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The Impact of Money Market Activities on the Economic Growth of Ghana

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Abstract: The study examined the impact of money market activities on the economic growth of Ghana from 1981-2020. Data for the study were collected from the national bureau of Statistics and CBG Statistical Bulletin; the data collected were subjected to regression analysis with the aid of the SPSS 21.0 software package. The study revealed that the value of the Treasury bill to GDP in Ghana within the period under study shows a positive significant impact on the GDP. While the value of commercial paper also shows a significant impact on the GDP but does have a significant effect on the economic growth and value of bankers, acceptance note also shows a significant impact on the GDP. The study recommended that government and the monetary authorities should adopt policies and measures to improve and strengthen the development of the money market and money laundering activities. In particular, two of the money market instruments used in this study (treasury bills and commercial papers) should be sustained as major instruments for national economic development through appropriate monetary policy measures.

Keywords: Money market, money laundering, economic growth, Ghana

1. INTRODUCTION

The money market plays an important role in the mobilization of financial resources for investment through financial intermediation. According to (Ofoeda et al., 2022) the existence of money markets facilitates trading in short-term debt instruments to meet short-term needs of large users of funds such as government, banks and similar institutions. In an analysis of money market instruments (Yarovenko & Rogkova, 2022) described commercial papers, specifically, as the cheapest way of raising capital at short term interest rates. They noted that commercial paper was the largest U.S. government short term debt instrument since the beginning of 2007. (Peprah et al., 2019) noted that money market instruments such as treasury bills and treasury certificates are the only short-term government debt instruments, which were marketable and negotiable. In Ghana, treasury bills are currently the only short term government debt instruments traded in the money market since the use of treasury certificates were discontinued by government in 1996 (Asogwa & Ezema, 2004) and (Adofu & Abula, 2018).

(Ofoeda et al., 2022) posited that the overall performance of the money market has been mixed when compared, they asserting that, the market is said to be shallow and is characterised with inadequate securities, paucity of instruments and that there exist a wide range of lending and deposit rates. The market also lacks breadth, resilience and depth, to effectively discharge its primary functions of financial intermediation. These developments have no doubt affected the growth and development of the Ghana money market when compared with advanced countries.

In addition, Oghenekaro (2013) observed that the money market is essentially for the efficient distribution of liquidity in the financial system, allocation of capital as well as the hedging of short-term risks. The money market is the market where short-term financial assets are bought and sold. The market is essentially an intermediary, where short-term financial assets that are close substitute for money are usually traded. In Ghana, the money market is not yet vibrant and developed. This is so because the market is currently facing liquidity problems. The market is largely dominated by government instruments such as treasury bills and bonds, with a wide gap of deposit and lending rates or very high cost of borrowing when viewed.

However, (Ofoeda et al., 2022) noted that the Ghana money market has experienced some remarkable and significant growth and development both in breadth of securities as well as the volume of trading since the deregulation of the financial system in 1986. He averred that the market still needs to be deepened to achieve the required vibrancy that is expected of a money market. He affirmed that this does not mean that the market is inefficient, but that there is need to further evaluate its performance in relation to its contribution to economic growth and development of the country.

A developed, active and efficient money market enhances the efficiency of central bank's monetary policy and the transmission of its impulses into the economy. (Yarovenko & Rogkova, 2022). Thus, the development of the money market smoothen the progress of financial intermediation, boosts lending to the economy, and improves the country's economic and social welfare.

In developing economies like Ghana, money markets are still underdeveloped as such; the absence of a well-developed money market in these countries poses a challenge in pooling funds large enough to fund private enterprises. Despite that in recent times the Ghana money market has witnessed robust reforms and expansion, there are still some problems and challenges, which the market is confronted with. The Ghana money market is still superficial when compared to her contemporaries in some advanced and emerging economies; it is also characterized by immature secondary market, undiversified instruments, lack of proper coordination in the issuance of debt instruments, inadequate and deficient information flow among others. (Obidike et al., 2015).

The Ghana money market offers opportunity for trading in the short-term instruments, which are liquid and have negligible risk. The money market also provides the basis for implementation of monetary policy. The types of instruments traded are Treasury bill, Treasury certificate, Commercial paper, Banker's acceptance, Certificate of deposits etc.

The role of money market in the development of the economy cannot be over emphasized as the money market plays a key role in banks liquidity management and transmission of monetary policy by providing the appropriate instrument and partners for liquidity trading. The money market allows re-financing of short tern positions and facilitates the mitigation of business liquidity.

