Impacts of Russia-Ukraine Conflict on Exchange Rate In The Gambia

By

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A thesis submitted to the Brac Business School in partial fulfillment of the requirements for the degree of
Masters of Business Administration

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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing my degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material that has been accepted or submitted, for any other degree or diploma at a university or other institution.
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Approval

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Abstract/ Executive Summary

The Gambia is one of the least developed countries in sub-Sahara Africa that has experience sharp volatility in exchange rate of Gambian Dalasi against US Dollar in awake of Russia-Ukraine conflict. The Gambia has experience sharp shift in exchange rate since the conflict broke out due to the sanctions meted on Russia by US and her allies. The study found out that global supply chain disruption has further strained Gambian dalasi. This study examines the impact of Russia-Ukraine Conflict on Gambian Dalasi-US Dollar exchange rate. The study employed a timeline analysis to cover the major events that preceded and occurred during the conflict. This necessitated the use of scholarly and media reports in order to provide an analysis of the events and their implications on Gambia's exchange rate. The study takes into account the dalasi exchange rate 120 days before and 240 days after the start of the Russian Ukraine war. The t test is used to analyze data. The Gambia must capitalize on its demographic advantage in order to strengthen its currency and self-sufficiency in energy, health, and food security. The study also provides a framework for the impact of the crisis on food policy, energy policy, exchange rate policy, and other macroeconomic policy, as well as the economic consequences such as dalasi depreciation and inflationary pressures in The Gambia. The study also shows how important investments in food policy and the energy sector for The Gambia

Findings: It was discovered that the war had a negative impact on the Gambia Dalasi exchange rate. Import dependency on critical items such as energy, food, and health had limited the country's ability to protect its currency and citizens' livelihoods

Recommendations: The Gambia must capitalize on its demographic advantage in order to strengthen its currency and self-sufficiency in energy, health, and food security. Agricultural and artisanal industries should be improved to facilitate export and earn foreign currency.

Keywords: Russia-Ukraine; Crisis; inflationary pressure; exchange rate; The Gambia;

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List of Acronyms

IMF	International Monetary Fund
CBG	Central Bank of The Gambia
WB	The World Bank
PMS	Premium Motor Sprint
AGO	Automotive Gas Oil

Chapter 1 Introduction

As Russian tanks rolled into Ukraine on February 24th, 2022, hopes for global economic growth began to fade. The war's impact is felt in Africa, particularly in The Gambia, due to spikes in energy and food prices caused by the war-linked supply chain and trade disruptions. Russia is not only the world's second most powerful military power, but also the world's third largest crude oil exporter, trailing only the United States and Saudi Arabia, Zhu, H. (2022). The conflict has widened the schism between Russia and the West, as unprecedented sanctions have been imposed on Russia, fueling geopolitical tensions between Russia and Western nations, lowering global growth expectations amid uncertainty about the crisis's impact on the global supply chain. As the shock of the conflict spread across the world, Africa is already suffering from prolonged droughts, and political destabilization, particularly in the Sahel, Horn of Africa and East Africa. About 50 African countries imported crude oil from Russia worth $123 billion, Afdb(2022). As a country with significant political, economic, and military clout, it is unsurprising that their invasion of Ukraine has had consequences for Africa's fuel security. Oil price volatility has increased the cost of food production in Africa, particularly in conflict-affected regions such as the Sahel. Ukraine supplies 12% of the Gambia's edible oil. The Gambia's Russian imports totaled $5.26 million in 202, Gunay (2022). Because The Gambia imports heavily from countries experiencing conflict-related shock, the country will invariably feel the spread of the shock. This has increased import costs and harmed the Dalasi exchange rate. Because payments are made in US dollars, this reduces foreign exchange reserves (CBG monetary Policy, 2022). More than half of Gambia's consumption is imported from the international market (FAO 2021). The Gambia's current account deficit (CAD) is expected to widen to 5.6 percent of GDP by the end of 2022, from a deficit of 4.5 percent of GDP in 2021, owing primarily to the country's steadily growing trade deficit (imports are more than exports).

The global tightening of financial conditions has put pressure on the dalasi (CBG monetary policy, 2022).

