

Original Research Article

Determinants of Stock Market Performance in Zambia

ABBREVIATIONS

BOZ	Bank of Zambia
CSO	Central Statistics Office
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
LUSE	Lusaka Securities Exchange

Abstract

For economic development to take place, there are many components involved. Investment is a key component. The existence of stock markets has played a pivotal role in the raising of capital for companies. Therefore the performance of stock markets has been seen to be of significance. The stock Market in Zambia has been seen to fluctuate over the years. It has been noted that macroeconomic variables impact stock market performance. In this research it has been arrived at Interest rates and exchange rates have are indirectly proportional to stock market performance as money supply, GDP and Index of Industry performance have a direct relationship.

1.1 Introduction

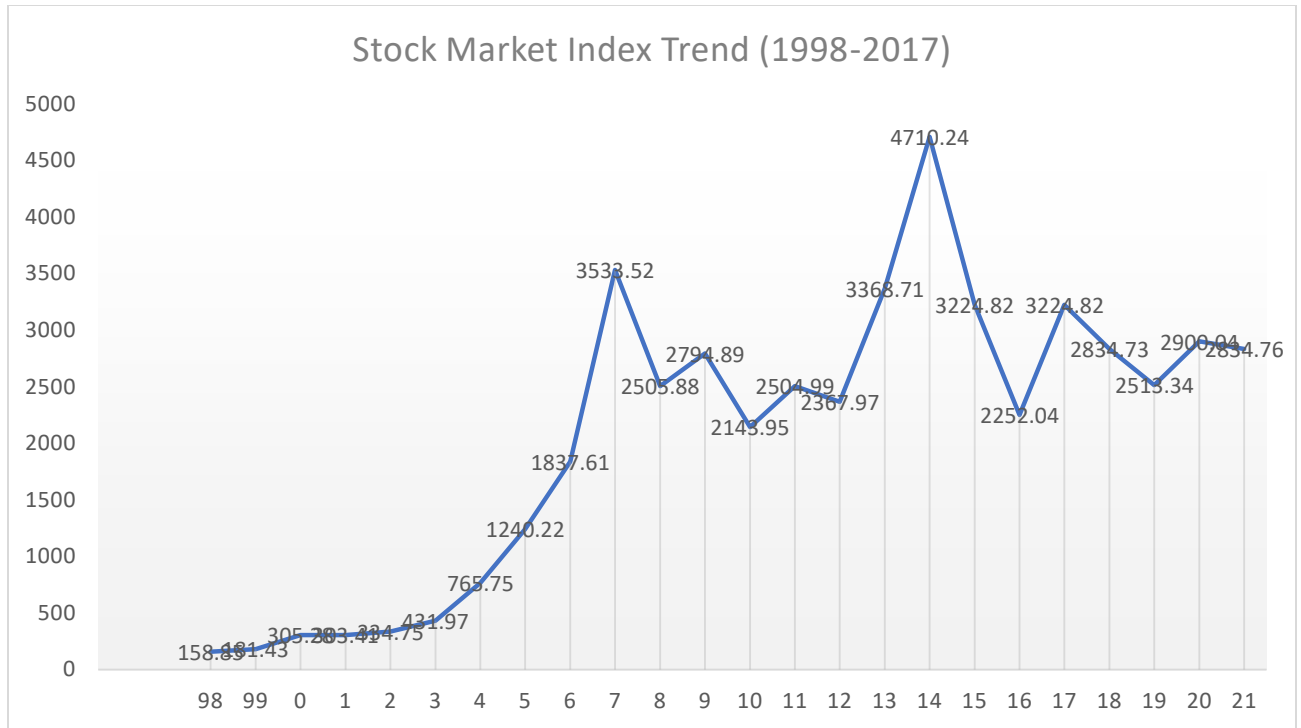
According to Ndalama (2006) in the 1980s, the economies of developing countries was marked by a number of challenges. These include increasing foreign debt burdens, balance of payments difficulties which were not improving and absence of resources for new investment. The introduction of stock markets was more of a solution to the aforementioned.

According to Ali (2014), capital markets, across the globe transfer funds from those with surplus funds to those with deficits with an intention to finance projects. Stock markets supply businesses with the ability to raise capital by sell of shares to the investors (Black and Gilson, 1998)

Even in the less developed economies around the world, capital markets to raise funds are in existence. Capital markets have various factors influencing their performance. In Zambia, the stock market is known as Lusaka Security exchange (LUSE). As part of economic reforms, the government of the republic of Zambia undertook privatization. State owned enterprises were protected from the competition that comes with a liberalized economy. Therefore privatization was seen as the a bailout for the failing Zambian economy.

