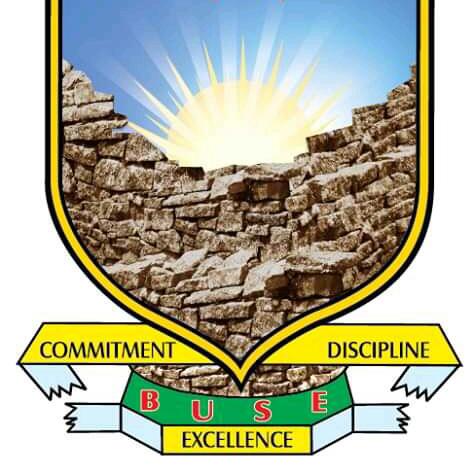
**BINDURA UNIVERSITY OF SCIENCE EDUCATION**

**Faculty of Commerce**

**Department of Accountancy**



**The impact of exchange rates volatility on profitability of retail organizations in Zimbabwe (Case of OK Zimbabwe)**

**STUDENT NUMBER: B191589B**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF ACCOUNTANCY HONOURS DEGREE OF BINDURA UNIVERSITY OF SCIENCE EDUCATION**

**JUNE 2023**

# **Release form**

Author : B191589B

Project Tittle: **The impact of exchange rate volatility on profitability in retail organisations (Case of Ok Zimbabwe) (2011-2021).**

The BUSE library is hereby authorized to print one-off copies of this project and to distribute or sell such copies solely for scholarly or scientific research purposes. Without the author's permission, neither the project nor lengthy excerpts from it may be printed or otherwise reproduced.

PROGRAMME FOR BACHELOR OF ACCOUNTANCY HONOURS

WHICH PROJECT DEGREE (Bacc)

SIGNED

PERMANENT ADDRESS: MAPFUNDE PRIMARY SCHOOL Q 7700 BOX

MUTARE

# **Approval form**

The undersigned certify that he has supervised the student **B19I589B** with a dissertation entitled **the impact of exchange rate volatility on retail business performance (A case of Ok Zimbabwe: 2011 to 2021)** submitted in Partial fulfilment of the requirements of the Bachelor of Accountancy Honours Degree (Back) at Bindura University of Science Education.

………………………………/…………… …………/…………………..

Student Signature Date

………………………………/…………… …………/…………………..

Supervisor Signature Date

…….…………………………/…………… …………/…………………..

Chairperson Signature Date

………………………………/…………… …………/…………………..

External Examiner Signature Date

# **Declaration Form**

I, B191589B, hereby certify that this project is a unique work of mine that has never been published or presented to another college or university.

Signed…………………………….. Date……………………………………………….

Registration number …………………………………………………………………….

Physical address…………………………………………………………………………

…………………………………………………………………………………………..

# **Dedication**

To those that initiated my existence on earth, In Loving Memory of My revered and adorable parents (The fountain of Wisdom), I would like to dedicate this research study to them for foreseeing the vision before becoming a reality. May their souls rest in eternal peace. I would also like to dedicate this research study to my only supportive biological brother (The origin of all inspirations).

# **Abstract**

Empirically investigating the impact of exchange rate volatility on profitability of retail businesses (Case of Ok Zimbabwe) will assist the retail industry in strategizing ways to counter challenges imposed by volatility in exchange rate. This study covered a period of eleven years from 2011 to 2021 to determine the impact of exchange rate volatility on profitability performance of Ok Zimbabwe. Using time series data from the World Bank, Ok Zimbabwe and RBZ this study analysed the impact of exchange rate volatility on profitability performance in retail businesses (Case of Ok Zimbabwe). A Multiple regression analysis tool was computed in this research where the econometric model was estimated using E-views 7.1 package and ordinary least square (OLS) estimation method. The exchange rate was the independent variable of interest in this research. Interest rate and inflation are also other macroeconomic independent variables included in the model while profitability was the only dependent variable in this study. The findings showed that exchange rate is statistically significant in explaining profitability performance, over the period under study, there had a negative contribution to profitability performance with a 1% increase in exchange rate leads to US$71725.59 decrease in profit. Inflation also indicate a significant effect on profitability. Even though the business has a forward pricing approach but the results from regression on this research showed that the inflation rate has a negative relationship to profitability with a unit increase in inflation result in a decrease of USD$8562.062. The variable interest rate also showed significant negative impact on profitability. The results indicated that every unit increase in interest rate result in decrease in profit by US$517858.20 thereby having a negative impact with profit. It should be emphasized that the Zimbabwean government must adopt strategies to stabilize currency value. There should be industries and production in the nation so that the local currency’s purchasing power cannot be highly depending on its acceptance to other nations for imports. The retailers should also contribute on Value addition and beneficiation in order for them to maintain their competitiveness and fetch a higher price on the global market. The government of Zimbabwe should have strategies that convince investors to do business in Zimbabwe. This can be done by providing access to low- interest loans, grants and other financial incentives. This research did not cover other macroeconomic factors such as GDP, Tax policies and political influences on business performance therefore, future studies and look forward to research on those factors.

# **Acknowledgements**

I would like to humbly testify the immeasurable Love of God that have made me reach this far in Accounting profession. The journey was tough, thorny and bumpy, but His Will was Done to fulfil my Dreams. In Loving Memory of My deceased parents, I would like to deeply appreciate their importance to my existence. Special appreciation is dedicated to my biological brother, his practical Love, generosity, selfless and encouragements are Key Factors to my success. I would like to express my sincere gratitude to my employer OK ZIMBABWE LIMITED for promoting me to middle managerial post as well as granting me greater authority to utilize and share company information for the sake of learning. Exceptional appreciation is dedicated to my supervisor, for his unquestioned commitment in ensuring sufficient knowledge in the field of research. Truly his passion, desires, wishes, commitments to me constituted the precise Meaning of tangible Love.

I would like to applaud everyone who made an input throughout my degree program. I would like to mention and give thanks to my friend, who extended our friendship to relationship as he kept loyal, patient and helpful throughout the degree program. Kudos to Bacc class of 2023 for working with me and sharing their diverse knowledge with me. May God Bless everyone

**TABLE OF** **CONTENTS**

[**Release form** i](#_Toc138048423)

[**Approval form** ii](#_Toc138048424)

[**Declaration Form** iii](#_Toc138048425)

[**Dedication** iv](#_Toc138048426)

[**Abstract** v](#_Toc138048427)

[**Acknowledgements** vi](#_Toc138048428)

[**List of tables** ix](#_Toc138048429)

[**List of figures** ix](#_Toc138048430)

[**List of Appendices** x](#_Toc138048431)

[**List of abbreviations and acronym** xi](#_Toc138048432)

[**CHAPTER I** 1](#_Toc138048433)

[**INTRODUCTION** 1](#_Toc138048434)

[**1.0 Introduction** 1](#_Toc138048435)

[**1.1 Background of the study** 1](#_Toc138048436)

[**1.2 Statement of the problem** 4](#_Toc138048437)

[**1.3 Research Objectives** 4](#_Toc138048438)

[**1.4 Research Questions** 4](#_Toc138048439)

[**1.5 Significance of the study** 4](#_Toc138048440)

[**1.6 Scope/ Delimitation of the study** 5](#_Toc138048441)

[**1.7 Assumptions of the study** 5](#_Toc138048442)

[**1.8 Limitations of the research study** 6](#_Toc138048443)

[**1.9 Chapter summary** 6](#_Toc138048444)

[**CHAPTER 2** 7](#_Toc138048445)

[**LITERATURE REVIEW** 7](#_Toc138048446)

[**2.0 Introduction** 7](#_Toc138048447)

[**2.1 Theoretical Framework on Exchange rate** 7](#_Toc138048448)

[**2.3 CONCEPTUAL FRAMWORK** 14](#_Toc138048449)

[**2.4 Empirical Literature on exchange rate** 14](#_Toc138048450)

[**2.5 Gap analysis** 17](#_Toc138048451)

[**2.6 Chapter summary** 17](#_Toc138048452)

[**CHAPTER 3** 18](#_Toc138048453)

[**RESEARCH METHODOLOGY** 18](#_Toc138048454)

[**3.0 Introduction** 18](#_Toc138048455)

[**3.1 Theoretical Model** 18](#_Toc138048456)

[**3.2 Research philosophy and design** 19](#_Toc138048457)

[**3.3 Model specification** 19](#_Toc138048458)

[**3.4 Justification of Variables** 20](#_Toc138048459)

[**3.5 Estimation Method** 21](#_Toc138048460)

[**3.6 RELIABILITY** 21](#_Toc138048461)

[**3.7 Data presentation and analysis** 22](#_Toc138048462)

[**3.8 Ethical consideration** 23](#_Toc138048463)

[**3.9 Sources of Data** 23](#_Toc138048464)

[**3.2.0 Chapter summary** 24](#_Toc138048465)

[**CHAPTER 4** 25](#_Toc138048466)

[**PRESENTATION, ANAYSIS AND DISCUSSION** 25](#_Toc138048467)

[**4.0 Introduction** 25](#_Toc138048468)

[**4.2 Descriptive statistics** 25](#_Toc138048469)

[**4.4 The exchange rate movement from 2011 to 2021** 28](#_Toc138048470)

[**4.5 Presentation of the model** 30](#_Toc138048471)

[**4.6 Chapter summary** 31](#_Toc138048472)

[**CHAPTER 5** 33](#_Toc138048473)

[**SUMMARY, CONCLUSION AND RECOMMENDATION** 33](#_Toc138048474)

[**5.0 Introduction** 33](#_Toc138048475)

[**5.1 Summary** 33](#_Toc138048476)

[**5.2 Conclusion** 33](#_Toc138048477)

[**5.3 Recommendations** 34](#_Toc138048478)

[**References** 35](#_Toc138048479)

[**APPENDICES** 40](#_Toc138048480)

# **List of tables**

[**Table 1: Dataset used for performing analysis** 35](#_Toc137365851)

[**Table 2: Descriptive statistics** 36](#_Toc137365852)

[**Table 3: Multi-collinearity results** 37](#_Toc137365853)

[**Table 4: Heteroscedasticity results.** 37](#_Toc137365854)

[**Table 5: : Regression function for profit** 40](#_Toc137365855)

# **List of figures**

[**Figure 1:Conceptual Framework** 26](#_Toc137367083)

[**Figure 2: Histogram for normality test** 38](#_Toc137367084)

[**Figure 3: The trend analysis of OK Zimbabwe’s profits performance from 2011 to 2021** 39](#_Toc137367085)

[**Figure 4: The trend movement of exchange rate from 2011 to 2021** 40](#_Toc137367086)

# **List of Appendices**

[**Appendix 1: Dataset used** 38](#_Toc137883813)

[**Appendix 2: descriptive statistics results** 39](#_Toc137883814)

[**Appendix 3: Heteroscedasticity results** 40](#_Toc137883815)

[**Appendix 4: Multi-collinearity results** 41](#_Toc137883816)

[**Appendix 5: Normality results** 42](#_Toc137883817)

[**Appendix 6: Regression results** 43](#_Toc137883818)

# 

# **List of abbreviations and acronym**

OLS Ordinary Least Squares

WB World Bank

BUSE Bindura University of Science Education

IMF International Monetary Fund

FDI Foreign Direct Investment

RGDP Real Gross Domestic Product

ADF Augmented Dick Fuller

CUSUM Cumulative- Sum - of -Residuals

JB Jarque Bera

BLUE Best Linear Unbiased Estimator

DW Durbin Watson

GCF Gross Capital Formation

VAR Vector Autoregressive Model

IMPO Imports

EXPO Exports

ARDL Autoregressive Distributed Lag

USD United States Dollar

ZAR South African Rand

ZWL Zimbabwean Dollar

ROI Return on investment

# **CHAPTER I**

# **INTRODUCTION**

# **1.0 Introduction**

This research relates to an analysis on how exchange rates impact business performance in volatile environment (A case of Supermarket Zimbabwe). This chapter intends to provide history of the study, problem statement, objectives of the research, questions of the research, assumption of the research, its significance, delimitations, limitations and a brief overview of the chapter.

