

Research paper

The Effect of Inflation on Capital Market Performance in Ghana

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The securities exchange is a financial organization that encourages investment in the stock of organizations recorded the development and advancement of the economy of a country. The purpose of the study is to investigate the effect of inflation on the stock market performance using data on the Ghana Stock Exchange. The study focused on the impact of inflation rate fluctuation on the stock market performance of the Ghana Stock Exchange. The study used secondary annual time series data for the thirty years from 1990 to 2018. Ordinary least squares (OLS) regression analysis was employed to evaluate the relationship between inflation rate and capital market measures such as market capitalization, the total value of shares, the market volume of shares and market turnover ratio. The result shows the following impact of inflation rate on market performance measures respectively; 24.57%, 18.97%, 13.34% and 1.71%. The result also revealed a negative relationship between inflation and market performance measures, except for market turnover ratio that exhibited a deviation from a priori expectation as it indicated a positive correlation between inflation and market turnover ratio. We further concluded that there is a negative relationship between inflation and capital market performance which is in agreement with the finding by Usman and Adejare (2013). The study further suggests that more emphasis should be placed on reducing inflation to encourage investors to invest more in the stock market hence making available long – term funds for developmental projects.

Key Words: Stock Market Performance, Value of shares traded, volume of shares traded, turnover ratio and market capitalization, Inflation, Regression Model, Ghana Stock Exchange

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INTRODUCTION

Background of the Study

Every investor aims to make a profit or to find out how his/her investment is doing. However, there are a lot of factors that an investor may look out for when he/she is making an investment decision. In this case, the inflation rate is one of those factors. Inflation is a situation in the economy where a general level of price of a unit of a

country currency effectively buys less than what it buys previously.

Inflation is a rate at which the general level of prices for goods and services is rising and, erode the purchasing power of a currency. Inflationary environments make it impossible to build up prospective saving, investment, production and consumption decisions, and an era of increasing inflation prevents economic growth. Savings which are planned to be used for financing the development of countries in environments where inflation

is volatile and thus inflation uncertainty is high, are used in speculative areas for obtaining more return rather than for real investments or production. Then again, increments in the overall degree of costs not just adversely influence utilization, speculation and development by expanding unambiguity, yet additionally, extend the hole between salary bunches more by upsetting social circulation of pay, for example, causing a disintegration in the dispersion of salary against fixed pay gatherings. By and large, economies with high inflation rates have lower normal development rates in contrast with those with value steadiness. In this manner, value strength, which has significant impacts on investment and utilization, must be guaranteed for consistent and maintainable development. All things considered, guaranteeing cost security will achieve financial adjustment, lead to a high and feasible increment in development, and therefore improve individuals' personal satisfaction. The impact of inflation on development has been much of the time talked about in economy literature for quite a while.

Repetitive price increase erodes the purchasing power of money and other financial assets with fixed values creating serious economic distortions and uncertainty. With an increase in inflation, every sector of the economy is affected ranging from unemployment, interest rates, exchange rates, investment, and stock markets. There is an aftermath of inflation in every sector. Inflation is bound to impact all sectors, either directly or indirectly. Inflation and the stock market have a very close association. If there is inflation, stock markets are the worst affected (Jepkemei, 2017). productive asset preparation in an economy encourage reasonable development and advancement, subsequently, reserves must be successfully assembled and assigned to empower the economy to realize optimal yield. The stock market is a typical component of a cutting-edge economy and it is viewed as a significant piece of the general money related framework. As they advance the development and improvement of the economy by directing reserve funds from reserves surplus units of the general public to reserves shortfall units, empowers ideal portion and usage of scant capital assets, empowers governments and industry to raise long haul capital for financing new activities, and extending and modernizing mechanical and business concerns. Hence, giving the base to long - term maintainable monetary development (Abadi and Khaliq, 2017).

