	-0.008	-0.011	19.646	0.074
		13	-0.034	-0.033	20.776	0.077
		14	-0.023	-0.016	21.317	0.094
		15	0.005	0.008	21.344	0.126
		16	-0.013	-0.020	21.509	0.160
		17	0.004	0.013	21.523	0.204
		18	-0.005	0.000	21.547	0.253
		19	0.021	0.019	21.988	0.285
		20	0.015	0.010	22.214	0.329
		21	-0.019	-0.011	22.561	0.368
		22	0.093	0.089	31.130	0.093
		23	-0.039	-0.048	32.602	0.088
		24	0.021	0.029	33.021	0.104
		25	-0.010	-0.028	33.126	0.128
		26	0.080	0.091	39.496	0.044
		27	0.037	0.015	40.837	0.043
		28	-0.040	-0.017	42.411	0.040
		29	0.050	0.041	44.894	0.030
		30	0.032	0.022	45.944	0.031
		31	0.011	0.016	46.072	0.040
		32	-0.031	-0.026	47.015	0.042
		33	-0.031	-0.028	47.989	0.044
		34	-0.019	-0.038	48.362	0.052
		35	0.012	0.019	48.507	0.064
		36	-0.010	0.008	48.602	0.078

Source: Processed by Author

The optimal lag tests in Table 3 reveal that the three information criteria (AIC, SC, HQ) reach their minima at lag 0 (AIC=-58.07714, SC=-58.02114, HQ=-58.05581), which technically favors a no-lag specification. However, the LR test and the correlogram pattern indicate improvement when adding lags (LR for lag 1 = 185.97, significant), and there is evidence of autocorrelation at medium/high orders. Practically, a lag = 0 specification risks omitting relevant dynamics, so a pragmatic choice is to include one lag (lag 1) in the VAR estimation.

Table 3. Lag Optimum Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	27742.84	NA	1.66e-39*	-58.07714*	-58.02114*	-58.05581*
1	27837.00	185.9702*	1.76e-39	-58.02095	-57.34897	-57.76498
2	27912.16	146.6874	1.93e-39	-57.92494	-56.63697	-57.43433
3	27977.20	125.4498	2.17e-39	-57.80774	-55.90379	-57.08249
4	28053.79	145.9609	2.39e-39	-57.71474	-55.19479	-56.75485

Lag	LogL	LR	FPE	AIC	SC	HQ
5	28125.76	135.5047	2.65e-39	-57.61206	-54.47613	-56.41753
6	28191.17	121.6335	2.98e-39	-57.49564	-53.74372	-56.06646
7	28254.13	115.6417	3.37e-39	-57.37409	-53.00619	-55.71028
8	28311.39	103.8579	3.86e-39	-57.24062	-52.25673	-55.34216
9	28385.32	132.3612	4.27e-39	-57.14202	-51.54215	-55.00893
10	28476.37	160.9446	4.56e-39	-57.07931	-50.86345	-54.71158
11	28534.19	100.8605	5.22e-39	-56.94699	-50.11514	-54.34462

Source: Processed by Author

The optimal lag tests in Table 3 reveal that the three information criteria (AIC, SC, HQ) reach their minima at lag 0 (AIC=-58.07714, SC=-58.02114, HQ=-58.05581), which technically favors a no-lag specification. However, the LR test and the correlogram pattern indicate improvement with lags (LR for lag 1 = 185.97; significant), and there is evidence of autocorrelation at medium-to-high orders. Practically, a lag = 0 specification risks omitting relevant dynamics, so a pragmatic choice is to include one lag (lag 1) in the VAR estimation.