Statement of the problem

The role of money market transactions in economic growth and development of Ghana has continued to attract the attention of some policy makers and scholars in recent times. This is due largely to the fact that most of the past studies had focused attention on capital market developments, and not much was done on research on money market activities. Furthermore, the study findings of previous studies linking the activities of the money market to economic development showed a lack of consensus among researchers. This lack of consensus clearly indicates the existence of a research gap which this study attempted to bridge, and by so doing contribute to the existing literature.

In the light of the above, there exist a knowledge gap in terms of selecting appropriate combination of money market instrument and Ghana economy related variables to determine the direction of money market and output on Ghana economy. So what constitute a problem in this study or research work maybe stated thus, what is the effect of money market activities and selected money market instrument on Ghana economy?

This study focused on the effects of money market activities on the Ghana economy. It covers a period of thirty-five (35) years from 1985 through 2019. The choice of this period is to examine how the performances of money market activities both past and recent have affected the Ghana economy.

This study is significant as it add to the body of knowledge on the subject matter and also fill any gap that may exist in previous studies which has been undertaken to establish whether Money Market activities affects the Ghana economy positively or negatively.

The study is very vital especially to policy makers because it will help in formulating the values of money market instruments that affects the Ghana economy positively. In addition, it will enable them initiate, develop and manage long-term economic strategies based on empirical evidence.

For researchers, the study will stand, as an addition to existing knowledge in the area of investigation; therefore, it will increase the ongoing academic debate on the direction of causality between money market activities and the Ghana economy. It will also form a basis for further research in the area of investigation since there is no single research effort that is entirely conclusive. Lastly, it will enable other researchers (students or scholars) to evaluate their own piece of work.

2. LITERATURE REVIEW

Conceptual Clarification

Concept of economic performance

Economic growth is an important concept in Economics that is used to assess the performance of an economy. Though it is often used interchangeably with economic development in the literature, they do not mean the same thing in the strict sense. According to Abdulkadir, *et al*., (2010) economic growth simply means increase in per capita income or increase in Gross National Product (GNP). Pietak (2014) described economic growth as a measure of describing the dynamics of economic processes in a country. Cvetanovic, *et al*., (2019) described economic growth as the "*increase in the value of a country's production over time*". According to them, the extent of growth that a country can achieved depends on its ability and capacity to accumulate the direct factors of production and invest in knowledge acquisition. They highlighted the most significant fundamental factors of growth to include population growth, financial development, and qualitative macroeconomic environment, and income distribution, political and social environment.

Thus, financial system plays a pivot role in determining economic performance. The success or failure of any economy is hinged on the viability of its financial system. Financial system is a complex network that include received and payment mechanism, lending as well as borrowing of funds, it consists of market, market participant and instrument in the institutions that are made to facilities transfer of resource from one economic unit to another. Financial system in 21century is categorised into tripartite components, which include financial market, financial institutions and financial instruments. Thus, the above components of financial system play a vital and a pivot role in the general performance of the economy.

Concept of Money market

The money market is the market where securities of short-term nature of not more than one year are bought and sold. It has no central location; businesses are usually transacted on telephone, fax, telex, and so on (Ikpefan & Osabuohien, 2012). Prices of securities dealt with are usually determined by the influence of the Government of Ghana's monetary policies being issued annually and monitored by the Bank of Ghana. They are of high quality, unsecured but relatively low risks financial assets such as savings of various forms, negotiable and non-negotiable certificate of deposits, bankers' acceptances, commercial papers, call money, treasury bills and treasury Certificate.

Money market also constitute the second part of the Ghana financial market which exists to facilitate trading in short-term financial instruments to meet short-term needs of large users of funds such as governments, banks and other similar institutions (Aminu et al., 2017). The market could also be described as any arrangement and facilities that bring about the exchange of short-term funds, securities. According to Afiemo (2013), the money market developed as a subset of the African financial market that managed short-term lending, borrowing, buying and selling of securities with original maturities of one year or less. Just like the capital market, the money market has two segments, namely, the primary and secondary markets. The primary market exists for the issue of new debt instruments while the secondary market is the market for the trade of previously issued instruments (Afiemo, 2013).

Uruakpa (2019) ascertain that money provides commercial banks with a ready market where they can invest their excess reserves and earn interest while maintaining liquidity. The short –term investments such as bills of exchange can easily be converted to cash to support customer withdrawals. In addition, when faced with liquidity problems, they can borrow from the money market on a short-term basis as an alternative to borrowing from the central bank. The advantage of this is that the money market may charge lower interest rates on short-term loans than the central bank typically does. The major players in the money markets include individuals, companies, banks, discount houses and governments. For the purpose of this study, the major instruments for measuring economic performance include Treasury bills, commercial paper and commercial bank credit.