1.1 Overview of The Gambia Exchange Rate Regimes Before the War

Between 1965 and 1985, The Gambia maintained a fixed exchange rate which peg dalasi to the British pound. Since the Structural Adjustment Program was adopted, the Gambia government implemented an floating exchange rate regime in 1986, which caused the dalasi to depreciate immediately by 53.4% until appreciating in 1987. (Ahortor et al., 2012). In April 1990, officials approved the building of a foreign exchange bureau in an effort to expand the foreign exchange market. The premium between the exchange rates that prevailed in the two markets decreased as a result of the development of the inter-bank foreign exchange market (Abu Bakarr et al., 2012). In 1965, after independence, The Gambia government adopted a sound and stable macroeconomic framework with modest economic growth in per capita income of about 4.7% and an annual inflation rate of 3.7% (Ahortor et al., 2012). The Gambia's economy, however, saw a series of internal and external shocks throughout the 1970s. However, it becomes abundantly obvious in 1985 that The Gambia has faced a number of economic difficulties. As a result, the Ministry of Finance and Trade, Economic Planning, and Central Bank need to undergo reforms (Abu Bakarret et al., 2012). The Gambian dalasi has also depreciated dramatically after the implementation of the floating exchange rate in 1986; the inflation rate slowed in 1990 from 12.2 percent to 0.8 percent in 2000 and coincided with the relative stability in the dalasi's external value (Abu Bakarret et al., 2012). The drought and the dalasi's depreciation between 2000 and 2003 led to the emergence of inflationary pressure. The growth in real GDP increased from 3.7 percent in 1998 to 9.2 percent in 2004. In addition, the economy’s real GDP has increased from negative 9.0 percent in 2005 to positive 6.1 percent in

2010, due to improvement in agricultural output, relative stability in the exchange rate and increased tourist activities (Abu Bakarret et al., 2012).

1.2 Statement of the problem

During the Covid-19 outbreak, African countries experienced significant disruptions in economic activities. The pandemic has not had the expected impact on the continent’s health sectors, but it has slowed the continent's economic progress by nearly 2.1%, The World Bank (2021). The Gambia, in particular, experienced a 2.4% decrease in GDP during the pandemic. Weather has a large impact on food production in The Gambia. The country produces roughly half of its domestic needs, FAO(2021). In order to meet its consumption needs, the nation imports rice from abroad, and this situation influence the Dalasi exchange rate. The domestic food market is under pressure due to rising food prices internationally and low domestic production, which is reducing consumer purchasing power in both urban and rural areas of the Gambia. Demand for the US dollar in international transactions has caused the Gambian Dalasi to depreciate sharply against the US dollar and other major currencies. The Gambia remains vulnerable to upcoming shocks such as new COVID-19 variants and weather-related risks, and the threat of the war in Ukraine spreading there dims the outlook even further. Despite the fact that there are few direct links between the country and Russia or Ukraine, the war is already raising food, fertilizer, and fuel prices and risking delaying global recovery, particularly in the country's main tourism market, Europe. The Gambian’s economy is set to decelerate in 2022 due to high commodity and fertilizer prices, and supply disruptions due to the war in Ukraine, and ongoing floods. Inflation reached 12.3 percent (year-on-year) in July 2022 – its highest level in the last three decades and the exchange rate is overwhelmingly high, UNCTAD (2022).

Because of all these issues, The Gambia and other West African countries still fails to safeguard their economics from external shocks. Therefore, it is crucial for African countries, especially low-income countries like the Gambia to diversify investment and create policies that focuses on food and energy security, as well as controlling inflationary pressure and stabilization of dalasi exchange rate. The study will also spot out areas of improvement.

1.3 Objective of the Study

There has been little research and understanding of how the war has affected The Gambia and other West African countries. The purpose of this research is to investigate the impact of the Russia-Ukraine war on The Gambia's exchange rate. In order to fully understand the impact of the war, the study will conduct a period analysis using t test. The study may also influence the interest of policymakers in African governments responsible for food security by encouraging various actors in the food system chain to explore and adopt more resilient methods to avoid being heavily impacted by localized events such as the Russia-Ukraine war. The study will propose strategies for dealing with the challenges posed by the war in order to protect the Gambia economy. The study is unique in that it uses curated reports and media information to provide an extensive analysis of the issues with the goal of providing concrete policy insights.

1.4 Focus of the Study

This study focuses on the fundamental concept of macroeconomic activities such as exchange rate and inflation. It focuses on finding the impact of Russia-Ukraine conflict on Gambia exchange. It uses different measures, tools, and concepts of measurement and understanding the impact of the conflict. There is a focus on studying exchange rate at different periods before and after the start of the conflict, and it resultant impact on Gambia.

