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Financial Market Frictions and Stock Market Performance in Nigeria

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Abstract: Objectives: This study examined the effect of financial market frictions on stock market performance in Nigeria over the period 1995 to 2023. The specific objectives were to find out whether relevant financial market frictions variables such as transaction cost (TCOST), agency costs (AGCOST), regulation (REGQ), market liquidity (MLIQ) and capital gain tax (CGT) significantly affect stock market performance. **Prior Work:** While financial market frictions has been widely investigated in advanced economies, but to the best of the researchers' ability, scanty studies exists on financial market frictions in relation to stock market performance in Nigeria. This study centers on market frictions by extending its application to stock market activities in the Nigeria Exchange Limited (NGX). **Approach:** The longitudinal/expo facto research design was adopted and analyzed using the dynamic least square econometric technique. **Results:** The findings revealed that transaction cost (TCOST) and market liquidity (MLIQ) has significant positive impact on stock market performance; agency costs (AGCOST) and regulation (REGQ) has significant negative relationship with stock market performance; while those of capital gain tax (CGT) has a weak positive impact on stock market performance. **Implications:** The study provides insight to board of directors on how to ensure that the interest of agents working under them are not completely sidelined; and also, firms should focus attention on ways of increasing earnings and improving quality of assets and market value, so that returns on disposal of assets will have meaningful impact on the company's overall performance. **Value:** It provided investors a clear-cut understanding on how to effectively trade and diversify their portfolio investment in a market that is constantly impounded by insider trading and market manipulations, which often result in assets price distortions and general market fluctuations.

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1. Introduction

Studies on financial markets frictions is growing steadily today and has now become an interesting area in financial market studies to researchers and financial experts since the past two decades. One of the reasons being that, financial market frictions is seen to have the capacity of generating real costs for investors and all market participants, hence, recognizing these costs provides a clear-cut knowledge of total costs of market transactions and decide where to place them or even incur them in the first place. A friction is often regarded as any form of impediment, obstruction, or constraint that hinders markets and economies from working smoothly the way they ought to (Adler, 2014). Thus, DeGennaro and Robotti (2007) earlier argued that "financial markets frictions makes market participants not to hold market portfolio for too long due to the fact that they may be opened to more or even less risk compared to the risk they will want to assume". In real life situation, market frictions truly influence trading activities because it has the tendency of creating certain level of costs such as transactions costs, taxes and regulations, asset indivisibility, non-traded assets, and agency and information problems that impedes investors decision making.

Transactions costs is one of the main components of financial market frictions, but their ability to influence trade is partly predicated on the structure of the market, which is also dependent on the risk of traded asset as well as volume of trade (Onyesonmazun, 2020). For instance, if a market for risky assets is small, investors seem to deal directly with one another without incurring any cost because the fixed costs of capital investments (including communication) are too much to be offset by the small marginal costs accruable from few transactions. But when the market become large such that trading value is high, then market participants begin to move away from direct dealings to engaging the services of intermediaries such as brokered, dealer and continuous auction markets among others (Klein & Olivei, 2008). Therefore, this evolution according to Degennaro and Robotti (2007) is a simultaneous process; and as volume increases, the structure evolves, and as the structure evolves, trading volume increases; the potential size of the market therefore determines the equilibrium structure".

Due to the nature and current composition of the Nigerian Exchange Group (NGX) where total equity capitalization of about 60% is concentrated in the banking sector, cannot be completely free from market frictions. This is true because, when a market is lopsided, it will results in inefficiencies and shallow depth thereby making it difficult for investors to effectively diversify their portfolios investment (Mafiejor, 2023). In addition, the NGX is also known to be constantly impounded by market malfeasances (insider trading and market manipulation) as well as macroeconomic factors; all these can result in assets price distortions and general market fluctuations, thereby leading to high cost of transactions and making it difficult for investors to make right investment decisions profitably.

Owing to the current advancement in information technology, in terms of the automated trading system (ATS), coupled with political and economic activities that continuously impound on the stock markets performance globally (Fajgelbaum & Khandelwal, 2022; Guo et.al., 2023), the Nigerian Exchange Group (NGX) is not indispensable to the vulnerability of economic shocks, such as trade friction which often causes systemic risks. Therefore, from the Nigeria perspective, it become practically obvious to empirically investigate and ascertain the extent to which trade frictions have affected the stability and overall performance of the Nigerian Exchange Group (NGX) overtime.

The rest of this paper is prepared in the following order: literature review is in section two, followed by methodology in section three, section four handled data analysis and discussion of results and while section five contained the conclusion and recommendation respectively.