# **1.1 Background of the study**

On the market for foreign exchange, one currency can be exchanged to another currency and the price or ratio at which currencies are exchanged is known as rate of exchange. Price is the value or amount of money attached to a service or product, which a supplier wants to receive in exchange of the service or products (Julie Meahan, et al 2011). Cost is simply defined as the amount paid in return for a service rendered or product acquired (Steveen M. Bragg, 2019). Exchange rate is utilized for the purpose of doing a secondary check on the ratio of one currency in relation to the other (Tung, 2019).

Across the globe, there has been a continued fluctuation of exchange rates since 2001 to date (Aaron O’Nell, 2022) Volatility and fluctuations in the rate of exchange had been significantly affect many economies in Asia, America, Europe and Africa. The global regions with the highest rates of exchange and inflation in 2015 were the middle east and north Africa, Venezuela and Ukraine (O’nell, 2015). As the economic issues progress in the developed countries of Europe and the Euro area, they set forth economic strategies to strengthen their economy ([www.statista.com](http://www.statista.com)).

Continued fluctuations in the rate of exchange has impact on the volume and direction of country’s performance in the international markets (Sebastian, 2017). The exchange rate is affected by a variety of factors, including cost of borrowing, inflation, political forces, and conditions of the economy in each country. ([www.aljezira.com](http://www.aljezira.com), 10 June 2020), Zimbabwe currency is under attack from businesses that are constantly increasing prices and this was part of a broad political plot against the government. Even though this may be the case as per political view but in real terms, the foreign exchange market is what establishes the rate of exchange for currencies. One's perspective on what the market anticipates is a significant factor in the determination of informal rates of exchange. Macroeconomic policy is a much more significant factor in determining the exchange rate. Performance of businesses is generally identified by their dominance in the market. For firms to remain competitive in the market, there is need for favourable prices and trading terms. The rates of exchange have significant impact on the cost and pricing decisions of organizations. Basically, there are several determinants of product pricing and cost decisions used in both non-profit and profit-making organisations. Some of the factors that influence pricing are demand levels, competitor’s prices and general cost of producing or acquiring the products ([www.bpp.co](http://www.bpp.co), 2021). Zimbabwe was significantly dependent on imports from its surrounding countries, particularly South Africa, Zambia and Botswana (Munyawiri, 2014).

With the accelerated inflation and volatility in the rates of exchange in Zimbabwe since 2001, companies stated to run huge accrued debts as they were failing to pay the employees, Procure fuel for production. ([www.economicshelp.org](http://www.economicshelp.org)) posited that, Zimbabwe had the second highest incident of hyperinflation in record with an average of 79 600 000% in November 2008 which constituted a daily inflation rate of 98% since prices were doubling or triplicate in a single day. Many large businesses like Dairyboard and Spar supermarkets closed down operations in some branches as they failed to manage cost and pricing of products during the era of mounting pressures on economic decisions.

A continued rapid decrease in ZWL value placed many business organizations in a complex time of deciding prices and controlling costs. Ultimately. Players from across the economy increasingly began to deal in foreign currency, although they did so in an unauthorized capacity (Chimombe, 2015). Even though the government was restricting supermarkets from using forex as the principal currency on pricing goods throughout years from 2005 to 2008, neither individuals nor businesses were able to conduct business in the nation's currency, and as a result, even public listed companies that are administered by the government were tempted to deal in foreign currency.

In the face of such an uncontrollable circumstance, responsible authorities for monetary policy were exhausted of ideas except to implement a multicurrency exchange rate regime in January 2009. As cited by Onekai Mafuramika 2012, The thriving businesses throughout the period 2000 to 2008 strengthened their existence when the country adopted a multi-currency system in January 2008 which revealed the sector’ enduring resilience to macro-economic stress and policy shift. The USD, ZAR and BWP are the three official currencies that are now in circulation. Even if the regime brought about a positive change on the economy at large, Zimbabwe still faced with challenge of rebuilding the economy, implementing and ensuring transparency in the control of government spending, eradicating poverty and create space for economic expansion. (Kramarenko et al. 2010)

After the implementation of the multicurrency regime in January 2009, the economy has experienced some degree of stability. Annual inflation or (Y.O.Y.) rate which was around 500 million percent hyperinflationary levels in December 2008, has plummeted to around -7.7 percent in by end of 2009. (ZIMSTAT, 2013). Some economists advocated for the ZAR to be used as Zimbabwean’s principle currency because South Africa and Zimbabwe were the closest partners in the business. Other economists, in contrast, argued that the USD should continue to serve as the primary currency because the South African economy was built on an unstable foundation.

The annual inflation which was recorded at 96% at opening of financial year for Ok Zimbabwe (2022 APRIL), rose to 280% by September 2022. The suppliers have provided much shortened trading terms with Ok Zimbabwe and in extreme cases they demand for prepayments for products purchased in zwl. The Manufacturers had been seen increasing their supplies to informal markets that are offering physical currency and forex rather than the formal retail channels where there is mandatory use of formal exchange rates that led to price premiums. The group has been placed to a stop supply by major suppliers such as colcom, Unileaver and Dairyboard due to disagreements in exchange rates and inflationary adjustment terms, (Ok Zimbabwe December 2021)

Basing on the daily operations reports (Ok Zimbabwe ltd) there is a continuous decline in the forex collection comparing last year same period of the month to current months. The capacity of formal businesses in collection of forexes is materially threatened by the money changers and money launders who used to stand by the walls of the shop in search of currency exchange with the customers of formal businesses. Massive decline in the volumetric sales of edible and non-edible groceries has been noticed since 2020 to date. Formal businesses like Ok Zimbabwe ltd has since been trying to equate their prices to those in the informal market but the problem arises on the rate of exchange used. A significant number of walking customers and corporates have switched their brand choices from formal businesses to informal competitors who are using parallel rate of exchange. The shortage of basic commodities on shelves has becoming a normal situation in large supermarkets since most suppliers are silently withdrawing their offers to small players in the market. Ok Zimbabwe break a record of delaying the payments to its major suppliers while the invoice prices are not adjusted for inflation. This is the major reason why companies like Dairyboard opted to ration their products in favour of those with the capacity to pay cash USD or zwl prepayments. Deterioration of the fruit and vegetable department has substantially grown since some vendors around the premises of the supermarket started to price their products in USD using a very high rate of exchange to other alternative currencies.

This makes it very evident that the economy can experience periods of deflation while simultaneously experiencing periods of broad price level increases. Since Zimbabwe started using various currencies with different rate of exchange, the cyclical pattern has been noticed on inflation, and this relational behavior has been allocated to variations in the ZWL/USD rate of exchange.

The continued instability and exchange rate volatility till 2021, Pricing decisions and cost management became a worrisome concern especially to publicly listed companies that are bound to comply with the government regulations. Most customers preferred alternative markets because they are pricing their products in forex terms at a very cheap and affordable levels. A significant number of suppliers are now opting to supply their products to individuals and SME who pays in forex. A number of employees and service providers are withdrawing their contracts from formal businesses and they opt for small players who are ready to deal in forex.

# **1.2 Statement of the problem**

Ok Zimbabwe ltd business is experiencing a very volatile business environment that is characterized by episodes of rampant exchange rates volatility that triggers up in high inflation. Instore pricing of products became very complex to execute due to mounting inflationary pressures and extreme exchange rates which has resulted in insistent operating profits from year to year 2011 to 2021. This research is therefore intending to determine an analysis on how exchange rate volatility is impacting performance of retail businesses (A case of Ok Zimbabwe).

# **1.3 Research Objectives**

**Primary objective**

The major intentions of this research are to determine the impacts of exchange rates on businesses performance (in terms of revenue, profit and volumetric). (A case of Ok Zimbabwe Supermarket).

The secondary objectives are as follows;

1. To investigate the effect of exchange rate volatility on profitability for OK Zimbabwe.
2. To ascertain the effect of other macroeconomic factors on profitability performance for OK Zimbabwe.
3. To give recommendations on the strategies which can be used by supermarkets to counter problems of exchange rate volatility.

# **1.4 Research Questions**

1. How exchange rate volatility does affect profitability performance for OK Zimbabwe?
2. How other macroeconomic factors affect profitability performance for OK Zimbabwe?
3. What are the strategies that can be used by supermarkets to counter problem of exchange rate volatility?

# **1.5 Significance of the study**

**1.5.1 To Ok Zimbabwe and other retailers**

The study might be useful to various academic and economic stakeholders. The research will give an outcome that will give other players in the market, an insight understands of managing businesses in the inflationary volatility economy. Since it aims to establish how fluctuations in exchange rates can impact profitability performance of businesses, it is of interest to the people who make pricing decisions in the organization

**1.5.2 To the university**

It is also of relevance to the institution since it may be utilised as the secondary sources in libraries, and from that material, researchers who will carry out research on similar fields might extract some knowledge to use in their projects.

**1.5.3 To the students**

Initially, the researcher will benefit academically from this study, as it will help him fulfil some of the requirements for the degree. This study will help other researchers acquire recent literature on topics such as determining the effects of rate of exchange pegs on prices, determining the effect of inflation on profitability or ascertaining the relationship between interest rates and profitability. All of these topics will be addressed in this study. The results of this study will be utilised as a foundation for additional research addressing the type and extent of the impacts of rates of exchange volatility to performance of business. In this sense, the findings of this study could be used as good reference to the next aspiring researchers. On broader view point, the information acquired in the course of this study may be of assistance to policymakers in the process of enacting legislation on rates of exchange pegs on macroeconomic activity in Zimbabwe.

# 

# **1.6 Scope/ Delimitation of the study**

The study relates to exchange rate volatility on profitability performance in retail businesses (A Case of Ok Zimbabwe). This is because the ZWL and other forex are the major currencies used in businesses in Zimbabwe currently. The information from 2011 up to 2021 has been used in this research because that is the period in which volatility and instability in the rates of exchange, inflation and interest have ever been noticed significantly.

# **1.7 Assumptions of the study**

**1.7.1 Bias**

Information used in this research will be nutrial, transparent and free from bias.

**1.7.2 Reliability**

Whatever facts and citations used will be having a genuine supporting ground and origin. The research is giving a faithful assurance to other aspiring researchers who may want to use this study in their researches that the data provided is original from authentic sources.

**1.7.3 Validity**

It is the assumption of the researcher that the results obtained from this study are relevant and consistent with the outcomes from other official findings.