1.5 Significance of the studies

The significance of the studies is to discover impact of Russia-Ukraine conflict on Gambia exchange rate. The study may be significant to policymakers responsible for inflation control and macroeconomic policy makers in Gambia and other West African governments.

1.6 Limitation of the Study

The main limitation of the studies is unable to address the macro-environment variable such as political situation, market condition, government regulation, and tax policies, interest rates, exchange rate regime and inflation. The factors that lead to the conflict is beyond the control of the Gambia.

1.7 Organization of the study

This research papers include the following contents:

The first chapter is the introduction which covers the background of the Russia-Ukraine conflict and its resultant impact on Gambia exchange rate as well as exchange rate volatility. The study explores the focus areas of the studies problem statement, significance, limitations and organization of the study.

Chapter two is the literature review in which I have analyzed different articles, journals, books, websites, and scholarly journal articles. The section discusses the overview of the exchange rate, measure economic conditions and how to make informed decision.

Chapter three consists of research methodology which includes methods, design, types of data, details about analysis, tools and technique etc.

Chapter four consists of the analysis and findings of the study, where I have used employed descriptive analysis to analyze data on exchange rate and other macroeconomic variables.

In chapter five, I have given the conclusion and recommendation of my study.

Chapter 2 Literature Review

2.1 Introduction

This chapter reviews and compare evidence from previous studies on Russia-Ukraine conflict, impact of the conflict and crisis on Gambia exchange rate. This chapter specifically gives the theoretical justifications for the study. It explains how crisis and conflict affect countries in different ways by reviewing the Russia-Ukraine conflict.

2.1.1 Review of the impact Russia-Ukraine Conflict on Gambia Exchange rate

Russia-Ukraine conflict has hampered global demand supply as both countries play key roles in the global supply chain. Since Western Countries meted sanction on that targets Russia's economy in terms of ban on new investments. Further sanctions targets on Russian financial institutions (Alfa Bank and Sberbank), sanctions on critical major state-owned enterprises, sanctions on government officials and diplomats, sanctions on various Russian oligarchs, and trade-related actions ("what are the sanction on Russia, 2022). Russia began to demand payment in rubles. According to Thakur (2022) the dollar also strengthened as European countries had to purchase oil from markets that required US dollars. The Russia-Ukraine conflict increased crude oil prices, which harmed the dalasi exchange rate. In addition, Sul & Wu (2018) stated that a country's exchange rate is influenced by various factors such interest rate, inflation rate, current account deficit and other things. Cultural dimensions of a country influences exchange rate. Similarly, Cao et al. (2020) argue that individualistic cultures are more likely to have a floating rate regime. Furthermore, Razafimahefa (2012) stated that in Sub-Saharan Africa, macroeconomic variables such as interest rates, inflation, and trade openness all have an impact on the exchange rate pass through. The Gambia's exchange rate has been under pressure due to the country's current account deficit (Jallow, 2018). In terms of international trade, the country faces current account deficits since 1978 (IMF, 2021), largely associated with high imports. Dalasi could have depreciated further, but open market operations by The Gambia's Central Bank have limited Dalasi depreciation. The country has a small export base, with entrepot trade accounting for the majority of its export revenue. However, due to rapidly rising efficiency gains in other competing countries, particularly Senegal, The Gambia has recently lost its competitive advantage as the regional re-export hub (Jallow, 2018).

The country's monetary authority, the CBG (Central Bank of The Gambia), maintains a flexible exchange rate system, allowing the dalasi to be determined by market forces. The dalasi is currently on a continuous gradual decline, which piques my interest and motivates this study to determine whether the Russia-Ukraine war has an impact on the Gambia's exchange rate. According to (Jallow, 2018), the economic performance of the two major sources of foreign exchange and engines of growth which are tourism and agricultural sectors are affected by seasonal changes which impact output and employment, and this always cause foreign currency shortage in the market. Since the advent of the war, Central bank of The Gambia has resorted to dollar sales to arrest the fall in dalasi. The Gambia economy will have inherent weaknesses unless citizens prioritize electing their political representatives by focusing on good governance.

