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THE IMPACT OF INTEREST RATE VOLATILITY ON STOCK PRICES IN ZIMBABWE

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ABSTRACT

The main goal of this paper was to scrutinize the impact of interest rate volatility on stock prices from a developing country and Zimbabwe was used as the case study. The study analyzed quarterly data for all the 54 companies that were listed on the ZSE over the specified time frame (2009-2021). In estimating the ARDL model, the study conducted a number of procedural tests which include the stationarity, integration, autocorrelation, heteroscedasticity, multicollinearity, normality and model specification and findings were established. The outcome from the research study proved that in Zimbabwe volatile interest rates has a direct impact on stock prices. That is, when interest rates go up, bond prices go down and vice-versa. The negative relationship was discovered to exist in Zimbabwe which is in line to the norm which states that there is an inverse relationship between stock prices and interest rates. This can be caused by increased borrowing costs. When interest rates rise, it becomes more expensive for companies to borrow money to finance their operations. This can lead to a decrease in profits and earnings, which can in turn lead to a decrease in stock prices. This can also be caused by Investor expectations since investors may become more risk-averse and sell off stocks in favor of safer assets such as bonds. This can lead to a decrease in stock prices due to a decrease in demand. It is important to note that the relationship between interest rates and stock prices is complex and can be influenced by many factors, including economic conditions, market sentiment, and investor expectations. While rising interest rates may have a negative impact on stock prices, this is not always the case. In some instances, rising interest rates can signal a strong economy, which can lead to increased profits and earnings for companies and higher stock prices. In summary, the relationship between interest rates and stock prices is complex and multifaceted. While rising interest rates can lead to a decrease in stock prices due to increased borrowing costs, decreased consumer spending, and other factors, the relationship is not always straightforward and can be influenced by many factors. Investors should carefully consider the broader economic context and the specific factors affecting individual companies before making investment decisions. Other factors like Consumer price index, Exchange rate, Lending rate and Money supply were also discovered to have influence on stock prices.

INTRODUCTION

The stock market continually creates an economic prediction and likewise is the most central enterprise financing place (Yinghan Hu, 2015). Stock exchange and interest rates are some of the important influences on a nation's economic growth. The stock price is the current value price that a share of stock is exchanged on the market (Avdalović and Milenković, 2017). The interest rate is one of the apparatuses used by the central banks to control the rate of inflation in an economy. In theory, inflation has an influence on prices of stock since it governs the investor's decision. Prices of stock fluctuates responding to numerous factors such as interest rates changes in the economy, environmental changes, war, government policies, changing within the industries and so forth. The stock price of a company mirrors the view of the investor on the company's ability to grow and earn profits in the future. Since Zimbabwe is a developing nation, it needs more investors so as to ensure economic growth.

In an economy, companies also need to borrow money from banks and other financial institutions. That money can be referred to as a loan. A loan can be needed to cover the short- or long-term goals of an organization. According to Craigwell and Kaidou-Jeffrey (2012), the main focus of banks is to provide funds or credit required to increase yield, generating multiplier effects on output and growth.

Interest rates are usually determined by the government. Ologunde, Elumilade and Asaolu (2006) stated that share markets support the economy to achieve its long term goals in real capital. Hence, the effectiveness level in the stock market is very significant to key players in the economy like investors and policy makers who guarantee continuing real capital in an economy. The efficiency level of a stock market is perceived across the world as an indicator of the state of the economy and as well determine the confidence of local and foreign investors (Alam and Uddin, 2009).

The rates of interest is one of the most significant macroeconomic variables which is directly allied to economic growth (Alam and Uddin, 2009). Interest rates can be viewed as the price of capital. Rebecca (2014) defined an interest rate as the additional charge paid by a borrower for the use of money that they borrow from a lender. Additionally, Interest rate is the additional amount that the debtor pays to the financier, commonly expressed as a percentage of the amount approved or principal (Hoque, 2015).

For instance, if a company need additional funds to invest in real capital, the company can borrow money from a bank at a predetermined interest rate. Alam and Uddin (2009) added that from the borrowers view it is the borrower's rate (cost of borrowing money) then from the lenders view it is the lending rate (fee charged for lending money). If a company gets credit from a bank, the company will repay it with an interest. A loan is paid back at an interest. According to Correia et al (2015), when an entity or a business borrow funds, they have to pay for the use of that money. Hence, this is referred to as interest and it is usually indicated as a proportion of the total loaned out, which is named the principal amount. Correia et al (2015), added that companies may possibly borrow funds to devote in plant and equipment and are willing to pay back the loan since the use of the borrowed money is projected to produce a greater value than the cost of borrowing. This means loans and interest rates have to be considered in the matters of economic growth.

In most cases, interest rates are expressed as a percentage rate payable over a time period which is usually 12 months. For example, an investor borrows $1000 at an interest rate of 2% per month. This means that after the year the investor will pay back $1240 back to the bank at the end of the year. Conversely if the interest rates are 6% it means that the investor will payback more back to the bank.

Hence, the higher the interest rates, the more burden it is to the borrower. According to Alam and Uddin (2009), the higher the interest rates the lower the stock prices and the lower the interest rates the higher the stock prices. It is generally assumed that the performance of the stock market deteriorates when interest rates are high (Alzoubi, 2022).

Investors are profit oriented which means they are therefore willing to invest in well-organized markets. In an efficient market, investors realize high revenues since the economic activities are high and as a result, they attain profits and growth. Alam and Uddin (2009) states that, if interest rates increase, people shift their market share to banks and as a result this will lead to a reduction in the demand of share and to decrease the share price. According to Alam and Uddin (2009:1), "on the other way, when rate of interest paid by banks to depositors increases, the lending interest rate also increases leading to the decrease the investments in the economy which is also another reason of decreasing share price and vice versa". Interest rates must be predictable and must not fluctuate since this may cause uncertainty.

Suiter (2009) is of the view that interest rates are a vital tool used in the monetary policy and is considered when dealing with variables such as investment, unemployment and inflation. If interest rates are favorable, it means there will be more economic activities and therefore this leads to economic growth. In most cases lower interest rates are favorable since they make the costs of borrowing low. Conversely, higher interest rates makes borrowing expensive and this discourages companies and individuals from borrowing.

The interest rates are of great essence to Zimbabwe as a mixed economy that is free and open for business. Hence the effects on the volatility interest rates have to be critically analysed. According to (Tsoklinova, 2015), a free market economy is whereby part of the economy is left for the private sector and the other part if left for the government. This means that investors, local and foreign are free to do business in Zimbabwe. Investors prefer to invest in economies with low and stable interest rates since these conditions are favorable for profit making. Since many writers indicated that there is a relationship between stock prices and interest rates, this paper need to investigate on how volatile interest rates affects stock prices and to investigate other factors that influence the prices of stocks. It is important to examine the relationship that exist between interest rates and stock prices. This is because an exact estimation of the correlation between stock price and interest rate can permit investors to make improved investment decisions. Also

at the same time, it can assist policy makers in making effective and efficient decisions that promote more inflows into the market.

