JOURNAL OF BUSINESS AND SOCIAL SCIENCES
Vol.2024:24

Impact of Macroeconomic Factors towards Price Index Performance in New York Stock Exchange Market

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Abstract

The NYSE is the world's biggest exchange market. Performance of the stock market has a big impact on how wealthy the economy is and how people live their daily lives. The stock price index, which serves as a benchmark for stock market performance, is a crucial tool for assessing each nation's economic situation. As a result, a significant amount of study has been done to determine how macroeconomic factors affect the performance of stock price indices. However, the literature does not support a consistent conclusion, but rather offers contradictory results. This study's objective is to dispel uncertainty in the literature by presenting fresh ideas that can improve descriptions of and understandings of stock price index performance. The aim of this research is to examine the New York Stock Exchange index for a span of four years that is between 2017 and 2021. Also, to examine stock price index performance and macroeconomics indicators. The NYSE Composite Index (NYA), which measures stock price index performance over the Nyse period 2017 to 2021, serves as the study's dependent variable (DV), and the GDP, rate of interest, inflation rate, and exchange rate serve as its independent variables (IVs). All of the companies listed and operating on the New York Stock Exchange (NYSE), as represented by NYA, are the study's target population. Secondary data were employed in this investigation. The DV data was acquired from NYSE websites, whilst the IVs were taken from reliable sources like the World Bank and International Money Fund. Regression analysis, descriptive statistics, and the reliability test were the only data analysis techniques used in this study.

Keywords

Price index, GDP, Exchange rate, Inflation rate, NYSE Composite Index

1.0 Introduction

The New York Stock Exchange (NYSE) is the world's largest securities exchange, with 82 percent of the S& P 500 and 70 of the world's largest firms trading there (Ziemba et al., 2017). It is a publicly traded corporation that facilitates the purchase and sale of over nine million company stocks and securities per day. At 68 Wall Street, the NYSE was established in 1792, and the Buttonwood Agreement, which set the rules for trading securities, was written there by 24 brokers

Submission: 20 November 2024; **Acceptance:** 4 December 2024

and merchants. The organization's first name was New York Stock & Exchange Board (Roe, 2018). The New York Stock Exchange became the new name for it in 1863. The NYSE at the time was only accessible to male traders. Only in 1967 was Muriel Siebert, a woman trader, allowed to participate in trading (NYSE, 2022).

In 1971, the NYSE became a not-for-profit business, and in 2006, it went public. Around this time, the public and traders started trading stocks using an electronic system. In 2007, the New York Stock Exchange and Euronext merged, and in 2008, NYSE acquired the American Stock Exchange (Siegel, 2021). Later, the Intercontinental Exchange paid $8.2 billion to acquire the NYSE. For all trades, the New York Stock Exchange employs a continuous auction system. As buyers and sellers fight to offer the best price on assets, brokers trade equities (Hanif 2021).

Despite the fact that most transactions now take place on electronic platforms, the NYSE remains a hybrid market (Khan et al., 2020). This permits stockbrokers to submit orders to the trading desk or to the electronic platform, where they will be fulfilled by floor brokers. To signify the start and finish of trading, the NYSE first used a gavel, although in 1870 it changed to a Chinese gong. The gong was replaced by a brass bell when it was transferred to its current location. Its opening bell tolls at 9:30 a.m. Eastern Time, and the closing bell tolls at 4:00 p.m. Eastern Time.

The open or closed bells, which are an integral aspect of the stock exchange's brand, are also employed to signal a financial-related event or to commemorate a noteworthy event in New York City. It is a privilege to be invited to strike the NYSE bell. While many people who are asked to ring the bell are corporate executives, the bell has also been rang by a number of celebrities. This privilege was also extended to the New York City police and fire departments, who responded to the call of duty during 9/11 attacks. The New York Stock Exchange is the world's most powerful and busiest financial market. Investors all throughout the world trade its stocks.