Emmanuel and Sunday (2012) and Tripathi and Kumar, (2014) have shown that the proficient stock market is viewed as pivotal for monetary advancement. Investment in the stock market is long- term in nature; henceforth any improvement that could influence the solidness of the polity or economy, as a rule, has a genuine effect on the performance of the stock market and Inflation as one of the main considerations that could impact the market

performance

PROBLEM STATEMENT

Inflation is one of the multifaceted difficulties that the Ghanaian economy has been experiencing for quite a while notwithstanding the various monetary strategies that have been detailed to neutralize its reality. There are various investigations in Ghana building up a connection between macroeconomic factors and stock performance. Adam and Tweneboah (2008) utilizing month to month information from 1991 to 2006 look at both long-run and short-run dynamic connections between the stock market index and macroeconomic factors. They utilize the Johansen's multivariate cointegration test and development accounting strategies and revealed that stock costs in Ghana react to interest rate, inflation and exchange rate. Osei (2006) likewise sets up the presence of cointegration between full-scale monetary factors and stock returns utilizing the Ghana Stock Exchange (GSE) All-share Index as an intermediary for stock performance. Different investigations on the Ghanaian market incorporate Kyereboah-Coleman and Agyire-Tettey (2008), Frimpong (2011), Kuwornu (2012) and Antwi et al. (2012).

Bekithemba (2010) in his examination on stock-inflation relations likewise presumed that inflation gives a fence against expansion in Kenya, in any event in the short run. Aroni (2011) demonstrates that inflation and money supply have a positive relationship. These investigations have seriously taken a gander at the connection among inflation and stock value, stock returns, all-share index and liquidity as a determinant of capital market performance with various factors and varied strategies which are amazingly restricted as it disregards market capitalization as a measure of stock market performance. The current investigation, in any case, tended to this deficiency by fusing market capitalization into the presentation. In Ghana, the inflation rate has been an issue facing policymakers, financial specialists and business analysts. It is one of the main considerations that could wreck the economy of any country. The stock market which likewise contributes immensely to monetary development will constantly be influenced by these factors, consequently the requirement for this paper.

OBJECTIVE OF THE STUDY

The objectives of this study are as follows:

1. To investigate the extent to which inflation rate fluctuations impact on the value of shares traded on the stock market.
2. To determine the impact of the inflation rate on

- the market turnover ratio in the stock market.
3. To examine the effects of inflation rate fluctuation on the volume of shares traded on the stock market.
 4. To investigate the extent to which inflation rate fluctuations impact on market capitalization.

RESEARCH HYPOTHESES

To achieve the above objectives, the following hypotheses were formulated for this research study:

- Ho1.** There is a significant relationship between inflation and the value of shares traded in the stock market.
Ho2. There is a significant relationship between inflation and market turnover.
Ho3. There is a significant relationship between inflation and the volume of trade.
Ho4. There is a significant relationship between inflation and market capitalization.

THEORETICAL REVIEW

Classical growth theory

Adam Smith who pointed a flexibly side driven model of development laid the Classical development model. He saw saving as a maker of investment and subsequently development. In this way, he considered pay to be as being one of the most significant determinants of how quick (or moderate) a country would develop. He likewise set that benefits decay – not as a result of diminishing peripheral profitability, yet rather because the opposition of business people for laborers will offer wages up. The connection between the adjustment in value levels (inflation) and its consequences for profit levels and yield were not explicitly enunciated in traditional development hypotheses. Be that as it may, the connection between the two factors is certainly recommended to be negative, as the decrease in firms' benefit levels through higher pay costs.

Monetary Theory of Inflation

Monetarism discusses the adherents of M. Friedman (1912-2006) who opines that "only money matters", and as such money related approach is a stronger instrument than financial arrangement in monetary adjustment. As indicated by the monetarists, the money supply is the "prevailing, however not select" determinant of both the degree of yield and costs in the short run, and of the degree of costs over the long haul. The since quite a while ago run degree of yield isn't affected by the money

supply. The monetarists stressed the job of money. Milton Friedman present day amount hypothesis holds that "swelling is consistently and wherever a fiscal wonder that emerges from a quicker extension in the amount of cash than in all out yields. Its most punctual clarification was to be found in the straightforward amount hypothesis of money.

The Market-Segmentation Theory

The market-division hypothesis centers around the supporting conduct of market members. The powers of supply and request are sectioned markets to decide the yields in those business sectors. Since business sectors are portioned based on development with inclinations attached to supporting conduct, there is no linkage by recipe among short-and long interest rate as in desire-based hypotheses. Organizations that require liquidity, for example, commercial banks, non-monetary companies, and currency showcase reserves rule the momentary fragment. Their development needs (or natural surroundings inclinations) lead them to endeavor to support their monetary records by putting resources into transient resources. By and large, speculators in the transient fragment of the market are more worried about the sureness of the head than the assurance of salary (Sinkey, 1992).

Empirical Review

Inflation rate volatility and stock market performance

The inflation rate is the pace of increment of a value index (for instance, a customer value index). It is the percentage rate of progress in the value level after some time. The pace of decline in the buying influence of cash is roughly equivalent (Mishni, 2004). An examination study has likewise been directed to decide the impacts of inflation on the stock market. Most researchers utilized the customer value index (CPI) to substitute inflation. CPI was regularly used to mirror the items and costs of the overall population.

Most investigations reveal that inflation has a negative impaction on stock return. Liljebloom et al. (1997) additionally found the Finnish data of the stock market influenced by inflation. In the industry examination, Kavussanos et al. (2002) discovered that there were a couple of sectors that have a negative impact, for instance, electronic segments, and so on, in predictability, the inflation is limited. (Rapach et al., 2005), (Chen et al.,1986) in actuality, they considered that inflation had no capacity in predicting stock return. (Chan,1998), (Chen,2005) in light of the above contention, they predict that the variable of inflation

negatively affects stock returns. Chinzara (2011) in his research on macroeconomic uncertainty and stock market volatility for South Africa discovered that stock market instability is significantly influenced by macroeconomic uncertainty, that financial crises raise stock market unpredictability, and that volatilities in exchange rates and short-term interest rate are the most factors influencing stock market unpredictability though volatilities in oil costs, gold costs, and inflation assume a minor role in affecting stock market instability.

Conceptual Framework

A conceptual framework is a graphical or diagrammatic portrayal of the connection between factors in an investigation. Mugenda and Mugenda (2003), show that the motivation behind the applied structure is to help the peruser rapidly observe the proposed connection between factors in the examination. The calculated system of these factors and stock market performance (dependent variable) as estimated by the Ghana Stock Exchange. The study explains the connection between unfamiliar exchange rate, interest rate and inflation rate (independent variables)

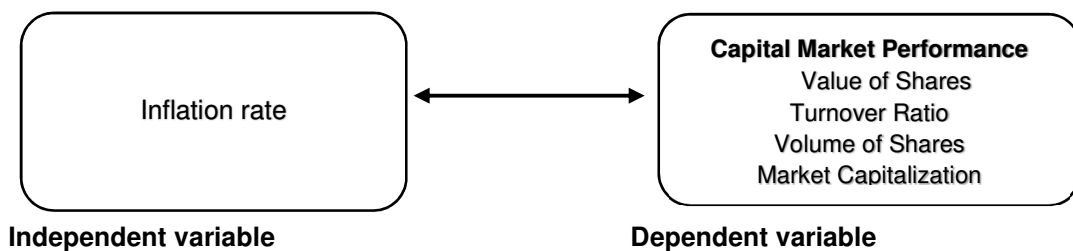


Figure 1

RESEARCH METHODOLOGY

The study is quantitative and it has utilized secondary time series information for a time of thirty (30) years from 1990 to 2019. The number of populations in the investigation is all organizations listed on the Ghana Stock Exchange. Capital market performance is estimated utilizing market capitalization, the total value of shares, the market volume of shares, and the market turnover ratio. Ordinary Least Square examination model with Eviews – 10, statistical software was utilized to break down the theory with the inflation rate as the illustrative variable while market capitalization, the total value of shares, the market volume of shares and market turnover ratio were the dependent variables. The investigation adopted the model utilized by Emmanuel and Sunday (2012). The following models are formulated for this study:

$$\begin{aligned}
 MCA &= \alpha_0 + \alpha_1 INF + \mu \text{----- Model 1} \\
 TVMS &= \beta_0 + \beta_1 INF + e \text{-----Model 11} \\
 MVOLS &= \theta_0 + \theta_1 INF + \gamma \text{----- Model 111} \\
 MTOR &= \rho_0 + \rho_1 INF + \epsilon \text{----- Model IV}
 \end{aligned}$$

INFR = Inflation Rate
 $\alpha_0, \beta_0, \theta_0, \rho_0$ = Constants of the models
 μ, e, γ, ϵ = stochastic variables or error terms.
 $\alpha_1, \beta_1, \theta_1, \rho_1$ = Coefficients of the models

In principle, an earlier desire is that the stock market ought to do well under states of solid monetary development and low inflation rate. Thus:

$$\begin{aligned}
 \frac{\delta MCA}{\delta INF} &> 0 \\
 \frac{\delta TVMS}{\delta INF} &> 0
 \end{aligned}$$

$$\frac{\delta \text{ MVOLS}}{\delta \text{ INF}} > 0$$

$$\frac{\delta \text{ MTOR}}{\delta \text{ INF}} > 0$$

DATA ANALYSIS AND PRESENTATION

Introduction

This segment centers around the exact estimation, presentation, and economic translation of the regression results did utilizing the philosophy featured in the past area.

