

An investigation of the relationship between stock market performance and economic growth in Zambia.

Dr Sidney Kawimbe¹ Jackson Sishumba² Webster Sikazwe³ Loti Saidi⁴

*Corresponding Author:

Abstract

The study examines the casual relationship between stock market performance and economic growth in Zambia for the period running from 2000 to 2020. Economic growth is proxied by Gross domestic product (GDP) and Market performance is premixed by LSE Market capitalisation, Consumer price index and Exchange rate. The objective of the study was to establish the link between stock market performance and Economic growth if any, and to understand the significance of that link. (i.e. whether stock market The findings imply that the causality between economic growth and capital markets runs unilaterally from the capital market performance indicators to the GDP. From the results, it was inferred that the movement of stock prices in the Lusaka Stock Exchange reflect the macroeconomic conditions of the country and can therefore be used to predict the future path of economic growth. The study shows that the capital market performance has positively and significant impact on the Zambian economy within the period of the study (2000-2020). The study therefore, recommends that among other things introduction of mobile and online transaction to encourage individual would be investors in the market unlike the current happenings where the market is dominated by institutional investors. This is necessary because it will increase the quantum of market capitalisation that will result in improving the performance of the Zambia Stock Market.

Keywords

Gross Domestic Product,
Stock Exchange,
Market Performance,
Exchange Rate

Introduction

The aggregate contribution of stock market to national development of an economy is a very important issue that cannot be overlooked. According to UNDP (2004), stock market plays a pivotal role in the development of the economy of a country therefore; their performance can have seriously impact on the development of the economy. The development of the stock market is viewed as one sustainable way of reducing the levels of poverty and improving the quality of life through wealth and job creation. Schumpeter (1911) argues that well-functioning stock market encourages technical innovations by reallocating resources to the entrepreneurs and promotes economic growth. The stock market performance and economic growth has been the subject of intensive theoretical and empirical work. This debate revolves around whether stock price movements are influenced by economic changes or stock market performance helps in promoting economic growth. In this regard questions under consideration are; is there a relationship between stock market development on economic growth and the identification of causal nexus between economic growth and financial development (Deb and Mukherjee, 2008).

The stock market plays a major role as an economic institution which enhances the efficiency in capital formation and allocation. It enables both corporations and the government to raise long-term capital which enables them to finance new projects and expand other operations. In this manner, (Alile2007), observed that the performance of the economy is boosted when capital is supplied to productive economic units. Furthermore, as economies continue to develop; additional funds are therefore needed to meet the rapid expansion and the stock market therefore serves as an appropriate tool in the mobilization and allocation of savings among competing uses which are critical to the growth and efficiency of the economy. It is in this light that the stock exchange market acts as a barometer for economic performance in the sense that, it assists to allocate the necessary capital needed for the consistent growth of an economy. In a later study,

(Alile 2007), further argued that the determination of the overall growth of an economy depends on how efficiently the stock market performs in its allocative functions of capital. The significance of this function is that capital resources are channelled by the mechanism of the forces of demand and supply to those firms with relatively high and increasing productivity thus enhancing economic expansion and growth. Stock markets fuel economic growth through diversification, mobilizing and pooling of savings from different investors and availing them to companies for optimal utilization.

As much as the stock markets are important in facilitating privatization channels and diversification of the financial sector services, they also provide the listed companies with a platform to raise long-term capital, and also offer the investors alternative investments to put their funds in. However, they face serious constraints if not properly monitored and adequate measures taken to curb any externalities. Most stock markets especially those in the developing countries face constraints which result in serious implications such as (1) liquidity issues; (2) absence of activities and; (3) absence of well-developed investor base.

Economic growth in a modern economy hinges on an efficient stock market that pools domestic savings and mobilizes foreign capital for productive investments, without an efficient financial sector productive, projects may remain unexploited. Inefficient financial sector will have an effect of taxing productive investments and thus reducing the scope for increasing the stock of equipment needed to compete globally.

