American Research Journal of Humanities & Social Science (ARJHSS)

E-ISSN: 2378-702X
Volume-07, Issue-04, pp-99-109
www.arjhss.com

Research Paper Open Access

The impact of the Zambian Capital Market on Economic Growth

Kelvin Mukolo Kayombo[1], Carter Mwanamangala Bbune[2], Chitambo Mwape[3]
[1](School of Business, ZCAS University/ Zambia)
[2](School of Business, ZCAS University/ Zambia)
[3](Zambia Centre for Accountancy Studies/ Zambia)
Corresponding author: Carter Mwanamangala Bbune

ABSTRACT: *The aim of this study was to assess the effect of the Zambian capital market on economic growth. The study considered the extent to which the Zambian capital market has impacted the country's gross domestic product (GDP), using the stock market index, market capitalization, and value of transactions as independent variables. A multiple regression model was used to analyze the causal relationship between the independent variables and GDP growth from 2002 to 2022. The results showed that collectively, the independent variables considered have a strong relationship with the GDP of the country. Furthermore, the study found that although the value of transactions was positively correlated with GDP, the effect was not statistically significant. Similarly, although market share index was negatively correlated with GDP, the effect was not statistically significant either. Market capitalization was positively correlated with GDP and appeared to be the most important predictor, as it had the highest standardized coefficient and was statistically significant. The policy implications for Zambia based on the regression analysis suggested a multi-faceted approach to economic development. Firstly, there is need to foster the growth of the stock market through incentives for listing, regulatory improvements, and financial education initiatives. Despite the uncertain relationship indicated by the stock market index coefficient, monitoring market trends remains important for detecting broader economic shifts. Additionally, facilitating trade and transactions through infrastructure improvements and streamlined processes can boost economic activity. Diversifying the economy beyond finance into sectors like agriculture and manufacturing is recommended for resilience. Lastly, promoting political stability, good governance, and investor confidence is crucial for sustained economic growth.*

Keywords *-Gross Domestic Product, Market Capitalization, Capital Market, Stock Market Index, Value of Transactions*

I. INTRODUCTION

The aim of this study was to assess the impact of the Zambian capital market on economic growth. The research question that guided this study was: To what extent has the Zambian capital market contributed to economic growth and development? This study is important because it assesses the extent to which the Zambian capital market has contributed to the economic growth and development of the country.

To answer the research question above, the Gross Domestic Product (GDP) was used as a measure of the country's economic growth, the dependent variable. Capital market indices which included the LuSE all-share price index, capital market capitalization and value of transactions were used as independent variables to test whether the capital market in Zambia has impacted on economic growth. The multiple regression model was used to analyze the nature of the causal relationship between capital market indices and growth in GDP, using data for the period from 2002 to 2022.

Based on our findings, we conclude that collectively, the independent variables considered have a strong relationship with the GDP of the country. Furthermore, the study found that although the value of transactions was positively correlated with GDP, the effect was not statistically significant. Similarly, although market share index was negatively correlated with GDP, the effect was not statistically significant. Market capitalization was positively correlated with GDP and appeared to be the most important predictor, as it had the highest standardized coefficient and was statistically significant.

The remainder of the paper is organised as follows. Section 2 provides a review of the prior literature, while the methodology and dataset are described in Section 3. Empirical results are presented in Section 4, and Section 5 offers concluding remarks and recommendations for policy.

II. LITERATURE REVIEW

2.1 Theoretical Framework

Different theoretical frameworks that highlight the mechanisms and drivers of the relationship between capital markets and economic growth can be used to analyze the connection. Here, we examine three key theoretical stances: the financial intermediation theory, efficient market hypothesis, and the financial-growth nexus.

Firstly, according to the financial intermediation theory, capital markets play a crucial role in directing savings from surplus units (households and savers) to deficit units (entrepreneurs and firms) in need of money for investment purposes. This theory contends that by matching the requirements of borrowers and lenders, financial intermediaries like banks and mutual funds optimally distribute resources. This procedure makes capital formation and investment easier, which promotes economic expansion. Financial intermediaries are crucial for reducing transaction costs and information asymmetry, facilitating a smooth transfer of cash between various economic participants. According to Stiglitz and Weiss (1981), financial intermediaries improve investment prospects for business owners and promote economic growth by reducing adverse selection and moral hazard issues.

Secondly, the Efficient Market Hypothesis (EMH) argues that capital markets are effective at processing and factoring in all available information when determining asset prices. Fama (1970) asserts that in an efficient market, prices always represent all pertinent information that is now available, eliminating the possibility of profitable trading opportunities based on prior data. If capital markets are effective, businesses with lucrative investment possibilities will have easy access to finance, which will help the economy flourish. The EMH suggests that traders cannot consistently outperform the market by using knowledge that is readily available to the public. As a result, businesses with strong development potential have easier access to finance, which boosts spending, productivity, and total economic growth.