# **1.8 Limitations of the research study**

The research is absolutely relying on secondary data, the data obtained might lack some relevant facts that would have been obtained on primary data. The research is based on the data that covers only eleven years from 2011 to 2021 thereby excluding other events that occurs beyond those years. The study is also limited to exchange rates, inflation and interest rates thereby not covering other macroeconomic factors and internal factors that affect profitability of retail businesses. Even though the research covers a wide range of years but the data was collected from Ok Zimbabwe only so the research findings might not precisely interpret performance of the whole sector. The study is limited to factors that are already in the previous literatures. It is important to consider that there might some additional factors affecting profitability of retail organisations.

# **1.9 Chapter summary**

This research relates to an analysis on how exchange rates impact business performance in volatile environment (A case of ok Zimbabwe supermarket). This chapter intended to provide history of the study, problem statement, objectives of the research, questions of the research, assumption of the research, its significance, delimitations, limitations and a brief overview of the chapter

# 

# **CHAPTER 2**

# **LITERATURE REVIEW**

# **2.0 Introduction**

This research relates to an analysis on the impacts of rates of exchange in inflationary environment (A case of OK Supermarket). This chapter shall present literature review of the study guided by objectives. The literature and researchers referenced in this research are the ones who had their interest in finding out the impacts of rate of exchange to various factors in the economy.

`

# **2.1 Theoretical Framework on Exchange rate**

The very real situation of Zimbabwean economy is that, currency availability determines the rate of exchange. The influential and ruling exchange rate is the one that is set by those with the forex for transactions. As of July 2022, the official bank rate steeply rises to $409.00 but generally we see people queued in the streets of black market to buy the usd at $580.00. Basing on observations in this research, the same movements being made by people from banks to streets is the same which they are taking from formal businesses like Ok Zimbabwe to informal black markets and general dealers. All is needed by customers is the availability of the product than price favourability. To look into the scenario a little bit, ratio of one currency in relation to another is known as rate of exchange (Mathias, 2015). It is the amount total value of local currency needed to purchase one currency of foreign markets. The real effective exchange rate (REER) is a key relative pricing that helps businesses decide how to allocate resources between product manufacturing and service delivery (Oskooee, Kutan & Xi, 2015). And the actual effective rate of exchange shows how the setup of the economy should respond to the outside environment. Since the real effective rate of exchange cannot be easily observed like the nominal rate of exchange, proper estimation methods must be used to get at it (Oskooee, Kutan & Xi, 2015).

The following are examples of the various exchange rate regimes: A system with a floating rate of exchange give the weight and worth to the currency in respect of the market demand (Tafa, 2015). Contrary to the set exchange rate, their worth is not based on anything intrinsic. However, there are economists who claim that the volatility behaviour is acceptable positively since it can better weather the effects of a worldwide problem and return to equilibrium more quickly. In exceptional economic events, like a recession or boom, the national Ok Zimbabwe may intervene to stabilise the currency (Smith, 2019). To keep exchange rates from going crazy, they may buy or sell a certain quantity of currency. The term "controlled float" is used to describe this occurrence. In this setup, the rates are computed by an internal system. In this way, there is little need for assistance from the government or global monetary organisations (Bhatti, 2019). Rates are best set by supply and demand, which improves both productivity and reliability. Rates in a floating system, which are set by market forces, are more subject to fluctuations. Foreign investors will have to pay a higher price to enter these markets due to the higher risk associated with their increased volatility (Mahmood, 2019).

The value of one currency is "pegged" to another currency or asset (often gold) by a mechanism known as "fixing" (Afshan, 2017). By being pegged to a stable currency, such a system ensures that exchange rates will remain consistent. As an added bonus, a stable currency system is safeguarded from inflation's wild swings. Denmark, Hong Kong, the Bahamas, and Saudi Arabia are just a few examples of countries that use a fixed rate system. Foreign investors are drawn to a country with a fixed exchange rate regime because of the predictability it provides (Piana, 2018). Such a system necessitates massive foreign exchange or gold reserves on the part of the government. This is clearly a very costly system (Perron, 2018).

Currency in a dual exchange rate system is valued at two different rates: one for use in international trade and another for use within the country (Smith, 2019). Countries making a change from one political system to another often adopt such a system. This ensures a trouble-free transition without major economic fallout. Countries that use a dual exchange rate system do so in order to regulate the flow of capital and the cost of goods and services imported and exported (Shin, 2019). As a result, the government has considerable sway and can shift its focus between capital and current revenues depending on the situation. Furthermore, domestic market protection and international trade regulation are simplified. However, failure to curb the problems with fluctuating rates of exchange and failure to distribute resources accurately in diverse sectors is possible under a dual exchange rate system. The parallel or informal markets, opportunities of arbitrage and continuous price increases are only some of the potential economic side effects of these factors (Acaravci, 2017).

**2.1.1 Demand pull theory**

Inflation is generally considered as the Persisting unchecked rise in the levels of general prices paid for services or for products which, in turn, has a negative impact on both the purchasing power capacity of the currency and economic growth rate in the economy given. The theory for demand pulls inflation stipulates that, when there is a rise in demand for services and physical commodities, the inflation will generally rise relative to the aggregated demand of those commodities. There are three distinct types of inflation A form of inflation known as ‘’creeping inflation’’ is an increase in prices that averages between 4% and 8% or between 1% and 6% in a course of an annual cycle. There is also severe or extreme inflation which is explained as a severe increase in general prices of commodities in the economy. This type of inflation is very severe in its nature and it takes between fifteen percent and twenty-five percent in an annual cycle. Finally, the hyperinflation which is characterized by rapid increase in prices and it ranges between 50% and above in a period of six months or less (Eiteman, 2017)

According to Arghyrou and Pourides,(2017), an increase in the rate of inflation lowers the value of domestic currency which has a direct influence that may triggers up the rate of exchange. The rate of inflation has a detrimental influence to the value of the currency RATE OF EXCHANGE (Necsulescu and Abanescu (2019). Many researchers have suggested that the rise in the rate of inflation will cause an increase in the local currency’s value but an increase in the rate of exchange will result in a loss of the domestic currency’s value. According to the research carried out by Abbas et al. (2019) pertaining to rates of exchange in the countries of African regions, the rate of inflation does not have a substantial influence to the currency rate of exchange

**2.1.2 Elasticity Theory**

The elasticity approach, according to Lesko and Muchova (2020), evaluates how exports and imports respond to changes in exchange rate. They found that the degree to which depreciation would increase is determined using this method. Locally manufactured products become less expensive than imported ones if the country’s currency depreciates. Ultimately, exports rise whilst imports fall down. If import demand is highly responsive to exchange rate fluctuations, a decline in domestic currency would result in an unjustified reduction in the nation’s import cost (Panshak,2019). The foreign exchange reserves of a country are influenced by its export’s capacity and imports demand. They stated that the net export decrease if there was an excess supply of foreign currency, whereas the net exports would decrease if there was an excess demand for foreign currency. The Marshal-Lerner criterion, which stipulates that the currency devaluation is likely to increase net exports if the sum of import and export elasticity is greater than the unit (Kumar, 2019). Currency depreciation is more likely to improve net exports (Kumar 2019). The currency devaluation can make imports cheaper than exports and this may cause a decline in net exports if the combined price elasticity of demand for both imports and exports are less than one. According to the Marshal-Lerner condition, devaluation can only improve exports if the total of demand for export and import elasticity exceed twelve. Ultimately, the elasticity for both exports and imports affect the direction of exchange rate (Acosta, 2018).

**2.1.3 Delayed Beneficial Effect or J-Curve Effect**

According to Onakoya and Johnson (2019), higher exchanges make domestic products more expensive to customers abroad. As a result,Onakoya and Johnson concluded that higher real exchange rates lead to a decline in the local business’ performance. Also, according to Onakoya and Johnson (2019), depreciation of currency increases net exports via the delayed positive or J-Curve effect. According to the delayed beneficial idea, prices and volumes are affected by depreciation within the first two-month (Qayyum, 2019) Lead to a decline in the nation’s export (X) volumes and an increase in import (IM) volumes. It takes some time for both consumers and businesses to switch from expensive to less expensive suppliers after price change. Consequently, a depreciation may cause the trade balance initially worsen as imports and exports gradually adjust to the change in exchange rate which causes a decline in net export NX=X-IM/). Additionally, according to Blanchard (2018), as time goes on, the influence of exchange rates to the relative costs of imports and exports get stronger. As a result, when real exchange rates degrade to the point where the cost of imports increases in domestic currency terms, the increased import cost would cause the demand for imports to decline, ultimately leading to an increase in net export. The increase in exports is known as the J-Curve effect or the delayed positive effect and may take six months to materialize (Joyce, 2018).

**2.1.4 Marshall Lerner Condition**

John David Pitchford (2011) carried a study on the impacts of exchange rates on economic performance. The Marshall Lerner condition demonstrates how real depreciation impacts net exports (EX) via three distinct routes (Dornbusch, 2019). The real depreciation makes domestic products affordable in other nations which raises demand for locally produced goods abroad and boost exports. Additionally, actual depreciation raises the price of imports in the country which reduces the need for imports. Finally, businesses and consumers turn to local goods which reduces the need for imports. However, this has been seriously condemned by Kai Choi (2018) in his study on the impacts of currency devaluation on performance of local businesses. In this study they concluded that currency depreciation is harmful always as it results in reduction of profits, exports and imports.

**2.1.5 The Purchasing Power Parity Theory**

Lawrence H.Officer (2007) amended his study on Exchange rate, Parity and market behaviour. The purchasing power parity hypothesis explains how the rate of exchange can derived from two currencies that cannot be exchanged (Jeanneney & Hua, 2016). Even though the idea can be traced back to Ricardo and Wheatley, Gustav Cassel has been given all the compliments for bringing it in a systematic approach. In reference to this theory, the rate of exchange that results in a condition of equilibrium is dependent on the degree to which the buying capacity of two different currencies are similar (Jeanneney & Hua, 2016). The principle of parity for buying power can be expressed in two different ways: (i) The Absolute Version and (ii) The Relative Version.

**2.1.6 The impact of exchange rate on imports and exports**

The value of returns on exports is very important to the functioning of various economies. A rise in the exports may result in an increase employment rate, increased profits, rise in productivity and an increase in the foreign reserve’s buffer, hence acts as an engine for economic expansion (Romer, 2019). However, expansion of exports is susceptible to both positive and negative influences from a variety of factors, rates of exchange being the crucial one of all these factors (Blanchard, 2018). Due to the influence that exchange rate strategies have on the choices made by businesses about their investments in an economy, macroeconomic analysts consider these strategies to be among the most important instruments available

Over the course of the last few decades, Zimbabwe has been seeing a precipitous fall in the level of economic activity. Because hyperinflation had rendered the country's native currency worthless, the government of Zimbabwe decided to adopt a multicurrency system in February 2009 as part of the temporary program for recovery. This was the first step in the country's economic recovery. The multicurrency system successfully put an end to hyperinflation as well as the devaluation of currencies, so setting the groundwork for the revival of economy. (Sloman, 2016) said that the nation that has uncertain rate of exchange is more likely to adopt multicurrency. As stated by Tulasombat (2015), the variations in currency rates have an effect on exports because they introduce uncertainty into the earnings from exports. As a result, risk-averse exporters will lower the quantity of goods they ship overseas. In spite of the growing number of researches, determining whether or not the change in exchange rate has a definite impact on exports remains an open and contentious subject.

