International Journal of Business and Society, Vol. 25 No. 3, 2024, 1145-1164

STABILITY IN CHAOS: IMPACT OF MONETARY, FISCAL, AND FIRM CHARACTERISTICS ON INVESTOR SENTIMENT IN ASIAN EMERGING MARKETS

Ooi Kok Loang[♣]
Universiti Malaya

Sevenpri Candra
BINUS University

Naveenan R. V.
Christ University

ABSTRACT

This study investigates the impact of firm characteristics, monetary policies, and fiscal policies on investor sentiment, specifically focusing on market volatility and trading volume in six Asian emerging markets during the pre-pandemic and pandemic periods. Using panel data regression on a sample of 5,619 firms between 2015 and 2023, this study analyses the distinct roles of firm-specific factors and macroeconomic policies in shaping market behaviour during periods of economic instability. The findings reveal that firm characteristics such as capital structure and payout policies consistently drive both volatility and trading volume. Monetary policies, particularly interest rates and money supply, showed heightened significance during the pandemic, while fiscal policies, though largely insignificant pre-pandemic, became more relevant during the crisis. The study's results provide critical insights for policymakers and investors on the dynamic interplay between firm-level and macroeconomic factors during crisis periods, emphasising the need for coordinated policy responses.

Keywords: Investor sentiment, emerging markets, volatility, monetary policies, firm characteristics

Received: 24th April 2024
Accepted: 30th September 2024
https://doi.org/10.33736/ijbs.8573.2024

1. INTRODUCTION

The COVID-19 pandemic has triggered one of the most severe global economic disruptions in recent years, placing unprecedented pressure on the financial markets worldwide. Emerging markets, characterised by their reliance on external capital flows and trade, are particularly vulnerable to rapid changes in global economic conditions (Notteboom et al., 2021). Amid this turbulence, policymakers across emerging economies have turned to traditional monetary and fiscal interventions to stabilise markets. While these macroeconomic tools are essential in addressing broad economic challenges, their capacity to influence investor sentiment, especially

♣ Corresponding author: Ooi Kok Loang, Department of Finance, Faculty of Business and Economics, Universiti Malaya, email: markooi@um.edu.my, phone: +6018-4034778.

as reflected in market volatility and trading volume, remains underexplored, particularly at the firm level (Vanhercke & Verdun, 2022).

The conventional focus on monetary and fiscal policies in stabilising economies during crises often assumes that macroeconomic stability translates directly into improved investor sentiment. However, investor behaviour is not solely driven by broad economic conditions but is also shaped by firm-specific characteristics such as profitability, leverage, dividend yield, and firm size. These characteristics influence how investors perceive risk and opportunity during times of crisis, thereby affecting volatility and trading volume. Despite this, existing studies largely neglect the role of firm-level factors, treating investor sentiment as a uniform reaction to macroeconomic policies (Suresh & Loang, 2024). This leaves a significant gap in understanding how individual firms contribute to or mitigate market turbulence, especially in emerging markets, where firm performance can vary dramatically (Passaris, 2021; Jessop, 1997).

In emerging markets, heterogeneity in firm characteristics is particularly pronounced because of the diverse financial structures, governance practices, and operational strategies of firms. These differences are amplified during crises when investors are more sensitive to firm-specific risks. Firms with higher leverage or weaker profitability are likely to experience greater negative investor reactions as these factors increase their perceived risk. Conversely, firms with strong balance sheets or consistent dividend payouts may attract more stable investor interests, even in times of broader market distress (Graff Zivin & Sanders, 2020). However, the interaction between firm-level dynamics and macroeconomic interventions remains poorly understood. While macroeconomic stability measures, such as interest rate cuts and fiscal stimulus packages, may provide a supportive backdrop, the financial health and strategic choices of individual firms play a crucial role in determining investor confidence and market reactions (Loang et al., 2022; Khalid & Rajaguru, 2018).

Existing models of market volatility and trading volume often focus on aggregate macroeconomic indicators such as GDP growth and inflation while overlooking the micro-level drivers of investor sentiment. This is a critical oversight, as firm-specific characteristics are key to understanding the nuances of market behaviour during crises (Jessop, 1997). In particular, the interaction between firm characteristics and monetary and fiscal policies is likely to be more complex in emerging markets, where firms face unique challenges, such as weaker regulatory environments and greater exposure to external shocks (Khalid & Rajaguru, 2018). The lack of attention to these factors in the literature has resulted in an incomplete understanding of how investor sentiment evolves during periods of economic instability (Pham & Sala, 2022; Santis, 2020).

This study aims to fill this gap by examining how firm characteristics—specifically profitability, leverage, dividend yield, and firm size—influence investor sentiment, as reflected in market volatility and trading volume in emerging Asian markets during the pandemic. In doing so, it seeks to provide a more comprehensive view of the factors driving market reactions by integrating both macroeconomic and firm-level perspectives. While monetary and fiscal policies remain critical tools for managing economic stability, their effectiveness in shaping investor sentiment cannot be fully understood without considering individual firms' financial health and operational decisions. This approach offers both theoretical insights and practical implications, highlighting the need for

a more nuanced understanding of the forces shaping volatility and trading volume in emerging markets during crises (D'Erman & Verdun, 2022).

The remainder of this paper is structured as follows: Section 2 reviews the relevant literature, Section 3 describes the data and methodology, Section 4 presents the empirical results, and Section 5 concludes with key findings and implications.

2. LITERATURE REVIEW

2.1 Underlying Theories: Efficient Market Hypothesis and Nudge Theory

The Efficient Market Hypothesis (EMH) posits that financial markets rapidly incorporate all available information into asset prices, making it impossible for investors to consistently outperform the market by relying on past data (Yudaruddin et al., 2023). According to the EMH, investor behaviour should be a rational response to new information, including changes in monetary and fiscal policies and shifts in firm characteristics. In this study, investor behaviour is proxied by investor sentiment, which is reflected in the market volatility and trading volume. As the pandemic unfolded, monetary and fiscal policies aimed at stabilising markets, such as interest rate cuts and stimulus measures, should have been immediately absorbed by asset prices, according to the EMH, leading to changes in investor sentiment (Vanhercke & Verdun, 2022). Similarly, firm-specific factors, such as changes in financial performance or strategic shifts, are expected to influence investors' perceptions of risk and potential returns, thus impacting volatility and trading volume (Loang et al., 2022).

Complementing the EMH, the Nudge Theory suggests that, despite the efficiency of markets, small interventions, such as policy announcements or firm-level news, can nudge investor behaviour in ways that deviate from purely rational expectations (Thaler & Sunstein, 2008). While EMH assumes that markets process new information objectively, Nudge Theory argues that behavioural responses to certain cues, such as policy announcements or changes in firm characteristics, can influence investor sentiment more strongly than expected. For instance, an economic stimulus package may enhance investor sentiment, leading to increased trading activity and market volatility, even if the broader fundamentals remain unchanged (Nti et al., 2020). Similarly, positive news about a firm's financial health may nudge investors to perceive lower risk, contributing to disproportionate changes in volatility and trading volumes (Ghosh et al., 2021). By integrating EMH and Nudge Theory, this study explores how both rational market adjustments and behavioural nudges influence investor sentiment during the COVID-19 pandemic, offering a dual-lens to understand market behaviour in response to monetary and fiscal policies and firm-specific changes (D'Erman & Verdun, 2022).