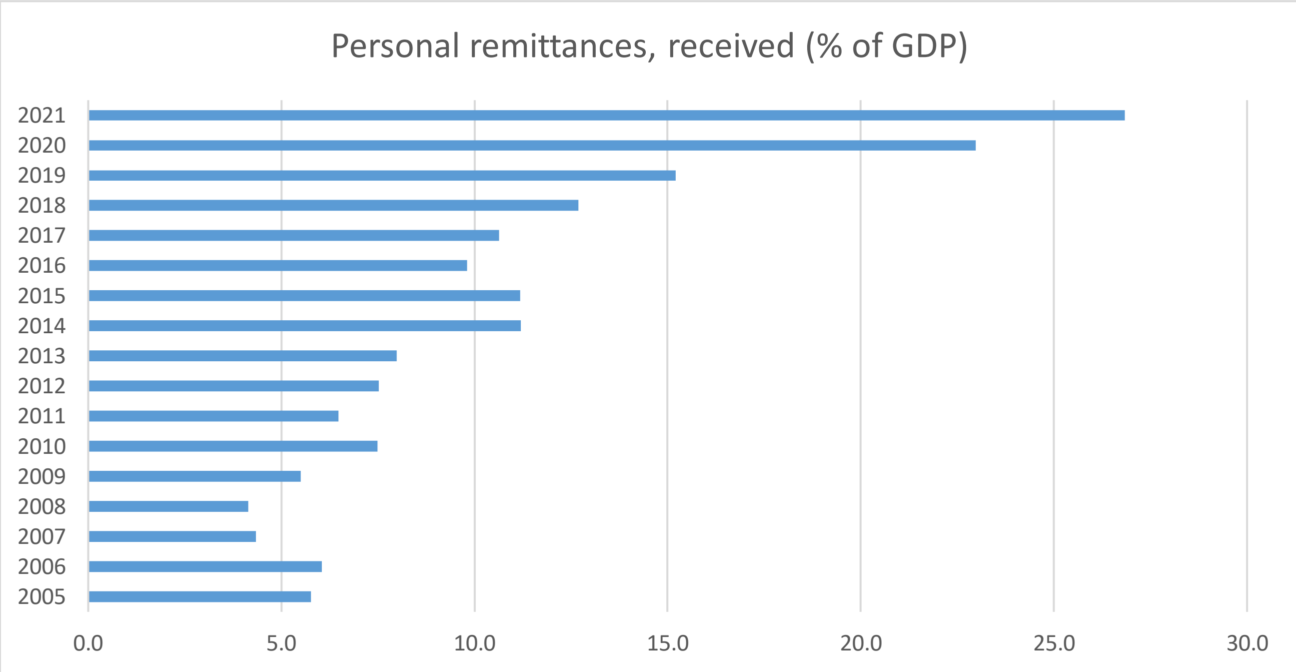
2.1.2 The Gambia's Economy Before the Advent of Russia-Ukraine Conflict

The economy of the country is based on industrial development, commercial activities, export-based trade, tourism, and other services. The Gambia's growth rate in 2019 was 6.2%, driven by increased confidence and record tourist arrivals, with sound macroeconomic management assisting in reducing the fiscal deficit, exiting debt distress, and increasing international reserves closer to prudential levels. The COVID-19 crisis slowed growth to 0.6% in 2020 (a

2.3% decrease in per capita income), reversing poverty reduction gains. In 2021, the economy recovered to 4.3% (1.3% in per capita terms), boosted by strong activity in tourism and construction, which boosted services and industry, and favorable weather, which aided agriculture. The proportion of Gambians living below the international poverty line of $2.15 (in 2017 PPPs) fell from 11.7 percent in 2020 to 11.1 percent in 2021 as a result of economic recovery, lifting over 8,000 people out of extreme poverty, (WB/IMF,2021). As development partners unwound financial support provided during the COVID-19 pandemic, the fiscal deficit increased to 4.6 percent of GDP (a primary deficit of 1.6 percent of GDP) in 2021, up from 2.2 percent of GDP in 2020. The public debt-to-GDP ratio has continued to fall, and is expected to be 83.8 percent of GDP in 2021—2.1 percentage points lower than in 2020. The risk of overall and external debt distress remains high, according to the IMF most recent assessment of the country, Avdiu (2021). In 2021, average inflation rose to 7.4 percent, up from 5.9 percent in 2020, and well above the Central Bank's medium target of 5 percent. Dalasi's value has plummeted against the US dollar. Prior to the outbreak of the war, the exchange rate of GMD per USD was 52.77 in February 2022, and it was 60.57 in November 2022.