**2.1.7 Impacts of exchange rate on inflation**

Gopinath (2020) contends in the international pricing system that there are significant regional differences in the relationship between exchange rates volatility and inflation. She examined data from 46 rich and developed countries and discovered that choice of the international pricing currency has significant, asymmetric implications on whether exchange rate variation is passed on to local prices (Chowdhury,2019). Gapinath’s main discovery is that the exchange rates swings will have a greater impact on inflation rates when a country conducts a significant portion of its trade in foreign currency. For instance, only 3% of Turkey’s imports are invoiced in the Turkish Lira (Bailliu, 2018). According to Gapinath’s calculations, when the lira depreciates by 10% in relation to Turkey’s trading partners’ currencies, import prices measured in lira rise by 9.3% after a quarter and by 10% after two years, demonstrating that the exchange rates fluctuation is completely passed through to prices. In contrast, 93% of import invoices from the US are in US dollars.

According to Gopinath (2020), the portion of American imports that are priced in foreign currencies likewise has a high pass-through rate, just as the whole basket of Turkish imports. Of course, if prices did not change, this will occur automatically. However, more significantly, it also applies to goods whose prices vary as a result of a shock to the exchange rate (Azid, 2019).

According to Gapinah (2020), the strong effects of currency denomination result from how expensive it is for business es to change their rates. She demonstrates how the denomination of the currency would not be matter if price adjustments were costless (Pourpourides, 2016). Yet, the current choice of exporting enterprises will depend on their own cost structures as well as the currency choices of other exporters when there are expenses associated with renegotiating prices. A company will be better able to control its relative price in the marketif it also prices its products in dollars if the majority of other exporters do. The results indicate that the dollar is likely to remain the dominating currency of international trade for the forceable future in the absence of coordinated international action (Algieri, 2019)

**2.1.8 Impacts of exchange rate on cost and consumption**

It has been suggested that the exchange rate also affects consumption in the same way. Although a country’s local currency depreciation increases exports and makes it less competitive, it also has some impact on consumption (Ayaz, 2018).Because of the inflationary consequences of depreciation, the income of workers with high marginal propensity to consume (MPC) is transferred to the producer with low MPC , which theoretically result in in a reduction in consumption. If a particular local currency gain value, it would be easier to buy goods from abroad. In this case, purchasing and investing in foreign goods becomes affordable which suggests that the volume of overseas consumption may rise. Domestic consumption is projected to decline as imported products consumption rises.

**2.1.9 Investigating the impact of exchange rate volatility on profitability performance**

Ofori et al (2021) studied on the effects of exchange rate volatility on tax revenue performance in Sub-Sahara. They used panel data to analyse the time series data for the 21 countries for a period of thirty-three years from 1984 to 2017. The results indicated that the volatility in exchange rate has a direct negative impact on revenue performance.

On the same vein, Rutto (2020) on his study about the effects of exchange rate on tax revenue performance in Kenya. The study used annual time series data for the period of fifteen years up to 2018 from 2003. The study also used regression and correlation as research design. The exchange rate was the explanatory variable on which the results indicated that there was an inverse relationship between exchange rate and tax revenue performance in Kenya.

Gumbo Lilian et al. (2022) conducted a similar research on which the results established that there is a significant negative relationship between exchange rates and bank’s profitability.

**2.2.0 To ascertain the impacts of exchange rate volatility on profitability performance**

Jeevitha et al. (2019) concluded that there is an insignificant negative relationship between inflation and banks profitability. The study rewed that the interest rates have a positive impact on bank profitability because it is one of its revenue sources.

In the same vein, Khan and Sattar (2014), the study on effect of interest rate on bank profitability established a strong and positive relationship.

Onwuka et al. (2020) researched about the effects of exchange rate volatility on manufacturing sector performance in Nigeria. The study adopted a vector Autoregressive model (VAR) to estimate the impacts. The study covered a greater period from 1981 to 2018 and it concluded that there is a significant negative relationship between Unit output and exchange rate volatility. Every unit increase in exchange rate would lead to a significant decline in the aggregate units of production.

Mugozhi et al (2020) in their study on the impact of exchange rate fluctuations on business performance of Delta beverages. Results showed that that production output of Delta decreases as the currency depreciate while currency appreciation increases the production output of Delta beverages.

**2.2.1 To give recommendations on the strategies which can be used to counter problems of exchange rate volatility**.

Dohring (2008), posited that the exchange rate volatility can be fixed or hedged through the use of financial instruments. Financial derivatives have become the relevant tools that are used by various nations across the globe in curing the problems of exchange rate fluctuations. The research also articulated that the businesses that participate in international markets can reduce the risk of exchange rate volatility through use of domestic currency invoicing to the importers. This transfers the risk to the importers than exporters.

Additionally, Moguillansky (2003), on the study of corporate risk management and exchange rate volatility in Latin America, viewed that the businesses should use portfolio approach as a cure to the problem of exchange rate fluctuations. The government at large should make use of financial instruments.

The research covered a period of 1953-1961 to find the ways in which the problem of multiple exchange rates can be fixed in the economy. The study explained that the government should be directly participate on industrial efforts, which may be a costly process but can help to substitute imports with industries thereby stabilizing exchange rates through increasing demand to the domestic money.

# **2.3 CONCEPTUAL FRAMWORK**

The relationships that exist between independent and dependent variables can be clearly defined and presented using the conceptual framework model. The conceptual framework for impact of exchange rates volatility on business performance of retail organizations. The variable that is independent in that regard is the exchange rate volatility whilst there are many factors that respond to changes in exchange rates. These include inflation and interest rates. The relationships are clearly articulated on figure 1 below.

|  |
| --- |
| **INDEPENDEND VARIABLES DEPENDEND VARIABLE**   * Profitability      * Exchange rate volatility * Interest * Inflation     **Moderating variable** |

**Figure 1:Conceptual Framework**

*Source: Author’s design*

# **2.4 Empirical Literature on exchange rate**

**Empirical evidence**

**Gumbo et al. (2022), The effect of exchange rate fluctuation on bank profitability in Zimbabwe.**

Their independent variable of interest in the study was exchange rate fluctuation while profitability was the dependant variable. They used E-Views package to analyse panel data for the period 2016 to 2021 in their study. Multiple Regression was used on their research on which the results indicated the existence of a significant inverse relationship between volatility in exchange rates and profitability of banks

**Moyo, Delani and Tursoy (2020), Impact of exchange rate on financial performance of commercial banks in South Africa**

In the same vein Moyo, Delani et al. (2020) studied on the impact of exchange rate on the financial performance of banks in South Africa. Inflation and exchange rate were the independent variables while return on equity was the dependant variable under study. They also used the Dynamic Ordinary Least Squares (DOLS) and the Fully Modified Ordinary Least

Squares (FMOLS) on their analysis. Profitability was said to be negatively related to exchange rate therefore ultimate results concluded that there is a weak relationship between exchange rate and return on equity.

**Manyok (2016), effect of exchange rate fluctuation on financial performance of commercial banks in South Sudan**

Manyok Andre John (2016) also conducted a research on the effects of exchange rate fluctuation on Performance of Commercial Banks in South Sudan. The study used measures of central tendencies as descriptive statistics for the description of data. The study employed a multiple linear regression analysis and established the relationship between exchange rate fluctuation (Independent variable) and return on Asset (Dependant variable). The study further looked on the relationship between inflation and return on asset and he concluded that there is a negative relationship between the two.

**Baba and Nasieku (2016), Effect of macroeconomic factors on financial performance of commercial banks in Nigeria**

The research was carried out in Nigeria to determine the how exchange rate affect performance of businesses. Significant negative relationship has been between exchange rate and volatility and performance of commercial banks has been established.

**Khan and Sattar (2014), The impact of interest rate changes on the profitability of four major commercial banks in Pakistan.**

The research covered a period of four years to 2012 from 2008 four major banks on Pakistan. The interest rate was the independent variable while profitability was the dependent variable. The study used pearson correlation analysis approach and. The results indicated the existence of strong positive relationship between interest rate and profitability.

**Kiganda (2014), Effect of macroeconomic factor on commercial banks profitability in Kenya: case of Equity Bank Limited**

This research was focusing on various macroeconomic factors that affect business performance. Various independent variables were considered including exchange rates and inflation. A positive weak and insignificant relationship between volatility in exchange rate and profitability was established.

**Irene, Knechi Onwuka et al. (2020), effect of exchange rate volatility on manufacturing sector performance in Nigeria**

The study adopted the Vector Autoregressive (VAR) model to analyse the time series data as well as estimating the relationship between Exchange rate (independent variable) and Manufacturing sector (dependent variable). The study showed that there is a significant negative relationship between exchange rate and aggregate output in manufacturing sector of Nigeria

**Agubata and Odubuasi (2018) Effect of exchange rate fluctuations on the financial performance of Nigerian Manufacturing firms: evidence from food, beverage and tobacco sector**

The researchers used a case study of Food, Tobacco and Beverage sectors. The study covered the period from 2005 to 2014. Other moderating variables were also considered in the research such as interest rates and inflation. The Multiple regression tool was used for analysis of data. These studies specifically indicated that the interest rate increases the cost of sourcing the materials outside the country thereby reducing the performance of manufacturing firms hence, recommended that the government should provide businesses borrowing facilities at zero cost.

**Mugozhi et al (2020), The effects of exchange rate fluctuations on the performance of a manufacturing concern in a hyperinflationary environment: A case of Delta Beverages Zimbabwe.**

Mugozhi et al (2020) did a study on the impact of exchange rate fluctuations on business performance of Delta beverages. Secondary data was extracted from Delta’s financial statements for 2017 and 2018. Exchange rate was the independent variable while production output was the dependent variable. The findings were that, a negative relationship exist between exchange rate fluctuations and production output of Delta beverages.

**Onwuka et al. (2020) The effects of exchange rate volatility on manufacturing sector performance in Nigeria**

Onwuka et al. (2020) researched about the effects of exchange rate volatility on manufacturing sector performance in Nigeria. The study adopted a vector Autoregressive model (VAR) to estimate the impacts. The study covered a greater period from 1981 to 2018 and it concluded that there is a significant negative relationship between Unit output and exchange rate volatility. Every unit increase in exchange rate would lead to a significant decline in the aggregate units of production.

**Ofori et al. (2021) The effects of exchange rate volatility on tax revenue performance in sub-Sahara Africa.**

Ofori et al (2021) studied on the effects of exchange rate volatility on tax revenue performance in Sub-Sahara. They used panel data to analyse the time series data for the 21 countries for a period of thirty-three years from 1984 to 2017. Exchange rate and inflation were the independent variables while revenue performance was the dependent variable. The results indicated that the volatility in exchange rate has a direct negative impact on revenue performance. While inflation indicated a positive relationship.

**Rutto (2020) effects of exchange rate on tax revenue performance in Kenya**

Rutto (2020) on his study about the effects of exchange rate on tax revenue performance in Kenya. The study used annual time series data for the period of fifteen years up to 2018 from 2003. The study also used regression and correlation as research design. The exchange rate was the explanatory variable on which the results indicated that there was an inverse relationship between exchange rate and tax revenue performance in Kenya.