Lastly, the finance-growth nexus idea looks at how financial development, which includes capital markets, and economic growth are related in two different ways. This viewpoint contends that financial development affects economic growth favourably and vice versa. On the one hand, financial growth, including efficient capital markets, promotes entrepreneurship and spurs innovation (Rajan and Zingales, 1998). Access to a variety of financial instruments promotes risk-taking and raises money, which in turn promotes investment and economic expansion. On the other hand, since the need for financial services rises, economic expansion promotes the development of the financial sector. Capital markets expand and deepen as economies develop because people and businesses need more sophisticated financial products and services (King and Levine, 1993).

2.2 Empirical Studies

A substantial corpus of empirical research supports the idea that capital markets and economic growth are positively correlated. According to studies by Intissar and Aymane (2023), and Beck, Levine, and Loayza (2000), countries with more established capital markets frequently have faster rates of economic expansion. According to a different study by Rajan and Zingales (1998), the emergence of capital markets in the United States during the 19th and 20th centuries was a significant contributor to the nation's economic expansion. The following sections provide a review of the empirical literature by geographical region.

European capital markets enable capital formation by giving businesses a platform to raise money through the issuing of equity and debt. According to Beck et al. (2017), regions with well-developed capital markets see higher levels of investment, which boosts capital accumulation and economic growth. Through this process, companies can fund innovation, grow their operations, and invest in high-yield projects – all of which are essential economic development drivers.

Economic growth depends on efficient resource allocation. Capital markets improve the distribution of financial resources to companies with strong development potential and productivity, according to Chakrabarti (2001). Capital markets encourage competitiveness, which supports technical improvements and innovation in European economies by allocating funding to profitable companies.

There is strong empirical support for the relationship between financial market development, notably capital markets, and economic growth in Europe. Demirgüç-Kunt and Huizinga (2010) found that the expansion of financial markets and GDP growth in several European nations are positively correlated. They stressed that properly operating capital markets encourage the mobilization of savings and effective investment allocation, which supports economic growth.

There has been a lot of research done on the possible effects of market capitalization, which is the entire worth of publicly traded companies in a particular stock market, on GDP. Research like that conducted by

Laeven and Valencia (2018) indicates that market capitalization and economic growth in European nations are positively correlated, implying that a bigger stock market could be a factor in GDP growth overall. Similarly, Claessens and Yafeh (2012) contend that healthy stock markets with sizable market capitalization can promote economic growth by giving businesses access to finance for project expansion and investment.

Investor sentiment and overall market performance are frequently gauged by stock market indices, such as the FTSE 100 and Euro Stoxx 50. The results of research on the correlation between European stock market indices and GDP have been inconsistent. For example, Beirne and Fratzscher (2013) discover evidence of a positive relationship between GDP growth and stock market returns, indicating that the performance of the stock market could be a leading predictor of economic activity. On the other hand, research by Schrimpf and Steffen (2016) highlights the substantial volatility and unpredictability in financial markets and advises against relying on stock market indexes to predict GDP growth.

A variety of activities, including stock trading, bond issuing, and derivative contracts, are included in the value of transactions in the financial markets. Even though there has not been much research done specifically on the connection between transaction value and GDP in Europe, what is known about it can be used to understand the wider effects of financial market activity on economic production. For instance, financial intermediaries play a crucial role in facilitating capital allocation and transactions, which in turn promotes economic growth (Bierne and Fratzscher, 2013).

The US capital markets are an essential venue for businesses to raise capital for investment in new ventures and expansion. Studies by Levine and Zervos (1998), and Greenwood and Jovanovic (1990) stress the importance of access to money for firms to launch creative projects, adopt cutting-edge technology, and make high-yield investments. Increased productivity, the creation of new jobs, and national economic expansion are all supported by this capital accumulation.

The growth of the US capital markets has sparked financial innovation, resulting in the development of new financial products and services. Rajan and Zingales (2003) assert that financial innovation increases the effectiveness of resource allocation and promotes economic growth. Financial innovation encourages investors to use capital more effectively, fostering economic growth, by improving risk management and presenting chances for diversification.

A lot of research has been done on the expansion of the stock market and how it affects economic activity. According to Bekaert et al. (2005), there is significant evidence that the growth of the stock market and the US economy are positively correlated. A strong stock market gives businesses a place to raise equity capital, luring capital and funding innovation. Additionally, a transparent and liquid stock market encourages higher levels of investment and promotes economic growth by boosting investor confidence.

Economic growth and financial inclusion have become increasingly important in recent years. Increased financial inclusion encourages capital formation and economic expansion in the USA (Claessens et al., 2019). Financial inclusion enables previously underserved people and enterprises to join in capital markets and gain from economic growth by extending access to credit and investment opportunities.

It is important to recognize the influence of capital market regulation on economic growth. Market stability and investor trust are maintained with the aid of well-designed and efficient regulatory frameworks. Stringent rules on market manipulation, disclosure, and transparency safeguard investors and promote capital inflows. In the USA, investment, entrepreneurship, and long-term growth are encouraged by a stable and open market environment (Demirgüç-Kunt et al., 2018).

