



Domestic versus Foreign Flow Asymmetries and Market Adjustment: Evidence from Sri Lanka

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Abstract

This study investigates the long-run relationship between investor behaviour and stock market performance in Sri Lanka, shaped by macroeconomic shocks and limited liquidity. Using monthly data 1994-2024, investor activity is disaggregated by origin (domestic versus foreign) and type (individual versus institutional) to assess their influence on market adjustment. Johansen cointegration tests and Vector Error Correction Models (VECM) are employed to identify equilibrium relationships and directional dynamics between investor groups and the All-Share Price Index (ASPI). The results indicate that market-wide price movements exert a strong short-run influence across all investor categories, reflecting the dominance of index signals in shaping trading decisions. However, in the long-run adjustment process, sales by domestic individuals emerge as the key driver of equilibrium restoration, while foreign institutional investors predominantly display follower behaviour. These findings challenge conventional assumptions of foreign informational superiority in frontier markets and highlight the decisive role of retail sentiment in price discovery. The study advances the literature on investor heterogeneity and market microstructure by demonstrating how retail activity, rather than institutional flows, governs long-term dynamics in frontier settings. Policy implications include strengthening investor literacy initiatives and introducing safeguards to mitigate volatility arising from retail-driven trading.

Keywords: Foreign Institutional Flow, Investor heterogeneity, Long run cointegration, Market dynamics, Retail sentiment

Introduction

The influence of domestic and foreign investors on stock market dynamics remains an important area in the financial market, particularly within emerging and frontier markets (Badhani et al., 2023). The Sri Lankan stock market, characterised by moderate liquidity and a diverse investor base, provides a unique context for examining the relationship between different investor groups and market movements. Understanding whether these investor categories act as market leaders or followers is essential for assessing market efficiency and formulating effective regulatory policies.

The debate over whether domestic and foreign investors possess superior information advantages remains an important area, and the existing literature presents mixed findings regarding the informational advantages and market influence of both. For instance, a multi-country study revealed that foreign institutional investors significantly enhance corporate investment efficiency in emerging markets, primarily when originating from common law jurisdictions, highlighting their role in promoting financial discipline and transparency (Mian & Mian, 2023). Similarly, recent studies indicate that foreign institutional investors often exhibit stronger stock selection and market timing skills than their domestic counterparts (Rudiawarni et al., 2024). This advantage is largely attributed to their access to sophisticated global information systems and analytical tools. Vo (2017) analysed the Vietnamese stock market and found that foreign investors are positive feedback traders with timing strategies, confirming their significant influence on market dynamics.

Conversely, recent research indicates that foreign investors often face informational disadvantages in emerging markets, leading them to adopt trend-following strategies rather than initiating market movements (Krohn et al., 2023). Further, other findings highlight the conditional nature of the advantage. A recent study on investment horizons showed that the benefits of foreign investor participation are more pronounced when these investors maintain longer-term positions, suggesting that short-term foreign flows may not yield the same efficiency gains (Mian & Mian, 2023). Furthermore, global assessments of emerging and frontier markets, such as those by S&P Global (2024) and Theobald (2022), emphasised that information asymmetry, regulatory restrictions, and market depth can hinder the decision-making capabilities of both foreign and local investors.

Sri Lanka's capital market reflects many of these dynamics. Following the end of the civil conflict in 2009, the Colombo Stock Exchange experienced a surge in foreign investment, with foreign investors accounting for approximately 30.5% of total equity turnover (Colombo Stock Exchange). This foreign engagement, once considered a key driver of market depth and price discovery, has declined significantly in recent years, driven by macroeconomic instability, the 2022 sovereign debt default, persistent balance-of-payments pressures, and currency depreciation risks (World Bank, 2024). At the same time, there has been a surge in local individual investor participation during the pandemic, fueled by increased digital access, market volatility, and speculative interest (Bloomberg, 2021).

In contrast, large domestic institutional investors, such as the Employees Provident Fund (EPF), have acted as countercyclical stabilisers, especially during episodes of market distress. For instance, during

the domestic debt optimisation program and post-crisis restructuring efforts, the EPF maintained a significant market presence and helped restore investor confidence (Central Bank of Sri Lanka, 2023). Meanwhile, foreign institutional investors have displayed relatively procyclical behaviour, often exiting during downturns, thereby increasing volatility.

Given these contrasting findings and complex dynamics between investor groups, there is a need to examine the role of domestic and foreign investors within the context of the Sri Lankan capital market, despite its modest size and frontier classification, Sri Lanka offers a valuable testing ground due to its relatively open capital account, dual investor structure, and history of alternating periods of foreign inflows and outflows. However, limited studies have explored whether these investor categories exert long-term influence on market performance or respond to broader market signals. This study addresses this gap by employing Johansen cointegration analysis and Vector Error Correction Models (VECMs) to investigate the long-term equilibrium relationships between investor activity, classified by origin and type, and stock market price index movements. Specifically, the study distinguishes between foreign institutional investors, foreign individual investors, local institutional investors and local individual investors to determine whether these groups act as market leaders or followers. The findings will contribute to the broader discourse on market efficiency in frontier markets and offer practical insights for regulators such as the SEC of Sri Lanka, policymakers, and institutional stakeholders seeking to manage capital flow volatility.

Hence, this study investigates price-flow dynamics in Sri Lanka's equity market by formulating the following objectives.

- Determine whether the All Share Price Index (ASPI) and disaggregated investor flows, foreign institutions, foreign individuals, local institutions, and local individuals share one or more cointegration relations over 1994-2024.
- Identify the short-run lead-lag pattern between price and investor flows using VECM-based Granger causality
- Compare error-correction speeds across investor groups to determine which category contributes most to restoring long-run equilibrium.

The next section reviews the related literature; subsequent sections present the data and variables, outline the econometric specification, report the results, and conclude with implications.

Literature Review

Theoretical Review

Analysing the interaction between domestic and foreign investors in stock markets requires a theoretical foundation grounded in market and behavioural finance principles. The Efficient Market Hypothesis (EMH) explain that asset prices fully reflect all available information (Fama, 1970). However, in real-world markets, particularly less mature markets, informational asymmetries often distort this assumption. Asymmetric information theory suggests that not all investors have equal

access to firm-specific or macroeconomic information, which can lead to mispricing (Akerlof, 1970; Stiglitz, 2000).

In addition, behavioural finance theories challenge rational-agent models. Studies by Thaler (2002) and Daniel, Hirshleifer, and Subrahmanyam (1998) argue that investors often exhibit biases, such as overconfidence and self-attribution, which affect their decision-making. These biases may influence foreign investors, often with greater informational proximity, who may act either as informed traders or as herding participants.

Market microstructure theory also provides insights into the role of investor types in liquidity provision and price discovery. Domestic institutions often act as liquidity providers during downturns, while foreign investors may act as liquidity takers and exit during periods of uncertainty, potentially increasing volatility in thin markets (Hasbrouck, 2007).

Empirical Evidence

Superior Performance of Foreign Investors

In several developed, emerging, and frontier markets, foreign institutional investors outperformed domestic investors due to their access to advanced analytical tools, global diversification, and strategic investments. For example, a study found that foreign investors in transiting markets demonstrated higher annualised returns and more consistent profitability, mainly due to growth-oriented stock selection and sophisticated timing strategies (Koesrindartoto et al., 2024). Similarly, Yildiz (2021) reported that foreign investors tend to target firms with strong global performance, especially those in sectors with high transparency or global exposures. Keloharju (2000) analysed Finnish stock market data and found that foreign investors exhibited better stock-picking and timing abilities than local investors, thanks to their access to advanced analytical tools and diversified information sources. Supporting this, another comprehensive study comparing the performance of foreign and domestic institutional investors in an Asian emerging market found that foreign institutional investors generally outperformed domestic institutional investors in stock-picking and market-timing (Badhani et al., 2023).

Information Disadvantage and Behavioral Constraints

In contrast, several studies have highlighted the challenges foreign investors face due to information asymmetries. According to Yildiz (2021), foreign investors may rely on different valuation models compared to domestic investors, which can sometimes lead to mispricing in environments with high information asymmetry. However, when firms adopt international reporting standards or foreign board members, these asymmetries tend to diminish, reducing the gap between foreign and domestic investor valuation behavior. This is further supported by Brennan and Cao (1997), who developed a model showing that foreign investors may be at an informational disadvantage, leading them to follow market trends rather than initiate them. This behaviour can lead to suboptimal investment decisions, especially in markets where local information is important.