Treasury Bills

Treasury bills are short-term instruments a government uses to finance its spending. Governments sell them to the public and organizations at a discount. They work like promissory notes from the government via central banks, and they mature after a determined period. The yields from Treasury bills have close links to the capital and financial markets and they can affect the interest rates of banks and other corporate bonds (Nyawata, 2012).

Commercial Paper

These are short-term promissory notes issued by the BoG and their maturities vary from 50 to 270 days, with varying denominations. They are debt that arises in the course of commerce. The first recorded commercial papers were issued in Ghana in 1960. Commercial papers are as old as the treasury bills in Ghana and constitute to date the third largest money market instrument in the arena of Ghanaian money market assets (Onoh, 2002).

Commercial Bank Credits

Credit is the extension of money from the lender to the borrower. Ajayi (2000) noted that credit implies a promise by which one party pays another for money borrowed or goods and services received. Credit cannot be divorced from the banking sector as banks serve as a conduit for funds to be received in form of deposits from the surplus units of the economy and passed on to the deficit units who need funds for productive purposes (investment). Banks are therefore debtors to the depositors of funds and creditors to the borrowers of funds. Bank credit is the total sum of loans and advances made by the banking industry to economic actors. Collateral that aids in guaranteeing loan repayment in the case of default is frequently included with credit. Credit encourages economic growth by converting savings into investments. Thus, the availability of credit makes it possible to perform the job of intermediation, which is crucial for the expansion of the economy. .(Moore & Swan, 2008)

Money Laundering

Money laundering is a criminal activity that involves concealing the origin of illegally obtained money by passing it through a complex network of transactions to make it appear legitimate. In Ghana, money laundering is a serious problem that is often linked to drug trafficking, fraud, corruption, and other criminal activities. The Ghanaian government has taken several steps to combat money laundering, including enacting laws and regulations aimed at preventing and detecting this crime. The Anti-Money Laundering Act, 2020 (Act 1044) is the main law in Ghana that criminalizes money laundering and sets out the legal framework for the prevention, detection, investigation, and prosecution of money laundering offences. The Financial Intelligence Centre (FIC) is the government agency responsible for the implementation of the Anti-Money Laundering Act. The FIC is tasked with collecting, analysing, and disseminating financial intelligence to law enforcement agencies and other stakeholders to help prevent and combat money laundering. (Kearney, 2021)

In addition to the legal framework, Ghana is also a member of the global Financial Action Task Force (FATF), which sets international standards for combating money laundering and terrorist financing. Ghana is committed to implementing the FATF's recommendations and has undergone several evaluations to ensure compliance with these standards. Despite these efforts, money laundering remains a significant challenge in Ghana. The country's porous borders, weak regulatory framework, and corruption in some sectors create an enabling environment for money laundering activities. The government continues to work with international partners to strengthen its anti-money laundering efforts and combat this crime.(Chekole & Mohammed Ahmed, 2023)

Theoretical Framework

Modern Growth Theory

Modern growth theory developed by Grossman, (Obidike et al., 2015) identifies two main channels through which the financial sector might affect long-run growth in a country. They include, catalysing the capital accumulation (including both human and physical capital) and by increasing the rate of technological progress. The five basic functions of an efficiently working financial sector (such as mobilising and pooling savings; producing information ex-ante about possible investment and allocating capital, monitoring investment and exerting corporate governance, facilitating the trading, diversification and management of risk and facilitating the exchange of goods and services) allow the above two channels to work for promoting growth by mobilizing savings for investment, facilitating and encouraging capital inflows and allocating the capital efficiently among competing uses.

Empirical review

(KOÇALİ, 2021) examine the effect of selected money market instruments on the growth of the Ghana economy. Using data obtained from the Ghana of Ghana's statistical bulletin 2017, the study employed the Autoregressive Distributive Lag (ARDL) Bound Testing approach to co-integration. The result shows no form of convergence among the variables in the long-run while showing that money market variables are positively related to economic growth rate both in short and long run, except for Certificate of Deposit (COD) and Commercial Paper (CPR) that has an inverse relationship with economic growth in the long-run.