Table 4. Vector Autoregression Estimate

	R_ADHI	R_BBNI	R_BBRI	R_BBTN	R_BMRI	R_JKSE	R_JSMR	R_KRAS	R_PTPP	R_SMGR	R_TLKM
R_ADHI(-1)	0.0663	0.0514	0.008	0.0341	0.0659	0.0023	0.0936	0.0923	0.1036	0.0663	-0.0143
	(0.0594)	(0.0469)	(0.0327)	(0.0386)	(0.0466)	(0.0153)	(0.0380)	(0.0538)	(0.0615)	(0.0424)	(0.0325)
R_BBNI(-1)	0.0568	-0.0157	0.046	0.0609	0.0439	0.0139	0.0712	0.1173	0.0895	0.0935	-0.0018
	(0.0469)	(0.0371)	(0.0259)	(0.0305)	(0.0368)	(0.0121)	(0.0300)	(0.0426)	(0.0486)	(0.0335)	(0.0256)
R_BBRI(-1)	0.0082	0.0145	-0.0959	0.0278	0.1609	0.0149	-0.0308	-0.0934	-0.0373	0.0698	0.0531
	(0.0782)	(0.0617)	(0.0431)	(0.0508)	(0.0613)	(0.0202)	(0.0500)	(0.0709)	(0.0810)	(0.0558)	(0.0427)
R_BBTN(-1)	0.0415	0.1102	0.0175	-0.0025	-0.0277	0.0087	0.0154	0.0299	-0.0053	0.0281	0.0037
	(0.0613)	(0.0484)	(0.0338)	(0.0398)	(0.0481)	(0.0158)	(0.0392)	(0.0556)	(0.0635)	(0.0437)	(0.0335)
R_BMRI(-1)	0.0261	0.0052	-0.0033	0.0046	-0.0485	-0.0225	-0.0101	-0.0573	0.0368	-0.0435	-0.0498
	(0.0476)	(0.0376)	(0.0262)	(0.0309)	(0.0373)	(0.0123)	(0.0304)	(0.0431)	(0.0493)	(0.0339)	(0.0260)
R_JKSE(-1)	-0.2040	-0.3688	-0.2128	-0.2175	-0.4760	-0.1197	-0.1920	0.1687	-0.2850	-0.4581	-0.2230
	(0.2008)	(0.1585)	(0.1106)	(0.1303)	(0.1574)	(0.0518)	(0.1284)	(0.1820)	(0.2079)	(0.1432)	(0.1097)
R_JSMR(-1)	0.0572	0.0297	-0.0282	0.0224	-0.1015	0.0036	0.0005	-0.0093	0.0574	0.0674	0.0378
	(0.0543)	(0.0428)	(0.0299)	(0.0352)	(0.0425)	(0.0140)	(0.0347)	(0.0492)	(0.0562)	(0.0387)	(0.0296)
R_KRAS(-1)	0.0460	-0.0276	-0.0124	0.0208	-0.0080	0.0028	0.0152	-0.0571	0.0610	-0.0198	0.0326
	(0.0396)	(0.0313)	(0.0218)	(0.0257)	(0.0310)	(0.0102)	(0.0253)	(0.0359)	(0.0410)	(0.0282)	(0.0216)
R_PTPP(-1)	-0.1193	0.0004	0.0375	-0.0413	-0.0224	0.0075	-0.0724	-0.0840	-0.1490	-0.0225	-0.0147
	(0.0566)	(0.0447)	(0.0312)	(0.0368)	(0.0444)	(0.0146)	(0.0362)	(0.0513)	(0.0586)	(0.0404)	(0.0309)
R_SMGR(-1)	-0.0243	-0.0210	0.0090	-0.0188	0.0614	0.0024	-0.0281	-0.0758	0.0408	-0.0492	0.0143
	(0.0507)	(0.0400)	(0.0279)	(0.0329)	(0.0397)	(0.0131)	(0.0324)	(0.0460)	(0.0525)	(0.0362)	(0.0277)
R_TLKM(-1)	0.1579	0.0507	0.0763	0.0536	0.0786	0.0259	0.0352	0.0303	0.1289	0.0899	-0.0309
	(0.0638)	(0.0504)	(0.0351)	(0.0414)	(0.0500)	(0.0165)	(0.0408)	(0.0578)	(0.0660)	(0.0455)	(0.0348)
C	-0.0015	0.0000	0.0001	-0.0003	0.0004	0.0002	0.0002	-0.0016	-0.0013	-0.0011	-0.0001
	(0.0010)	(0.0008)	(0.0005)	(0.0006)	(0.0008)	(0.0002)	(0.0006)	(0.0009)	(0.0010)	(0.0007)	(0.0005)
R-squared	0.0169	0.0148	0.0257	0.0099	0.0275	0.0143	0.0160	0.0204	0.0184	0.0311	0.0203
F-statistic	1.4873	1.3021	2.2827	0.8641	2.4522	1.2577	1.4086	1.8025	1.6245	2.7831	1.7960

Source: Processed by Author

Table 4, VAR(1) estimation reveals several statistically significant relationships, although most coefficients are insignificant and their magnitudes are small. The negative effect of the lagged market index R_JKSE(-1) is clear and significant for several large stocks: R_BBNI (-0.3688), R_BMRI (-0.4760), R_SMGR (-0.4581), and R_TLKM (-0.2230). Economically, this indicates that prior-day market movements tend to be associated with corrections or mean reversion the following day for some issuers, a pattern common in daily returns. Such behaviour is consistent with short-horizon market microstructure effects and partial price adjustment, where temporary overreactions are followed by subsequent corrections. It also supports Chen et al. (2025), who argue that investor perceptions and governance signals can shape short-term valuation responses.

Conversely, there are several significant positive lagged influences among issuers: R_TLKM(-1) drives R_ADHI (0.1579) and R_BBRI (0.0763); R_BBNI(-1) predicts increases in R_KRAS (0.1173), R_JSMR (0.0712), and R_SMGR (0.0935). R_BBRI(-1) exerts a positive effect on R_BMRI (0.1609). These relationships indicate spillovers across sectors, particularly a channel from banks to the real sector. The R-squared values of each equation are very low (approximately 0.9%–3.1%), indicating that most of the variation in daily returns is not explained by lag-1 dynamics in this system. Return data are inherently noisy. There is also a risk of false positives due to the large number of coefficient tests (multiple testing).