**Wjuniski et al. (2017), Multiple Exchange Rates and Industrialization in Brazil 1953-1961**

The research covered a period of 1953-1961 to find the ways in which the problem of multiple exchange rates can be fixed in the economy. The study explained that the government should be directly participate on industrial efforts, which may be a costly process but can help to substitute imports with industries thereby stabilizing exchange rates.

# **2.5 Gap analysis**

Even though there are some researches who have studied about the impact of exchange rate on business performance, but nothing more was done for a retail sector. The number of years observed in this study is a clear indication of its uniqueness from many researches on the related topic. Very few studies have used a time series that span to eleven years. some related studies were highly focusing on banking sector, manufacturing industries and at large Macroeconomic issues thus providing a gap for this study to analyse the effects of exchange rates volatility on the profitability performance of retail firms in Zimbabwe using OK Zimbabwe as a case study.

This research covered a very long period of currency crisis in Zimbabwe characterized by hyperinflation and multicurrency. The timeframe to be used is so different from the one that was used by other researchers, hence making this research the first of its kind.

# **2.6 Chapter summary**

This chapter was a review of literature on impact of exchange rate volatility in performance of retail businesses. The next chapter shall present the methodology of the study. The research’s conclusions demonstrate how the exchange rate and inflation have impacted business performance of Ok Zimbabwe.

# **CHAPTER 3**

# **RESEARCH METHODOLOGY**

# **3.0 Introduction**

Chapter two provided a review of literature that was pertinent to this enquiry. The goal of this methodology focused chapter is to discuss the methodologies used in this study. A full explanation of how the research was carried out is the primary focus of this chapter.

# **3.1 Theoretical Model**

Theoretical Models are the mostly used in scientific studies to test for hypothesis. It is a Framework for the assumptions used in prediction or explaining a phenomenon. As indicated on various authors in the empirical evidence, the historical record is replete with examples of multiple regression models that were utilised by various authors in performing econometric regression analysis of their studies. This research adopted a multiple regression model that was used by Gumbo et al (2022). In their research, they employed the multiple regression analysis in analysing the impact of exchange rate fluctuations on Bank profitability in Zimbabwe for the period 2016 to 2021. Their study employed the following Multiple regression

𝑹𝑶𝑨 = 𝜶 + 𝜷𝑬𝑿𝑪 + 𝜷𝟏𝑩𝑺 + 𝜷𝟐𝑫𝑻𝑨 + 𝜷𝟑𝑬𝑮 + 𝜷𝟒𝑰𝑵𝑭 + 𝜷𝟒𝑳𝑻𝑫 + 𝜺

**Where**

α = is a constant (return on asset while exchange rates are zero),

EXC = exchange rate at time t,

BS = bank size,

DTA= the ratio of total deposits to total assets.

LTD= Loans to deposit ratio

EG = economic growth and,

INF = inflation rate.

Inflation and Economic growth were the mediatory variables that were used as macro-economic variables that affect bank profitability, β, Β1, β2, Β3 and Β4 are regression coefficients and Ε = is a random error term or stochastic error term.

# **3.2 Research philosophy and design**

A research philosophy is a set of principles guiding the collection, analysis and application of data in the field of research (Saunders, 2015). Quantitative approach was employed in the study in keeping with a positivist’s mindset. Crowther and Lancaster (2008), posited that the viewpoint of a positivism is that the research should on the facts from observations and measurements unlike phenomenology which concentrate on the provision for human interests thereby requiring responses. With considerations of the empirical literatures presented in chapter two the researcher will absolutely use secondary quantitative data just like what was done by Irene, Nkechi Onwuka (2020) even though they adopted MFM model on their theoretical model framework but the philosophy is applicable in this research study. Saunders (2016) positivists philosophy is sufficient to validate the results. The philosophy is based on the view that science is the only way to learn the truth. It adheres to the claims that only factual knowledge obtained from measurement and observations, is worthwhile to be trusted. In this research study, the findings are quantifiable and observable as indicated in the philosophy of positivism approach.

# **3.3 Model specification**

Model specification is defined by Gujarati (2004) as the rightful way of choosing a statistical model. An effective economic model includes a dependent variable as well as more than one independent variables. The main goal of this research is to ascertain the impact of exchange rate volatility on profitability performance in retail businesses for the period 2011 to 2021. The model used in the study was adopted from the model used Gumbo Lilian (2022). Performance is dependant to various independent variables such as inflation rates and exchange rates. Multiple regression analysis is going to be performed by the researcher in order to determine the impacts of rate of exchange volatility to profitability performance (A case of Ok Supermarket Zimbabwe). Analysis of a dataset using the multiple regression approach is statistical. The researcher chose to undertake this technique with the intention to establish the relationships that exist amongst several independent variables (specifically Interest, inflation and exchange rate) and a single dependent variable, in this instance profitability performance. Many independent or explanatory variables influence the dependent variable, making it dichotomous in nature. This research aims to dig even deeper onto other variables that may have influence on the performance. Performance may be affected by several factors. This research is going to study fundamental macroeconomic factors which are interest rate, exchange rate volatility and inflation. Therefore, to achieve the researcher’s intended objective clearly the model is designed as follows:

**The profit models**

**Profit = β0 +β1Exchange rate+β2Inflation +β3Inflation +µ**

**Profit** = the total profit for OK Zimbabwe, and the data was collected on a yearly basis.

Exchange rate, interest and inflation are the explanatory variables of this model, while much emphasis is placed on the impact of exchange rate.

The parameter **β0** is the constant and **β1**and **β2 and** **β3** are coefficient of the independent variableto beestimated from the regression analysis.The term **µ** indicates or captures other variables that affects the model and which were not included in the model.

# **3.4 Justification of Variables**

The dependent variable of the model is business performance in terms of profitability.

**3.4.1 Business performance**

Business performance is the key to proceedings of investments and going concern of every firm. It is not satisfactory to discuss about business performance without mentioning profitability. Gumbo Lilian et al. (2020) posited that profitability is the key objective of every business. There is various measure of business performance than profitability but this study is focusing on profitability. Mugozhi et al. (2020) also discussed these variables in the study on the impact of exchange rate volatility on business performance of Delta beverages.

**3.4.2 Exchange Rate**

Jasova (2016) posited that, how much one country's currency is worth in terms of another's is known as the exchange rate. It is the amount of domestic currency required to purchase one foreign currency. It is noted that the real effective exchange rate (REER) is a key relative pricing that helps businesses decide how to allocate resources between product manufacturing and service delivery (Oskooee, Kutan & Xi, 2015). The actual effective exchange rate shows how the structure of the economy should adjust to the external environment. This variable has ever been used by various authors as the independent variable in research. Kiganda (2014) used this variable in an attempt to find its impact on profitability of commercial banks. In the same vein Moyo, Delani et al. (2020) studied on the impact of exchange rate on the financial performance of banks in South Africa. exchange rate was the independent variable while return on equity was the dependant variable under study. They also used the Dynamic Ordinary Least Squares (DOLS) and the Fully Modified Ordinary Least Squares (FMOLS) on their analysis. Therefore, it is justifiable that this study can use exchange rate as the independent variable of interest in determining its impact on profitability performance.

**3.4.3 Inflation**

Inflation is defined as general increment in the prices of commodities and services and a fall in purchasing power of money. The variable has been used as mediatory variable in various researches as shown in the empirical evidence in chapter two. For example, Moyo et al. (2020) studied on the impact of exchange rate on the financial performance of banks in South Africa. Inflation and exchange rate were the independent variables in their study. With those considerations, it is clearly indicated that the research on impact of exchange rate volatility on business performance can also include inflation as other independent variable in examining the impact of exchange rate on business performance.

**3.4.4 Error term (µ)**

This variable considers other variables that impact business performance, but they are not included in the model. According to Gujarati (2009), µterm shows the excluded variables that have an impact on the endogenous variable of the model. Those errors may occur as a result of omissions of variables or lack of some data and error of measurement.

# **3.5 Estimation Method**

The researcher is going to use the Ordinary Least Square (OLS) method of estimation to estimate the models of this study. The OLS method has been used by several researchers who did the related studies on exchange rate volatility. The OLS method of estimation is a statistical technique used to estimate the parameters of a linear regression model and it estimates the coefficients of the linear regression equation. The estimated coefficients will then be used to make predictions about dependent variable. The OLS approach guarantees that the sum of squared errors is minimized and the coefficient of determination is maximized if the assumptions of the traditional linear regression model are true.

# **3.6 RELIABILITY**

**3.6.1 Model Specification Test for Reliability.**

To help the researcher select the model that best matched the supplied data, specification tests will be conducted. In this model, the R squared and the F- test will be applied. The R squared represents the percentage of the regressors' contribution to the variation in the regression and. R squared is between 0 and 1, with 0 denoting complete lack of fit and 1 denoting complete fit. The usual issue with this test is that as more regressors are added to the model, the R squared value will rise. The importance of the entire is determined by the F test. The findings of the F-test and R squared are identical.

**3.6.2 The Assumptions for Multiple linear regression model (CLRM)**

The above designed models to be deemed reliable and free from biased results and false interpretations, there must be free from multi-collinearity, heteroscedasticity and the residuals of the models should be normally distributed. By making sure that these assumptions are hold true and satisfied, we will be in a position to statistically conclude that reliability of secondary datasets in this research is achieved.

**3.6.3 Multi-collinearity**

Multi-collinearity is a statistical situation in which two or more predictor variable are highly correlated with each other. This is one of the problems that researcher face when estimating econometric model and there are a number of ways to analyse the present of multi- collinearity, but the researcher is going to use the correlation matrix. If there is multi- collinearity between explanatory variables the percentage value between variables will be 80%. Therefore, for our independent variables to be free from multi-collinearity, the collinearity between them must be less than 0.8 or 80%.

**3.6.4 Heteroscedasticity**

Heteroscedasticity is a statistical situation in which the variance of the residuals of a regression model is not constant across all values of the independent variables. If OLS is to be used despite the presence of heteroscedasticity the coefficient estimate will still be unbiased but are no longer with minimum variance and the variances will be inflated. The standard error formulae of the coefficients employ an estimator for population variance will no longer hold and this means that the calculated standard error could be wrong, hence any inference made would be misleading. The Breusch-Pagan-Godfrey test is used to test the variance of the error terms if there is homoscedastic or not. This variance is assumed in the CLRM that it is constant, therefore to fulfil this assumption, the variances should be homoscedastic.

**3.6.5 Normality**

Normality test will be done to test whether the residuals are normally distributed. The normality test is done using the Jargue-Bera test and when the residuals for the variables are not normally distributed, then the hypothesis test and interval estimation would be affected and the OLS assumption of normality can be violated. The histogram approach is going to be used to check the normality.

# 

# **3.7 Data presentation and analysis**

Researchers describe and assess raw research data in order to obtain insight into the meaning and patterns that may be used to answer research questions and objectives through the process of "analysing data." According to Wiersma et al., (2015) research concerns are addressed through data analysis. After then, the data is analysed to provide the most pertinent details and conclusions. Descriptive statistics will be used to assemble and analyse the quantitative data. This information, which includes periodic movement can be shown in trends. Data will be analysed using E-Views 7.1 (Statistical Package for Econometrics). A number of other programmes, such as Word and Excel, will be employed. Specify the data analysis tools, as well as the packages that come with them.

