Foreign Exchange Management Regime and Value of Shares Traded Ratio in Nigeria

Oliyide, Oluwayomi Roseline[1]; Dr. Ogbebor, Peter Ifeanyi[2]; Dr. Akande, Folorunso Ilesanmi[3].

[1]Department of Finance, School of Management Sciences,
Babcock University, Ilishan-Remo Ogun State, Nigeria

[2]Department of Finance, School of Management Sciences,
Babcock University, Ilishan-Remo Ogun State, Nigeria

[3]Department of Finance, School of Management Sciences,
Babcock University, Ilishan-Remo Ogun State, Nigeria

Abstract
To stabilize the foreign exchange market, the Nigerian government implemented policies prioritizing essential forex demands, reducing volatility, and conserving reserves. Measures included restricting forex access for certain items, capping international ATM withdrawals, and limiting naira card usage abroad. Forex was allocated mainly for critical imports and travel allowances. Despite these steps, reserves continued to fall, leading to a shift to a flexible exchange rate regime in June 2016. This introduced new trading platforms, expanded forward contracts, and aimed to enhance exchange rate stability. By then, the naira had significantly devalued across both interbank and BDC markets. Therefore, this study examined the effect of foreign exchange management regimes on the value of shares traded ratio in Nigeria overthirty-six-year period, from 1986 to 2022. The study adopt an ex-post factor research design, an autoregressive distributed lag model was the estimation techniques with an inference of 5% level of significance. The findings reveal contrasting impacts of floating and fixed exchange rate regimes on stock market activity. Under the floating regime, exchange rate and balance of payments have insignificant negative effects, while external reserves and inflation significantly reduce the value of shares traded. Conversely, foreign direct investment (FDI) positively influences share trading, and foreign portfolio investment (FPI) shows a positive but insignificant effect. In the fixed exchange regime, all key variables exchange rate, balance of payments, external reserves, and inflation exert strong negative effects on share trading, suggesting that currency rigidity, external imbalances, and inflationary pressures suppress market liquidity. FDI has a limited positive effect, while FPI shows a significant negative impact, indicating that the fixed regime may deter foreign investment. The results emphasize the need for a more flexible exchange rate approach and policy strategies that attract foreign investment while controlling inflation. Recommendations include encouraging FDI and FPI under a floating regime, improving inflation control, and enhancing transparency in foreign exchange policies to boost market efficiency and investor confidence.

Keywords: foreign exchange management, value of shares traded, foreign portfolio investment

1.0 Introduction

The stock market serves as a barometer for investor confidence across various economic sectors, reflecting the strength and stability of the productive economy and signaling expectations about the financial system's resilience. Sustained growth in stock indexes, as noted by Ogbebor and Siyanbola (2018), often encourages banks to extend more loans and advances, not only to facilitate stock market investments but also to stimulate activities across diverse sectors of the economy. Higher returns on stock market investments particularly attract foreign investors, leading to an influx of foreign portfolio investments that strengthen the capital bases of banks, promote lending, and foster economic growth and development.

In developed countries such as the United States, Japan, and China, the stock market plays a central role within the broader financial market, driving industrial and commercial growth and contributing significantly to economic development (Wang & Kong, 2021). Financial markets facilitate the essential interaction between investors and savers, allowing for the discovery of asset prices through the formalized exchange between buyers and sellers (Xu & Wan, 2015). As Dabwor et al. (2020) argue, a well-functioning financial market forms a strong foundation for sustainable economic growth and development in both developed and emerging economies. For instance, Japan is a market-oriented and trade-dependent nation, a member of both the G-7 and the Organization for Economic Cooperation and Development (OECD). Kishor et al. (2021) highlight that Japan held the second-largest economy globally from 1968 to 2009, with exports and advancements in manufacturing technologies playing a vital role in driving economic prosperity. However, from the 1990s onward—commonly referred to as Japan's "lost decade" the country faced prolonged economic challenges, including recession and deflation. Despite the economic stagnation and ultra-low interest rates, Japan's stock market has performed relatively well in the twenty-first century, benefiting from the yen's status as a safe-haven currency, particularly during periods of financial instability in other Asian markets, such as China (Fukao, 2018).

Similarly, China's stock market has experienced significant fluctuations, particularly in response to events such as the COVID-19 pandemic, which brought substantial pressure to global financial markets. Haider et al. (2017) note that the Shanghai, Shenzhen, and Hong Kong markets experienced volatility, with unexpected crashes resulting in investor losses. To mitigate the impact, banks injected capital into various sectors, including retail and manufacturing. Carpenter and Whitelaw (2017) further argue that the Chinese stock market is crucial for enhancing the financing structures of enterprises and optimizing the allocation of social resources.

The relationship between foreign exchange markets and stock markets has grown increasingly complex since the 1980s, fueled by globalization, interconnected capital markets, relaxed capital inflow restrictions, and the adoption of flexible exchange rate systems across developed and transitional economies (Ahamed & Kevin, 2022). This interaction can manifest both in the short

term where rising stock market trends may lead to currency depreciation and the long term where a weakened currency can contribute to declines in stock market performance. Movements in exchange rates impact the stock market through multiple channels. According to monetarist exchange rate determination models, exchange rate changes can affect wealth and equity values, subsequently influencing demand for money (Ezenwa et al., 2021).

To stabilize the foreign exchange market, various policies have been implemented, emphasizing the prioritization of essential foreign exchange demands, minimizing exchange rate volatility, and preventing further depletion of foreign reserves. Notable measures have included restricting certain items from forex access at the interbank market, capping international ATM withdrawals to USD 300, and limiting naira-denominated card use overseas. Additionally, foreign exchange has been reserved for specific uses such as commercial bank letters of credit, petroleum product imports, machinery and raw materials imports, and payments for school fees, Business Travel Allowance (BTA), and Personal Travel Allowance (PTA) (Owolabi & Adegbite, 2014). Despite these interventions, external reserves have continued to dwindle, prompting the Central Bank of Nigeria (CBN) to shift from a managed float to a more flexible exchange rate regime on June 20, 2016. Key aspects of this new regime included the introduction of Foreign Exchange Primary Dealers (FXPDs) and non-FXPDs, establishment of the FMDQ as a trading platform, and the utilization of the Reuters Trading and Reporting System (TRFXT) for efficient currency exchange operations. Additionally, the expansion of forward contracts from a tenor of 1-3 months to up to 2 years enhanced hedging opportunities, contributing to exchange rate stabilization. As of June 2016, the exchange rate averaged N231.76 at the interbank level and N351.82 at Bureau de Change (BDC) segments, marking devaluations of 14.9% and 4.2%, respectively, under the flexible exchange rate regime (CBN, 2017).

