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Fiscal Policy, Monetary Policy and Stock Market Development in Ghana

Seth Gyedu [α], Joshua Nii Nyang Welbeck [σ] & Stephen Appiah [ρ]

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I. Introduction

The impact of economic indicators on stock market prices has been a subject of investigation. This investigation is centered on varied theoretical postulations and inconsistent empirical evidences. Another issue has to do with the size and nature of this impact (Amarasinghe, 2015). The economic theory suggests that stock market development should reflect the expectations in the fiscal and monetary policies changes. Thus, for fiscal and monetary policies to be formulated correctly, the causal relations and dynamic interactions among the underlying economic indicators and stock market are very important.

Stock market is characterized by brokers who trade with shareholdings of listed firms (Karmal, 2013). In spite of the numerous studies on stock markets, there is still no consistent economic variable that have been approved as the only variable to measure stock market development. According to Nwokoye and Oti (2018) using different types of indicators would reveal findings that would be consistent. Stock market development is described as a complex concept and this may be the reason for the varied variables applied in measuring it. Stock market development provides a plethora of advantages when it is established. Some of the merits include: ready access to capital, enhanced the firm's profile, attract high quality employees and finally it increases the firm's visibility when the IPO was a success. (Kunofiwa, 2018).

According to Havi and Enu (2014), fiscal policies can be grouped into number of applications. That is, expansionary fiscal policies and contractionary fiscal policies. Expansionary fiscal policy is adopted when an economy is experiencing a recession. The government in this case would lower tax rates and increase expenditure to cause an increase in the country's growth. The impact of this is that when producers and consumers pay lower taxes, they have more funds to spend, save and invest. This boosts aggregates demand or economic growth. Thus, governments seek their country's expansion by increasing expenditure. This is done by building more infrastructures such as schools, hospitals, roads and other essential capital-intensive projects. On the other hand, contractionary fiscal policies are adopted in the face of galloping inflation. The government reduces its expenditure, basically through spending within the thresholds of its revenue.

In most countries, the government or the central bank decides on how much money should be circulated in the financial system. The US adopt a quasi-approach where the current government in power in conjunction with the central bank decides on how money to circulate, although it is the central bank that print the money. Government all over the world is face with monetary policies that would be suitable if applied well in the economy. Monetary policy is how the central bank or the government governs the money in circulation and prevailing interest rate in the country. Monetary policy is formulated based on inputs gathered from various macro-economic indicators, Geopolitical development, concern group's government and other credible sources (Cioran, 2014). The role of fiscal policy, monetary policy and stock market development are support by some theoretical arguments. Some of these theories may

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include efficient hypothesis, keysian theory, fisher theory, and arbitrary pricing theory (McCallum, 1974; Akosah, 2015; Mpho, 2016; Amata, Muturi & Mbewa, 2016). These theories argue out varied assumptions about the relationships among these subjects. For instance, the efficient market hypothesis has it that there is an insignificant relationship among these variables whereas arbitrage pricing theory opined that there is a significant association between these variables under consideration (Ball, 2009; Anghelache, Jakova & Oanea, 2016).

Aside this, there is the empirical studies, which demonstrate that the study variables are still related and that prior studies have been conduct by some scholars in Ghana. These prior studies may include that of Antwi, Xicang and Mills (2020); Asante, Amporfu and Sakyi (2017); Ofori-Abebrese (2016); Quartey (2014) and others on fiscal policy, monetary policy and the stock market development. However, both theoretical and empirical studies provide evidences which depict mixed results and as such further research in this subject area is still relevant (Ofori-Abebrese, 2016). Thus, this study views fiscal and monetary policy to be closely related and are at times they are referred to as sister policies (Do & Need, 2020). This is because in both variables are aimed at achieving macroeconomic objectives. These objectives include, controlling inflation, consumption, boosting growth and liquidity.

The central banks of developed countries had to implement directives that prove to be different from what they were doing the past. They provided liquidity to a variety of agents including deposited taken institutions, money market and insurance companies. They also bought massive of governments bonds. These actions were necessary to boost aggregates demands. The central bank came to the realization that, a low and stable inflation rate was a necessary condition but not a sufficient condition for the stability in the economy. Thus, these central banks in their hard times did followed directives and regulations that were much less transparent and much less measurable than just a change in the policy rate (Mishkin& Eakins, 2012). In addition, some directives and regulations issue out by the central banks may results the decline in economic growth due to a potential crisis they have envisage or forecasted. This action can spring up political pressure, on them. And in some cases, sovereignty of the apex bank was questioned. Although, the apex bank had the mandate of controlling the economy, two problems are seen here. One is implementing policies that are quite different from everyday policies that they implement. And two, having the government in power controlling and enacting policies (political economy) while the central bank is sidelined (Giannoulakis, 2017).

In Ghana, the central bank, Bank of Ghana has the mandates to pursue sound monetary policies that would result in a stable price and create employment and also create an enabling environment for continues economy growth. The price stability is explained to mean the medium-term inflation target 8% percent with a symmetric bond of + or - 2 (%) percent. To achieve this target, the Bank of Ghana implement suitable monetary and fiscal policy framework is based on Inflation Targeting (IT). Inflation targeting is described as the application of policy rate as the main policy tool that provides guidance on monetary policy and ensuring stable inflation (BoG, 2019). The fiscal development in Ghana in first quarter of 2019, revealed revenue short falls of 1.8%. The revenue under-performance was largely attributed to lower than expected cost-insurance-freight (CIP), using zero-rated cost-human-freight and tower-than anticipated personal income taxes. Furthermore, the 2019 annual fiscal and monetary reports revealed that monetary developments in the country were modest and consistent with the dis-inflation process. The reserve money growth was moderated in 2019 as compared with 2018. Annual growth in reserve money was reduced by half to 7.9% as compared with 14.8% in 2018.The increase in reserve currency was due to an increase in net foreign assets, which was offset by a decline in net domestic assets in the comparative period. The annual growth in broad money (M2+) grew by 18.5% in 2019. This growth in total liquidity reflects an increase in NFA. That notwithstanding, inflation remain within the medium-term target band of 8% + or - 2%, as some marginal increases in inflation occurs, which is driven by pass-through effects of the currency depreciation. In same year the monetary policy rate remained unchanged that is 16% as compared with 18% in 2018 (BoG report, 2019).

Stock exchange composite index continued to trend downwards mainly by underperformance of banks due to the impact of the financial sector clean-up exercise. In 2019, the index was 32.82 as compared with 84.03 in 2018. This decline caused the market capitalization to fall by 0.41. There is no doubt that the fall was a very significant loss in value of stocks. Evidently, these facts and figures indicate that fiscal and monetary policies are truly subjects of great importance in Ghana and its development as a nation. And policies and directives have an important relationship with stock market development. Also, these may be detrimental if it's wrongly applied. In light of these developments, this study seeks to examine the influence of fiscal and monetary policy on stock market development. Additionally, this study seeks to fill a gap by examining the causal relationships that exits among the study variables. This is made possible by employing a robust technique known as Toda-Yamamoto estimation technique after employing standard vector-autore gressive (VAR) frame work. The study would verify the

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empirical findings on fiscal policy and monetary policy to see if the current period of time had resulted in any changes.

The rest of the paper is organized as follows: theoretical literature, empirical literature, lessons learnt and gap summary, section 2 outlines the method used; section 3 presents data source and properties; section 4 also presents empirical results and discussion; and Section 5 ends with the conclusion.

II. Theoretical Literature

The Keynesian theory was built around the assertions by John Maynard Keynes. Back then in the 1930s, he tried on several counts to use this theory to grasp the premises causing Great Depression. The theory essentially talks about the fact that, government can impact productivity levels in the macro-economy through the increase or decrease of taxes and expenditures. He argued that whenever government expenditures are increased through huge capital infrastructural expenditure, incomes are pumped into the pockets of the citizenry which in turn cause an increase in the overall economy. The theory also supports the fact that there is no one powerful tool that can move productivity and employment to the highest level. The Keynes concept is a broad concept where deployment of funds could be used to influence a country's sources of funds. The policy rate transmits by means of the rate of interest and focused on traditional Keynesian version of money for real interest rate movement.

Interest rate channel is a major way by which policy rates decisions that have implications on the economy are made. According to this channel, a change in the rate of interest will cause a change in the required rate of return, which in turn will affect the present value of the firms' future net cash flows, in this way, a high rate of interest will cause a low present value of future net cash flows, which in turn affects the present value of firms; future net cash flows (Chatziantoniou, Duffy & Filis, 2013).