# 

# **3.8 Ethical consideration**

Study ethics, according to Saunders et al. (2016), is defined as the acceptability of the researcher's conduct with regard to the rights of the research subjects. It takes more than just talent and diligence to conduct research; it also calls for the application of integrity and morality. Kothari (2016) says that ethics is practised to recognise and safeguard the rights of persons who participate in an activity. In order to present this study as ethical, Since the author has a direct access to financial data for Ok Zimbabwe ltd, proper consultation is made to other authorities in the organization, the rights to self-determination, informed consent, and confidentiality is guaranteed in this research. The author made an official request to the company Ok Zimbabwe, in the form of an authorization form, so that he safely perform the research. Even though the data for Ok Zimbabwe used in this research is published and audited but, the organization that data belongs to was informed that the study's primary goal is to enhance the academic interests of the author only. The author is in an agreement with the company, that the operation Manager of Ok Zimbabwe was given the opportunity to ask any questions they may have at the end of the presentation. Despite the fact that the data was obtained from published annual reports, the researcher will ensure that the privacy and confidentiality of organization are maintained.

# **3.9 Sources of Data**

For the model's aforementioned variables, this study uses time series data. All the variables for the model, namely inflation rates were extracted from World Bank’s authentic publications. Data about interest rates and exchange rates were also extracted from the publication and official platforms of the Reserve Bank of Zimbabwe. Finally, the data about profit was derived from financial statements of Ok Zimbabwe supermarket to account for the dependability of the data used in this research, a rigorous comparison of data was done. The data used spans over a decade, from 2011 to 2021.

# 

# **3.2.0 Chapter summary**

The researcher's research theoretical model and philosophy have all been described in detail in this chapter. Data presentation and analytic methods to be used to analyse findings from the organizational records and governmental publications were also discussed. The following chapter is going to analyse, present and discuss the findings

# 

# **CHAPTER 4**

# **PRESENTATION, ANAYSIS AND DISCUSSION**

# **4.0 Introduction**

This chapter focuses on data analysis, presentation and discussion on secondary data for total profit for the years 2011 to 2021. The researcher’s main goal is the determine the effects of exchange rate on OK Zimbabwe’s performance basing on total profit for all the branches within OK Zimbabwe. To achieve the researcher’s intended goal, ordinary least square method was used and the econometrics models were regressed using E-views 7.1. The presentation and analysis involve the construction of graphs, tables, and descriptive statistics on the data gathered.

**Table 1: Dataset used for performing analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| YEAR | OPERATING PROFIT | EXCHANCE RATE | INFLATION | INTEREST RATE |
| 2011 | 5,319,998.00 | 1 | 2.171761274 | 7.324567478 |
| 2012 | 14,980,734.00 | 1 | 4.855945322 | 6.428554265 |
| 2013 | 16,981,990.00 | 1 | 8.09114032 | 1.525434625 |
| 2014 | 13,413,116.00 | 1 | 0.624974693 | 8.787605 |
| 2015 | 10,612,290.00 | 1 | 0.367419549 | 8.144427568 |
| 2016 | 1,200,989.00 | 1 | 2.014094534 | 4.998563015 |
| 2017 | 6,133,608.00 | 1 | 3.056905217 | 3.742846189 |
| 2018 | 23,601,007.00 | 1 | 200.7695776 | -64.38081686 |
| 2019 | 67,591,390.00 | 16.7734 | 225.3946482 | -64.29515135 |
| 2020 | 41,976,511.92 | 81.7866 | 604.9458642 | -81.13212091 |
| 2021 | 18,393,878.16 | 108.666 | 113.2949806 | -31.79555083 |

*Source: OK Zimbabwe, RBZ and World BANK*

The table above shows the dataset that was used for performing regression analysis and all data presentations in terms of pie charts and other presentations to be done below. The datasets for profit was extracted from OK Zimbabwe financial statements. This data is in annual financial results for OK Zimbabwe. The variable exchange rate and interest rate was extracted from reserve bank of Zimbabwe (RBZ) and inflation was extracted from World Bank.

# **4.2 Descriptive statistics**

According to Gujarati (2004), descriptive statistics is an important aspect in data analysis and presentation of results. Descriptive statistics summaries data for a large number of variables and this aid the easy with which data analysis can be done. The author used E-views 7.1 to calculate the descriptive statistics for the dataset used. The table below shows descriptive statistics obtained.

**Table 2: Descriptive statistics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | PROFIT | INTEREST\_RATE | INFLATION | EXCHANCE\_RATE |
| Mean | 20018683 | -18.24106 | 105.9625 | 19.56600 |
| Median | 14980734 | 3.742846 | 4.855945 | 1.000000 |
| Maximum | 67591390 | 8.787605 | 604.9459 | 108.6660 |
| Minimum | 1200989. | -81.13212 | 0.367420 | 1.000000 |
| Std. Dev. | 19210544 | 35.34386 | 186.1466 | 38.17798 |
| Skewness | 1.545956 | -0.822897 | 1.937376 | 1.690654 |
|  |  |  |  |  |
| Observations | 11 | 11 | 11 | 11 |

*Source: Author’s computation using E- views 7.1*

According to the table 3 above, there is a large deviation from the mean for profit. There are 11 observations for all the variables used in analysis. The maximum value of profit recorded from the period 2011 to 2021 is US$67,591,390.00. All the variables are positively skewed expect for interest rate.

**4.2.1 Multi-collinearity results**

Multi- collinearity in this study was tested using the correlation matrix, and the results are presented in the table given below.

**Table 3: Multi-collinearity results**

|  |  |  |  |
| --- | --- | --- | --- |
|  | EXCHANCE\_RATE | INFLATION | INTEREST\_RATE |
| EXCHANCE\_RATE | 1.000000 | 0.604844 | -0.538519 |
| INFLATION | 0.604844 | 1.000000 | -0.692963 |
| INTEREST\_RATE | -0.538519 | -0.692963 | 1.000000 |

*Source: own computation using E-views 7*

As indicated above, are the independent variables for the model are not highly correlated with each other, since there are all less than 80%. Therefore, we conclude the data is not prone to the problem of multi-collinearity.

**4.2.2 Heteroscedasticity**

The problem of heteroscedasticity is common is econometric model data analysis. The author used the ARCH method to detect the presence of heteroscedasticity.

**Heteroscedasticity results for the profit model**

**Table 4: Heteroscedasticity results.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: ARCH | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| F-statistic | 0.814371 | Prob. F(1,8) | | 0.3932 |
| Obs\*R-squared | 0.923913 | Prob. Chi-Square(1) | | 0.3364 |

*Source: own computation*

The table above shows that the data for the model is not suffering from the problem of heteroscedasticity. This is so in the sense that this F- statistic probability value is grater that the R – squared value.

**4.2.4 Normality test**

****

**Figure 2: Histogram for normality test**

*Source: Own computation using E-views 7.1*

The diagram above depicts that the residuals for the model are normally distributed. The kurtosis value is close to 3(3.957890) and the Jarque –bera probability value is 0.700320 which is above 0.1 (10%) hence we can safely conclude that the model’s residuals are normally distributed.

**4.3 The performance of OK Zimbabwe in terms of profit**

Business performance is one of the crucial aspects that guarantee the existence and sustainability of the business. Business is subjected to external threats like stiff competition from others players. It is therefore imperative for the management team of any business to have a concise picture of their business in terms of its overall performance. This information is essential for drafting policies and strategies that aid in fighting competition and in improving underperforming areas of the business. In this study, the researcher was heightened to look at OK Zimbabwe’s performance in terms of its, total profits from 2011 to 2020. The diagram below shows the performance of OK Zimbabwe in terms profit.

**Figure 3: The trend analysis of OK Zimbabwe’s profits performance from 2011 to 2021**

*Source: Own computation using OK datasets*

According to the Neo –Classical production theory and the profit –maximisation model, profit is at the centre of the business major objectives. Businesses aim at maximisation of the profit function. Therefore, businesses should strive to minimise costs and maximise revenue, hence realising the maximum desired profit. This is one of the major objectives of the shareholder theory and the agent theory’s perspectives to business environment. The graph above shows the profit performance of OK Zimbabwe from 2011 to 2021. The profit performance over the period analysed, shows a positive trajectory expansion path wave, with some fluctuating movement emanating from the economic shocks of the economic environment of the Zimbabwean economy which proved to be business unfriendly. As such, there is need to empirically investigate the effects of exchange rate, inflation and interest rate on profit performance. However, the profit performance of OK Zimbabwe shows an upward trend as indicated by the sharp line on the graph, hence indicating that there is potential for long –run good trajectory for the profit function.

# **4.4 The exchange rate movement from 2011 to 2021**

Exchange rate is an exogenous variable of interest in this study, the impact of exchange is beyond the control of any business. The diagram below shows the movement of exchange rate from 2011 to 2020.



**Figure 4: The trend movement of exchange rate from 2011 to 2021**

*Source: Own computation using E-views 7.1*

For the period under consideration (2011- 2021), the exchange rate for the Zimbabwean economy maintained a stable rate from 2011 to 2018. The exchange rate started to increase at an increasing rate for the subsequence years. This sharp increase of exchange is attributed to the fact that the Zimbabwean dollar has deteriorated so badly due to a number of key economic issues. There is therefore the need to ascertain the extent to which exchange rate has affected the performance of OK Zimbabwe in terms profit.

**Table 5:: Regression function for profit**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: PROFIT | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 06/09/23 Time: 22:29 | | |  |  |
| Sample: 2011 2021 | | |  |  |
| Included observations: 11 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 12883572 | 4773992. | 2.698700 | 0.0307 |
| EXCHANCE\_RATE | -71725.59 | 138897.9 | -0.516391 | 0.0045 |
| INFLATION | -8567.062 | 53326.64 | -0.160653 | 0.0234 |
| INTEREST\_RATE | -517858.2 | 265434.6 | -1.950982 | 0.0456 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.661757 | Mean dependent var | | 20018683 |
| Adjusted R-squared | 0.516796 | S.D. dependent var | | 19210544 |
| S.E. of regression | 13353798 | Akaike info criterion | | 35.92779 |
| Sum squared resid | 1.25E+15 | Schwarz criterion | | 36.07248 |
| Log likelihood | -193.6028 | Hannan-Quinn criter. | | 35.83658 |
| F-statistic | 6.234785 | Durbin-Watson stat | | 2.605235 |
| Prob(F-statistic) | 0.004945 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

*Source E-views output*

The table above shows the regression results for the model where profit is the dependent variable and exchange rate is the independent variable of interest, while inflation and interest rate are other added independent variables. The model used is correctly specified as shown by the F –statistic probability value of 0.004945 which is statistically at all levels. The Durbin Watson statistics is closer to 2, hence we conclude that the data for the model is not suffering from the problem of Autocorrelation econometric problem. Therefore, the model is suitable for economic interpretations

# **4.5 Presentation of the model**

Estimation Command:

=========================

LS PROFIT C EXCHANCE\_RATE INFLATION INTEREST\_RATE

Estimation Equation:

=========================

PROFIT = C (1) + C (2)\*EXCHANCE\_RATE + C (3)\*INFLATION + C (4)\*INTEREST\_RATE

Substituted Coefficients:

=========================

PROFIT = 12883572.0315 - 71725.592487\*EXCHANCE\_RATE - 8567.06179119\*INFLATION - 517858.162978\*INTEREST\_RATE

*Source: E-views 7.1*

**4.5.1 Analysis and discussion of the variable Exchange rate**

From the regression analysis presented above, exchange rate is statistically significant at all levels as indicated by the probability value of 0.0045. The coefficient value of the exchange rate shows a negative impact of exchange rate to profit performance. This means that a unit increase in exchange rate will result in USD$71725.59 decrease in profit. Therefore, we conclude that exchange rate has a negative impact on profit performance for OK Zimbabwe from 2011 to 2021. The results are concurrent to Gumbo et al. (2022), their research also showed the existence of negative interaction between profitability and exchange rate. The results are also agreeing with Baba and Nasieku (2016), that there is a negative relationship between profitability and exchange rate volatility. Kiganda (2014)

**4.5.2 Analysis and discussion of the variable inflation**

From the regression analysis presented above, inflation is statistically significant at 5% and 10% levels as indicated by the probability value of 0.0234. The coefficient value of the inflation shows a negative impact to profit performance. This means that a unit increase in inflation will result in USD$8567.062 decrease in profit. Therefore, we conclude that inflation have a negative impact on profit performance for OK Zimbabwe from 2011 to 2021. These results are agreeing with those of Jeevitha et al. (2019) which indicated that there is a negative relationship between bank profitability and exchange rate. In the same vein, Manyok (2016) even though his study did not directly show the impact on profitability but the effect of inflation on Return on Investment was significantly negative. Since Return on investment is a measure of the profitability of an investment, it means the inflation has the same impact on ROI as on profitability.

**4.5.3 Interpretation of the variable interest rate**

From the regression analysis presented above, interest rate is statistically significant at 5% and 10% levels as indicated by the probability value of 0.0456. The coefficient value of interest rate shows a negative impact to profit performance. This means that a unit increase in interest rate will result in USD$517858.2 decrease in profit. Therefore, we conclude that inflation have a negative impact on profit performance for OK Zimbabwe from 2011 to 2021. These results, contradicting with Jeevitha (2019) which indicated that an increase in interest will result in an increase in profit. However, those researches were considering banks only of which interest is an income to the banks which may increases their profitability performance unlike in retail industry, interest is a cost in most cases.

**4.5.4 Literature findings on strategies to overcome problems of exchange rate volatility**

Dohring (2008), posited that the exchange rate volatility can be fixed or hedged through the use of financial instruments. Financial derivatives have become the relevant tools that are used by various nations across the globe in curing the problems of exchange rate fluctuations. The research also articulated that the businesses that participate in international markets can reduce the risk of exchange rate volatility through use of domestic currency invoicing to the importers. This transfers the risk to the importers than exporters.

Additionally, Moguillansky (2003), on the study of corporate risk management and exchange rate volatility in Latin America, viewed that the businesses should use portfolio approach as a cure to the problem of exchange rate fluctuations. The government at large should make use of financial instruments.

The research covered a period of 1953-1961 to find the ways in which the problem of multiple exchange rates can be fixed in the economy. The study explained that the government should be directly participate on industrial efforts, which may be a costly process but can help to substitute imports with industries thereby stabilizing exchange rates.

# **4.6 Chapter summary**

This chapter analysed the impact of exchange rate on OK Zimbabwe’s performance, data was presented in tables and graphs. The results from the regression analysis shows that exchange rate, inflation and interest rate have negative effects on profit performance. The following chapter will give recommendations based on the findings presented in this chapter.

# **CHAPTER 5**

# **SUMMARY, CONCLUSION AND RECOMMENDATION**

# **5.0 Introduction**

The chapter will summarize study findings in respect to the research objectives, explicitly describing the level of success of the objectives. Regarding the degree to which the results differ from or support the empirical findings in the same field of study, it will draw particular conclusions. On the basis of the findings of the research, the chapter will also make recommendations. In order to complement the study of exchange rate volatility on OK Zimbabwe performance, additional areas for future research that were not included in this study will be suggested in the chapter's conclusion.

# **5.1 Summary**

The main objective of this research was to identify the impact of exchange rate volatility on performance of OK Zimbabwe in terms of its profit. The study utilised time series secondary annual datasets profits, exchange rate, interest rate and inflation. The objectives of the study were achieved through regression analysis. The last objective was then achieved through use of literature studies to find out the measures that can be put in place to counter problem of exchange rate volatility. This study consists of five chapters, chapter one presented the objectives of the study, chapter two dealt with literature review both theoretical and empirical that is connected to the research topic. Chapter three presented the research methodology and chapter four focused on data analysis and presentation of results

# **5.2 Conclusion**

The study’s findings showed that exchange rate have a negative impact on profit performance of OK Zimbabwe for the period analysed, from 2011 to 2021, thus the objectives and research questions of this study are properly answered as indicated in chapter 4. The empirically findings also shows that inflation and interest rate have also negative impacts on profit performance. From the regression analysis, unit increase in exchange rate, it results in decrease of profit by US$71725.59, unit increase in inflation, it results in decrease of profit by US$8567.062 and unit increase in interest rate, and it results in decrease of profit by USD$517858.2 Therefore from these findings, it is concluded that exchange rate have a negative impact of business performance of OK Zimbabwe’s profit performance. From 2011 to 2021 the performance of OK Zimbabwe has been negatively halted by fluctuations of exchange rate. It is therefore imperative to provide recommendations on what should be done to stabilise exchange rate as well as to ensure that retail firms remain competitive in times of high exchange rate fluctuations.

# **5.3 Recommendations**

After giving conclusion of the study; it is therefore imperative to give recommendations no what the government of Zimbabwe should do in order to deal with exchange rate fluctuations and rapid rising of inflation. OK Zimbabwe management board should also get advised on what to do in order to stay competitive during times of high exchange rate fluctuations.

**5.3.1 Recommendations to the government of Zimbabwe**

The government of Zimbabwe through the ministry of finance and Reserve Bank of Zimbabwe is advised to make use of the stabilisation policy so that the exchange rate will stay stable. Dohring (2008) Financial derivatives have become the relevant tools that are used by various nations across the globe in curing the problems of exchange rate fluctuations. The government should continue with economic stabilisation policies like the transitional stabilisation policy TSP of 2019, *ceteris paribus.*

Moreover*,* Moguillansky (2003), explained that the government should be directly participate on industrial efforts, which may be a costly process but can help to substitute imports with industries thereby stabilizing exchange rates.

**5.3.2 Recommendation to OK Zimbabwe**

OK Zimbabwe should set competitive in order to stay competitive during the periods of high exchange fluctuations. This will increase the performance of OK Zimbabwe in terms of profits.

**5.3.3 Suggestion for further studies**

The results obtained from this study should not be viewed as an end, but as an instrument for further studies on the related topics. Future researchers are therefore advised to add other Macro economic variables such as GDP and taxes on determining their impact to profitability performance. Other internal factors should also be considered such as management competence on business performance of businesses

# **References**

Abbas Q, Iqbal J, Ayaz L (2018). Relationship between GDP, inflation and real interest rate with exchange rate fluctuation of African countries. Int J Acad Res Account Finance. Manage Sci 2(3):132–141

Agubata and Odubuasi (2018) Effect of exchange rate fluctuations on the financial performance of Nigerian Manufacturing firms: evidence from food, beverage and tobacco sector

Algieri B (2019). The Dutch disease: evidences from Russia. Econ Chang Restruct 44(3):243–277

Arghyrou MG, Pourpourides P (2016). Inflation announcements and asymmetric exchange rate responses. J Int Financ Mark Inst Money 40:80–84

Azid T, Jamil M, Kousar A, Kemal MA (2019). Impact of exchange rate volatility on growth and economic performance: a case study of Pakistan, 1973-2003 [with comments]. Pak Dev Rev 44(4):749–775

Baba and Nasieku (2016), Effect of macroeconomic factors on financial performance of commercial banks in Nigeria

Bahmani-Oskooee M, Tanku A (2016). Black market exchange rate, currency substitution and the demand for money in LDCs. Econ Syst 30(3):249–263

Bailliu J, Lafrance R, Perrault JF (2018). Does exchange rate policy matter for growth? Int Finance 6(3):381–414

Chowdhury M, Hossain MT (2019). Determinants of exchange rate in Bangladesh: a case study. J Econ Sustain Dev 5:1. Available at SSRN: https://ssrn.com/abstract=2668804

Elbadawi IA, Soto R (2017). Real exchange rates and macroeconomic adjustments in sub-Saharan Africa and other developing countries. J Afr Econ 6(3):74–120

Engel C, Rogers JH (2021). Deviations from purchasing power parity: causes and welfare costs. J Int Econ 55(1):29–57

Engle RF, Granger CW (2017). Co-integration and error correction: representation, estimation, and testing. Econometrica:251–276

Fisher I (2020). The theory of interest, vol 43. The Macmillan Company, New York

Gente K, León-Ledesma MA (2016). Does the world real interest rate affect the real exchange rate? The south east Asian experience. J Int Trade Econ Dev 15(4):441–467

Gumbo L, Mveku B, Chosana S, Mutero T and Barabwe K (2022), The effect of exchange rate fluctuation on bank profitability in Zimbabwe.

Harberger A (2018). Economic growth and the real exchange rate. Revisiting the balassa-samuelson effect, conferencia presentada en the higher school of economics, Moscú

Hau H (2017). Real exchange rate volatility and economic openness: theory and evidence. J Money, Credit, TM PicknPay 34(3):611–630

Haug AA (2012). Temporal aggregation and the power of cointegration tests: a Monte Carlo study. Oxf Bull Econ Stat 64(4):399–412

Iqbal N, Khattak SR, Khattak MA, Ullah I (2019). Testing the arbitrage pricing theory on Karachi stock exchange. Interdiscip J Contemp Res Bus 4(8):839–853

Jeanneney S. G. and Hua P. (2016). ‘How does real exchange rate influence labour productivity in China?’, Science Direct 22(4), pp. 628-645.

Johansen S, Juselius K (2020). Maximum likelihood estimation and inference on cointegration—with applications to the demand for money. Oxf Bull Econ Stat 52(2):169–210

Joyce J, Kamas L (2018). Real and nominal determinants of real exchange rates in Latin America: short-run dynamics and long-run equilibrium. J Dev Stud 39(6):155–182

Khan and Sattar (2014), The impact of interest rate changes on the profitability of four major commercial banks in Pakistan.

Khan MA, Qayyum A (2017). Exchange rate determination in Pakistan: role of monetary fundamentals. J Econ Coop Dev 32(2):67

Khan SA (2019). Empirical study on impact of interest rate on exchange rate.