2. Literature Review

2.1. Market Frictions

Financial frictions are factors that cause fluctuations in the business cycle and disturbing economic trends; it also act as a shock propagator, arising from the financial sector, and impact the economy symmetrically during periods of expansion and contraction. Stoll (2000) defines financial market frictions as those factors such as time and cost of transaction that measures the difficulty with which a financial asset is traded in the financial market. It has also been variously defined as any factor which deters a market participant from holding the market portfolio, which leads to altering his risk-return trade-off and graphically, moving away from the efficient

frontier (DeGennaro & Robotti, 2007). It includes non-financial factors such as human capital and investor's time and effort. Also, Olbrys and Majewska (2014) state that financial frictions are those several disorders that occur in the process of trading in the financial markets.

Furthermore, Adler (2014) opined that frictions in the financial markets are barriers, hindrances or constraints such as regulations, funding constraints, asymmetric information, transaction cost among others, that prevent markets and economies from working efficiently the way they ought to. Bot (2023) sees market friction as factors that inhibit the efficient functioning of a market, preventing it from reaching equilibrium where supply meets demand; and these frictions can lead to inefficiencies in pricing, trading, and allocation of resources. According to Gungor and Akel (2023), "market frictions factors that prevent the effective and ideal functioning of markets, reduce the effectiveness of markets, interfere and hinder trading and markets, investments cannot be rationally evaluated, and there is an ineffective distribution of resources". They added that frictional markets can potentially cause a delay in adjusting stock prices according to information due to information imperfections.

In view of the above series of definitions given by financial experts, our position in this study on market frictions is that, market frictions are those factors such as transaction costs, taxes, regulations, asset indivisibility, non-traded assets, as well as agency and information asymmetry, which market participants do not have control over but inherently influence either positively or negatively (because not all frictions in the markets are negative) the trading of financial assets in the financial markets.

2.2. Forms of Market Frictions

Market frictions are common occurrences in the daily trading of financial assets in the financial market, and if not properly managed could lead to inefficiencies in pricing, trading and allocation of resources. To this end, Bot (2023, p.3) "identified some common types of market frictions to include but not limited to followings:

(a) Transaction Costs: costs associated with buying or selling goods and services, such as broker fees, taxes, or shipping costs; thus, higher transaction costs can deter trading and lead to less efficient markets impact negatively on small investors. According to Uhunamure and Uhunmwangho (2022), the issue of that transaction costs in the stock market investing can exacerbate price inefficiencies and impede

the process of price discovery, leading to suboptimal investment decisions and distorted asset prices. Minimizing transaction costs is essential for enhancing market efficiency and promoting broader market participation (Aigbovo, & Omoruyi-Aigbovo, 2023).

(b) Information Asymmetry: situations where one party has more or better information than another, leading to imbalances in decision-making; for instance, a situation where sellers have more information about a particular asset than buyers, then adverse selection is inevitable

(c) Regulatory Barriers: like government rules and regulations that seeks to limits/restrict entry into markets, and further imposes compliance costs, which restrict/limit competition thereby creating some level of frictions in the market

(d) Liquidity Constraints: this involve a situation where it is very difficult for assets to be swiftly bought and sold without diluting their price; and absence liquidity in the market can hinder participants from timely transactions

(e) Behavioural Factors: the major ones are psychological biases and behaviours, such as fear and greed, these can lead to irrational decision-making, which in turn affect the dimension and direction of transactions in the market"

(f) Taxes: Taxes are compulsory levies/payments imposed on goods and services in the financial markets by government. Across the extant literature, taxes are believed to be one of the leading form of market frictions today because they are capable of influencing assets prices, profits and overall corporate return on investment. The amount of tax levied on a commodity will ultimately determine its price whose ultimate burden bearers fall squarely on the final consumers. Thus, if taxes are not justly implemented on traded assets, it can results in market frictions causing price distortion, reduced market participation as well as inefficiencies in pricing, trading and allocation of resources. Taxes are one important variable that investors must consider in friction cost analysis because, they will vary based on short-term or long-term capital gains, but in either situation, they still must be paid if an investor takes any profits from their investments.

(g) Insider Trading: this involve the intentional trade (sale or purchase) of any security based upon material and non-public information. Those involved in insider trading are called insider traders and other speculators in the stock markets with private information, who are able to appropriate some part of returns to corporate investments made at the expense of other shareholders. As a result, insider trading

tends to discourage corporate investment and reduce overall market liquidity and efficiency.