Regression analysis

The examination continued to estimate for each model.

Model 1. $\text{MCAP} = \alpha_0 + \alpha_1 \text{ INF} + \mu$

Table 1 below shows the evaluated outcomes exhibiting the coefficient estimations of the logical factors just as demonstrating through the inquiries on how informative factors affected on the dependent variables. The estimated model above shows a negative effect of inflation (INFR) on market capitalization. This infers a 1% increase in inflation would decrease the degree of market capitalization (MCAP) by 3.30 percent. This proposes a factual negative critical relationship among inflation and market capitalization. The Adjusted R-squared coefficient of (0.245738) which is the coefficient of assurance shows that the illustrative variable represented 24.57% of the variety in the impact of inflation rate on market capitalization.

Table 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LINFR	-3.300180	1.020981	-3.232361	0.0031
C	17.04593	2.961379	5.756077	0.0000
Adjusted R-squared	0.245738			

Model 2. $\text{TVMS} = \beta_0 + \beta_1 \text{ INF} + e$

The estimated result in table 2 below shows a negative connection between inflation and the total value of market shares (TVMS). This proposes that whenever inflation increases by 1%, the absolute estimation of the market diminishes by 2.9%. The outcome is likewise factually critical at 5%. The Adjusted R-squared coefficient of (0.189739) which is the coefficient of assurance shows that the illustrative variable represented 18.97% of the variety in the impact of inflation rate on the total value of market shares.

Table 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LINFR	-2.911460	1.043077	-2.791224	0.0094
C	11.35634	3.025467	3.753583	0.0008
Adjusted R-squared	0.189739			

Model 3. $MVOLS = \theta_0 + \theta_1 INF + \gamma$

In table 3 below, the estimated outcomes exhibiting the coefficient estimations of the informative factors just as demonstrating through the inquiries on how illustrative factors affected the dependent variable. The evaluated model above shows the negative effect of inflation (INFR) on the market volume of shares. This shows a 1% increase in inflation would decrease the level of market volume of shares (MVOLS) by 1.39%. This proposes a measurable negative critical connection among inflation and market volume of shares traded. The Adjusted R-squared coefficient of (0.133405) which is the coefficient of assurance shows that the informative variable represented 13.3% of the variety in the impact of the inflation rate market volume of shares.

Table 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LINFR	-1.385392	0.592659	-2.337588	0.0268
C	15.25249	1.719020	8.872784	0.0000
Adjusted R-squared	0.133405			

Model 4. $MTOR = \rho_0 + \rho_1 INF + \epsilon$

The evaluated result in table 4.4 shows a positive connection between inflation and market turnover ratio (MTOR). This suggests that whenever inflation increases by 1%, the market turnover ratio likewise increase by 0.39%. The outcome is additionally statistically significant at 5%. The Adjusted R-squared coefficient of (0.017196) which is the coefficient of assurance shows that the informative variable represented 1.72% of the variant in the impact of inflation rate on market turnover ratio.

Table 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LINFR	0.388720	0.316606	1.227771	0.2298
C	-5.689584	0.918323	-6.195621	0.0000
Adjusted R-squared	0.017196			

SUMMARY AND CONCLUSION

The inflation rate has been an issue in the Ghanaian economy for quite a while and assessing its impacts on the performance of the capital market is the support for this paper. The investigation presents fundamental proof of the impact of inflation on measures of the capital market performance, for example, market capitalization, the total value of shares, the market volume of shares, and market turnover ratio. Assessment of the impact of inflation on the different measures of market performance indicates that there is a negative connection between inflation and capital market performance in Ghana from the period of 1990 to 2019.

However, the impact of inflation on the capital market performance is very weak. The outcomes show a negative relationship between inflation and all the performance indicator aside from market turnover ratio

that indicated a uniqueness from earlier desire as uncovered by the positive relationship between inflation and the market turnover ratio. Once more, in the assessed outcome, it has been uncovered that inflation represents simply a 0.39% impact on turnover proportion. These low degrees of impact of inflation on measures of capital market performance demonstrated that investment in the market is viewed as decent support against inflation in Ghana. These outcomes have significant strategy suggestions that the finding will serve as a guide to investors when investing in shares in the stock market. It also implies that more emphasis should be placed on reducing inflation to encourage investors to invest in the stock market hence making long – term funds available for developmental projects.

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