Table 5. Causality-Granger Test

Dependent variable		Independent variable R_ ADHI	R_ BBNI	R_ BBRI	R_ BBTN	R_ BMRI	R_ JKSE	R_ JSMR	R_ KRAS	R_ PTPP	R_ SMGR	R_ TLKM
R_ ADHI	Chi-sq	-	1.467	0.011	0.458	0.302	1.033	1.110	1.352	4.439	0.229	6.133
	Prob.	-	0.226	0.916	0.499	0.583	0.310	0.292	0.245	0.035	0.632	0.013
R_ BBNI	Chi-sq	1.199	-	0.055	5.184	0.019	5.412	0.481	0.780	0.000	0.276	1.015
	Prob.	0.274	-	0.815	0.023	0.890	0.020	0.488	0.377	0.992	0.600	0.314
R_ BBRI	Chi-sq	0.060	3.161	-	0.268	0.016	3.703	0.891	0.325	1.449	0.105	4.714
	Prob.	0.807	0.075	-	0.605	0.898	0.054	0.345	0.569	0.229	0.747	0.030
R_ BBTN	Chi-sq	0.784	3.994	0.301	-	0.022	2.784	0.403	0.658	1.261	0.325	1.676
	Prob.	0.376	0.046	0.584	-	0.883	0.095	0.526	0.417	0.261	0.569	0.195
R_ BMRI	Chi-sq	2.004	1.423	6.885	0.332	-	9.145	5.691	0.066	0.255	2.383	2.473
	Prob.	0.157	0.233	0.009	0.565	-	0.003	0.017	0.797	0.614	0.123	0.116
R_ JKSE	Chi-sq	0.023	1.324	0.547	0.303	3.372	-	0.065	0.075	0.264	0.033	2.484
	Prob.	0.880	0.250	0.460	0.582	0.066	-	0.799	0.784	0.608	0.855	0.115
R_ JSMR	Chi-sq	6.069	5.632	0.379	0.154	0.111	2.236	-	0.360	3.996	0.754	0.745
	Prob.	0.014	0.018	0.538	0.695	0.739	0.135	-	0.548	0.046	0.385	0.388
R_ KRAS	Chi-sq	2.935	7.593	1.737	0.289	1.766	0.859	0.036	-	2.675	2.723	0.274
	Prob.	0.087	0.006	0.188	0.591	0.184	0.354	0.850	-	0.102	0.099	0.601
R_ PTPP	Chi-sq	2.839	3.394	0.212	0.007	0.559	1.880	1.045	2.212	-	0.605	3.811
	Prob.	0.092	0.066	0.645	0.933	0.455	0.170	0.307	0.137	-	0.437	0.051
R_ SMGR	Chi-sq	2.450	7.803	1.565	0.413	1.641	10.235	3.036	0.490	0.309	-	3.910
	Prob.	0.118	0.005	0.211	0.521	0.200	0.001	0.081	0.484	0.578	-	0.048
R_ TLKM	Chi-sq	0.195	0.005	1.544	0.012	3.664	4.131	1.625	2.267	0.227	0.266	-
	Prob.	0.659	0.946	0.214	0.913	0.056	0.042	0.203	0.132	0.634	0.606	-

Source: Processed by Author

In Table 5, the Granger causality results reveal several meaningful predictive relationships among the ten issuers. Individually, R_TLKM Granger-predicts R_ADHI (0.0133), R_BBRI (0.0299), and R_SMGR (0.0480), indicating that TLKM acts as a transmitter to the construction/industry sector and to one of the large banks. R_BBRI predicts R_BMRI (0.0087), while R_JSMR also predicts R_BMRI (0.0171), so R_BMRI appears to receive spillovers from another large bank and from the cement sector.

R_BBNI emerges as an important sender: it predicts R_BBTN (0.0457), R_KRAS (0.0059), R_JSMR (0.0176), and R_SMGR (0.0052), which depicts a bank to real-sector channel. In addition, R_PTPP predicts R_ADHI (0.0351) and R_ADHI predicts R_JSMR (0.0138). Many other pairs are not significant at the 5% level, so the network of relationships is not homogeneous. The equations for R_BMRI and R_SMGR show significant joint "All" tests (R_BMRI All p = 0.0076; R_SMGR All p = 0.0013), indicating that the variations in R_BMRI and R_SMGR are more influenced by the combined dynamics of the system than by more isolated equations. However, R-squared values are low at the daily return level, and many p-values lie close to conventional thresholds, so these effects are better interpreted as short-run, probabilistic predictive relationships rather than strong evidence of robust economic causality.