Kiganda (2014), Effect of macroeconomic factor on commercial banks profitability in Kenya: case of Equity Bank Limited

Kulkarni KG, Ishizaki M (2017) Purchasing power parity theory revisited: recent evidence from US Dollar and Japanese yen. Glob Bus Rev 3(1):53–61

Kumar S (2019). Determinants of real exchange rate in India: an ARDL approach. Reserv TM PicknPay India Occas Pap 31(1):33–64

Lane PR, Milesi-Ferretti GM (2012). External adjustment and the global crisis. J Int Econ 88(2):252–265

Lartey EK, Mandelman FS, Acosta PA (2018). Remittances, exchange rate regimes and the Dutch disease: a panel data analysis. Rev Int Econ 20(2):377–395

Liew VKS, Baharumshah AZ, Puah CH (2019). Monetary model of exchange rate for Thailand: long-run relationship and monetary restrictions. Glob Econ Rev 38(4):385–395

MacDonald R, Ricci LA (2015). The real exchange rate and the Balassa–Samuelson effect: the role of the distribution sector. Pac Econ Rev 10(1):29–48

Mallick H (2016). Factors determining the exchange rate movement under a partial capital mobility regime. Int Econ J 24(2):249–266

Manyok A (2016), effect of exchange rate fluctuation on financial performance of commercial banks in South Sudan

Mathias K. (2015) ‘The exchange rate effect.’ ProQuest, Available at: <https://search-proquest-com.ezproxy.nottingham.edu.cn/docview/1684299059/fulltextPDF/30A6BD600C6446BPQ/1?accountid=16676>

McPherson MF, Rakovski T (2020). Exchange rates and economic growth in Kenya: an econometric analysis

Mirchandani A (2019). Analysis of macroeconomic determinants of exchange rate volatility in India. Int J Econ Financ Issues 3(1):172–179

Moffett MH, Stonehill AI, Eiteman DK (2016). Fundamentals of multinational finance, 5th edn. Addison-Wesley, Pearson (The Pearson Series in Finance)

Moffett MH, Stonehill AI, Eiteman DK (2017). Fundamentals of multinational finance, 6th edn. Addison-Wesley, Pearson (The Pearson Series in Finance)

Morrison WM, Labonte M (2021). China’s currency policy: an analysis of the economic issues. Curr Pol Econ North West Asia 22(4):507

Moyo, Delani and Tursoy (2020), Impact of exchange rate on financial performance of commercial banks in South Africa

Mugozhi et al (2020), The effects of exchange rate fluctuations on the performance of a manufacturing concern in a hyperinflationary environment: A case of Delta Beverages Zimbabwe.

Namjour RP, Gholizadeh MH, Haghighi MBN (2017). Survey the relationship between exchange rates and inflation rate in the first two years of fifth development plan. Universal J Manage Soc Sci 4(3):31–40

Necșulescu CI, Șerbănescu LL (2018). Impact of the inflation on the exchange rate and on the average salary. Cross Cult Manage J 29:222–227

Neumeyer PA, Perri F (2020). Business cycles in emerging economies: the role of interest rates. J Monet Econ 52(2):345–380

Nucu AE (2019). The relationship between exchange rate and key macroeconomic indicators. Case study: Romania. The Romanian. Econ J 41:127–145

Ofori I, Kwesi O, Kwesi C and Mwenlaaru P (2021) The effects of exchange rate volatility on tax revenue performance in sub-Sahara Africa.

Onwuka I, Onyebuchi K, Ezenekwe U and Ukeje C (2020), effect of exchange rate volatility on manufacturing sector performance in Nigeria

Oskooee M. B., Kutan A. M. and Xi D. (2015). ‘Does exchange rate volatility hurt domestic consumption? Evidence from emerging economics.’, Science Direct 144, pp. 53-65.

Ozturk I, Acaravci A (2017). Electricity consumption and real GDP causality nexus: evidence from ARDL bounds testing approach for 11 MENA countries. Appl Energy 88(8):2885–2892

Pesaran MH, Shin Y (2019). An autoregressive distributed-lag modelling approach to cointegration analysis. Econ Soc Monogr 31:371–413

Pesaran MH, Shin Y, Smith RJ (2019). Bounds testing approaches to the analysis of level relationships. J Appl Econ 16:289–326 https://doi.org/10.1002/jae.616

Phillips PC, Perron P (2018). Testing for a unit root in time series regression. Biometrika 75(2):335–346

Piana V (2018). Exchange rate.

Raza SA, Afshan S (2017). Determinants of exchange rate in Pakistan: revisited with structural break testing. Glob Bus Rev 18(4):825–848

Rutto (2020) effects of exchange rate on tax revenue performance in Kenya

Sebastian E. (2017). ‘Capital Controls, Capital Flow Contractions and Macroeconomics Vulnerability.’, ProQuest,

Siddiqui R, Afridi U, Mahmood Z, Bhatti RH (2019). Exchange rate determination in Pakistan: a simultaneous equation model [with comments]. The. Pak Dev Rev:683–692

Smith CE (2019). Exchange rate variation, commodity price variation and the implications for international trade. J Int Money Financ 18(3):471–491

Tafa J (2015). Relationship between exchange rates and interest rates: case of Albania. Mediterr J Soc Sci 6(4):163

Thorbecke W. and Kato A. (2018). ‘The effect of exchange rate changes on Japanese consumption export.’, Science Direct 24(1), pp. 64-71.

Tung L. T. (2019). ‘Does exchange rate affect foreign tourist arrivals? Evidence in an emerging tourist market.’, Management Science Letters 9(8), pp. 1141-1152, doi: 10.5267/j.msl.2019.5.0014

Wjuniski l (2017), Multiple Exchange Rates and Industrialization in Brazil 1953-1961

Wong HT (2019). Real exchange rate misalignment and economic growth in Malaysia. J Econ Stud 40(3):298–313

Xiaopu Z (2018). Equilibrium and misalignment: an assessment of the RMB exchange rate from 1978 to 1999. Centre for research on economic development and policy reforms. Working Paper No. 127, Stanford, pp 1–27

Zeileis A, Shah A, Ila P (2017). Exchange rate regime analysis using structural change Methods. Research Report Series / Department of Statistics and Mathematics. Department of Statistics and Mathematics. WU Vienna University of Economics and Business, Vienna, p 56

Zeileis A, Shah A, Patnaik (2018). What is the new Chinese currency regime? Research Report Series / Department of Statistics and Mathematics. Department of Statistics and Mathematics. WU Vienna university of economics and business,

# **APPENDICES**

#### **Appendix 1: Dataset used**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| YEAR | PROFIT | EXCHANCE RATE | INFLATION | INTEREST RATE |
| 2011 | 5,319,998.00 | 1 | 2.171761274 | 7.324567478 |
| 2012 | 14,980,734.00 | 1 | 4.855945322 | 6.428554265 |
| 2013 | 16,981,990.00 | 1 | 8.09114032 | 1.525434625 |
| 2014 | 13,413,116.00 | 1 | 0.624974693 | 8.787605 |
| 2015 | 10,612,290.00 | 1 | 0.367419549 | 8.144427568 |
| 2016 | 1,200,989.00 | 1 | 2.014094534 | 4.998563015 |
| 2017 | 6,133,608.00 | 1 | 3.056905217 | 3.742846189 |
| 2018 | 23,601,007.00 | 1 | 200.7695776 | -64.38081686 |
| 2019 | 67,591,390.00 | 16.7734 | 225.3946482 | -64.29515135 |
| 2020 | 41,976,511.92 | 81.7866 | 604.9458642 | -81.13212091 |
| 2021 | 18,393,878.16 | 108.666 | 113.2949806 | -31.79555083 |

**Source: OK Zimbabwe, RBZ and World BANK**

#### **Appendix 2: descriptive statistics results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | PROFIT | INTEREST\_RATE | INFLATION | EXCHANCE\_RATE |
| Mean | 20018683 | -18.24106 | 105.9625 | 19.56600 |
| Median | 14980734 | 3.742846 | 4.855945 | 1.000000 |
| Maximum | 67591390 | 8.787605 | 604.9459 | 108.6660 |
| Minimum | 1200989. | -81.13212 | 0.367420 | 1.000000 |
| Std. Dev. | 19210544 | 35.34386 | 186.1466 | 38.17798 |
| Skewness | 1.545956 | -0.822897 | 1.937376 | 1.690654 |
| Kurtosis | 4.502148 | 1.917551 | 5.777879 | 4.088507 |
|  |  |  |  |  |
| Jarque-Bera | 5.415837 | 1.778486 | 10.41806 | 5.783294 |
| Probability | 0.066675 | 0.410967 | 0.005467 | 0.055485 |
|  |  |  |  |  |
| Sum | 2.20E+08 | -200.6516 | 1165.587 | 215.2260 |
| Sum Sq. Dev. | 3.69E+15 | 12491.89 | 346505.6 | 14575.58 |
|  |  |  |  |  |
| Observations | 11 | 11 | 11 | 11 |

#### **Appendix 3: Heteroscedasticity results**

**Heteroscedasticity results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: ARCH | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| F-statistic | 0.814371 | Prob. F(1,8) | | 0.3932 |
| Obs\*R-squared | 0.923913 | Prob. Chi-Square(1) | | 0.3364 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Test Equation: | |  |  |  |
| Dependent Variable: RESID^2 | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 06/09/23 Time: 22:36 | | |  |  |
| Sample (adjusted): 2012 2021 | | |  |  |
| Included observations: 10 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 8.56E+13 | 8.00E+13 | 1.070225 | 0.3157 |
| RESID^2(-1) | 0.304709 | 0.337656 | 0.902425 | 0.3932 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.092391 | Mean dependent var | | 1.23E+14 |
| Adjusted R-squared | -0.021060 | S.D. dependent var | | 2.13E+14 |
| S.E. of regression | 2.15E+14 | Akaike info criterion | | 69.02008 |
| Sum squared resid | 3.71E+29 | Schwarz criterion | | 69.08059 |
| Log likelihood | -343.1004 | Hannan-Quinn criter. | | 68.95369 |
| F-statistic | 0.814371 | Durbin-Watson stat | | 1.774890 |
| Prob(F-statistic) | 0.393190 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

#### **Appendix 4: Multi-collinearity results**

|  |  |  |  |
| --- | --- | --- | --- |
|  | EXCHANCE\_RATE | INFLATION | INTEREST\_RATE |
| EXCHANCE\_RATE | 1.000000 | 0.604844 | -0.538519 |
| INFLATION | 0.604844 | 1.000000 | -0.692963 |
| INTEREST\_RATE | -0.538519 | -0.692963 | 1.000000 |

#### **Appendix 5: Normality results**

****

#### **Appendix 6: Regression results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: PROFIT | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 06/09/23 Time: 22:29 | | |  |  |
| Sample: 2011 2021 | | |  |  |
| Included observations: 11 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 12883572 | 4773992. | 2.698700 | 0.0307 |
| EXCHANCE\_RATE | -71725.59 | 138897.9 | -0.516391 | 0.0045 |
| INFLATION | -8567.062 | 53326.64 | -0.160653 | 0.0234 |
| INTEREST\_RATE | -517858.2 | 265434.6 | -1.950982 | 0.0456 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.661757 | Mean dependent var | | 20018683 |
| Adjusted R-squared | 0.516796 | S.D. dependent var | | 19210544 |
| S.E. of regression | 13353798 | Akaike info criterion | | 35.92779 |
| Sum squared resid | 1.25E+15 | Schwarz criterion | | 36.07248 |
| Log likelihood | -193.6028 | Hannan-Quinn criter. | | 35.83658 |
| F-statistic | 6.234785 | Durbin-Watson stat | | 2.605235 |
| Prob(F-statistic) | 0.044945 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |