Journal of *Risk and Financial Management*

MDPI

Article

Chinese vs. US Stock Market Transmission to Australasia, Hong Kong, and the ASEAN Group †

Richard C. K. Burdekin [1,*] and Ran Tao [2]

[1] Robert Day School of Economics & Finance, Claremont McKenna College, 500 E. Ninth Street, Claremont, CA 91711, USA
[2] Department of Economics Business and Finance, Lake Forest College, 555 North Sheridan Road, Lake Forest, IL 60045, USA; ntao@lakeforest.edu
* Correspondence: rburdekin@cmc.edu; Tel.: +1-(909)-607-2884; Fax: +1-(909)-621-8249
† Earlier versions of this paper were presented at the 2024 Economic Society of Australia meetings in Adelaide, South Australia, July 10–12, and at the 2023 Western Economic Association meetings in San Diego, California, July 2–6.

Abstract: This study seeks to quantify the rising financial linkages between mainland China, Australia, Hong Kong, New Zealand, and the six largest Association of Southeast Asian Nations (ASEAN group). Stock market co-movements would be consistent with growing trade ties. Our sample runs from 2010 through 2022, including the coronavirus pandemic. Markov switching analysis allows for changing effects as we move from periods of low market volatility to periods of high volatility. The results offer support for the premise that growing trade and investment ties between China, Australasia, Hong Kong, and the ASEAN region have been accompanied by significant financial market integration, as reflected in stock market co-movement. US effects are also significant and tend to be stronger during high-volatility episodes. Under low-volatility conditions, Shanghai effects become more important and are significant for all six ASEAN group countries.

Keywords: stock markets; international transmission; Australasia; ASEAN; China; Markov switching; F42; F36

check for updates

Academic Editor: Thanasis Stengos

Received: 20 February 2025
Revised: 12 March 2025
Accepted: 15 March 2025
Published: 18 March 2025

Citation: Burdekin, R. C. K., & Tao, R. (2025). Chinese vs. US Stock Market Transmission to Australasia, Hong Kong, and the ASEAN Group. *Journal of Risk and Financial Management*, *18*(3), 162. https://doi.org/10.3390/jrfm18030162

> On trade and economic cooperation, China continues to be ASEAN's largest trading partner since 2009 and we became each other's top trading partner for the first time in 2020. We commend China's commitment to long-term prosperity, including in promoting ASEAN-China Sustainable Development Cooperation and being the first Dialogue Partner to have ratified the Regional Comprehensive Economic Partnership (RCEP).
>
> (Bolkiah, 2021)

1. Introduction

This paper quantifies the extent to which rising trade and monetary connections have been accompanied by financial connections between the Shanghai Stock Exchange, Australia, Hong Kong, New Zealand, and leading ASEAN stock markets. A series of free trade agreements has bolstered China's growing trade links with both the ASEAN group (Association of Southeast Asian Nations) and Australasia. Building upon the initial launch of the ASEAN–China Free Trade Agreement in 2005, China supplanted the United States and Japan as ASEAN's leading trade partner. Meanwhile, the December 2015 China–Australia Free Trade Agreement added to an existing trend under which China became Australia's most important export market by 2009. Verevis and Üngör (2021) estimate that New Zealand exports to China in 2013 and 2014 had received a more than 200% boost from their own 2008 free trade agreement, with China's 2022 export share of 27% and import share of 23% being more than double those of Australia.

A major broadening occurred when the Regional Comprehensive Economic Partnership (RCEP) took effect in 2022. This put the ASEAN group in the center of an expanded free trade agreement including not only China but also Australia, Japan, New Zealand, and South Korea. As noted by Armstrong and Drysdale (2022), this represents the largest free trade agreement in the world.[1] Such multilateral agreements are seen to have much greater impacts on foreign direct investment than bilateral agreements according to Narayan et al.'s (2022) findings for Indonesia over the 1990–2018 period. Our empirical work incorporates data on FDI flows from China, thereby directly capturing this aspect of increasing connectiveness between China, ASEAN, Australasia, and Hong Kong.

Growing regional trade linkages with China have been accompanied by increasing financial connectiveness. Park and Song (2011, p. 61) foresaw the development of a currency bloc for ASEAN (plus Greater China), with the renminbi (RMB) as anchor currency, as being a "rather natural evolutionary outcome of trade expansion and geographical proximity among the members of the group". In addition to official adoption of the renminbi as a reserve currency within the ASEAN group, ASEAN members Thailand and Vietnam were also amongst the first nations to introduce direct trading of their local currency against the RMB, with Australia being another early adopter. The "One Belt, One Road" initiative offers major opportunities to expand RMB internationalization and Chinese FDI flows within ASEAN and beyond (see, for example, Zhang & Chen, 2020; Li et al., 2022).

This paper's empirical work demonstrates that increasing trade and financial connections have been accompanied by significant stock market transmission from China to the ASEAN group and other regional markets. Past work has typically found more support for US stock market transmission than Chinese stock market transmission. We find, however, that econometric support for both channels emerges once allowance is made for transmission effects varying across market conditions. This is achieved by the Markov switching analysis detailed in the sections below.

2. Existing Findings on Regional Co-Movement and Chinese Effects

Past work supports trade linkages and FDI flows contributing to stock market co-movement. For example, Johnson and Soenen (2002) found that Asian economies with greater export shares going to Japan and greater FDI from Japan exhibited stronger stock market co-movements with Japan over the 1988–1998 interval. Meanwhile, Anagnostopoulos et al. (2022) found that rising FDI positions can account for as much as one-third of the rise in the observed stock market correlations since the 1990s based on data from the industrialized countries in the MSCI World Index. The connection between rising trade ties and rising FDI linkages amongst the ASEAN group is exemplified by Indonesia's experience. For this largest ASEAN economy, bilateral trade with China nearly doubled between 2018 and 2022, while Chinese FDI in Indonesia rose from USD 1.8 billion in 2018 to USD 4.5 billion in 2022 (Zhou, 2024).

Trade connections between China and the ASEAN group have been accompanied by significant inflation transmission (Burdekin & Tao, 2022). Further evidence of interconnectedness lies in the cointegration among ASEAN exchange rates identified by Shahrier (2022) in a pandemic-era sample. With regard to the integration of the stock market indices themselves, Le et al. (2024) found evidence of significant cointegration between the Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam stock markets over the 2009–2022 period. Their findings were stronger than those reported in earlier studies of regional cointegration. Wu (2020), for example, attributed stock market connectedness primarily to common global factors. However, Wu (2020) also pointed to the degree of interconnectedness being time-varying, which is an issue that we address below via Markov switching analysis.

US stock market transmission to the ASEAN group has been considered in studies as that by Vo and Tran (2020), who found evidence of significant volatility spillovers. There is less literature on Chinese stock market effects. Although Caporale et al. (2022) found Chinese effects to be much less important than US effects over the 2002–2020 period, their approach assumed a fixed relationship through both the global financial crisis and the initial stages of the pandemic. Endri et al. (2024) offered more in-depth analysis of stock market connections between Indonesia and its major trading partners over the 2013–2024 period, finding significant short-run co-movement with the United States (and other trading partners) but not China. This result is based on Granger causality testing of the overall relationship and, again, does not distinguish between high- and low-volatility periods.

In contrast, Markov switching analysis allows for the relationships in question to vary across the sample. It is not at all unusual for changing regimes to feature distinctly different inter-relationships between financial assets. For example, Chan et al. (2011) found contagion between stocks, oil, and real estate during high-volatility "crisis" periods, standing in sharp contrast to their disconnectedness during low-volatility "tranquil" periods. In allowing for the relationships between different assets to vary based on the level of volatility, Markov switching models can identify connections that may be specific to certain market conditions. The application of this approach by Burdekin and Tao (2021) suggested significant Chinese stock market transmission to Australia through 2017.

A more generalized application of Markov switching analysis by Rahman and Shahari (2021) examined stock market inter-relationships between ASEAN countries, China, Japan, and South Korea over the 1992–2015 period.[2] This sample period was, in turn, sub-divided into a "pre-agreement period" (March 1992–November 1997) and a "post-agreement period" (April 1999–June 2015). Although the overall degree of interdependence was higher for 1999–2015, Rahman and Shahari found that Chinese interdependence remained relatively weak. Our own stronger evidence over a later 2010–2022 sample period, even after controlling for US effects, may well reflect linkages with China continuing to strengthen with greater integration over time. As with the African stock market analysis conducted by Burdekin et al. (2022), we allow for financial market transmission from China to be dependent upon whether the domestic markets are in a high-volatility or low-volatility state.

US transmission being more dominant during high-volatility periods would be consistent with prior research showing world markets to be more likely to move in tandem in times of crisis. In addition to the work of Vo and Tran (2020), recent studies finding support for this phenomenon amongst Asian markets include those by Budd (2018), Ahmed and Huo (2019), Guru and Yadav (2022), and Wang and Xiao (2023).[3] However, failing to distinguish between high- and low-volatility periods could well lead to significant Chinese effects being missed in analysis of regional stock markets. Indeed, the ensuing Markov switching analysis demonstrates that under less extreme circumstances, Chinese stock market transmission becomes more impactful for the ASEAN countries. While confirming the significant US stock market transmission evidenced in past work, the present paper's key contribution is to show how this combines with significant Chinese transmission once allowance is made for variations across different market conditions.

3. The Markov Switching Framework

US stock market transmission being enhanced under more unstable market conditions may be partly due to US markets proxying for global shocks. Take, for example, March 2020, which was the most volatile month in US stock market history. Other world markets were also highly unstable at this time, not just because of reactions to US market moves but also because of common reactions to the evolving coronavirus pandemic. It would be unwise to assume that relationships seen during such extreme situations are matched under less uncertain times. The standard constant-parameter linear model, however, makes no allowance for market participants incorporating the possibility of changes in regime in their forecasts and actions (Hamilton, 1988).

A bivariate Markov switching model is appealing for modeling the dynamics of the relationship between financial markets by capturing regime changes over time. In this context, a regime-dependent relationship can be expressed as follows:

$$y_t = \alpha_{s_t} + x_t\beta_{s_t} + z_t\gamma + \varepsilon_{s_t,t} \quad (1)$$

where the dependent variable (y_t) is the home country's stock market index; x_t is a vector of independent variables with state-dependent coefficients (β_{s_t}), which include Chinese and US stock market indices; α_{s_t} is the state-dependent intercept; and z_t includes independent variables with coefficients that are assumed to remain constant across states.

The relationship between each country and the Chinese and US stock markets is characterized by two regimes, $s_t \in \{s_1, s_2\}$, representing high and low uncertainty states. The error term ($\varepsilon_{s_t,t} \sim N(0, \sigma^2_{s_t})$) is *i.i.d.*, and its variance ($\sigma^2_{s_t}$) switches under two regimes.[4] The high-volatility and low-volatility regimes are defined on the basis of the home-country process (y_t), allowing the model to capture any asymmetric Chinese and US transmission effects under these different settings. This allows us to explicitly test, for example, the possibility that reactions to US market moves are greater in times of crisis and heightened volatility. Meanwhile, the state variable (s_t) is the outcome of an unobserved, discrete-time, stochastic Markov process defined by the following transition probabilities:

$$p_{ji} = Pr(s_{t+1} = j | s_t = i),\ \sum_{j=1}^{M} p_{ji} = 1 \forall\ i, j\ \in [1, 2]. \quad (2)$$

where P_{11} is the probability of remaining in State 1 in the next period, given that the current state is State 1, and P_{21} is the probability of transition from State 1 to State 2.

4. Methodology and Data

Our empirical analysis incorporates weekly data from the Australian Securities Exchange (ASX), the Stock Exchange of Hong Kong (HKEX), the Indonesia Stock Exchange (IDX), the Stock Exchange of Malaysia (KLSE), the New Zealand Stock Exchange (NZX), the Philippine Stock Exchange (PSE), the Shanghai Stock Exchange (SSE), the Singapore Exchange (SGX), the Stock Exchange of Thailand (SET), and the Vietnam Ho Chi Minh Stock Exchange (HOSE) plus the S&P 500 index to control for US (and rest-of-world) effects. Although data limitations preclude Brunei, Darussalam, Cambodia, Laos, and Myanmar, this study includes the six largest ASEAN countries (comprising Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam). Our start date is set at 2010 to avoid mixing pre- and post-global financial crisis observations. We use weekly series of these variables to avoid overlapping and non-synchronicity problems associated with different trading hours.[5] Our dataset concludes at the end of 2022, reflecting delays in the availability of Chinese FDI data. All stock market data are drawn from the Bloomberg terminal, with additional FDI data from Statista (www.statista.com).

All stock market data are expressed in local currency terms. This allows us to assess the impact of Chinese and US stock market movements on returns experienced by local investors in each of the other economies. Basic information about each stock exchange can be found in Table 1. Table 2 presents a summary statistics of each index, while Table 3 details the overall importance of Chinese FDI for each country. The largest Chinese FDI flows over 2010–2022 went to Hong Kong, Singapore, and Australia, and the same three also feature the highest FDI stocks.

Figure 1 shows the market indices for Australia, Hong Kong, New Zealand, and the ASEAN group plotted against the Shanghai Composite. The nine charts in Figure 1 suggest that the market indices typically became more correlated with the Shanghai Composite over the latter part of the sample, which would be in keeping with growing trade linkages and Chinese FDI.

Table 1. Basic properties of the six ASEAN stock markets plus Australasian, Hong Kong, and Shanghai stock markets (2023 values).

Country/ Region	**Stock Exchange**	**Market Cap (US Dollars)**	**Number of Listings**
China	Shanghai Stock Exchange (SSE)	USD 7.26 trillion	1686
Australia	Australian Securities Exchange (ASX)	USD 1.66 trillion	2121
Hong Kong	Hong Kong Stock Exchange (HKEX)	USD 4.56 trillion	2265
Indonesia	Indonesia Stock Exchange (IDX)	USD 629 billion	766
Malaysia	Kuala Lumpur Stock Exchange (KLSE)	USD 361 billion	788
New Zealand	New Zealand Stock Exchange (NZSX)	USD 165 billion	184
Philippines	The Philippine Stock Exchange (PSE)	USD 302 billion	275
Singapore	Singapore Stock Exchange (SGX)	USD 610 billion	645
Thailand	The Stock Exchange of Thailand (SET)	USD 542 billion	614
Vietnam	Ho Chi Minh Stock Exchange (HOSE)	USD 171 billion	533

Source: Individual stock exchange websites.

Table 2. Summary statistics of the stock market indices.

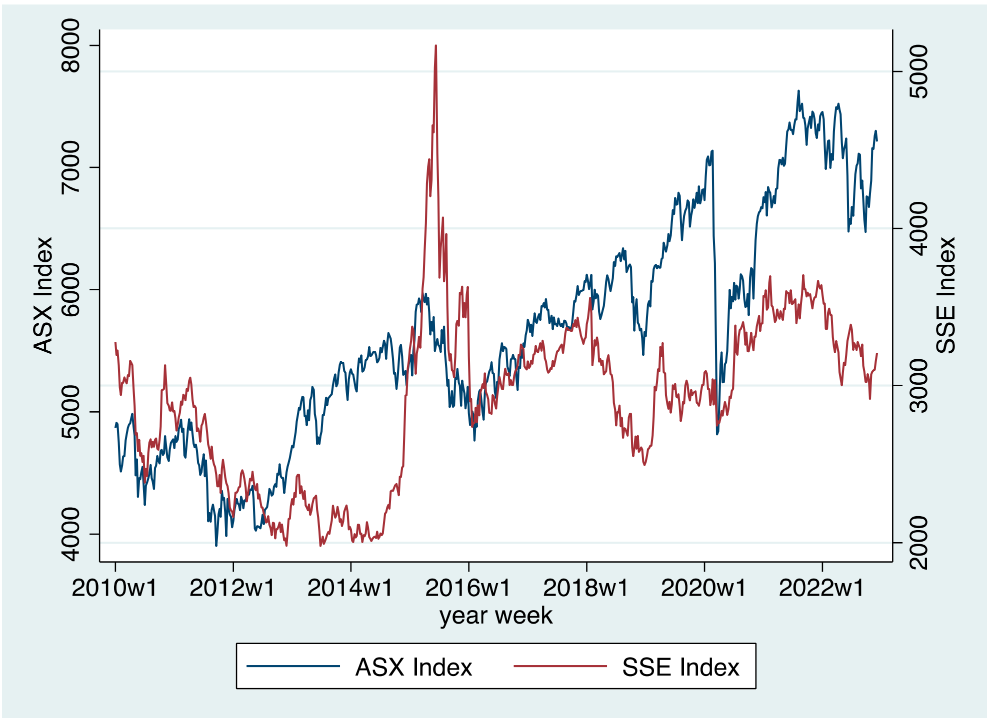
Panel A: Stock Market Index				
Index	Mean	Standard Deviation	Minimum	Maximum
Shanghai (SSE)	2907.68	518.58	1979.21	5166.35
Australia (ASX)	5628.49	915.70	3903.16	7628.92
Hong Kong (HSI)	23,894.49	3260.72	14,863.06	33,154.12
Indonesia (JCI)	5141.16	1111.75	2518.98	7242.66
Malaysia (KLCI)	1631.29	142.70	1247.90	1887.75
New Zealand (NZX)	7294.17	3283.62	2938.11	13,558.19
Philippines (PSEI)	6481.95	1400.10	2855.64	9041.20
Singapore (STI)	3094.16	237.19	2389.29	3577.21
Thailand (SET)	1417.37	259.21	691.41	1828.88
Vietnam (VNI)	755.26	304.87	336.73	1528.48
US (SPY)	239.24	98.31	102.20	474.96
Panel B: Weekly Returns of Each Index				
Index	Mean	Standard Deviation	Minimum	Maximum
Shanghai (SSE)	0.000	0.027	−0.130	0.090
Australia (ASX)	0.001	0.021	−0.130	0.080
Hong Kong (HSI)	0.000	0.027	−0.090	0.110
Indonesia (JCI)	0.002	0.023	−0.150	0.090
Malaysia (KLCI)	0.000	0.015	−0.090	0.060
New Zealand (NZX)	0.002	0.016	−0.151	0.079
Philippines (PSEI)	0.002	0.025	−0.180	0.110
Singapore (STI)	0.000	0.020	−0.110	0.100
Thailand (SET)	0.001	0.022	−0.170	0.080
Vietnam (VNI)	0.001	0.028	−0.150	0.110
US (SPY)	0.002	0.023	−0.150	0.120

Note: Weekly data from 2010 to 2022; the number of observations is 673 for each index and 672 for weekly returns of each index. Data are from the Bloomberg terminal.

Table 3. Summary statistics of foreign direct investment from China.