(h) Market Manipulation: In financial markets, market manipulation is an attempt to influence the behaviour of others into a certain action, which may result in the loss of their capital. It is an attempt to artificially affect the price and supply and demand for a financial instrument, such as a share, currency pair or commodity (Manove, 1989). Market manipulation can occur in several ways, but the common ones include but not limited to spreading false or misleading information about a company or its products, creating fake demand for a security by placing large orders that are never executed, or engaging in insider trading (Degennaro & Robotti, 2007).

(i) Asset Indivisibility: This refers to the characteristic of certain goods or services that cannot be divided into smaller units without losing their value or functionality. According to Oxford Reference (2023), an asset is defined here as "indivisible" when a fixed amount is useful, less is useless and more is superfluous, so that each investor wants to buy either that fixed amount (typically one unit) or none at all. Thus, Han, Julien, Petursdottir and Wang (2019) argued that, "an important implication of indivisibility is that some buyers may choose not to participate in the frictional market in equilibrium; this is in contrast to models with divisible goods where buyers always have full entry (Lagos & Rocheteau, 2007). With indivisible goods, only the price can adjust but not quantity, and hence the economy needs a lot of liquidity to support all the buyers trading in the frictional market (Han, Julien, Petursdottir & Wang, 2019).

(j) Non-Traded Assets: Non-traded goods refer to products and services that are not exchanged across international borders. These items are produced and consumed within a single country, making them less subject to fluctuations in global market demand. Therefore, with respect to frictions, the introduction of a non-traded assets in the domestic financial market, along with domestic distortions that limits the reallocation of resources between the financial sectors, drastically reduce the size of international capital flows (Causa et al., 2006; Rothert & Short, 2023).

(k) Macroeconomic Factors: such as inflation rate, exchange rate, interest rate, money supply among others are strongly believed to influence market transaction thereby culminating to market frictions. For instance, the issue of high rates of inflation, exchange rate or interest rate can create "problems," not just for some individuals, but for aggregate economic performance (Tan & Floros, 2012). Hence, they adversely affects financial sector as high inflation rates, exchange rate and

interest rate tend to interfere and exacerbate a number of financial market frictions which prevent investors' from holding desired portfolio, as well as detrimental to long-run capital formation and real sector of the economy.

(l) Agency Costs

This focuses on the costs associated with resolving constant conflict of interest between principles (shareholders) and agents (managers). Managers do have the tendency to behave in an unacceptable manner of selfish interest that often negate the interest of the owners of the company under their trust. Therefore, in an attempt to effective manage and align these two conflicting interest in the company, certain expenses have to be incurred and this the agency costs. Prominent prior studies in this area includes but not limited to Ross (1973), Jensen and Meckling (1976). Agency costs has been measured in different ways; for instance, Jensen (1986) used free cash flow as a ratio of total assets; Ang et al. (2000) used expense ratio and asset utilization ratio as indicator of the management expenditure, how the management of firm control the operating costs, and how management of firm deploys effectively its assets. Chinelo and Iyiegbuniwe (2018) used asset turnover ratio, earnings before interests, taxes, depreciation to total assets. While Baykara and Baykara (2021) used three measures at a time, which are operating expense ratio (OPEXR), free cash flow ratio (FCF/TA), and asset utilization ratio (ASSTUT) respectively.

2.3. Theoretical Review

2.3.1. Marginal Efficiency of Capital (MEC)

The theory was adapted from the work of Agu et.al (2019) where investment decisions is seen as a function of internal rate of return (IRR) generated by investing in a particular asset called Marginal Efficient of Investment (MEI) and the prevailing market rate of interest. The marginal efficiency of capital (MEC) refers to the expected rate of return on an additional unit of capital investment in the production process. It measures the ability of an investment to generate additional income, taking into account all relevant factors, such as market conditions, competition, and technological advancements. The theory was propounded by Keynes (1936), where he sees internal rate of return (IRR) as the rate of discount that makes the present value of a series of annuities given by the returns expected from the capital asset during its useful life just equal to its supply price. Keynes (1936) also utilized the concept of marginal efficiency of capital (MEC) in the development of marginal

efficiency theory. He defined MEC as the rate of discount that equates the current cash outlay with the present value of future cash receipt. The rule further defined, r, as the market rate of interest and states that where MEI = r, investment is considered to be at its optimum or equilibrium level (Keynes, 1936; Agu et.al., 2019).

2.4. Empirical Literature

Levin et.al (2007) examined the impact of market frictions on corporate market based on the difference between the credit default swap spread and the corporate bond spread for a large number of firms. Applying the panel data analysis, it was found that the causes of market frictions can be both systematic and firm- or bond-specific, with the idiosyncratic causes accounting for the dominant part of the variation in the basis. Kasimu (2018) examined micro and macro aspects of the effects of financial markets frictions on portfolio investments decisions and performance of financial market participants over the period 2012 to 2016 for individual firms and the entire economy. The study employs panel data analysis and the two-stage least square regression technique; and the outcome revealed that financial markets frictions and changes in financial market frictions across specific financial markets significantly affect investor's portfolio decision and performance at the firm level and national economies.