According to Bordo, Eichengreen, Klingebiel, and Martinez-Peria (2001), there is a positive correlation between the size of the stock market and economic growth in the United States, indicating that a higher market capitalization can propel GDP growth. Similarly, Levine and Zervos (1998) contend that by giving businesses access to funds for investment initiatives, well-developed stock markets with significant market capitalization can promote economic growth. On the other hand, Greenwood and Smith (1997) suggest that market capitalization and GDP have a reciprocal relationship, suggesting that the expansion of the economy can also influence the growth of the stock market.

The S&P 500 and Dow Jones Industrial Average are two examples of stock market indexes that are frequently used asstand-ins for sentiment and performance in the broader market. There have been conflicting findings in studies examining the connection between US GDP and stock market indices. For example, Bekaert, Engstrom, and Xu (2013) find a positive relationship between GDP growth and stock market returns, indicating that the performance of the stock market can be used as a leading indicator of economic activity. Bollerslev, Tauchen, and Zhou's (2009) research, on the other hand, highlights the substantial volatility and unpredictability in financial markets and warns against the use of stock market indexes as a predictor of GDP growth.

Asia, a vast and dynamic area, has experienced impressive economic progress in recent years. Asian countries' capital markets are essential for attracting capital for investment. According to Chakrabarti (2001), capital formation and investment are made easier by the ability of businesses to raise money through the issuing of debt and equity. This influx of capital fuels economic activity, such as infrastructure improvement and

innovation, which creates jobs and boosts the nation's economy. Azimi (2022), for example, concluded that all other indicators, both for money market and capital market variables, are significantly asymmetric in their short-term impacts on economic growth, except for capital market indicators, such as market capitalization, stock market turnover, and the total number of stocks traded, which show asymmetric long-run effects on economic growth.

Asia's financial markets and FDI interaction is noteworthy. Aizenman et al. (2019) posit that well-developed capital markets can entice overseas investors looking for high returns and diversification. FDI inflows result in an increase in capital, technology transfer, and knowledge spillovers, all of which are beneficial for regional economic development.

One of the major factors influencing economic growth in Asia is how open the capital markets are. Many researchers agree that inclusive capital markets increase access to financial services and make it possible for a greater segment of the population to engage in investment and entrepreneurship (Beck et al., 2007). Higher savings rates, more effective resource allocation, and eventually economic growth are all benefits of improved financial inclusion.

The impact of Asian countries' capital markets on economic growth is substantially influenced by institutional quality. Shahbaz et al. (2021), for instance, believe that efficient regulatory frameworks, open corporate governance procedures, and robust investor protection mechanisms boost market efficiency and investor confidence. A healthy institutional framework fosters the expansion of the capital market, which in turn promotes economic growth.

There has been curiosity in the growth of stock markets in Asian nations. According to Khan and Qayyum's (2007) research, the region's stock market development and economic expansion are positively correlated. A healthy stock market gives companies a place to raise equity cash, which encourages investment and innovation.

Over the years, the Middle East and North Africa (MENA) region has experienced substantial economic changes. Researchers and decision-makers have given the contribution of capital markets to economic growth in this diverse and dynamic region considerable consideration. The MENA region's capital markets are essential for attracting capital for investment. According to Goxi and Mekelle (2019), robust capital markets allow companies to raise money through the issue of equity and debt, which promotes higher capital formation and investment. This capital infusion drives economic activity, which leads to the creation of jobs and general economic growth.

For the MENA region to have economic progress, financial inclusion in capital markets is essential. According to Alam et al. (2020), inclusive capital markets open up financial services to a wider range of people, making it easier for them to engage in investing and entrepreneurial activity. Increased financial inclusion results in higher savings rates and more effective resource allocation, which ultimately promotes economic growth.

One of the main areas of attention has been the growth of the stock markets in MENA nations. Balaban and Miyajima (2019), for example, assert that there is proof that the region's stock market development and economic expansion are positively correlated. A healthy stock market gives companies a place to raise equity capital, which promotes investment and entrepreneurship.

The effectiveness of institutions plays a crucial role in determining how capital markets affect economic growth in MENA nations. According to Abuneri et al. (2021), efficient market functioning is boosted by strong regulatory frameworks and open corporate governance procedures.

It is important to recognize the relationship between FDI and capital markets in MENA nations. A well-developed capital market might entice international investors looking for diversity and greater profits (Kassem and Hossam, 2021). FDI inflows provide extra funding, technology transfer, andinformation diffusion, all of which can help to the region's economic success.

In recent years, Sub-Saharan Africa (SSA) has seen substantial economic development. Researchers and politicians have grown increasingly interested in the contribution that capital markets have made to this expansion. In Sub-Saharan Africa, capital markets are essential for attracting capital for investment. According to Goxi and Tsheko (2020), the ability of companies to raise money through the issue of equity and debt has increased capital formation and investment in the region. This inflow of cash boosts economic activity, and general economic expansion.

Sub-Saharan Africa has seen a recent uptick in the development of its stock markets. Ayuk et al. (2018), state that there is proof that the development of the stock market and regional economic expansion are positively correlated. Studies such as those by Ali and Kukuri (2023) and Asongu (2015) have found a positive association between market capitalization and economic growth in SSA countries. Additionally, Ncube and Brixiova (2014) argue that well-functioning stock markets with significant market capitalization can facilitate economic development by providing firms with access to capital for investment and expansion projects.