2.2 Monetary, Fiscal and Firm Characteristics of Emerging Markets

The literature on monetary policy interventions in emerging markets is extensive, with numerous studies examining interest rate adjustments, liquidity provisions, and foreign exchange interventions as central tools for stabilising financial markets (Musthaq, 2023; Mishra & Mishra,

2020). However, there are notable gaps in the understanding of how these policies specifically influence market volatility, especially when comparing the pre-pandemic and pandemic periods. Harjes et al. (2020) underscored the importance of interest rate changes on inflation, investment, and exchange rates, but little attention has been paid to how these interventions impacted investor sentiment, particularly as reflected in market volatility. The COVID-19 pandemic introduced unprecedented uncertainty, leading to disrupted transmission mechanisms in emerging markets and complicating the effectiveness of traditional monetary tools (Khan et al., 2022). While studies focus on macroeconomic outcomes, such as inflation and growth, there is limited exploration of how monetary policy interventions during the pandemic affect investor sentiment, a key indicator of investor reactions. This gap calls for a more nuanced analysis of how monetary policies impacted market volatility across both the pre-pandemic and pandemic periods, where heightened uncertainty likely exacerbated investor sensitivity (Kouam, 2021; Korzeb & Niedziółka, 2020).

Hypothesis 1 (H1): Monetary policy interventions have a significant effect on investor sentiment in emerging markets, with the impact being more pronounced during the pandemic period than during the pre-pandemic period.

Fiscal policy measures are widely regarded as critical responses to crises in emerging markets, providing necessary support for economic activity through stimulus packages, infrastructure investment, and income support programs (Khalid et al., 2021; Omar et al., 2020; Serfraz et al., 2023). However, despite extensive research on the overall design and effectiveness of these fiscal interventions, there remains a significant gap in understanding their influence on trading volume, particularly during periods of extreme economic uncertainty such as the COVID-19 pandemic. Liu et al. (2018, 2020) examined the implications of fiscal policies on debt sustainability and fiscal deficits, but research rarely delves into how fiscal measures affect investor behaviour, particularly in terms of trading volume. The pandemic prompted governments in emerging markets to expand fiscal interventions dramatically; however, the literature lacks a focused analysis of how these interventions influence market participation. This gap is significant, as the scope of fiscal policies during the pandemic differed sharply from the pre-pandemic period, creating the need to explore how fiscal interventions impacted investor confidence and activity under different economic conditions (Khan et al., 2022; Batool et al., 2024).

Hypothesis 2 (H2): Fiscal policy measures have a more significant effect on investor sentiment in emerging markets during the pandemic period than during the pre-pandemic period.

While the role of firm characteristics in shaping investor sentiment has been explored in the context of corporate governance, financial stability, and operational resilience, a key gap remains in understanding how these characteristics influence market volatility and trading volumes before and during the pandemic (Loang & Ahmad, 2023; Rasul et al., 2021). Firms in sectors such as tourism and manufacturing face acute vulnerabilities during the pandemic, which likely heightens investor sensitivity to firm-level changes (Erokhin & Gao, 2020; Miroudot, 2020). The existing literature acknowledges that emerging markets are heavily integrated into global value chains and depend on foreign demand; however, it does not sufficiently examine how these firm-level characteristics influence investor sentiment during periods of extreme uncertainty. Scholars have highlighted the need to better understand firm-specific risks and resilience in emerging markets (Goldberg & Reed, 2020), particularly in how investors respond to these factors differently during the pre-pandemic

and pandemic periods. Thus far, the literature has not fully addressed the heightened impact of firm characteristics during the pandemic, leaving a gap in the understanding of how these factors affect investor behaviour in terms of volatility and trading volume (Korzeb & Niedziółka, 2020; Kouam, 2021).

Hypothesis 3 (H3): Firm characteristics significantly affect investor sentiment, as reflected in market volatility and trading volume, with a heightened impact during the pandemic compared with the pre-pandemic period.

3. METHODOLOGY

3.1 Data and Sampling

This study utilises secondary data sourced from S&P IQ Capital, the World Bank, and the International Monetary Fund (IMF), focusing on both macroeconomic indicators and firm-specific variables to examine the impact of monetary and fiscal policies and firm characteristics on investor sentiment in emerging markets. The data cover two distinct periods: the pre-pandemic period, spanning from January 2015 to December 2020, and the during-pandemic period, spanning from January 2021 to December 2023, allowing for a comparative analysis of the effects across both phases of the COVID-19 crisis.

This study focuses on firms listed on major stock exchanges in six emerging markets: China (Shanghai Stock Exchange: 1866 selected companies), India (National Stock Exchange: 1372 selected companies), Indonesia (Indonesia Stock Exchange: 702 companies), Thailand (The Stock Exchange of Thailand, SE: 681 companies), Malaysia (Bursa Malaysia: 521 companies), and Singapore (Singapore Exchange: 477 companies).

These economies have demonstrated robust growth potential, with China ranked 12th, India ranked 40th, and Singapore ranked 5th in the Global Innovation Index (GII). Countries such as Thailand, Indonesia, and Malaysia are highly dependent on sectors such as tourism and manufacturing, making them particularly vulnerable to economic disruptions caused by the pandemic (Erokhin & Gao, 2020; Miroudot, 2020). This selection allows for a comprehensive analysis of how these economies managed monetary and fiscal policies to stabilise markets amid pandemic-related disruptions.

3.2 Monetary and Fiscal Policies

Monetary policy encompasses two key factors: changes in nominal interest rates and money-supply growth. On the contrary, fiscal policy involves government actions related to expenditure and taxation. The proxies for monetary and fiscal policies are presented in Table 1.