Marozva (2019) examined the effect of market frictions (bid-ask price) on stock returns in South Africa, for the period January 2007 to December, 2016. Employing the regression analysis, it was found that illiquidity is positively and significantly related to returns. Onyesonmazun (2020) examined the effects of financial market frictions on the Nigerian capital market for a period of 25 years (1992 to 2017). Employing the ordinary least square econometric technique, it was found that gross capital formation (GCF) has significant positive on market capitalization, an insignificant relationship exist between foreign direct investments as a percentage of GDP (FDI) and market capitalization in Nigeria and not statistically significant.

In a related study by Jeyalakshmi and Vasumathi (2020) on the relationship between repo rate and reserve repo rate on stock market in India over the period January 2008 to December 2018, found that a significance relationship do exist between repo rate, reserve repo rate and stock market returns. In the same vein, Uhunmwangho and Ogieva (2021) using the regression analysis on regulatory frictions (monetary policy rate) and the Nigerian Exchange Limited over the period January 2010 to June 2019;

it was found that market frictions exist in the Nigeria capital market, and monetary policy rate positively and significantly affect market index.

Uhunmwangho and Obayagbona (2021) examined the effect of bid-ask spread as trading cost on stock returns in Nigeria from 2nd December to 13th December 2019 covering 12 bank stocks. The fixed effect regression revealed that bid-ask spread positively and significantly drive stock returns. Omodero et.al (2021) investigated how monetary policy such as exchange rate and interest rate (proxies for market frictions) affect the performance of the Nigerian Exchange limited over the period 1998 to 2018. They employed the multiple regression method, and it was found that exchange rate has insignificant negative relationship with stock market in Nigeria.

Baykara and Baykara (2021) examined the effect of agency costs on firm's performance in Istanbul Stock Exchange over the period 2017 and 2020. Asset utilization ratio, operating expenses ratio and the ratio of free cash flows to total assets are used to measure agency costs. Using the panel data analysis technique based on the fixed effect result, it was found that only one of the proxies for agency costs (operating expense) significantly and positively impacted firm's performance; others such as asset utilization ratio and ratio of free cash flow to total assets do not have any significant impact on firm's performance. Khuyen (2021) examined the impact of agency costs on business performance of 34 Vietnam listed food and beverage companies over the period 2010 to 2020. Employing panel data regression, it was found that agency cost indicators are reliable and have a statistically significant impact on the business performance of firms in the food and beverage industry.

Ikponmwosa and Edo-Osagie (2021) investigated whether stocks reacted negatively to the news of the announcement of upward review of stamp duty charges in Nigeria; an announcement made on 5th of December 2020, with the succeeding first trading day being Monday 7th of December, 2020. Employing the standard event study methodology with 60 companies stock price daily series, the empirical results show evidence of negative drift in stock returns trading ten (10) days after the announcement was made public. In particular, the result of the post announcement trading effect reveal a statistically significant Abnormal Return (AR) and Cumulative Abnormal Return (CAR) of -1.51% and -1.072 % respectively on the first trading day after the announcement and a significant CAR of -1.16 % ten days after the announcement, implying a negative stock returns response.

Uhunamure and Uhunmwangho (2022) examined the effect of financial market frictions on stock market performance in Nigeria over the period January 2010 to December 2021. Employing the Generalized Method of Moments (GMM), the findings showed that regulatory frictions, transaction costs and asymmetric information significantly influence stock market returns. Specifically, cash reserve ratio has positive and significant effect on returns, while lending rate negatively and significantly influence market returns. Market illiquidity, and traded volume positively and significantly drive stock market returns, while market volatility, and exchange rate volatility negatively and significantly impacts stock market returns.

Guo et.al (2023) analyzed the impact of multiple macro-characteristic events, such as trade friction, on China's stock markets. Using the event study and quantile regression method, it was found that trade friction events significantly affect the stability of the stock market from six trading days in advance to five trading days after the event. The expected effects of trade friction events significantly influence the high quantile of stock market returns before these events. The low quantile of returns is affected as the news confirmation time approaches. Friction events have an impact before, and on the day of the event, and affect the stability of the stock market. Mafiejor (2023) investigated the financial market friction in the Nigerian capital market with respect to transaction cost, taxes and regulations, asset indivisibility, non-traded asset, and agency with information problems. Using the co-integration technique, it was discovered that these hypothesize factors have varying impacts on stock market performance and contribute to the various reactions to challenges in the stock market.