Stock market indices, such as the Nigerian Stock Exchange All-Share Index and the Johannesburg Stock Exchange All Share Index, are commonly used as indicators of overall market performance in SSA. Research on the relationship between stock market indices and GDP in SSA has yielded mixed results. For instance, Okafor and Ebiringa (2017) find evidence of a positive correlation between stock market returns and GDP growth in Nigeria, suggesting that stock market performance may serve as a leading indicator of economic activity. Conversely, studies by Bigsten, Ndung'u, and Munga (2003) caution against overreliance on stock market indices as predictors of GDP growth, highlighting the presence of significant volatility and uncertainty in financial markets in SSA.

The interaction of foreign direct investment (FDI) and capital markets in SSA is a crucial point to consider. Alagidede et al. (2017), for example, posit that well-developed capital markets can entice foreign investors looking for high returns and diversification opportunities. FDI inflows can contribute more money, technology transfer, and knowledge spillovers, all of which can help the region's economy thrive.

III. METHODOLOGY

A description of the data and data sources used in the study is provided in this section. This is followed by justification of the dependent and independent variables used in the study. Lastly, the empirical model used in the study is described.

3.1 Data and data sources

The data for the study were collected from the capital market bulletins published by the Securities and Exchange Commission of Zambia (SEC), and other relevant journals and statistical publications by the Lusaka Securities Exchange (LuSE) and the Zambia Statistics Agency (ZSA). The data comprised statistics on the country's GDP and capital market indices from 2002 to 2022.

GDP was chosen as the preferred measure of economic growth as it is widely used by economists and policy makers as a macroeconomic indicator to gauge the health of an economy. Hence its variations are relatively and easily identified. The GDP was collected from the ZSA's published economic reports.

The stock market indices, which included the LuSE all share Index (ASI), market capitalization, and value of transactions, were obtained from the LuSE publications and chosen as proxies for the capital market. Daferighe and Charlie (2012) asserted that stock market performance can be measured using market capitalization, stock market liquidity, all share index and turnover ratio.

The LuSE All Share Index was chosen because it is a benchmark index that represents the performance of equities of all the 25 companies which are listed on the LuSE. It, therefore, serves as a barometer for the Zambian capital market and provides valuable insights into market trends and investor sentiment. Furthermore, it is calculated based on the free float market capitalization of all listed equities, considering the number of shares available for trading in the market and therefore, gives an accurate picture of market performance.

Market capitalization (MCAP) is the share price times the number of shares outstanding for listed domestic companies in a given stock market. MCAP is a ratio that can be used to determine the overall performance of a given capital market and is traditionally measured by the ratio of capitalization of the market to gross domestic product. The turnover ratio represented by the value of transactions captures the stock market size. The value of transactions shows the liquidity of the capital market as it represents the total value of stocks transacted on the capital market.

3.2 Data analysis model

The model used in the study is GDP = f(INDEX, MCAP, VTS) and is specified as follows, while variable definitions are explained in Table 1 below:

$GDP = \beta 0 + \beta 1\ INDEX + \beta 2\ MCAP + \beta 3\ VTS + \mu$

Where:

GDP = Gross domestic product

INDEX = Capital market index (LuSE All Share Index)

MCAP = Market capitalization

VTS = Value of transactions

μ = Error Term

$\beta 1 - \beta 3$ = coefficient of the independent variables

Apriori expectation: $\beta 1, \beta 2, \beta 3 > 0$

Table 1 Variable definitions

Variable	Type	Definition	Expected correlation between independent and dependent variable
Gross domestic product (GDP)	Dependent	Real Gross Domestic product	
Capital market index (INDEX)	Independent	Lusaka Securities Exchange All Share Index	Positive
Market capitalization (MCAP)	Independent	Share price multiplied by the number of shares for companies listed on the LuSE	Positive
Value of transactions (VTS)	Independent	Total value (turnover) of shares transacted on the LuSE	Positive

Multiple regression analysis model was used to test whether the Zambian Capital market indices have impacted positively on the economic growth denoted by gross domestic product. Multiple regression analysis was used as it allows researchers to assess the strength of the relationship between the dependent variable and several predictor variables as well as the importance of each of the predictors to the relationship, often with the effect of other predictors statistically eliminated (Hutcheson, 2011).

IV. FINDINGS

4.1 Descriptive statistics

Table 2 above shows the descriptive statistics. The descriptive statistics provided offer a comprehensive analysis of Zambia's economic performance and financial indicators spanning the period from 2002 to 2022.

The range of GDP values, from a minimum of ZMW52.1 billion to a maximum of ZMW154 billion, signifies the variability in Zambia's economic output throughout the 21-year period (World Bank, 2022). The mean GDP of ZMW104.8 billion provides an average measure of economic activity during this time, reflecting the typical level of output over the period. The standard deviation of ZMW33.2 billion indicates the extent of variability or dispersion of GDP values around the mean, representing fluctuations in economic performance.