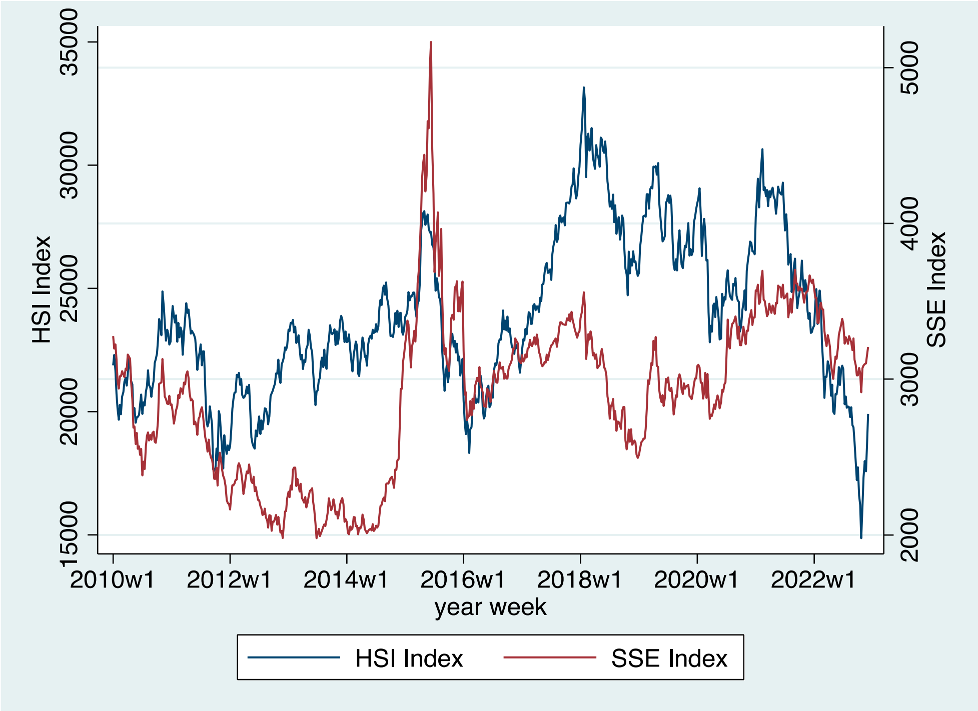
Panel A: China FDI Stock in Each Country/Region				
Index	Mean	Standard Deviation	Minimum	Maximum
Australia	27.163	11.030	7.868	38.379
Hong Kong	848.110	507.387	199.056	1588.670
Indonesia	10.448	7.290	1.150	24.270
Malaysia	5.053	4.167	0.709	12.050
New Zealand	1.666	1.131	0.159	3.129
Philippines	0.726	0.180	0.387	1.113
Singapore	36.745	22.905	6.069	73.450
Thailand	5.065	3.235	1.080	10.570
Vietnam	5.077	3.566	0.987	11.660
Panel B: China FDI Flow in Each Country/Region				
Index	Mean	Standard Deviation	Minimum	Maximum
Australia	2.302	2.586	−3.629	6.433
Hong Kong	109.552	54.909	34.557	200.521
Indonesia	1.805	1.015	0.351	4.190
Malaysia	0.890	1.097	−0.464	3.473
New Zealand	0.200	0.317	−0.438	0.894
Philippines	0.075	0.108	−0.166	0.245
Singapore	5.276	3.418	1.212	11.345
Thailand	0.779	0.400	0.227	1.640
Vietnam	0.841	0.669	−0.018	2.278

Note: Annual data from 2010 to 2022. Values are in billions of US dollars. Source: Statista.

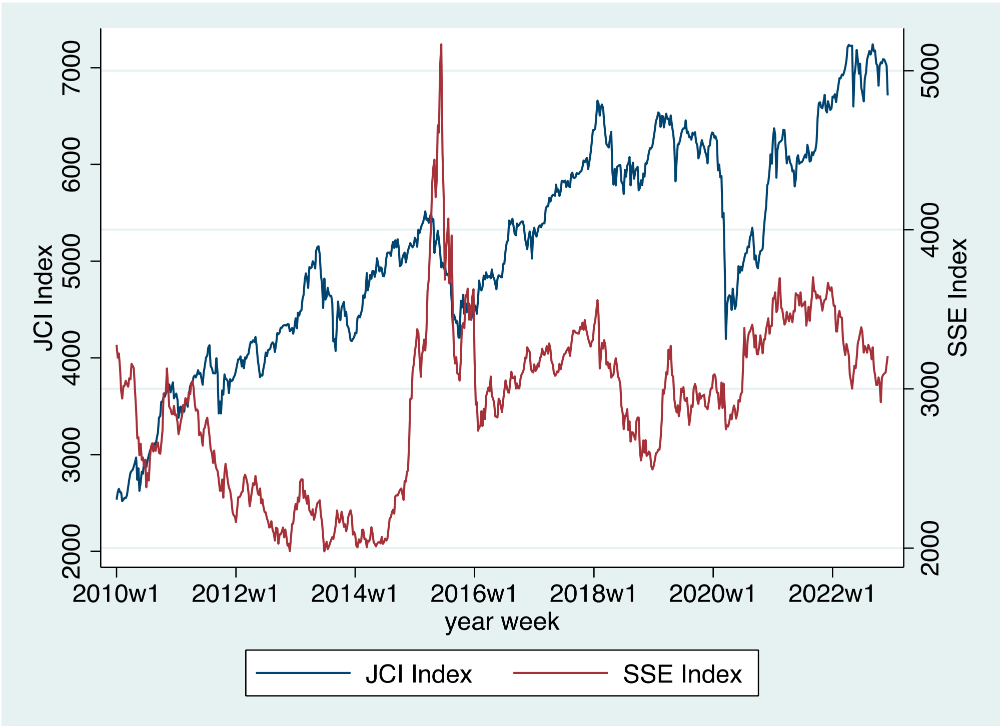


(**A**) Shanghai (SSE) vs. Australia (ASX)

Figure 1. *Cont*.

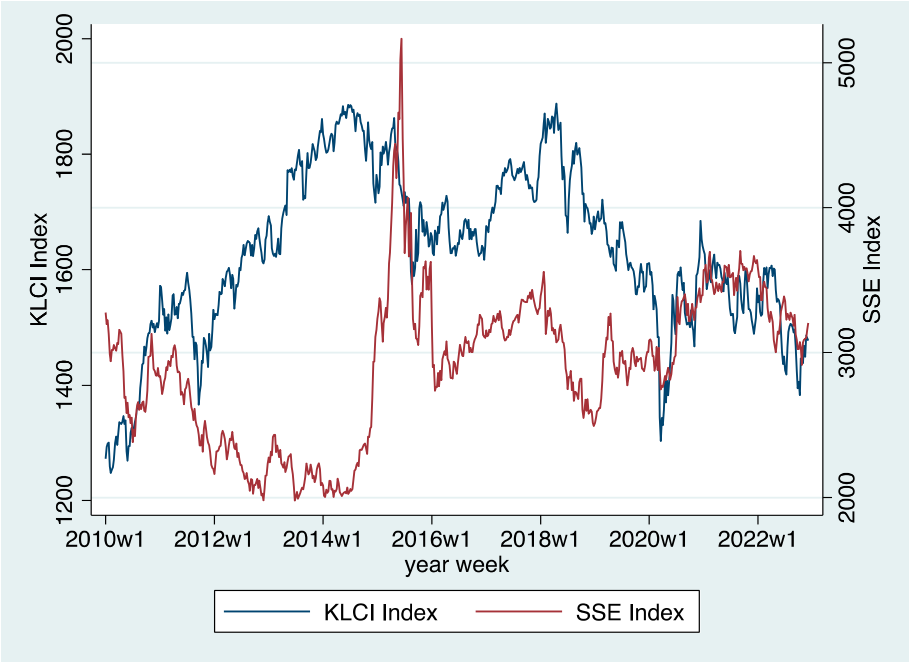


(**B**) Shanghai (SSE) vs. Hong Kong (Hang Seng Index, HSI)

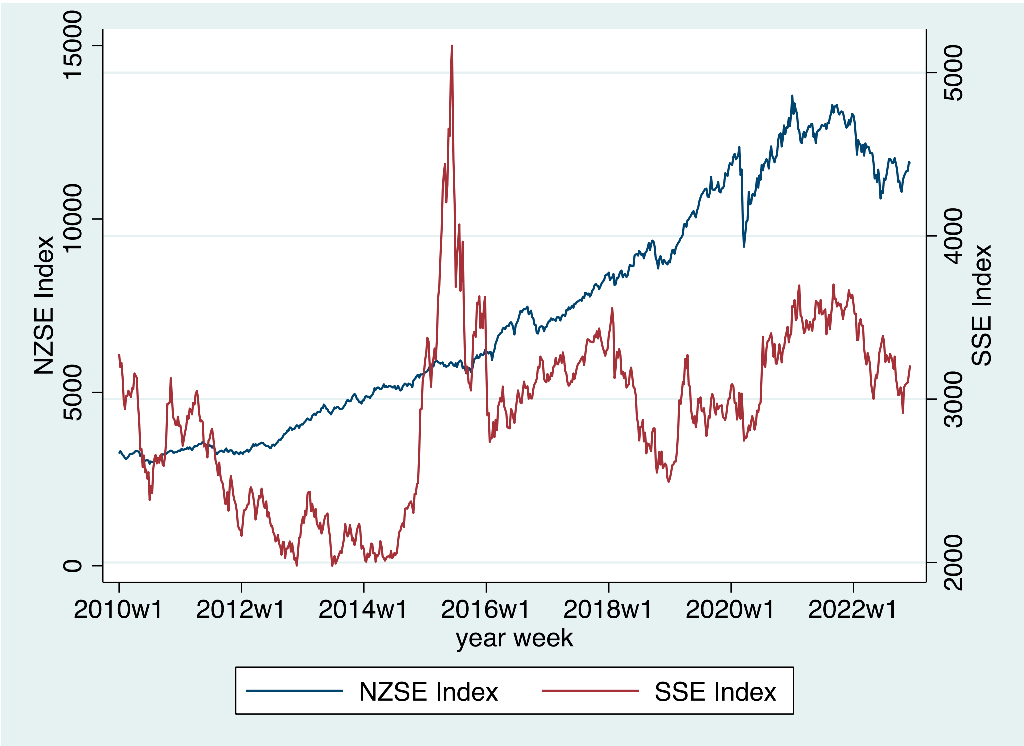


(**C**) Shanghai (SSE) vs. Indonesia (Jakarta Stock Exchange Composite Index, JCI)