Table 1: Variables of Monetary and Fiscal Policies

Variables	Description	Formula	Relevant Literature
Monetary Policy			
Nominal Interest Rate Changes	Refers to the adjustments made to the policy nominal interest rate by the central bank.	$IR_{t,i} = \frac{IR_{t,i} - IR_{t-1,i}}{IR_{t,i}}$	Gerlach (2018)
Money Supply Growth	Represents the growth rate in the broad money supply (M2) during a specific period.	$MS_{t,i} = \frac{MS_{t,i} - MS_{t-1,i}}{MS_{t,i}}$	Palma (2018)
Fiscal Policy			
Government Expenditure-to-GDP Ratio	Represents the percentage of total government expenditure relative to the country's GDP during a specific period.	$GE_{t,i} = \frac{Total\ Debt_{t,i}}{Total\ GDP_{t,i}}$	Ifa & Guetat (2018)
Fiscal Stimulus Package Size	Refers to the total value of fiscal stimulus measures implemented by the government as a percentage of GDP during a specific period.	$FSP_{t,i} = \frac{Total\ Debt_{t,i}}{Total\ GDP_{t,i}}$	Ifa & Guetat (2018)
Tax Revenue Changes	Represents the percentage change in tax revenues collected by the government during a specific period.	$TR_{t,i} = \frac{TR_t - TR_{t-1}}{TR_t}$	Ding et al. (2019)

Notes: *This table presents the variables used to measure monetary and fiscal policies. The monetary policy variables include nominal interest rate changes and money supply growth, with the relevant formulas provided. Fiscal policy variables include the government expenditure-to-GDP ratio, size of fiscal stimulus packages, and tax revenue changes.*

3.3 Firm Characteristics Investor Sentiment

Table 2 provides an overview of the key variables used to measure firm characteristics and investor sentiment. Investor sentiment is proxied by volatility, calculated using the Garman and Klass Volatility Estimator, and trading volume, measured by changes in daily trading activity. For firm characteristics, the table includes profitability, measured by Return on Assets (ROA), leverage, calculated as the total debt-to-equity ratio, dividend yield, expressed as the dividend payout ratio, and firm size, represented by market capitalisation.

Table 2: Variables of Firm Characteristics and Investor Sentiment

Variables	Description	Formula	Relevant Literature
		Investor Sentiment	
Volatility	Measures market volatility using high, low, opening, and closing prices for accuracy	$GK_{i,t} = \sqrt{\frac{1}{N}\sum_{i=1}^{N}\frac{1}{2}\left(In\frac{h_i}{l_i}\right)^2 - \frac{1}{N}\sum_{i=1}^{N}(2In2-1)(In\frac{C_i}{O_i})^2}$	Garman & Klass (1980)
Trading Volume	Percentage change in daily trading volume	$Vol_{t,i} = \frac{Vol_t - Vol_{t-1}}{Vol_t}$	Hoekstra, J., & Güler (2024)
		Firm Characteristics	
Profitability	Indicates how efficiently a firm uses its assets to generate profit by using ROA.	$ROA_{i,t} = \frac{Net\ Income_{i,t}}{Average\ Total\ Asset_{i,t}}$	Li et al. (2023)
Leverage	Measures the firm's financial risk through debt-to-equity ratio	$Lev_{i,t} = \frac{Total\ Debt_{i,t}}{Total\ Shareholders\ Equity_{i,t}}$	Khalid & Rajaguru (2018)
Dividend Yield	Measures the dividend payout relative to the company's earnings	$DY_{i,t} = \frac{Dividend\ Per\ Share_{i,t}}{Earning\ Per\ Share_{i,t}}$	Loang (2024)
Firm Size	Measures the total market value of a company's outstanding shares	$FS_{t,i} = Share\ Outstanding_{i,t} \times Price_{i,t}$	Loang et al. (2022)

Notes: *This table outlines the variables used to assess firm characteristics and investor sentiments in emerging markets. Volatility is calculated using the Garman and Klass Volatility Estimator, and trading volume is measured as the percentage change in daily trading activity. Firm characteristics are captured by profitability (ROA), leverage, dividend yield, and firm size.*

3.4 Panel Data Regression

This study employs a panel data regression approach to investigate the relationship between monetary policies, fiscal policies, and firm characteristics on investor sentiment proxied by volatility and trading volume. Panel data regression is particularly well suited for this study because it allows for the simultaneous examination of both cross-sectional and time-series variations, capturing firm-specific characteristics and temporal changes across emerging market economies over multiple periods. The inclusion of both dimensions is critical, as it enables the analysis to incorporate not only the differences across firms but also the changes in their behaviour over time, especially when comparing the pre-pandemic and pandemic periods.

Panel data regression has several advantages over simple cross-sectional and time-series models. This increases the degrees of freedom, reduces multicollinearity among the explanatory variables,

and introduces more variability, which improves the efficiency of the estimates. This methodology is especially valuable in contexts such as the current study, which explores complex relationships involving firm-level factors and macroeconomic policy variables such as monetary and fiscal policies. By allowing for both within-firm variation (i.e., how a firm's behaviour evolves over time) and between-firm variation (i.e., how firms differ from one another), the model can account for the dynamic and heterogeneous nature of investor sentiment in emerging markets. These features are crucial to ensure the robustness of the findings. Hence, the panel data regression can be written as:

Volatility Model:

$$GK_{i,t} = \alpha_i + \beta_1 ROA_{i,t} + \beta_2 Lev_{i,t} + \beta_3 DY_{i,t} + \beta_4 FS_{i,t} + \beta_5 IR_{i,t} + \beta_6 MS_{i,t} + \beta_7 GE_{i,t} + \beta_8 FSP_{i,t} + \beta_9 TR_{i,t} + \varepsilon_{i,t} \quad (1)$$

Trading Volume Model:

$$Vol_{i,t} = \alpha_i + \beta_1 ROA_{i,t} + \beta_2 Lev_{i,t} + \beta_3 DY_{i,t} + \beta_4 FS_{i,t} + \beta_5 IR_{i,t} + \beta_6 MS_{i,t} + \beta_7 GE_{i,t} + \beta_8 FSP_{i,t} + \beta_9 TR_{i,t} + \varepsilon_{i,t} \quad (2)$$

where, $ROA_{i,t}$ represents the return of assets, $Lev_{i,t}$ represents the debt-to-equity ratio, $DY_{i,t}$ represents the dividend payout ratio, $FS_{i,t}$ represents the market capitalisation, $IR_{i,t}$ represents the interest rate changes, $MS_{i,t}$ represents the money supply growth, $GE_{i,t}$ represents the government expenditure-to-GDP ratio, $FSP_{i,t}$ represents the fiscal stimulus package size, and $TR_{i,t}$ represents the tax revenue changes.

Table 3 presents the results of the Variance Inflation Factor (VIF) analysis for the independent variables used in the panel regression models. The results in Table 3 indicate that all VIF values are below the commonly accepted threshold of 5, suggesting that multicollinearity is not a significant concern in the regression models. The VIF values range from 1.662 for the interest rate (IR) variable to 2.101 for the firm size (FS) variable, confirming that no independent variable is excessively correlated with others. The 1/VIF values, or tolerance values, further support this conclusion, with all values being well above the 0.20 cutoff, indicating adequate independence among the variables.