Undeveloped and poorly functioning stock market deter foreign investors because the markets are illiquid and trading is generally very expensive. Direct investment is adversely affected if raising of capital is difficulty and costly. Illiquid and high transaction coast also hinder the capital raising efforts of large domestic companies and pushes them to foreign financial markets. A country that restricts its stock market not only it is less attractive to foreign investors but also imposes

major economic penalties on local companies and this reduces economic growth rate below their full potential and makes it more difficult for domestic firms to compete on the world market.

The causality relationship between financial development with particular emphasis on stock market performance and economic growth can well be described as a hen and egg problem. This issue has stirred debates in academic circles and the controversy has arisen from the fact that the relationship between the two variables is dynamic in nature. A majority of researches done with regard to this area are mostly centred on the role of financial development in stimulating economic growth, without considering of the stock market performance and development. For a well-developed stock market, it is expected to theoretically increase savings by enhancing the set of financial securities available to savers to diversify their portfolios thus reducing risks and effectively allocating capital to the productive units in an efficient manner. The outcome from this will be an increase in the rate of economic growth. The presence of well-functioning stock markets greatly helps in reducing the principal-agent problem and reducing information asymmetry and consequently boosting an efficient allocation of resources and growth.

In fact, the focus on stock markets as an engine of economic growth is a new opening in financial literature. Going further, its benefits had been largely ignored in the past, but now there is consensus concerning the positive effects brought about by stock markets.

However, if the stock market was to be sustained, there is a need to address issues such as promoting the right political climate, improving macroeconomic stability, professionalization of asset management business and privatization of the management of public funds. The media and other stakeholders also have a role to play in helping to educate the public on the stock markets and benefits they bring about to the growth and development of a country's economy. The logic behind this study is thus motivated by the need to establish the causal linkage between the stock

market performance and long-run economic growth in Zambia and establish the direction of the relation between the two variables. This is in light of the reasoning that, for a proper stock market to thrive the prevailing economic conditions must be favourable; and again, in order for the economic growth to prosper, there ought to be a vibrant and liquid stock market that ameliorates the allocation of capital and consequently enhancing the prospect for a long-term economic growth.

Problem Statement

The presence of a well-developed stock market enhances the efficiency of the allocation of financial resources in the economies and they are one of the main channels through which economic development is financed. In this regard, capital market development increasingly is being seen as a critical factor for the long-term growth prospects of countries in development.

The strengthening of the market mechanism in the financial sector also will be beneficial to the conduct of monetary policy. As is well known, efficient capital markets are important in improving the use and effectiveness of market-oriented instruments of monetary control because they contribute to a better pricing and allocation of financial resources. In particular, the determination of the short-term and long-term interest rates and the impact of these interest rates on the entire economy are enhanced through efficient capital markets.

Further, a well-developed capital market can contribute to the fiscal discipline of the government. Subsequently, the government will have to accept the high costs of its borrowing in terms of high interest rates or impose more fiscal discipline on itself to reduce its financing requirements. A well-developed domestic capital market also can have a positive impact on the capital account of our balance of payments.

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Illiquidity and high transaction costs also hinder the capital raising efforts of large domestic corporations and may push them to foreign markets. Despite having a capital market that has been in existence for two decades now with well stipulated objectives or reasons on which it was founded, illiquid capital markets have a negative impact on the performance of the economy, a country that restricts its capital markets not only is less attractive to foreign investors but also imposes major economic penalties on local companies and reduces growth rates below their full potential and makes it more difficult for domestic firms to compete in the world market. Therefore, a study of the relationship between capital market performance and economic growth in Zambia becomes imperative in order to ascertain the exact relationship prevailing in the Zambian capital market.

Purpose of the study

The general objective of the study was to analyse the relationship between stock market performance and economic growth in Zambia. Specifically, the study examines:

- i. To determine the relationship between Lusaka stock market performance and economic growth in Zambia.
- ii. To determine the significance of the relationship between Lusaka stock market performance and economic growth in Zambia.