(Obidike et al., 2015) investigated the nexus between money market and Ghana economic growth: A time series analysis from1985-2014. The study adopted the ex-post-facto research design. Data used in the study was sourced from BoG's annual statistical bulletin for relevant years. Descriptive statistics and the ordinary least square (OLS) multiple regression techniques were the main statistical tools used in the analysis of data. Additionally, the T-test statistics was used to test the null hypotheses of the study at 5%level of significance for a two-tailed test. The study found that Treasury bill, Treasury certificate, Commercial paper does not have any significant effect on the gross domestic product (GDP) of Ghana while Certificate of deposits was found to significantly impact on the gross domestic product (GDP) of Ghana.

(Karanikas et al., 2022) examined the impact of selected Money Market Instruments (Treasury bill, Certificate of Deposit, Commercial Papers and Development Stock) on economic growth based on time series data sourced from Bank of Ghana(BoG) Statistical Bulletin and Ghana Statistcal Service (GSS) publications for 38 years covered by the study. The study employed multiple regression and Granger Causality Test to analyse data collected for study covering the period 1989-2019.The study found out that Treasury bill and commercial papers have a positive relationship with GDP, but its effect is insignificant in the long run. However, Bank's acceptance and Credit to the Private sector has a positive and significant effect on GDP in the end. In contrast, development stock has no significant effect on GDP in the short run and the long run with no granger causal relationship with GDP.

3. MATERIAL AND METHODS

This research adopts correlation research design. Secondary method of data collection is utilized. Multiple regressions was employed for data analysis. This research employed the used of Static Panel Data approach to analyze the study data. The model specifies the endogenous variable (economic development-real GDP Per Capita) as a function of value of treasury bills issued, value of certificate of deposit issued, value of commercial paper issued, value of banker acceptance issued and monetary policy rate representing the exogenous variables. The model is specified as follows:

$$RGDPPC = f(VTB, VCP, VBA, MPR) \ldots\ldots\ldots\ldots\ldots \quad (1)$$

The econometric form of equation 1 is represented as:

$$RGDPPC = \beta 0 + \beta 1VTB + \beta 2VCP + \beta 3VBA + \beta 4MPR + \mu \ldots\ldots\ldots (2)$$

By log linearizing, the model becomes;

$$Log(RGDPP) = \beta 0 + \beta 1log(VTB) + \beta 2log(VCP) + \beta 3log(VBA) + \beta 4log(MPR) + \mu \ldots\ldots (3)$$

From Equation 3, the model can be re-specified in a time series form as;

$$\log(RGDPPC)t = \beta 0 + \beta 1\log(VTB)t + \beta 2\log(VCP)t + \beta 3\log(VBA) + \beta 4\log(MPR)t + \mu \ldots\ldots (4)$$

Where;

RGDPPC = Real GDP per capita (proxy for economic development)

VTB = Value of treasury bills traded

VCP = Value of commercial papers trade

VBA= Value of banker acceptances traded.

MPR = Monetary policy rate

log = Natural logarithm

t = the temporary dimension i.e. 1986, 1987………….2013

μ = Stochastic Disturbance (Error Term)

β0 = Intercept of relationship in the model/constant

β1 – β5 = coefficients of each of the independent variables

Based on the above theoretical framework, the following are the *a priori* expectations of the coefficient of the model: $\beta 1 - \beta 3 > 0$; $\beta 4 < 0$.

4. RESULT AND DISCUSSION

Descriptive Statistics

This section presents the descriptive statistics of the data for the study. It shows the mean, Standard deviation (STD DEV), Minimum (MIN), Maximum (MAX), the result of descriptive statistics is presented in Tables 4.1

Table 4.1: Descriptive Statistics

Variables	Obs.	Mean	Std Dev.	Min.	Max.
GDP	40	177.112	162.004	27.75	546.68
TBT	40	7.8210	4.926	0.50	14.93
CPT	40	10.395	6.848	1.25	30.00
BAT	40	6.062	2.878	1.64	9.61

Source: SPSS Output, 2023 (Appendix)

Data Analysis

Table 4.1 shows that the mean Gross Domestic Product (GDP) of Ghana during the period of study was 177.112 billion with a standard deviation (SD) 162.004 billion. This is an indication that the data for GPD does not deviate from both sides of the mean. The GDP also has a minimum and maximum value of 27.352 billion and 546.68 billion respectively, which result to the wide range of 518.93 billion. The Treasury Bill Traded (TBT) has a mean of 7.8210 billion and an SD of 4.926 billion, which implies that data for NPLR does not deviate from both side of the mean since the mean is greater than standard deviation; a minimum and maximum value of 0.50 billion and 14.93 respectively. The table also shows mean of Commercial Paper Traded (CPT) during the period of study is 10.3948 billion and standard deviation (SD) of 0.544 billion. This indicates that there is no wide variation of CPT during the period of the study since the mean is greater than the standard deviation. The minimum and maximum values of CPT were 1.35 and 30.00. The table also shows mean of Bank Acceptance Traded (BAT) during the period of the study is 6.0623 and the standard deviation (SD) of 2.8779. The minimum and maximum value of BAT were 1.64 and 9.61.