Credit Channel is another monetary policy transmission medium. It has it that the Apex bank alteration of the rate of interest is the medium through which investment decision can be made. Thus, the share prices of firms on the exchange are determined by the level of corporate investment. This assertion by the Keynesian theory implies that where there is a rise in the firms' investments, automatically the firms' future cash flow would rise as well; thereby causing an upward movement of the demand for the firm's shares, this in turn pushes the firms 'market value upward and by extension the stock price. On the other hand, if there is a fall in investment, market value of the firms' share prices also falls. Evidently, investment and market value are directly related (Adam & Tweneboah, 2008).

Equally, wealth effect is another transmission mechanism that affects stock market values of firms. The wealth effect asserts that when there is a rise in the cost of borrowing; fixed asset' value would depreciates. Likewise for share prices, the price falls. In similar way, the ability of the rate of interest to determine stock prices is such that an increase in the rate of interest will cause stock prices to fall.

Another transmission mechanism is the exchange rate. The exchange rate indicates the manner at which the rate of interest influences share prices. The effect of monetary policy on the stock market is expounded by the effect of the rate of interest on the foreign exchange system. In particular, an increase in the interest rate will lead to an increase in the domestic exchange rate, resulting in an increase in imports and decrease in exports. If imports are high and exports are low, this affects local industry and it leads to lower production; ultimately, it leads to lower commodity prices. Tobin (1969) argued that a higher rate of interest would lower the market value of firms listed on the stock exchange market.

III. Empirical Literature

Fiscal policy influences the price of listed firms' stock through the crowding out effect and aggregate demand effect, thus pushing prices of stock higher (Nwaogwugwi, 2018). This empirical study is very vital to the study. This is because there is an ongoing debate on whether to consider fiscal policies and monetary policies separately when making policy decisions or they are to be considered tandem. This calls further analysis and more investigation to reveal more conclusive evidences. This study provided evidence by estimating causality between the proxies for fiscal and monetary policies respectively. One major study done in Ghana by Havi and Enu (2014) digressed from stock market development but rather used economic growth. As such our attention is on the factors used in the study which includes money supply and general government consumption were the independent variables to that served as proxies for monetary policy and fiscal policy respectively. They also applied Ordinary Least Square (OLS) approach which in most case are associated with spurious results because the variable applied are not stationary. Their findings revealed that monetary policy relates positively to economic growth. The current study followed they in using money supply as measure for monetary policy, but it went further applied a different by estimating technique called Dynamic OLS instead of the ordinary least square (OLS).

Idowu, Bamidele, and Elumah (2020) examined the effects of monetary and fiscal policy on the stock market. Data on monetary and fiscal policy variables cover the period from 1985 to 2017. An ex-post facto research project was used. Monetary and fiscal policy

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variables used were monetary policy rate, broad money, exchange rate, government revenue as a share of GDP, government spending as a share of GDP, and government budget balance as a share of GDP. The study shows that there is a long-term relationship between monetary policy, fiscal policy and the stock market. This indicates that fiscal and monetary policies have a significant impact on the stock market. This study used similar proxy variables when dealing with the research variables, but if the results prove to be similar, then a similar conclusion will be drawn, otherwise it remained inconclusive.

In addition, Nwaogwugwu (2018) studied the effects of macroeconomic policies and stock market behavior. He used ARDL frontier test and the results showed that money supply, government spending, taxation, and interest rate have a long-run and short-run relationship with the stock market. Similarly, Prukumpai and Sethapramote (2019) use structural vector autoregression (SVAR) models to estimate the effects of monetary and fiscal policies on the Thai stock market. Although they use different methods, they arrived at the same conclusion. They conclude that fiscal and monetary policies are related to the stock market. The first quarter shows that monetary policy has a greater impact on the stock market. The fiscal policy sector also shows that fiscal policy affects the stock market in the second and third quarters. The impact of fiscal policy is faster but shorter in duration compared to the impact of monetary policy. Thus, we can conclude that the Prukumpai and Sethapramote study supports the argument that fiscal and monetary policies go hand in hand, and the expectations of this study are also correct.

In the United States, Mbanga and Darrat (2015) studied the short- and long-term effects of fiscal and monetary policies on U.S. stock returns. Their findings suggest a strong long-run connection between stock prices and fiscal policy. For monetary policy, the results are reversed. Further tests show that fiscal policy is the main driver of relative stock market activity. While the results confirm this judgment and suggest that fiscal policy is transmitted through the stock market to the real economy. On the other hand, they do not indicate whether monetary policy is related to the stock market. Thus, the research in this area has been inconclusive and has not supported the consistent claim that the two policies move together. This contrasts with Idowu, Bamidele, and Elumah's (2020) study, which examined the same area and found that both fiscal and monetary policies affect the stock market. In our view, monetary policy refers to the control of the money supply by the central bank to ensure that the quantity and price of credit is consistent with specific national objectives.

Genuine empirical research has confirmed the fact that monetary policy variables affect stock market development. This finding occurred in the 1980s, coinciding with the development of statistical techniques such as co-integration and causality tests. Ho (1983) studied the impact of monetary policy on the stock markets of six countries - Australia, Hong Kong, Japan, the Philippines, Singapore and Thailand. He used monthly data on stock prices and measures of money supply M1 and M2. Co-integration and causality methods were used for the period 1975 to 1980. The study revealed a unidirectional causal relationship from money supply to stock prices in Japan and the Philippines respectively. A causal relationship also exists for money supply M2 in the stock markets of Hong Kong, Australia and Thailand. Singapore was found to be the only stock market country where a two-way relationship existed for both money supply M1 and M2. The Indian stock market reacts to unplanned and unexpected monetary policy announcements. Khuntia and Khiremat (2019) assess the relationship between monetary policy announcements and stock returns in emerging markets. They focus on the expected component of planned announcements. They point out that in times of financial crisis and macroeconomic instability, central banks follow unplanned monetary policy announcements to stabilize markets. These unplanned monetary policy announcements forced market participants to change their behaviour, forcing most market participants to engage in jerk behaviour, which in turn have a considerable effect of unplanned monetary policy announcements on equity returns. They suggested that the monetary authorities should implement some additional policy initiatives on an ongoing basis to restore market efficiency.

In Ghana, Abaka (2009) also used the Johnansen co-integration technique and Granger causality to examine the possible long-run and short-run effects between monetary policy and stock prices. The results suggest that there is a negative long-run relationship between interest rates and stock prices. In addition, an unexpectedly negative long-run relationship between money supply and stock prices is found. The results of the study further reveal an unexpected positive relationship between inflation and stock prices. The results of this study share the same expectation that there is a negative relationship between interest rate and stock market development. Earlier, Anokye and Tweneboah (2008) found the existence of a cointegrating relationship between macroeconomic variables and stock market index. Both studies showed that inflation is positively related to the stock market. This study took a different approach to see if the same conclusion could be drawn for the relationship between fiscal indicators and stock market performance. If the study finds the same result, it will argue that some of these earlier findings are still valid. Similarly, Echekoba, Okaro, Ananwude, and Akuesodo (2017) were

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motivated to look at the relationship between capital market performance and monetary policy. They used secondary data on all equity indices in the Nigerian capital market for the period 1986 to 2016 to conduct the test. They used the ordinary least squares (OLS) regression technique. The results of Ananwude and Akuesodo (2017) showed that the monetary policy rate has a negative and significant relationship with the stock market. This is consistent with the expectations of this study and, more importantly, supports the theoretical results. According to Yoshino, Taghiadeh-Hesary, Hassanzadeh, and Danu-Prasetyo (2014), the variables of monetary policy include the currency itself, the exchange rate, and inflation. They estimate the price response of Asian stock markets to exogenous monetary policy shocks using a vector error correction model (VECM). The results show that the response of stock prices to an exogenous monetary policy easing is systematically increasing. The variance decomposition shows that 53% of TEPIX (Tehran Equity Exchange Price Index) stock prices are affected by an independent shock (US-Iran exchange rate).

In the sub-Saharan region, no research has been done on fiscal and monetary policy in the general market for financial assets in this region. Few studies have been done on economic development in this region. One such study was conducted by UbiAbi and Ekere (2018), who argue that governments should focus on designing and implementing programs to support product investment, trade, and an enabling environment. They reached this conclusion after examining the impact of fiscal and monetary policies on economic growth. A comparative analysis of the two policies showed that fiscal policy has a greater impact on economic growth than monetary policy. However, this study examines the same area in light of stock market developments and further reveals whether fiscal and monetary policies are moving in parallel.