Figure 1. *Cont.*

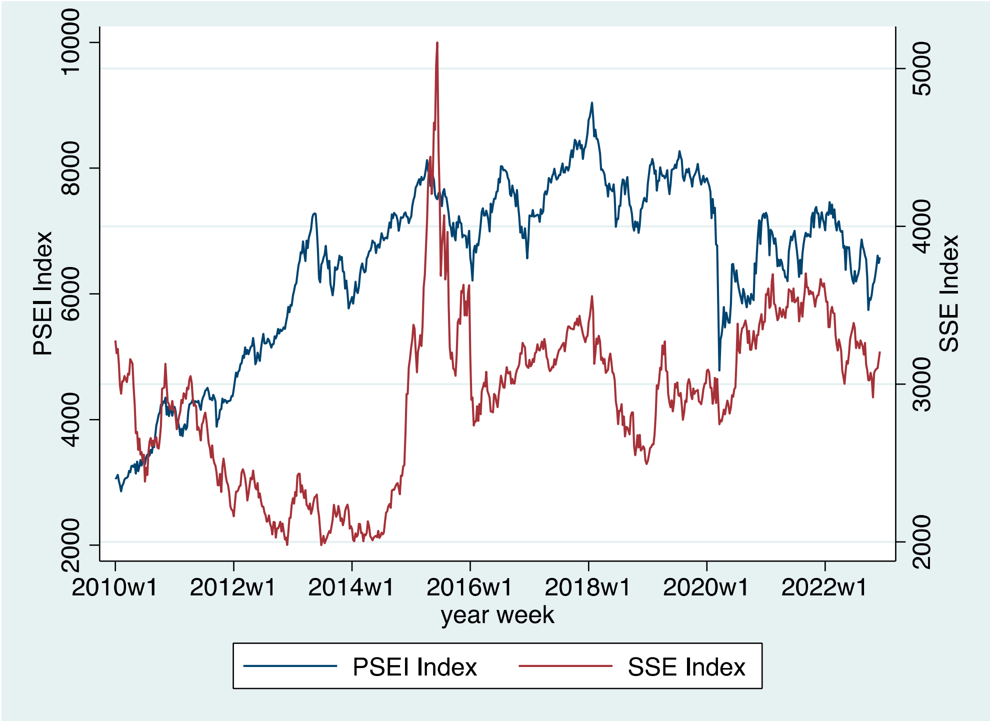


(**D**) Shanghai (SSE) vs. Malaysia (Kuala Lumpur Composite Index, KLCI)

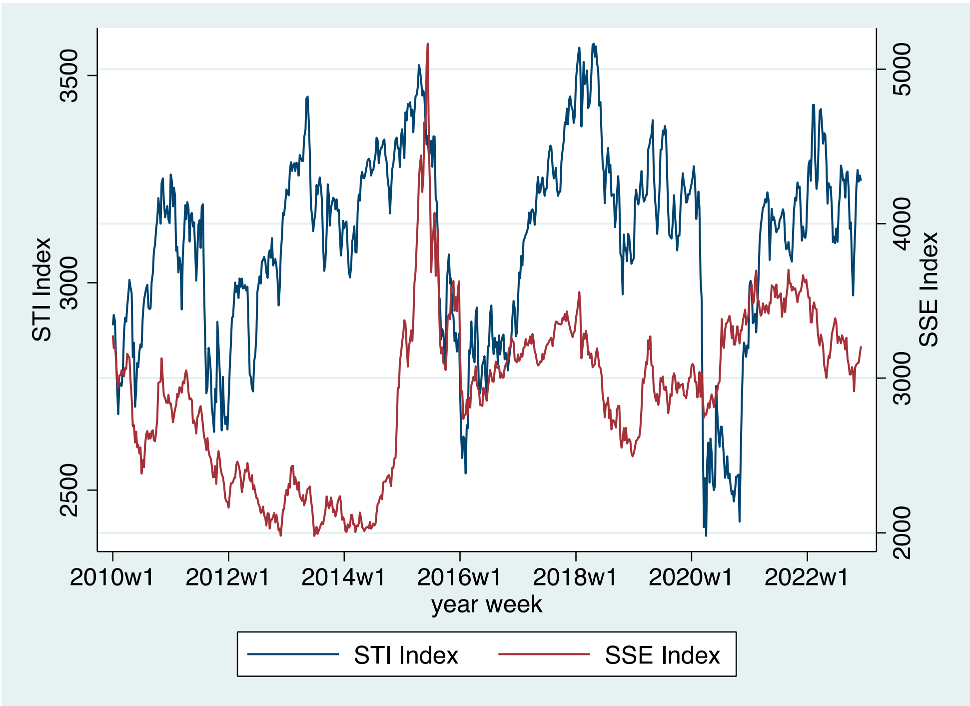


(**E**) Shanghai (SSE) vs. New Zealand (NZX)

Figure 1. *Cont.*

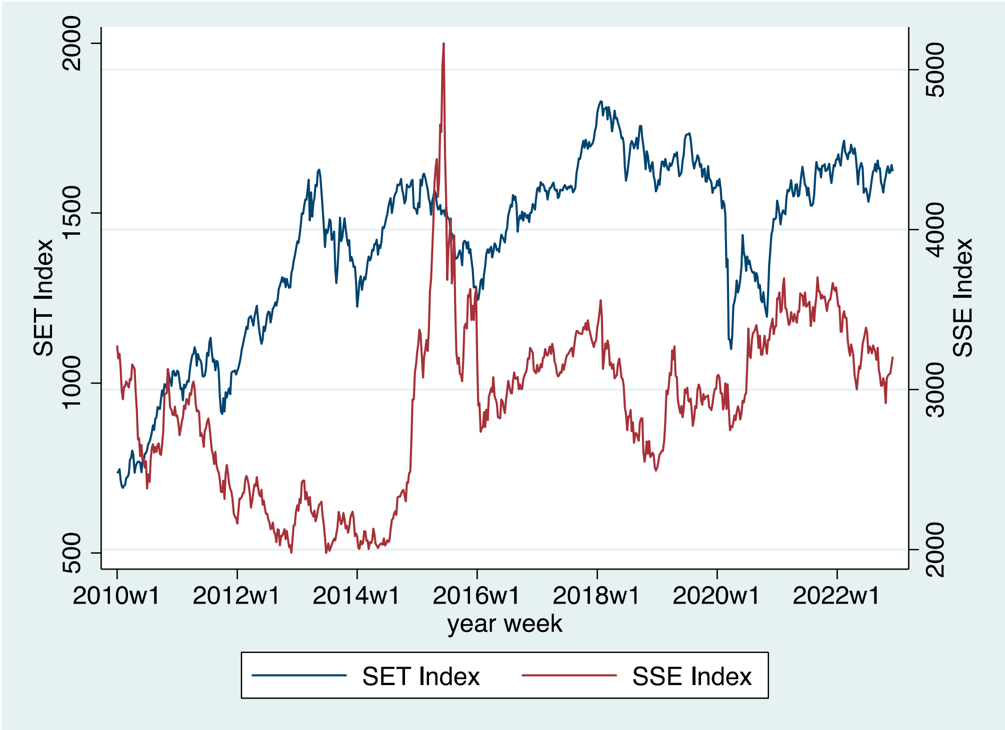


(**F**) Shanghai (SSE) vs. Philippines (PSEI)

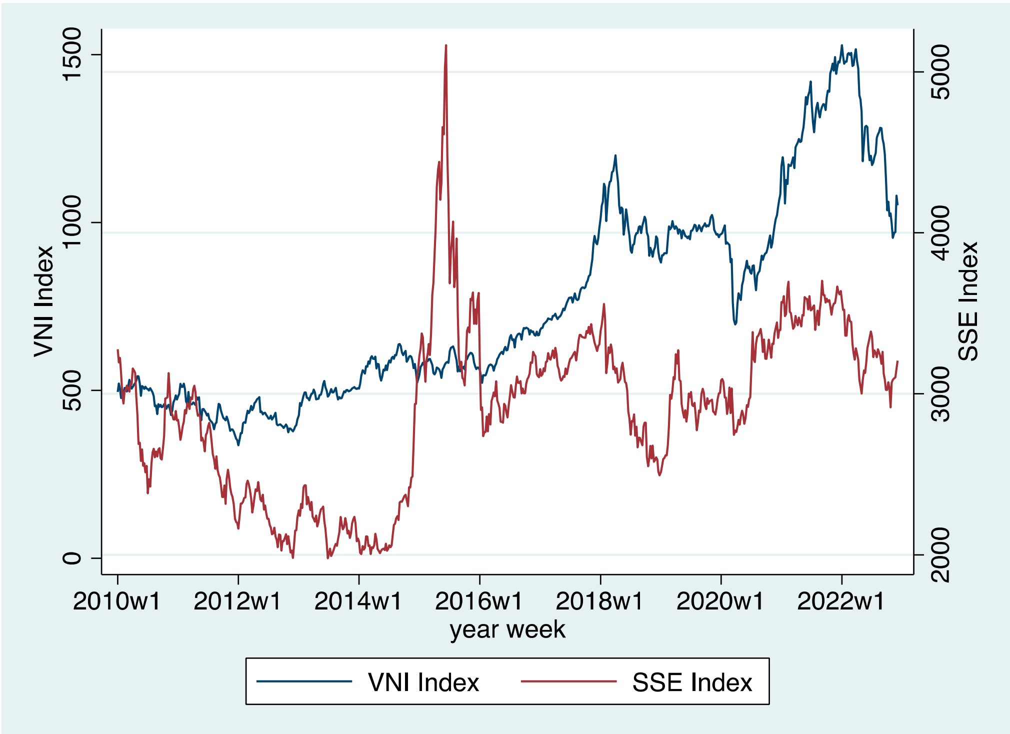


(**G**) Shanghai (SSE) vs. Singapore (STI)

Figure 1. *Cont.*



(**H**) Shanghai (SSE) vs. Thailand (SET)



(**I**) Shanghai (SSE) vs. Vietnam (VNI)

Figure 1. Stock market indices for the six ASEAN nations plus the Australian, Hong Kong, New Zealand, and Shanghai stock markets.