Igbinedion and Kasimu (2023) examined the micro and macro aspects of the effects of financial markets frictions on portfolio investments decisions and performance of financial market participants in Nigeria for a period of 11 years. The study employed panel least square and two stage least square techniques for analysis of data, the results indicate that financial markets frictions and changes in financial market frictions across specific financial markets significantly affect investor's portfolio decision and performance at the firm level and national economies.

3. Methodology

The research designs adopted in this study is the Ex-Post-facto and longitudinal research design, which is very applicable in the management and social sciences.

Under this design, the researcher does not have the ability or opportunity to vary or manipulate the independent variables because they have already occurred. The population of the study which also the sample size is the Nigerian Exchange Group (NGX). The census sampling technique in which population equals sample size was employed in this regard.

3.1. Sources of Data

The data used in this analysis are annual times series data covering the period 1995 to 2023). They were sourced from the Nigerian Exchange Limited (NGX), Federal Inland Revenue World Bank Data and World Development Indicators.

3.2. Theoretical Framework and Model Specifications

The theoretical framework for this study is anchored on the marginal efficiency of capital (MEC) as advocated by Keynes (1936). Accordingly, the theory measures the ability of an investment to generate additional income, taking into account all relevant factors, such as market conditions, competition, and technological advancements. This is functionally represented as:

$INV = \alpha_1 Mc + \alpha_2 Comp + \alpha_3 Tadv$…… ……1

Therefore, introducing the above equation 1 into the current study, a slight modification is made such that stock market performance is hypothesized to be dependent on market frictions variables such as transaction cost (TCOST), agency costs (AGCOST), regulation (REGQ), market liquidity (MLIQ) and capital gain tax (CGT). This relationship can be represented functionally as follows:

$SMP = f(TCOST, AGCOST, REGQ, MLIQ, CGT)$…… ……..2

However, the econometric form of equation 2 is stated thus:

$SMP_t = \alpha_0 + \alpha_1 TCOST_t + \alpha_2 AGCOST_t + \alpha_3 REGQ_t + \alpha_4 MLIQ_t + \alpha_5 CGT_t + \mu_t$….3

Where:

SMP = Stock Market Performance

TCOST = Transaction Costs

AGCOST = Agency Costs

REGQ = Regulation

MLIQ = Market Liquidity

CGT = Capital Gain Tax

μ is the error term.

Apriori Expectation are: $\alpha_{2,}\ \alpha_{3,}\ \alpha_{4,}\ \alpha_5 > 0$: $\alpha_1 > 0 <$

3.3. Method of Data Analysis

Three methods are used; these are correlation coefficient, unit root test and the dynamic least squares (DOLS). While the correlation is used to ascertain the background characteristics among the data set, the unit root test was used to estimate the stationarity properties of the data in order to avoid spurious regression results. We perform the dynamic least squares (DOLS) because it is simple and is an efficient approach to estimating the coefficients of a cointegrating relationship. It is an estimator suggested to solve the finite sample bias of OLS caused by endogeneity issue when estimating regression models based on cointegrated variables. It is superior to OLS as it is able to avoid serial correlation, endogeneity and multicollinearity problems by incorporating relevant corrections into the standard OLS model (Stock and Watson, 1993; Masih and Masih, 1996). More importantly, the Dynamic OLS (DOLS) is an alternative (parametric) approach in which lags and leads are introduced to cope with the problem irrespective of the order of integration and the existence or absence of cointegration."

3.4. Measurement of Variables

Table 3.1. Variables Measurements

Variable/ Proxy	Definition	Sources	Apriori Expect.
Total Volume of Trade (TVT)	The number of outstanding shares multiplied by the price	Onao et.al (2013)	
Transaction Costs (TCOST)	Measured as fees, commissions, bid-ask spreads, and other expenses incurred when buying or selling financial assets	Mafiejor (2023); Adelowotan et.al (2022); Aigbovo and Omoruyi-Aigbovo (2023)	+/-
Capital Gain Tax (CGT)	The amount of tax paid or levied on sales/disposal of assets	Aigbovo and Omoruyi-Aigbovo (2023)	+
Regulation (REGQ)	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development	Worldwide Governance Indicators (WGI), Choromides (2015); Uhunamure and Uhunmwangho (2022)	+
Agency Costs (AGCOST)	It is computed as free cash flow divided by total assets	Jensen (1986); Baykara and Baykara (2021)	+
Market Liquidity (MLIQ)	Measured as turnover ratio, the value of domestic shares traded divided by their market capitalization	Baykara and Baykara (2021); Uhunamure and Uhunmwangho (2022)	+

Source: Author's Compilations (2025)

4. Data Analysis and Presentation of Results

In this section, data analysis techniques stated in section three methodology are brought to bear. They include the dynamic least squares (DOLS) for the main analysis of the study; while the correlation is used to ascertain the background characteristics among the data set, the unit root test was used to estimate the stationarity properties of the data in order to avoid spurious regression results.