Also, Perveen and Rahman (2018) examined the impact of fiscal and monetary policies on the stock market along with identifying the moderating role of political stability in Pakistan. The results indicate that there is a long-term relationship between fiscal and monetary policies and the stock market, while the short-term relationship exists only with respect to monetary policy measures and stock market functioning. They also showed that government spending, fiscal deficit, and money supply reflect a positive relationship with the stock market. On the other hand, tax revenue and interest rate showed a negative relationship with stock market performance. Moreover, political stability only moderates the relationship between interest rate and stock market performance, while the other relationships are not moderated by political stability. In the same country, an international study was conducted by Qureshi, Khan, Rehman, Qureshi, and Ghafoor (2019). They examined effects of monetary and fiscal policies on bond mutual funds and the stock market. The results suggest an inverse bidirectional relationship between bonds and the stock market in the case of developed countries. Expansionary monetary policy is negatively related to bond mutual funds, while expansionary fiscal policy is positively related to bond mutual funds and the stock market. This shows that monetary policy signals an improvement in economic conditions. They argued that the interaction between fiscal and monetary policies is stronger in developed countries (Chatziantoniou, Duffy & Filis, 2013). The current study suggests reaching a similar conclusion only if a different estimation methodology is applied. International research supports the claim that fiscal policy, monetary policy, and stock market performance are all related (Chatziantoniou, Duffy & Filis, 2013). This part of the study shed light on the empirical studies that support this claim. It showed that the empirical results on attitudes are still inconclusive. There are few studies on the effects of fiscal policy, monetary policy, and the stock market. This study would serve as further research to provide these associations with more evidence.

IV. Methodology

This section discusses appropriate methods for addressing the research problem and achieves the objective of the study. The data collected at this stage were assigned to each respective specific hypothesis before the data been entered into the statistical package. E-Views software version 11.0 was used in analyzing the data collected. Data were summarized, analyzed, interpreted and presented to address the three research objectives of the study.

a) Dynamic OLS Estimation Approach

The present study started by estimating the dynamic ordinary least square (DOLS) regression to establish the type of connection among the variables of study. This study further contributed to empirical literature with use DOLS in regression estimation as against the use of OLS estimation technique.

$$LSDEV_{it} = \alpha_0 + \sum_{i=-q}^{p} \beta_1 LGE_{t-i} + \sum_{i=-q}^{p} \beta_2 LGR_{t-i} + \sum_{i=-q}^{p} \beta_3 LM2_{t-i} + \sum_{i=-q}^{p} \beta_4 LINT_{t-i} + e_t.$$

Where; $LSDEV_{it}$ denotes natural logarithm of stock market development, and the independent variables were *LGE,LGR, LM2, LINT* denoted by natural logarithm of government expenditure, government revenue, money supply and interest rate respectively. e_t denotes error term.

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b) Data Source and Properties

This study sourced data was the secondary data type. This type of data was appropriate and in line with the research design and method. Secondary data were chosen over primary data for four reasons. First, secondary data are easily available and accessible. Secondly, sources of secondary data such as International Monetary Fund (IMF) and Bank of Ghana (BoG) are more credible than primary data which may have been subjected to the researcher's bias. Thirdly, the study used secondary data because it is in line with research approach and most importantly prior empirical studies. Finally, it is difficult to construct primary data for some of the variables which were the subject of the investigation. Thus, it is appropriate to adopt secondary data for this research.

The data collected were annual series that spanned from 1991 to 2019. The key variables measured with this data were stock market development, government spending, government revenue or tax revenue, money supply, interest rate, inflation, monetary policy rate. The study treated stock market development as the dependent variable, while government spending, government revenue, money supply, inflation, monetary policy rate and interest rate were the exogenous variables. The endogenous variable which was stock market development was measured by stock market capitalization. Fiscal policy was measured by government expenditure and tax revenue as adopted by Foresti and Napolitano (2016). Similarly, monetary policy was measured by interest rate and money supply (Haitsma, Unamis & De-Haan, 2016). Summary of the variables, their proxies and sources are reported in Table 1.

Table 1: Study Variables, Proxies and Sources

Variables		Proxies/Measurement	Sources of Data
Stock Market Development		Market Capitalization	Ghana Stock Exchange
Fiscal policy	Government Expenditure	Natural log of Government spending	Bank of Ghana
	Government revenue	Natural log of Government tax revenue	Bank of Ghana
	Inflation	Annual Inflation rate	International Monetary Fund
Monetary policy	Interest rate	Natural log of 3-month Treasury Bills	Bank of Ghana
	Money supply	Natural log of Broad Money supply (M2)	Bank of Ghana
	Monetary policy rate	Annual Monetary policy rate	Bank of Ghana

Source: Field Data (2020)

c) Diagnostic Tests

i. *Descriptive Analysis*

The purpose of estimating descriptive analysis is to aid in understanding the features of the study data. This presentation is made possible by measuring the data and summarizing the data. This measure is divided into two parts: a measure of central tendency and a measure of variability (spread of the data). Measures of central tendency include the mean when the data exhibit ratio or range characteristics and the median when the data can only be grouped and ranked. In addition, measures of variability include standard deviation, minimum and maximum variables, and tests for skewness, the Jarque-Bera statistic and kurtosis.

The first preliminary test conducted was the normality of the variables under study. The reason for this test is to investigate mean error term. And see if the result would be zero. Then the variables were normally distributed. This test was conducted because non-normality of the variable could lead to non-normality of the residuals which is a problem. Thus, to avoid this pitfall, normality test was conducted. In order for a variable to be normally distributed, its skewness must be close to zero, its kurtosis must be equal to three, and the Jarque-Bera statistics must be non-significant. From Table 2, skewness was less than one and closer to zero, signifying a normal distribution. None of kurtosis was equal to zero or close to three. Thus, based on the Jarque-Bera statistics, the data turned out to be not normally distributed and insignificant.

The measure of variability was determined by estimating the mean values of all variables considered for the purpose of this study. Table 2 presents the descriptive statistics of the study variables. The research variables *lgexp, lgr, linf, lint, lm2, lmpr, and lsdev* represent the logarithm of government expenditure, the logarithm of government revenue, the logarithm of money supply in the broad sense, the logarithm of monetary policy rate, and the logarithm of stock market development, respectively. Even though all the averages

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are the most common values, the results show positive averages, meaning that the average value is greater than zero. Comparing the mean values with the maximum and minimum values, we found that all the mean values are closer to the maximum value than to the minimum value. This indicates that the mean is a high value. The dependent variable, stock market development (*lsdev)* had the highest mean value of 4.99. And inflation (*linf*) had the lowest mean value. The corresponding standard deviation revealed stock market development *(lsdev)* with the lowest or relatively less deviation of 0.05, the rest of the variables have relatively high deviations.

Median is reported when the study data prove to non-normally distributed. The median values are closer to mean values. This reveals that study variables are normally distributed. The median values are *3.24, 3.14, 0.89, 1.18, 1.17, 1.20, and 4.98 for lgexp, lgr, linf, lint, lmpr and lsdevrespectively.* Again, stock market development (lsdev) had the highest positive middle number. This implies that all the variables are skewed to the right.

Table 2: Descriptive Statistics of Study Variables

	LGEXP	LGR	LINF	LINT	LM2	LMPR	SDEV
Mean	3.17	3.07	0.89	1.21	1.13	1.23	4.99
Median	3.24	3.14	0.89	1.18	1.17	1.20	4.98
Maximum	3.78	3.69	1.29	1.41	1.84	1.41	5.05
Minimum	2.39	2.37	-0.06	0.97	0.30	1.10	4.48
Std. Dev.	0.44	0.42	0.19	0.15	0.47	0.092	0.05
Skewness	-0.26	-0.21	-0.89	-0.04	-0.19	0.56	-4.41
Kurtosis	1.77	1.71	7.05	1.54	1.81	2.50	44.68
Jarque-Bera	13.27	13.66	147.08	15.95	11.75	11.14	13616.49
Probability	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sum	570.38	552.41	160.78	217.71	202.76	220.97	899.01
Sum Sq. Dev.	33.95	32.06	6.25	4.01	39.16	1.50	0.53
Observations	180	180	180	180	180	180	180

Source: Field Data (2020)

ii. *Unit-Root Testing*

Unit root analysis is one of the methods used to establish the stability of data, assuming that the time series is stable (Dasgupta, 2012). It assumes that the time series is stationary (Dasgupta, 2012). In this study, both Augmented Dickey Fuller (ADF) test and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test were applied. ADF test is used to determine the presence of unit root in time series data. The null hypothesis states that there is a unit root in the series and the alternative hypothesis states that there is no unit root in the series. If the null hypothesis is not rejected, this test is evidence that the series is non-stationary. Augmented Dickey Fuller (ADF) unit root handles the correlation error of the test model by including sufficient regressive lags. On the other hand, the KPSS test is used to test the stationarity of the time series; the null hypothesis of KPPS indicates that the *process is trend stationary*. The null hypothesis of KPPS indicates that the *process is trend stationary*, while the alternative hypothesis indicates that the *process is not trend stationary*. In order to ensure that the series is truly stationary, it is desirable to apply both tests. In this case, non-stationary differences in the time series description can be used to correct the problem.