We allow for current and lagged effects of Shanghai Composite Index returns and S&P 500 returns, with lagged domestic market returns also included in the Markov switching model as regime-dependent independent variables.[6] Although the estimation method intrinsically distinguishes between high-volatility episodes and low-volatility episodes, we nevertheless allow for a more fundamental break associated with the onset of the coronavirus pandemic. Our full-sample 2010–2022 weekly specification includes a coronavirus dummy that is set equal to one from the beginning of 2020 onwards. We also consider a pre-pandemic sample that is curtailed at the end of 2019. Finally, we add FDI flows from China to the model so as to explicitly test for Chinese stock market transmission being tied to the extent of bilateral trade connections. Since FDI data are recorded at an annual frequency, FDI flows are included in the Markov switching regressions with a coefficient that is invariant across regimes.

5. Estimation Results

Table 4 presents the estimated coefficients of Equation (1), as well as the estimated probability of a high-volatility regime for the returns of each stock market index. The results presented in Table 4 show both Shanghai Composite Index returns and S&P 500 returns to be significant in at least one volatility regime in all cases. The findings are quite robust as to whether or not pandemic-era observations are included, and the coronavirus dummy is significant only in the Malaysia, New Zealand, and Philippines regressions. Meanwhile, the FDI flow variable is statistically significant only for Indonesia and the Philippines.

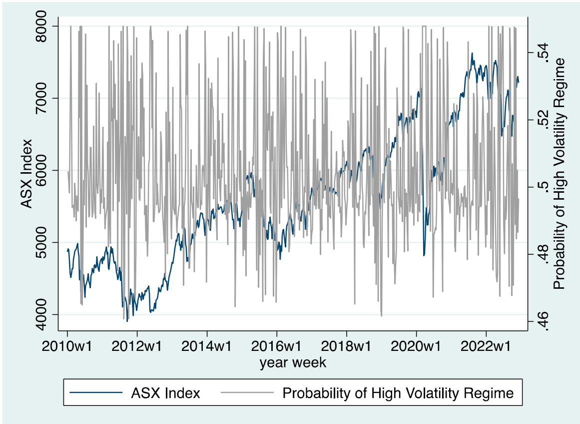
Although both Shanghai and US effects are consistently significant across our sample, the results suggest US effects are generally stronger in times of high volatility, whereas Shanghai effects are stronger during periods of low volatility. This is consistent with these Asian and Australasian markets being driven by outside pressures during times of crisis but being more influenced by China, with which they have the strongest trade ties, during more normal times. Five out of six ASEAN countries feature stronger Shanghai market effects during times of low volatility, with the only exception being Singapore. Australia, Hong Kong, and New Zealand, similarly feature stronger Shanghai effects through periods of market instability. It is worth highlighting that Hong Kong and Singapore, which receive the most FDI from China, are the only two regions significantly impacted by the Chinese stock market across both high-volatility and low-volatility regimes. The magnitude of their market responses is greater than for any other cases within the sample.

Interestingly, significant Chinese stock market transmission under high volatility is seen only for the three with the largest total Chinese FDI (Australia, Hong Kong, and Singapore), plus New Zealand (where the smaller total FDI is applied across a population of slightly over 5 million). Meanwhile, seven out of the nine feature stronger US effects during times of high volatility, with Hong Kong being the main exception this time and Singapore featuring roughly equal effects across the two volatility states. There is a near-perfect overall pattern across the two volatility regimes among the six ASEAN nations insofar as Shanghai effects are stronger under low volatility for all but one and US effects are strongest under high volatility for all six.

In general, these findings suggest that the correlations with Chinese and US stock market returns, while consistently significant, are nevertheless regime-dependent with regard to their intensity. Ignoring the distinction between high- and low-volatility periods may also have the effect of inappropriately discounting Shanghai market effects. This may explain the weaker evidence of stock market reactions to Chinese effects in past work. Relatively few studies of the ASEAN region have incorporated Markov switching, and Rahman and Shahari (2021) focused on an earlier 1992–2015 sample period. Our results highlight how Chinese effects primarily emerge during more stable times, whereas analysis of overall movements tend to be driven by the extreme shifts seen in times of crisis and high volatility.

Table 4. Markov switching regressions (weekly data for 2010–2022).

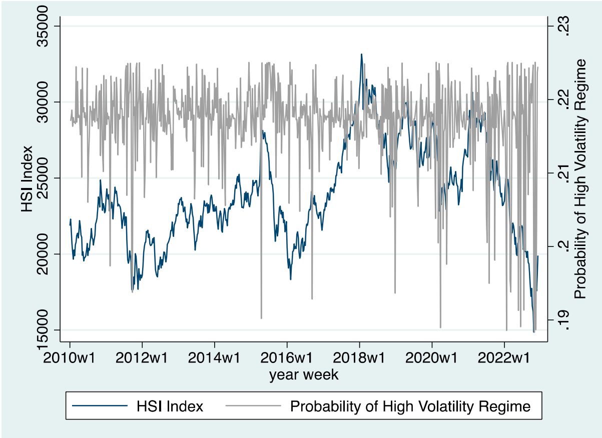
A. Shanghai (SSE) vs. Australia (ASX)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
ASX_{t-1}	−0.117 (0.0780)	−0.172 ** (0.0704)	−0.232 *** (0.0739)	−0.0324 (0.0926)
SSE_t	0.0857 * (0.0472)	−0.0196 (0.0342)	0.0148 (0.0378)	0.0258 (0.0456)
SSE_{t-1}	−0.0176 (0.0429)	0.0352 (0.0334)	0.0443 (0.0332)	0.0373 (0.0323)
SPX	0.640 *** (0.0466)	0.489 *** (0.0446)	0.811 *** (0.0607)	0.206 *** (0.0468)
SPX_{t-1}	0.364 *** (0.0770)	−0.0861 (0.0730)	0.0501 (0.0668)	0.145 *** (0.0518)
Coronavirus	0.001 (0.00)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
ASX_{t-1}	−0.117 (0.0755)	−0.174 ** (0.0716)	−0.232 *** (0.0740)	−0.0324 (0.0923)
SSE_t	0.0840 * (0.0461)	−0.0210 (0.0346)	0.0148 (0.0378)	0.0257 (0.0455)
SSE_{t-1}	−0.0171 (0.0417)	0.0371 (0.0347)	0.0442 (0.0333)	0.0373 (0.0324)
SPX	0.638 *** (0.0461)	0.488 *** (0.0459)	0.811 *** (0.0608)	0.206 *** (0.0467)
SPX_{t-1}	0.358 *** (0.0774)	−0.0934 (0.0829)	0.0503 (0.0670)	0.145 *** (0.0518)
FDI	0.194 (0.03)		0.007 (0.03)	
Coronavirus	−0.0004 (0.002)			

Table 4. *Cont.*

B. Shanghai (SSE) vs. Hong Kong (Hang Seng Index, HSI)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
HSI_{t-1}	0.444 *** (0.164)	−0.222 *** (0.0660)	0.103 (0.117)	−0.153 * (0.0792)
SSE_t	0.727 *** (0.209)	0.316 *** (0.0398)	0.357 *** (0.0955)	0.303 *** (0.0559)
SSE_{t-1}	0.0238 (0.186)	0.0172 (0.0452)	−0.0719 (0.128)	0.0756 (0.0850)
SPX	0.0918 (0.110)	0.562 *** (0.0616)	0.281 *** (0.0874)	0.782 *** (0.0670)
SPX_{t-1}	−0.363 ** (0.165)	0.262 *** (0.0628)	0.110 (0.113)	0.136 * (0.0724)
Coronavirus	−0.003 (0.002)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
HSI_{t-1}	0.399 *** (0.152)	−0.204 *** (0.0764)	0.102 (0.117)	−0.152 * (0.0806)
SSE_t	0.684 *** (0.200)	0.330 *** (0.0408)	0.355 *** (0.0954)	0.304 *** (0.0567)
SSE_{t-1}	0.192 (0.269)	−0.0122 (0.0522)	−0.0690 (0.131)	0.0739 (0.0877)
SPX	0.0851 (0.114)	0.559 *** (0.0624)	0.282 *** (0.0874)	0.782 *** (0.0672)
SPX_{t-1}	−0.369 ** (0.168)	0.259 *** (0.0647)	0.110 (0.113)	0.136 * (0.0724)
FDI	0.009 (0.015)		0.002 (0.002)	
Coronavirus	−0.0004 (0.002)			