According to the World Bank's second Economic Update on The Gambia, the country fared better than many of its regional and similarly tourism-dependent neighbours. Even as the number of tourists has declined, the economy has been bolstered by a strong agricultural performance, international support measures, and record levels of official remittances, which have in turn fuelled private sector investment. According to the World Bank (2021), Gambia recorded personal remittances of 23% and 26.8% of GDP in 2020 and 2021, respectively. The trend is shown in table 2.1.2 from 2005 to 2021. However, while it suffered less than its peers in 2020, its recovery in 2021 has been more tentative, exposing some of the industry's long-standing structural and economic issues.

Figure 1 Personal Remittance and official development assistance

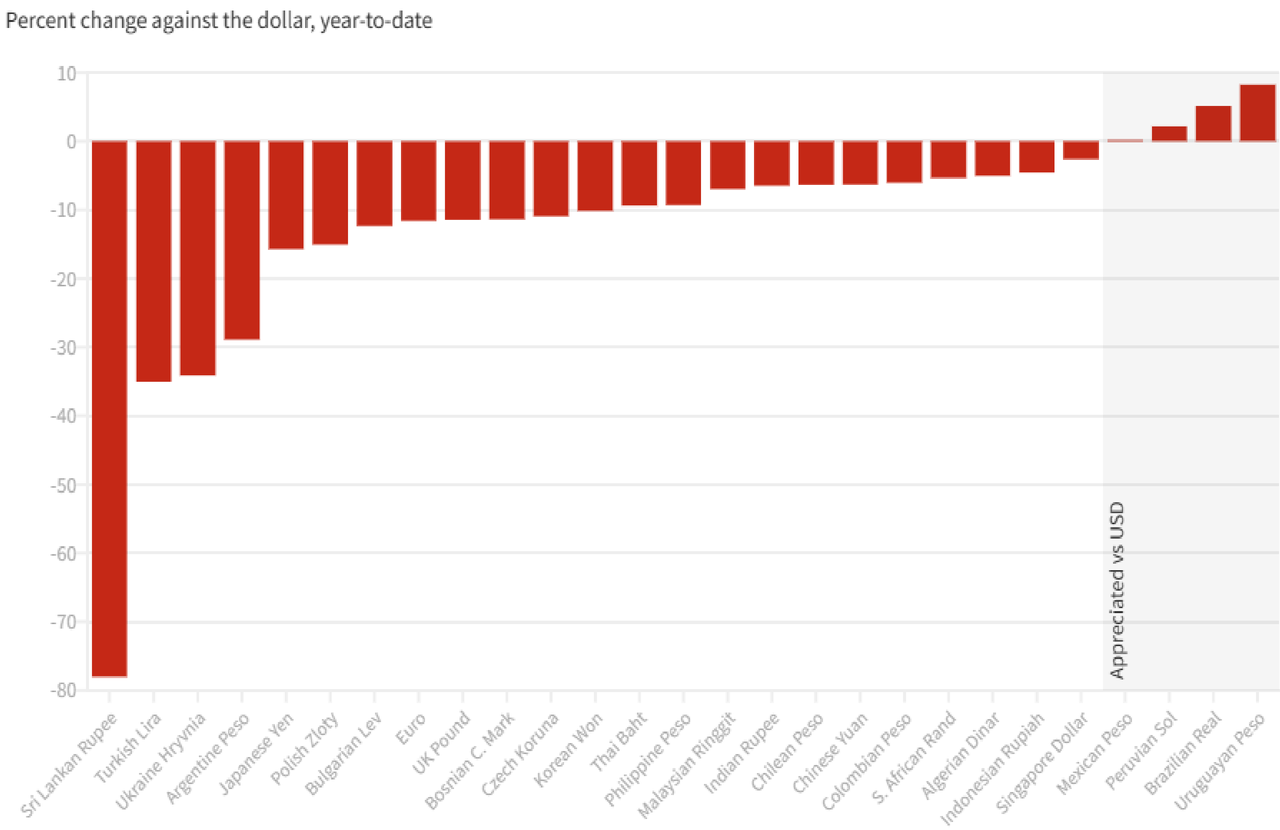


Source: The World Bank data

2.1.3 The Gambia's Exchange Rate After the Advent of Russia-Ukraine Conflict

The conflict's predicted rise in inflation has caused an increase in global interest rates, putting additional strain on debt-burdened countries like The Gambia, whose public debt stock has reached GMD90.7 billion as of the end of September 2022, up from D83.8 billion in the same period in 2021. According to the finance minister, the increase in the public debt stock is explained by a foreign exchange rate loss on the foreign debt stock and an increase in domestic borrowing totaling GMD 3.2 billion and GMD 3.7 billion, respectively, according to The Voice (2022). Furthermore, IMF assessment indicated that the public debt stock has been projected to increase to GMD107 billion in the financial year 2022/2023 ("The Gambia - National Debt 2027 | Statista," n.d.). ESTEVÃO (2022) stated that rising interest rates in advanced economies and the strong US dollar continue to exert depreciation pressure on exchange rates and raising external debt profiles in emerging markets and developing economies. The article stated that developing countries should increase their interest rate to attract investors and investment in form of FPI. According to the Gambia monetary policy, the interest rate on the standing deposit facility has been maintained at 3 percent and the standing lending facility at 14 percent (MPR plus 1 percentage point). This policy was adopted to