The results in Table 4 confirm the study's expectation of estimating time series data I (1) that are stationary and integrated to one. Therefore, we reject the null hypothesis and accept the alternative hypothesis that there is no unit root. Therefore, *LGEXP, LGR, LINF, LINT, LM2, LMPR*, and *LSDEV* are stationary at 1% in both ADF and KPSS unit root tests.

Table 3: Results of ADF and KPSS Unit Root Test on Study Variables

Variables	ADF		KPSS		Order
	T-Statistics	P-Value	T-Statistics	P-Value	I (1)
LGEXP	-3.09	0.03	3.38	0.00	I (1)
LGR	-2.66	0.08	3.64	0.00	I (1)
LINF	-5.24	0.00	97.29	0.00	I (1)
LINT	-5.72	0.00	108.37	0.00	I (1)
LM2	-12.54	0.00	9.01	0.00	I (1)
LMPR	-4.51	0.00	179.77.	0.00	I (1)
LSDEV	-13.57	0.00	579.32	0.00	I (1)

Source: Field Data (2020)

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V. Correlation Analysis

Correlation analysis is the technique used in this study to justify whether or not the study variables have multi-collinearity problems. For a study variable to be highly correlated, the coefficient should not exceed 0.9. The results of the correlation coefficients for this study are presented in Table 3. The regressors, monetary policy rate and government revenue, showed a strong positive relationship with inflation and government spending. The reason being that government revenue was directly spent by the government at the consumption stage.

Interest rate and money supply variables form the basis for setting the monetary policy rates by the Apex bank. The monetary policy rate exhibits a strong direct relationship with interest rates. The interest rate also shows a weak inverse correlation of -0.09 with the inflation rate. This confirms the general view that when interest rates are low, the economy grows and inflation rises. Conversely, when interest rates are high, the economy slows down and inflation declines. The same relationship exists between money supply and inflation rate, and money supply and interest rate at -0.24 and -0.34, respectively. Monetary policy rate and government spending, monetary policy rate and government revenue, and inflation rate and government revenue show moderate positive relationships of 0.36, 0.36, and 0.26, respectively. The other variables exhibit weak positive relationships. Most importantly, the coefficient of the correlation analysis conducted is less than 0.9, indicating that there is no multi-collinearity problem.

Table 4: Correlation Analysis of Study Variables

	LGEXP	LGR	LINF	LINT	LM2	LMPR
LGEXP	1					
LGR	0.53	1				
LINF	0.13	0.26	1			
LINT	0.07	0.15	-0.09	1		
LM2	0.13	0.14	-0.24	-0.34	1	
LMPR	0.36	0.36	0.05	0.69	0.03	1

Source: Field Data (2020)

VI. Analysis using Dynamic Ordinary Least Square (DOLS) Regression

This study uses this estimation technique to address the proposed research question. The dynamic OLS technique is suitable for revealing the nature of the relationship. Thereby, dynamic OLS explained the extent to which policies affect the development of the exchange market. DOLS involves augmenting regression with leads and lags so that the resulting residual equations are orthogonal to the overall estimated model (Mehonood, Feliceo & Shahid, 2014). When estimating DOLS, certain assumptions need to be established, essentially, making it a better choice than OLS. Firstly, dynamic ordinary least squares improve OLS by coping with small samples and bias from dynamic sources. Secondly, misspecification of one equation does not affect the other. Thirdly, the variables in the study are integrated to first order (Al-Azzam & Hawdon, 1999). The DOLS regressions to be estimated must satisfy the Gauss-Markov conditions. The first condition is that the residual value should be anticipated value of zero. This means that the positive residual values cross out the negative residual values. The mean of the residual value then becomes zero. Secondly, there is no autocorrelation between the residuals so that some of the properties of dynamic ordinary least squares are not violated. In addition, the error terms or residual value have equal variances. Finally, regression specification model is correct, with no missing or incorrect functional forms (Gujarati, 1998).

Table 5: Dynamic Regression Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGEXP	0.101476	0.097275	1.043192	0.2984
C	4.324764	0.223050	19.38921	0.0000
LINT	-0.143339	0.027592	-5.194875	0.0000***
LINF	0.035262	0.018726	1.883090	0.0615*
LGR	0.118254	0.111312	1.062368	0.2897
LM2	-0.136888	0.102170	-1.339803	0.1822
LMPR	0.237783	0.050185	4.738129	0.0000***

*Note: R^2 0.606, Adjusted R^2 0.574176, Mean dependent var of 4.996, S.D. dependent var of 0.055308, S.E. of regression0.036, Sum squared resid of 0.207, Long-run variance of 0.0014. *, **and *** denote 10%, 5% and 1% significance level. Source: Field Data (2020).*

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Table 6 reports statistics from the dynamic regression analysis. The reported R^2 provides estimates of the degree of impact or change in stock market development attributable to changes in government spending, government revenue, money supply and interest rates as explanatory variables and two control variables: inflation and monetary policy rate. The model estimates from Table 7 reveal an R^2 of 0.6064 and an adjusted R^2 of 0.5741. Again, the R^2 statistic indicates a positive relationship between endogenous and exogenous variables. In this case, the endogenous variable is stock market development and the exogenous variables are government spending, money supply, government revenue and interest rate. The policy rate and inflation rate are good indicators of monetary policy and are included in the exogenous variables. Thus, R^2 explains 60.64% of the variation in stock market development that is caused by these independent variables. In addition, these independent variables as well as the control variables explain 57.42% of the total variation in stock market development. This finding is supported by reported adjusted R^2 of 57.42% in the estimated models. When estimating such models, researchers are often confronted with the problem of autocorrelation and usually use the Durbin-Watson test statistic as a basis for demonstrating the presence of autocorrelation. In contrast, the DOLS estimation technique is a superior approach when estimating regressions because it solves the autocorrelation problem by selecting lags and leading lines. With this in mind, Table 7 reports that the dynamic ordinary least squares (DOLS) estimation technique omits the Durbin-Watson statistic and provides the assumption that there is no autocorrelation in the regression. DOLS is also a non-stationary estimation technique. In addition, the study used the standard error of regression (S.E.R.) to determine the mean distance of the observations from the regression line. The rule of thumb is that the smaller the S.E.R value, the better the model is estimated. This indicates that the observations are closer to the regression line. The S.E.R reported from Table 6 is 0.03609, which indicates that the fitted mean stronghold is approximately 0.03% body fat. The revealed S.E.R value is very small, less than 1%. The study concluded that the regression model was relatively close to the regression line.

a) Objective One: Effects of Fiscal Policy on Stock Market Development

A previous discussion cites government expenditure and government revenue as proxies for measuring fiscal policy. The results for these two variables are therefore fundamental proof of the kind of the association between stock market development and fiscal policy. First, Table 7 reports government expenditure and shows a positive coefficient of 0.1015 with a probability value of 0.2984, which is not significant at the 10% level. Therefore, the null hypothesis which states that there is no significant relationship between government expenditure and stock market development is accepted. Technically speaking, there is no relationship between government expenditure and stock market development. This implies that a rise in government expenditure does not lead to a change in stock market development. Similarly, government revenue reports a positive coefficient of 0.1183 with a probability value of 0.2897. The probability value for government revenue is also insignificant at 10%. Therefore, there is no relationship between government revenue and stock market development. This implies that an increase in government revenue does not have an impact on the development of the stock market.

These results are inconsistent with research expectations. Based on the literature review, the study expected fiscal policy to have a significant positive impact on stock market development. Apparently, the results found by applying government expenditure and revenue as proxies for fiscal policy showed an insignificant positive relationship with stock market development. In particular, the study is inconsistent with the theory of market efficiency. The theory of market efficiency implies relevant information, which includes data on individuals, firms, investors and governments (Fama, 1970). When markets are efficient, then all the information has been incorporated into the stock price. Therefore, all this information influences the development of the market and makes it efficient. As an example, the development of the market is influenced by fiscal policy.

Similarly, inflation is a control variable for the application of fiscal policy. Table 7 reports a coefficient of 0.0353 with a p-value of 0.0615 at the 10% level of significance. In other words, a 1% change in stock market development leads to a 3.53% change in the inflation rate. Inflation rate has a positive and significant effect on stock market development, while government expenditure and revenue do not provide any significance or support any theoretical hypothesis. Although, the underlying theories such as Keynesian theory and market efficiency theory support that the implementation of fiscal policy helps to boost aggregate demand and employment. Therefore, when aggregate demand increases; employment increases and in turn stock market capitalization increases. Economic growth in Ghana is very low because the highest bank of authority has adopted a single-digit inflation strategy to stabilize the inflation and maintain good currency depreciation. However this study shows that when inflation is allowed to increase, it will lead to an increase in the development of the stock market in this country as well as the overall economic growth. The Bank of Ghana should therefore look at the drawbacks of this inflation

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targeting technique and implement a policy of boosting the economy and the stock market through regular price increases.

In all sectors of the economy, capital is important to sustain and avoid economic collapse. With this in mind, this study shows that funds are not flowing to the sectors of the economy that would have boosted aggregate demand. The agricultural sector is the one sector of the economy that would have improved, as growth in GDP leads to growth in the overall economy, which includes all private and public consumption, government spending, investment and external balance of payments trade. Thus, most of government expenditure and revenue generation could have been concentrated in this sector. Furthermore, Ghana does not generate enough revenue from taxes and international grants to support the economy and lead to further development of the stock market. Nevertheless, this study affirms the findings of inflation and concludes that fiscal policy is positively associated with stock market development.

From a recent study by Idowu, Bamidele and Elumah, (2020), there is empirical consistency from the perspective of fiscal policy and stock market. Idowu, Bamidele and Elumah, (2020) found that when they used an unrestricted vector autoregressive model, there was a positive significant relationship. The same results were obtained in this study when dynamic ordinary least squares were used. Similarly, Foresti and Napolitano (2017) establish evidence of a negative correlation between fiscal policy and the stock market. This is in contrast to the results of this study. Truly, the study variables on fiscal policy exhibited a direct influence on the stock market development. Irrespective of the fact that fiscal income and deficit testified an insignificant coefficient; the coefficients implied a direct relationship. Previous studies by Amo-Yartey (2014), Havi and Enu (2014) and Afonso and Sousa (2009) affirm the position that fiscal policy, when properly applied, has a positive impact on the exchange market and the economy. Interestingly, Asamoah, (2017) explains that fiscal deficit as a sizable and powerful effect induced by fiscal spending leads to revenue shortfall. The current study supports this assertion that government expenditure is greater than revenue leading to fiscal deficit. This is evident from the comparative percentages of their coefficients of fiscal expenditure and fiscal revenue of 11% and 10% respectively.

The implication of the findings of this study is that government revenue comes from taxation and unsecured international grants. So basically, it is taxes and loans or debt. This directs attention to how the government finances its debt. If government spending is financed through higher taxes, then the increase in taxes may offset the increase in spending and aggregate demand will not increase and there will be no impact on stock market development. Ghana's debt ratio suggests that our government spending is not entirely financed by taxes. The results of this study show that the government revenue rate is lower than the government expenditure rate. Therefore, higher spending can lead to crowding out. Crowding out is when government spending is higher but has the effect of reducing private sector spending. For example, if the government borrows or sells treasury bills to individuals, individuals will have less investment savings.

A further implication of this finding found government spending coefficient to be insignificant. Although, in free market economy, spending should be significant enough to have an effect on the market or the economy. If this is not the case, it leads to inefficient government spending. This, in turn, is caused by poor information systems and lack of incentives, which leads to misallocation of resources and lower economic growth, which in turn leads to low stock market performance.

b) Objective Two: Effects of Monetary Policy on Stock Market Development

The results of interest rate analysis have affirmed the theoretical views of some academics. The discounted dividend theory, for example, argues that the performance of the stock market is seen as the discounted value of future dividends. In turn, an appreciation in price causes an increase in the risk-free rate, leading to a decrease in the value of the stock price. Miller and Modigliani (1961) argue that the interest rate is one of the key determinants of stock prices, to the extent that the efficiency of the market depends on it. This suggests that an increase in the level of interest rates reduces the level of stock market development. Again, the results of this study do support this view as it reveals a negative and significant coefficient for the interest rate, which is the main proxy for measuring monetary policy.

In line with empirical contribution, the findings of this study under the second specific objective are consistent with some previous studies. Wong, Khan and Du, (2005) find that the stock market in Singapore moves in tandem with interest rates. They used multiple regression methods and Granger causality. The study concluded that the coefficient on interest rates was inversely related to stock market development. The difference lies in the methodology used. This study uses dynamic regression analysis and the Toda-Yamamoto method.

The specific objective stated in Chapter one is to attempt to determine the relationship between monetary policy and stock market development in Ghana. In testing the existence of this relationship, a null hypothesis was formulated in order to achieve this objective. The coefficients of the monetary policy

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variables were used as determinants to address this hypothesis.

It is evident from the dynamic ordinary least squares regression estimates that money supply and interest rate are the main measures of monetary policy, while the monetary policy interest rate is included as a control variable for measuring monetary policy. Interest rate shows a negative and significant relationship with stock market development in Ghana. The significance level of interest rate indicates that monetary policy has a significant effect on stock market development. The results show that the coefficient of interest rate is -0.1433 with a significance level of 1%. The negative coefficient indicates a negative connection between interest rates and stock market development. In addition, it shows that a 1% change in the development of stocks leads to a 14.33% decrease in the level of interest rates, all other things being equal. Applicability-wise, this indicates that when the level of monetary policy deepens, the level of stock market development decreases. Similarly, the negative coefficient of money supply is -0.1369 with a p-value of 0.1822, which is not significant. This implies that there is no relationship between money supply and stock market development. Although, coefficient is depicting an inverse relationship; the results were in line with expectations of the study for interest rates. Therefore, money in circulation or money supply does not have any significant influence on the stock market.

On the other hand, there is a positive and significant relationship between monetary policy interest rate and stock market development. Table 6 shows that the t-statistic is 4.738 with a coefficient of 0.2377 and a p-value of 0.000 at the 1% level of significance. The positive relationship implies that when the stock market level increases by 1%, the monetary policy rate will increase by 23.77%. This result for the monetary policy rate does support the theoretical hypothesis. The expectation of the study is that there is an inverse relationship between the two variables. In fact, the Bank of Ghana uses the monetary policy rate to control inflation, unemployment and economic growth. The result of this study implies that when the Bank of Ghana increases the policy interest rate, it induces an increase in stock market development as well. In order for the stock market to develop, the Bank of Ghana should increase the policy interest rate. This restrictive policy action may not be welcomed by commercial banks and other financial institutions because it becomes expensive to borrow more money. This approach is used in the context of strong economic growth and possible high inflation. There is also a tendency for investors to shift their investments from treasury bills to the stock market due to higher policy rates, which in turn would increase the cost of borrowing from these financial institutions, thus reducing their return on investment. At the same time, the price of the stock market will increase, thus attracting investors to the market. With the Bank of Ghana reducing its policy interest rate, commercial banks and other financial institutions will turn to borrow more money because of the low cost of borrowings. This action results in a reduction in stock market development as well. Obviously, some listed companies will shift their investments from the stock market to other investment vehicles due to the decline in stock prices. For most listed companies, it is difficult to raise investment capital. This is because as share prices fall, it becomes more difficult to raise equity capital by issuing shares, which also reduces investment. In terms of confidence factors, falling share prices can erode consumer and business confidence. A continuation of this situation would indicate impending economic turmoil, and expansionary action should be taken to correct the situation.

Another relevant finding is the study by Eckoba, Okaro, Ananwude and Akuesodo (2017) which investigates the actual impact of monetary policy on stock market. The results showed that monetary policy rate has an inverse and significant effect with stock market. This result is not in line that of monetary policy rate, in this study. This is because it reveals a positively significant relationship rather than a negatively significant relationship. Therefore, it is consistent with the results of this study especially for the money supply and rate of interest.

On the contrary, Havi and Enu (2014) studied the importance of monetary policy on the economy. They reveal that monetary policy is positively related to economic growth. The similarity of this study is that the methodology applied is closely related to that of the present study. The OLS estimation method was not applied in this study because of its associated bias. The main difference is in the dependent variable used. As this study may use stock market development this related literature uses economic growth variables.