Caution regarding multiple testing is therefore important. There is a consistent pattern of spillovers, notably from the large banks (R_BBNI and R_BBRI) to other banks/industries and from R_TLKM to several real-sector firms, but this does not reflect broad, simultaneous causal exchange across all issuers. Regarding interactions with the market index, the results show that the index (R_JKSE) predicts several stocks, but, conversely, individual stocks do not consistently predict the index at the daily frequency. Specifically, R_JKSE Granger affects R_BBNI (0.0200), R_SMGR (0.0014), and R_TLKM (0.0421), indicating that index movements help predict returns for those issuers; conversely, there is no strong evidence that any individual variable predicts R_JKSE. The joint test for JKSE is not significant, and the majority of individual p-values are >0.05, although R_BMRI is borderline at p≈= 0.066.

The index provides informational signals to some stocks, while feedback from those stocks to the index at a daily basis is relatively weak. This implies that market-wide conditions remain a key benchmark for portfolio supervision and that risk management frameworks should closely monitor aggregate market sentiment as an early indicator of pressure on individual holdings. The Granger results indicate a focused spillover pattern, especially R_TLKM, R_BBNI, R_BBRI, and R_JSMR act as transmitters that predict other issuers' returns, while the market index (JKSE) more often behaves as a predictor for some stocks (R_BBNI, R_SMGR, R_TLKM) but not vice versa consistently.

R_BMRI and R_SMGR show joint significance, suggesting their variability is more driven by the collective dynamics of the system. Boako & Alagidede (2017), argue that equity markets are interconnected so that larger indices or markets often serve as channels of risk/information transmission to individual stocks and the review on market interdependence by Mitra (2015), shows that sectoral spillovers (bank to real sector) frequently constitute primary transmission channels for shocks.

Table 6. Variance Decomposition Test

	Prd.	R_ JKSE	R_ ADHI	R_ BBNI	R_ BBRI	R_ BBTN	R_ BMRI	R_ JSMR	R_ KRAS	R_ PTPP	R_ SMGR	R_ TLKM
R_ ADHI	1	15.79	84.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	15.60	82.82	0.26	0.01	0.06	0.02	0.11	0.06	0.42	0.02	0.62
	10	15.60	82.82	0.26	0.01	0.06	0.02	0.11	0.06	0.42	0.02	0.62
R_ BBNI	1	16.98	0.18	82.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	16.91	0.55	81.62	0.05	0.57	0.01	0.04	0.10	0.01	0.02	0.10
	10	16.91	0.55	81.62	0.05	0.57	0.01	0.04	0.10	0.01	0.02	0.10

	Prd.	R_ JKSE	R_ ADHI	R_ BBNI	R_ BBRI	R_ BBTN	R_ BMRI	R_ JSMR	R_ KRAS	R_ PTPP	R_ SMGR	R_ TLKM
R_ BBRI	1	39.03	0.00	3.22	57.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	38.61	0.43	3.36	56.76	0.05	0.01	0.08	0.04	0.18	0.02	0.47
	10	38.61	0.43	3.36	56.76	0.05	0.01	0.08	0.04	0.18	0.02	0.47
R_ BBTN	1	26.12	1.46	3.11	2.15	67.16	0.00	0.00	0.00	0.00	0.00	0.00
	5	25.89	1.45	3.60	2.16	66.50	0.00	0.04	0.04	0.12	0.03	0.17
	10	25.89	1.45	3.60	2.16	66.50	0.00	0.04	0.04	0.12	0.03	0.17
R_ BMRI	1	22.30	0.05	1.71	1.21	0.91	73.82	0.00	0.00	0.00	0.00	0.00
	5	22.14	0.33	1.91	1.73	0.93	71.94	0.48	0.01	0.01	0.26	0.25
	10	22.14	0.33	1.91	1.73	0.93	71.94	0.48	0.01	0.01	0.26	0.25
R_ JSMR	1	10.86	1.12	0.09	0.01	0.16	0.09	87.66	0.00	0.00	0.00	0.00
	5	10.80	1.38	0.67	0.04	0.17	0.11	86.26	0.01	0.41	0.08	0.08
	10	10.80	1.38	0.67	0.04	0.17	0.11	86.26	0.01	0.41	0.08	0.08
R_ KRAS	1	12.33	6.02	0.15	0.08	0.01	0.01	0.01	81.38	0.00	0.00	0.00
	5	12.09	5.90	0.82	0.25	0.03	0.18	0.04	80.10	0.29	0.27	0.03
	10	12.09	5.90	0.82	0.25	0.03	0.18	0.04	80.10	0.29	0.27	0.03
R_ PTPP	1	13.59	55.90	0.00	0.00	0.08	0.00	0.02	0.33	30.08	0.00	0.00
	5	13.35	54.88	0.40	0.03	0.08	0.05	0.15	0.47	30.12	0.08	0.38
	10	13.35	54.88	0.40	0.03	0.08	0.05	0.15	0.47	30.12	0.08	0.38
R_ SMGR	1	15.29	3.20	0.03	0.23	0.63	0.00	1.30	0.36	0.21	78.75	0.00
	5	15.11	3.46	1.13	0.40	0.64	0.21	1.53	0.45	0.24	76.46	0.39
	10	15.11	3.46	1.13	0.40	0.64	0.21	1.53	0.45	0.24	76.46	0.39
R_ TLKM	1	14.54	0.00	0.08	0.00	0.20	0.07	0.06	0.32	0.14	0.14	84.44
	5	15.15	0.05	0.08	0.12	0.20	0.46	0.24	0.56	0.16	0.17	82.82
	10	15.15	0.05	0.08	0.12	0.20	0.46	0.24	0.56	0.16	0.17	82.82