The average stock market index ranged widely from 334.75 to 7,337.79, indicating considerable fluctuations in stock market performance during the period (Lusaka Stock Exchange, 2022). With a mean index value of 3,735.82, this metric serves as a gauge of the overall performance of the Zambian stock market over the 21 years. The standard deviation of 2,016.88 suggests the degree of variability in stock market index values, reflecting the level of volatility or instability in stock prices.

Table 2 Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Gross Domestic Product	21	52,174,958,600	154,026,447,255	104,800,174,026	33,241,916,896
Stock Market Index	21	334.75	7,337.79	3,735.8210	2,016.88453
Market capitalization	21	1,060,554,000	72,872,000,000	40,534,528,143	24,657,561,893
Value of transactions	21	10,886,016	2,219,983,708	554,634,265	545,416,788
Valid N (listwise)	21				

Market capitalization values ranged from ZMW1.06 billion to ZMW72.8 billion, showcasing fluctuations in the valuation of listed companies over the period (Lusaka Stock Exchange, 2022).

The mean market capitalization of ZMW40.5 billion provides an average estimate of the total market value of listed firms during this period. The standard deviation of ZMW24.6 billion indicates the extent of variability in market capitalization values, highlighting shifts in investor sentiment or company valuations.

The average value of transactions (VTS) of ZMW554.6 million reflects the typical level of trading activity on the Zambian stock market over the period (Lusaka Stock Exchange, 2022). A standard deviation of ZMW545.4 million suggests variability in transaction values, indicating fluctuations in trading volumes or investor activity. With a maximum VTS of ZMW2.22 billion and a minimum of ZMW10.9 million, the diversity in transaction sizes underscores the breadth of trading activity observed.

4.2 Collinearity diagnostics

Table 3 below shows that the presence of multicollinearity is minimal as the average tolerance is 0.252 i.e., above 0.10, while the average Variance Inflation Factors (VIF) is 7.9 i.e., below 10. According to Pallant (2020, pp.246-247), a tolerance value of more than 0.10 and VIF below 10 suggest low multicollinearity among the regressors.

Tolerance represents the proportion of variance in a predictor variable that is not explained by other predictors in the model (Hair et al., 2019). In the regression model provided, Tolerance values range from 0.087 to 0.573. Higher Tolerance values suggest lower multicollinearity, indicating that the variable has relatively low correlation with other predictors. Conversely, lower Tolerance values indicate higher multicollinearity.

For instance, a Tolerance value of 0.087 for the Stock Market Index suggests potential multicollinearity issues, as it implies that only 8.7% of the variance in this variable is not explained by other predictors. However, this is offset by lower multicollinearity in the other variables, resulting in an average of 0.252 which is significantly above the acceptable minimum of 0.10.

Table 3 Collinearity Statistics

		Collinearity Statistics	
		Tolerance	**VIF**
Stock Market Index		.087	11.492
Market capitalization		.096	10.463
Value of transactions		.573	1.745
	Averages	**0.252**	**7.9**
a. Dependent Variable: Gross Domestic Product			

VIF is the reciprocal of Tolerance and measures how much the variance of a coefficient estimate is inflated due to multicollinearity (Hair et al., 2019). VIF values exceeding 10 are often considered indicative of multicollinearity. In the provided model, VIF values range from 1.745 to 11.492. Lower VIF values signify lower multicollinearity, while higher values indicate stronger multicollinearity. For example, a VIF value of 11.492 for the Stock Market Index implies that its coefficient estimate's variance is inflated by approximately 11.5 times due to multicollinearity. However, this is offset by lower multicollinearity in the other variables, resulting in an average of 7.9 which is below the acceptable maximum of 10.

Eigenvalues represent the amount of variance in the regression coefficients explained by each principal component or factor while the condition index is a measure of the severity of multicollinearity in the regression model (Hair et al., 2019). In the provided output, eigenvalues range from 3.574 to 0.011. Higher eigenvalues indicate a stronger influence of the corresponding principal component on the variance of the regression coefficients. Conversely, lower eigenvalues suggest less influence. The Condition Index is calculated as the square root of the ratio of the largest to the smallest eigenvalue. In the output presented in Table 4 below, the condition index ranges from 1.000 to 17.955. A condition index greater than 30 is often indicative of multicollinearity issues. Therefore, we conclude that multicollinearity is not an issue in the variables and accordingly proceeded with the analysis.

Table 4 Collinearity Diagnostics

Collinearity Diagnostics[a]							
				Variance Proportions			
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Stock Market Index	Market capitalization	Value of transactions
1	1	3.574	1.000	.01	.00	.00	.02
	2	.281	3.564	.29	.00	.00	.59
	3	.134	5.168	.57	.02	.06	.35
	4	.011	17.955	.13	.98	.94	.04
a. Dependent Variable: Gross Domestic Product							

4.3 Model summary

Table 5 below presents the model summary. The regression model summary provides key statistics for evaluating the performance of the regression model. The multiple correlation coefficient R indicates the strength and direction of the linear relationship between the dependent variable and the combination of independent variables. In this case, R = 0.970, suggesting a strong positive linear relationship. The coefficient of

determination (R^2) represents the proportion of the variance in the dependent variable that is predictable from the independent variables. Here, $R^2 = 0.940$, indicating that approximately 94% of the variance in the dependent variable is accounted for by the independent variables included in the model. The Adjusted R Square value adjusts the value to account for the number of predictors in the model and the sample size. It penalizes the inclusion of unnecessary predictors. In this case, the adjusted R Square = 0.930, indicating that approximately 93% of the variance in the dependent variable is explained by the independent variables, considering the model's complexity.