Still on the conclusion that is inconsistent with the results of this study, Ubi-Abi and Ekere (2018) reached this conclusion in their investigation of the impact of monetary policy on economic growth. They applied GMM and Dumitrescu-Hurlin causality. They explain that economic policy affects the stock market to a large extent through economic growth. Their results show that monetary policy is positively related to economic growth, which in turn affects the stock market. The differences in the results may be attributed to the methodology applied and to the differences as proxy variables. Similarly, Iddrisu, Harvey and Amidu (2017) had the same inconsistent results. They establish that stock markets in 12 African countries are positively influenced by monetary policy through the interest rate channel. In contrast to this study, the findings of Iddrisu,

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Harvey and Amidu (2017) are derived from 12 different African countries and in each country; they differ in interest rates, policy rates, exchange rates and other macroeconomic variables. Given this, their results should reflect these differences, but their report shows a different picture.

The empirical implications of the results of this study will help to understand the implications of some of these findings. Initially, the flow of money plays a crucial role because it predicts movements in prices, output and employment. The role of the central bank is to provide money for commercial banking and other service transactions, avoiding the need for a barter system. When the money supply is negative, it affects the profitability of any economy. Individuals, households and investors will find it difficult to obtain external financing. This will cause them to cut back on spending. In addition, a negative money supply coefficient indicates the need for measures to create a stronger market. This is because the underlying causes may be intrinsic. These intrinsic causes include increased spending on input costs, natural disasters, wars, increased taxes, and low labor wages.

VII. Conclusion and Implication

In addressing the salient hypotheses, the following conclusions are drawn. The study identifies a direct connection between stock market development and fiscal policy. It shows that fiscal policy is implemented to boost aggregate demand, which in turn boosts the stock market. The study showed that when inflation is allowed to increase, it will lead to an increase in stock market development as well as the overall economic growth of the country. Therefore, the Bank of Ghana should look at the drawbacks of this single-digit inflation targeting technique and implement policies that will boost the economy and the stock market by causing periodic price increases. This study supports the notion that government expenditure is greater than revenue, which leads to fiscal deficit. This is evident from its coefficient comparison percentages of 11% and 10% for fiscal expenditures and revenues, respectively. The study concludes that the government's revenues are mainly derived from taxes and unsecured international grants, and once the revenues collected do not match the projected budget, the functioning of the entire economy becomes problematic and affects stock market investments. Interestingly, there are some inconsistencies with research expectations. The following variables provide some unexpected insights. They are government spending, government revenue and money supply. Although, these variables do establish that they have an impact on stock market development. These variables provide insignificant results. This could be due to the inefficiency of the market.

In addition, monetary policy shows a negative relationship with stock market development when interest rates are used as a proxy for monetary policy. This suggests that when the level of monetary policy deepens, the level of stock market development decreases. Therefore, any change in interest rates can cause difficulties for investors and affect the profitability of listed companies, which can lead to stock price volatility. On the other hand, the study also applies the monetary policy interest rate as an alternative measure of monetary policy. The study established a positive association between monetary policy and stock market development. This led to the conclusion that whenever the Bank of Ghana increases the policy interest rate, it turns to increase the stock market development. This restrictive approach is used by the Bank of Ghana, which is used in a strong economy and not in a depressed economy. In addition, there is a strong tendency for listed companies to shift their investments from treasury bills to the stock market due to the increase in the policy interest rate, which in turn increases the borrowing costs of these financial institutions, thus reducing their investment returns. At the same time, the price of the stock market will rise, thus attracting investors to the market. Nonetheless, in the event that the Bank of Ghana reduces the policy rate, commercial banks and other financial institutions will turn to increase their borrowing because of the low interest rates. This leads to a reduction in stock market development as well. This means less investment wealth, difficulty in raising equity capital and weakened consumer and business confidence.

Furthermore, the first double causality between interest rates and the monetary policy rate implies that because commercial banks' interest rates depend on the interest rate at which the central bank is willing to lend them money. This explains the causal relationship between the flow of monetary policy to the interest rate. On the other hand, the central bank sets the lower and upper limits of the policy rate, and commercial banks can vary within the lower and upper limits. These changes in interest rates for commercial banks and financial services explain the causal effect of interest rate flows to the monetary policy rate. In addition, the second bi-causal relationship between inflation and government revenue implies that inflation affects government revenue, especially when inflation is unanticipated. Unanticipated inflation benefits the government because the government is a larger debtor and gains from taxes as nominal revenues increase. The findings on the unidirectional causality from inflation to interest rates provide evidence to as to role that nominal and real interest rates play in the financial system. This provides evidence to support the understanding that nominal interest rates move in tandem with expected inflation rates in the case of time series data.

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Finally, a second uni-directional relationship from inflation to stock market development provides evidence that firms interested in income-producing stocks are less attractive in the face of high inflation than in periods of low inflation. Inferentially, a third uni-causal relationship from stock market development to interest rates provides evidence for the dividend discounting model, demonstrating that the discount rate is negatively related to stock returns.

VIII. Recommendations

Although the outcomes of fiscal and monetary policies have proved to be asymmetric in most countries, it should be noted that monetary and fiscal policies are interdependent. Therefore, a consistent and sustainable policy mix framework is needed to avoid possible inconsistencies. From a policy perspective, the findings suggest the need to adopt a single model. This single model would comprise of fiscal policies and monetary policies together. This is because the interactions between these policies have a significant impact on the development of the stock market. The two policies should therefore be considered in tandem, rather than in isolation.

The study recommends a moderate inflation rate rather than a single-digit inflation rate. The reason for this is that moderate inflation drives stock market expansion as well as stock prices. The study encourages the Bank of Ghana to apply a moderate inflation to help the exchange market. Moderate inflation will force the Central Bank to expand its purchases of government bonds and other assets. This is done by increasing the money in circulation. This action raises consumers and businesses expectations, thereby encouraging them to spend more than they save. This moderate inflation is therefore more appropriate than maintaining a low inflation rate

First of all, when general prices barely move, many consumers and businesses would postpone purchases because prices is seemingly different or barely changes to the extent that it would affect their forecasted budgets. Secondly, when there is low inflation salaries and wages do not increase. By so doing, there is no reason for labour union and other stakeholders to argue for increase in remuneration. This is not the case when moderate inflation is adopted. Moderate inflation provides reason for increase in wages and salaries which in turn would cause an increase stock market development. Thirdly, with low inflation or single-digit inflation, debt burdens are magnified. In the case, where income is stable overtime, paying interest on loans becomes a heavy financial burden. This has been one of the reasons for Ghana experiencing heavy burden with interest loans. Thus, if Bank of Ghana follows this recommendation and adopts moderate inflation, the country would reap benefits such as reduction in real value of debt; allowing prices to adjust and attain real price; allowing relative wage adjustment and finally causing increase in the stock market development.

Furthermore, this study recommends that Ministry of Finance in collaboration with the parliamentary budget committee provide stringent fiscal rules. This system would guide the fiscal management above and beyond regular annual budgeting. This system also aims at providing clear performance indicators on government debt, borrowings, deficit and expenditure. They have to pay attention to the country's debt rules. By establishing an explicit maximum debt level of which they do not go beyond and for expenditure rules certain specific sub-sets of expenses that are in absolute terms should be limited to specified percentage limits.

It is deemed important for the government to resource Ghana Revenue Authority with adequate training and development in the areas of expanding tax brackets, revenue collection and accurate data on taxpayers. This would help improve the revenue and expenditure differences. That is having the revenue being higher than the expenditure. Also, the country should focus other sectors such as agriculture and manufacturing in the economy that would bring income into the country. This would help to avoid the problem of Dutch disease.

Finally, the study recommends that bond analyst and policy makers to assign the due attention to monetary policy rates and interest rates. This is because these variables prove to be highly related and that anytime, policy rate changes, interest rate also changes and the other way round. Therefore, these two variables cannot be disentangled when they are doing their analysis. This proves the point that when bond analyst considers these policies together the decisions they make would depict exactly the market trend.

References Références Referencias

1. Abaka, Y. (2009). *Impact of Management and Policy on Small Scale Businesses.* Unpublished master's dissertation, Department of Engineering, Kwame Nkrumah University of Science and Technology.
2. Abugri, B. A. (2008). Empirical Relationship between Macroeconomic Volatility and Stock Returns: Evidence from Latin America Markets. *International Review of Financial Analysis*, *17* (2), 396-410.
3. Adam, A. M., & Tweneboah, G. (2008). Macro-economic Factors and Stock Market Movement: Evidence from Ghana. Munich Personal RePEc Archive, No. 14079.
4. Adjasi, C. K. (2007). Stock Market Development and Economic Growth: The Case of Selected African Countries. *African Development Review, 8* (1), 144-161.