More so, the debate over optimal exchange rate regimes whether fixed or floating has significant implications for economic stability and market performance, especially concerning the value of shares traded. A floating exchange rate allows for currency value fluctuations based on market forces, leading to potential volatility that can impact investors' confidence and trading activities. Conversely, a fixed exchange rate provides stability but can restrict economic flexibility and lead to imbalances if the pegged rate misaligns with market conditions (Adenekan et al., 2019). While substantial research has addressed the impact of exchange rate regimes on macroeconomic indicators, studies specifically exploring their effects on share trading values remain scarce. This gap is particularly evident in the context of local and international stock markets, where the choice of exchange rate regime could uniquely influence market liquidity and investment behavior. As noted by Aguguom et al. (2018), the value of shares traded serves as a critical indicator of market activity and economic growth, but the interaction between exchange rate policies and trading volumes has not been sufficiently examined. Therefore, this study intends to close the gap by examining the effect of foreign exchange regime and value of shares traded ratio in Nigeria by taking cognizance of the two regimes effect.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Exchange Rate Management Regime

Exchange rate regimes can vary widely, ranging from hard pegs (like currency boards, currency unions, and dollarization) to intermediate regimes (such as crawling pegs, bands, and basket pegs), independent floating, conventional fixed pegs, and managed floating, all classified by the level of exchange rate fixity (Mochammad, 2019). Each country's optimal exchange rate regime depends on its unique economic circumstances. The initial section of this thesis revisits the debate on choosing the most suitable exchange rate regime and examines recent exchange rate policy issues that are either highly controversial or scarcely documented (Mousse, 2015).

Choosing an exchange rate regime involves crucial economic policy decisions that significantly affect economic performance while also restricting available policy options in other areas (Adenekan et al., 2019). The impact of this choice can be immediate, with potential long-term effects on economic well-being. Due to the frequent shifts in regime choice, many countries, including Nigeria, have struggled with the complexities of managing exchange rates. The foreign exchange market, being the most heavily traded globally due to its minute-to-minute fluctuations, presents arbitrage opportunities that encourage speculation. Such speculation, influenced by market expectations, often increases exchange rate volatility. In the 1980s, Nigeria transitioned its exchange rate policy from a fixed or pegged system to a floating regime, particularly with the adoption of the Structural Adjustment Program (SAP) in 1985, which marked a shift to a more flexible exchange rate system (Eneh & Amakor, 2021).

2.1.2 Value of Shares Traded

Market value, as defined by Aguguom et al. (2018), represents a corporation's value according to the stock market, reflecting the stock price based on prevailing market conditions. Amadi and Amadi (2015) further describe market value as equivalent to market capitalization, which is calculated by the Naira amount based on the current stock price of a company's shares. This market value signals the potential worth that buyers might assign to a company. Investors in ordinary shares, as noted by Ali and Desoky (2017), anticipate returns that are inherently unpredictable due to market volatility and the impact of relevant news on participant sentiment. The market value of a company thus encapsulates both its perceived value and the intrinsic potential perceived by potential buyers.

The value of shares is defined by Ogbebor (2019) as the product of share price and the number of outstanding company shares. Dividend policy, which Haider and Maqbool (2016) link closely with share value, influences future price sensitivity. The value of shares traded is a critical indicator of market liquidity and reflects stock market activity growth. Al-Shar and Dongfang (2017) argue that market value captures the present worth and anticipated cash flows based on earnings quality. High earnings quality instills confidence in investors by providing transparent information on profit-to-cash flow, whereas poor quality breeds skepticism. Value of Shares

Traded Ratio measures the total value of stock traded relative to GDP, offering insight into the organized trading of equities as a share of national output, thereby correlating positively with economy-wide liquidity (Richard & Christopher, 2018). This ratio complements market capitalization by indicating stock market breadth, providing a more stable indicator that remains unaffected by potential GDP mismeasurement common in developing economies (Karolyi, 2004).

2.2 Theoretical Review: Accelerator Theory of Investment

The acceleration theory of investment, rooted in the early works of Thomas Nixon Carver (1903), Albert Aftalion (1909), C.F. Bickerdike (1914), and John Maurice Clark (1917), examines the relationship between capital investment and output, suggesting that investment levels directly respond to output changes. This theory, which predates Keynesian economics, posits that companies will likely increase investment when faced with excess demand, aligning with their capital-to-output ratios. According to the accelerator theory, as demand or income rises, companies increase their investment expenditure to meet demand rather than raising prices to control it. This results in what is known as the "accelerator effect," where a rise in demand prompts increased production capacity, such as acquiring additional machinery to double output. Notably, the accelerator theory departs from price-based demand control, emphasizing instead a focus on expanded production capacity (Alan, 2018).

The accelerator theory of investment operates on the premise that heightened demand for a company's product will persist long-term, encouraging sustainable economic growth through capital investment. For instance, increased demand for oil and gas spurs interest in renewable energy sources, subsequently driving investment in technologies like wind turbines (Kumar, 2015). However, the theory has faced criticism, especially regarding its disregard for price as a mechanism to manage demand. Detractors argue that instead of leveraging price for short-term profit, the theory promotes business expansion in response to excess demand (Ganti, 2020). By advocating for sustainable growth, the accelerator theory underscores the importance of capital investments in response to stable, long-term demand trends. Consequently, firms may initially use any existing capacity to meet demand increases before committing to capital projects, ensuring investments are strategically aligned with future demand stability.

2.3 Empirical Review

Çalişkan and Kerestecioğlu (2013) investigated the impact of the free float ratio (FFR) on stock returns, risk, and trading activity in the Turkish capital market. Using daily data from 194 firms on the Istanbul Stock Exchange, they found that while there was no relationship between FFR and stock returns, trade activity and price volatility were significantly positively correlated with FFR, concluding that FFR impacts trading behavior and risk. Dahiru and Joseph (2013) examined Naira exchange rate volatility against major currencies using GARCH models with breakpoints, analyzing monthly data from 1985 to 2011. Their findings showed volatility across currency pairs and reduced persistence with volatility breaks, recommending the inclusion of major events in volatility modeling to improve accuracy.