Scope of the study

The study focuses on the Lusaka stock exchange activities for the period running from 2000 to 2020

Theoretical framework

Causal direction of economic growth and stock market developments

The importance of stock markets in both developed and developing economies of the world

has shifted the research focus to identify the cause and effect relationship between stock market development and economic growth over the last few decades. Since late 1980s there has been significant development in emerging stock markets particularly; in terms of market capitalization, listed companies and shareholders. El-Wassal (2005) notes that the emerging stock markets capitalization has increased 32 times and developed stock market's capitalization has increased only 11 times between 1980 and 2000. This shows the expansion of emerging stock markets capitalization is almost three times larger than expansion of developed stock market's capitalization. It is often debated that if stock market can predict the economy growth or vice versa.

Economists (e.g., Jefferis and Okeahalam, 2000; Shirai, 2004; Adajaski and Biekpe, 2006; Mun et al., 2008) believe that larger increase in stock prices is reflective of future economic growth, and large decrease in stock prices is an indication of future economic recession.

Mun et al. (2008) tested the causal relationship between stock market and economic activity in Malaysia for the period of 1977 to 2006. Their study used annual data on real GDP and Kuala Lumpur Composite index (KLCI), results from Granger causality test indicated that causality runs from stock market to economic activity and not the other way around. Pearce (1983) study showed that stock prices could lead the direction of the economy. His study was carried out for the time span of 1956 to 1983 for the U.S. and discovered that stock market is as an indicator of economic growth.

Empirical studies of Atje and Jovanovich (1993); DemirgüçüçKunt and Levine (1996); Korajczyk (1996); Levine and Zervos (1996 & 1998) showed that there exists a strong positive relationship between stock market development and economic growth. Alam and Hasan (2003) find that the stock market development has a sizeable positive impact on economic growth in the case of US. In a similar study by Agarwal (2001) investigated the relationship between stock market

development and economic growth for nine African countries with cross sectioned data for the period of 1992 to 1997. His study documents a positive relationship between several indicators of the stock market performance and economic growth. Atje and Jovanovic (1993), Caporale et al. (2004), Adajaski and Biekpe (2006) also show that financial intermediaries usually have less information as compared to stock markets and these markets efficiently allocate the resources and enhance economic growth. Likewise, Filer et al. (1999) find that an active equity market plays an important role in promoting economic growth in developing countries.

Dailami and Aktin (1990) find that a well-developed stock market can enhance savings and provide investment capital at lower costs by offering financial instruments to savers to diversify their portfolios. In doing so, these markets efficiently allocate capital resources to productive investments, which would eventually promote economic growth.

The causal nexus between stock market development and economic growth was examined by Vazakidis and Adamopoulos (2009) for France for the period of 1965 to 2007. This study employed co-integration, Granger causality test and Vector error correction model; results indicate that there is a positive association from economic growth to stock market development and at the same time interest rate has a negative effect on stock market development.

Similarly, Brasoveanu et al. (2008) have studied the correlation between capital market development and economic growth in Romania for the period 2000 to 2006. Results indicate that capital market development is positively correlated with economic growth by way of feedback effect. However, the strongest link is from economic growth to capital market, signifying that financial development follows economic growth. Likewise, El-Wassal (2005) study also supports demand following hypothesis in 40 emerging economies, where emerging stock markets development is determined by economic growth, financial liberalization policies and foreign portfolio investment.

Some other empirical studies (Bencivenga and Smith, 1991; Naceur and Ghazouani, 2007; Adajaski and Biekpe, 2006) who could not determine any significant relationship between stock market development and economic growth, particularly in developing countries. Likewise, Barro, (1989) study also found evidence that stock market development doesn't support as a leading indicator of economic growth.

The feedback effect between stock performance and economic growth

In a study involving 10 developing countries, Luintel and Khan reported to have found a bi-directional causality/feedback effect between financial development and economic growth in all the countries they studied (2008). Hongbin (2009) in his study concluded that there exists a two-way causality between China's stock market development and economic growth, that is, economic growth can not only promote the development of the stock market, but also the stock market development similarly pushes economic growth. He cited that, although the impact of stock market is more limited in the short-term, it tends to be significant in the long-term. The study proposed that since the stock market plays the function of national economy 'barometer' it needed to be further strengthened. In a much more recent study, Dawson contends that there exists a bi-directional causality, from finance and economic development, and from economic development to finance (2009).