4.1. Unit Root Analysis

The result of the augmented dickey fuller (ADF) test is presented in Table 4.1. In the result, the ADF test statistic for each of the variables is shown in the second and fifth column, while the 95 percent critical ADF value is shown in the third and sixth column respectively. The result indicates that all the variables are not stationary at level (see panel 1). However, after the first difference was taken, all the variables were now stationary (see panel 2). This implies that the variables are actually possess unit roots, and are indeed integrated of order one (i.e. I[1]).

Table 4.1. Unit Root Tests

	At Levels	**Panel 1**		**First**	**Diff.**	**Panel 2**
Variable	ADF Test Statistic	95% Critical ADF Value	Remark	ADF Test Statistic	95% Critical ADF Value	Remark
TVT	-2.3731	-2.9718	Non-Stationary	-5.5091	-2.9762	Stationary
TCOST	-2.3944	-2.9718	Non-stationary	-6.9598	-2.9762	Stationary
AGCOST	-2.3805	-2.9718	Non-stationary	-8.0014	-2.9762	Stationary
REGQ	-2.9702	-2.9718	Non-stationary	-6.5271	-2.9762	Stationary
MLIQ	-2.4635	-2.9718	Non-stationary	-5.4864	-2.9762	Stationary
CGT	-2.6962	-2.9718	Non-stationary	-8.0132	-2.9762	Stationary

Source: Author's Computations (2025)

4.3. Correlation Analysis

Employing the correlation matrix for the relationship between financial market friction and stock market performance in Nigeria in Table 4.2, it was found that stock market performance (measured as total volume of transactions (TVT)) has a weak positive correlation values of 0.12327 and 0.02217 with transaction cost (TCOST) and capital gain tax (CGT); as well as a strong negative correlation value of -0.50201 with agency costs (AGCOST). It also had a strong positive correlation values of 0.63680 and 0.63784 with regulation (REGQ) and market liquidity (MLIQ). On the other hands, regulation (REGQ) has a strong positive correlation value of 0.68120

with market liquidity (MLIQ). In fact, the correlation among the other variables are generally weak and negative. Thus, we can conclude that, since the outcome of the correlation values are not beyond 80%, it therefore means that multicolinearity is absent in among the variables used in the model. Hence, the results are valid for policy decisions.

Table 4.2. Pairwise Correlation Matrix

	TVT	TCOST	AGCOST	REGQ	MLIQ	CGT
TVT	1					
TCOST	0.12327	1				
AGCOST	-0.50201	0.08505	1			
REGQ	0.63680	0.29330	-0.23252	1		
MLIQ	0.63784	0.17425	-0.23219	0.68120	1	
CGT	0.02217	-0.46564	-0.30343	-0.13640	-0.18645	1

Source: Author's Compilations (2025)

4.3. Cointegration Test

To test for cointegration, we employ Johansen Cointegration Test. The tests is based on two main tests statistic (the eigenvalue test (λ-max) and the trace test statistics). As can be seen from Table 4.3, the trace test and eigenvalue test statistics indicate that there are about three (3) significant cointegrating vectors between sustainable financial market frictions and stock market performance in Nigeria. This implies that a long run relationship exists among the variables. Hence, the results of the cointegration tests are summarized in Table 4.3.

Table 4.3. Johansen Cointegration Tests Results

Trace Test				**Maximum Eigenvalue Test**		
Null Hypoth	Statistic	0.05 Critical Value	Prob. Value	Statistic	0.05 Critical Value	Prob. Value
r = 0*	97.324	95.753	0.0388*	37.257	40.077	0.1005
r ≤ 1	60.066	69.818	0.0233*	21.829	33.876	0.6209
r ≤ 2	38.237	47.856	0.2917	17.909	27.584	0.5027
r ≤ 3	20.327	29.797	0.4008	12.885	21.131	0.0428*
r ≤ 4	7.4426	15.494	0.5268	4.6421	14.264	0.7861
r ≤ 5	2.8005	3.8414	0.0942	2.8005	3.8414	0.0942

Source: Author's Compilations (2025)

4.3. The Dynamic Least Square Regression Analysis

In Table 4.3, financial market frictions relationship with stock market performance was analyzed using the dynamic least square method. Indeed, the result has an impressive goodness of fit information where the R squared value is 0.98, indicating that the explanatory variables in the model effectively predict variations in the dependent variable with about 98 percent. Even the adjusted R squared value of 0.93 is equally high, indicating that the model possessed good predictive ability.