To undertake privatization, a divesture sequence plan was made. This comprised of a list of state owned enterprises as approved by cabinet, categorised in accordance with the sequence in which the whole or part of their shares, will be disposed of during the schedule.

Figure 1 Stock market index trend



Years from 1998-2017

Source : Researcher

The performance of LUSE has not been as consistent over the years. There have been years in which it has been showing improvement and in others, been declining. In the early years after the establishment, attempts to observe the factors that make the capital market improve were being closely made.

1.2 Problem Statement

The stability and growth of the stock market has seen to be a trigger for economic growth. According to Masoud (2013), a relationship exists between efficient stock market and economic growth. According to the stock arbitrage pricing theory, there is a relationship between stock returns and certain

macroeconomic variables (Ross 1976). In Zambia, macroeconomic variable such as interest rates, inflation rates and exchange rates have been established to be as highly volatile. However, the findings haven't been consistent over the years. There is need to establish in particular, the determinants of the stock market performance in Zambia.

1.3 Research Questions

1. What has been the trend of stock market performance in Zambia?
2. What are the determinants of the stock market performance in Zambia?
3. What determinant has the most effect on stock Market performance in Zambia?

1.4 Research Objectives

1. To establish the trend of stock market performance in Zambia
2. To ascertain the determinants of stock market performance in Zambia
3. To identify what determinant has the most effect on stock market performance in Zambia.

1.5 Significance of the Study

In identifying and establishing the determinants of the stock market performance, the study will also attempt to find the pattern and anomalies within the relationship. Adequate comprehension of the aforementioned will serve the purpose of efficient portfolio formation, both in aspect of returns and risk allocation. Because of variations in share prices caused by factors such such as changing economic and market conditions, interest rates and investor expectations and confidence, it is difficult for analysts to predict accurately a

company's earnings and dividends and estimate what returns shareholders require

LITERATURE REVIEW

2.0 Overview of Stock Markets

Over the years, strategies based on detailed analysis could not seem to perform better than simple passive strategies. It is the attempts to solve this phenomenon that gave rise to the efficient market hypothesis by Fama (1965), which claims that market prices already incorporate the relevant information.

2.1.0 Overview of Stock Market Efficiency

Fama's concept of the Efficient Market Hypothesis does not anticipate that investors are able to identify the future markets price faultlessly. However, it claims that the current market price, is the objective price, because it includes all available, rate making information. The stock market prices behave randomly because investors are in constant analysis, reflecting new information in their investment decisions, with the objective of to achieving maximum yield. This is cognizant to the risk and liquidity.

Developed independently by Paul A. Samuelson and Eugene F. Fama in the 1960s, the Efficient Market Hypothesis has been applied widely engaged in theoretical models and emperical studies of stock prices. However, some economists argue that the EMH is based on counterfactual assumptions regarding human behaviour, that is rationality.

2.1.1 Market Efficiency

In order for income from securities to be maximized, the optimal time for buying and selling must be determined to maximize capital gains. A theory known as Fundamental theory analysis postulates that the value of a share can be calculated, using the dividend yield valuation model provided investors and their advisors have information about a company and its prospects, and know the return they require from the company's equity, they can calculate a share price.

Because of variations in share prices caused by factors such such as changing economic and market conditions, interest rates and investor expectations and confidence, it is difficult for analysts to predict accurately a company's earnings and dividends and estimate what returns shareholders require. If analysts can predict these things in advance of others, they can advise their clients on which shares to buy, sell and hold.

2.2 Overview of Lusaka Stock Market Exchange

The Lusaka Stock exchange opened on 21st February, 1994. In the first two years it was funded by the United Nations Development Programme and the government of Zambia as a project for financial and capital market development in Zambia.

According to Fackson (2010), this formation of the exchange can be perceived as a response to part of the government's economic reform programme, with an objective of at developing the financial and capital market to support and enhance private sector initiative.

The operations of the stock exchange market in Zambia, are governed by the Securities Act (No 38) of 1993 Cap 354 of the laws of Zambia and all subsequent statutory instruments that have been passed to assist in the implementation of the securities act. The implementations of the securities acts is the mandate of the Securities and Exchange Commission (SEC), which regulates the activities of the Lusaka Stock Exchange.

2.3 Determinants of Stock Market Performance

In recent years, investors and market participants have become as interested in the performance of the stock market as it directly affects them. As such key factors are believed to play a paramount role in the overall performance of stock markets in any economy, as follows;

2.3.1 Interest Rates

Akila Weerapana(2006) stated in the IS-LM model that interest rates are considered to be the unique determinant of investment. The IS-LM model as a tool pertaining to macroeconomics, depicts the relationship between interest rates and real output in the goods and services market and the money market. Basically, Interest rates are seen to play three functions;

- They have influence on the discounted value of net benefits over time.
- They determine the cost of loans from banks and the required rate of return for the owners and financing institutions
- Interest rates impact the economic climate both for financial and real markets.

In all the aforementioned, higher interest rates trigger lower investment since the present value of benefits will be lower.

By contrast, the impact of large interest rate changes may be highly asymmetric: a strong increase of interest rates can provoke a fall in investment dynamics whereas a similar decrease may fail to induce investment, if real perspective benefits are lacking.

Maysami and Koh (2000) attempted to establish the relationship between Singapore stock index and selected macroeconomic variables. From 1988 to 1995, a five year period. The observation was that the relationship between stock returns and short term interest rates was that of an inverse nature. Borrowing money to finance the operations of a business is likely to drive up the cost of debt. This will have a bearing on company profits and dividends available for shareholders. The share price of a company is also likely to drop as a result of borrowing. Barnor (2014) further concludes that from the investor's standpoint, high yielding fixed income securities may be preferred to equities.

However there is an argument that bond markets have significant long term effect on stock market. Bren et al (1989) examining economic significance of predictable variations in stock returns showed that a month's interest may be used to forecast the sign as well as the variance of the excess return on stocks.

Ederm et el (2005) discovered the existence of unidirectional strong volatility spillover from inflation and interest rate, to all stock price indexes on the instabil stock exchange.

2.3.2 Exchange rates

Soenen and Henniger (1988) established a negative relationship between the value of the US dollar and stock prices, using monthly data on stock prices and effective exchange rates for the period 1980 to 1986. Jorion (1990) establishes significant differences across industries by considering the impact of interest rates on US multinational firms. Exchange rates in developing economies are more likely to be more volatile than that of developed nations.

The impact is found to be high if the economy is export oriented (Tian and Ma, 2010; Yang and Dong, 2004). Dependant on the factors there is likely to be an increase in the share market index with the appreciation of home currency.

They further found that the goods market approach shows that currency appreciation is likely to reflect a positive correlation between the exchange rate and stock prices in an import dominated economy while a negative correlation is expected for export dominated economy.

Simpson and Evans (2003), studied the relationship between Australian banking sector market performance and major economic variables of monetary policy like exchange rate and short and long term interest rates. Monthly data was for stock performance was used, exchange rates and interest rates for the period of January 1994 to February 2002. The study found that there was no relationship between the Australian banking sector market performance and exchange rates in both short and long term.

2.3.3 Money Supply

Money supply is one of the most basic parameters in an economy and measures the abundance or the scarcity of money. Stock prices tend to move higher when the money supply in an economy is high. This is because when money supply is high in the economy, it leads to increase in investable amount among investors and improves stock market performance. The monetary authority has to regulate the circulation of money in the economy. In Zambia, the monetary authority is the Bank of Zambia.

However Benanke (2003) found that the anticipative change in money supply will have no effect on the development of prices of financial assets.

Nevertheless it is also incumbent for the Central bank to guard inflation. Monitoring the circulation of money is one of the ways in the monetary authority can monitor inflation. Low inflation has been seen yto have strong inverse correlation with valuations. It is also important to take note that deflation is bad for stock prices. This is due to the reason that deflation signifies a loss in pricing powers for companies.

2.3.4 Gross Domestic Product

Gross Domestic Product is an economic term used to describe the total amount of goods and services produced by a country at a given period of time. Having greater equity shows how well a business is performing. Mirchandani (2013) in his research found out that interest rates, inflation, FDI and GDP growth had an effect on exchange rates.

In some studies, to understand the importance of stock market, the capitalization ratio has been examined.

Greene and Villanueva (1991) established that the rate of private investment is positively related to real GDP growth, level of per capita GDP, and rate of public sector investment. However, the argument being that countries with higher per capita income could devote more resources to domestic savings, which could be used in financing investment.

2.3.5 Industry Performance

The success and profitability of the industry in which a company is operating has influence on the company's stock prices. Investors tend to evaluate a firm based on Earnings Per Share (EPS), future earnings prospects and revenues, future earnings prospect and revenues.

Ali (2011) found that the industrial production index, market earning per share and growth in market capitalization has positive influence on the stock market, however, foreign remittances negatively relate to stock prices. Conditions affecting the industry will affect firms in the industry in the same way.

As arranged in this chapter, it's been shown that all possible determinants of stock market performance have yielded different and in some cases similar, findings. Some findings have been dependant on the type of economy and may not be applied to fit the global situation. This makes it necessary to establish the determinants of Stock market performance in Zambia.

THEORETICAL AND CONCEPTUAL FRAMEWORK

3.1 Efficient Market Hypothesis

The efficient market hypothesis has been under academic consideration for years. A risk weighted return is expected to be higher in efficient markets. Therefore research in the field of stock market is of importance to both private and institutional investors.

Random walk theory also known as efficient Market hypothesis by nobel prize winner Eugene Fama suggests that at any given time, stock prices of an efficient market reflects all the available information (Fama 1965). This implies that no investors will outperform the market and yield abnormal profits given that stocks are traded at their intrinsic value.

Allen, Brealey and Myers(2011) defined a market as efficient when it was not possible to earn a return other than a market return. Which means the value of shares reflects the fair value of the company and is equal to the future cash flows discounted by an alternative cost of capital.

The EMH however has some critics. Some economists do not agree with the notion of rational investors as it purports irrational exuberance (1997).

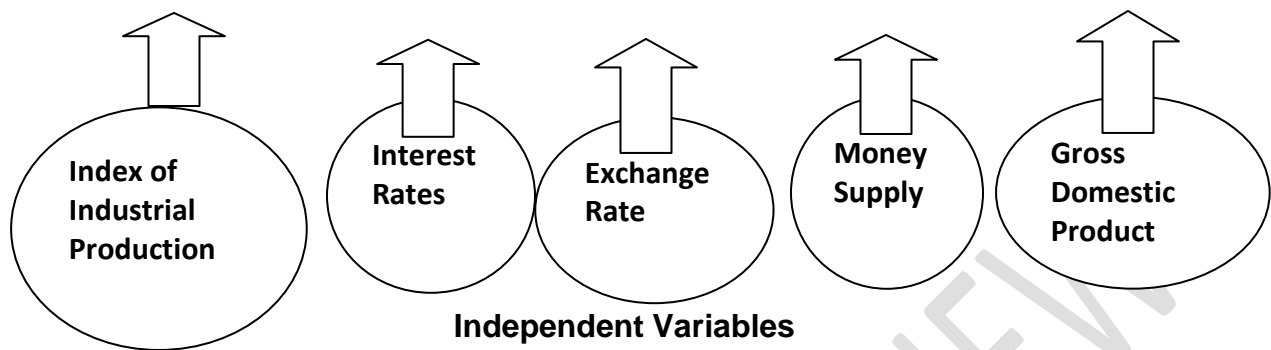
3.2 Conceptual Framework

In this study, the concept attempts to illustrate the determinants of stock market performance. In this study, the conceptual model is follows

Fig 2: Dependable Variable



Stock Market Indices (All LUSE stock indices)



Source: Researcher

3.3 RESEARCH HYPOTHESIS

a) Interest Rates

Null hypothesis (H_0): Interest rates have no impact on the stock market performance in Zambia

Alternative Hypothesis (H_1): Interest rates have an impact on the stock market performance in Zambia

b) Exchange Rates

Null hypothesis (H_0): Exchange rate has no impact on the stock market performance in Zambia

Alternative hypothesis (H_1): Exchange rate has an impact on the stock market performance in Zambia.

c) Money Supply

Null hypothesis (H_0): Money supply has no impact on stock market performance in Zambia

Alternative hypothesis (H_1): Money supply has an impact on stock market performance in Zambia

d) GDP growth rate

Null hypothesis (H_0): GDP growth rate has no impact on stock market performance

Alternative hypothesis (H_1): GDP growth rate has an impact on stock market performance.

e) Index of Industrial Performance

Null hypothesis (H_0): Index of industrial production has no impact on stock market performance.

Alternative hypothesis (H_1): Index of industrial production has an impact on stock market performance.

METHODOLOGY

4.1 Research Design

The research was directed by a set of objectives, which were the basis for all the set of data collection and analysis. In order to achieve the objectives, a quantitative research was used as most variables in the study were measureable.

4.2 Data Collection

This study will solely depend on secondary data. According to Kothari (2004) primary data is information that has been collected for the first time whereas Secondary data is data that has been collected previously and that has been put through the statistical process. The nature of this study would make more use of secondary data. The data collected from Central Statistics Office (C.S.O), Bank of Zambia and Lusaka Security Exchange to assist in establishing the determinants of stock market performance in Zambia. The period under consideration is twenty years (20). This will be a period from 1998-2021

4.3 Regression Models

The model is to be specified as follows;

$$SMP = \beta_1 IR + \beta_2 ER + \beta_3 GDP + \beta_4 IP + \mu$$

SMP = Stock Market Performance

IR = Interest Rate

ER = Exchange Rate

GDP = GDP growth rate

IP = Index of Industrial Production

μ = error term

4.4 Data Analysis

This data was obtained from articles, journals and more emphasis on published data from Lusaka Stock Exchange (LUSE), BOZ and Central Statistics Office (CSO). The period to be considered was twenty years. That is from 1998-2021.

Secondary data was analysed using both descriptive and inferential statistics. SPSS was used to examine the data using correlation and regression analysis and also descriptive analysis. Standard deviation and mean was used in descriptive statistics.

DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

This study focused on data collected from Central Statistics Office (C.S.O), Bank of Zambia and Lusaka Security Exchange to assist in establishing the determinants of stock market performance in Zambia. With the use of descriptive statistics, regression analysis and correlation analysis, results of the study are represented in table form as illustrated in the next sections.

5.1 The Trend of Stock Market Performance

Figure 3 Stock Market Index Trend (1998-2021)



Source: Researcher

Stock market performance has been fluctuating. There have been years which have recorded an increase and in some years, it has been a fall.

From 1998, the performance of stock market was steadily increasing until 2000, when there was a slight drop. It then started to increase until 2007.

After 2007, there was a sharp drop from 3533.52 down to 2505.88 in 2008. Between 2008 and 2012, the movement was not in a consistent direction. There would be an increase in one year, then a decrease in the next. There was then a sharp increase from 2012 to 2014. A shoot from 2307.97 to 4710.24.- It dropped to 2252.04 in 2016 and rested at 3224.82 in 2017. It eventually closed 2019 at 2834.76. This clearly shows that the stock market performance has not been consistent.

5.2. Diagnostics

Secondary annual data was collected from C.S.O (for GDP growth rates and Index of industrial production), Bank of Zambia (for annual interest rates, exchange rates and money supply) and Lusaka Security Exchange (for all LUSE share index). The data was then cross checked for errors to test the validity of the data sources. The assumption made by the researcher was a 95% confidence interval or 5% significant levels. These values helped to verify the truth or falsity of the data.

A normality test was carried out on the data collected. The null hypothesis being that the data was not normal. Quite a number of statistical procedures including procedures including correlation, regression, t tests and analysis of variance, namely parametric tests, are based on the assumptions that the data follows a normal distribution or a Gaussian distribution. The main tests for the assesment of the normality are;

Table 1. Test for Normality

Stock Market Returns	Kolmogorov – Smirnov Statistics			Shapriro-Wilk statistics		
	Df	Sig		Statistics	Df	Sig
Interest rates (%)	.173	20	.795	.981	20	.176
Exchange rates	.176	20	.795	.881	20	.015
GDP growth rate	.178	20	.795	.893	20	.795
Index of Industrial Production	.181	20	.795	.886	20	.691
Money Supply	.172	20	.795	.862	20	0.009
a. Lillefiors Significance Correction						

Source : Research findings

From the findings, both Kolmogorov-Smirnov and Shapiro-Wilk tests record 0-value greater than 0.5, implying the research data was normally distributed. We reject the null hypothesis.

Table 2 Correlation Analysis

	Stock Market Indices	Exchange Rates against US dollars	Interest rates (%)	GDP growth rates (%)	Index of industry production	Money Supply (K'million)
Stock Market Indices	1	0.549*	-0.569**	0.404	0.876**	0.767**
Pearson Correlation		0.12	0.009	0.77	0.000	0.000
(2tailed) N	20	20	20	20	20	20
Exchange Rates against US dollars	0.549	1	-0.309	-0.193	0.746**	0.896**
Pearson Correlation	0.012		0.184	0.414	0.000	0.000
(2tailed) N	20	20	20	20	20	20
Interest rates (%)	-0.569**	-0.309	1	-0.402	-0.621**	-0.449
Pearson Correlation	0.009	0.184		0.079	0.003	0.047

Correlation sig (2tailed) N	20	20	20	20	20	20
GDP growth rates (%)Pearson	0.404	-0.193	-0.402	1	0.307	0.188
Correlation sig (2tailed) N	0.77	0.414	0.079		0.188	0.843
Index of industry production Pearson	0.876**	0.746	-0.621	0.307	1	0.910
Correlation sig (2tailed) N	0.000	0.000	0.003	0.188		0.000
Money Supply (K'million) Pearson	0.767**	0.896	-0.449	-0.047	0.910	1
Correlation sig (2tailed) N	0.000	0.000	0.047	0.843	0.000	
	20	20	20	20	20	20

*Correlation is significant at the 0.05 level two (2-tailed)

**Correlation is significant at the 0.01 level two (2-tailed)

Source : Research Findings (2022)

The study shows the existence of a strong positive correlation between exchange rate and stock market ($p < 0.549$, $p = 0.012$) this shows that exchange rates in a country have a positive relationship with stock market

returns. This association is also significant. The relationship existing between interest rates and stock market was negative. ($p = -5$, $p > 0.009$). It shows that movements in interest rates are negatively correlated to stock market returns. The relationship was also significant.

Between GDP growth rate and stock market returns, there exists a positive but weak correlation ($p = 0.404$, $p > 0.077$). The results show that the association between GDP growth rate and stock market returns is positive but not significant. The study also shows a strong correlation between index of industrial production and stock market ($p > 0.000$ and $p = 0.0767$) and the association is very significant.

From the results obtained, there was no multicollinearity among the variables. Therefore, the variables can be used to establish the determinants of Stock market performance at Lusaka Security exchange.

Table 3 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std Deviation
Stock performance indices	20	158.85	4710.24	1909.5550	1368.36340
Exchange rate against US dollar	20	2.26	10.84	5.3140	2.32094
Interest rates (%)	20	15.8	48.7	28.330	9.0418
GDP growth rates (%)	20	2.6	10.3	5.490	2.3797
Index of industrial Production	20	66.5	223.9	157.195	52.7165
Money Supply (K million)	20	197.0	7315.0	2574.050	2381.0166
Valid N (litwise)	20				

Source : Research Findings (2022)

The descriptive statistics for variables for the variables applied in the study are as shown above. Analysis of all the variables were obtained using SPSS software with the period being 20 years, annually. Stock market performance indices had a mean of 1909.5550 and standard deviation of 1368.36340. Exchange rate against US dollar mean was at 5.3140 and standard deviation 2.32094. Interest

rates mean found to be 28.330 and standard deviation 9.0418. GDP growth rate was at a mean of 5.490 and a standard deviation of 2.3797. The index of industrial production stood at a mean of 157.195 and standard deviation 52.7165. As for money supply, the mean was 2574.040 and standard deviation was 2381.0166.

5.3.1 Regression Model for All Independent Variables

Model	R	R square	Adjusted R square	Std error of the estimate	Durbin Watson
1	0.905	0.819	0.754	679.02390	1.616

Table 4: Regression Model for All Independent Variables

In this study, stock market indices were regressed on five variables namely interest rates, Exchange rates, GDP growth rates, money supply and index of industrial production. The regression was carried out at 5% confidence interval.

5.3.2 Model Coefficients

Model	Unstandardized coefficients		Standardized coefficients	T	Sig
	B	Std Error	Beta		

Constant	-279.832	1775.568		-0.158	0.877
Interest Rates(%)	-1.202	23.550	--0.008	-0.051	0.960
Exchange Rates	-224.004	163.594	-0.380	-1.369	0.192
GDP Growth rate(%)	149.085	123.113	0.0259	-0.051	0.246
Money Supply (K'million)	0.461	0.347	0.345	1.328	0.205
Industrial Perfomance	8.963	14.588	0.802	0.614	0.549

Table 5: Model Coefficients

5.3.3 Significance

The following was the regression equation used to estimated

$$Y = -279.832 - 1.202IR - 224.004ER + 149.085GDP + 0.461MS + 8.963IP$$

The interpretation of the above regression was as follows;

The estimated regression model above shows that the constant =-279.832 this show that if the selected dependent variable (Interest rate, exchange rate, GDP growth rate, money supply and index industrial production) was related to zero, stock market would be -279.832. For interest rates, one unit decrease in interest rate would cause a 1.202 decrease in stock market performance. Then a unit increase in GDP growth rate would cause a 149.085 increase in stock market performance. A unit increase in money supply results into a 0.461 increase in stock market performance. For index of industrial production, a unit increase result in 8.963 increase in stock market performance.

5.4 Discussion of Findings

According to the Pearson's correlation coefficient, exchange rates and stock market performance was found to be strong and positive ($r=0.549, >P>0.012$). This means that the movement of exchange rates is positively correlated to stock market and in a significant manner. It was also found that there exists a weak positive correlation between GDP growth rate and stock market performance ($r=0.404, p<0.077$). This implies that GDP growth has weak positive association with stock market performance but the association is not significant. In the study, it is also shown that money supply has a positive relationship with Stock Market index of 0.767 and the association is significant. There was a negative correlation between stock market and interest rates ($r=0.01, p=0.569$).

5.5 Hypothesis Statements Tests and Findings

The following are the hypotheses for stock market index;

a) Interest rates

Null hypothesis (H_0): Interest rates have no impact on the stock market performance in Zambia

Alternative Hypothesis (H_1): Interest rates have an impact on the stock market performance in Zambia

The Pearson correlation between stock market indices and interest rates was found to be -0.569. This implies that interest rates have a strong negative relationship with stock market performance. This association is also statistically significant. Therefore, we reject the H_0 and accept the H_1 . Interest rates have influence on stock market performance in Zambia. The relationship is inverse.

b) Exchange rates

Null hypothesis (H_0): Exchange rate has no impact on the stock market performance in Zambia

Alternative hypothesis (H_1): Exchange rate has an impact on the stock market performance in Zambia.

The Pearson correlation between stock market indices and exchange rates was found to be 0.549. This implies that there exists a strong positive relationship between exchange rates and stock market performance. The relationship is also

statistically significant. Therefore we reject the H_0 and accept the H_1 . Exchange rates have an impact on stock market performance in Zambia.

c) Money Supply

Null hypothesis (H_0): Money supply has no impact on stock market performance in Zambia

Alternative hypothesis (H_1): Money supply has an impact on stock market performance in Zambia

The Pearson correlation between money supply and stock market indices was found to be 0.767. This goes to show that money supply has a strong positive relationship with stock market performance and the association is statistically significant. We therefore reject the H_0 and accept the H_1 . Money supply has an impact on stock market performance.

d) GDP Growth rate

Null hypothesis (H_0): GDP growth rate has no impact on stock market performance

Alternative hypothesis (H_1): GDP growth rate has an impact on stock market performance.

The Pearson correlation between stock market performance and GDP growth rate was found to be 0.404. This means there exists a weak positive relationship between GDP growth rate and stock market performance and the association is not statistically significant. Therefore we accept H_0 and reject H_1 .

e) Index of Industrial Production

Null hypothesis (H_0): Index of industrial production has no impact on stock market performance.

Alternative hypothesis (H_1): Index of industrial production has an impact on stock market performance.

The Pearson correlation between stock market indices and index of industrial production was found to be 0.876. This implies that between the index of industrial and stock market performance, there exists a strong and positive relationship. This relationship is also statistically significant.

5.6 Addressing the Research questions and Research Objectives

Firstly, from the data collected, graphs were drawn to examine the trend of stock market performance in Zambia. It was found that stock market performance had not been consistent and had fluctuated from time to time. From the data collected and later presented in the form of a graph, the trend of stock market performance was closely observed. From 1998, the performance of stock market was steadily increasing until 2000, when there was a slight drop. It then started to increase until 2007.

After 2007, there was a sharp drop from 3533.52 down to 2505.88 in 2008. Between 2008 and 2012, the movement was not in a consistent direction.

There would be an increase in one year, then a decrease in the next. There was then a sharp increase from 2012 to 2014. A shoot from 2307.97 to 4710.24.- It dropped to 2252.04 in 2016 and rested at 3224.82 in 2017. It then closed at

2834.76 in 2019. This clearly shows that the stock market performance has not been consistent.

To establish the effects of money supply on stock market performance, the researcher performed a correlation analysis in SPSS. This produced a Pearson correlation of 0.767. The regression then produced an R square of 0.589. This implies that money supply individually influences the performance of stock market performance in Zambia by 58.9%. It clearly shows that money supply has a significant impact on stock market performance in Zambia. One unit increase in money supply will cause an increase in stock market by 0.461.

Through the correlation matrix, the determinants of stock market performance in Zambia were found to be Interest rates, exchange rates, money supply and index of industrial production.

CONCLUSION And SUMMARY

6.0 Conclusion

The Performance of stock market performance has not been consistent in Zambia. It was necessary to establish factors influencing the stock market performance. In this study it was found that interest rates have an inverse effect on stock market performance as money supply has a positive relationship. It was also found that Exchange rates have an effect on stock market performance.

Policymakers and Central Bank should therefore be cognizant to the effects of certain policy implementations. They should closely monitor the trend of the variables in question, to foster stock market performance enhancement, which translates into economic growth.