Therefore, a country with a well-developed financial system can promote high economic expansion through technological changes, products and services innovation. This would in turn create a high demand for the financial institutions, and as the financial institutions effectively respond to this demand, these changes will stimulate higher economic achievement. Both financial and economic developments are therefore positively interdependent.

Review of the Empirical Studies on the Relationship between Stock Market Performance and Economic Growth Studies in non-African context

The relationship between stock development and economic growth has been extensively studied in last few decades. The issue is not new in economic and financial literature and it has evolved from the idea provided by Schumpeter in 1911. Schumpeter has discussed the importance of financial sector development in promoting economic growth in his seminal work.

His study pointed out that a well-functioning stock market advances technological innovation by providing sufficient funds to the entrepreneurs that eventually turn to enhance economic growth. This relationship between stock market development and economic growth has been discussed by Debreu (1959), Arrow (1964) and Patrick (1966). It was empirically tested by Goldsmith (1969) in his work by using the cross-country data, where he indicated the relationship between stock market development and growth. The role of financial sector development under the ‘demand following’ and ‘supply leading’ approach was studied by Patrick (1966). In the ‘supply leading’ role, the causality occurs from financial market development to economic growth and in case of ‘demand following’ role it is from economic growth to financial development.

It is often asked why these studies are important in economic literature. For the policymakers’ standpoint it is important to know what direction causality exists between financial market development and economic growth; for example if causality occurs from financial sector development to economic growth then it has direct policy implications. As it is evident from the existing literature that a more efficient financial system will always enable an economy to enhance its real GDP growth. Given this, policymakers will make the policies towards minimizing market failures by stipulating the services that makes easy transactions, mobilize capital and exert corporate governance, in doing so that ultimately advances economic growth (Sinha and Macri, 2001).

The financial system plays an important role in full-filling the needs of investors by mobilizing funds and transforming them into an asset (Ndikumana, 2001). In such a way that, an efficient financial system allocates the resources efficiently through its financial intermediaries, which eventually identify the most productive investment opportunities. Goldsmith’s (1969) study provides evidence that there is a positive connection between financial development and economic growth. On the contrary, Ram (1999) study did not find any relationship between financial development and economic growth in his analysis of cross-country data.

Abu-Bader and Abu-Qarn (2005) study documented that the direction of causality runs from financial development to economic growth in Egypt, either through increasing investment efficiency or through increasing resources for investment. Deeper, broader, and better functioning of the financial system can stimulate higher economic growth (King and Levine 1993a & 1993b). However, earlier studies in developed economies (Robinson, 1952; Kuznets, 1955; Friedman and Schwartz, 1963) provided evidence in support of economic growth lead to financial sector development. Other empirical studies by Demetriades and Hussein (1996); Luintel and Khan (1999), Arestis et al. (2001) show that causality runs in both the directions i.e., financial development causes economic growth and vice versa. Goldsmith’s (1969) study provides evidence that there is a positive connection between financial development and economic growth. On the contrary, Ram (1999) study did not find any relationship between financial development and economic growth in his analysis of cross-country data.

Studies of relationship done in the African context

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Abu-Bader and Abu-Qarn (2005) study documented that the direction of causality runs from financial development to economic growth in Egypt, either through increasing investment efficiency or through increasing resources for investment. In Nigeria, some authors have also attempted to examine the relationship between stock market development and economic growth. For instance, Adam and Sanni (2005) examined the roles of stock market on Nigeria's economic growth using Granger-causality test and regression analysis. The authors discovered a one-way causality between GDP growth and market capitalization and a two-way causality between GDP growth and market turnover. They also observed a positive and significant relationship between GDP growth turnover ratios. The authors advised that government should encourage the development of the capital market since it has a positive effect on economic growth.

Abu N. (2009), examined whether stock market development raises economic growth in Nigeria, by employing the error correction approach. The econometric results indicate that stock market development (market capitalization GDP ratio) increases economic growth.