attract more dollars. Currency swapping was suggested by Sarkar (2022) as a way to reduce reliance on the US Dollar. In contrast, Chortane and Pandey (2022) discovered that the conflict in the Middle East and Africa had little effect on the currencies of those regions and instead caused the European and pacific currencies to appreciate. Other currencies are moving to the beat of the US Fed, the ringleader. Other currencies around the world are significantly impacted by the US Federal Reserve's decisions (World bank, 2022).This is depicted on the figure 2.1.3.

Figure 2 Appreciation and Depreciation of Major Currency

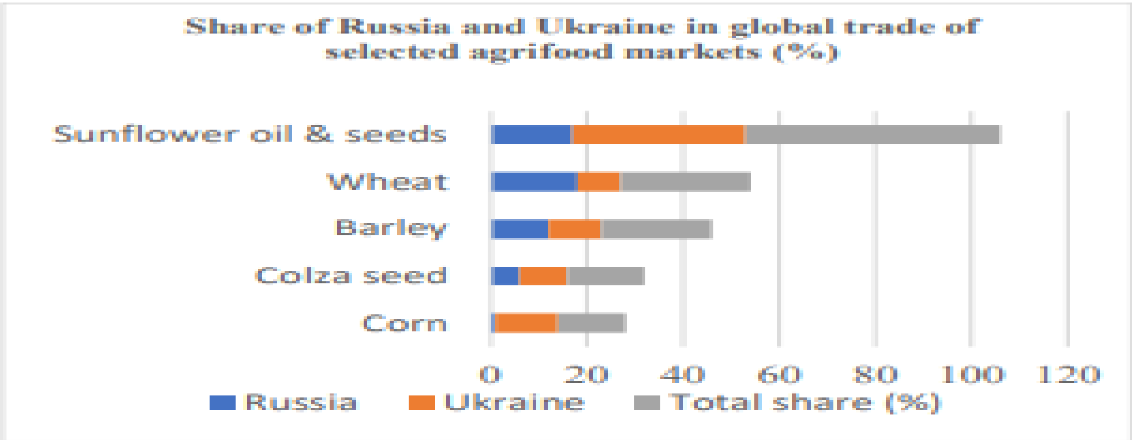


Source: World Bank Group- Macroeconomics

2.1.4 Impact on supply of key commodities and implications on prices

As previously stated, Russia and Ukraine are major players in global trade and producers of food and agricultural products such as wheat, sunflower oil and seeds, barley, and fertilizers. According to UNCTAD, the two countries account for 18% and 9% of global wheat exports, 17% and 36% of sunflower oil and seed exports, and 12% and 11% of global barley exports, respectively (2022). Furthermore, nearly 50 countries are estimated to source 30% of their wheat imports from the two countries.

Figure 3 Russia and Ukraine in Global Trade



Source: UNCTAD, 2022 (based on 2020 data from UN Comtrade database)

The conflict has had a significant impact on wheat and sunflower oil exports from both countries, posing additional challenges for food security in countries that rely heavily on them for imports. The Gambia is one of those countries that relies heavily on wheat imports from the global market, which has been disrupted by the Russia-Ukraine conflict. Despite the country's limited direct links with Russia and Ukraine, the war is already raising food, fertilizer, and fuel prices and threatening to stall the global recovery, particularly in its key tourism market, Europe. As the pandemic's immediate impact fades, The Gambia appears to be on track for modest growth in the medium term, driven by a rebound in tourism, investment, and agriculture. A widening current account deficit, rising inflation eroding household incomes, and high fiscal deficits necessitating domestic borrowing could jeopardize the recovery's sustainability and impede poverty reduction.