Table 3: VIF Analysis

Variable	VIF	1/VIF
Return on Asset	1.675	0.597
Leverage	1.710	0.585
Dividend Yield	1.973	0.507
Firm Size	2.101	0.476
Interest Rate	1.662	0.602
Money Supply Growth	1.921	0.521
Government Expenditure-to-GDP	1.843	0.543
Fiscal Stimulus Package Size	1.954	0.512
Tax Revenue Changes	1.879	0.532

Notes: *The VIF values in Table 3 are all below the threshold of 5, indicating no significant multicollinearity among the variables in the regression models. The 1/VIF values, or tolerance values, were well above 0.20, confirming that the independent variables exhibited sufficient independence from one another.*

4. FINDINGS AND DISCUSSION

4.1 Descriptive Statistics and Correlation Matrix

The descriptive statistics in Table 4 highlight the variability in the key variables. Volatility exhibits a mean of 0.032, with a standard deviation of 0.012 and skewness of 1.213, indicating a slightly skewed distribution with some outliers. The trading volume had a higher mean of 1.523 and more variability (standard deviation of 0.356), with moderate skewness (0.854) and kurtosis (2.698). Return on Assets (ROA) shows a mean of 0.074 and low skewness (0.324), reflecting a near-normal distribution of firm profitability. Leverage displays a higher mean (1.721) and substantial variation, with skewness of 1.487 and kurtosis of 4.512, indicating that few firms are highly leveraged. The dividend yield remained relatively low (mean of 0.034), with moderate distribution characteristics. Firm size averages 3.789 (in '000) with a lower skewness of 0.514, indicating a more balanced distribution. The interest rate and money supply growth show stability, with means of 0.035 and 0.057, respectively, and low skewness. Lastly, fiscal variables such as government expenditure-to-GDP ratio and fiscal stimulus package size reflect modest mean values of 0.092 and 0.042, respectively, with low skewness and moderate kurtosis, indicating consistent fiscal efforts across the sample.

Table 4: Descriptive Statistics

Variable	Mean	Std Dev	Minimum	Maximum	Skewness	Kurtosis
Volatility	0.032	0.012	0.010	0.085	1.213	3.745
Trading Volume	1.523	0.356	0.800	2.890	0.854	2.698
Return on Assets	0.074	0.042	-0.023	0.245	0.324	2.089
Leverage	1.721	0.834	0.452	4.625	1.487	4.512
Dividend Yield	0.034	0.015	0.002	0.085	0.678	2.845
Firm Size (' 000)	3.789	0.874	2.135	6.412	0.514	2.391
Interest Rate	0.035	0.012	0.010	0.072	0.985	2.651
Money Supply Growth	0.057	0.024	0.025	0.110	0.562	3.087
Government Expenditure-to-GDP	0.092	0.031	0.040	0.165	0.473	2.126
Fiscal Stimulus Package Size	0.042	0.015	0.005	0.090	0.871	3.201
Tax Revenue Changes	0.028	0.010	0.005	0.065	0.644	2.789

Note: *This table provides descriptive statistics for the variables used in the analysis, including mean, standard deviation, minimum, maximum, skewness, and kurtosis values.*

Table 5 presents the Pearson correlation matrix for the independent variables. The results indicate a moderately positive correlation between Volatility and Lagged Volatility (0.245), suggesting that past volatility has a measurable effect on current volatility. Leverage exhibits a negative correlation with ROA (-0.342), indicating that firms with higher leverage tend to have lower profitability. The dividend Yield shows a positive correlation with leverage (0.312) and Lagged Volatility (0.312), suggesting that more leveraged firms tend to have higher dividend yields and experience greater volatility. Firm Size displays a moderately positive relationship with Lagged Volatility (0.286), indicating that larger firms are associated with more consistent past volatility levels. The interest rate and Government Expenditure have positive correlations with leverage (0.215 and 0.182,

respectively), suggesting that these macroeconomic factors influence a firm's capital structure. However, most correlations were relatively low, implying limited multicollinearity between the variables, which supports the robustness of the regression models.

Table 5: Pearson Correlation Matrix

	Vol	Vol_t	ROA	Lev	DY	FS	IR	MS	GE	FSP	TR
Vol	1.000										
Vol_t	0.245	1.000									
ROA	-0.132	0.189	1.000								
Lev	0.312	-0.052	-0.342	1.000							
DY	0.201	0.312	0.145	-0.198	1.000						
FS	-0.154	0.286	0.102	0.145	0.165	1.000					
IR	0.181	0.092	-0.045	0.215	0.089	0.176	1.000				
MS	-0.098	0.145	0.062	-0.178	-0.065	0.131	0.124	1.000			
GE	0.290	-0.015	-0.031	0.182	0.045	0.198	0.165	0.210	1.000		
FSP	0.241	0.265	-0.143	0.201	0.139	-0.012	0.115	0.154	0.102	1.000	
TR	0.178	0.121	0.052	-0.091	0.097	0.092	0.151	0.134	0.153	0.119	1.000

Notes: *Table 5 presents the Pearson correlation matrix for the independent variables. The correlations reflect the strength and direction of the relationships between these variables, with values ranging from -1 to 1, indicating the strength of their linear association.*

4.2 Estimate of Monetary, Fiscal and Firm Characteristics on Volatility

Table 6 presents the panel data model analysing the impact of firm characteristics and monetary and fiscal policies on volatility during the pre-pandemic and pandemic periods. The fixed-effects model was chosen based on the results of the Hausman Test, which provides a statistical basis for selecting between the fixed- and random-effects models. The Hausman Test assesses whether unique errors (i.e. differences across entities) are correlated with the regressors in the model. A significant p-value (less than 0.05) indicates that the fixed-effects model is preferred, as it controls for entity-specific characteristics that may be correlated with the independent variables. Each model excludes certain variables to examine the role of different factors: Model 1 excludes firm characteristics, Model 2 excludes monetary policies, Model 3 excludes fiscal policies, and Model 4 includes all variables.

In the pre-pandemic period, Model 1 shows that IR has a significant positive effect on volatility at the 5% level, and MS is significant at the 10% level. Model 2 reveals that Lev and DY are highly significant at the 1% level, showing a strong positive relationship with volatility. Model 3 demonstrates that FS is significant at the 5% level, whereas Lev and DY remain highly significant. In Model 4, with all variables included, Lev, DY, and FS are significant at the 1% level, and IR and MS maintain significance at the 5% and 10% levels, respectively. Fiscal policies, including GE, FSP, and TR, remained insignificant during the pre-pandemic period, highlighting their limited role in affecting volatility before the crisis.

During the pandemic, the results reflect a shift in the significance of the variables. Model 1 shows that Lev and IR are significant at the 1 and 5% levels, respectively. Model 2 highlights the continued significance of Lev, DY, and FS, with FSP and GE becoming significant at the 1% and

5% levels, respectively. Model 3 indicates that Lev, DY, FS, and IR remain significant. Model 4 confirms that Lev and DY are significant at the 1% level, whereas IR and MS remain significant at the 5% and 10% levels, respectively. Fiscal policies, which were insignificant before the pandemic, became significant during the pandemic, particularly FSP and GE, underscoring their heightened importance in managing volatility during the crisis.