6.1 Recommendations

The Zambian government needs to intervene by instigating an investment policy on financial institutions to invest in business owner education and counseling that helps business navigate the complicated investment processes and improve their credit and debt profile so that they can access more investment capital at reasonable rates.

The Zambian government might also want to enhance the production of export oriented products and make attempts to reduce importation. This is because with higher exports in relation to imports, the GDP of a country is higher.

DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of

knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

REFERENCES

Akpan chikwudum. (2014), Influence of interest rates on Stock prices: An Analysis of the all Share index. International journal of Finance and Accounting 2014

Alam (2009), Relationship between interest rates and Stock Price: Empirical evidence from Developed and Developing Countries. International journal for Business and Management.

Aurangzeb (2012), Factors Affecting Performance of Stock Market: Evidence from South Asian Countries. International Journal of Academic Research in Business and Social Sciences.

Beechey, Gruen and Vickery (2000). The Efficient Market Hypothesis: A Survey. Bernistern, (1992), The Concept of stock market efficiency in global markets.

Ashikh (2012) Testing the Weak Form of Efficient Market Hypothesis and the day of the Weak Efficient in Saudi Stock Exchange: Linear Approach: International Review of Business Research Papers.

Aurangzeb (2012), Factors Affecting Performance of Stock Market: Evidence from South Asian countries. International Journal of Academic Research in Business and social sciences.

Bernistern (1992), The concept of Stock market Efficiency in Global Markets.

Beechey, Gruen and Vickery (2000). The Efficient Market Hypothesis: A survey

R. N. Agarwal, 1997. Foreign Portfolio Investment In Some Developing Countries: A Study of Determinants and Macroeconomic Impact," Indian Economic Review, Department of Economics

Lipsey. R. G (1995), "*An introduction to positive economics*" 3rd Edition. William Chowses and Sons ltd.

S.Schoeffler, Buzzell R and Heany D (1974), The Profit Impact of Marketing Strategy, Harvard Business Review, March-April 1974.

Morelli D (2002) The relationship between Conditional Stock Market Volatility and Conditional Macroeconomic Volatility Empirical Data based on UK Data, International Review of Financial Analysis

Ross Stephen A. (1976) "The Arbitrage Theory of Capital Asset Pricing", Journal of Economic Theory.

Kaul G (1987) " Stock returns and Inflation : The role of the money sector" Journal of Financial Economics.

Fama E (1970), Efficient Capital Markets: A review of Theory and imperical Work. Journal of Finance.

Deaton A, (1989), Saving in Developing Countries: Theory and Review; Journal of Public Economics.

Demetrides, P and Khaled, H, 1996. Does Financial Development cause Economic Growth?Time series evidence from 16 countries. Journal of Development Economics.

Merton R (1973). Theory of Rational Option Pricing. Bell of Journal Economics and Management Science.

APPENDICES

Year	Stock Market Indices	Interest Rates (%)	Exchange Rates against the US dollar	GDP Growth Rates (%)	Money Supply (K' Million)	Index of Industrial Production
1998	158.85	37.4	2.26	2.6	197	75.9
1999	181.43	42.8	2.58	2.9	251	66.5
2000	305.28	37.5	4.08	3.0	331	100
2001	303.41	48.7	3.79	3.1	432	105.1
2002	334.75	36.0	4.70	3.3	481	103.0

2003	431.97	15.8	4.54	5.1	671	113.0
2004	765.75	18.3	4.62	5.0	829	122.9
2005	1240.22	35.0	4.81	6.9	964	133.2
2006	1837.61	29.0	3.60	7.9	1226	144.7
2007	3533.52	25.0	4.00	8.4	1515	153.6
2008	2505.88	26.7	4.88	7.8	1934	161.2
2009	2794.89	29.2	4.67	9.2	2001	171.0
2010	2143.95	26.4	4.74	10.3	2750	187.5
2011	2504.99	24.0	5.12	6.0	3408	198.0
2012	2367.97	16.1	5.21	7.6	3843	208.0
2013	3368.71	16.4	5.54	5.1	4601	222.0
2014	4710.24	20.5	6.46	5.0	5728	220.0
2015	3224.82	25.8	10.84	3.2	6450	215.7
2016	2252.04	29.5	9.84	3.4	6554	218.7
2017	3224.82	26.5	10.0	4.0	7315	223.9
2018	2834.73	30.1	10.50	1.4	7561	232.2
2019	2513.34	32.3	12.5	-3.0	7800	200.4
2020	2900.04	30.35	11.67	2.8	7621	210.8
2021	2834.76	29.3	10.48	2.0	7302	213.8