2.2. Factors That Influence Exchange Rate

2.2.1 Interest Rate

Interest rates in the home and host nations are a major factor in determining the exchange rate. As part of economic management, the central bank changes interest rates every quarter. If there is a high level of inflation in the nation, the central bank will raise the base lending rate to restrict the availability of credit to individuals and businesses and raise borrowing costs. This rise in one country's interest rate, assuming the host nation does not modify its interest rate, causes an imbalance between the supply and demand for money, which eventually leads to a move toward equilibrium in the exchange rate. If not, cross-border borrowing and investing may still result in arbitrage benefits from one country to another. If the interest rates in both the home and host countries rise or fall at the same time, there will be no effect on the exchange rate due to interest rates. The relative interest rate is a significant factor influencing XRs. A rate of interest is a fee charged or paid for the use of money. It is frequently expressed as a yearly percentage of the principal. Individuals and businesses tend to demand more loans when interest rates are low, so the interest rate is expected to be negative. In a fractional reserve banking system, each bank loan increases the money supply. According to the quantity theory of money, an increase in the money supply leads to an increase in inflation. As a result, a low interest rate tends to cause more inflation. High interest rates, on the other hand, tend to result in low inflation (Saeed, 2004).

2.2.2 Inflation Rate

According to the Consumer Price Index, inflation is the rise in the average price of goods and services throughout an economy. In other words, price increases are referred to as inflation in international jargon, while currency depreciation is referred to as the same. The value of domestic currency depreciates when domestic inflation is strong, and vice versa. Exchange rates and inflation have a negative correlation. The currency value rises in nations with lower inflation and vice versa. An increase in exchange rates denotes a decline in the value of one's own currency. This refers to an annual increase in the price of a basket of goods and services purchased by consumers in an economy, which causes the purchasing power of a country's currency to decline. In other words, it refers to the rate at which the value of the currency declines, leading to an increase in overall consumer prices. An approximate measure of this is the Consumer Price Index (CPI), which determines how much the prices of various goods have increased by weighing their importance in a typical budget. This immediately raises a number of issues. For instance, the weighting must evolve over time (Akhiria & Saliu, 2008).

2.2.3 Current Account Deficit and Balance of Payment

The balance of payments (BOP) is a net indicator of foreign currency inflows and outflows. International trade and services are the primary drivers of outflows and inflows (RUBASZEK, 2004). The BOP is made up of current and financial accounts. All goods, services, interest, dividends, unauthorized transfers, and errors and omissions are included in the current account. The net balance on this current account that results from crediting inflows and debiting outflows reveals whether a surplus or deficit was produced in a given year. The financial account tracks inflows and outflows of FDI and portfolio investment. According to (Tenreyro, 2007) both financial and current accounts jointly determine the foreign exchange reserves available in a country. According to (BATTILOSSI, 2003), countries that follow a managed float will use this to control the exchange rate by appropriately releasing foreign currencies needed from this reserve, whereas countries that follow a floating rate regime will not use these reserves during times of exchange rate crisis.

2.2.4 Government Intervention

The national governments expenditure should not exceed its revenue from income tax. If government spending is greater than revenue, the gap will be filled by borrowing or printing currency notes. These actions erode the trust of external parties who do business with the a paprticular country. It causes investors to seek out safer investment opportunities. If governments are unable to raise funds through taxation, they must rely on external debt. Foreign debts and a fiscal deficit create a financial imbalance, which leads to currency fluctuations (Schnabl, 2005). Most scholars pointed out that corruption practices of a government can impact exchange rate of a country. According to (Arize, Malindretos, & Kasibhatla, 2003), corruption surfaces at lower rungs of society due to poverty, poor standard of living prevailing in a country. In contrast the rich indulge in corrupt practices to accumulate wealth as it satisfies their ego and increases the political and muscle power in a society. An ineffective legal system and lenient or non-punishment for corrupt practices make corruption worse. Corruption significantly undermines a nation's economic system and raises the cost of doing business there. The first victim is the nation's infrastructure. Substandard materials, drawn-out operational processes, bureaucratic delays on the part of government employees, and protracted legal disputes are all consequences of corruption. Corruption and exchange rates are positively correlated, which results in a decline in the value of the currency relative to the home currency. Extortion and bribes are two additional costs of corruption for international trade that are fixed and have an impact on exchange rates (Arize, Malindretos, & Kasibhatla, 2003).