He however, recommended the removal of impediment to stock market development which include tax, legal and regulatory barriers, development of the nation's infrastructure to create enabling environment where business can thrive, employment policies that will increase the productivity and efficiency of firms as well as encouraging of the Nigerian Securities and Exchange Commission to facilitate the growth of the market, restore the confidence of stock market participants and safeguard the interest of shareholders by checking sharp practices of market operators. Osinubi and Amaghionyeodiwe (2003) also examined the relationship between Nigeria stock market and economic growth during the period 1980-2000 using ordinary least squares regression (OLS). The result indicated that there is a positive relationship between the stock market and economic growth and suggest the pursuit of policies geared towards rapid development of the stock market. Obamiro (2005) investigated the

role of the Nigeria stock market in the light of economic growth.

The authors reported that a significant positive effect of stock market on economic growth. He suggested that government should create more enabling environment so as to increase the efficiency of the stock market to attain higher economic growth. Ezeoha et al (2009) investigated the nature of the relationship that exists between stock market development and the level of investment (domestic private investment and foreign private investment) flows in Nigeria. The authors discovered that stock market development promotes domestic private investment flows thus suggesting the enhancement of the economy's production capacity as well as promotion of the growth of national output. However, the results show that stock market development has not been able to encourage the flow of foreign private investment in Nigeria.

Nowbusting (2009) conducted a similar study for Mauritius for the period 1989 to 2006, using the simple two step Engle-Granger co integration technique.

Related Empirical Literature

Various studies have tried to study the nature of relationship that exists between stock market development and the economic trends persisting in a country. Such studies include Demirguc-Kunt and Levine (2007)]; Levine and Zervos(2009). These researchers investigated: (1) the consistency of stock market development with economic growth, and (2) the harmonious nature of stock market development with financial intermediaries, with some empirical demonstration. Their main findings and outcomes were as follows: (i) they carried out cross-country growth regressions that suggested that the predetermined component of stock market development was positively and robustly associated with long-run growth.

(ii) From the cross-country analysis, they found out that the level of stock market development is

positively correlated with the development of financial intermediaries and consequently economic growth. (iii) While stock market development induces the substitution of equity finance for debt finance in developed countries, it facilitates more debt finance in least developed countries. Hence, their hypothesis deserves an investigation in the Kenyan context, which this study intends to carry out in order to fill the knowledge gap. In a study on emerging stock markets performance and economic growth, Seyyed(2005) presented a systematic investigation of the relationship between the two variables within the Vector

Autoregressive (VAR) model and deduced that macroeconomic activity was a main cause for the movement of stock prices in the long run and that the stock market also plays a role as a leading economic indicator of future economic growth in Iran in the short run i.e. a two-way causality running between share prices and economic growth in the short run.

Seyyed(2005), for example, attempted to study the important role played by the Karachi Stock market in the economic development of Pakistan, and they used the Granger's causality test and arrived at the conclusion that no causal relationship existed between macro-economic indicators and stock exchange prices in Pakistan. They stated that the performance of macro-economic indicators cannot be used to predict stock prices; and again, the stock prices in Pakistan do not reflect the macro-economic condition of the country.

Vazakidis(2009) carried out a study on stock market development and economic growth in France with an attempt to investigate the causal relationship between stock market development and economic growth for the period 1965-2007, using a VAR framework. The results of the study confirmed that economic growth causes stock market development in France, and consequently therefore economic growth has a positive effect on stock market. Levine and Zervos(2009), examined the nature of links between stock markets, banks and income growth, on a cross-

country study consisting of 47 countries and the results showed that the size of both stock markets and banks were correlated with the future economic growth. The study identified and stated that the problems with endogeneity of the variables were perhaps even more severe with stock market variables: where the market capitalization represents the present value of future earnings, and so there is most likely a positive correlation between market capitalization and expected economic performance. This will be of importance for investors who are interested in the future direction of economic development and stock market movements. India provides a unique opportunity for this analysis because of its rapid economic activity in the recent past and also because of well-established stock markets. Mumbai (previously Bombay) stock exchange is one of the oldest existing stock markets in the world.