Looking at the respective explanatory variables (financial market frictions), we observed that transaction cost (TCOST) has a strong positive impact on stock market performance in Nigeria, as it passes the 1 percent significant level. This simply suggests that TCOST is a major financial market frictions that significantly influence market performance. Indeed, a unit increase in the level of TCOST leads to about 166444.7 percent increase in stock market performance in Nigeria. This finding aligns with those of Uhunmwangho and Ogieva (2021), Jeyalakshmi and Vasumathi (2020), Uhunmwangho and Obayagbona (2021), Guo, Liu and Tang (2023) who established significant positive impacyt of TCOST on stock market performance. It however disagreed with the findings of Ozekhome and Braimah (2023) who found a significant negative relationship between of TCOST and stock market performance, as well as those of Onyesonmazun (2020) and Mafiejor (2023) who found that TCOST has an insignificant relationship with stock market performance.

The coefficient of agency costs (AGCOST), being the eexpenses associated with resolving the disagreement and managing the relationship between managers and shareholders has a significant inverse effect on stock market performance. This means that the amount of money spent on resolving this conflict of interest between managers and company's owners reduces market performance rather than improving it. By implication, as AGCOST rises, stock market performance is weakened by -2.493731 percent approximately. Hence, AGCOST has not been positively enhanced stock market performance in Nigeria overtime probably because either the money deployed was not enough or it was not sincerely deployed or utilized for that purpose. The finding does not align with those of Rashid (2013), Baykara and Baykara (2021) who found an insignificant relationship between AGCOST and stock market performance. It does not also align with Khuyen (2021) who found a significant positive impact of agency cost on firm's performance.

Also, with respect to the result of regulation (REGQ), proxied by regulatory quality, it was found to have significant inverse effect on stock market performance. The

variable passed the 5 percent level, suggesting that in the determination of stock market performance, the level of regulatory quality in the country is a potent factor in this regard. However, the negative sign suggests that as regulatory quality improves in Nigeria, stock market performance reduces by approximately -412673.8 percent. The impulse of this finding is that regulatory environment, especially as it relates to stock market investing needs to be strengthened; inconsistent policies should be avoided as much as possible, so as to prevent legal uncertainties, delays in enforcement, and gaps in supervision which can undermine investors' confidence and impede market efficiency and performance in general. However, this finding does not align with the submission of Uhunamure and Uhunmwangho (2022), Guo, Liu and Tang (2023), Igbinedion and Kasimu (2023) who concluded that regulation significantly and positively impact stock market performance.

The coefficient of market liquidity (MLIQ) has significant positive impact on stock market performance in Nigeria; it passes the 1 percent level of significance. Meaning that, as the level of market friction increases (as measured by market liquidity), stock market performance also increases by approximately 182980.6 percent. Hence, MLIQ is a significant determinant of stock market performance in Nigeria overtime. This is in line with the prior studies of Guo, Liu and Tang (2023), Mafiejor (2023), Igbinedion and Kasimu (2023) who submitted a significant positive effect of MLIQ on stock market performance; but disagreed with those of Marozva (2019), Uhunmwangho and Obayagbona (2021) who no significant relationship between MLIQ and stock market performance.

Furthermore, the coefficient of capital gain tax (CGT) has an insignificant positive relationship with stock market performance in Nigeria. This means that financial market frictions as measured by capital gain tax (CGT) is not relevant in deciding the overall performance of stock market in Nigeria. This finding therefore disagreed with the findings of Aigbovo and Omoruyi-Aigbovo (2023) who found that capital gain tax (CGT) significantly and positively impact stock market performance in Nigeria.

Table 4.3. Financial Market Frictions and Stock Market Performance in Nigeria (DLS)

Variables	Coefficient	T-Ratio	Prob.
TCOST	166444.7	8.410529	0.0004**
AGCOST	-2.493731	-9.475146	0.0002**
REGQ	-412673.8	-6.195254	0.0016**
MLIQ	182980.6	7.944470	0.0005**
CGT	696.0248	0.121808	0.9078
Constant	-4784546.	-6.395424	0.0014
$R^2 = 0.98$	$\bar{R}^2 = 0.93$		

*Source: Author's Compilations (2025): Note: **sig at 1% level*

4.5. Discussion of Findings

The outcome of this study with respect to transaction cost (TCOST) has demonstrated significant inverse relationship with stock market performance in Nigeria. The simple implication of this is that probably the costs of transacting business on the floor of the exchange is not too high and is still within an acceptable; hence, more investors are trooping into the market which makes transaction costs to positively impact market overall performance. Regulators should therefore endeavor to sustain and improve on existing policy on assets prices in the market in order to ensure that transaction cost do not increase arbitrarily such that investors are not discouraged and shy away from the market.