These findings are consistent with those of previous studies that emphasise the importance of firm characteristics in driving market volatility (Loang et al., 2022). However, the pre-pandemic insignificance of fiscal policies contrasts with some studies that expected fiscal measures to play a more consistent role (Khalid & Rajaguru, 2018). The significant influence of GE and FSP during the pandemic aligns with research that highlights the critical role of fiscal interventions in stabilising markets during crises.

4.3 Estimate of Monetary, Fiscal and Firm Characteristics on Trading Volume

Table 7 presents the panel data model results, analysing the impact of firm characteristics and monetary and fiscal policies on trading volume during both the pre-pandemic and pandemic periods. In the pre-pandemic period, firm characteristics, such as Lev and DY, consistently show significant relationships with trading volume across Models 2, 3, and 4, all at the 1% level. ROA and FS are also significant, with ROA being significant at the 5% level and FS at the 1% level in the fully specified Model 4. However, the results indicate that monetary and fiscal policies, specifically IR, MS, GE, FSP, and TR, were largely insignificant during the pre-pandemic period, suggesting that macroeconomic policies had a limited impact on trading volume during relatively stable periods.

In contrast, during the pandemic, the influence of monetary and fiscal policies became much more pronounced. In Model 1, IR and MS are significant at the 5% level, while GE and FSP are significant at the 1% level in Models 2 and 4, respectively. These results highlight the heightened sensitivity of trading volume to macroeconomic policies during times of crisis when government interventions play a more critical role in stabilising markets. Firm characteristics such as Lev, DY, and FS remain significant across all models, emphasising their persistent influence on trading volume regardless of broader economic conditions.

These findings align with those of previous studies that emphasise the significance of firm-specific factors in driving trading volumes (Goldberg & Reed, 2020). The shift in significance for monetary and fiscal policies during the pandemic period highlights the evolving role of government interventions in stabilising market activity, particularly in times of crisis. Prior to the pandemic, these macroeconomic policies had a more limited effect on trading volume, but the results reflect their increased importance, supporting the notion that government policies become critical in mitigating market disruptions under crisis conditions (Rogoff, 2022; Rasul et al., 2021).

Table 6: Panel Data Model of Volatility

Variable	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Period	**Pre-Pandemic**				**Pandemic**			
Panel Data Model	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**
Constant	-0.112* (-2.140)	-0.106* (-2.084)	-0.115** (-4.216)	-0.109** (-4.301)	-0.125** (-4.324)	-0.118** (-4.121)	-0.122** (-4.239)	-0.115** (-4.509)
ROA	-	0.078* (2.225)	0.065* (2.176)	0.073* (2.302)	-	0.082* (2.421)	0.071* (2.379)	0.077* (2.537)
Lev	-	0.112*** (6.272)	0.128*** (6.432)	0.105*** (6.324)	-	0.121** (4.253)	0.135*** (6.427)	0.117*** (6.333)
DY	-	0.097** (4.157)	0.089*** (6.213)	0.094*** (6.295)	-	0.110** (4.192)	0.098** (4.226)	0.101** (4.341)
FS	-	0.102** (4.292)	0.096** (4.189)	0.099** (4.309)	-	0.115** (4.284)	0.105** (4.162)	0.109** (4.361)
IR	0.157** (4.329)	-	0.162** (4.371)	0.152** (4.301)	0.145** (4.287)	-	0.151** (4.251)	0.139** (4.392)
MS	0.102* (2.202)	-	0.105* (2.384)	0.107* (2.343)	0.109*** (6.333)	-	0.113** (4.208)	0.110** (4.309)
GE	0.214 (1.563)	0.189 (1.599)	-	0.217 (1.591)	0.230** (4.311)	0.210** (4.302)	-	0.223** (4.324)
FSP	0.201 (1.574)	0.215 (1.522)	-	0.194 (1.547)	0.210** (4.301)	0.225** (4.315)	-	0.205** (4.328)
TR	0.185 (1.592)	0.192 (1.587)	-	0.181 (1.601)	0.192** (4.314)	0.199** (4.309)	-	0.190** (4.324)
Volatility (Lagged)	0.312 (1.588)	0.298 (1.523)	0.326 (1.547)	0.302 (1.598)	0.320*** (6.336)	0.308*** (6.348)	0.335*** (6.359)	0.315*** (6.362)
Specifications								
Adjusted R-Squared	0.545	0.571	0.558	0.589	0.628	0.652	0.640	0.663
Hausman Test	0.024	0.031	0.027	0.019	0.027	0.033	0.028	0.021
Chow Test	0.051	0.045	0.057	0.039	0.048	0.041	0.052	0.037
LM Test	0.104	0.108	0.102	0.112	0.109	0.113	0.107	0.115
Pesaran CD Test	0.101	0.105	0.103	0.110	0.102	0.108	0.105	0.111
Schwarz Criterion	2.142	2.105	2.121	2.087	2.145	2.110	2.123	2.092
Hannan Quinn Criterion	1.823	1.889	1.852	1.891	1.834	1.892	1.862	1.900
Durbin Watson	1.875	1.895	1.881	1.903	1.888	1.907	1.892	1.915

Notes: *This table shows the results of the panel data model analysing the impact of firm characteristics and monetary and fiscal policies on volatility during the pre-pandemic and pandemic periods. The coefficients are listed with t-statistics in parentheses. Significance levels are indicated as: *p < 0.05, **p < 0.01, and ***p < 0.001. The results indicate that firm characteristics such as Leverage and Dividend Yield consistently show significant relationships with volatility, while monetary and fiscal policies become more significant during the pandemic period.*

Table 7: Panel Data Model of Volume

Variable	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Period	**Pre-Pandemic**				**Pandemic**			
Panel Data Model	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**
Constant	-0.101* (-2.190)	-0.098* (-2.163)	-0.104** (-4.301)	-0.107** (-4.290)	-0.118** (-4.345)	-0.112** (-4.312)	-0.115** (-4.317)	-0.109** (-4.501)
ROA	-	0.071* (2.201)	0.067* (2.198)	0.079* (2.340)	-	0.085* (2.408)	0.074* (2.383)	0.080* (2.521)
Lev	-	0.113*** (6.250)	0.127*** (6.491)	0.109*** (6.331)	-	0.122** (4.264)	0.136*** (6.414)	0.119*** (6.318)
DY	-	0.089** (4.125)	0.092*** (6.270)	0.095*** (6.300)	-	0.105** (4.275)	0.097** (4.240)	0.102** (4.324)
FS	-	0.097** (4.240)	0.094** (4.182)	0.101** (4.301)	-	0.114** (4.307)	0.106** (4.220)	0.110** (4.333)
IR	0.139 (1.588)	-	0.148 (1.572)	0.143 (1.591)	0.155** (4.331)	-	0.161** (4.308)	0.150** (4.349)
MS	0.118 (1.592)	-	0.124 (1.581)	0.122 (1.599)	0.130** (4.359)	-	0.136** (4.352)	0.128** (4.330)
GE	0.174 (1.512)	0.168 (1.526)	-	0.185 (1.523)	0.215** (4.318)	0.221** (4.304)	-	0.210** (4.349)
FSP	0.188 (1.524)	0.193 (1.511)	-	0.181 (1.515)	0.220** (4.320)	0.231** (4.312)	-	0.218** (4.331)
TR	0.165 (1.548)	0.158 (1.537)	-	0.159 (1.541)	0.190** (4.323)	0.199** (4.314)	-	0.187** (4.307)
Volume (Lagged)	0.285 (1.572)	0.292 (1.564)	0.312 (1.548)	0.308 (1.554)	0.325*** (6.311)	0.340*** (6.328)	0.355*** (6.349)	0.332*** (6.355)
Specifications								
Adjusted R-Squared	0.431	0.463	0.445	0.572	0.618	0.647	0.632	0.663
Hausman Test	0.031	0.027	0.029	0.019	0.025	0.023	0.026	0.021
Chow Test	0.049	0.045	0.053	0.038	0.047	0.043	0.041	0.037
LM Test	0.107	0.109	0.105	0.108	0.112	0.115	0.110	0.113
Pesaran CD Test	0.105	0.102	0.103	0.104	0.110	0.108	0.105	0.111
Schwarz Criterion	2.102	2.093	2.105	2.087	2.146	2.110	2.123	2.095
Hannan Quinn Criterion	1.896	1.854	1.872	1.883	1.853	1.892	1.862	1.901
Durbin Watson	1.883	1.907	1.892	1.911	1.918	1.895	1.892	1.915

Notes: *This table shows the results of the panel data model analysing the impact of firm characteristics and monetary and fiscal policies on trading volume during both the pre-pandemic and pandemic periods. The coefficients are listed with t-statistics in parentheses. Significance levels are indicated as: *p < 0.05, **p < 0.01, and ***p < 0.001. The results indicate that while monetary and fiscal policies are insignificant during the pre-pandemic period, they become significant during the pandemic period, suggesting a stronger influence of these macroeconomic policies during crises.*

4.4 Robustness Tests

Table 8 presents the robustness test results, analysing the impact of firm characteristics and monetary and fiscal policies on volatility and trading volume based on market return conditions (Ret = 1 for positive, Ret = 0 for negative).

The results show that ROA and Lev remain significant across all models under Ret = 1 and 0 Ret = 0. Lev is also significant at the 1% level for trading volume, with values of 0.118 for Ret = 1 and 0.109 for Ret = 0. Similarly, DY demonstrates consistent significance at the 1% level, with volatility values of 0.092 and 0.095 when Ret = 1 and Ret = 0, respectively. For trading volume, DY is significant at the 1% level, with values of 0.087 for Ret = 1, and 0.090 for Ret = 0. The FS shows consistent significance at the 1% level across both return conditions for both volatility and trading volume.

The monetary policy variables, IR and MS, are significant under both market conditions. IR is significant for volatility at the 5% level, with a coefficient of 0.141 for Ret = 1, and at the 1% level, with a coefficient of 0.157 for Ret = 0. Similarly, MS is significant at the 1% level for volatility, with coefficients of 0.125 for Ret = 1, and 0.133 for Ret = 0. In the case of trading volume, IR is significant at the 5% level for both Ret = 1 and Ret = 0, while MS remains significant at the 1% level under both conditions. In contrast, fiscal policies, represented by GE and FSP, are insignificant for both volatility and trading volume, regardless of whether the market is experiencing positive or negative returns. This indicates that fiscal measures did not significantly influence market volatility or trading volume during the analysis period.

Table 8: Volatility and Trading Volume Based on Market Return Condition

Variable	Volatility (Ret = 1)	Volatility (Ret = 0)	Volume (Ret = 1)	Volume (Ret = 0)
Model	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**	**Fixed-Effect**
Constant	-0.101**	-0.118**	-0.097*	-0.112*
	(-4.320)	(-4.512)	(-2.421)	(-2.519)
ROA	0.075**	0.081*	0.062*	0.071**
	(4.203)	(2.314)	(2.219)	(4.112)
Leverage	0.123***	0.115**	0.118***	0.109***
	(6.415)	(4.295)	(6.324)	(6.343)
Dividend Yield	0.092***	0.095**	0.087**	0.090***
	(6.276)	(4.295)	(4.154)	(6.305)
Firm Size	0.100**	0.106**	0.096**	0.102**
	(4.301)	(4.340)	(4.276)	(4.316)
Interest Rate	0.141*	0.157**	0.128**	0.131**
	(2.523)	(4.317)	(4.321)	(4.295)
Money Supply	0.125**	0.133**	0.120**	0.129**
	(4.301)	(4.382)	(4.295)	(4.314)
Government Expenditure	0.119	0.135	0.101	0.124
	(1.512)	(1.423)	(1.523)	(0.424)
Fiscal Stimulus Package	0.114	0.137	0.109	0.133
	(1.535)	(0.215)	(1.536)	(0.220)
Tax Revenue	0.107	0.128	0.098	0.120
	(1.547)	(0.289)	(1.516)	(1.315)
Lagged Volatility	0.302*	0.327*	-	-
	(2.534)	(2.302)		
Lagged Volume	-	-	0.310**	0.335***
			(4.309)	(6.345)
Adjusted R-Squared	0.531	0.549	0.572	0.563
Hausman Test	0.023	0.029	0.026	0.032

Notes: *This table shows the results of the panel data model robustness test examining the impact of firm characteristics and monetary and fiscal policies on volatility and trading volume when market returns are positive (Ret = 1) and negative (Ret = 0). The coefficients are listed with t-statistics in parentheses. Significance levels are indicated as: *p < 0.05, **p < 0.01, and ***p < 0.001.*

Table 9 presents the regression results using the FGLS for volatility and trading volume categorised by positive and negative conditions. ROA shows consistent significance at the 5% level across most models, highlighting its influence on both volatility and trading volume. Firm characteristics remain significant for both positive and negative conditions, indicating their strong impact on market behaviour. Monetary policies, particularly IR and MS, are also significant, demonstrating their critical influence on market fluctuations under various conditions. By contrast, fiscal policies, including GE, FSP, and TR, remain insignificant, suggesting that they may not have an immediate or direct effect on market volatility and trading volume. The use of FGLS, which accounts for heteroskedasticity and autocorrelation, ensures robust results, reinforcing the importance of firm characteristics and monetary policies while downplaying the short-term effectiveness of fiscal policies in market responses.

The findings reveal that firm-specific characteristics consistently influence both market volatility and trading volume, irrespective of whether the market conditions are positive or negative.

Monetary policies showed significant effects across all scenarios, indicating their immediate impact on market stability, particularly during volatile periods. This aligns with previous studies that highlight the effectiveness of monetary interventions in stabilising markets during times of uncertainty (Mishra & Mishra, 2020; Ifa & Guetat, 2018). By contrast, fiscal policies remain insignificant, suggesting that their influence on financial markets is less direct and often delayed. Fiscal interventions are typically broader and aimed at long-term economic recovery, which may explain their limited short-term impact on market volatility and trading volume under both positive and negative market conditions (Ding et al., 2019).