Juan and Bo (2015) explored spillover effects between exchange rates and stock returns in China using a Markov-switching SVAR model. Results indicated that exchange rate fluctuations impact stock markets negatively, especially during financial crises, suggesting investors monitor RMB policy shifts as they could alter market dynamics. Osundina et al. (2016) assessed exchange rate fluctuations' impact on Nigerian banks from 2005 to 2014. Using the ARCH LM test, they found an insignificant effect on profitability (ROA) but a significant negative effect on liquidity (LDR), concluding that exchange rate fluctuations' impact varies by performance metric. Lawal et al. (2016) explored how exchange rate and oil price volatility affect stock market volatility in Nigeria using EGARCH. Their results showed that both factors contribute to stock market volatility, emphasizing the sensitivity of the market to external economic shocks.

Tao (2018) studied the relationship between stock returns and exchange rate volatility in China and Turkey from 1990 to 2016 using GARCH, OLS, and Granger causality. Findings showed no exchange rate effect on stock returns but revealed causality from exchange rate volatility to stock returns in Turkey, suggesting country-specific impacts. Osamwonyi and Ikponmwosa (2018) analyzed Foreign Private Investment (FPI) and stock market volatility in Nigeria using GARCH. They found FPI drives volatility, while FDI promotes stability, concluding that foreign investment type affects market stability differently. Nurasyikin et al. (2018) examined macroeconomic impacts on conventional and Islamic stock returns in ASEAN using panel regression. Results indicated significant effects from exchange rates and inflation but not money supply, showing inflation's strong inverse effect on returns. Austin (2018) investigated exchange rate volatility effects on stock prices in Kenya. Granger causality revealed exchange rate volatility's influence on stock prices, with inflation as an insignificant moderator, highlighting exchange rate as a primary driver.

Maxwell et al. (2018) assessed the Nigerian stock market's impact on GDP using OLS, finding a significant positive relationship, with market capitalization contributing to growth, emphasizing the stock market's economic influence. Ogbebor (2019) examined fundamental factors' effects on stock returns in Nigeria using panel regression. Mixed results showed that while earnings yield positively impacted returns, dividend yield and debt ratio negatively impacted returns, suggesting differing factor influences on stock returns. Mohammed et al. (2020) analyzed stock market performance and economic growth in Nigeria (1985-2018) using ARDL. Results showed a positive long-run relationship, suggesting that stock market development supports growth. Fakunmoju et al. (2020) assessed exchange rate effects on Nigerian stock return volatility using EGARCH. They found that exchange rate dynamics and inflation negatively affect volatility, recommending currency control measures to stabilize returns. Chhimwal and Bapat (2020) studied unexpected FPI and DII flows' impact on volatility using TGARCH, finding that FPI flows increase volatility while DII flows reduce it, with implications for small-cap stocks, highlighting FPI's stronger volatility impact. Haritha and Abdul (2020) examined investor sentiments on market volatility using GARCH. Results showed that irrational sentiment drives excess volatility, underscoring sentiment's role in market stability. Sruthi and Siti (2022) analyzed the exchange rate's effect on the Malaysian stock market from 1990 to 2020. Using

multiple regression, they found a significant exchange rate effect, recommending exchange rate monitoring for market prediction.

3.0 Methodology

The study employ an ex-post facto research design, which is appropriate as it focuses on variables that have already occurred and cannot be manipulated. This quasi-experimental approach allows for the investigation of the influence of independent variables such as exchange rate, balance of payment, external reserves, inflation rate, foreign portfolio investment, and foreign direct investment on the dependent variable, the Value of Shares Traded Ratio in Nigeria. The retrospective nature of this design is suitable for tracing past events to explain their causes or impacts. Data for the study will be obtained from secondary sources, including the Central Bank of Nigeria and World Development Indicators, with specific focus on the stock market performance and the factors surrounding the foreign exchange regime.

3.1 Model specification

The study adapts the work of Tao (2018) whose study studied the relationship between stock returns and exchange rate volatility in China and Turkey. The linear regression is indicated below.

$$EXPT = \beta_0 + \beta_1 EXV_t + \beta_2 PX_t + \beta_3 CPI_t + \mathcal{E}_t \ldots\ldots\ldots\ldots$$

Where: EXV_t = Trade of goods export, PX_t = The relative price of export, CPI_t = Price, consumer price index

To examine the effect of exchange rate management on value of shares traded in Nigeria, the model followed suit the above model. The model is specified as:

$$VST_t = (EXCH_t, BOP_t, EXTR_t, INFR_t, FPI_t FDI_t, DUM)$$

The model specification of the econometric model shall be stated as:

$$VST_t = \beta_0 + \beta_1 EXCH_t + \beta_2 BOP_t + \beta_3 EXTR_t + \beta_4 INFR_t + \beta_5 FPI_t + \beta_6 FDI_t + \beta_7 DUM_t + \mu_t$$

Stating the model in a log linear form, we shall have the following:

$$lnVST_t = \beta_0 + \beta_1 lnEXCH_t + \beta_2 lnBOP_t + \beta_3 lnEXTR_t + \beta_4 INFR_t + \beta_5 lnFPI_t + \beta_6 lnFDI_t + \beta_7 DUM_t + \mu_t$$

Where:

VST= Value of Share Traded, EXCH = Exchange Rate, BOP = Balance of Payment, EXTR = External Reserves, INFR = Inflation Rate, FPI = Foreign Portfolio Investment, FDI = Foreign Direct Investment, DUM= Dummy Variable, ln= Natural logarithm. β_0= Intercept, $\beta_{1,2,3}$= Parameters to be estimated, μ= Stochastic term

3.2 Measurement of Variables

The study will identify both the key variables and the control variables. The key variables are the principal variables of focus: the exchange rate being the measurement of Naira in terms of United States Dollars, the FPI and FDI to augment the supply side of foreign exchange. The

control variables: interest rate and inflation rate, have the potential to influence international trade financing.