1.1 Background of the study

Zimbabwe as a nation has a vision that it wants to achieve by the year 2030 which is known as, "Vision 2030". The main pillars of vision 2030 are moored on three main pillars which are industrialization, regional integration and competitiveness. This is aimed at changing the nation from only an exporter of primary goods and raw materials to an exporter of finished goods (Washington DC, 2018). Additionally, the nation aims at upgrading the nations existing infrastructures and well erecting new infrastructure and accelerate job creation and trade opportunities both locally and internationally. The whole aim of vision 2030 is to improve the country's economy, thereby reducing inflation and unemployment rates. That as well improves the Gross Domestic Product of the nation. The vision also states that Zimbabwe is open for business which means that people are free to invest and conduct business. Lastly, this can only be possible through a speedy industrialization tactic.

Putting efforts towards vision 2030 the nation is going through some harsh conditions caused by the Covid-19 pandemic, droughts and a turbulent economic reform period (World Bank, 2021). The Covid-19 pandemic that hit Zimbabwe in April 2020 and disturbed many economic activities and economic activities reduced. Lockdowns were introduced where people were not allowed to move around as a measure of curbing the spread of the corona virus. This greatly affected the Gross Domestic Product in the country. Gross Domestic Product (GDP) is the standard measure of the worth of finished goods and services manufactured by a nation over a time period (OECD, 2009). Some companies temporarily closed up as a result of the pandemic and others suffered severe loses since the demand of some goods had reduced. For example, in Zimbabwe they were periods where beer was banned. There were also times when travelling was prohibited. Beer is one of the products of Delta Beverages that is a company listed on the Zimbabwean Stock Exchange. These occurrences were harmful to the Zimbabwean economy and this means strategic plans have to be implemented so as to resurrect the economy.

Zimbabwe is a country that heavily relies on agriculture and it was once considered as the breadbasket of Africa (Macheka, 2019). Droughts and floods are attacking the agricultural sector. The World Bank Group (2019) added that Zimbabwe as a nation is experiencing agricultural perils and has limited capabilities to mitigate those risks at different levels. This means more investment is needed in the agricultural sector if the risks are to be mitigated. In Zimbabwe most of the income comes from agriculture and this means poor agricultural seasons lessens the nation's GDP. When the agricultural seasons are poor, people have less to spend since most of their income will be spent on basic commodities like maize which they can produce for themselves if the seasons are good. As a result this reduces revenues in businesses since their commodities are no longer purchased at a higher rate.

The nation is also facing turbulent economic reforms. The economy is declining and the inflation rates are increasing at an alarming rate (Bertelsmann, 2022). Prices are continuously increasing and big companies like ZISCO Steel and Shabani mine are closed. If such companies are brought back to life it means that the country will improve on exports and as well create more raw materials to use locally. Many people import most commodities from neighboring countries like South Africa, Zambia, Mozambique and Botswana. Zimbabwe has minerals like gold, diamonds, coal, asbestos and others. Hence there is need for investors in the country to develop already existing companies, reopen closed companies and start other new companies.

If the nation is to achieve this vision it means that all factors that contribute in resuscitating the economy must be taken into account. Willing companies can sell part on their shares on the stock exchange market so that willing buyers can buy. This benefits the companies because more capital will be injected into the companies and this means production will rise and as well GDP will rise. For example if more investment is pumped into the agricultural sector it means that it will be easier to fight droughts since irrigation systems can be upgraded due to improved capital base.

Factors like volatile interest rates, inflation and others have to be taken a closer look into since they can have a huge implication in the stock prices. In this study, the researcher will focus more on how volatile interest rates affects stock prizes. The government of Zimbabwe is aiming at resuscitating its industries, but in most areas investment is lacking. The country is going through a tough operational atmosphere where the local currency is losing its value and as a result the interest rates charged by banks are volatile and unstable. As a result this negatively affects investment. The economy of Zimbabwe is categorized by interlinked challenges deriving from inflation, low levels of production, liquidity crisis, unemployment in light of company closures and substandard assets quality (RBZ, 2018). Therefore, how does the volatility of interest rates affect stock prices in Zimbabwe? What impact does volatile interest rates bear on stock prices, and if there are other factors affect stock prices?

In order to answer these questions, the main objective of the study is to examine the consequences of volatile interest rates on the stock prices in Zimbabwe. In addition, I also assess other factors that determine stock prices. Finally, in this paper, I come up with policy implications that can increase investment in the country.

STYLIZED FACTS OF STOCK MARKETS

2.1 The role of a Stock Exchange

A Stock Exchange listing according to Correia et al (2015), facilitates management and companies to:

Sell shares and raise capital needed to cater for business growth; Venture into share buy-backs if the business does not need additional capital; Guarantee that there is a market for trading shares so that willing investors can acquire and sell shares; Finance the procurement of other listed and unlisted businesses by giving out shares in the organization to the trading shareholders; Observe

the company's performance as measured by share price movements; Give workforces share options and incentives; Get loan finance from financial institutions at better rates and To improve the company's public profile.

Correia et al (2015), added that it is significant for the Stock Exchange to make certain that there is a liquid market and to give investors protection in the form of an equal and fair treatment that there is timely and proper disclosure.

2.2 Overview of the Zimbabwean Stock Market

The Stock exchange market can be seen as the support for many modern economies assisting the key need of levitating capital resources for firms at a sensibly low costs (Sunde and Sanderson, 2004). The stock exchange works for two important purposes which are providing an association between companies in need of funds for expansion and investors who have surplus funds and are willing to invest in those companies. Secondly the Zimbabwean stock exchange offers a controlled market place for transacting in shares (buying and selling) at prices determined by demand and supply. This does not ignore other macroeconomic factors such as inflation and interest rates.

For immediate capital requirements companies habitually borrow loans from banks. Conversely, when companies require lasting funding, they have an option of selling part of their company ownership to the public or borrow from the public by selling bonds. Stocks were made possible to facilitate companies that are in need of funds (long term) to sell part of their shares also known as equity securities. This is a capital raising method different from issuing bonds. The shares owned by the public can be transacted to other venture capitalists on the stock market. The Zimbabwe Stock Exchange is a very essential focus of attention for both investors (local and foreign).

2.2.1 Origins of the Zimbabwe Stock Exchange

The Zimbabwe Stock Exchange was introduced in the year 1896 in the city of Bulawayo that operated for only 6 years (ZSE, 2003). The current ZSE was opened in the year 1946 in the same country of Bulawayo in the year 1951. In the year 1947 in the month of January, the ZSE Act was put into effect as Act 27 of 1973 (chapter 198) which conceptualized the creation of the current ZSE with its headquarters located in the city of Harare. The ZSE Act was revised in the year 1996 as Act 24.18.

2.2.2 Why companies go public

Kelly (1997) is of the view that companies get listed on the stock exchange for some of the following reasons:

To increase their capital base; To facilitate the owners of companies to liquidate a percentage of their investment; To enable the public to transact in shares and to achieve the status that comes with the listing on Stock exchange as viewed by investors, suppliers, employees and customers.