Domestic investors, in turn, benefit from superior local knowledge and better access to firm-specific information. This informational advantage enables them to make more informed investment decisions. Vo (2017) analysed the Vietnamese stock market and found that domestic investors demonstrated better timing and stock selection skills than foreign investors. Their familiarity with local market conditions and regulatory environments contributes to their superior performance.

Stabilisation versus Volatility – Role of Foreign Investors.

There is growing evidence that foreign investors may contribute to either stabilisation or volatility in developed markets, depending on their behaviour and the market. A study found that higher levels of foreign ownership were associated with reduced stock market volatility, suggesting that foreign investors may act as stabilizing forces in mature markets (Zhao & Zhang, 2023). Conversely, during periods of macroeconomic uncertainty, foreign investors may exhibit herding or momentum-based strategies that can increase short-term price fluctuations (Choe et al., 1999). Further, Bouri et al. (2021) extended this finding to emerging markets. The findings suggest that both foreign and domestic investors exhibit herding behaviour, particularly during periods of market stress. This behaviour can exacerbate market volatility and lead to asset mispricing.

Environmental, Social, and Governance (ESG) Efficiency and Information Integration

Beyond performance metrics, Kim (2025) examined the effect of foreign ownership on ESG investment efficiency in South Korea. The study revealed that foreign investors play a significant role in enhancing the efficiency of ESG investments by mitigating overinvestment and promoting underinvestment in ESG activities. This effect was more pronounced in firms with lower information asymmetry, suggesting that foreign investors serve as more effective external monitors in transparent environments. Similarly, Bae et al. (2012) investigated the contributions of foreign versus domestic institutional investors to firm-specific information flow in emerging markets. The study found that increased trading intensity by both foreign and domestic institutional investors led to a significant decrease in stock price synchronicity. This indicates that these investors contribute to incorporating firm-specific information into stock prices, thereby enhancing market efficiency.

Mian and Mian (2023) explored the relationship between foreign institutional investment horizons and corporate investment efficiency in emerging markets. The study concluded that long-term foreign investors contribute positively to investment efficiency by promoting financial discipline and transparency within firms. In contrast, short-term speculative foreign flows may not yield the same efficiency gains.

Challenges in Frontier Market

Frontier markets present a unique setting in which structural limitations, such as information gaps, shallow liquidity, and regulatory opacity, hinder both foreign and local investor decision-making. A study by Theobald (2022) observed that while financial liberalisation attracts foreign capital, persistent frictions limit its efficiency-enhancing role.

Sri Lanka serves as a case study of these dynamics. Post-conflict, the Colombo Stock Exchange saw a sharp rise in foreign participation, with foreign trading volumes once exceeding 40% of turnover. However, this influence declined amid macroeconomic instability and the 2022 debt crisis. Simultaneously, local individual participation surged during the pandemic, driven by digital access and speculative fervor. In contrast, domestic institutions like the Employees Provident Fund (EPF) played a countercyclical role, helping stabilise the market during distress, while highlighting divergent behaviour across investor categories.

While global studies on developed, emerging, and frontier markets offer varied conclusions about the informational advantages and market influence of foreign and domestic investors, a unifying theme is that investor behavior is shaped by market structure, information accessibility, and macroeconomic context. In developed markets, foreign investors often benefit from superior information and infrastructure, but this advantage becomes less reliable in emerging and frontier settings, where local knowledge and contextual familiarity are more influential. Sri Lanka remains under-researched, especially concerning the long-run interaction between different investor categories and market performance.

Within this context, a handful of empirical studies have begun to examine these relationships. Samarakoon (2009), using daily trading data, found that foreign investors tend to engage in positive feedback trading, buying in rising markets, indicative of trend-following behaviour. Domestic investors, by contrast, often acted as contrarians, purchasing during market downturns. Building on this, Dharmarathna et al. (2022) employed a classification of investors into institutional and individual types, revealing that local individuals frequently exhibit herding behaviour during bull markets, whereas foreign institutions tend to be more cautious and reactive.

Despite increased participation by both foreign and local investors in Sri Lanka's capital market, few studies have applied time-series approaches to examine their long-run interdependencies. This study addresses that gap by employing Johansen cointegration and Vector Error Correction Model (VECM) techniques to assess whether investor segments, categorised by both origin and type, act as market leaders or followers.

Methodology

This study investigates whether domestic and foreign investor groups influence long-term market behaviour in the Sri Lankan stock market, using time-series econometric techniques. Building on insights from the literature, this methodology employs Johansen cointegration and Vector Error Correction Model (VECM) techniques to determine whether these investor categories act as market leaders or followers.

Investor flow levels and market price indices are typically non-stationary. When such series are cointegrated, ordinary VARs in differences lose information about the equilibrium relation, while level regressions risk spurious inference. The Johansen system approach is appropriate because it estimates the number of cointegrating vectors in a multivariate setting and treats all variables as potentially

endogenous. Further, this delivers a consistent vector error correction model representation that combines the long-run equilibrium with short-run Granger-causal dynamics and error-correction speeds. This is suited to disaggregated investor types interacting with prices where feedback and simultaneity are expected.

Monthly data for the CSE from January 1994 through March 2024 were collected, including the All Share Price Index (ASPI) and monthly purchase/sale values by foreign companies (P_FC), foreign individuals (P_FI), local companies (P_LC), and local individuals (P_LI), as well as the corresponding sales series (S_FC, S_FI, S_LC, S_LI). All series were transformed using natural logarithms prior to analysis to stabilise variance and enable interpretation of elasticities. Because data for April 2020 were missing (due to a COVID-19 market suspension), this month was removed from the analysis. Therefore, 362 observations were used for all variables.

Descriptive Analysis

Table 01: Descriptive Statistics of ASPI and Trading Activity by Investor Type

Index	ASPI	P_FC	P_FI	P_LC	P_LI	S_FC	S_FI	S_LC	S_LI
Count	362	362	362	362	362	362	362	362	362
Mean	7.82	21.12	18.73	21.68	21.54	21.18	18.56	21.62	21.62
Std	1.05	1.43	1.59	1.46	1.75	1.36	1.72	1.52	1.71
Min	6.00	17.34	14.49	18.04	17.71	17.15	13.76	17.46	18.02
25%	6.69	20.12	17.60	20.49	20.08	20.14	17.35	20.42	20.14
50%	7.87	21.29	19.03	21.83	21.86	21.27	18.81	21.83	21.94
75%	8.76	22.33	19.92	22.65	22.65	22.31	19.81	22.66	22.76
Max	9.47	24.44	21.79	24.84	25.52	24.28	22.31	24.89	25.42

Source: Survey Data

The All Share Price Index (ASPI) fluctuates between 6.00 and 9.47, with an average of 7.82, suggesting a relatively moderate spread over the observed period. The purchase and sale values for both foreign and local investors (P_FC, P_FI, P_LC, P_LI, etc.) exhibit similar means, around 21, but the variability is slightly higher for local investors. Specifically, the purchase value of foreign companies (P_FC) shows a narrower range of variation, with a standard deviation of 1.43, compared to the higher variability of 1.75 for the purchase value of local individuals (P_LI). This suggests that local individuals' purchase behaviour is more volatile over time than that of foreign companies.

Trend analysis and Correlation analysis using a heat map

Figure 01: Trend analysis

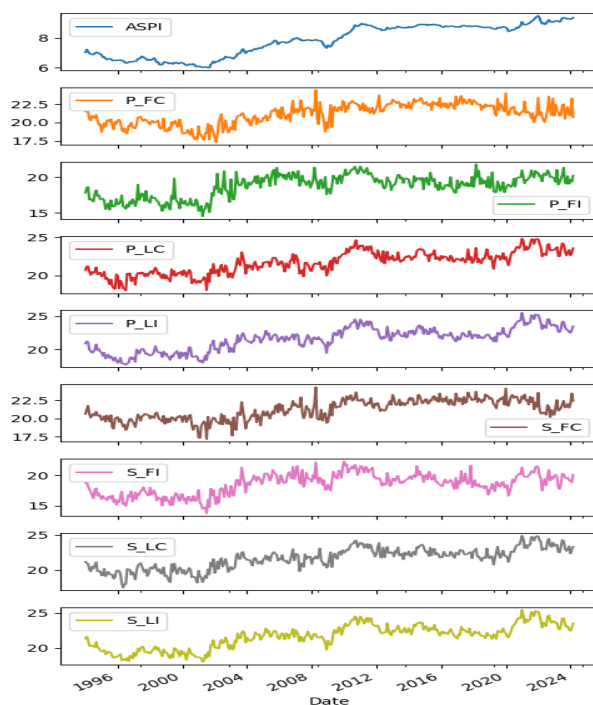
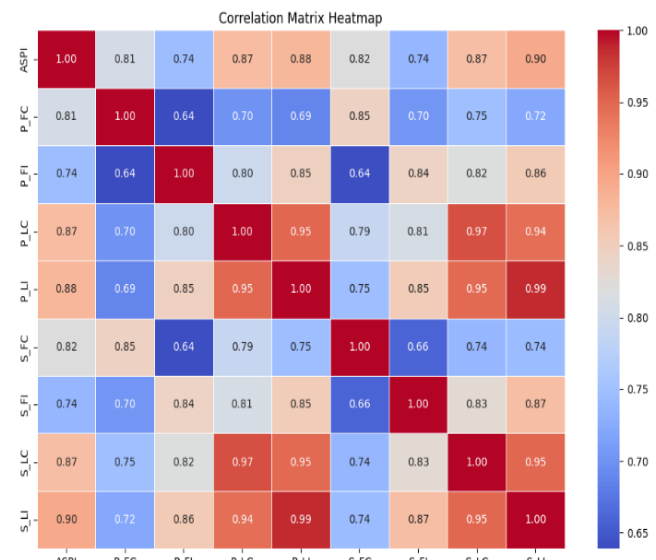


Figure 02: Correlation



Source: Survey Data

The time-series plots, combined with the correlation heatmap, reveal a compelling relationship between investor trading activity and the All Share Price Index (ASPI). Most notably, the ASPI shows a strong positive correlation with both the purchase and sale values of local investors, particularly local individuals (S_LI: 0.90, P_LI: 0.88) and local companies (P_LC & S_LC: 0.87). This suggests that local investor sentiment and behaviour are closely tied to market performance and are likely to act as key market drivers. In contrast, foreign investor activity, especially by individuals, shows relatively weaker correlations with the ASPI (P_FI: 0.74; S_FI: 0.74), suggesting a less direct influence. Furthermore, the strong intra-group correlations between purchases and sales across all investor types suggest that trading volume is consistently mirrored within each segment. Overall, the analysis underscores the dominant influence of local investors, particularly individuals, on market trends, making their activity a valuable indicator for forecasting ASPI movements.

Testing Stationary - Augmented Dickey–Fuller (ADF)

Each log-transformed series was then tested for stationarity using the Augmented Dickey–Fuller (ADF) test. The ADF test examines the null hypothesis of a unit root (nonstationary) in a time series; rejection of the null indicates stationarity.

Table 02: Augmented Dickey-Fuller (ADF) Unit Root Test Results for Level Series

Variable	ADF Statistic	ADF p-value
ASPI	-0.08967334	0.950457
P_FC	-1.458414246	0.553974
P_FI	-2.098742224	0.245021
P_LC	-1.565149344	0.501073
P_LI	-1.841510846	0.360056
S_FC	-1.433763167	0.565987
S_FI	-1.934454407	0.31603
S_LC	-1.610053868	0.477947
S_LI	-1.818159071	0.371484

Source: Survey Data

The reported Augmented Dickey-Fuller (ADF) test p-values indicate that all variables are non-stationary in levels, as none of the p-values are below the standard significance threshold of 0.05. For example, the p-value for ASPI is 0.950, and for other variables such as P_FC, P_LC, and S_FC, the p-values range from 0.24 to 0.57, all well above the 5% level. This implies that the null hypothesis of a unit root (non-stationarity) cannot be rejected for any of the variables in their level form. As a result, all series are considered non-stationary and require differencing.

First Differences and Testing Stationarity using Augmented Dickey-Fuller (ADF)

Table 03: Augmented Dickey-Fuller (ADF) Test Results for First-Differenced Series

Variable	ADF Statistic	p-value	Used Lag	Number of Observations	Critical Value (1%)	Critical Value (5%)	Critical Value (10%)	Stationary
ASPI	-16.6809	1.52E-29	0	360	-3.4486	-2.8696	-2.5711	Yes
P_FC	-9.56055	2.43E-16	8	352	-3.4491	-2.8698	-2.5712	Yes
P_FI	-14.4019	8.48E-27	3	357	-3.4488	-2.8697	-2.5711	Yes
P_LC	-11.3355	1.09E-20	5	355	-3.4489	-2.8697	-2.5711	Yes
P_LI	-5.03256	1.91E-05	12	348	-3.4493	-2.8699	-2.5712	Yes
S_FC	-9.23281	1.66E-15	8	352	-3.4491	-2.8698	-2.5712	Yes
S_FI	-11.5702	3.12E-21	5	355	-3.4489	-2.8697	-2.5711	Yes
S_LC	-12.0100	3.20E-22	5	355	-3.4489	-2.8697	-2.5711	Yes
S_LI	-4.95595	2.71E-05	12	348	-3.4493	-2.8699	-2.5712	Yes

Source: Survey Data

The results of the Augmented Dickey-Fuller (ADF) tests on the differenced series confirm that all variables are stationary at their first differences. Each variable's ADF statistic is significantly lower than the 1%, 5%, and 10% critical values, and all p-values are effectively zero ($p < 0.01$), indicating strong rejection of the null hypothesis of a unit root. This includes the ASPI, foreign and local investor purchase values (P_FC, P_FI, P_LC, P_LI), and sales values (S_FC, S_FI, S_LC, S_LI). These findings imply that, once differenced, the time series data do not contain stochastic trends and are

suitable for further analysis using models that assume stationarity. Importantly, this stationarity ensures that the correlations and dynamic relationships observed in earlier analyses are not spurious, reinforcing the robustness of the link between investor behavior and ASPI movements.

Granger causality tests

The Granger causality tests on the first-differenced series indicate a clear directional link from local sales to market returns, both local company sales (S_LC) ($p = 0.002$) and local individual sales (S_LI) ($p = 0.042$) significantly predict changes in the ASPI, whereas no other purchase or sales series, foreign or local, exhibit predictive power at the 5 percent level. Conversely, the ASPI itself Granger-causes all investor activity measures (P_FC, P_FI, P_LC, P_LI, S_FC, S_FI, S_LC, S_LI) with highly significant p-values, implying that price fluctuations more consistently drive trading values than trading values drive prices for most segments.

Johansen cointegration

Next, the Johansen cointegration test is done to determine whether a set of non-stationary time series shares one or more stable, long-run equilibrium relationships despite wandering individually in the short run.

Table 04: Johansen Cointegration Test Results (Trace and Max-Eigen Statistics)

Index	Trace Statistic	90% Critical Value	95% Critical Value	99% Critical Value
$r = 0$	721.244	190.8714	197.3772	210.0366
$r \leq 1$	559.423	153.6341	159.529	171.0905
$r \leq 2$	438.243	120.3673	125.6185	135.9825
$r \leq 3$	331.483	91.109	95.7542	104.9637
$r \leq 4$	229.018	65.8202	69.8189	77.8202
$r \leq 5$	149.63	44.4929	47.8545	54.6815
$r \leq 6$	72.1806	27.0669	29.7961	35.4628
$r \leq 7$	27.4536	13.4294	15.4943	19.9349
$r \leq 8$	0.12681	2.7055	3.8415	6.6349

Index	Max-Eigen Statistic	90% Critical Value	95% Critical Value	99% Critical Value
$r = 0$	161.821	55.2412	58.4332	64.996
$r \leq 1$	121.18	49.2855	52.3622	58.6634
$r \leq 2$	106.76	43.2947	46.2299	52.3069
$r \leq 3$	102.465	37.2786	40.0763	45.8662
$r \leq 4$	79.3875	31.2379	33.8777	39.3693
$r \leq 5$	77.4499	25.1236	27.5858	32.7172
$r \leq 6$	44.727	18.8928	21.1314	25.865

$r \leq 7$	27.3268	12.2971	14.2639	18.52
$r \leq 8$	0.12681	2.7055	3.8415	6.634

Source: Survey Data

Both the Johansen trace and maximum-eigenvalue tests converge on a cointegration rank of eight among the nine level series, the trace statistic rejects the null of at most r vectors up through $r = 7$ (e.g. trace = 27.45 > 15.49 at the 5 % level) but fails to reject at $r \leq 8$ (trace = 0.13 < 3.84), and the maximum-eigenvalue test similarly rejects at $r = 7$ ($\lambda_{\max} = 27.33 > 14.26$) yet not at $r \leq 8$ ($\lambda_{\max} = 0.13 < 3.84$). This agreement indicates eight long-run equilibrium relationships and, correspondingly, a single common stochastic trend governing all nine variables.

Vector Error Correction Model (VECM)

Table 05: VECM Lag Length Selection Based on AIC, BIC, FPE, and HQIC

VECM Order Selection (* highlights the minimums)				
	AIC	BIC	FPE	HQIC
0	-17.7	-16.61*	2.05E-08	-17.27*
1	-17.79	-15.81	1.89E-08	-17
2	-17.86	-14.99	1.75E-08	-16.72
3	-17.87*	-14.11	1.741e-08*	-16.38
4	-17.7	-13.04	2.09E-08	-15.85
5	-17.5	-11.96	2.57E-08	-15.3
6	-17.41	-10.98	2.85E-08	-14.85
7	-17.25	-9.923	3.42E-08	-14.33
8	-17.08	-8.867	4.13E-08	-13.81
9	-16.92	-7.817	5.00E-08	-13.3
10	-16.84	-6.837	5.68E-08	-12.86

*AIC (Akaike Information Criterion)

*BIC (Bayesian Information Criterion)

*FPE (Final Prediction Error)

*HQIC (Hannan–Quinn Information Criterion)

Lag order selection for the VECM model reveals differing preferences among the information criteria. The AIC and FPE, which are generally more accurate for assessing model fitness and forecast performance, both suggest using a lag order of 3. In contrast, BIC and HQIC, known for their conservative nature and more substantial penalties for model complexity, prefer a lag order of 0. However, since the VECM framework requires at least one lag to capture short-run dynamics among variables appropriately, and given that multiple criteria support lag 3, this becomes a well-justified and balanced choice. Therefore, a lag order of 3 is recommended

Table 06: Short-Run Coefficients and Deterministic Components in VECM - ASPI

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation ASPI

	coef	std err	z	P> z 	[0.025	0.975]
L1.ASPI	0.2258	0.07	3.236	0.001	0.089	0.363
L1.P_FC	0.01	0.01	1	0.317	-0.01	0.029
L1.P_FI	-0.0066	0.007	-1.005	0.315	-0.019	0.006
L1.P_LC	0.0104	0.019	0.56	0.575	-0.026	0.047
L1.P_LI	-0.002	0.02	-0.102	0.919	-0.04	0.036
L1.S_FC	-0.0074	0.01	-0.717	0.473	-0.028	0.013
L1.S_FI	0.0006	0.007	0.093	0.926	-0.013	0.014
L1.S_LC	-0.0033	0.018	-0.183	0.855	-0.038	0.032
L1.S_LI	-0.0224	0.022	-1.017	0.309	-0.066	0.021
L2.ASPI	-0.0186	0.072	-0.26	0.795	-0.159	0.122
L2.P_FC	0.0002	0.008	0.028	0.977	-0.016	0.017
L2.P_FI	0.0017	0.005	0.313	0.754	-0.009	0.012
L2.P_LC	0.0089	0.015	0.599	0.549	-0.02	0.038
L2.P_LI	-0.0114	0.016	-0.712	0.477	-0.043	0.02
L2.S_FC	-0.0122	0.009	-1.424	0.155	-0.029	0.005
L2.S_FI	0.0011	0.006	0.186	0.853	-0.01	0.012
L2.S_LC	0.0046	0.014	0.321	0.748	-0.023	0.032
L2.S_LI	0.0014	0.018	0.079	0.937	-0.033	0.036

Source: Survey Data

L1.ASPI (Lag 1 of ASPI) has a positive and significant effect (coef = 0.2258, p = 0.001), suggesting momentum in index movements. None of the lagged trading values (purchases or sales) from any investor group significantly impacts ASPI in the short run at the 5% level. This implies that investor transactions do not immediately influence ASPI, possibly due to market friction or delayed effects.

Table 07: Short-Run Coefficients and Deterministic Components in VECM – P_FC

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation P_FC						
	coef	std err	z	P> z 	[0.025	0.975]
L1.ASPI	2.7989	0.71	3.939	0	1.406	4.191
L1.P_FC	-0.3455	0.101	-3.407	0.001	-0.544	-0.147
L1.P_FI	-0.0811	0.067	-1.213	0.225	-0.212	0.05
L1.P_LC	-0.044	0.19	-0.232	0.817	-0.416	0.328
L1.P_LI	-0.0588	0.199	-0.295	0.768	-0.449	0.331
L1.S_FC	-0.0483	0.105	-0.46	0.646	-0.254	0.157
L1.S_FI	-0.2247	0.07	-3.19	0.001	-0.363	-0.087
L1.S_LC	0.2261	0.182	1.242	0.214	-0.131	0.583
L1.S_LI	0.2743	0.225	1.221	0.222	-0.166	0.715
L2.ASPI	0.3383	0.729	0.464	0.643	-1.09	1.767
L2.P_FC	-0.2203	0.085	-2.606	0.009	-0.386	-0.055
L2.P_FI	-0.0418	0.054	-0.775	0.438	-0.148	0.064

L2.P_LC	-0.0048	0.151	-0.032	0.974	-0.3	0.29
L2.P_LI	0.3183	0.163	1.957	0.05	0	0.637
L2.S_FC	-0.0388	0.087	-0.446	0.655	-0.209	0.132
L2.S_FI	-0.1715	0.059	-2.927	0.003	-0.286	-0.057
L2.S_LC	0.1589	0.145	1.096	0.273	-0.125	0.443
L2.S_LI	-0.0189	0.18	-0.105	0.916	-0.371	0.334

Source: Survey Data

L1.ASPI has a strong, positive, and significant impact (coef = 2.7989, $p = 0.000$), suggesting that foreign companies increase buying when the market index rises. L1.P_FC is significantly negative (coef = -0.3455, $p = 0.001$), indicating mean reversion—foreign companies reduce purchases if they bought heavily in the previous period. L1.S_FI (Sales by Foreign Individuals) negatively influences foreign company purchases (coef = -0.2247, $p = 0.001$), suggesting that foreign companies reduce purchases when foreign individuals are selling, perhaps reflecting negative sentiment. L2.P_LI (Purchases by Local Individuals) positively influences foreign company purchases (coef = 0.3183, $p = 0.050$), suggesting herding behaviour: foreign companies follow local individual purchases.

Table 08: Short-Run Coefficients and Deterministic Components in VECM – P_FI

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation P-FI						
	coef	std err	z	P> z 	[0.025	0.975]
L1.ASPI	2.2333	0.778	2.872	0.004	0.709	3.757
L1.P_FC	-0.1081	0.111	-0.975	0.33	-0.326	0.109
L1.P_FI	-0.3885	0.073	-5.311	0	-0.532	-0.245
L1.P_LC	0.0739	0.208	0.356	0.722	-0.333	0.481
L1.P_LI	-0.3297	0.218	-1.514	0.13	-0.757	0.097
L1.S_FC	0.0685	0.115	0.597	0.551	-0.156	0.294
L1.S_FI	0.0207	0.077	0.268	0.788	-0.13	0.172
L1.S_LC	0.004	0.199	0.02	0.984	-0.386	0.394
L1.S_LI	0.2837	0.246	1.153	0.249	-0.198	0.766
L2.ASPI	0.223	0.797	0.28	0.78	-1.34	1.786
L2.P_FC	-0.2376	0.093	-2.568	0.01	-0.419	-0.056
L2.P_FI	-0.2124	0.059	-3.599	0	-0.328	-0.097
L2.P_LC	-0.1066	0.165	-0.647	0.518	-0.43	0.216
L2.P_LI	-0.3785	0.178	-2.127	0.033	-0.727	-0.03
L2.S_FC	0.2139	0.095	2.247	0.025	0.027	0.401
L2.S_FI	-0.0128	0.064	-0.199	0.842	-0.138	0.113
L2.S_LC	0.2573	0.159	1.621	0.105	-0.054	0.568
L2.S_LI	0.2146	0.197	1.09	0.276	-0.171	0.6

Source: Survey Data

L1.ASPI again shows a positive and significant effect (coef = 2.2333, $p = 0.004$), suggesting rising markets attract foreign individual investors. L1 and L2 of P_FI are significantly negative, reflecting a strong mean-reverting pattern. L2.S_FC (Sales by Foreign Companies) has a positive impact (coef = 0.2139, $p = 0.025$), suggesting foreign individuals may buy when foreign companies are selling—possible contrarian behavior.

Table 09: Short-Run Coefficients and Deterministic Components in VECM – P_LC

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation P_LC						
	coef	std err	z	P> z	[0.025	0.975]
L1.ASPI	3.1597	0.567	5.572	0	2.048	4.271
L1.P_FC	-0.0088	0.081	-0.109	0.914	-0.167	0.15
L1.P_FI	-0.0628	0.053	-1.177	0.239	-0.167	0.042
L1.P_LC	-0.3249	0.152	-2.144	0.032	-0.622	-0.028
L1.P_LI	0.0216	0.159	0.136	0.892	-0.29	0.333
L1.S_FC	0.038	0.084	0.454	0.65	-0.126	0.202
L1.S_FI	-0.0122	0.056	-0.217	0.828	-0.122	0.098
L1.S_LC	0.196	0.145	1.349	0.177	-0.089	0.481
L1.S_LI	-0.1669	0.179	-0.93	0.352	-0.519	0.185
L2.ASPI	0.1175	0.582	0.202	0.84	-1.023	1.258
L2.P_FC	-0.0351	0.067	-0.52	0.603	-0.167	0.097
L2.P_FI	-0.0401	0.043	-0.932	0.351	-0.125	0.044
L2.P_LC	-0.1061	0.12	-0.883	0.377	-0.342	0.129
L2.P_LI	-0.0909	0.13	-0.7	0.484	-0.345	0.164
L2.S_FC	-0.0344	0.069	-0.496	0.62	-0.171	0.102
L2.S_FI	0.0398	0.047	0.852	0.394	-0.052	0.131
L2.S_LC	-0.0067	0.116	-0.058	0.954	-0.234	0.22
L2.S_LI	0.1058	0.144	0.737	0.461	-0.176	0.387

Source: Survey Data

L1.ASPI is highly significant and positive (coef = 3.1597, $p = 0.000$), indicating that local companies increase purchases when the index rises, possibly due to confidence in market direction. L1.P_LC is significantly negative (coef = -0.3249, $p = 0.032$), again showing corrective behavior.

Table 10: Short-Run Coefficients and Deterministic Components in VECM – P_LI

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation P_LI						
	coef	std err	z	P> z	[0.025	0.975]
L1.ASPI	2.6991	0.527	5.123	0	1.666	3.732
L1.P_FC	0.075	0.075	0.997	0.319	-0.072	0.222
L1.P_FI	-0.1208	0.05	-2.438	0.015	-0.218	-0.024
L1.P_LC	-0.1206	0.141	-0.857	0.392	-0.397	0.155
L1.P_LI	-0.1543	0.148	-1.045	0.296	-0.444	0.135

L1.S_FC	-0.0662	0.078	-0.851	0.395	-0.219	0.086
L1.S_FI	0.0337	0.052	0.645	0.519	-0.069	0.136
L1.S_LC	-0.0463	0.135	-0.343	0.732	-0.311	0.218
L1.S_LI	0.0089	0.167	0.054	0.957	-0.318	0.336
L2.ASPI	-0.3722	0.54	-0.689	0.491	-1.431	0.687
L2.P_FC	-0.0249	0.063	-0.398	0.691	-0.148	0.098
L2.P_FI	-0.0756	0.04	-1.889	0.059	-0.154	0.003
L2.P_LC	0.0134	0.112	0.12	0.905	-0.205	0.232
L2.P_LI	-0.1597	0.121	-1.324	0.186	-0.396	0.077
L2.S_FC	-0.0798	0.065	-1.237	0.216	-0.206	0.047
L2.S_FI	0.0517	0.043	1.19	0.234	-0.033	0.137
L2.S_LC	-0.0341	0.108	-0.317	0.751	-0.245	0.177
L2.S_LI	0.1372	0.133	1.028	0.304	-0.124	0.399

Source: Survey Data

L1.ASPI is significant and positive (coef = 2.6991, $p = 0.000$), indicating that local individuals also respond to a rising index by increasing purchases. L1.P_FI (Purchases by Foreign Individuals) negatively impacts local individual purchases (coef = -0.1208, $p = 0.015$), suggesting local individuals may avoid buying when foreign individuals are already active buyers—possibly due to perceived market saturation or overvaluation.

Table 11: Short-Run Coefficients and Deterministic Components in VECM – S_FC

Deterministic terms outside the cointegrating relation and Lagged endogenous parameters for equation S_FC						
	coef	std err	z	P> z	[0.025	0.975]
L1.ASPI	2.6699	0.677	3.946	0	1.344	3.996
L1.P_FC	-0.2102	0.097	-2.177	0.029	-0.4	-0.021
L1.P_FI	-0.063	0.064	-0.99	0.322	-0.188	0.062
L1.P_LC	-0.1176	0.181	-0.651	0.515	-0.472	0.237
L1.P_LI	-0.0019	0.19	-0.01	0.992	-0.373	0.37
L1.S_FC	-0.1557	0.1	-1.558	0.119	-0.352	0.04
L1.S_FI	-0.1202	0.067	-1.792	0.073	-0.252	0.011
L1.S_LC	0.0885	0.173	0.51	0.61	-0.251	0.428
L1.S_LI	0.1581	0.214	0.739	0.46	-0.261	0.578
L2.ASPI	0.8378	0.694	1.207	0.227	-0.522	2.198
L2.P_FC	-0.1803	0.081	-2.239	0.025	-0.338	-0.022
L2.P_FI	-0.0811	0.051	-1.579	0.114	-0.182	0.02
L2.P_LC	-0.1452	0.143	-1.013	0.311	-0.426	0.136
L2.P_LI	0.2052	0.155	1.325	0.185	-0.098	0.509
L2.S_FC	-0.0791	0.083	-0.954	0.34	-0.241	0.083
L2.S_FI	-0.0143	0.056	-0.256	0.798	-0.124	0.095
L2.S_LC	0.0483	0.138	0.35	0.727	-0.222	0.319
L2.S_LI	0.0955	0.171	0.557	0.577	-0.24	0.431

Source: Survey Data

L1.ASPI is positive and significant (coef = 2.6699, $p = 0.000$), indicating that foreign companies sell into strength, possibly due to profit-taking after index gains. Own lagged purchases (L1 and L2 of P_FC) have significant negative effects, indicating that foreign companies reduce sales following high past purchases, possibly due to inventory constraints or portfolio balancing.

Table 12: Short-Run Coefficients and Deterministic Components in VECM – S_FI

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation S_FI						
	coef	std err	z	P> z	[0.025	0.975]
L1.ASPI	3.9341	0.799	4.926	0	2.369	5.499
L1.P_FC	0.0634	0.114	0.556	0.578	-0.16	0.287
L1.P_FI	-0.1927	0.075	-2.565	0.01	-0.34	-0.045
L1.P_LC	0.1539	0.213	0.721	0.471	-0.264	0.572
L1.P_LI	0.2134	0.224	0.954	0.34	-0.225	0.652
L1.S_FC	-0.0424	0.118	-0.36	0.719	-0.274	0.189
L1.S_FI	-0.412	0.079	-5.203	0	-0.567	-0.257
L1.S_LC	-0.1113	0.205	-0.544	0.586	-0.512	0.29
L1.S_LI	-0.0279	0.253	-0.11	0.912	-0.523	0.467
L2.ASPI	-1.4116	0.819	-1.723	0.085	-3.017	0.194
L2.P_FC	0.0047	0.095	0.049	0.961	-0.182	0.191
L2.P_FI	-0.1394	0.061	-2.3	0.021	-0.258	-0.021
L2.P_LC	0.1595	0.169	0.942	0.346	-0.172	0.491
L2.P_LI	-0.1708	0.183	-0.934	0.35	-0.529	0.188
L2.S_FC	0.0266	0.098	0.272	0.785	-0.165	0.218
L2.S_FI	-0.22	0.066	-3.34	0.001	-0.349	-0.091
L2.S_LC	-0.1541	0.163	-0.945	0.344	-0.474	0.165
L2.S_LI	0.3097	0.202	1.531	0.126	-0.087	0.706

Source: Survey Data

L1.ASPI again has a strong positive effect (coef = 3.9341, $p = 0.000$), meaning foreign individuals also sell more during bullish periods. L1.S_FI is strongly negative (coef = -0.412, $p = 0.000$), showing self-correcting sales patterns among foreign individuals.

Table 13: Short-Run Coefficients and Deterministic Components in VECM – S_LC

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation S_LC						
	coef	std err	z	P> z	[0.025	0.975]
L1.ASPI	3.3527	0.605	5.54	0	2.167	4.539
L1.P_FC	0.0079	0.086	0.092	0.927	-0.161	0.177
L1.P_FI	-0.0529	0.057	-0.929	0.353	-0.164	0.059
L1.P_LC	-0.0953	0.162	-0.589	0.556	-0.412	0.222
L1.P_LI	-0.0724	0.17	-0.427	0.669	-0.405	0.26
L1.S_FC	-0.0173	0.089	-0.194	0.847	-0.192	0.158

L1.S_FI	-0.0684	0.06	-1.14	0.254	-0.186	0.049
L1.S_LC	0.0677	0.155	0.436	0.662	-0.236	0.371
L1.S_LI	-0.0899	0.191	-0.47	0.639	-0.465	0.285
L2.ASPI	-0.3785	0.621	-0.61	0.542	-1.595	0.838
L2.P_FC	-0.0159	0.072	-0.22	0.826	-0.157	0.125
L2.P_FI	-0.0281	0.046	-0.611	0.541	-0.118	0.062
L2.P_LC	0.0684	0.128	0.533	0.594	-0.183	0.32
L2.P_LI	-0.0229	0.139	-0.165	0.869	-0.294	0.249
L2.S_FC	-0.0937	0.074	-1.264	0.206	-0.239	0.052
L2.S_FI	-0.0364	0.05	-0.73	0.466	-0.134	0.061
L2.S_LC	-0.05	0.124	-0.405	0.686	-0.292	0.192
L2.S_LI	0.0897	0.153	0.585	0.558	-0.211	0.39

Source: Survey Data

L1.ASPI is significant and positive (coef = 3.4078, $p = 0.000$), suggesting that local companies also increase sales in rising markets, likely realising gains. L1.P_LC (Purchase by Local Companies) negatively influences their sales (coef = -0.1502, $p = 0.000$), indicating a strategic balance between buying and selling behaviour.

Table 14: Short-Run Coefficients and Deterministic Components in VECM – S_LI

Deterministic terms outside the cointegrating relation and lagged endogenous parameters for equation S_LI						
	coef	std err	z	P> z	[0.025	0.975]
L1.ASPI	2.872	0.48	5.981	0	1.931	3.813
L1.P_FC	0.0994	0.069	1.45	0.147	-0.035	0.234
L1.P_FI	-0.062	0.045	-1.373	0.17	-0.151	0.027
L1.P_LC	-0.0106	0.128	-0.082	0.934	-0.262	0.241
L1.P_LI	-0.0848	0.135	-0.63	0.529	-0.348	0.179
L1.S_FC	-0.0836	0.071	-1.179	0.238	-0.223	0.055
L1.S_FI	-0.0289	0.048	-0.606	0.544	-0.122	0.064
L1.S_LC	-0.0583	0.123	-0.474	0.635	-0.299	0.183
L1.S_LI	-0.1495	0.152	-0.984	0.325	-0.447	0.148
L2.ASPI	-0.5336	0.493	-1.083	0.279	-1.499	0.432
L2.P_FC	-0.0067	0.057	-0.118	0.906	-0.119	0.105
L2.P_FI	-0.024	0.036	-0.658	0.511	-0.095	0.047
L2.P_LC	0.0322	0.102	0.316	0.752	-0.167	0.232
L2.P_LI	-0.1546	0.11	-1.406	0.16	-0.37	0.061
L2.S_FC	-0.0542	0.059	-0.922	0.357	-0.169	0.061
L2.S_FI	0.0213	0.04	0.538	0.591	-0.056	0.099
L2.S_LC	-0.0089	0.098	-0.091	0.928	-0.201	0.183
L2.S_LI	0.0406	0.122	0.334	0.738	-0.198	0.279

Source: Survey Data

L1.ASPI shows a consistent, positive, and significant effect (coef = 3.5688, $p = 0.000$), suggesting that local individuals sell more as markets rise—perhaps a behavioural response to capture gains. L1.P_FI (Purchases by Foreign Individuals) negatively impacts local individual sales (coef = -0.1544, $p = 0.022$), possibly indicating that foreign buying discourages local individuals from selling, perhaps because they expect further price increases.

Overall, the All Share Price Index (ASPI) positively influences both purchase and sale activities across all investor types. This suggests that rising markets encourage both momentum-driven buying and profit-taking selling, indicating dynamic, reactive trading strategies. Furthermore, a strong mean-reverting pattern is observed in purchase and sales data, implying that investors frequently reverse their positions in subsequent periods—likely reflecting portfolio rebalancing or reaction to short-term market signals. Interaction between different investor groups is also evident; for instance, foreign companies appear to adjust their buying activity in response to the selling behavior of foreign individuals. This points to a degree of mutual observation and response among market participants. Lastly, there are signs of both contrarian and herding behaviour in the market—some investors act in the opposite direction (buying when others sell), while others tend to follow the trading patterns of their peers, such as foreign companies aligning with the trades of local investors. These patterns reflect a complex and behaviorally driven market environment.

Table 15: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the ASPI

Loading coefficients (alpha) for equation ASPI						
	coef	std err	z	P> z	[0.025	0.975]
ec1	-0.0039	0.012	-0.321	0.748	-0.028	0.02
ec2	-0.013	0.011	-1.236	0.216	-0.034	0.008
ec3	0.0092	0.007	1.399	0.162	-0.004	0.022
ec4	-0.0248	0.020	-1.242	0.214	-0.064	0.014
ec5	0.0168	0.022	0.777	0.437	-0.026	0.059
ec6	0.0109	0.011	1.03	0.303	-0.01	0.032
ec7	-0.0032	0.007	-0.448	0.654	-0.017	0.011
ec8	0.0342	0.020	1.724	0.085	-0.005	0.073

Source: Survey Data

ASPI does not significantly adjust to correct disequilibria from any of the cointegrating vectors. In the short run, ASPI appears to be weakly exogenous to long-run disequilibria. It does not actively react to deviations from long-run relationships.

Table 16: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the P_FC

Loading coefficients (alpha) for equation P_FC						
	coef	std err	z	P> z	[0.025	0.975]
ec1	0.8437	0.124	6.796	0	0.6	1.087

ec2	-0.4182	0.107	-3.902	0	-0.628	-0.208
ec3	0.1556	0.067	2.329	0.02	0.025	0.287
ec4	0.0618	0.203	0.304	0.761	-0.337	0.461
ec5	-0.0016	0.22	-0.007	0.994	-0.433	0.43
ec6	-0.0254	0.108	-0.236	0.814	-0.236	0.186
ec7	0.1033	0.073	1.415	0.157	-0.04	0.246
ec8	-0.1266	0.202	-0.627	0.53	-0.522	0.269

Source: Survey Data

Foreign company purchases (P_FC) exhibit significant responsiveness to long-run disequilibrium conditions, particularly in the first three cointegrating relationships. The error correction term associated with the first equation (ec1) has a substantial and statistically significant positive coefficient (0.8437, $p = 0.000$), indicating that foreign companies increase their purchases when there is under-purchasing relative to the long-run equilibrium. This suggests a corrective mechanism aimed at restoring balance. Similarly, ec2 shows a significant negative adjustment (-0.4182, $p = 0.000$), indicating that foreign companies reduce their purchases when overpurchasing relative to equilibrium conditions. The third term (ec3) also shows a significant, albeit smaller, positive adjustment (0.1556, $p = 0.020$), further confirming their sensitivity to system misalignments. However, adjustments to disequilibria in ec4 through ec8 are not statistically significant, indicating that foreign companies do not respond meaningfully to those particular long-run relationships. Overall, this behaviour suggests that foreign institutional investors actively monitor and respond to specific long-term market imbalances.

Table 17: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the P_FI

Loading coefficients (alpha) for equation P_FI						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.2321	0.136	1.708	0.088	-0.034	0.498
ec2	0.057	0.117	0.486	0.627	-0.173	0.287
ec3	-0.3791	0.073	-5.186	0	-0.522	-0.236
ec4	-0.1809	0.223	-0.812	0.417	-0.617	0.255
ec5	0.559	0.241	2.322	0.02	0.087	1.031
ec6	-0.1269	0.118	-1.077	0.281	-0.358	0.104
ec7	0.1715	0.08	2.148	0.032	0.015	0.328
ec8	0.1589	0.221	0.72	0.472	-0.274	0.592

Source: Survey Data

Foreign Individuals' Purchases (P_FI) show active responsiveness to selected long-run imbalances. The strongest adjustment is observed in ec3, with a significant negative coefficient (-0.3791, $p = 0.000$), indicating a stabilising correction. A positive and significant adjustment to ec5 (0.559, $p = 0.020$) suggests possible overreaction to disequilibrium, while ec7 shows a milder but significant positive response (0.1715, $p = 0.032$). No significant adjustments are observed in other vectors, implying a selective correction strategy by foreign individuals.

Table 18: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the P_LC

Loading coefficients (alpha) for equation P_LC						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.4239	0.099	4.278	0	0.23	0.618
ec2	-0.0259	0.086	-0.303	0.762	-0.194	0.142
ec3	0.0273	0.053	0.513	0.608	-0.077	0.132
ec4	-0.3952	0.162	-2.434	0.015	-0.714	-0.077
ec5	0.1813	0.176	1.033	0.302	-0.163	0.526
ec6	-0.072	0.086	-0.838	0.402	-0.24	0.096
ec7	-0.0489	0.058	-0.839	0.401	-0.163	0.065
ec8	-0.1676	0.161	-1.041	0.298	-0.483	0.148

Source: Survey Data

Local Companies' Purchases (P_LC) also reflect targeted long-run correction. A significant positive adjustment to ec1 (0.4239, $p = 0.000$) shows an increase in purchases when under-purchasing occurs relative to equilibrium. Conversely, a significant negative adjustment to ec4 (-0.3952, $p = 0.015$) implies reduced purchases in response to over-purchasing. These patterns highlight the strategic balancing role of local companies in correcting market misalignments.

Table 19: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the P_LI

Loading coefficients (alpha) for equation P_LI						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.2705	0.092	2.937	0.003	0.09	0.451
ec2	-0.0917	0.079	-1.153	0.249	-0.247	0.064
ec3	0.0822	0.05	1.659	0.097	-0.015	0.179
ec4	0.1462	0.151	0.969	0.333	-0.15	0.442
ec5	-0.3877	0.163	-2.377	0.017	-0.708	-0.068
ec6	-0.0017	0.08	-0.022	0.983	-0.158	0.155
ec7	-0.0047	0.054	-0.087	0.931	-0.111	0.101
ec8	0.1115	0.15	0.745	0.456	-0.182	0.405

Source: Survey Data

Local Individuals' Purchases (P_LI) demonstrate correction behavior primarily with respect to ec1 and ec5. A significant positive response to ec1 (0.2705, $p = 0.003$) indicates increased purchases to counteract disequilibrium, while a significant negative response to ec5 (-0.3877, $p = 0.017$) reflects a corrective reduction in purchases when excess buying occurs. The absence of significance in other vectors suggests limited engagement with broader equilibrium relationships.

Table 20: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the S_FC

Loading coefficients (alpha) for equation S_FC						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.6654	0.118	5.627	0	0.434	0.897

ec2	0.1578	0.102	1.545	0.122	-0.042	0.358
ec3	0.0273	0.064	0.43	0.668	-0.097	0.152
ec4	0.2828	0.194	1.46	0.144	-0.097	0.663
ec5	0.1412	0.21	0.674	0.5	-0.269	0.552
ec6	-0.5748	0.103	-5.607	0	-0.776	-0.374
ec7	0.0468	0.07	0.673	0.501	-0.089	0.183
ec8	-0.0621	0.192	-0.323	0.747	-0.439	0.315

Source: Survey Data

Foreign Companies' Sales (S_FC) function as a robust mechanism for restoring equilibrium. A substantial and highly significant positive adjustment to ec1 (0.6654, $p = 0.000$) suggests increased sales in response to under-selling relative to the long-run trend. In contrast, a significant negative adjustment to ec6 (-0.5748, $p = 0.000$) indicates a corrective decrease in sales following overselling. These patterns reinforce their key role in market stabilization through sales.

Table 21: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the S_FI

Loading coefficients (alpha) for equation S_FI						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.0733	0.14	0.525	0.599	-0.2	0.347
ec2	-0.0258	0.12	-0.214	0.831	-0.262	0.21
ec3	0.2272	0.075	3.025	0.002	0.08	0.374
ec4	-0.3552	0.229	-1.553	0.12	-0.803	0.093
ec5	0.0223	0.247	0.09	0.928	-0.462	0.507
ec6	0.0535	0.121	0.442	0.659	-0.184	0.291
ec7	-0.3809	0.082	-4.644	0	-0.542	-0.22
ec8	0.2787	0.227	1.229	0.219	-0.166	0.723

Source: Survey Data

Foreign Individuals' Sales (S_FI) also adjust meaningfully to disequilibria. A significant positive response to ec3 (0.2272, $p = 0.002$) indicates increased sales under corrective conditions, while a substantial and significant negative adjustment to ec7 (-0.3809, $p = 0.000$) reflects a reduction in sales when excessive selling is observed. This highlights their dynamic behavior in addressing long-run deviations.

Table 22: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the S_LC

Loading coefficients (alpha) for equation S_LC						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.4531	0.106	4.285	0	0.246	0.66
ec2	-0.0684	0.091	-0.75	0.453	-0.247	0.11
ec3	0.0379	0.057	0.666	0.506	-0.074	0.149
ec4	0.1092	0.173	0.63	0.528	-0.23	0.449
ec5	0.0929	0.187	0.496	0.62	-0.274	0.46
ec6	-0.0408	0.092	-0.445	0.656	-0.22	0.139
ec7	-0.0149	0.062	-0.24	0.811	-0.137	0.107

ec8	-0.7338	0.172	-4.269	0	-1.071	-0.397
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Source: Survey Data

Local Companies' Sales (S_{LC}) exhibit vigorous correction activity. A significant positive adjustment to ec1 (0.4531, $p = 0.000$) suggests increased sales during periods of under-selling, while a powerful negative correction to ec8 (-0.7338, $p = 0.000$) indicates sales reduction during overselling phases. These patterns confirm local companies as proactive contributors to long-run equilibrium maintenance.

Table 23: Adjustment Speeds to Long-Run Equilibrium: Loading Coefficients (α) for the S_{LI}

Loading coefficients (alpha) for equation S _{LI}						
	coef	std err	z	P> z 	[0.025	0.975]
ec1	0.2882	0.084	3.434	0.001	0.124	0.453
ec2	-0.0733	0.072	-1.012	0.312	-0.215	0.069
ec3	0.0811	0.045	1.795	0.073	-0.007	0.17
ec4	-0.0136	0.137	-0.099	0.921	-0.283	0.256
ec5	0.2765	0.149	1.86	0.063	-0.015	0.568
ec6	0.0138	0.073	0.19	0.849	-0.129	0.156
ec7	0.0197	0.049	0.4	0.689	-0.077	0.116
ec8	0.1522	0.136	1.116	0.264	-0.115	0.42

Source: Survey Data

Local Individuals' Sales (S_{LI}) show limited but noteworthy responsiveness. The significant positive coefficient for ec1 (0.2882, $p = 0.001$) suggests increased sales in response to under-selling, while ec5 is nearly significant (0.2765, $p = 0.063$), pointing to a possible but uncertain adjustment. The lack of significant responses elsewhere suggests that local individuals are relatively passive in correcting disequilibrium through sales.

Table 24: Estimated Cointegrating Vectors (β) from the VECM Model

Variable	β (col 1)	β (col 2)	β (col 3)	β (col 4)	β (col 5)	β (col 6)	β (col 7)
ASPI	1	1.23E-16	4.66E-17	1.61E-16	2.61E-17	9.29E-17	4.39E-17
P _{FC}	8.94E-17	1	-1.14E-16	7.76E-18	1.31E-17	1.98E-16	1.52E-18
P _{FI}	-5.15E-17	7.48E-17	1	4.18E-17	-3.41E-17	1.70E-16	-1.03E-17
P _{LC}	-3.92E-17	-2.58E-17	-2.01E-16	1	-1.15E-17	-2.80E-17	8.94E-17
P _{LI}	2.55E-17	2.23E-17	-1.37E-16	8.89E-17	1	6.19E-18	-9.85E-17
S _{FC}	6.43E-17	-4.59E-17	1.27E-16	4.12E-17	2.24E-17	1	4.01E-17
S _{FI}	3.76E-17	1.24E-16	-5.38E-17	-5.22E-18	-1.88E-17	-1.39E-16	1
S _{LC}	-1.02E-16	5.65E-17	3.74E-17	1.41E-17	3.06E-17	-7.43E-18	-5.55E-17
S _{LI}	-0.7588	-0.8357	-0.7306	-0.856	-1.0097	-0.8182	-0.7636
Const	-2.0436	-0.9505	0.8681	-1.2146	0.1582	-1.1465	1.3134

The cointegration analysis reveals that each vector is normalized to 1 for a different variable, indicating that a long-run combination of the remaining variables is explaining the selected variable in

each column. Among all variables, sales by local individuals (S_LI) consistently exhibit negative, relatively large coefficients across all cointegration relations, highlighting their dominant and statistically significant role in the long-term equilibrium relationships. In contrast, the coefficients of the other variables—excluding the normalized one and S_LI are virtually negligible (on the order of $1e-17$), suggesting a weak long-run influence. Additionally, the constants differ across vectors, reflecting variation in long-run mean levels of the cointegrating relationships. Overall, the beta structure clearly indicates that S_LI is the most influential variable in maintaining long-run equilibrium among the trading-related variables. The purchase values and other sales values appear to be indirectly cointegrated through their relationship with ASPI and S_LI, rather than contributing independently. This underscores the conclusion that the sales behaviour of local individuals is the most significant anchor for the long-run dynamics of the ASPI and the broader market trading flows.

Results and Discussion

The empirical findings highlight the critical role played by local investor segments, particularly local individuals, in driving long-run equilibrium in the Sri Lankan stock market. The VECM results indicate that ASPI significantly influences the trading activity of all investor categories, underscoring its role as a leading indicator. However, short-run causality from investor activity to ASPI was weak across most segments, suggesting a reactive rather than proactive role for traders in the immediate term.

Sales by local individuals (S_LI) emerged as the most influential variable in the long-term cointegration structure. This supports the arguments of Theobald (2022) and S&P Global (2024) that individual investors dominate trading in frontier markets, often driven by sentiment and herding. These results align with findings in Vietnam by Vo (2017), who showed that local investors exhibit stronger timing and trend-following behaviour than foreign participants.

Compared with Sri Lankan studies, the results both affirm and extend earlier conclusions. Samarakoon (2009) found that foreign investors in Sri Lanka typically exhibit trend-following behaviour, buying more during rising markets, while domestic investors behave contrarily. The present study adds that, in the long run, sales by local individuals are cointegrated with ASPI, indicating structural leadership rather than just contrarianism.

Similarly, Dharmarathna et al. (2022) found that local individuals' herd during bullish trends, and foreign institutions are reactive but conservative. Their use of VECM and daily data captured short-run interdependence. In contrast, this study uses monthly data spanning 30 years, offering a broader long-term perspective. The cointegration results here show that ASPI does not adjust to disequilibrium, consistent with its exogeneity, while foreign and local institutions adjust, supporting the idea of passive long-run behavior among foreigners.

Furthermore, the finding that foreign investors do not Granger-cause ASPI contradicts international evidence from Grinblatt and Keloharju (2000) and Froot and Ramadorai (2008), which attribute informational advantages to foreign investors. Instead, the results align more closely with Brennan and

Cao (1997)'s hypothesis that foreign participants may behave as trend followers in informationally constrained environments.

Overall, the findings provide strong evidence that local individual investor behaviour, especially sales by local individuals, anchors long-term market movements in Sri Lanka. These results both reinforce and extend prior literature on frontier-market investor dynamics by showing that sentiment-driven behaviour, rather than informational efficiency, often dictates price formation in such contexts.

Conclusion

Spanning a 30-year monthly dataset from January 1994 to March 2024, this study examined the dynamic interactions between investor types and market performance in the Sri Lankan capital market using Johansen cointegration and VECM frameworks. The results reveal that among all investor groups, the sales activity of local individual investors plays the most consistent and statistically significant role in predicting and adjusting to long-run market dynamics. In contrast, foreign institutional investors respond to deviations from equilibrium but tend to follow rather than lead market shifts in the short run. The All Share Price Index (ASPI), while influencing nearly all trading behaviors, appears weakly exogenous to long-term misalignments, suggesting its dominance in shaping expectations.

These insights reinforce the pivotal role of local individual participants in a frontier market setting and offer valuable direction for future regulatory and policy interventions. Specifically, there is a need to enhance investor education and transparency frameworks to mitigate speculative risks. Furthermore, the findings contribute to a more granular understanding of investor segmentation and provide a robust empirical basis for examining how market structures shape investor influence over time.

Implications

For Policymakers and Market Regulators

The significant role of local individual investors in influencing long-term market dynamics underscores the necessity for policies that enhance investor education and financial literacy. By implementing programs to improve the financial literacy of individual investors, policymakers can promote more informed decision-making, potentially reducing the prevalence of sentiment-driven trading and herding behaviour. Additionally, ensuring transparency and stability in the regulatory framework can bolster investor confidence and attract more proactive participation from both local and foreign investors.

For Investors

Understanding the reactive nature of foreign institutional investors and the dominant influence of local individual investors can inform investment strategies. Investors may consider the behavioral patterns of different market participants when making decisions, potentially leveraging the predictability of individual investor behavior to identify market trends. Moreover, recognizing the limited short-term impact of foreign investors on the ASPI suggests that local market dynamics play a more critical role in shaping immediate market movements.

For Academics and Researchers

This study contributes to the growing body of literature on investor behavior in frontier markets, particularly in the context of Sri Lanka. The application of Johansen cointegration and VECM frameworks provides a methodological foundation for future research exploring the long-run relationships between different investor categories and market performance. Furthermore, the findings highlight the need for more detailed studies that consider heterogeneity within investor groups, such as differentiating between speculative and institutional foreign investors, or between individual and high-net-worth local investors.

Limitations and Future Research

While this study offers robust insights into the interplay between investor behavior and market dynamics, several limitations should be acknowledged. First, the analysis is based on monthly data, which may obscure short-term fluctuations and intraday market movements that could offer further insight into investor responsiveness. Second, the study primarily focuses on trading value as a proxy for investor behavior without directly incorporating investor sentiment or macroeconomic news shocks, which can significantly influence trading decisions. Third, the classification of investors into four broad categories does not capture potential heterogeneity within each group, such as between speculative and institutional foreign investors or between individual and high-net-worth local investors.

Future research could benefit from integrating high-frequency data, sentiment indices derived from financial news and social media, or firm-level fundamentals to better capture the dynamics of market reactions. Comparative studies across frontier markets or between crisis and non-crisis periods could also provide valuable context for understanding investor dynamics. Moreover, extending the analysis to assess the role of regulatory reforms, capital control adjustments, and technological advancements in trading could offer richer policy insights for market development.

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