Materials and Methods

Methodology

Data Sources

The study utilised annual secondary data from 2000 to 2020. The dataset consisted of LSE market capitalisation, (LUSEMCAP) consumer price index (CPI), exchange rate and GDP. The study employed a vector autoregressive (VAR) model to estimate and provide empirical evidence on the nature of causal relationship between the capital market performance indicators and growth in GDP. The VAR model provided a systematic way to capture rich dynamics between the variables under study.

Model specification

The model specified for the purpose of testing the hypotheses of the study is presented below:

$$\text{GDP} = f(\text{MKTCAP}, \text{XR}, \text{CPI},)$$
$$\text{LogGDP}_t = \alpha_0 + \alpha_1 \text{LogMKTCAP}_t + \alpha_2 \text{LogXR}_t + \alpha_3 \text{LogCPI}_t + \alpha_4 \text{LogGDP}_{t-1} + \dots \dots \dots (1)$$

Whereby:

GDP = rate of growth in real GDP
 MKTCAP = stock market capitalization (LuSE
 MktCap)
 CPI = Consumer price index
 XR= Exchange rate
 t= error term

Test	([Ingdpgrate]: L.InmktcapL.IncpiL.Inxrate)
(1)	[Ingdpgrate]L.Inmktcap = 0
(2)	[Ingdpgrate]L.Incpi = 0
(3)	[Ingdpgrate]L.Inxrate = 0
chi2(3) = 2.87	
Prob > chi2 = 0.4117	

Results and Interpretations

Vector auto-regression

Sample: 2000 - 2020	No. of obs.	=	15
Log likelihood = 56.30668	AIC	=	- 2.707557
FPE = 1.65	HQIC	=	- 2.725659
Det(Sigma_ml) = 6.4509	SBIC	=	- 1.008237

Equation	Parms	RMSE	R-sq	chi2	P>chi2
Ingdpgrate	9	.260609	0.7664	49.22042	0.0000
Inmktcap	9	.169003	0.9904	1545.036	0.0000
Incpi	9	.025233	0.9987	11601.33	0.0000
Inxrate	9	.56691	0.7859	55.06063	0.0000

The relationship between the log of GDP growth rate and the log of stock market capitalisation indicates that the p-value is 0.000 which is less than = 0.05 at 95 % confidence interval hence there is a statistically

significant relationship between real GDP growth rate and Lusaka stock market performance over the period under review.

Granger causality Wald tests

Equation	Exclude d	chi2	df	Prob > chi2
Ingdpgrate	Inmktcap	1.8087	2	0.405
Ingdpgrate	Incpi	3.9601	2	0.138
Ingdpgrate	Inxrate	.37618	2	0.829
Ingdpgrate	ALL	19.431	6	0.003

Granger causality in a VAR model implies a correlation between current values of Real GDP growth and the past values of LuSE performance. The lagged values of LuSE performance and Real GDP growth can predict LuSE performance, then

Real GDP growth will Granger-cause LuSE performance. Conversely, LuSE performance influences Real GDP growth, and LuSE performance Granger-causes Real GDP growth;

this is called unidirectional causality because of LuSE performance Granger-causes Real GDP growth. Both variables LuSE performance and Real GDP growth are found to be influenced by the other's lagged values in addition to its own. This leads to bidirectional causality.

Recommendation

Based on the discussion of the findings, the following recommendations are made.

- i. LSE must encourage more private limited companies and informal sector operators to access the stock market for fresh capital.
- ii. SEC should be more proactive in its surveillance role in order to prevent market practices which undermine the capital market integrity and erode investor confidence.
- iii. Trading impediments such as high transaction costs should be reviewed in order to encourage more active trading in stocks.
- iv. Findings shows that still very few people understand the importance of participating at LSE therefore LSE should increasingly play an education role and embark on a vigorous campaign to market itself and educate potential investors about the opportunities available in the stock market and how effectively to exploit them.
- v. Policy makers (Fiscal and Monetary) should embark on economic activities that enhance the link between stock market development and growth, such as; stimulating savings which in turn improves the level of investment. Considering that literature proves investment to be the main channel through which stock market development contributes towards growth, this may eventually build a platform for stock market development to make a significant contribution towards growth. Also, small and medium companies should be encouraged to participate in the stock

market, as they play a notable role in the South African economy in recent time.

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