© 2023 Global Journals

5. Adu, F., Ohene-Manu, J., & Ackah, I. (2014). Government Expenditures and Economic Growth Dynamics in Ghana. *International Journal of Economics and Empirical Research, 2* (5), 180-190.
6. Afar, M., Afar, A., & Dogan, E. (2017). The Effect of Monetary Policy on Interest rates in Turkey: A Microstructural Analysis. *Business and Economic Research, 7* (2), 299-310.
7. Afonso, A., & Sousa, R.M. (2009). Fiscal Policy, Housing and Stock Prices. *International Journal of Applied Econometrics and Quantitative Studies*, 2, 69–99.
8. Akhtar, M. I. (2016, September). Research design Research design. Research in Social Science: *Interdisciplinary Perspectives, 23* (4) 68–84.
9. Akosah, N. K. (2015). *Is the Monetary Policy Rate Effective*? Recent Evidence from Ghana. Working Paper, No.14, Graduate Institute of International and development Studies, Geneva, Switzerland.
10. Al-Azzam. A. & Hawdon, D. (1993). Estimating the Demand of Energy in Jordan: A Stock-Watson Dynamic OLS (DOLS) Approach. *Surrey Energy Economic*, 97, 1-16.
11. Alimi, S. R., & Ofonyelu, C. C. (2013). Toda-Yamamoto Causality Test between Money Market Interest Rate and Expected Inflation: The Fisher Hypothesis Revisited. *European Scientific Journal, 9* (7), 125-142.
12. Amaefula, C. G. (2016). Long-Run Relationship between Interest rate and Inflation: Evidence from Nigeria. *Journal of Economics and Finance, 7* (3), 24-28.
13. Amarasinghe, A. (2015). Dynamic Relationship Between Interest Rate and Stock Price: Empirical Evidence From Colombo Stock Excahange. *International Journal of Business and Social Science, 6* (4), 92-97.
14. Amata, E. O., Muturi, W., & Mbewa, M. (2016). The causal relationship between inflation, interest rate and stock market volatility in Kenya. *European Journal of Business, Economics and Accountancy, 4* (6), 10–23.
15. Ananwude, A. C., Echekoba, F. N., Okaro, C. S., & Akuesodo, O. E. (2017). Monetary Policy and Capital Market Performance: An Empirical Evidence from Nigeria Data. *Research Journal of Economics, 1* (3),1-5.
16. Anghelache, G. V., Jakova, S., & Oanea, D. C. (2016). Fiscal Policy and Capital Market Performance: Evidence from EU Countries from Central and Eastern Europe. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *6* (2) 27-39.
17. Antwi, S., Xicang, Z., & Mills, M. (2013). Impact of Macroeconomic Policies on the Ghana Stock Exchange: A Cointegration Analysis. *International business Research, 6 (*3), 66-87.
18. Arma-Attoh, D., & Awal, M. (2013). Tax Administration in Ghana: Perceived Institutional challenges. *Afrobarometer Briefing Paper, 124* (1), 20-43.
19. Asamoah, L. A. (2017). Estimating the Forgone ESVs for Small-Scale Mining Using Historical Image Data. *Academic Open Access Publishing*, 9 (11), 19-46.
20. Asante, S. K. O., Amporfu, A., & Sakyi, D. (2017). Macroeconomics Determinants of Interest Rate Spreads in Ghana. *African Journal of Economic and Management Studies, 8*(10), 76-88.
21. Baffour, S. G. (2015). *Examining the relationship between macroeconomic variables and stock prices. Evidence from the Ghana stock exchange* (Doctoral dissertation, Kwame Nkrumah University of Science and Technology) Retrieved from https://www.ir.knust.edu.gh.
22. Ball, R. (2009). The Global Financial Crisis and the Efficient Market Hypothesis: What have we Learned? *Journal of Applied Corporate Finance, 21*(4), 8-16.
23. Bank of Ghana (2019). Monetary Policy Report. Accra, Ghana.
24. Barro, R. J. (1974). Are Government Bonds Net Wealth? *The Journal of Political Economy, 82* (6), 1095-1117.
25. Baumeister, N., & Bushman, C. (2011). Macroeconomic Variables and its Implications. Cambridge, USA.
26. Bernanke, B. S., & Kuttner, K. N. (2005). What Explains the Stock Market's Reaction to Federal Reserve Policy? *Journal of Finance*, *60* (3), 1221-1257.
27. Bodie, Z., Kane, A., & Marcus, A. (1989). *Investments* (2nd ed.). McGraw-Hill Education: Asia.
28. Bodie, Z., Kane, A., & Marcus, A. (2013). *Investments* (10th ed.). McGraw-Hill Education: 2 Penn Plaza, New York, USA.
29. Celik, S. (2012). Theoretical and Empirical Review of Asset Pricing Models: A Structural Synthesis. *International Journal of Economics and Financial Issues. 2* (2), 141-178.
30. Chatziantoniou, I., Duffy, D., & Filis, G. (2013). Stock Market Response to Monetary and Fiscal Policy Shocks : Multi- Country Evidence. *Economic Modelling*, 30, 754-769.
31. Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic Forces and the Stock Market. *Journal of Business*, 59 (3), 383-403.
32. Chen, N. (1983). Some Empirical Tests of the Theory of Arbitrary Pricing. *Journal of Finance*, 38, 1393-1414.

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33. Chen, S. N. (1992). Beta Nonstationarity, Portfolio Residual Risk and Diversification. *Journal of Financial and Quantitative Analysis, 16* (1), 95-111.
34. Cheng, N. J., & Jordan, B. D. (1993). Some Empirical Tests in the Arbitrage Pricing Theory: Macro-variables verse Derived Factors. *Journal of Banking and Finance, 17* (1), 65-89.
35. Cioran, Z. (2014). Monetary Policy, Inflation and the Causal Relation between the Inflation Rate and Some of the Macroeconomic Variables. *Procedia Economics and Finance*, *16* (5), 91–401.
36. Creswell, J. W. (2009*). Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research*. Boston, USA: Pearson Allyn & Bacon.
37. Creswell, J. W., & Creswell, J. D. (2014). The Effect of Compensation on Satisfaction and Employee Performance. *Journal of Management and Economics, 1*(1), 15-40
38. Denzin, N. K., & Lincoln, Y.S. (2005). *Introduction: The Discipline and Practice of Quantitative Research*. Sage Publications Ltd.
39. Devarajan, S., Swaroop, V., & Zou, H. (1996). The Composition of Public Expenditure and Economic Growth. *Journal of Monetary Economics*, 37, 313-344.
40. Ebele, N., & Otu, E. (2017).The Impact of Monetary Policy on the Development of the Stock Market in Nigeria. *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, *41*(2), 84–93.
41. Ebiringa, O. T., & Anyaogu, N. B. (2014). Exchange Rate, Inflation and Interest Rates Relationships: Autoregressive Distributive Lag Analysis. *Journal of Economics and Development Studies*, *2* (2), 263-279.
42. El-Wassal, K. A. (2013). The Development of Stock Markets: In Search of a Theory. *International Journal of Economics and Financial Issues, 3* (3), 606-624.
43. Fisher, I. (1930). The Theory of Interest. New York, USA: Macmillan.
44. Foresti, P., & Napolitano, O. (2017). On the Stock Market Reactions to Fiscal Policies. *International Journal of Finance and Economics*, *22* (4), 296–303.
45. Friedman, M. (2010). A Monetary History of the United States. New York: NY, USA.
46. Frimpong, S. (2011). Speed of Adjustment of Stock Prices to Macroeconomic Information: Evidence from Ghanaian Stock Exchange (GSE). *International Business and Management*, *2* (1), 151-156.
47. Gehr, A (1978). *Economic Backwardness in Historical Perspective*. Cambridge, MA, Harvard.
48. Giannoulakis, S. (2017). Fiscal and Monetary Policy in a New Keynesian Model with Tobin's Q. *Investment Theory Features*, *3* (5), 1–35.
49. Groenewold, N., & Fraser, P. (1997). Share Prices and Macroeconomic Factors. *Journal of Business, Finance and Accounting, 24* (9), 1367-1383.
50. Gujarati, D. N. (1998). Essential of Econometrics, (1st ed.), Avenue of the Americas, New York: McGraw Hill.
51. Haitsma, R., Unalmis, D., & De-Haan, J. (2016). The Impact of the ECB's Conventional and Unconventional Monetary Policies on Stock Markets. *Journal of Macroeconomics*, *48* (3) 101–116.
52. Hasan, H. (1999). Fisher Effect in Pakistan. *The Pakistan Development Review*, *38* (2), 153-166.
53. Havi, E. D. K., & Enu, P. (2014). The Effect of Fiscal Policy and Monetary Policy on Ghana's Economic Growth: Which Policy Is More Potent? *Research Academy of Social Sciences (RASS)*, *3* (2), 61–75.
54. Heyzer, N., & Mochida, S. (2009). *The Global Economics and Financial Crisis: Regional Impacts, Responses and Solution*. New York, NY, United Nations Publications.
55. Ho, T. S. Y. (1983) .The dynamics of Dealer Markets under Competition. *Journal of Finance, 38* (4), 1053-1074.
56. Huberman, G. (1981). A Simple Approach to Arbitrage Pricing Theory. *Journal of Economic Theory,* 28, 183-191.
57. Humpe, A., & Macmillan, P. (2009). Can Macroeconomic Variables Explain Long-Term Stock Market Movement? A Comparison of the US and Japan. *Applied Financial Economics, 19* (2), 111-119.
58. Iddrisu, S., Harvey, S.K., & Amidu, M. (2017). The Impact of Monetary Policy on Stock Market Performance: Evidence from Twelve African Countries. *Research in International Business and Finance,* 42, 1372-13982.
59. Idowu, O., Bamidele, I., & Elumah, L. (2020). Monetary and Fiscal Policies Interactions on Stock Returns in Nigeria. *Binus Business Review*, *11*(1), 17–24.
60. Iordachioaia, A. (2011).Monetary Policy and Economic Policy. *Journal of Knowledge Management, Economics and Information Technology, Scientific Papers.org, 1*(2), 1-4.
61. Irny, S. I., & Rose, A. A. (2005). Designing a Strategic Information System Planning Methodology for Malaysian Institutes of Higher Learning. *Issues in Information System, 6* (1), 325-331.
62. Kamal, B. (2013). The Effect of Regime switching policy rules on economic growth in Kenya. *International Journal of Business and Commerce, 3* (8), 11-24.
63. Khuntia, S., & Hiremath, G. S. (2019). Monetary Policy Announcements and Stock Returns: Some