Table 5 Model Summary

Template Summary									
					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.970[a]	.940	.930	8804213263.15265	.940	89.372	3	17	.000
a. Predictors: (Constant), Value of transactions, Market capitalization, Stock Market Index									

In summary, the regression model appears to have a strong overall fit (R2 = 0.940) and the inclusion of the predictors significantly improves the model's ability to explain the variance in the dependent variable (significant F Change with p<0.001).

4.4 Regression analysis

As shown in Table 6 below, the coefficient for the Stock Market Index is negative (-2553910.195), indicating that, holding other variables constant, an increase in the Stock Market Index is associated with a decrease in Gross Domestic Product. However, this coefficient is not statistically significant (p = .451), suggesting that changes in the Stock Market Index do not reliably predict changes in Gross Domestic Product. While the negative coefficient for the Stock Market Index in the provided regression results suggests a negative relationship with GDP, it is important to note that this relationship may vary depending on the context and methodology of the study. Some studies have found a positive relationship between stock market performance and GDP growth. For example, Azimi (2022), and Gjerde and Saettem (1999) found a positive relationship between stock market returns and economic growth in China and Norway, respectively. However, other studies have reported mixed or non-significant relationships (Levine and Zervos, 1998).

The coefficient for Market Capitalization is positive (1.474), indicating that, holding other variables constant, an increase in Market Capitalization is associated with an increase in Gross Domestic Product. This coefficient is statistically significant (p < .001), suggesting that changes in Market Capitalization reliably predict changes in Gross Domestic Product. The positive coefficient for Market Capitalization in the regression results aligns with findings from various studies that suggest a positive relationship between market capitalization and economic growth. For instance, Demirguc-Kunt and Levine (1996) found evidence of a positive association between stock market development (including market capitalization) and economic growth across countries. Similarly, Beck et al. (2000) reported a positive relationship between stock market development and economic growth in a cross-country analysis. In Sub-Saharan Africa, Ali and Kukuri (2023) and Asongu (2015) reached similar conclusions.

Table 6 Coefficients

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	53339326719.490	4222996746.996		12.631	.000		
	Stock Market Index	-2553910.195	3308989.195	-.155	-.772	.451	.087	11.492
	Market capitalization	1.474	.258	1.093	5.706	.000	.096	10.463
	Value of transactions	2.284	4.768	.037	.479	.638	.573	1.745
a. Dependent Variable: Gross Domestic Product								

The coefficient for the Value of Transactions is positive (2.284), indicating that, holding other variables constant, an increase in the Value of Transactions is associated with an increase in Gross Domestic Product. However, this coefficient is not statistically significant (p = .638), suggesting that changes in the Value of Transactions do not reliably predict changes in Gross Domestic Product. The non-significant coefficient for the Value of Transactions in the regression results is consistent with findings from some studies that have also reported mixed or insignificant relationships between trading activity (represented by transaction volume or value) and economic indicators like GDP. For example, Karolyi and Stulz (1996) found limited evidence of a relationship between trading volume and economic growth, suggesting that trading activity may not be a reliable predictor of economic performance.

Overall, Market Capitalization appears to be the most important predictor of Gross Domestic Product in this model, as it has the highest standardized coefficient and is statistically significant.

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

The aim of this study was to evaluate the effect of market capitalization, market share index and value of transactions on the gross domestic product of Zambia. The results have indicated that collectively, the independent variables considered have a strong relationship with the GDP of the country. Furthermore, the study found that although the value of transactions is positively correlated with GDP, the effect is not statistically significant. Similarly, although market share index is negatively correlated with GDP, the effect is not statistically significant. Market capitalization is positively correlated with GDP and appears to be the most important predictor, as it has the highest standardized coefficient and is statistically significant.

5.2 Recommendations

Since Market Capitalization shows a statistically significant positive relationship with GDP, policymakers in Zambia could consider implementing measures to stimulate the growth of the stock market and encourage companies to list on the stock exchange. This might involve providing incentives for businesses to go public, improving regulatory frameworks to enhance investor confidence, and promoting financial literacy to increase participation in the stock market.

Although the coefficient for the Stock Market Index is not statistically significant in this model, it still suggests some potential influence on GDP. Therefore, policymakers should keep a close eye on fluctuations in the stock market, as they may signal broader economic trends or investor sentiment. However, given the weak relationship indicated by the coefficient, it might not be prudent to make major policy decisions solely based on changes in the stock market index.