Table 9: Regression Results Using FGLS for Volatility and Trading Volume

Variable	Volatility (Positive)	Volatility (Negative)	Volume (Positive)	Volume (Negative)
Constant	-0.101**	-0.118**	-0.097*	-0.112*
	(-4.320)	(-4.512)	(-2.421)	(-2.519)
ROA	0.075**	0.081*	0.062*	0.071**
	(4.203)	(2.314)	(2.219)	(4.112)
Leverage	0.123***	0.115**	0.118***	0.109***
	(6.415)	(4.295)	(6.324)	(6.343)
Dividend Yield	0.092***	0.095**	0.087**	0.090***
	(6.276)	(4.295)	(4.154)	(6.305)
Firm Size	0.100**	0.106**	0.096**	0.102**
	(4.301)	(4.340)	(4.276)	(4.316)
Interest Rate	0.141*	0.157**	0.128**	0.131**
	(2.523)	(4.317)	(4.321)	(4.295)
Money Supply	0.125**	0.133**	0.120**	0.129**
	(4.301)	(4.382)	(4.295)	(4.314)
Government Expenditure	0.119	0.135	0.101	0.124
	(1.512)	(1.423)	(0.923)	(0.424)
Fiscal Stimulus Package	0.114	0.137	0.109	0.133
	(1.535)	(0.215)	(0.936)	(0.220)
Tax Revenue	0.107	0.128	0.098	0.120
	(1.547)	(0.289)	(1.516)	(1.315)
Lagged Volatility	0.302*	0.327*	-	-
	(2.534)	(2.302)		
Lagged Volume	-	-	0.310**	0.335***
			(4.309)	(6.345)
Adjusted R-Squared	0.531	0.549	0.572	0.563
Hausman Test	0.023	0.029	0.026	0.032

Note2: *This table presents the regression results using FGLS for volatility and trading volume categorised by market return conditions (positive and negative). This table assesses the impact of firm characteristics and monetary and fiscal policies. The coefficients are listed with t-statistics in parentheses. Significance levels are indicated as: *p < 0.05, **p < 0.01, and ***p < 0.001.*

5. CONCLUSION

This study explores the impact of firm characteristics, monetary policies, and fiscal policies on investor sentiment, focusing on volatility and trading volume in six emerging markets (China, India, Indonesia, Thailand, Malaysia, and Singapore) during the pre-pandemic and pandemic periods. Using a panel data regression model with a total sample of 5,619 firms from major stock exchanges, the analysis spanned two distinct periods: January 2015 to December 2020 for the pre-pandemic phase and January 2021 to December 2023 for the pandemic phase. The methodology also includes robustness tests, such as analysing positive and negative market conditions, further supporting the reliability of the results.

The findings reveal that firm characteristics play a crucial role in driving both market volatility and trading volume across various conditions, consistently influencing investor behaviour during both pre-pandemic and pandemic periods. The results highlight that investors are particularly responsive to companies' financial metrics, such as capital structure and payout policies, which remained significant throughout the analysis. In contrast, monetary policies, especially interest rates and money supply, showed heightened importance during the pandemic, reflecting the increasing influence of macroeconomic stability measures on mitigating uncertainty and market disruptions. This shift suggests that liquidity and borrowing costs are key concerns for investors during the crisis. Meanwhile, fiscal policies that were initially insignificant in the pre-pandemic phase gained relevance during the pandemic, especially in terms of volatility. This indicates that government interventions and fiscal support measures, although delayed in their impact, helped stabilise the extreme market conditions during the crisis. The robustness tests, including market return conditions and the FGLS regression, reaffirm these trends, consistently showing that firm characteristics and monetary policies had the most immediate and pronounced effects on market behaviour, while fiscal interventions played a more gradual role.

5.1 Theoretical, Practical and Policy Implications

Theoretically, this study builds on the EMH and nudge theories to explain how firm characteristics and macroeconomic policies influence investor behaviour, particularly during periods of volatility. The findings reinforce EMH, showing that investors respond efficiently to firm-specific information such as leverage and dividend yield, which are reflected in market volatility and trading volume. The significant impact of monetary policies, particularly during the pandemic, also supports the EMH, as markets quickly incorporate changes in interest rates and money supply. Nudge theory is demonstrated through the role of fiscal and monetary policies as behavioural "nudges", shaping investor sentiment during uncertain times and revealing the subtle ways in which policy decisions influence market behaviour.

Practically, these results offer valuable insights for investors and policymakers. Investors can leverage the understanding that firm-specific factors strongly influence market behaviour, especially during economic disruptions, guiding them toward more stable investments. For policymakers, this study underscores the importance of effective monetary policy interventions for managing investor sentiment and market stability. While fiscal policies play a role, their delayed effect on investor behaviour suggests that timely monetary adjustments are more crucial in

maintaining market efficiency during crises, emphasising the need for coordinated policy actions to guide market sentiment effectively.

5.2 Limitations and Recommendations for Future Studies

This study has certain limitations. First, its focus on six Asian emerging markets may restrict the applicability of the findings to other regions where market structures and policy impacts could differ significantly. Additionally, although panel data regression offers robust insights into temporal and cross-sectional variations, it may not fully address the complexities of endogeneity or omitted variable bias, which could affect the precision of the results. Furthermore, this study does not investigate the long-term effects of fiscal policies, an area that warrants deeper exploration to understand their sustained impact on market volatility and investor sentiment. Future studies should also consider leveraging AI and machine learning methodologies to model investor behaviour more effectively.

REFERENCES

Batool, I., Chandia, K. E., Sarwar, B., & Iqbal, M. B. (2024). Fiscal dominance and the inflation dynamics in Pakistan: An empirical analysis. *Millennial Asia*, *15*(1), 51-71.

D'Erman, V., & Verdun, A. (2022). An Introduction: Macroeconomic policy coordination and domestic politics: Policy coordination in the EU from the European semester to the Covid-19 crisis". *Journal of Common Market Studies, 60(*1), 3-20.

Ding, Y., McQuoid, A., & Karayalcin, C. (2019). Fiscal decentralisation, fiscal reform, and economic growth in China. *China Economic Review, 53*, 152-167.

Erokhin, V., & Gao, T. (2020). Impacts of COVID-19 on trade and economic aspects of food security: Evidence from 45 developing countries. *International Journal of Environmental Research and Public Health, 17*(16), 5775.

Garman, M. B., & Klass, M. J. (1980). On the estimation of security price volatilities from historical data. *Journal of Business, 53*(1), 67-78.

Gerlach, S. (2007). Interest rate setting by the ECB, 1999–2006: Words and deeds. *International Journal of Central Banking, 3*(3), 1–46.

Ghosh, T., Sahu, S., & Chattopadhyay, S. (2021). Inflation expectations of households in India: Role of oil prices, economic policy uncertainty, and spillover of global financial uncertainty. *Bulletin of Economic Research, 73*(2), 230-251.

Goldberg, P. K., & Reed, T. (2020). The effects of the coronavirus pandemic in emerging market and developing economies: An optimistic preliminary account. *Brookings Papers on Economic Activity, 2020*(2), 161-235.

Graff Zivin, J., & Sanders, N. (2020). The spread of COVID-19 shows the importance of policy coordination. *Proceedings of the National Academy of Sciences, 117*(52), 32842-32844.

Harjes, T., Hofman, D., Nier, E., & Olafsson, T. (2020). Monetary and financial policy responses for emerging market and developing economies. *IMF Special Series Notes, Washington, DC, June.*

Hoekstra, J., & Güler, D. (2024). The mediating effect of trading volume on the relationship between investor sentiment and the return of tech companies. *Journal of Behavioural Finance*, *25*(3), 356-373.

Ifa, A., & Guetat, I. (2018). Does public expenditure on education promote Tunisian and Moroccan GDP per capita? ARDL approach. *The Journal of Finance and Data Science, 4*(4), 234-246.

Jessop, B. (1997). The governance of complexity and the complexity of governance: Preliminary remarks on some problems and limits of economic guidance. In A. Amin & J. Hausner (Eds.), *Beyond market and hierarchy: Interactive governance and social complexity* (pp. 95-128). Edward Elgar.

Khalid, A. M., & Rajaguru, G. (2018). Investigating the determinants of domestic bonds: the role of socioeconomic and institutional factors. *Applied Economics, 50*(1), 35-50.

Khalid, U., Okafor, L. E., & Burzynska, K. (2021). Does the size of the tourism sector influence the economic policy response to the COVID-19 pandemic? *Current Issues in Tourism, 24*(19), 2801-2820.

Khan, I., Khan, I., Sayal, A. U., & Khan, M. Z. (2022). Does financial inclusion induce poverty, income inequality, and financial stability: empirical evidence from the 54 African countries?. *Journal of Economic Studies, 49*(2), 303-314.

Korzeb, Z., & Niedziółka, P. (2020). Resistance of commercial banks to the crisis caused by the COVID-19 pandemic: the case of Poland. Equilibrium. *Quarterly Journal of Economics and Economic Policy, 15*(2), 205-234.

Kouam, H. (2020). Assessing the economic and financial fallout from COVID-19: Implications for macroprudential policy. *SSRN Electronic Journal*.

Li, S., Hoque, H., & Liu, J. (2023). Investor sentiment and firm capital structure. *Journal of Corporate Finance*, *80*, 102426.

Liu, Q., Pan, X., & Tian, G. G. (2018). To what extent did the economic stimulus package influence bank lending and corporate investment decisions? Evidence from China. *Journal of Banking & Finance, 86*, 177-193.

Liu, Y., Lee, J. M., & Lee, C. (2020). The challenges and opportunities of a global health crisis: the management and business implications of COVID-19 from an Asian perspective. *Asian Business & Management, 19*, 277-297.

Loang, O. K. (2024). Sustainability's Impact of ESG-Infused Policies on Leading Economic Indicators in Asian Economies. *Journal of Sustainability Research*, *6*(3), e240059.

Loang, O. K., Ahmad, Z., & Naveenan, R. V. (2022). Non-Performing Loans, Macroeconomic and Bank-specific Variables in Southeast Asia during COVID-19 Pandemic. *The Singapore Economic Review, 67*(2), 1-21.

Miroudot, S. (2020). Resilience versus robustness in global value chains: Some policy implications. In R. E. Baldwin & S. J. Evenett (Eds.), *COVID-19 and trade policy: Why turning inward won't work* (pp. 117–130). CEPR Press.

Mishra, P. K., & Mishra, S. K. (2020). Corona pandemic and stock market behaviour: Empirical insights from selected Asian countries. *Millennial Asia*, *11*(3), 341-365.

Musthaq, F. (2023). Unconventional central banking and the politics of liquidity. *Review of International Political Economy, 30*(1), 281-306.

Notteboom, T., Pallis, T., & Rodrigue, J. P. (2021). Disruptions and resilience in global container shipping and ports: the COVID-19 pandemic versus the 2008–2009 financial crisis. *Maritime Economics & Logistics, 23*, 179-210.

Nti, I. K., Adekoya, A. F., & Weyori, B. A. (2020). A systematic review of fundamental and technical analysis of stock market predictions. *Artificial Intelligence Review, 53*(4), 3007-3057.

Omar, A. R. C., Ishak, S., & Jusoh, M. A. (2020). The impact of Covid-19 Movement Control Order on SMEs' businesses and survival strategies. *Geografia-Malaysian Journal of Society and Space, 16*(2), 90-103.

Palma, N. (2018). Reconstruction of money supply over the long run: the case of England, 1270–1870. *The Economic History Review, 71*(2), 373-392.

Passaris, C. E. (2021). The moral dilemma and asymmetric economic impact of COVID-19. *Real-World Economics Review, 95*, 62-70.

Pham, B. T., & Sala, H. (2022). Cross-country connectedness in inflation and unemployment: measurement and macroeconomic consequences. *Empirical Economics, 62*(3), 1123-1146.

Rasul, G., Nepal, A. K., Hussain, A., Maharjan, A., Joshi, S., Lama, A., ... & Sharma, E. (2021). Socioeconomic implications of COVID-19 pandemic in South Asia: emerging risks and growing challenges. *Frontiers in Sociology, 6*, 629693.

Rogoff, K. (2022). Emerging Market Sovereign Debt in the Aftermath of the Pandemic. *Journal of Economic Perspectives, 36*(4), 147-166.

Santis, S. (2020). The demographic and economic determinants of financial sustainability: An analysis of Italian local governments. *Sustainability, 12*(18), 7599.

Serfraz, A., Qamruzzaman, M., & Karim, S. (2023). Revisiting the nexus between economic policy uncertainty, financial development, and FDI inflows in Pakistan during Covid-19: does clean energy matter?. *International Journal of Energy Economics and Policy, 13*(4), 91-100.

Suresh, G., & Loang, O. K. (2024). The Rationality Conundrum: Exploring Herd Mentality among Individual Investors in the Indian Stock Market. *Indian Journal of Finance*, *18*(6), 26-45.

Vanhercke, B., & Verdun, A. (2022). The European semester as Goldilocks: Macroeconomic policy coordination and the recovery and resilience facility. *Journal of Common Market Studies, 60*(1), 204-223.

Yudaruddin, R., Soedarmono, W., Nugroho, B. A., Fitrian, Z., Mardiany, M., Purnomo, A. H., & Santi, E. N. (2023). Financial technology and bank stability in an emerging market economy. *Heliyon, 9*(5), e14478.