When Stacey Cunningham was chosen the NYSE's 67th President in 2018, she became the first woman to manage the company (Lazonick, 2017). Tigress Financial Partners, created by CEO Cynthia DiBartolo, had become the Exchange's first disabled and woman pit broker in the market in 2021. Following that, Lynn Martin, the second female and 68th President, was named. During the COVID-19 epidemic, the NYSE's technological improvements proved essential. Following the closure and change to complete electronic trading due to COVID- 19, the NYSE operated without a Trading Floor for the first time in its history on March 23, 2020. While electronic trading remained unaffected, research revealed that trading on the Trading Floor provided the highest level of market quality to investors. On May 26, 2020, the Floor reopened in part. September 11, 2001, was another tumultuous period in the Exchange's history. Following the 9/11 terrorist attacks, the markets reopened on September 17th, demonstrating the New York Stock Exchange's durability and importance as the global capital markets' heart.

2.0 Literature Review

2.1 Capital Market Integration

Capital markets are considered internationally integrated, according to Hameedi (2021), if assets with the same risk have the same price regardless of where they are exchanged. There have been recent hints of a speeding up of the global finance markets' integration process. This could happen as a result of a government's gradual relaxation of limitations on foreign parties owning shares in some financial markets. This process is further aided by rapid advancements in information and communication technologies. International investors can diversify their portfolios more easily thanks to an increasingly integrated capital market. The higher the correlation of one country's capital markets with those of other countries, however, the more linked the capital markets are. Several forms of extant study primarily focus on the interaction between financial markets in industrialized countries. There is currently a scarcity of study on financial markets in emerging nations, particularly in Asia.

2.2 Multi-Index Model

One of the most important models in finance is the single index model. Hameedi (2021) devised the single index model to simplify the calculation of stock returns. The main aspect of this model is that it assumes that just one factor influences the return on securities. The most frequent method for calculating market beta is time series regression, which is followed by cross-sectional regression of the average profit rate and the beta calculated from time series regression (Touma et al., 2015). Lintner (1965) determined that the value of the intercept was excessively high, and the residual terms were incorporated in the pricing, using the same procedure as Hameedi (2021) plus the usage of non - systematic risk variables (represented by the variance of residual terms). The single index model technique is still used in the majority of these investigations. The multi-index model, according to Jobson and Korkie (1981), has a higher coefficient of determination than the single-index model. Hameedi (2021) used multi regression to examine the association between the returns of hi-tech and finance industry equities in various markets and industries. This approach is based on the idea that a stock's performance is influenced by factors other than the ones used in the single index model (Zhang et al., 2020).

The model supplied will be determined by the type of explained variable utilized. Due to changes in explanatory variables, the study's results will vary. As a result, the type of explanatory variables used in the model will have a considerable impact on whether multiple index models are superior or inferior. The stock prices index is calculated by Yunita and Robiyanto (2018) using the inflation rate, exchange rate, and inflation.

2.3 Factors affecting the performance of index

The purpose of this study is to organize the literature on the integration of stock markets in the post-financial-crisis era. Sharma and Seth's (2012) study, which spans 20 years, is remarkably similar to ours in the literature. We document advancements in the domain of stock market integration from 2010 to 2017, which could serve as a useful reference point for future research discussions. There are 57 journals in the collection. We organized literature based on several research objectives using Sharma and Seth's (2012) methodology as well as Kumari and Sharma's (2017) methodology.

The average number of publications during the review period is 9.5, with higher numbers in the first half of the sample period; nevertheless, this does not indicate a pattern— whether an increasing or declining trend within the sample period. Post-financial crisis publications, however, are significantly more numerous than those from before the crisis.

2.4 Macroeconomics Indicators

Macroeconomics examines the overall functioning of the economy and considers economic issues in a broader context (Simbolon and Purwanto, 2018). Haider and Tariq (2018) agree that macroeconomic metrics like inflation, GDP, and rate of unemployment are barometers for defining the economy's performance. Macroeconomics is the study of entire economic systems that integrate the functions of individual economic units, according to Simbolon and Purwanto (2018). It is primarily concerned with variables that have a systematic and predictable course of behavior and can be analyzed independently of the decisions made by numerous agents that determine the levels.

3.0 Discussion

3.1 Correlation analysis

As the initial step of the empirical investigation, the correlation matrix was constructed to confirm the trend of the correlations between all the variables, particularly with the independent variable. High correlations can be observed between the interest rate, inflation, and GDP. This is to be expected, given that the primary function of the interest rate is to counteract the behavior of inflation, which has a direct effect on the GDP. Another key discovery is that the NYSE has a correlation close to 1 with the GDP, meaning that economic growth has a positive impact on the NYSE stock market index.

Table 1: Correlation Analysis

		GDP	INFLATION	EXCHANGE	INTEREST	NYSE
GDP	Pearson Correlation	1	-.427**	-.166	-.792**	.976**
	Sig. (bilateral)		.008	.326	.000	.000
	N	37	37	37	37	37
INFLATION	Pearson Correlation	-.427**	1	.008	.590**	-.360*
	Sig. (bilateral)	.008		.961	.000	.029
	N	37	37	37	37	37
EXCHANGE	Pearson Correlation	-.166	.008	1	.281	-.085
	Sig. (bilateral)	.326	.961		.092	.618
	N	37	37	37	37	37
INTEREST	Pearson Correlation	-.792**	.590**	.281	1	-.691**
	Sig. (bilateral)	.000	.000	.092		.000
	N	37	37	37	37	37

NYSE	Pearson Correlation	.976**	-.360*	-.085	-.691**	1
	Sig. (bilateral)	.000	.029	.618	.000	
	N	37	37	37	37	37

3.2 Regression analysis

The regression performed between DV and IV is shown below. An R2 very close to 1 is obtained, that is, the independent variables strongly affect the NYSE (DV). However, it is true that the beta coefficients show that exchange rate is not statistically significant under the specification of a linear regression of 95%

Table 2: Model Summary

Model resume 1

Model	R	R square	R2 adjusted	Standard error
1	.987[a]	.973	.970	672.51329

a. Predictores: (Constante), INTEREST, EXCHANGE, INFLATION, GDP

b. Variable dependiente: NYSE

That is, Sig < 0.05 would be expected; In this case, inflation and the Exchange rate show a weak relationship in influencing the behavior of the NYSE under this model specification.

Table 3: Regression Analysis

Model		Coefficients		Standard coefficients	t	Sig.
		B	Desv. Error	Beta		
1	(Constante)	-7293.122	1386.043		-5.262	.000
	GDP	806.404	33.814	1.142	23.849	.000
	INFLATION	51.336	116.514	.016	.441	.006
	***EXCHANGE**	18.958	11.410	.051	1.662	.106
	INTEREST	298.880	88.637	.189	3.372	.002

a. Variable dependent: NYSE

4.0 Conclusion

As a general conclusion, this research sought through the descriptive method to examine the performance of the stock price index and macroeconomic indicators. Where it could be determined that the behavior of the NYSE stock price, between 2017 and 20221 rose, going from 11,875.70 in August 2017 to 16,806.40 in August 2021. Which shows that it has presented a positive variation around 41%. According to what was analyzed in this research this fluctuation could be due to the reasons mentioned by Berría (2021), who stated that the profitability of the companies, the growth of the technology industry and the economic growth are fundamental reasons for the NYSE, to have presented this sustained growth. On the other hand, the approach used to examine the objectives of the study included descriptive statistics, as well as the acceptance or non-acceptance of the hypotheses put forward.

The elements that affect the New York Stock Exchange index have been examined using key independent variables including the GDP inflation rate, interest rate and exchange rate. additional research may include the various factors that may influence the New York Stock Exchange that have not been incorporated in the study to further enhance the research scope. NYSE period 2017 to 2021, serves as the study's dependent variable (DV) and the GDP, rate of interest, inflation rate, and exchange rate serve as its independent variables (IVs).

The focus of the study included the New York Stock Exchange market. Based on this aspect the information that is gathered from the analysis of the impact on the United States stock exchange market. Further research recommends widening the scope of analysis to include the other elements that impact the stock exchange such as the government policies, environmental guidelines and corporate social responsibility among other aspects (Tilt, 2016). Also, the prices of other industries as well as the shares of oil and precious metals are also unlikely to impact the stock market. Furthermore, the study employed a qualitative research method for a given specific. It will be significant to examine the research objective using other approaches as well as including a wider period of analysis. Also, contemporary data would also be important in making significant comparisons.

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