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Further Evidence from India. *Journal of Quantitative Economics*, *17* (4), 801–827.
64. Kunofiwa, T. (2018). The Impact of Remittance on Poverty Alleviation in Selected Emerging Markets. *Comparative Economic Research, 21*(2), 52-68.
65. Kuttner, K. N., & Posen, A. S. (2006). *Inflation, Monetary Transparency and G3 Exchange Rate Volatility*. (Working Paper No. 00-06). Vienna, Austria: Peterson Institute.
66. Kuwornu, J. K., & Owusu-Nantwi, V. (2011). Macroeconomic Variables and Stock Market Returns: Full Information Maximum Likelihood Estimation. *Research Journal of Finance and Accounting, 2* (4), 49-63.
67. Levine, R. (1991). Stocks Market, Banks and Growth: Panel Evidence. *Journal of Banking and Finance, 28* (3), 423-442.
68. Lim, W. M., & Ting, D. H. (2012). Research Methodology: *A Toolkit of Sampling and Data Analysis Techniques for Quantitative Research*. New York, NY: Grin Publishers and Find Knowledge.
69. Maysami, R. C., Howe, L. C., & Hamzah, M. A. (2004). Relationship between Macroeconomic Variables and Stock Market Indices: Cointegration evidence from Stock Exchange of Singapore's all-sector Indices. *Journal Pengurusan*, *24* (1), 47-77.
70. Mbanga, C. L., & Darrat, A. F. (2016). Fiscal policy and the US stock market. *Review of Quantitative Finance and Accounting*, *47* (4), 987–1002.
71. McCallum, B.T. (1976). The Relative Impact of Monetary and Fiscal Policy Instruments: Some Structure Based Estimates. *Journal of Econetr ics*, *7* (3) 284-299
72. Mehmood, B., Feliceo, A., & Shahid, A. (2014). What Causes What? Aviation Demand and Economic Growth in Romania: Cointegration Estimation and Causality Analysis. *Romanian Economic and Business Review, 9* (1), 21-33.
73. Mehrara, M., Soufiani, M. B., & Rezaei, S. (2016). The Impact of Government Spending on Inflation through the Inflationary Environment, STR approach. *World Scientific News*, *37*, 153–167.
74. Miller, M. H., & Modigliani, F. (1961). Dividend Policy, Growth and the Valuation of Shares, *the Journal of Business, 34* (4), 411-33.
75. Mishkin, F. S., & Easkins, S. G. (2012). International Experiences with Different Monetary Policy Regimes. *Journal of Monetary Economics*, 43, 579 605.
76. Mpho, B. (2015). The Impossible Trinity and Financial Markets- an Examination of Inflation volatility spillover. *The Business and Economics Research Journal, 8* (1), 27-42.
77. Naik, P. K., & Padhi, P. (2012). The Impact of Macroeconomic Fundamentals on Stock Prices Revisited: Evidence from Indian Data. *Eurasian Journal of Business and Economics*, *5* (10), 25-44.
78. Nwaogwugwu, I. C. (2018). The Effects of Monetary and Fiscal Policy on the Stock Market in Nigeria. *American Research Institute for Policy Development, 6*(1), 79–85.
79. Nwokoye, E., & Otu, E. (2018). Impact of Monetary Policy on Stock Market Development: Implication for the Nigerian economy. *Journal of Development and Economic Sustainability*, *6 (*4), 29-50.
80. Ofori-Abebrese, G., Amporfu, E., & Sakyi, D. (2016). Do Economic Policy Decisions affect Stock Market Development in Ghana? *Africa Journals Online*, *14* (1), 33-51.
81. Perveen, S. & Rahman, M. (2018). Impact of Fiscal and Monetary Policies on Stock Market Performance: An Empirical Study of Pakistan Stock Exchange. *Journal Finance and Economics Research*, 3 (2), 2–23.
82. Prukumpai, S. & Sethapramote, Y. (2019). How Does the Thai Stock Market Respond to Monetary and Fiscal Policy Shocks? *Business and Economics Review*, *28* (2), 52–68.
83. Pwc (2020). Ghana Banking Survey Report. Accra, Ghana.
84. Quartey, P., & Afful-Mensah, G. (2014). Financial and Monetary Policies in Ghana : A Review of Recent Trends. *Journal of Advanced Research*, *4* (2), 115–125.
85. Qureshi, F., Khan, H. H., Rehman, I. U. R., Qureshi, S., & Ghafoor, A. (2019). The Effect of Monetary and Fiscal Policy on Bond Mutual Funds and Stock Market: An International Comparison. *Emerging Markets Finance and Trade*, *55* (13), 3112–3130.
86. Ramey, V. A., & Shapiro, M. D. (1998). Costly Capital reallocation and the Effects of Government Spending. *Carnegie-Rochester Conference Series on Public Policy* 48 (6), 145-194
87. Tan, C. T., Mohamed, A., Habibullah, M. S., & Chin, L. (2020).The Impacts of Monetary and Fiscal Policies on Economic Growth in Malaysia, Singapore and Thailand. *South Asian Journal of Macroeconomics and Public Finance*, *9* (1), 114–130.
88. Tobin, J. (1969). Money and Economic Growth. *Econometrics,* 33, 671-684.
89. Toda, H. Y., & Yamamoto, T. (1995). Statistical Inferences in Vector Auto-regressions with Possibly Integrated Processes. *Journal of Econometrics*, 66, 225-250
90. Ubi-Abai, I., Ekere, D. (2018). Fiscal Policy, Monetary Policy and Economic Growth in Sub-Saharan Africa. *North Asian International Research Journal of Social Science and Humanities, 3* (5), 3-23. University Press.

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91. Wong, W., Khan, H., & Du, J. (2005). *Money, Interest Rate, and Stock Prices: New Evidence from Singapore and the United States*. Unpublished master's dissertation, Department of Economics, National University of Singapore.
92. Yoshino, N. F., Taghizadeh-Hesary, Hassanzadeh, A., & Prasetyo. A. D. (2014). Response of Stock Markets to Monetary Policy: An Asian Stock market Perspective. *Working Paper*, No. 497.
93. Zakaria, Z. (2012). Empirical Evidence on the Relationship between Stock Market Volatility and Macroeconomics Volatility in Malaysia. *Journal of Business Studies*, 4 (2), 61-71.
94. Zikmund, W. G., Babin, B. J., Carr, J C., & Griffin, M (2012). *Business Research Methods* (8th ed.). South-Western College Publishing, USA.

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