Hypothesis Testing

Correlation coefficients

This section contains the relationship or level of association among the variable of the study. The summary of the correlation coefficients and p-values are presented in table 4.2.

Table 4.2 Correlation Matrix

Variables	GPD	TBT	CPT	BAT
GDP	1.000			
TBT	0.470**	1.000		
CPT	0.101	-0.056	1.000	
BAT	0.162**	0.635**	0.062	1.000

Source: SPSS Output, 2023 (Appendix)

Table 4.2 shows that there was positive and significant impact between Treasury Bill Traded (TBT), Commercial Paper Traded (CPT), Bank Acceptance Traded (BAT) and GDP during the period of the study, which was explained by the 0.470, 0.101 and 0.162 coefficient respectively. This implies that as TBT, CPT and BAT increases, it leads to a verse movement in GDP. This indicates that it leads to same movement in GDP. This suggest that TBT, CPT and BAT increase will lead to increase of GDP. In addition, the relationship between TBT, BAT and GDP is significant at 0.01 level of significance (see appendix for details). The relationship between the independent variables shows the absence of multicollinearity since none of the relationship is up to 0.8 (Gujarati, 2009).

Table 4.3: Summary of Random Effect Regression Result.

Variables	Coefficient value	t-Value	p-value
Constant	-75.083	-1.967	0.050
TBT	0.140	1.989	0.037
CPT	0.142	2.132	0.019
BAT	0.532	3.190	0.003
F-Stat.	8.166		
Prob.	0.000		
R^2	0.405		

Source: STATA Output, 2023 (Appendix)

Based on the above result obtained from regression analysis we have no justification to accept the null hypothesis therefore, we shall accept the entire alternate hypothesis which shows a significant impact the among the study variables under study.

Table 4.3 contains the result of Ordinary Least Square (OLS) multiple regression for fitted of GDP. It has shown that the coefficient of the intercept (CONST) is -75.083 which determines the value of GDP when there is an increase or decrease in any of the independent variables by 1, while all others are held constant. The t-value of the CONST -1.967**,** which is significant at 5% (p-value = 0.050). Treasury Bill Traded (TBT) had a coefficient of 0.140 at the t-value of 1.989 and p-value of 0.037. This indicated that all things being equal, TBT significantly affect Gross Domestic Product (GDP) at 3.7% level of significance. The positive coefficient value indicates that as TBT increase by 1 GDP also increase by 0.093.

Commercial Paper Traded (CPT) had a coefficient of 0.142 at the t-value 1.132 and p-value of 0.019. This indicated that CPT has significant and positive effects GDP at 1.9% level of significance. The positive coefficient indicates that 1 increase of CPT will lead to 0.142 increase of GDP. In addition, the result revealed a positive and significant effect of Bank Acceptance Traded (BAT) on GDP at coefficient value of 0.532 and p-value of 0.003. This positive coefficient value indicates that for any 1 increase of BAT will lead to over 0.532 increase of GDP. Therefore, based on the above analysis it is justifiable to reject the entire null hypothesis and accept the alternate hypothesis because the independent variables (TBT, CPT, and BAT) and dependent variable (GDP) all shows a positive and significant impact among the study variables.

5. CONCLUSION

Conclusively, this study set out to examine the impact of money market, and money laundering activities on economic development in Ghana. Over the period 1981-2020. The money market indicators considered in this study include value of treasury bills, commercial papers and banker acceptances. The results reveal that banker acceptances (LVBA) significantly influence economic development in both the short run and long run respectively, however in the short run the relationship was direct while that of the long run was indirect. The result also reveals that the value of treasury bills and commercial papers significantly affected economic development in the end. Based on the empirical findings from our results, the following policy recommendations are advanced: Adoption of policies and measures to improve and strengthen the development of the money market. In particular, two of the money market instruments used in this study (treasury bills and commercial papers) should be sustained as major instruments for national economic development through appropriate monetary policy measures. Bankers' acceptances as a money market financial instrument should be strengthened to contribute positively to economic development in the end. Make commercial papers available to facilities economic growth and development.

Declaration of Conflicting Interests

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Data Availability

Data used for this research is available upon request from the corresponding author.

Notes

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