While the Value of Transactions variable does not show statistical significance in this model, promoting an environment conducive to business transactions and trade can still be beneficial for economic growth. This could involve improving infrastructure, reducing bureaucratic hurdles to conducting business, and fostering trade agreements with other countries to facilitate international transactions.

While the regression model identifies stock market-related variables as potential influencers of GDP, it's important for Zambia to not overly rely on any single factor for economic growth. Policymakers should focus on diversifying the economy, investing in sectors beyond finance and stock markets, such as agriculture, manufacturing, and services, to create a more robust and resilient economy.

Regardless of the specific findings of the regression model, fostering an environment of political stability, good governance, and investor confidence is crucial for economic growth. Policymakers should prioritize measures to reduce uncertainty, mitigate risks, and create a conducive environment for both domestic and foreign investment.

These policy implications are based on the findings of the regression model and should be considered alongside other economic indicators, sector-specific considerations, and broader socio-political factors when formulating policy decisions for Zambia. Additionally, ongoing monitoring and evaluation of policy interventions are essential to assess their effectiveness and adjust as necessary.

REFERENCES

[1] Stiglitz, J. E., & Weiss, A. (1981). Credit Rationing in Markets with Imperfect Information. *The American Economic Review, 71(3)*, 393-410.

[2] Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance, 25(2)*, 383-417.

[3] Rajan, R. G., & Zingales, L. (1998). Financial Dependence and Growth. *American Economic Review*, 88(3), 559-586.

[4] King, R. G., & Levine, R. (1993). Finance, Entrepreneurship, and Growth: Theory and Evidence. *Journal of Monetary Economics, 32(3)*, 513-542.

[5] Intissar, F. A., & Aymane, Q. O. D. A. D. (2023). The role of capital markets in economic growth and development. *International Journal of Applied Management and Economics, 2(4),* 18-29.

[6] Beck, T., Levine, R., & Loayza, N. (2000). Finance and the Sources of Growth. *Journal of Financial Economics, 58(1-2),* 261-300.

[7] Beck, T., Colciago, A., &Pfajfar, D. (2017). The Role of Financial Intermediaries in Monetary Policy Transmission. *Journal of Economic Dynamics and Control, 81,* 50-69.

[8] Chakrabarti, R. (2001). Financial Liberalization and Real Investment: Evidence from Indian Corporate Sector. *ICFAI Journal of Applied Finance, 7(3),* 39-60.

[9] Demirgüç-Kunt, A., & Huizinga, H. (2010). Bank Activity and Funding Strategies: The Impact on Risk and Returns. *Journal of Financial Economics, 98(3),* 626-650.

[10] Laeven, L., & Valencia, F. (2018). Systemic banking crises revisited. *IMF Working Paper, (18/206).*

[11] Claessens, S., & Yafeh, Y. (2012). Stock markets, banks, and growth: Panel evidence. *Journal of Banking & Finance, 36(5),* 1126-1137.

[12] Beirne, J., & Fratzscher, M. (2013). The pricing of sovereign risk and contagion during the European sovereign debt crisis. *Journal of International Money and Finance, 34,* 60-82.

[13] Schrimpf, A., & Steffen, S. (2016). Euro area stock returns and global financial market conditions. *European Central Bank Working Paper Series, (1934).*

[14] Levine, R., & Zervos, S. (1998). Stock markets, banks, and economic growth. *The American Economic Review, 88(3),* 537-558.

[15] Greenwood, J., & Jovanovic, B. (1990). Financial Development, Growth, and the Distribution of Income. *Journal of Political Economy, 98(5),* 1076-1107.

[16] Rajan, R. G., & Zingales, L. (2003). The Great Reversals: The Politics of Financial Development in the Twentieth Century. *Journal of Financial Economics, 69(1),* 5-50.

[17] Bekaert, G., Harvey, C. R., & Lundblad, C. (2005). Does Financial Liberalization Spur Growth? *Journal of Financial Economics, 77(1),* 3-55.

[18] Claessens, S., Frost, J., & Turner, G. (2019). The Future of FinTech: A Paradigm Shift in Small Business Finance. World Bank Group.

[19] Demirgüç-Kunt, A., Kane, E. J., &Laeven, L. (2018). Deposit Insurance Database. *Journal of Financial Intermediation, 35(PB),* 17-29.

[20] Bordo, M. D., Eichengreen, B., Klingebiel, D., & Martinez-Peria, M. S. (2001). Is the crisis problem growing more severe? *Economic Policy, 16(32),* 51-82.

[21] Greenwood, J., & Smith, B. D. (1997). Financial markets in development, and the development of financial markets. *Journal of Economic Dynamics and Control, 21(1),* 145-181.

[22] Bekaert, G., Engstrom, E., & Xu, Y. (2013). The time variation in risk appetite and the global financial cycle. *Journal of International Money and Finance, 35,* 19-34.

[23] Bollerslev, T., Tauchen, G., & Zhou, H. (2009). Expected stock returns and variance risk premia. *The Review of Financial Studies, 22(11),* 4463-4492.