Table 3.1: Sources, Definition and Measurement of Variables

Variables	Description	Measurement
Value of Shares Traded	This is the total number of share of security traded during a period of time. This is measured in billion dollars	U.S. Dollars
Exchange rate	It is the price of Naira in terms of another currency, e.g., the exchange rate is the value of Naira expressed in United States Dollar.	₦ (Naira) = 1US$ In figure
Inflation Rate	This is the rate of increase in price at a particular time in Nigeria. It is a continuous rise in price as measured by Consumer Price Index.	In percentage (%)
Balance of Payment	This is all the countries International transaction within a certain time	U.S Dollars
External Reserves	Total reserves comprise holdings of monetary gold, special drawing rights, reserves of IMF members held by the IMF, and holdings of foreign exchange under the control of monetary authorities.	Measures in current USA dollars
Foreign Direct Investment	Foreign Direct Investment means "cross border investment made by a resident in one economy in an enterprise in another economy. This is measured in Billion dollars	U.S. Dollars
Foreign Portfolio Investment	Foreign portfolio investment (FPI) refers to the **purchase of securities and other financial assets by investors from another country. This is measured in billion dollars**	U.S. Dollars
Dummy Variable	Dummy variables lags between 0 to 1. During the regime period, the variable attract 1 otherwise 0	Probability of 0 to 1

Source: Researcher's Computation, 2024

3.3. Estimation Techniques

This study employs the Autoregressive Distributed Lag (ARDL) modeling approach, which is widely utilized for analyzing both short-term and long-term relationships between variables in time series data. The ARDL model is advantageous for its flexibility, as it can be applied regardless of whether the variables in the dataset are integrated at different levels, provided they are either I(0) or I(1). Developed by Pesaran, Shin, and Smith (2001), the ARDL bounds testing approach is suitable for small sample sizes and offers a robust method for identifying the cointegrating relationships among variables. By selecting optimal lags based on information criteria like the Akaike Information Criterion (AIC) or Schwarz Information Criterion (SIC), the ARDL model ensures efficiency in capturing the dynamics of the variables involved. Diagnostic

tests, such as serial correlation and heteroscedasticity tests, are conducted to verify model adequacy and ensure reliable inference.

4.0 Result

Table 4.1: Descriptive Statistics

	Mean	Maximum	Minimum	Std. Dev.
VST	499.7650	2349.866	0.027900	590.6326
EXCH	13.74396	26.90000	6.130000	4.417288
BOP	-879875	6074639.	-5745239	2071194.
EXTR	2.17E+10	5.36E+10	9.33E+08	1.81E+10
INFR	19.77165	76.75887	0.223606	17.93079
FPI	451.3095	3209.708	-1284.07	905.5900
FDI	435378.0	1360308.	-79481	447854.8

Source: Author's Computation (2024); VST is Value of Share Traded, EXCH is Exchange Rate, BOP is Balance of Payment, EXTR is External Reserves, INFR is Inflation Rate, FPI is Foreign Portfolio Investment, FDI is Foreign Direct Investment

Table 4.1 presents the descriptive statistics for the variable used in the study of foreign exchange rate management and value of shares traded ratio in Nigeria.

The Value of Shares Traded (VST) has a mean of 499.7650, with a maximum value of 2,349.866 and a minimum of 0.027900. This illustrates a concentrated trading activity among a few stocks, as evidenced by the relatively high standard deviation of 590.6326, which signifies fluctuations in trading volumes across periods. In terms of the Exchange Rate (EXCH), the mean is reported at 13.74396, with a maximum of 26.90000 and a minimum of 6.130000. The standard deviation of 4.417288 indicates that the exchange rate has experienced notable changes, reflecting exchange rate fluctuations and currency management challenges.

The Balance of Payments (BOP) shows a negative mean of -879,875, indicating a chronic deficit in Nigeria's BOP during the period analysed. The range from -5,745,239 to 6,074,639, coupled with a high standard deviation of 2,071,194, suggests considerable volatility in Nigeria's external financial position. External Reserves (EXTR) have a mean of 2.170 billion, with a significant maximum of 5.36E+10 and a minimum of 9.33E+08. The large standard deviation of 1.810 billion reflects the substantial variability in reserve levels, which affect the country's ability to manage foreign exchange and stabilize the economy. The Inflation Rate (INFR) averages 19.77165, with a maximum of 76.75887 and a minimum of 0.223606, accompanied by a standard deviation of 17.93079. This indicates that inflation has been a significant concern, with periods of both high inflation and relative stability.

Foreign Portfolio Investment (FPI) averages 451.3095, with a maximum of 3,209.708 and a minimum of -1,284.07. The standard deviation of 905.5900 reveals the instability of FPI flows,

potentially influenced by changes in market conditions and investor sentiment. Foreign Direct Investment (FDI) shows an average of 435,378.0, with a maximum of 1,360,308 and a minimum of -79,481. The substantial standard deviation of 447,854.8 indicates significant variability in FDI inflows, highlighting the challenges in attracting stable investment in Nigeria's economy.

4.1.2   Pearson Correlation

Table 4.2: Correlation Matrix

	LVST	EXCH	LBOP	LEXTR	INFR	LFDI	LFPI
LVST	1.000						
EXCH	-0.273	1.000					
LBOP	-0.043	-0.111	1.000				
LEXTR	0.933	-0.281	-0.062	1.000			
INFR	-0.537	0.280	-0.082	-0.638	1.000		
LFDI	0.298	-0.114	0.066	0.305	-0.225	1.000	
LFPI	0.874	-0.143	-0.058	0.646	-0.425	0.212	1.000

Source: Author's Computation (2024); VST is Value of Share Traded, EXCH is Exchange Rate, BOP is Balance of Payment, EXTR is External Reserves, INFR is Inflation Rate, FPI is Foreign Portfolio Investment, FDI is Foreign Direct Investment

As regards the multicollinearity problems, the highest positive correlation was between LEXR and LFPI with the correlation coefficient of 0.646, since the value is less 0.90, it was concluded that the existence of multicollinearity is less concerned in the analysis.

4.3 Result of the Stationary Test

The unit root test was ascertain using both Augmented Dickey-Fuller test to detect if variables are stationary at level of at other level of differences. This test is presented in table 4.3

Table 4.3: Augmented Dickey-Fuller test

	Augmented Dickey-Fuller test			ADF
	Level	**First Diff.**	**Critical**	
LVST	-0.9721	-6.12892	-2.9458	I(1)
EXCH	-3.5959	-	-2.9458	I(0)
LBOP	-6.0079	-	-2.9458	I(0)
LEXTR	-1.4581	-5.4201	-2.9458	I(1)
INFR	-2.8929	-7.26355	-2.9458	I(1)
LFDI	-2.8512	7.1147	-2.9458	I(1)
LFPI	-0.8705	-6.9818	-2.9458	I(1)

Source: Author's Computation (2024); VST is Value of Share Traded, EXCH is Exchange Rate, BOP is Balance of Payment, EXTR is External Reserves, INFR is Inflation Rate, FPI is Foreign Portfolio Investment, FDI is Foreign Direct Investment

The Augmented Dickey-Fuller (ADF) test results is presented in Table 4.3. Exchange Rate (EXCH) and Balance of Payment (LBOP) are stationary at level (I(0)) with ADF values of -3.5959 and -6.0079, respectively, meaning they do not require differencing to achieve stationarity. Other variables, including Value of Share Traded (LVST), External Reserves (LEXTR), Inflation Rate (INFR), Foreign Direct Investment (LFDI), and Foreign Portfolio Investment (LFPI), only become stationary at the first difference (I(1)), as indicated by their ADF values at the first differencing level, each surpassing the critical threshold. This shows that there exists a mixed stationary test, hence Autoregressive Distributed Lag Modelling is appropriate for this model.

Research Hypothesis
Foreign exchange management regime does not significantly effect on value of shares traded ratio in Nigeria

Panel A: Long Run Estimates

Dependent Variable: LVST

Variable	Coefficient	Std. Error	t-Statistic	Prob
EXCH	-0.082614	0.062670	-1.318234	0.2040
LBOP	-0.086520	0.068899	-1.255748	0.2253
LEXTR	-1.657745	0.772276	-2.146572	0.0457
INFR	-0.092121	0.026611	-3.461699	0.0028
LFDI	3.282661	0.706964	4.643319	0.0002
LFPI	0.643917	0.396540	1.623840	0.1218
FIXEDREG	-2.619839	1.153760	-2.270696	0.0357
C	28.33173	16.29302	1.738888	0.0991

Panel B: Short Run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob
D(EXCH)	-0.064467	0.017602	-3.662430	0.0018
D(LBOP)	-0.019767	0.012696	-1.556987	0.1369
D(LEXTR)	-0.638064	0.238938	-2.670418	0.0156
D(INFR)	-0.016701	0.006431	-2.596831	0.0182
D(LFDI)	0.049105	0.257320	0.190833	0.8508
D(LFPI)	0.379095	0.104666	3.621952	0.0019
D(FIXEDREG)	-0.381570	0.540431	-0.706047	0.4892
ECT(-1)*	-0.529491	0.065889	-8.036154	0.0000

Panel C: Diagnostic Tests

Panel C: Diagnostic Tests	Statistics	Prob.	
Bound Test	4.3053	0.000	

R-squared	0.763687	-
Adjusted R-squared	0.693668	-
F-statistic	10.16746	0.000
Serial Correlation LM Test	0.71656	0.5035
Heteroskedasticity Test:	0.8632	0.6172
Normality Test	0.9058	0.6358
	CUSUM	CUSUMSQ
Stability Test	Stable	Stable

Source: Author's Computation (2024); SMC is Stock Market Capitalisation, VST is Value of Share Traded, STR is Stock Turnover Ratio, ASI is All Shares Index, EXCH is Exchange Rate, BOP is Balance of Payment, EXTR is External Reserves, INFR is Inflation Rate, FPI is Foreign Portfolio Investment, FDI is Foreign Direct Investment

$LVST = \beta 0 + \beta 1 EXCH + \beta 2 LBOP + \beta 3 LEXTR + \beta 4 INFR + \beta 5 LFDI + \beta 6 LFPI + \beta 7 DUMMY(FIXEDREG) + \epsilon$

$LVST = 28.33173 - 0.082614 \cdot EXCH - 0.086520 \cdot LBOP - 1.657745 \cdot LEXTR - 0.092121 \cdot INFR + 3.282661 \cdot LFDI + 0.643917 \cdot LFPI - 2.619839 \cdot DUMMY(FIXEDREG) + \epsilon$

Floating Exchange Management Regime

$LVST = 28.33173 - 0.082614 \cdot EXCH - 0.086520 \cdot LBOP - 1.657745 \cdot LEXTR - 0.092121 \cdot INFR + 3.282661 \cdot LFDI + 0.643917 \cdot LFPI - 2.619839 \cdot DUMMY(FIXEDREG)$

Fixed Exchange Management Regime

$LVST = -25.7119 - 2.702453 \cdot EXCH - 2.706359 \cdot LBOP - 4.2775 \cdot LEXTR - 2.71196 \cdot INFR + 0.662822 \cdot LFDI + -1.975922 \cdot LFPI$

Bound Test:

The Bound Test result indicates a strong long-run relationship among the variables affecting the value of shares traded (LVST) in Nigeria. The test statistic of 4.3053 with a upper bound test is 3.15 at 5% significant level confirms that there is significant cointegration among variables such as exchange rate (EXCH), balance of payments (LBOP), external reserves (LEXTR), inflation rate (INFR), foreign direct investment (LFDI), foreign portfolio investment (LFPI), and the foreign exchange management regimes (FIXEDREG and FLOATREG). This establishes that there is a meaningful long-term connection between these factors and stock market activity in terms of shares traded.

Long Run Estimates (Panel A)

Floating Exchange management regime

The long-run estimates reveal the effect of foreign exchange management on value of shares traded ratio in Nigeria during floating exchange management regime. The exchange rate (EXCH)

exhibits a negative coefficient of -0.082614, with a p-value of 0.2040, suggesting that its effect on the turnover ratio is not statistically significant during floating exchange management regime. Similarly, the balance of payments (LBOP) presents a negative coefficient (-0.086520, p = 0.2253), indicating an insignificant influence on value of share traded ratio. In contrast, external reserves (LEXTR) have a negative coefficient of -1.657745, with a p-value of 0.0457, demonstrating a significant adverse effect of LEXTR on the value of shares traded. The inflation rate (INFR) also shows a significant negative effect, with a coefficient of -0.092121 and a p-value of 0.0028, indicating that higher inflation correlates with reduced value of share traded ratio during floating exchange management regime. Conversely, foreign direct investment (LFDI) presents a positive and significant coefficient of 3.282661, with a p-value of 0.0002, suggesting that increased foreign direct investment promotes a higher value of traded ratio in Nigeria during floating exchange management regime.

Foreign portfolio investment (LFPI) yields a positive coefficient of 0.643917, though it lacks significance (p = 0.1218), indicating a positive influence on value of shares traded ratio during floating exchange management regime.

Fixed Exchange Management Regime

The result presents the effect of foreign exchange management regime on value of shares traded ratio (LVST). The intercept of -25.7119 indicates that even without considering other economic factors, the baseline level of the value of shares traded is low in a fixed exchange rate environment, suggesting underlying market challenges. The exchange rate (EXCH), with a coefficient of -2.702453, shows that as the exchange rate rises, the value of shares traded declines further value of shares traded ratio. This negative effect of exchange rate indicates that in a fixed regime, currency fluctuations discourage trading activity, likely due to increased uncertainty and reduced investor confidence. Similarly, the balance of payment (LBOP) has a negative coefficient of -2.706359, indicating that LBOP negatively influence value of shares traded ratio during fixed exchange rate regime in Nigeria, this depicts that as the country experiences worsening balance of payment conditions, trading activity in the stock market is further diminished. This is likely because deficits or external imbalances make investors wary of investing in or trading within the domestic market. Similarly, external reserves (LEXTR) have a negative effect with a coefficient of -4.2775, suggesting that under a fixed exchange management regime LEXTR do not provide sufficient support for trading activities. The rigidity of the fixed exchange system limits the effectiveness of reserves in stabilizing market transactions, leading to a decline in traded share values. Inflation (INFR), with a coefficient of -2.71196, also contributes to the drop in the value of shares traded, indicating that inflationary pressures erode investor confidence and diminish market activity in a fixed exchange rate context. Foreign direct investment (LFDI) shows positive effect, with a coefficient of 0.662822. This suggests that fixed exchange rate regimes influence the value of share traded. However, foreign portfolio investment (LFPI) has a significant negative coefficient of -1.975922, revealing that under a fixed regime, foreign investors are hesitant to engage in stock market trading. This reflects concerns about profitability and market volatility under such restrictive currency management systems.

Short Run Estimates (Panel B)

The short-run estimates reveal additional dynamics influencing the value of shares traded. The variable D(EXCH) shows a significant negative impact on the turnover ratio, with a coefficient of -0.064467 and a p-value of 0.0018, indicating that immediate changes in the exchange rate adversely affect trading volume. The balance of payments variable (D(LBOP)) has a negative coefficient (-0.019767, p = 0.1369), but this effect is not statistically significant.

Notably, the variable for external reserves (D(LEXTR)) displays a significant negative coefficient of -0.638064 (p = 0.0156), underscoring its detrimental impact on trading activity in the short term. The inflation rate variable (D(INFR)) also presents a significant negative coefficient of -0.016701 (p = 0.0182), reinforcing the adverse effects of inflation on market turnover. Meanwhile, foreign direct investment (D(LFDI)) shows a positive coefficient of 0.049105 but is not statistically significant (p = 0.8508). Conversely, foreign portfolio investment (D(LFPI)) has a substantial positive effect, with a coefficient of 0.379095 and a significant p-value of 0.0019, indicating that increases in portfolio investment significantly boost trading activity.

Finally, the error correction term (ECM (-1)) is highly significant (-0.529491, p = 0.0000), indicating that the system tends to return to long-term equilibrium following short-term deviations at the speed of 52.95%, emphasizing the importance of considering both short- and long-term dynamics in analyzing market behavior. The adjusted R-squared value of 0.693668 demonstrate that the model explains about 69.4% of the variability in the value of shares traded, indicating a strong fit. The null hypothesis which indicate that Foreign exchange management regime does not significantly affect the value of shares traded ratio in Nigeria is partially rejected giving the F-statistic value 115.10416 and the corresponding p-value of 0.000 indicated that foreign exchange rate regime have a significant effect on shares traded value in the long run.

Diagnostic Tests:

The diagnostic tests validate the robustness of the model. The Serial Correlation LM Test (p-value = 0.5035) shows no autocorrelation, while the Heteroskedasticity Test (p-value = 0.6172) confirms that the residuals have constant variance. Additionally, the Normality Test (p-value = 0.6358) confirms that the residuals are normally distributed. Both the CUSUM and CUSUMSQ stability tests further suggest that the model is stable over time, ensuring the reliability of the results.
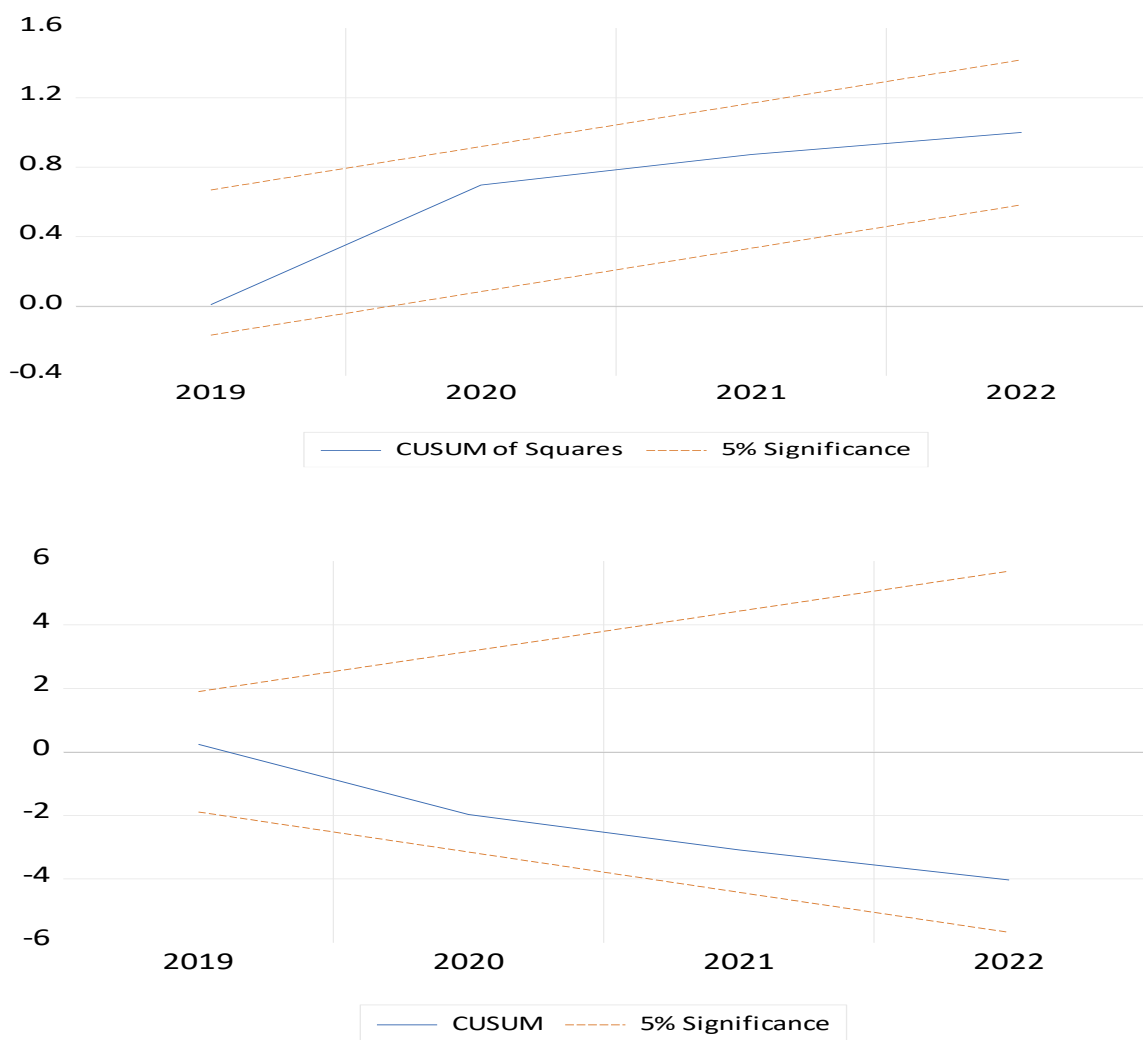
5.0 Conclusion and Recommendations

This study investigates the effect of foreign exchange management regimes on value of shares traded ratio in Nigeria over a thirty-six-year period, spanning through 1986 to 2022. The study employed an autoregressive distributed lag modelling with inference at 5% level of significance. Findings from the study during floating and fixed exchange management regimes highlights different impacts on the value of shares traded ratio. Under the floating exchange regime, variables like the exchange rate and balance of payments show insignificant negative effects, while external reserves and inflation have significant negative impacts, reducing the value of shares traded. In contrast, foreign direct investment (FDI) significantly boosts the value of shares traded, while foreign portfolio investment (FPI) has a positive but insignificant effect. On the other hand, in the fixed exchange regime, the exchange rate, balance of payments, external reserves, and inflation all show strong negative effects, suggesting that currency fluctuations, external imbalances, and inflation weaken stock market activity. FDI has a small positive impact

under this regime, while FPI has a significant negative effect, indicating that foreign investors are deterred from trading in a fixed exchange rate environment due to market volatility and uncertainty.

Conversely, the fixed exchange management regime exhibits a more restrictive environment for stock market activities. The study finds that exchange rate, balance of payments, external reserves, and inflation exert negative pressure on stock market performance, reducing market liquidity and trading activity. Although FDI offers some positive effects, it is not strong enough to offset the suppressive nature of the fixed regime. Foreign portfolio investment, in particular, shows a significant negative impact, indicating that the rigidity of a fixed exchange system creates challenges for foreign investors. These findings suggest that while a fixed exchange regime aims for currency stability, it may limit market efficiency and investor confidence, emphasizing the need for a more dynamic approach to exchange rate management to better support the stock market.

The findings of the study align with some existing literature while contrasting with others. For instance, Maxwell et al. (2018) found that the total number of listed equities negatively impacts GDP, which is somewhat in line with the study's finding that external reserves and inflation negatively influence trading activity. This suggests that a larger number of equities or high reserves may lead to reduced market engagement, reflecting similar dynamics in the broader economic environment. Additionally, the findings by Mohammed et al. (2020) support the positive relationship between stock market performance and economic growth, particularly regarding market capitalization, which resonates with the study's conclusion that foreign direct investment (FDI) positively affects the value of shares traded. Conversely, Ogbebor (2019) presents mixed results, with both negative and positive relationships between stock fundamentals and adjusted stock returns, complicating the interpretation of market dynamics. This contrasts with the current study's clearer negative influences of inflation and reserves on trading activity. Similarly, while Fakunmoju et al. (2020) highlight the negative effect of exchange rates and inflation on stock return volatility. Lastly, the work by Ismail and Oluwafunmilayo (2022) regarding sectoral stock returns reflects varied responses to exchange rate movements, which further illustrates that the relationship between macroeconomic factors and stock market performance may not be uniform across different contexts, thus reinforcing the importance of considering specific conditions in the Nigerian market.

Based on the findings of this study, the following recommendations are proposed:
1. The study highlights the significant positive impact of FDI and FPI on stock market performance under the floating exchange management regime. Policymakers should therefore create policies that attract and retain foreign investments by reducing regulatory barriers, offering tax incentives, and improving the ease of doing business. A stable and transparent economic environment would further boost investor confidence and contribute to the overall growth of the stock market.

2. Policymakers should consider transitioning towards a more floating exchange rate regime. This approach can enhance market responsiveness to external economic shocks, promote investor confidence, and ultimately foster a more dynamic stock market environment.

3. Efforts to control inflation should be prioritized, as inflation negatively impacts market performance in the short run. This can be achieved through prudent monetary policies and fiscal discipline.

4. It is crucial for the relevant authorities to improve the dissemination of information regarding foreign exchange policies and stock market conditions. Regular updates and transparent communication can help investors make informed decisions, thereby increasing participation in the stock market.

References

Adenekan, A. T., Sanni, G. K. & Itodo, A. I. (2019). Investigating the impact of exchange rate volatility on naira exchange rate in Nigeria. *Economic and Financial Review.* 57(3).

Aguguom, A. T. Salawu R. O. & Akintoye, (2018). Earnings Quality and Firms' Book Value An Empirical Evidence from the Listed Firms in Nigeria. *Journal of Internet Banking and Commerce.* 23(3), 1-23.

Ahamed, L. M. J. & Kevin L. L. T. (2022). Exchange Rate Volatility And Its Impact OnThe Stock Market In Different Structural Break Periods: The Context Of Sri Lanka. *Academy of Entrepreneurship Journal* 28(1), 1-12.

Aigbovo, O. & Aigbovo-Omoruyi, O. (2015). Foreign Portfolio Investment and Stock Market Performance in Nigeria. *Esut Journal of Accountancy, 6(1),* 198-211

Carpenter, J. N., & Whitelaw, R. F. (2017). The development of China's stock market and stakes for the global economy. *Annual Review of Financial Economics, 9,* 233-257.

Central Bank of Nigeria (2019).www.tradingeconomics.com. Economywatch,(2020)www.economywatch.com/stock_markets_in_world/performance.ht ml Far lex Financial Dictionary Levine, R. 1991. Stock markets, growth, and tax policy. Journal of Finance 46 (4), 1445–65

Chan, C.S. & Patricia R. (2023). A study on the effect of macroeconomic factors on stock market performance in Malaysia. *E3S Web of Conferences 389* 1-14. https://doi.org/10.1051/e3sconf/202338909037

Chhimwal, B. & Bapat, V. (2020). Impact of foreign and domestic investment in stock market volatility: *Empirical evidence from India, Cogent Economics & Finance*, *8(1),* 1754321.

Dabwor, D.T., Iorember, P. T. & Danjuma, S.T (2020). Stock Market Returns, Globalization and Economic Growth in Nigeria: Evidence from volatility and co-integrating analyses. *Journal of Public Affairs*, *e2393,* 23-46.

Dennis B. E., Evans, S. C., Christopher I. E. (2022). Exploring the Role of Exchange Rate in Driving Market Capitalisation in Nigeria. *Saudi J Econ Fin*, 6(6): 200-207. DOI: 10.36348/sjef.2022.v06i06.002

Dennis B. E., Evans, S. C., Christopher I. E. (2022). Exploring the Role of Exchange Rate in Driving Market Capitalisation in Nigeria. *Saudi J Econ Fin*, 6(6): 200-207. DOI: 10.36348/sjef.2022.v06i06.002

Eneh, O. M. & Amakor, I. C. (2021). Foreign Exchange Regimes and Macroeconomic Performance in Nigeria. *International Journal of Advanced Academic Research*, 7(10). 37-49. www.ijaar.org.

Evan W. (2017). Asymmetric Volatility Spillover between European Equity and Foreign Exchange Markets: Evidence from the Frequency Domain. 1-28

Ezenwa, A. C., Ogbebor, P. I. & Alalade, Y. S. A. (2021). Effect of Exchange Rate Volatility on Return on Assets of Consumer Goods Manufacturing Companies Listed In Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS),* 5(6), 462-470. www.rsisinternational.org

Fakunmoju, S. K., Abdullahi, I. B., &Fasola, I. O. (2020). Effects of selected macroeconomic factors on stock return in the Nigerian Stock Market (1998-2019). *Malete Journal of Accounting & Finance* (MAJAF), 1(1), 2345.

Fukao, M. (2018). Financial market efficiency: a comparative perspective. Economic Stagnation in Japan: *Exploring the Causes and Remedies of Japanization,* 139.

Haider, M. A., Maqbool, K. A. & Abdulahi, E. (2016). Determinants of foreign portfolio investment and its effects on China. *International Journal of Economics and Finance*, 8(12), 143 – 150.

Ismail O. F. & Oluwafunmilayo A. A. (2022). Exchange Rate Shocks and Sectoral Stock Returns in Nigeria: Do Asymmetry and Structural Breaks Matter? *Cogent Economics & Finance*, 10: 1-26. https://doi.org/10.1080/23322039.2022.2045719

Juan, C.C. & Bo T. (2015). Exchange Rate Changes and Stock Returns in China: A Markov Switching SVAR Approach. Sheffield economics *Research Paper Series* 1-28.

Kishor K. G., Matiur R. & Anisul M. I. (2021). Japan's Stock Market Performance: Evidence from Toda-Yamamoto and Dolado-Lutkepohl Tests for Multivariate Granger Causality. *International Journal of Economics and Financial Issues, 11(3),* 107-122.

Lawal, A. S., Bakare, I. A. O. Saka, J. O. & Lloyd A. A (2021). Exchange Rate Regimes And Macroeconomic Performance In Nigeria. *International Journal of Economics, Commerce and Management* 9(12), 140-162.

Maxwell, O., Happiness, O.-I., Alice, U.C. & Chinedu, I.U. (2018) An Empirical Assessment of the Impact of Nigerian all Share Index, Market Capitalisation, and Number of Equities on Gross Domestic Product. *Open Journal of Statistics*, 8, 584-602. https://doi.org/10.4236/ojs.2018.83038

Mochammad, F. (2019). The Influence of Exchange Rate, Interest Rate and Inflation on Stock Price of LQ45 Index in Indonesia. *Advances in Social Science, Education and Humanities Research,* 157-163. http://creativecommons.org/licenses/by-nc/4.0/

Mohammed, H., Shittu, W. & Umar, B. (2020). Stock Market Performance and Economic Growth in Nigeria: An Empirical Analysis. *Lapai Journal of Economics, 4(1),* 1-12.

Nurasyikin J., Shahnaz I. & Syamimi Ab M. (2017). Macroeconomic Variables and Stock Market Returns: Panel Analysis from Selected ASEAN Countries. *International Journal of Economics and Financial Issues* 7(1), 37-45. http: www.econjournals.com

Ogbebor, P. I. (2019). Fundamental Factors and Stock Price Performance in Nigeria: 2008 - 2017. *Unilag Journal of Business*, *5(2),* 69-81.

Ogbebor, P. I., Okolie, O. R. & Siyanbola, T. T. (2020). Market Opening and Economic Growth in Nigeria. *Journal of Economics and International Finance, 12(1),* 20-28.

Osamwonyi, I.O. & Ikponmwosa, N. (2018). Foreign Private Investment and Stock Market Volatility in Nigeria. *Nigerian Journal of Economic and Social Studies*, *60(2),* 35-49.

Osundina, C. K., Osundina J. A., Jayeoba O. O. & Olayinka I. M. (2016). Exchange Rate Volatility and Banks Performance: Evidence from Nigeria. *IIARD International Journal of Economics and Business Management,* 2(4), 1-11. www.iiardpub.org

Owolabi, A. U. & Adegbite, T. A. (2014). Analysis of the Impacts of Interest Rate and Exchange Rate on Capital Market Performance in Nigeria. *International Journal of Economics, Commerce and Management,* 2(6), 1-11. http://ijecm.co.uk/

Sruthi, S. G. & Siti, K. B. Y. (2022). The Impact of Exchange Rate on Malaysian Stock Market Performance during Crisis Years. *Journal of Tianjin University Science and Technology*, 55 (07), 0493-2137. DOI10.17605/OSF.IO/XU9VF

Tao W. (2018). Exchange Rate Volatility and Stock Returns: A case of China and Turkey.