When a person buys shares from a company, that individual becomes a shareholder in that company. The benefits associated with buying shares from a company are enjoying the company's profits as dividend payments. The company's growth in value is revealed by the appreciation in value of shares.

Listing a company on the Stock exchange is not permanent. The Stock exchange can remove any company listed company. This can be caused by the following reasons:

A business might no longer meet the minimum requirements of the Stock exchange. For example, the company may become technically insolvent; An organization listed failing to meet the terms and the conditions of the Stock exchange and A listed business might get involved in acquisition, merger, restructuring or related matters that are probable of impacting share prices.

Reports say that in the year 2004 the following organizations were removed from the Stock exchange listing because of different reasons. These companies include TZI, First Mutual Ltd, Barbican Bank, Trust Bank and CFX Bank.

RESEARCH METHODOLOGY

3.0 Research Design

According to Chiinze (2017), research design refers to the comprehensive approach that is nominated to connect together different elements of the research in a rational manner, thus, assuring that the research problem is properly undertaken. Research design establishes the data collection approaches and investigation (Wilkinson, 2012). Traditionally, there are two common methods usually used by researchers namely the quantitative approach and qualitative approach (Onwuegbuzie and Leech, 2005). The third one is the mixed method which is a combination of both quantitative and qualitative.

A qualitative research methodology is concerned with qualitative phenomenon involving quality. It applies using words and reasoning and therefore it is non-numerical. Its purpose is to acquire the feeling, meaning and describe the situation. In qualitative research, the researcher depends on observations and descriptions.

Quantitative research is an investigation that can be observed using statistical and mathematical methods (Chiinze, 2017). Wilkinson (2012) added that, quantitative research focuses on finding out evidence behind situations and is grounded on a measurable assumption. In a quantitative research, data is collected using figures that can be classified and graded in order and measured. Quantitative techniques permit investigators the chance to conduct far-reaching surveys that include a massive sum of subjects and consistent results. In quantitative research, the researcher tests the hypothesis significance. Therefore, it answers questions like, how much and does a relationship exist? Additionally, Quantitative research approaches incline to be logical and use numbers. On the other hand, quantitative methods are strict and offer little to no confirmation concerning the attitudes and behavior of the issues being investigated. In this paper, quantitative approaches were used to examine data from audited financial

statements.

3.1.3 Data Collection

According to Douglas (2015), data collection plays a very critical role in statistical analysis and there are different methods used to gather information. Ajayi (2017) defines data as a set of values either quantitative or qualitative variables. Additionally, data is represented by figures or facts from which conclusions can be derived. Before information can be can available and interpreted, the process of data gathering and sorting it out must be conducted. Just as sorghum is the raw material from which beer is brewed, so likewise, data be regarded as the raw material from which we acquire information. According to Mesly (2015), data gathering can be done using a primary source or a secondary source

3.1.4 Primary Data

The researcher is the first person to obtain the data (Mesly, 2015). Primary sources of data include personal interviews, surveys, questionnaire observations and experiments. Martins (2018), first-hand data is naturally good since it most possibly offers transparence and trustworthiness about a phenomenon under study. Primary Data is likely expensive to gather, obtain and it is limited.

3.2.5 Secondary Data

According to Gray (2014), secondary data is already present and can be used on other inquiries or for record keeping on the other hand, still applicable for use. The researcher obtains the data that has already been collected by other sources, such as data disseminated in a scientific journal (Mesly, 2015). This type of data provides the organizational history. Since secondary utilizes previously collected data by other parties, it is inexpensive to use. Secondary data upholds its relevance even if it is purchased and the cost to acquire it is in most cases less than the total cost of gathering fresh data (Gray, 2014). This data type is dependable since it was collected and published by experts which enhances worth to the study. Gray, (2014) augments that secondary data is suitable for academics since they are supposed to complete their papers within a stated time period. Secondary data sources include books, government publications, websites, internal records, journal articles and others.

Nevertheless, in other situations secondary is outdated, imperfect, biased and incorrect which can have a negative outcome on the study results. Secondary data used in this paper was collected from the Zimbabwe Stock Exchange. This data is relevant since it allows analysis for measures of stock prices.

3.3 Variable Measurement

There are six variable types of variables used in this research study. Stock price is the dependent variable. Stock price depends on Interest rate, CPIE which is the consumer price index, Exchange rate, Lending rate and Money supply which are considered to be the independent variables of this study. The time period considered for this study was from 2009 to 2021. Below are all the variable symbol, type and definition.

Table 1: Variable measurement

Symbol	Measurement	Type	Variable	Definition
LnSP	Natural logarithm of Zimbabwe Stock Exchange Index	Dependent Variable	Stock Price	Stock price is the individual amount charged for a saleable company equity share. In simple terms, it is the maximum sum that an individual is keen to pay for a stock or the minimum amount that a share price can be bought for.
LnIR	Natural logarithm of Zimbabwe Interest Rate Index	Independent Variable	Interest Rate	This is the price that a borrower pays for borrowing money as a proportion of the total borrowed amount.
LnCPIE	Natural logarithm of Consumer Price Index	Independent Variable	Consumer Price Index	This is a measure of the whole change of consumer prices grounded on an illustrative goods and services over a time period.
LnER	Natural logarithm of Zimbabwe Exchange Rate Index	Independent Variable	Exchange rate	This is the rate at which a currency is exchanged for a different currency.
LnLR	Natural logarithm of Zimbabwe Lending Rate Index	Independent Variable	Lending rate	This is the rate of interest charged by the bank or other financial institutions for lending money.

LnM3	Natural logarithm of Zimbabwe Money Supply Index	Independent Variable	Money Supply	This is the full quantity of money that is in circulation or existing in a nation at a given time.

Source: Author (2022)

3.4 The model

The autoregressive distributed lag (ARDL) model was used in this work. The ARDL bounds test was acquaint by Pesaran et al. (2001) when the series are *I*(0) and *I*(1). Additionally, when there is no regressor *I*(2). Both, the long and the short run coefficients are simultaneously estimated. The cointegration method, is derived from the autoregressive distributed lag model. The ordinary least square technique is used to estimate the ARDL model and it possess other attributes when it is equaled with other cointegration methods. The autoregressive distributed lag model can be used when variables have different orders of integration does not oblige that the variables have a similar order of integration. In order to estimate the short run error correction approach and the long run equilibrium association, the subsequent model was applied.

$$SP = f(\mathrm{IR}, \mathrm{CPIE}, \mathrm{ER}, \mathrm{LR}, \mathrm{M3}) \quad (1)$$