Source: Processed by Author

The results of the variance decomposition, Table 6, show that almost all variables are dominated by their own variation (own shocks). For example, R_ADHI, R_BBNI, R_BBRI, R_JSMR, and R_TLKM are largely explained by their own innovations, indicating that most return fluctuations are driven by idiosyncratic firm-level factors. This result is consistent with Affuso (2022), who emphasizes that investment outcomes depend strongly on institutional quality and firm-level conditions, and with Mitra (2015), who notes that spillover intensity varies considerably across markets and sectors. The largest external contributor is consistently R_JKSE, which in many series provides the second-largest share (R_BBRI: 39.03% to 38.61%; R_BBNI: 16.98% to 16.91%; R_BMRI: 22.30% to 22.14%; R_SMGR: 15.29% to 15.11%). Changes between periods 5 and 10 are very small, suggesting that the variance decomposition quickly reaches a relative equilibrium.

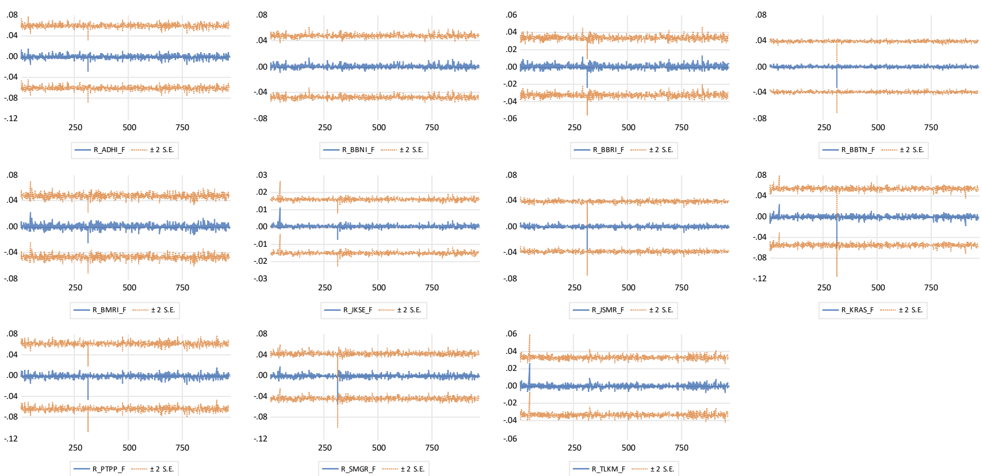
SOE banks (R_BBNI, R_BBRI, R_BBTN, and R_BMRI) maintain high proportions of own shocks (R_BBNI 82–81.6%, R_BBRI 57.7–56.8%, R_BBTN 67.2–66.5%, R_BMRI 73.8–71.9%) while the market index's contribution (R_JKSE) remains substantial, particularly for R_BBRI and R_BMRI (R_BBRI 39% and R_BMRI 22%). Interbank spillovers and spillovers from other issuers are relatively small (a few decimals up to ≈ 3–4%), so direct transmission between banking stocks in this model appears limited over the observed horizon. R_PTPP is heavily influenced by R_ADHI (about 55.9% at period 1 and 54.9% at periods 5/10), indicating a strong economic/industry link between R_ADHI and R_PTPP. Additionally, some issuers such as R_JSMR and R_TLKM remain strongly dominated by idiosyncratic factors even though the market index contributes a nontrivial share.

Practical implications: policy moves or market shocks can propagate through the market channel (R_JKSE), but most volatility still originates from firm-level risk. Therefore, portfolio risk management should not rely solely on macro-level stabilization, but also prioritize issuer-specific monitoring, sector diversification, and early detection of concentrated exposures across interconnected firms. For Danantara, this implies that active portfolio surveillance is as important as broader market policy responses. The VAR(1) estimation results indicate that inter-variable effects are generally small and insignificant, so lagged spillover dynamics are weak overall, though some relationships are statistically significant.

Granger-causality tests also show significant directed pairs such as R_JSMR → R_ADHI ($p \approx 0.0138$) & R_JSMR → R_BBNI ($p \approx 0.0176$); R_BMRI → R_BBRI ($p \approx 0.0087$), R_BMRI → R_JKSE ($p \approx 0.0025$), R_BMRI → R_JSMR ($p \approx 0.0171$); R_BBNI → R_JKSE ($p \approx 0.0200$); R_BBRI → R_TLKM ($p \approx 0.0299$); R_BBTN → R_BBNI ($p \approx 0.0457$); and R_ADHI → R_PTPP ($p \approx 0.0351$) & R_ADHI → R_TLKM ($p \approx 0.0133$). Thus, there is a pattern of sectoral spillovers (notably bank → other issuers and some effects from telecom/industry), but most of the variation in returns is explained by idiosyncratic factors, cross-day correlations are not dominant, so a portfolio composed of these variables still offers diversification potential.