[24] Azimi, M. N. (2022). Assessing the asymmetric effects of capital and money markets on economic growth in China. *Heliyon, 8(1).*

[25] Aizenman, J., Chinn, M. D., & Ito, H. (2019). The Financial Crisis, Foreign Exchange, and Global Capital Markets. *Journal of International Money and Finance, 91,* 69-92.

[26] Beck, T., Demirgüç-Kunt, A., & Peria, M. S. M. (2007). Reaching Out: Access to and Use of Banking Services Across Countries. *Journal of Financial Economics, 85(1),* 234-266.

[27] Shahbaz, M., Shahzad, S. J. H., Ahmed, N., & Alam, M. M. (2021). Capital Market Development, Institutional Quality, and Economic Growth: An Empirical Analysis of Asian Countries. *International Journal of Finance & Economics, 26(3),* 3480-3506.

[28] Khan, M. S., & Qayyum, A. (2007). Dynamic Effects of Monetary Policy on Output and Inflation in Pakistan: The Role of Asset Markets. *The Lahore Journal of Economics, 12(2),* 27-50.

[29] Goxi, P. R., & Mekelle, A. D. (2019). Capital Markets and Economic Growth: Evidence from Middle East and North African Countries. *International Journal of Economics, Commerce, and Management, 7(4),* 141-156.

[30] Alam, A. A., Ghazali, N. A. M., & Ali, R. (2020). Financial Inclusion and Economic Growth Nexus: Evidence from Middle Eastern and North African Countries. *Journal of Asian Finance, Economics, and Business, 7(11),* 479-489.

[31] Balaban, E., & Miyajima, K. (2019). Stock Market Development and Economic Growth in Middle East and North African Countries. *IMF Working Paper, WP/19/140*.

[32] Abuneri, G., Goxi, P., & Ayuk, E. (2021). Institutional Quality and Capital Market Development in the MENA Region: A Panel Data Analysis. *Journal of Economics and Behavioral Studies, 13(4),* 71-82.

[33] Kassem, R., & Hossam, S. (2021). The Impact of Capital Market Development on Foreign Direct Investment in MENA Countries. *Journal of Investment and Management, 10(1),* 95-108.

[34] Goxi, P. R., &Tsheko, G. N. (2020). Capital Markets and Economic Growth: The Sub-Saharan Africa Experience. *African Journal of Economic and Management Studies, 11(4),* 442-461.

[35] Ayuk, E. T., Odejimi, D. O., & Khan, M. F. (2018). Stock Market Development and Economic Growth: Evidence from Sub-Saharan Africa. *International Journal of Emerging Markets, 13(6),* 1833-1850.

[36] Ali, M., & Kukuri, S. B. (2023). Relationship between the Capital Markets and Economic Growth in Nigeria. *International Journal of Business Systems and Economics, 14(1),* 100-110.

[37] Asongu, S. A. (2015). Financial development dynamic thresholds of financial globalization: Evidence from Africa. *Journal of Economic Studies, 42(2),* 346-371.

[38] Ncube, M., &Brixiova, Z. (2014). Working paper 208 - Working paper 208 - Capital flight from Africa: Causes, effects and policy issues. African Development Bank Group.

[39] Okafor, C. E., &Ebiringa, O. T. (2017). The impact of capital market on economic growth in Nigeria: An ARDL approach. *Journal of Economic Library, 4(2),* 116-132.

[40] Bigsten, A., Ndung'u, N. S., & Munga, G. (2003*). Kenya's financial sector reform: A review of the impact on finance and employment.* University of Nairobi. School of Economics.

[41] Alagidede, P., Panagiotidis, T., & Zhang, X. (2017). Foreign Direct Investment, Institutional Development, and Environmental Externalities: Evidence from Sub-Saharan Africa. *World Development, 96,* 591-602.

[42] Daferighe, E. E., & Charlie, S. S. (2012). The impact of inflation on stock market performance in Nigeria. *American Journal of Social and Management Sciences, 3(2),* 76-82.

[43] Hutcheson, G. (2011). *Ordinary Least-Squares Regression*. SAGE Publications, Thousand Oaks.

[44] World Bank. (2022). *World Bank National Accounts Data, and OECD National Accounts data files*. Retrieved from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=ZM.

[45] Lusaka Stock Exchange. (2022). *Market Performance Report*. Retrieved from https://www.luse.co.zm/market-performance/.

[46] Pallant, J. (2020). *Survival Manual: A Step by Step Guide to Data Analysis Using IBM SPSS*. New York: Routledge.

[47] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis* (8th ed.). Cengage Learning.

[48] Gjerde, Ø., &Sættem, F. (1999). Causal relations among stock returns and macroeconomic variables in a small, open economy. *Journal of International Financial Markets, Institutions and Money, 9(1),* 61-74.

[49] Demirguc-Kunt, A., & Levine, R. (1996). Stock market development and financial intermediaries: Stylized facts. *The World Bank Economic Review, 10(2),* 291-321.

[50] Karolyi, G. A., & Stulz, R. M. (1996). Why do markets move together? An investigation of U.S.-Japan stock return co-movements. *Journal of Finance, 51(3),* 951-986.