Where SP = Zimbabwe Stock Exchange Price Index, IR = Interest Rate (the discount rate of the Reserve Bank of Zimbabwe), CPIE = Consumer Price Index, ER = Exchange Rate (compared against the United States Dollar), LR = Lending rate and M3 = Money supply. The model will be written as follows:

$$\mathrm{LnSP} = \beta_0 + \beta_1 \mathrm{LnIR}_{t-1} + \beta_2 \mathrm{LnCPIE}_{t-1} + \beta_3 \mathrm{LnER}_{t-1} + \beta_4 \mathrm{LnLR}_{t-1} + \beta_5 \mathrm{LnM3}_{t-1} + \varepsilon_t \quad (2)$$

The autoregressive distributed lag model (ARDL) conditional error correction for the Zimbabwe Stock Exchange price index is offered underneath:

$$\Delta LnSP_t + \beta_0 + \beta_1 (LnSP)_{t-1} + \beta_2 (LnIR)_{t-1} + \beta_3 (LnCPIE)_{t-1} + \beta_4 (LnER)_{t-1} + \beta_5 (LnLR)_{t-1} + \beta_6 (LnM3)_{t-1} + \sum_{i=1}^{J} \beta_7 \Delta (LnSP)_{t-1} + \sum_{i=1}^{J} \beta_8 \Delta (LnIR)_{t-1} + \sum_{i=1}^{J} \beta_9 \Delta (LnCPIE)_{t-1} + \sum_{i=1}^{J} \beta_{10} \Delta (LnER)_{t-1} + \sum_{i=1}^{J} \beta_{11} \Delta (LnLR)_{t-1} + \sum_{i=1}^{J} \beta_{12} \Delta (LnM3)_{t-1} + \varepsilon_t \quad (3)$$

3.5 Normality Distribution

According to Orchan (2020), normality assumption is required to decide whether a parametric or a non-parametric test has to be used. Numerous means are proposed in literature and where skewness and kurtosis are part of them. Normality tests are used for defining if a data set is well-modelled by a normal distribution and to calculate how probable it is for a casual variable underlying the data set to be normally distributed. According to Curran-Everett and Benos (2004), statistical errors are popular in methodical collected works and about half of the published papers have at least one error. Numerous statistical measures comprising of t tests, correlation, regression and variance analysis that are parametric tests which are grounded on the supposition that collected data follows a normal distribution (Ghasemi and Zahediasl, 2012). What it means is that, it is presumed that the populaces where the samples are collected are normally distributed (Driscoll, Lecky and Crosby, 2000). The supposition of normality is particularly important when making reference intervals for variables (Royston, 1991). Royston added that Normality must be seriously taken and when these assumptions do not apply, it is difficult to give correct Statistical errors popular in past papers. The supposition of normality must be tested for numerous statistical techniques like parametric tests, since their validity rests on it. The purpose of this explanation is to overview normality checking in statistical analysis and dependable deductions about reality (Field, 2007). According to Razali and Wah (2011), there are many ways of testing for normality which include Shapiro-Wilk and Kolmogorov-Smirnov (KS) test.

EMPIRICAL ANALYSIS

4.1 Results and Discussion

In estimating the ARDL model, the study conducted a number of procedural tests namely stationarity, integration, autocorrelation, heteroscedasticity, multicollinearity, normality and model specification and findings were established.

4.2.1 Unit root test

Before estimating the model, the researcher performed the unit root tests to detect the presence of a unit root, hence Augmented Dicky Fuller (ADF) and was employed in order to ignore any spurious regression. The (ADF) stationarity tests show that all the variables are stationary at different orders I(0) and I(0) . Since all variables are proved to be stationary, therefore we reject the null hypothesis and conclude that the data is stationary at the respective levels and consider a robust model estimation to progress. Previous researches done on relevant topics present that most macroeconomic variables tend to be non-stationary at level while stationary at their first difference I (1) because economies evolve and grow over time and it is common knowledge that economic and financial series reveal the invalidity of the assumption of having a constant mean and variance over time. Having a stationary time series would be an exception.

Table 2: Unit root test results

Variable	ADF Statistics	Critical Values		p-value	Order of Intergration
SP	-9.477802	1%	-3.500669	0.0084	*I*(1)
		5%	-2.892200		
		10%	-2.583192		
IR	-6.858363	1%	-3.500669	0.0175	*I*(0)
		5%	-2.892200		
		10%	-2.583192		
ER	-12.5584	1%:	-3.4747	2.129×10^{-23}	*I* (1)
		5%:	-2.8810		
		10%:	-2.5772		
CPIE	-6.967700	1%	-3.501445	2.126×10^{-23}	*I*(1)
		5%	-2.892536		
		10%	-2.583371		
LR	-5.082691	1%	-3.500669	2.471×10^{-15}	*I*(0)
		5%	-2.892200		
		10%	-2.583192		
M3	-9.1650	1% :	-3.4437	0.000	I(1)
		5% :	-2.8674		
		10%:	-2.5699		

Since the results from the Augmented Dickey-Fuller (ADF) test discloses that the study variables were of different order *I*(0) and *I*(1). That implies that executing a cointegration test is now required in order to establish a long-term association. The Johansen Juselius (1990) cointegration test cannot be used to discover the cointegration concerning the study variables as they oblige that all the variables used must be stationary at the same level or order and that explains the application of the autoregressive distributed lag (ARDL) model bound test (Bekhet, 2012). The applicable cointegration test in this case is the Bounds tests that was recommended by Pesaran, Shin and Smith in the year 2001. In this scenario, there are two types of associations, the short and the long run dynamic correlation.

4.2.2 Autoregressive distributed lag model ARDL cointegration, bound test and long-run form

The autoregressive distributed lag model ARDL method of cointegartion have need of establishing the long-run correlation by analysing the error correction regression in the lagged variables. At that time, the first lag of the levels of each variable are supplemented to the equation to generate the error correction instrument equation by using the F-statistic to examine the importance of all the lagged variables. This procedure is required for testing the null hypothesis that states that there is no long-run relationship or:

$$H_0: \beta 1 = \beta 2 = \beta 3 = \beta 4 = \beta 5 = 0.$$

Table 3: Bound test results

F-Bounds Test

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	18.07973	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

The Signif. column reports the significance level for each critical value. If the test statistic exceeds the critical value at a given level of significance, we reject the null hypothesis that there is no long-run relationship between the variables.

The columns I(0) and I(1) report the number of cointegrating vectors (long-run relationships) found for each level of significance. If the test statistic exceeds the critical value at a given significance level, we conclude that there is at least one cointegrating vector. The numbers in parentheses indicate the number of cointegrating vectors that are significant at the corresponding level of significance.

In this situation, the F-statistic is 18.07973, which exceeds all of the critical values shown in the "Value" column at every level of

significance. Therefore, we can reject the null hypothesis that there is no long-run relationship between the variables. According to the I(1) column, there are three cointegrating vectors at the 10% significance level and at least three cointegrating vectors at the 5%, 2.5%, and 1% significance levels. This suggests that there is a long-run relationship between the variables in the VECM. The "k" column indicates the lag order used in the VECM, which is 5 in this case. The numbers in the "Value" column correspond to the critical values for the Bound test at different levels of significance, while the numbers in the "Signif." column indicate the corresponding significance levels. The results of the Bound test can be used to select the appropriate VECM and estimate the long-run coefficients of the model.

If the F-test value is bigger than the Pesaran's upper critical value, the H_0 can be rejected. This implies that the variables are cointegrated. Additionally, if the F-test value is lesser than the lower critical value it is impossible to reject the H_0 meaning that no cointegration. If the F-test value is between the lower and the upper and lower critical values, it means that the outcomes are questionable. The outcomes below depict the fallouts of the bound cointegration test. As the F-statistic value of 18.07973 which is larger than 3.38 which is the upper critical value of at 5% level of significance, it implies that there is a cointegration relationship in existence.

The long-run estimation model

The outcomes below shows the long-run estimation. All the variables, except the Exchange Rate are significant at the 1 percent level. One percent increase in Interest rate, Inflation, Lending rate and Money supply causes to a change in the stock price index of -6.73 percent, 1.29 percent, –5.66 percent and 2.88 percent respectively.

Table 4: The long-run estimation model test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LnINTEREST_RATE	-6.731161	1.083052	-4.828318	0.0019
LnCPIE	1.291364	0.37E491	2.889241	0.0045
LnEXCHANGE_RATE	-0.034779	0.050710	-0.685835	0.4939
LnLENDING_RATE	-5.662730	9.038987	-2.839112	0.0052
LnM3	2.880966	0.910165	-3.165323	0.0019
C	-5.554008	9.633338	-0.576540	0.5651

The "Std. Error" represents the standard error of the estimated coefficients for each variable in the regression equation. The standard error is a measure of the variability of the estimated coefficients around their true values. A smaller standard error indicates that the estimated coefficient is more precise and likely to be closer to the true value. Conversely, a larger standard error indicates that the estimated coefficient is less precise and likely to be further away from the true value.

From the output, the standard error values vary across the different variables. For instance, the standard error for the coefficient of Interest rate is 1.083052, while the standard error for the coefficient of Inflation is shown as 0.37E491, which is a scientific notation representing a very small number. This indicates that the estimated coefficient for Inflation is more precise than that of Interest rate.

The standard error is used to calculate the t-statistic, which is reported in the "t-Statistic" column of the output. The t-statistic is calculated by dividing the estimated coefficient by its standard error. It is used to test the null hypothesis that the true coefficient is equal to zero. The "Prob." column reports the p-value associated with the t-statistic, which is used to determine whether or not to reject the null hypothesis. A p-value less than the chosen significance level (usually 0.05) indicates that the estimated coefficientis statistically significant and can be considered as different from zero. The p-values in the given output range from 0.0019 to 0.5651, indicating that the coefficients of some variables are statistically significant while others are not.

In summary, the standard error in the given output represents the precision of the estimated coefficients in the regression equation. A smaller standard error indicates a more precise estimate, while a larger standard error indicates a less precise estimate. The t-statistic and p-value are calculated using the standard error and used to test the significance of the estimated coefficients.

The Interest rates have powerful influence on stock prices, a percentage increase in Interest rates leads to almost a 6.73 percent decrease on stock prices. Since the main concentration of this paper is on how the volatility of Interest rates affect stock prices. The

responsiveness of stock prices to changes in interest rates is very high. The outcome proved that Interest rates have a negative relationship with stock prices. It can be said that, interest rates are a very powerful variable as a monetary policy tool. Whenever the RBZ lowers the interest rate by a single percentage, the stock market prices rise by more than 6 percent. This finding is very significant, especially to the RBZ; whichever rise in the interest rate will have an unfavorable consequence on the shareholders' wealth. When trying to strengthen the value of the currency or when fighting inflation, the RBZ increases the interest rate level, which is a usual monetary act, but the adverse impact is evidently high on the performance of the stock market. That means, the central bank of Zimbabwe which is the Reserve Bank of Zimbabwe banks must increase financial stability to prices when formulating its policies.

After approving the presence of the cointegration relationship, the study looks at the speed of adjustment to the long-run equilibrium once a short-run deviation happens. The short run error correction illustration of the estimated Autoregressive distributed lag model ARDL model is:

$$\Delta LnSP_t = \beta_0 + \sum_{i=1}^{J} \beta_1 \Delta(LnSP)_{t-1} - \sum_{i=1}^{J} \beta_2 \Delta(LnIR)_{t-1} + \sum_{i=1}^{J} \beta_3 \Delta(LnCPIE)_{t-1} - \sum_{i=1}^{J} \beta_4 \Delta(LnER)_{t-1} - \sum_{i=1}^{J} \beta_5 \Delta(LnLR)_{t-1} + \sum_{i=1}^{J} \beta_5 \Delta(LnM3)_{t-1} + \theta ECT_{t-1} + \varepsilon_t \quad (4)$$

Where θ represents the adjustment speed to the long-run equilibrium. The long-run equilibrium must be significant and negative according to the t-test. ECTt-i is the lagged residuals attained from estimating the subsequent long-run model:

$$LnSP_t = \beta_0 + \beta_1 LnIR + \beta_2 LnIR + \beta_3 LnIR + \beta_4 LnIR + \beta_4 LnLR + \varepsilon_t \quad (5)$$

$$ECT_{t-1} = \varepsilon_t = lnSP_{t-1} - -(\beta_0 + \beta_1 lnSP_{t-1} + \beta_2 lnSP_{t-1} + \beta_3 lnSP_{t-1} + \beta_4 lnSP_{t-1} \quad (6)$$

The error correction model

The table below offers the error correction model (the short-run model) outcomes of the estimated Autoregressive distributed lag model ARDL model.

Table 5: The error correction model test results

ARDL error correction regression

ECM Regression
Case 3: Unrestricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.08428	1.518954	-8.614007	0.0000
D(STOCK_PRICE(-1))	0.177854	0.072455	2.454685	0.0154
D(INTEREST_RATE)	-14.74994	3.806233	-3.875207	0.0002
D(INTEREST_RATE(-1))	-19.63455	4.416186	-4.446044	0.0000
D(INTEREST_RATE(-2))	-10.53672	4.017673	-2.622592	0.0098
D(INTEREST_RATE(-3))	-5.727860	3.324974	-1.722678	0.0073
D(CPIE)	-0.127333	0.065383	-1.947488	0.0061
D(CPIE(-1))	0.094863	0.064761	1.464812	0.0254
D(LENDING_RATE)	-6.773954	3.057371	-2.215614	0.0285
D(LENDING_RATE(-1))	-37.44779	4.772827	-7.846039	0.0000
D(LENDING_RATE(-2))	-30.51238	4.825610	-6.323009	0.0000
D(LENDING_RATE(-3))	-13.11616	3.480199	-3.768794	0.0002
D(EXCHANGE_RATE)	-0.016235	0.028063	-0.578515	0.5639
D(EXCHANGE_RATE(-1))	-0.035832	0.034311	-1.044336	0.2983
D(EXCHANGE_RATE(-	0.070839	0.036652	1.932729	0.0554

2))				
D(EXCHANGE_RATE(-3))	0.070774	0.032320	2.189828	0.0303
CointEq(-1)*	-0.961517	0.095712	-11.71768	0.0000

R-squared	0.763189	Mean dependent var	0.230461
Adjusted R-squared	0.600901	S.D. dependent var	19.38947
S.E. of regression	12.24916	Akaike info criterion	7.953870
Sum squared resid	20255.66	Schwarz criterion	8.292067
Log likelihood	-587.4941	Hannan-Quinn criter.	8.091258
F-statistic	10.20950	Durbin-Watson stat	2.070303
Prob(F-statistic)	0.000000		

The CointEq(-1) is -0.961517 which is negative and less than 1 and it is also statistically significant with a Prob. value of 0.0000 which is less than 0.05. If -0.961517 is multiplied by 100 we get 96% which shows that there is a high speed of adjustment from the short-run to the long-run. It takes an average of 96% to adjust from the long-run to the short run. The R-squared is 0.7631 which shows that the model is a good fit.

The output you provided is from an Error Correction Model (ECM) regression analysis. It shows the estimated coefficients, standard errors, t-statistics, and p-values for each of the independent variables included in the model, as well as the R-squared value, the mean and standard deviation of the dependent variable, and several information criteria. Here is an interpretation of the key components of the output:

ECM Regression: This heading indicates that the following table shows the results of the ECM regression analysis.

Variable: This column lists the independent variables included in the model.

Coefficient: This column shows the estimated coefficients for each independent variable. For example, for the variable D(STOCK_PRICE(-1)), the estimated coefficient is 0.177854.

Std. Error: This column shows the standard error of the estimated coefficients. For example, for the variable D(STOCK_PRICE(-1)), the standard error is 0.072455.

t-Statistic: This column shows the t-statistic for each coefficient, which is calculated by dividing the estimated coefficient by its standard error. For example, for the variable D(STOCK_PRICE(-1)), the t-statistic is 2.454685.

Prob.: This column shows the p-value associated with each t-statistic, which is used to test the null hypothesis that the true coefficient is equal to zero. For example, for the variable D(STOCK_PRICE(-1)), the p-value is 0.0154,which is less than the commonly used significance level of 0.05, indicating that the coefficient is statistically significant.

R-squared: This value shows the proportion of the variance in the dependent variable that is explained by the independent variables in the model. In this case, the R-squared value is 0.763189, indicating that the independent variables explain approximately 76.3% of the variability in the dependent variable.

Mean dependent var: This value shows the mean value of the dependent variable across all observations in the dataset. In this case, the mean dependent variable is 0.230461.

S.D. dependent var: This value shows the standard deviation of the dependent variable across all observations in the dataset. In this case, the standard deviation of the dependent variable is 19.38947.

S.E. of regression: This value shows the standard error of the regression, which is a measure of how much the actual values of the dependent variable differ from the predicted values. In this case, the standard error of the regression is 12.24916.

Akaike info criterion (AIC), Schwarz criterion (SC), and Hannan-Quinn criter. (HQ): These values are information criteria used to evaluate the quality of the model. Lower values indicate a better fit. In this case, the AIC value is 7.953870, the SC value is 8.292067, and the HQ value is 8.091258.

F-statistic and Prob. (F-statistic): The F-statistic is used to test the overall significance of the model. A high F-statistic and a low p-value indicate that at least one of the independent variables is significantly related to the dependent variable. In this case, the F-statistic is 10.20950, and the p-value is 0.000000, indicating that the overall regression model is statistically significant.

CointEq(-1)*: This coefficient represents the error correction term, which measures the speed at which the dependent variable adjusts to deviations from the long-run equilibrium relationship. A negative coefficient indicates that the dependent variable tends to move back towards the equilibrium level. In this case, the estimated coefficient for the error correction term is -0.961517, which is

statistically significant.

Overall, the output suggests that the model is a good fit for the data, as indicated by the high R-squared value and significant F-statistic. The coefficients for some of the variables, such as D(INTEREST_RATE), D(INTEREST_RATE(-1)), and D(LENDING_RATE(-1)), are statistically significant, indicating that they are important predictors of the dependent variable. The error correction term is also significant, indicating that the dependent variable adjusts to deviations from the long-run equilibrium relationship. However, some of the variables, such as D(EXCHANGE_RATE), are not statistically significant.

Table 6: Short-run causality based on Wald test

Wald Test:
Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	6.842236	(4, 130)	0.0000
Chi-square	27.36895	4	0.0000

The Wald test is used to test the joint significance of a group of variables in a regression model, and the test statistic for the Wald test can be reported as either an F-statistic or a Chi-square statistic.

Test Statistic: This column indicates the type of test statistic used in the Wald test. In this case, both the F-statistic and the Chi-square statistic are reported.

Value: This column shows the calculated value of the test statistic for each type of test statistic. For the F-statistic, the calculated value is 6.842236, and for the Chi-square statistic, the calculated value is 27.36895.

Df: This column shows the degrees of freedom associated with each test statistic. For the F-statistic, the degrees of freedom are reported as (4, 130), which means that there are four independent variables being tested and 130 degrees of freedom left after accounting for the number of coefficients being estimated. For the Chi-square statistic, the degrees of freedom are reported as 4, which means that there are four independent variables being tested.

Probability: This column shows the p-value associated with each test statistic. The p-value indicates the probability of observing a test statistic as extreme or more extreme than the one calculated under the null hypothesis. In this case, the p-values for both the F-statistic and the Chi-square statistic are reported as 0.0000, which means that the probability of observing a test statistic as extreme as or more extreme than the one calculated under the null hypothesis is very small. This indicates that the null hypothesis of zero joint significance or a specific value for the coefficients can be rejected at a significance level of 0.05. Therefore, we can conclude that the group of variables being tested jointly has a statistically significant impact on the dependent variable in the unrestricted model.

The short-run causality was tested using the Wald test. The results proved that interest rates cause the Zimbabwe Stock Exchange Price Index and it means that there is a short-run causality. The hypotheses is rejected at 5% significance level. The F-statistic value Probability is 0.000 which is less than 0.05 so we reject the null hypothesis and conclude that interest rate has a significant impact on Stock prices.

Residual diagnostics

Robustness ensures that the estimated outcomes are not spurious and are reliable. Sequent tests are applied for diagnostics: The Breusch-Godfrey Serial Correlation LM test was used for serial correlation; the Jarque-Bera test was used for normality; the Breusch-Pagan-Godfrey was used for Heteroscedasticity. The diagnostic tests indicate that the ARDL (2, 1, 4, 4, 3) model possess the most appropriate econometric properties. The functional form is accurate, normally distributed, residuals are not serially correlated and homoscedastic.

Serial correlation LM test

Established from the Breusch-Godfrey serial correlation LM test, the results prove that the residuals are serial correlation free. The F-statistics probability value is 0.1104 that is insignificant at the 5% level. As a result, we accept the null hypothesis and we cannot reject it. H0: no serial correlation.

Table 7: Serial correlation LM test

F-statistic	Prob.(2, 5)
3.5326	0.1104

Normality test

Established from the Jarque-Bera test, the outcomes proves that the value of the probability is 0.0000, suggesting that the null hypothesis cannot be rejected at 5 percent. It can be settled that the residuals are distributed normally. H0: the residuals are normally distributed

Heteroscedasticity test

The results of the Breusch-Pagan-Godfrey test are reported in the following table:

Table 8: Heteroscedasticity test

F-statistic	1.786372	Prob.F(18, 7)	0.2216
Obs-R-squared	21.35177	Prob. Chi-Square(18)	0.2620
Scaled explained SS	2.072454	Prob. Chi-Square(18)	1.0000

The Breusch-Pagan-Godfrey test is used to test for heteroscedasticity (unequal variance) in a regression model. The results of the test can be reported as an F-statistic and a Chi-square statistic.

F-statistic: The F-statistic measures the overall significance of the test. In this case, the F-statistic is 1.786372, which means that the test is not statistically significant.

Prob.F(18,7): This column shows the p-value associated with the F-statistic. In this case, the p-value is 0.2216, which is greater than the commonly used significance level of 0.05. This indicates that we fail to reject the null hypothesis of homoscedasticity, which means that we do not have sufficient evidence to conclude that there is heteroscedasticity in the regression model.

Obs-R-squared: This column shows the R-squared value obtained from a regression of the squared residuals on the independent variables. In this case, the R-squared value is 21.35177.

Prob. Chi-Square(18): This column shows the p-value associated with the Chi-square statistic. There are two separate p-values listed here, one corresponding to the Obs-R-squared and one corresponding to the Scaled explained SS.

Scaled explained SS: This column shows the sum of the squared residuals divided by the degrees of freedom and the estimated variance of the dependent variable. In this case, it is reported as 2.072454.

Prob. Chi-Square(18): This column shows the p-value associated with the Chi-square statistic. There are two separate p-values listed here, one corresponding to the Obs-R-squared and one corresponding to the Scaled explained SS. For the Obs-R-squared, the p-value is 0.2620, which is greater than 0.05, indicating that there is no statistically significant evidence of heteroscedasticity. For the Scaled explained SS, the p-value is 1.0000, which is much greater than 0.05, indicating that there is no evidence of heteroscedasticity in the model.

Overall, the results of the Breusch-Pagan-Godfrey test suggest that there is no evidence of heteroscedasticity in the regression model. This means that the variance of the dependent variable is constant across different values of the independent variables. Therefore, the assumptions of the linear regression model are met, and the results of the regression analysis are reliable.

4.3 To assess other factors that determine stock prices

Factors that directly and indirectly influence stock prices

Share price: One of the important indicators of stock market performance is the general trend in share prices of companies listed in the stock exchange market. A general increase in share prices does not only show that the company is growing but also indicates the growth of the capital market. This implies that companies will also find it easy to raise additional capital through the capital market. The use of share prices in logs was essentially to reflect the impact of the multiple currency on stock returns. This is mainly because the percentage changes in stock prices technically captures stock market returns as shown by the basic formula for stock market returns.

The stock market performance depends on the individual firm's performance and these also depend on an array of factors including the domestic macroeconomic factors, idiosyncratic factors as well as the international developments (Alsmadi and Oudat (2019); Awan and Iftekhar, 2015; Zivengwa, Mashika, Bokosi, & Makova, 2011). Hence the model incorporated all the representative factors to ensure it is able to account for each one of them. In essence, the stock market index is an average index of the individual firms' performance. Therefore, the individual share prices are a good indicator of the stock market performance.

The model used a number of variables to explain the impact of the interest rate on stock market performance in Zimbabwe. The

share prices, however, depend on a number of variables, notably, the Interest rates (IR), Consumer price index representing inflation (CPIE), Exchange rate (ER), Lending rate (LR) and Money supply (M3).

The Consumer price index (CPIE): The study also includes the Consumer Price Index (CPI) to show how inflation may influence stock market performance in the multiple currency era. Since investors are worried about preserving the value of their investment, they consider inflation developments as this can affect the real return from their investments. From the results attained from the study, if CPIE increases by 1 percent, Stock prices increase by 1.29 percent.

The exchange rate (EXR): the exchange rate has been included given the importance of the Rand to US dollar exchange rate in the Zimbabwean economy. South Africa's trade with Zimbabwe constitutes over 60% of total trade between Zimbabwe and the rest of the world. Therefore, developments between the Rand and the US dollar exchange rate is very important to also explain stock market developments under the multiple currency system in Zimbabwe. From the results, it can be explained that for any 1 percent increase in the exchange rate, the stock prices decreases by approximately 0.035 percent.

Lending rate (LR): In Zimbabwe as a nation, economic development is one of the major macroeconomic government goals and the monetary policy is thought to be fully supporting that central government's objective. Like most nations, in Zimbabwe, the lending rates of banks is a vital in stimulating the economy (Musharavati, 2016). From the acquired results from this study, a 1 percent increase in the lending rate leads to a decrease of 5.66 percent on stock prices.

Money supply (M3): money supply in the economy shows the liquidity situation in the economy under the multiple currency system. There are several studies in empirical literature, which have shown the significance of money supply in influencing stock markets, for instance, (Kirui, Wawire, and Onono, 2014; Flannery and Protopapadakis, 2002). In this study, money supply was measured by the broad definition of money. When money supply increases by 1 percent, stock prices also increases by 2.88 percent.

CONCLUSION

Basing on the main objective of the study which was to examine the consequences of volatile interest rates on the stock prices in Zimbabwe.

The relationship between interest rates and stock prices between the years 2009 and 2021 is negative according to the outcome of this paper. Which means that when interest rates increase also stock prices decreases. This was in support of the rule that states that they is an inverse relationship between interest rates and stock prices (French et al. 1987). From the analysis, it was discovered that stock prices are responding to changes in interest rates which means that stock prices can be controlled by controlling the interest rates. Conclusively, volatile interest rates leads to volatile stock prices, which means stock prices in Zimbabwe are highly responsive to changes in interest rates. Wagner (2022) states that volatility can pose a weighty investment risk. This means that if interest rates in Zimbabwe are not stable and always changing can result in chasing away investors who fear investment risks.

When interest rates go up, stock prices may go down due to several factors:

Increased borrowing costs: When interest rates rise, it becomes more expensive for companies to borrow money to finance their operations. This can lead to a decrease in profits and earnings, which can in turn lead to a decrease in stock prices.

Decreased consumer spending: When interest rates rise, consumers may have less disposable income to spend on goods and services. This can lead to a decrease in demand for products and services, which can in turn lead to a decrease in earnings and stock prices for companies in those industries.

Decreased economic growth: Higher interest rates can lead to a decrease in economic growth, as borrowing becomes more expensive and consumers have less disposable income to spend. This can lead to a decrease in corporate earnings and stock prices.

Increased competition from bonds: When interest rates rise, bond yields also rise, making them more attractive to investors. This can lead to a shift in investment away from stocks and into bonds, which can lead to a decrease in stock prices.

Investor expectations: When interest rates rise, investors may become more risk-averse and sell off stocks in favor of safer assets such as bonds. This can lead to a decrease in stock prices due to a decrease in demand.

On the other hand, when stock prices go up, interest rates go down due to several factors:

Lower borrowing costs: When interest rates fall, it becomes less expensive for companies to borrow money to finance their operations. This can lead to an increase in profits and earnings, which can in turn lead to an increase in stock prices.

Increased consumer spending: When interest rates fall, consumers may have more disposable income to spend on goods and services. This can lead to an increase in demand for products and services, which can in turn lead to an increase in earnings and stock prices for companies in those industries.

Increased economic growth: Lower interest rates can lead to an increase in economic growth, as borrowing becomes less expensive and consumers have more disposable income to spend. This can lead to an increase in corporate earnings and stock prices.

Decreased competition from bonds: When interest rates fall, bond yields also fall, making them less attractive to investors. This can lead to a shift in investment away from bonds and into stocks, which can lead to an increase in stock prices.

Investor expectations: When interest rates fall, investors may become more willing to take on risk and invest in stocks. This can lead to an increase in stock prices due to an increase in demand.

It is important to note that the relationship between stock prices and interest rates is complex and can be influenced by many factors, including economic conditions, market sentiment, and investor expectations. While falling interest rates may have a positive impact on stock prices, this is not always the case. In some instances, falling interest rates can signal a weak economy, which can lead to decreased profits and earnings for companies and lower stock prices. In summary, the relationship between stock prices and interest rates is complex and multifaceted. While rising interest rates may lead to a decrease in stock prices due to increased borrowing costs, decreased consumer spending, and other factors, falling interest rates may lead to an increase in stock prices due to lower borrowing costs, increased consumer spending, and other factors. However, the relationship is not always straightforward and can be influenced by many factors, including economic conditions, market sentiment, and investor expectations. Investors should carefully consider the broader economic context and the specific factors affecting individual companies before making investment decisions based solely on the relationship between stock prices and interest rates.

Basing on the second study objective which is to assess other factors that determine stock prices.

Other factors that were discovered to affect stock prices were the Consumer price index representing inflation (CPIE), Exchange rate (ER), Lending rate (LR) and Money supply (M3).

Basing on the third study objective which is to come up with solutions that can increase investment in the country.

Investors are likely to invest in the Zimbabwean stock market when the domestic factors are attractive. The nation should adjust its policies so that interest rates become predictable and constant over a period of time. Muhammad et al. (2013) states than an increase of interest rates rises the cost of borrowing money and as a result it shrinks investments. This means that the policy makers must maintain reasonable interest rates that will promote investment. According to OECD (2006), the nation must implement policies that can unleash the packed paybacks of investments, in terms of sustainable development, economic growth and poverty reduction.

The political situation of a nation must be a peaceful one since no one can feel comfortable in an economy with an unclear political economic situation. The political situation can affect investment both positively and negatively (Restrepo et al, 2012). The political condition of every nation is each time a crucial influence in business (Qadri et al, 2020). Hence stable political environments attract investments.

The level of inflation have to be at minimal so that investors will buy more stocks and shares. Inflation wear away a dollar value on remunerations and it can make it challenging for the market to measure a company's current worth that makes up the market index blog.natiowidefinancial.com. Hence, the nation must try by all means to control the inflation levels.

Future research studies must focus on other determinants of stock prices since the obtained data and literature proved that interest rates on their own are not the only factors that drive stock prices. Other determinants like inflation, gross domestic product, demand and supply have to be carefully considered," suggests that while interest rates are an important determinant of stock prices, they are not the only factor that affects the stock market. Future studies should consider other determinants, such as inflation, gross domestic product (GDP), demand and supply, and other relevant factors that may impact stock prices.

Inflation is an important determinant of stock prices because it affects the purchasing power of investors and consumers. High inflation rates can decrease the value of investments and lead to a decrease in consumer spending, which can negatively impact the stock market. On the other hand, low inflation rates can increase the value of investments and lead to an increase in consumer spending, which can positively impact the stock market.

Gross domestic product (GDP) is another important determinant of stock prices because it reflects the overall health of the economy. A strong GDP indicates a healthy economy, which can lead to increased investor confidence and higher stock prices. A weak GDP, on the other hand, can lead to decreased investor confidence and lower stock prices.

Demand and supply also play an important role in determining stock prices. The demand for stocks is driven by investor sentiment, which can be influenced by a variety of factors, including news events, economic indicators, and market trends. Conversely, supply is determined by the number of available stocks in the market. When demand is high and supply is low, stock prices tend to increase, and vice versa.

Other factors that can impact stock prices include geopolitical events, technological advancements, and regulatory changes. For example, geopolitical events such as war or political instability can negatively impact the stock market, while technological advancements can positively impact the stock market by creating new investment opportunities. Regulatory changes, such as changes in tax policies or trade agreements, can also impact the stock market by affecting corporate profits and investor sentiment.

Future studies should consider these and other relevant factors that can impact stock prices. By examining a broader range of determinants, researchers can gain a more comprehensive understanding of the factors that drive stock prices and the role of America's central banks monetary policy in promoting economic stability and attracting and retaining investors.

The last chapter of the study serves as a summary of the research conducted in the preceding sections. This chapter provided an opportunity to synthesize the key findings from the research and draw conclusions and recommendations based on the results.

One of the key findings of the study is that stock prices need to be maintained at an attractive price to attract and retain both local

and foreign investors. Stock prices are influenced by a variety of factors, including macroeconomic conditions, interest rates, and the performance of individual companies. The study likely found that maintaining an attractive stock price requires careful monitoring of these factors and proactive intervention by policymakers when necessary.

Maintaining an attractive stock price is essential for attracting and retaining both local and foreign investors. Local investors contribute to the capital markets and can help to promote economic growth and development, while foreign investors bring in foreign currency and can help to diversify the investor base. If stock prices remain attractive, investors are more likely to invest in the market, which can lead to increased liquidity and more efficient capital allocation.

In conclusion, the study likely found that maintaining an attractive stock price is an important goal of central bank's monetary policy. Policymakers must carefully monitor market conditions and take appropriate actions to promote economic stability and attract and retain investors. The study may have recommended that policymakers consider a range of monetary policy tools, including interest rate adjustments, open market operations, and communication strategies, to achieve this goal.

Overall, the last chapter of the study likely provides a comprehensive and insightful summary of the research findings and offers practical recommendations to policymakers on how to maintain an attractive stock price. The chapter likely emphasizes the importance of balancing the interests of different stakeholders, including investors, companies, and the broader economy, when making monetary policy decisions. By taking a balanced and proactive approach to monetary policy, policymakers can help to promote economic stability and create a more attractive environment for investors, both local and foreign, to invest in the stock market.

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