From the perspective of Modern Portfolio Theory, weak cross-asset correlations imply that combining these stocks may still reduce unsystematic risk through diversification. This interpretation is also aligned with Korniyenko et al. (2025), who highlight diversification as a core objective of sovereign wealth fund portfolio strategy. At the same time, several significant directional spillovers are consistent with contagion and information transmission theory, in which shocks may spread through specific nodes even when the overall network remains only partially connected. At the same time, a market-factor effect warns that during market declines or heightened volatility, inter-issuer diversification may decrease. The variance decomposition confirms this dominance of own shocks: most variables are explained by their own innovations, while R_JKSE is the largest external contributor for several variables.

Figure 4. Stock Return Forecast of Companies Affiliated with Danantara

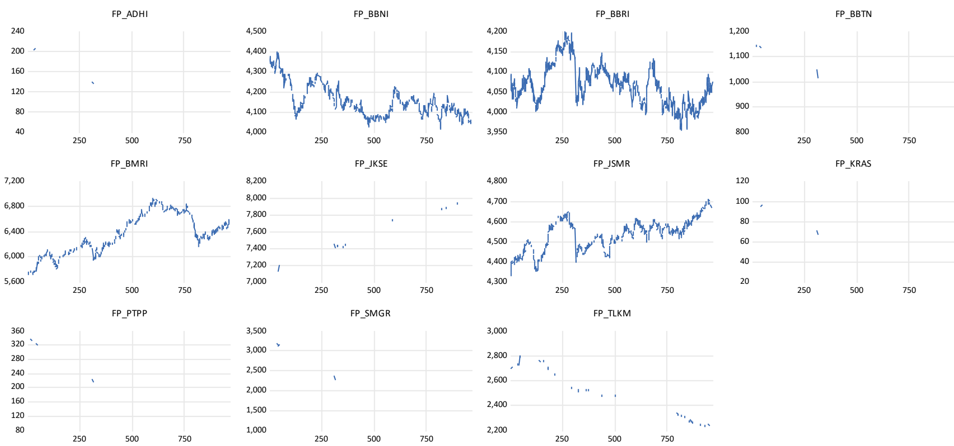


Source: Processed by Author

This indicates that improving operational performance, governance quality, and issuer-level fundamentals may generate stronger portfolio outcomes than relying solely on external market timing strategies. Changes between horizons are minimal, indicating the variance shares stabilize quickly. If these variables are combined into a single portfolio, it can reduce firm-specific risk because of the dominance of idiosyncratic noise dominates, but caution is warranted: if allocation is overly concentrated on interconnected nodes (some variables are affected by banks), diversification benefits will be reduced, especially under market stress. However, diversification benefits may decline if portfolio allocation becomes concentrated in highly connected nodes, particularly large banking issuers.

This implies that capital allocation should be periodically rebalanced across sectors to avoid excessive correlation risk, especially during episodes of market stress. For Danantara, this implication is consistent with Divakaran et al. (2022), who argue that strategic investment funds can improve the efficiency of public assets through disciplined portfolio management, while Kemme (2026) emphasizes that these benefits depend on transparency and managerial independence.

Figure 5.
Stock Price Forecast of Companies Affiliated with Danantara



Source: Processed by Author

The price forecasts, Figure 5, were constructed by adjusting each variable's last observed price using the forecasted returns. The results display strong heterogeneity across issuers. Summary of changes: FP_JKSE 7079.9 → 8039.33 (+13.56%), FP_BBRI 4080 → 4076.93 (−0.08%), FP_BMRI 5700 → 6547.26 (+14.86%), FP_BBNI 4350 → 4065.07 (−6.55%), FP_BBTN 1140 → 809.07 (−29.03%), FP_KRAS 101 → 24.77 (−75.48%), FP_ADHI 212 → 46.55 (−78.07%), FP_PTPP 336 → 85.47 (−74.56%), FP_TLKM 2710 → 2242.44 (−17.25%), FP_JSMR 4330 → 4665.43 (+7.75%), FP_SMGR 3290 → 1074.24 (−67.38%).

From ten stock variables, the mean initial price of 3029.90 fell to 2879.68 at the end (period 966), a total decline of −4.9576%. On an aggregate equal-weighted basis across the ten variables, the direction is unfavorable, a decline of roughly 4.96% over four years, excluding dividends or corporate actions. However, FP_BMRI (+14.9%) and FP_JSMR (+7.8%) still point to price increases, while holders of FP_ADHI, FP_PTPP, FP_KRAS, FP_SMGR, FP_BBTN, and FP_TLKM experience substantial losses (several exceeding 60–70%).