Table 4. *Cont.*

C. Shanghai (SSE) vs. Indonesia (Jakarta Stock Exchange Composite Index, JCI)				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
JCI_{t-1}	−0.216 *** (0.0766)	−0.00675 (0.0667)	−0.265 *** (0.0934)	−0.0422 (0.0736)
SSE_t	0.0518 (0.0667)	0.0884 *** (0.0273)	0.0165 (0.0829)	0.0880 ** (0.0356)
SSE_{t-1}	0.000544 (0.0641)	−0.0587 ** (0.0290)	−0.0116 (0.0792)	−0.0560 (0.0372)
SPX	0.692 *** (0.0880)	0.144 *** (0.0363)	0.645 *** (0.147)	0.186 *** (0.0575)
SPX_{t-1}	0.157 * (0.0900)	0.0402 (0.0319)	0.165 (0.138)	0.0514 (0.0466)
Coronavirus	−0.001 (0.00)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
JCI_{t-1}	−0.232 *** (0.0794)	0.00850 (0.0641)	−0.268 *** (0.0903)	−0.0565 (0.0719)
SSE_t	0.0487 (0.0687)	0.0907 *** (0.0275)	0.0166 (0.0823)	0.0936 *** (0.0339)
SSE_{t-1}	0.00353 (0.0663)	−0.0605 ** (0.0294)	−0.00810 (0.0789)	−0.0540 (0.0357)
SPX	0.706 *** (0.0878)	0.148 *** (0.0370)	0.631 *** (0.137)	0.184 *** (0.0541)
SPX_{t-1}	0.162 * (0.0934)	0.0375 (0.0320)	0.163 (0.136)	0.0495 (0.0457)
FDI	−0.750 (0.89)		−2.90 *** (1.06)	
Coronavirus	−0.0004 (0.002)			

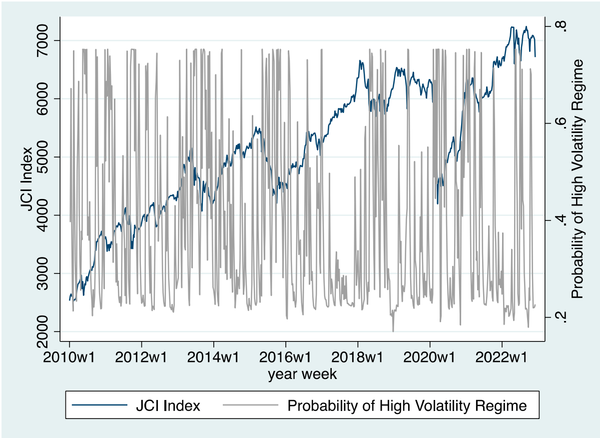
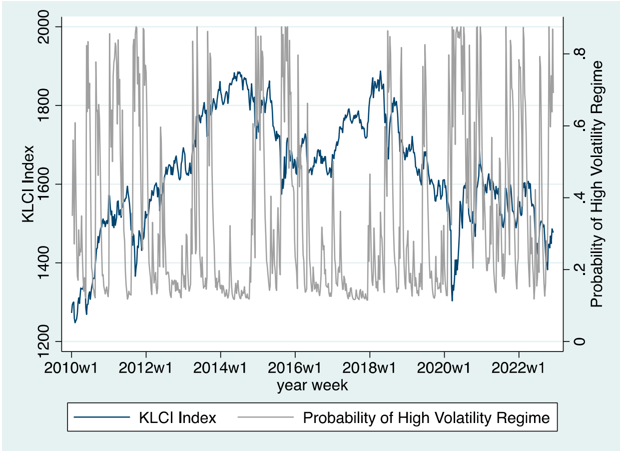


Table 4. *Cont.*

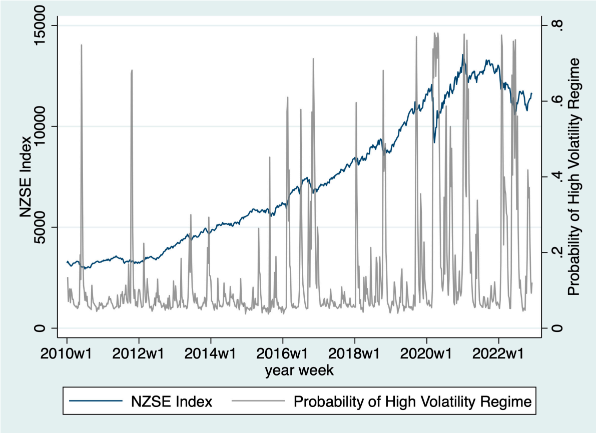
D. Shanghai (SSE) vs. Malaysia (Kuala Lumpur Composite Index, KLCI)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
$KLCI_{t-1}$	−0.127 * (0.0753)	0.0500 (0.0580)	−0.133 (0.0881)	0.0516 (0.0623)
SSE_t	0.0337 (0.0466)	0.0589 *** (0.0228)	−0.00603 (0.0463)	0.0679 ** (0.0264)
SSE_{t-1}	−0.0179 (0.0467)	−0.0202 (0.0226)	−0.0113 (0.0455)	−0.0122 (0.0245)
SPX	0.357 *** (0.0520)	0.135 *** (0.0377)	0.353 *** (0.0770)	0.114 ** (0.0550)
SPX_{t-1}	0.110 ** (0.0551)	0.0722 ** (0.0330)	0.112 (0.0800)	0.0571 (0.0441)
Coronavirus	−0.003 ** (0.00)			
	With FDI flow added as non-switching variable			
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
$KLCI_{t-1}$	−0.125 * (0.0748)	0.0485 (0.0576)	−0.129 (0.0884)	0.0479 (0.0622)
SSE_t	0.0349 (0.0464)	0.0588 ** (0.0229)	−0.00494 (0.0469)	0.0670 *** (0.0258)
SSE_{t-1}	−0.0173 (0.0464)	−0.0198 (0.0226)	−0.0101 (0.0462)	−0.0120 (0.0242)
SPX	0.356 *** (0.0514)	0.136 *** (0.0373)	0.350 *** (0.0769)	0.118 ** (0.0524)
SPX_{t-1}	0.108 ** (0.0545)	0.0745 ** (0.0329)	0.107 (0.0789)	0.0615 (0.0425)
FDI Flow	−0.264 (0.451)		0.219 (0.478)	
Coronavirus	−0.003 ** (0.001)			

Table 4. *Cont.*

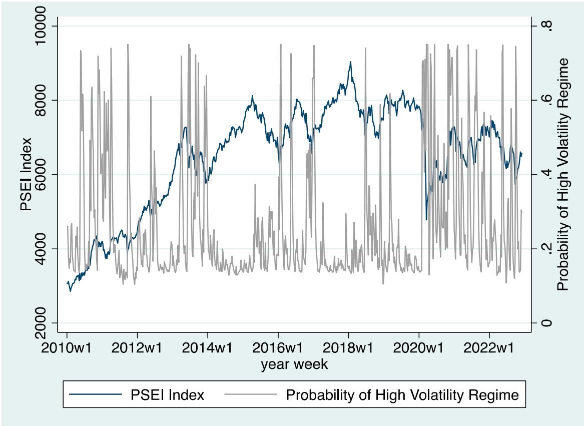
E. Shanghai (SSE) vs. New Zealand (NZX)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
NZX_{t-1}	−0.340 *** (0.110)	−0.126 ** (0.0496)	−0.0817 (0.0646)	−0.219 * (0.125)
SSE_t	0.195 * (0.117)	0.00198 (0.0188)	0.0488 (0.0301)	−0.0472 (0.0307)
SSE_{t-1}	−0.212 (0.134)	0.0295 (0.0184)	−0.0214 (0.0316)	0.105 *** (0.0334)
SPX	0.456 *** (0.0762)	0.281 *** (0.0321)	0.312 *** (0.0404)	0.190 *** (0.0551)
SPX_{t-1}	0.360 *** (0.0898)	0.122 *** (0.0316)	0.188 *** (0.0461)	−0.0388 (0.0633)
Coronavirus	−0.00132 (0.00127)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
NZX_{t-1}	−0.341 *** (0.110)	−0.129 *** (0.0492)	−0.0819 (0.0635)	−0.222 * (0.123)
SSE_t	0.191 (0.117)	0.00228 (0.0187)	0.0485 (0.0300)	−0.0474 (0.0305)
SSE_{t-1}	−0.213 (0.132)	0.0294 (0.0184)	−0.0203 (0.0316)	0.105 *** (0.0330)
SPX	0.459 *** (0.0762)	0.280 *** (0.0316)	0.312 *** (0.0400)	0.187 *** (0.0557)
SPX_{t-1}	0.363 *** (0.0902)	0.121 *** (0.0314)	0.187 *** (0.0457)	−0.0412 (0.0632)
FDI Flow	1.412 (1.71)		−0.405 (1.93)	
Coronavirus	−0.001 * (0.001)			

Table 4. *Cont.*

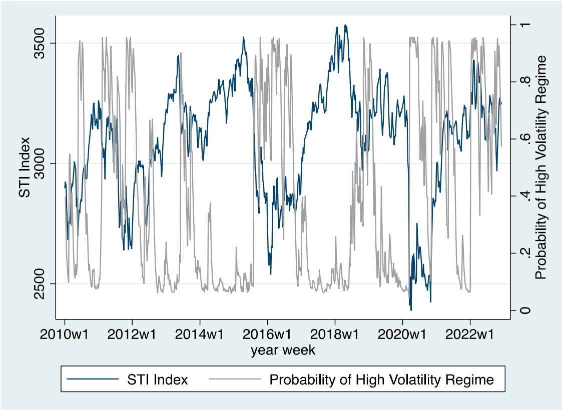
F. Shanghai (SSE) vs. Philippines (PSEI)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
$PSEI_{t-1}$	−0.0997 (0.0967)	−0.0890 * (0.0537)	−0.169 *** (0.0424)	0.893 *** (0.0139)
SSE_t	0.0298 (0.119)	0.0898 *** (0.0323)	0.0550 * (0.0306)	0.676 *** (0.0119)
SSE_{t-1}	0.0686 (0.126)	−0.0201 (0.0313)	0.0186 (0.0312)	−0.0716 *** (0.00800)
SPX	0.839 *** (0.147)	0.236 *** (0.0398)	0.285 *** (0.0458)	0.359 *** (0.0104)
SPX_{t-1}	0.0837 (0.133)	0.167 *** (0.0438)	0.135 *** (0.0469)	−0.744 *** (0.0125)
Coronavirus	−0.004 ** (0.002)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
$PSEI_{t-1}$	−0.113 (0.0948)	−0.111 ** (0.0549)	−0.238 *** (0.0523)	0.605 *** (0.124)
SSE_t	0.0678 (0.122)	0.0882 *** (0.0310)	0.0426 (0.0331)	0.587 *** (0.100)
SSE_{t-1}	0.0706 (0.125)	−0.0168 (0.0304)	0.0302 (0.0320)	−0.00752 (0.132)
SPX	0.796 *** (0.140)	0.242 *** (0.0404)	0.284 *** (0.0473)	0.448 ** (0.179)
SPX_{t-1}	0.117 (0.129)	0.163 *** (0.0436)	0.177 *** (0.0510)	−0.681 *** (0.219)
FDI Flow	25.581 *** (7.65)		26.95 *** (7.98)	
Coronavirus	−0.007 *** (0.002)			

Table 4. *Cont.*

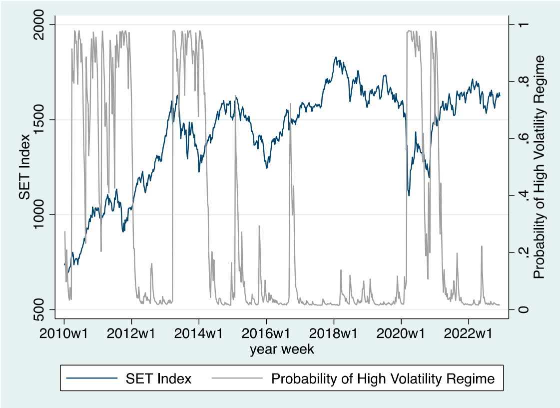
G. Shanghai (SSE) vs. Singapore (STI)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
STI_{t-1}	0.0120 (0.0652)	0.00613 (0.0577)	−0.0878 (0.0804)	−0.0152 (0.0571)
SSE_t	0.218 *** (0.0639)	0.0570 * (0.0342)	0.262 *** (0.0503)	0.0395 (0.0262)
SSE_{t-1}	−0.0642 (0.0488)	0.00917 (0.0262)	0.0001 (0.052)	0.0089 (0.025)
SPX	0.450 *** (0.0473)	0.447 *** (0.0452)	0.443 *** (0.0629)	0.496 *** (0.0401)
SPX_{t-1}	0.0591 (0.0560)	0.223 *** (0.0522)	0.0605 (0.0764)	0.304 *** (0.0520)
Coronavirus	−0.002 (0.002)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
STI_{t-1}	0.0152 (0.065)	0.0001 (0.059)	−0.0853 (0.0808)	−0.0182 (0.0569)
SSE_t	0.218 *** (0.0598)	0.0534 * (0.0322)	0.261 *** (0.0500)	0.0386 (0.0259)
SSE_{t-1}	−0.0654 (0.0482)	0.0104 (0.0260)	−0.000958 (0.0520)	0.00863 (0.0250)
SPX	0.448 *** (0.0458)	0.452 *** (0.0435)	0.443 *** (0.0626)	0.499 *** (0.0397)
SPX_{t-1}	0.0598 (0.0548)	0.228 *** (0.0515)	0.0612 (0.0766)	0.308 *** (0.0515)
FDI Flow	0.123 (0.152)		0.106 (0.151)	
Coronavirus	−0.002 (0.002)			

Table 4. *Cont.*

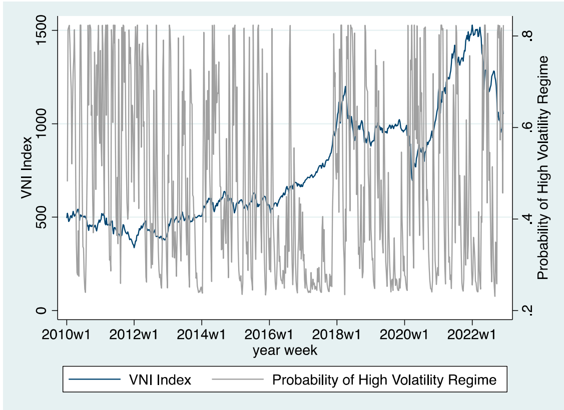
H. Shanghai (SSE) vs. Thailand (SET)				



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
SET_{t-1}	−0.206 *** (0.0726)	0.0456 (0.0461)	−0.147 * (0.0826)	−0.001 (0.0522)
SSE_t	0.0934 (0.0872)	0.0772 *** (0.0232)	0.0794 (0.0952)	0.0608 ** (0.0248)
SSE_{t-1}	−0.0113 (0.0866)	−0.0403 * (0.0233)	0.129 (0.0945)	−0.0364 (0.0247)
SPX	0.496 *** (0.0748)	0.314 *** (0.0326)	0.400 *** (0.102)	0.377 *** (0.0418)
SPX_{t-1}	0.209 ** (0.0813)	0.0974 *** (0.0356)	0.103 (0.108)	0.141 *** (0.0464)
Coronavirus	−0.001 (0.001)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
SET_{t-1}	−0.206 *** (0.0727)	0.0455 (0.0461)	−0.147 * (0.0823)	−0.001 (0.052)
SSE_t	0.0938 (0.0875)	0.0771 *** (0.0232)	0.0786 (0.0946)	0.0616 ** (0.0249)
SSE_{t-1}	−0.0110 (0.0868)	−0.0403 * (0.0233)	0.128 (0.0939)	−0.0358 (0.0248)
SPX	0.496 *** (0.0748)	0.315 *** (0.0329)	0.400 *** (0.101)	0.374 *** (0.0421)
SPX_{t-1}	0.209 ** (0.0814)	0.0976 *** (0.0357)	0.103 (0.108)	0.139 *** (0.0465)
FDI Flow	0.138 (2.02)		1.51 (2.48)	
Coronavirus	−0.001 (0.002)			

Table 4. *Cont.*

I. Shanghai (SSE) vs. Vietnam (VNI)



	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
VNI_{t-1}	−0.0424 (0.0647)	0.123 * (0.0706)	−0.0208 (0.0825)	0.100 (0.0795)
SSE_t	0.111 (0.0740)	0.116 ** (0.0482)	0.0590 (0.0964)	0.167 *** (0.0559)
SSE_{t-1}	−0.0555 (0.0780)	0.0482 (0.0467)	−0.133 (0.108)	0.0784 (0.0529)
SPX	0.475 *** (0.0941)	0.111 * (0.0588)	0.540 *** (0.181)	0.0371 (0.0679)
SPX_{t-1}	0.262 *** (0.0909)	0.161 *** (0.0525)	0.347 ** (0.163)	0.0446 (0.0647)
Coronavirus	0.002 (0.002)			
With FDI flow added as non-switching variable				
	Full sample		Pre-COVID Sample	
	High-Volatility Regime	Low-Volatility Regime	High-Volatility Regime	Low-Volatility Regime
VNI_{t-1}	−0.0419 (0.0645)	0.124 * (0.0708)	−0.020 (0.08)	0.101 (0.0814)
SSE_t	0.112 (0.0736)	0.116 ** (0.0478)	0.0635 (0.0979)	0.164 *** (0.0587)
SSE_{t-1}	−0.0550 (0.0773)	0.0483 (0.0462)	−0.128 (0.110)	0.0764 (0.0546)
SPX	0.473 *** (0.0935)	0.112 * (0.0588)	0.532 *** (0.188)	0.0343 (0.0687)
SPX_{t-1}	0.262 *** (0.0901)	0.161 *** (0.0523)	0.340 ** (0.167)	0.0456 (0.0662)
FDI Flow	−0.388 (1.37)		−1.25 (1.62)	
Coronavirus	0.003 (0.002)			

Notes: All indices are reported in the form of weekly returns; weekly data are from 2010 to 2022; the number of observations in the full sample is 672; the coronavirus dummy is set equal to one for 2020 and after; the number of observations in the pre-pandemic sample is 519; the pre-pandemic sample covers 2010–2019; FDI data are annual from 2010 through 2022; estimated coefficients on FDI were scaled up by 1000; constants were included in each regression but not reported in the table; high-volatility and low-volatility regimes are defined based on domestic stock market behavior; estimated probabilities of each regime are based on full-sample estimates; ***, **, and * denote significance at the 99%, 95%, and 90% confidence levels, respectively.

6. Conclusions and Implications

This paper offers support for the premise that growing trade and investment ties between China, Australia, Hong Kong, and the ASEAN region have been accompanied by significant financial market integration, as reflected in stock market co-movement. We apply the Markov switching model to allow for the dynamics in the relationships between financial markets and capture regime shifts. Our results underscore the importance of distinguishing between periods of high and low market volatility. This is indicative of China's growing role within the region and its financial clout not necessarily being overshadowed by the United States. Although US effects are also found to be significant in our analysis, they tend to be stronger during high-volatility episodes and are likely primarily proxying for global effects. Under low-volatility conditions, Shanghai effects become more important, especially amongst the ASEAN group. Additionally, our findings support cointegration with Chinese financial markets being stronger when Chinese FDI is largest.

Our findings suggest that stock market returns in the ASEAN group, Australasia, and Hong Kong are not simply driven by US market movements. Outside of high-volatility periods, when almost all world markets tend to move together, at least to some degree, the connections with China imply that some degree of portfolio diversification can be achieved by investing in these regional markets. On the other hand, the Chinese influence offers potential risk, as well as potential reward. Mainland China's recovery from the negative effects of the pandemic will matter not only for investors in Chinese stocks but also the other regional markets analyzed in this paper. This implication, although not always supported in prior studies, seems very much consistent with the large and growing importance of bilateral trade with China and Chinese FDI for these economies.

A limitation of the present study remains the small number of post-pandemic observations. Future work will be able to more comprehensively examine the evolving relationships with China in the years following that nation's extended lockdowns. There is also scope for re-examining longer-run integration between the Shanghai market and other regional exchanges, perhaps using the cointegration approach adopted by Le et al. (2024) that allows for non-linear adjustment mechanisms. Our own findings very much highlight the complexities of the inter-relationships with China, as well as its ongoing potential importance.

Author Contributions: Conceptualization, R.C.K.B. and R.T.; methodology, R.C.K.B. and R.T.; software, R.T.; validation, R.C.K.B. and R.T.; formal analysis, R.T.; investigation, R.C.K.B. and R.T.; resources, R.C.K.B.; data curation, R.T.; writing—original draft preparation, R.C.K.B. and R.T.; writing—review and editing, R.C.K.B.; visualization, R.C.K.B. and R.T.; supervision, R.C.K.B. and R.T.; project administration, R.C.K.B. and R.T.; funding acquisition, R.C.K.B. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Chiang Ching-kuo Foundation under Scholar Grant GS004-A-21.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are available from the authors upon request.

Acknowledgments: The authors are grateful to Ramkishen Rajan, Pierre Siklos, Ahmed Khalifa, and three anonymous referees for helpful comments. The authors also thank John Horan, Catherine Liu, and Muykong Taing for valuable research assistance.

Conflicts of Interest: The authors declare no conflict of interest.

Notes

[1] Within this grouping, Tang et al. (2024) draw attention to the importance of ASEAN monetary freedom as well as trade freedom for the growth of bilateral trade.

[2] See also their summary of the findings of earlier studies of the region.

[3] Meanwhile, Lean et al. (2024) identify significant US economic policy uncertainty spillovers to the ASEAN stock markets during 2000–2022 (along with some evidence of Chinese policy uncertainty spillovers).

[4] Although the Student's t-distribution may be better than the normal distribution at capturing the fat tails often seen in stock market returns, Calzolari et al. (2014) find that this comes at the cost of lack of stability under aggregation. Averting this problem would require more sophisticated alternatives, such as a tempered stable distribution (Shi et al., 2020), that lie beyond the scope of our work.

[5] In addition to different market holidays, asynchronous problems stem from the Asian markets closing before the US markets open for trade. With essentially no overlap between their opening hours, utilizing daily stock indices from such disparate time zones would be problematic indeed (cf, Altinkeski et al., 2024).

[6] All market indices in the model are expressed as weekly returns to ensure stationarity.

References

Ahmed, A. D., & Huo, R. (2019). Impacts of China's crash on Asia-Pacific financial integration: Volatility interdependence, information transmission and market co-movement. *Economic Modelling*, *79*, 28–46. [CrossRef]

Altinkeski, B. K., Dibooglu, S., Ismail, E., Kilic, Y., & Bugan, M. F. (2024). Quantile connectedness between VIX and global stock markets. *Borsa Istanbul Review*, *24*, 71–79. [CrossRef]

Anagnostopoulos, A., Atesagaoglu, O. E., Faraglia, E., & Giannitsarou, C. (2022). Cross-country stock market comovement: A macro perspective. *Journal of Monetary Economics*, *130*, 34–48. [CrossRef]

Armstrong, S., & Drysdale, P. (2022). The economic cooperation potential of East Asia's RCEP agreement. *East Asian Economic Review*, *26*, 3–25. [CrossRef]

Bolkiah, S. H. H. (2021, July 19). *Congratulatory message on the occasion of the 30th anniversary of the establishment of ASEAN-China dialogue relations*. Available online: https://asean.org/wp-content/uploads/BD-Congratulatory-Message-to-HE-Li-Keqiang_30th-Anniv-AC-Relations-19-J....pdf (accessed on 14 March 2025).

Budd, B. Q. (2018). The transmission of international stock market volatilities. *Journal of Economics and Finance*, *42*, 155–173. [CrossRef]

Burdekin, R. C. K., Reckers, D., & Tao, R. (2022). Quantifying China's financial reach up through the pandemic: The African experience. *North American Journal of Economics and Finance*, *63*, 101833. [CrossRef]

Burdekin, R. C. K., & Tao, R. (2021). From Shanghai to Sydney: Chinese stock market influences on Australia. *Finance Research Letters*, *38*, 101502. [CrossRef]

Burdekin, R. C. K., & Tao, R. (2022). Chinese influences on inflation determination in Australia and the ASEAN group: A Markov-switching analysis. *Asia and the Global Economy*, *2*, 100037. [CrossRef]

Calzolari, G., Halbleib, R., & Parrini, A. (2014). Estimating GARCH-type models with symmetric stable innovations: Indirect inference versus maximum likelihood. *Computational Statistics and Data Analysis*, *76*, 158–171. [CrossRef]

Caporale, G. M., Gil-Alana, L. A., & You, K. (2022). Stock market linkages between the ASEAN Countries, China and the US: A fractional integration/cointegration approach. *Emerging Markets Finance and Trade*, *58*(5), 1502–1514. [CrossRef]

Chan, K. F., Treepongkaruna, S., Brooks, R., & Gray, S. (2011). Asset market linkages: Evidence from financial, commodity and real estate assets. *Journal of Banking and Finance*, *35*, 1415–1426. [CrossRef]

Endri, E., Fauzi, F., & Effendi, M. S. (2024). Integration of the Indonesian stock market with eight major trading partners' stock markets. *Economies*, *12*, 350. [CrossRef]

Guru, B. K., & Yadav, I. S. (2022). Stock market integration and volatility spillovers: New evidence from Asia-Pacific and European markets. *Journal of Risk Finance*, *24*(2), 186–211. [CrossRef]

Hamilton, J. D. (1988). Rational-expectations econometric analysis of changes in regime: An investigation of the term structure of interest rates. *Journal of Economic Dynamics and Control*, *12*, 385–423. [CrossRef]

Johnson, R., & Soenen, L. (2002). Asian economic integration and stock market comovement. *Journal of Financial Research*, *25*, 141–157. [CrossRef]

Le, T., Vo, L. H., & Taghizadeh-Hesary, F. (2024). A study on the nonlinear dynamics of ASEAN financial integration. *Journal of Asian Business and Economic Studies*, *31*(1), 2–14. [CrossRef]

Lean, H. H., Alkhazali, O. M., Gleason, K., & Yeap, X. W. (2024). Connectedness and economic policy uncertainty spillovers to the ASEAN stock markets. *International Review of Economics and Finance*, *90*, 167–186. [CrossRef]

Li, D., Chen, X., & Wohlfarth, P. (2022). Public participation, investment networks, and China's outward FDI: Evidence from 58 countries along the belt and road. *Emerging Markets Review*, *51*, 100887. [CrossRef]

Narayan, P. K., Rath, B. N., & Syarifuddin, F. (2022). Understanding the role of trade agreements in Indonesia's FDI. *Journal of Asian Economics*, *82*, 101532. [CrossRef]

Park, Y. C., & Song, C.-Y. (2011). Renminbi internationalization: Prospects and implications for economic integration in East Asia. *Asian Economic Papers*, *10*, 42–72. [CrossRef]

Rahman, M. S. R., & Shahari, F. (2021). Does the financial cooperation agreement increase the interdependency among ASEAN+3 equity markets? A Markov switching approach. *International Economics and Economic Policy*, *18*, 869–899. [CrossRef]

Shahrier, N. A. (2022). Contagion effects in ASEAN-5 exchange rates during the COVID-19 pandemic. *North American Journal of Economics and Finance*, *62*, 101707. [CrossRef]

Shi, Y., Feng, L., & Fu, T. (2020). Markov regime-switching in-mean model with tempered stable distribution. *Computational Economics*, *55*(4), 1275–1299. [CrossRef]

Tang, C., Rosland, A., Li, J., & Yasmeen, R. (2024). The comparison of bilateral trade between China and ASEAN, China and EU: From the aspect of trade structure, trade complementarity and structural gravity model of trade. *Applied Economics*, *56*(9), 1077–1089. [CrossRef]

Verevis, S., & Üngör, M. (2021). What has New Zealand gained from the FTA with China? Two counterfactual analyses. *Scottish Journal of Political Economy*, *68*, 20–50. [CrossRef]

Vo, X. V., & Tran, T. T. A. (2020). Modelling volatility spillovers from the US equity market to ASEAN stock markets. *Pacific-Basin Finance Journal*, *59*, 101246. [CrossRef]

Wang, B., & Xiao, Y. (2023). Risk spillovers from China's and the US stock markets during high-volatility periods: Evidence from East Asian stock markets. *International Review of Financial Analysis*, *86*, 102538. [CrossRef]

Wu, F. (2020). Stock market integration in East and Southeast Asia: The role of global factors. *International Review of Financial Analysis*, *67*, 101416. [CrossRef]

Zhang, M., & Chen, Q. (2020). New opportunity for RMB internationalization in the post-COVID-19 period. *China Economic Transition*, *3*, 28–40.

Zhou, Q. (2024, November 11). China-Indonesia closer economic ties: Trade and investment opportunities. *China Briefing*. Available online: https://www.china-briefing.com/news/china-indonesia-trade-and-investment-profile-opportunities/ (accessed on 14 March 2025).