The significant inverse relationship between agency costs and stock market performance is a demonstration of the fact that the null hypothesis does not hold rather, the alternative hypothesis of a significant relationship between agency costs and performance holds in the Nigerian Exchange Limited. Theoretically, it should be noted that agency costs are necessary expenses within the company where principals do not give completely autonomous power to agents or managers. Therefore, board of directors should ensure that the interest of agents who work under them are not completely sidelined in the course of things, otherwise, it will inversely affect the companies' performance in the long run. The finding does not align with those of Rashid (2013), Baykara and Baykara (2021) who found an insignificant relationship between AGCOST and stock market performance. It does not also align with Ang et al. (2000), Chinelo and Iyiegbuniwe (2018), and Khuyen (2021) who found a significant positive impact of agency cost on firm's performance.

Stock market regulation and regulation in general is vital in sustaining liquidity in the stock market. Therefore, the existence of an effective regulatory environment, where issues like market malfeasances are timely tackled, investors would be attracted to the domestic stock market to do business because they are sure of the protection and safety of their investment. But where these are absent, investors will definitely shy away and move their investment to other markets where the security of their investment are guaranteed. One can see that the regulatory outcome of this study does not align with Uhunamure and Uhunmwangho (2022), Guo, Liu and Tang (2023), Igbinedion and Kasimu (2023) who found that regulation significantly and positively impact stock market performance. However, in relation to liquidity result, it was onserved that it completely aligns with those of Guo, Liu and Tang (2023), Mafiejor (2023), Igbinedion and Kasimu (2023) who submitted a significant positive effect of MLIQ on stock market performance; but disagreed the findings of Marozva (2019), Uhunmwangho and Obayagbona (2021) who established a no significant relationship between MLIQ and stock market performance.

5. Conclusion

The role of financial market frictions in ascertaining the performance of stock market cannot be overemphasized. It has been adjudged in the empirical literature that market frictions do significantly impact stock market performance. Therefore, in order to ascertain this claim, this study was carried out in Nigeria using time series data covering the period 1995 to 2023. Relevant financial market frictions variables such as transaction cost (TCOST), agency costs (AGCOST), regulation (REGQ), market liquidity (MLIQ) and capital gain tax (CGT) were regressed against the dependent variable (stock market performance). The dynamic least square technique was employed for the analysis of data, and it was found that transaction cost (TCOST) and market liquidity (MLIQ) has significant positive impact on stock market performance; agency costs (AGCOST) and regulation (REGQ) has significant negative relationship with stock market performance; while those of capital gain tax (CGT) has a weak positive impact on stock market performance. The study conclude that, apart from capital gain tax, the other hypothesized financial market frictions variables in the model are significant determinants of stock market performance in Nigeria overtime. Hence, appropriate policy formulation should be directed towards strengthening these variables for better and sustainable performance of the Nigerian Exchange Limited (NGX).

5.1. Recommendations

First, since the outcome of the study has proven that transaction cost is significantly and positively related to market performance, this probably suggests that the current transaction costs in the Nigerian Exchange Limited is still favourable. Hence, regulators should endeavor to sustain current policy regarding charges in the market or improve on them so that TCOST will continue to impact positively on the overall performance of the stock market.

Secondly, since agency costs are necessary expenses within the company where principals do not give completely autonomous power to agents/managers; therefore, board of directors should ensure that the interest of agents who work under them are not completely sidelined in the course of things, otherwise, it can ultimately negatively impact their profitability in the long run.

Thirdly, since and capital gain tax do not play effective roles in stock market performance, firms should focus more attention on ways of increasing earnings and improving quality of assets and market value, so that further returns on the disposal of assets will have meaningful impact on the company's overall performance.

Lastly, there is urgent need for the government and indeed market regulator to reposition the Nigerian Exchange Limited by reviewing current regulatory environment. This could be done by ensuring adequate and timely supervision of the market, avoid inconsistent policies that might culminate to delays in enforcement and legal uncertainties. If these measures are undermined, investors' confidence will be lost and ultimately impede market efficiency and performance in general.

Suggestion for Further Studies

Since this study has examined financial market frictions in the Nigerian Exchange Limited, we suggest that a further study involving cross countries in Africa should be carried out. This will enable us ascertain the extent to which financial market frictions have impacted stock market performance across African countries.

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