The forecasts reflect the dominance of idiosyncratic risk consistent with the earlier variance decomposition, implying that sectoral diversification and firm-level exposure management are particularly important. For investment managers, this suggests that forward-looking portfolio decisions should combine quantitative forecasts with fundamental screening, governance assessment, and stress-testing, since projected outcomes remain highly uncertain. The dominance of own shocks across most issuers suggests that stock return dynamics within the Danantara portfolio are still primarily shaped by firm-specific fundamentals rather than by strong synchronized movements.

Economically, this may reflect substantial differences in sectoral business models, revenue structures, leverage conditions, and investor expectations among banking, infrastructure, telecommunications, industrial, and construction firms. Such heterogeneity reduces the likelihood that all firms react identically to new information, thereby preserving diversification benefits within a multi-sector portfolio. It also indicates that managerial performance, earnings quality, and corporate governance remain central determinants of valuation outcomes. The relatively limited cross-firm spillovers may also be explained by segmented information channels and differing sensitivity to macroeconomic variables. Banking stocks are generally more responsive to interest rates, credit quality, and liquidity conditions, while construction firms depend more heavily on government spending cycles, project execution, and commodity costs.

Telecommunications and toll-road operators may instead respond to consumer demand, regulation, and traffic volumes. Because these economic drivers are not perfectly aligned, shocks are transmitted selectively rather than uniformly across the portfolio. At the same time, the consistent role of JKSE as an important external contributor indicates that broad market sentiment remains a common transmission channel. During periods of optimism or stress, aggregate risk appetite, foreign capital flows, and macroeconomic expectations may simultaneously affect multiple Danantara-linked issuers even when firm-level linkages are weak. This implies that diversification benefits may narrow during market-wide downturns, making macro risk monitoring essential for portfolio oversight.

From a policy perspective, the findings suggest that Danantara's effectiveness as a sovereign wealth fund should not rely solely on asset consolidation or ownership concentration. Instead, value creation is more likely to arise from active portfolio management, disciplined capital allocation, and improved governance standards across affiliated firms. Since firm-specific factors remain dominant, strengthening operational efficiency, transparency, and strategic accountability at each issuer may generate larger long-term gains than passive ownership alone. Furthermore, Danantara can use these insights to design a more resilient national investment strategy by balancing exposure across sectors with different risk drivers, avoiding excessive concentration in highly connected nodes, and implementing continuous stress-testing against market shocks. In this sense, Danantara's role extends beyond holding state assets; it can serve as a strategic allocator of public capital, enhancing portfolio efficiency, supporting national development objectives, and strengthening financial stability.

Conclusion

Overall, this study concludes that the stocks affiliated with Danantara do not exhibit excessively strong systemic interconnectedness, as most return dynamics are primarily driven by firm-specific shocks rather than broad cross-firm spillovers. While selective transmission channels and market-wide influences from the JKSE remain present, these effects are generally secondary, indicating that diversification benefits can still be achieved within the portfolio when supported by prudent allocation and active risk management. In essence, Danantara's portfolio appears to function more as a collection of heterogeneous strategic assets than as a tightly synchronized risk cluster, implying that portfolio performance will depend less on ownership concentration itself and more on governance quality, capital allocation discipline, and continuous portfolio optimization.

The VAR(1) estimation indicates limited but statistically meaningful lagged relationships: most coefficients are small and insignificant, yet the negative lagged effect of the market index (R_JKSE(-1)) appears significant for several variables, indicating that movements in the market index exert short-term downward pressure on some banking, manufacturing, and telecommunications stocks. Granger causality tests identify a number of directed relationships across variables, suggesting sectoral channels of influence even if overall spillovers are not pervasive. The variance decomposition corroborates the dominance of own shocks in explaining the variance of each variable's variance, while the JKSE index consistently emerges as the second-largest external contributor for many variables. Although some variables are correlated, the VAR, Granger causality, and variance decomposition results imply that external spillovers are generally secondary to idiosyncratic shocks, a pattern that supports the potential for stock-level diversification within a portfolio. However, the price forecasts show projected declines for the included variables, implying negative expected returns over the forecast horizon and potential realized losses for a buy-and-hold strategy without active mitigation.

While we hypothesized that firms affiliated with Danantara would not necessarily exhibit correlations as a portfolio, the findings indicate that they can contribute to portfolio risk reduction if combined with cross-asset diversification, active rebalancing, and firm-level risk management. These findings align with literature that portrays SWFs primarily as policy/stabilization actors rather than automatic drivers of systemic market volatility, and they are consistent with empirical work documenting idiosyncratic dominance across markets.

Danantara should promptly evaluate the set of firms because price projections indicate that not all holdings have positive return prospects, and several firms are correlated. Practically, this means reviewing allocations and considering divestment or weight reductions for stocks with negative projected returns, employing active rebalancing and targeted hedging strategies. For academics, we recommend follow-up studies once multiple post-acquisition periods are available (the current dataset is pre-announcement) to compare pre- and post-takeover outcomes and to incorporate volatility measures, operational performance, and governance indicators to robustly assess Danantara's effects on prices, risk and firm value.

AI declaration

The authors declare that artificial intelligence (AI) tools were used solely to assist in language refinement, grammar checking, and improving the clarity of writing. The use of AI did not influence the research design, data collection, data analysis, interpretation of results, or the development of conclusions. All intellectual contributions, including conceptualization, methodology, analysis, and final content, remain the full responsibility of the authors.

Conflict Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper. The research was conducted independently without any financial, commercial, or personal relationships that could be construed as a potential conflict of interest.

References

[1] Affuso, E., Istiak, K. M., & Sharland, A. (2022). Sovereign wealth funds and economic growth. Journal of Asset Management, 23(3), 201.

[2] Affuso, E., Istiak, K. M., & Sharland, A. (2022). Sovereign wealth funds and economic growth. Journal of Asset Management, 23(3), 201.

[3] Boako, G., & Alagidede, P. (2018). *Systemic risks spillovers and interdependence among stock markets: international evidence with Covar-copulas.* South African Journal of Economics, 86(1), 82-112.

[4] Brooks, C. (2014). *Introductory Econometrics for Finance*. 3rd Edition, Cambridge University Press, Cambridge.

[5] Chen, R. R., Guedhami, O., Liu, F., Megginson, W. L., & Wang, H. H. (2025). The CSR balancing act: the impact of sovereign wealth fund investments on investee firms.

[6] Chen, W. C. (2021). *Practice of State Capitalism: A Comparative Case Study of Norway and Temasek Sovereign Wealth Funds*.

[7] Divakaran, S., Halland, H., Lorenzato, G., Rose, P., & Sarmiento-Saher, S. (2022). Strategic investment funds: Establishment and operations. World Bank Publications.

[8] Fernandes, N. (2014). *The impact of sovereign wealth funds on corporate value and performance.* Journal of Applied Corporate Finance, 26(1), 76-84.

[9] Fotak, V., Bortolotti, B., Megginson, W., & Miracky, W. (2008). *The financial impact of sovereign wealth fund investments in listed companies.* Unpublished working paper, University of Oklahoma and Università di Torino.

[10] Habermann, F., & Steindl, T. (2025). Stock market reactions to a sovereign wealth fund's broad-based public sustainability engagement: European evidence. Journal of Economic Behavior & Organization, 231, 106915.

[11] Kemme, D. M. (2026). The Sovereign Wealth Fund Paradox: Evolution, Challenges, and Unresolved Issues. Journal of Risk and Financial Management, 19(2), 119.

[12] Knill, A., Lee, B. S., & Mauck, N. (2012). *Bilateral political relations and sovereign wealth fund investment.* Journal of Corporate Finance, 18(1), 108-123.

[13] Korniyenko, Y., & Xin, W. (2025). Gulf Cooperation Council diversification: The role of foreign investments and sovereign wealth funds (No. 2025/174). International Monetary Fund.

[14] Lee, B. S., & Ryu, D. (2013). *Stock returns and implied volatility: A new VAR approach.* Economics, 7(1), 20130003.

[15] Mitra, A., & Bhattacharjee, K. (2015). *Financial interdependence of international stock markets: A literature review.* Indian Journal of Finance, 9(5), 20-33.

[16] Oleka, D. C., Ugwuanyi, B. U., & Ewah, E. B. (2014). *Sovereign wealth fund and economic growth in Nigeria: An empirical analysis.* IOSR Journal of Economics and Finance (IOSR-JEF), 4(5), 1-20.

[17] Raharjo, A. W., Wiryono, S. K., & Rahadi, R. A. (2022). *Evolving Sovereign Wealth Fund under Infrastructure Funding Scarcity: A Literature Study.* Journal of Business & Economics Review (JBER), 7(1).
[18] Republik Indonesia. (2025). *Keputusan Presiden Republik Indonesia Nomor 30 Tahun 2025 tentang Organisasi dan Tata Kelola Badan Pengelola Investasi Daya Anagata Nusantara.* Sekretariat Negara. Jakarta
[19] Republik Indonesia. (2025). *Undang-Undang Republik Indonesia Nomor 1 Tahun 2025 tentang Perubahan Ketiga atas Undang-Undang Nomor 19 Tahun 2003 tentang Badan Usaha Milik Negara.* Sekretariat Negara. Jakarta
[20] Suharsono, A., Aziza, A., & Pramesti, W. (2017, December). *Comparison of vector autoregressive (VAR) and vector error correction models (VECM) for index of ASEAN stock price.* In AIP Conference Proceedings (Vol. 1913, No. 1, p. 020032). AIP Publishing LLC.
[21] Zhu, B. (2018). *The multi-country transmission of sovereign and banking risk: A spatial vector autoregressive approach.* Spatial Economic Analysis, 13(4), 422-441.