Findings: Russia and Ukraine are key players in international market, therefore, the war distrupted supply chain. Most the literature reveals that supply chain disruption has caused dollar to appreciate against all the major currencies, and Gambia dalasi is also impacted due to shartage of dollar. Estevao (2022) stated that rising interest in developed countries exerts depreciation presure on exchange rate and debt profile of emerging countries.

Recommendation: Based on the literature reviews, it is recommended that developing countries should increase their interest rate to attract investors. Currency swapping can help developing nations break their reliance on the dollar.

Chapter 3 Research Methodology

3.1 Introduction

This chapter provides an overview of the methodical strategies used to describe the impact of Russia-Ukraine conflict on exchange rate in The. Based on the review of the impact of the Russia-Ukraine conflict on exchange rate, the following methods have been adopted.

3.2 Research design

The study employs descriptive research design by using secondary data. Gambian Dalasi-US Dollar exchange rate data is obtained from Central Bank of The Gambia. Since periodic analysis is employed, the war started on 24th February 2022. This was the period when Russians tanks rolled into Ukraine. Since time series is employed to analyze the impact of the war, exchange rate of 120 days before and 300 days after the start of war is used for the study. Daily and monthly change in exchange rate is considered for the study. Data is analyzed using paired t test. It tries to make analysis based on the results obtained from secondary data obtained from scholarly articles and IMF, FAO, international and local news agencies. Based on the data obtained, it tries to give the conclusion and recommendations. I will use a descriptive and explanatory technique to explain and discover the relationship between variables that influence exchange rate. This is to determine and anticipate what exposes countries to external shocks.

3.3 Sources of Data

This study is based on secondary data. I have used published secondary data which are available on the websites of the Central bank of the Gambia, The Gambia Ministry of Trade, The Gambia Ministry of Finance and Economic Affairs, IMF, FAO, The World Bank, Petrol Stations in Gambia and scholarly articles.

3.4 Coverage

These studies have used financial data and information for one year from 2021 to 2022 of the Russia-Ukraine conflict for calculation and analysis purposes. It also sees the current economic and market situation including foreign policies and gives judgment.

3.5 Data analyzing approach

To analyze the data the impact of the conflict on exchange rate in The Gambia, I will using paired t test.

Chapter 4 Data Analysis and findings

Introduction

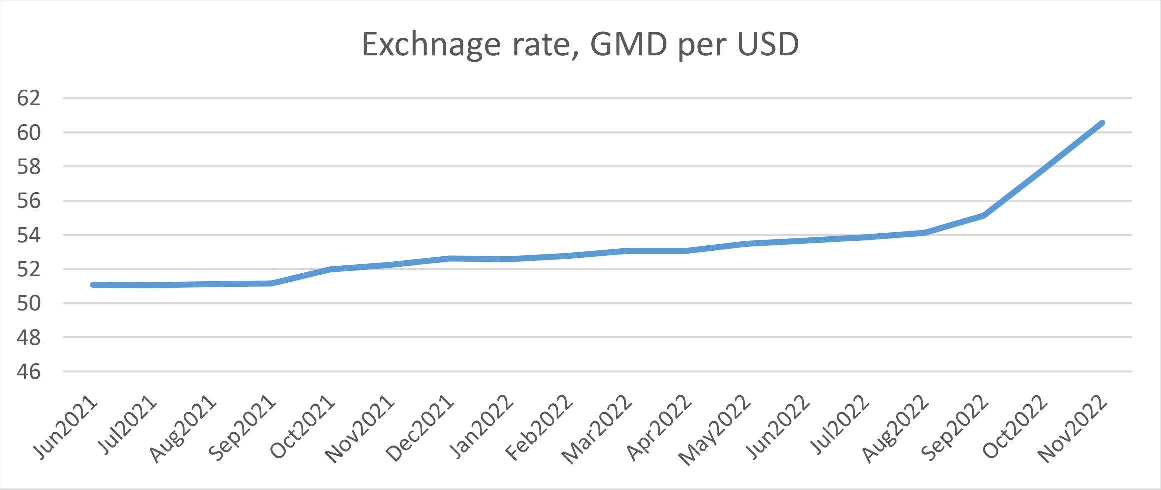
In this part of the chapter, I analyzed the data using a paired t test to find the impact of Russia-Ukraine conflict on Gambian Dalasi-US Dollar exchange rate in the Gambia. I made analysis based on the results obtained from secondary data obtained from scholarly articles and IMF, FAO, international and local news agencies.

4.1 Exchange rate

The exchange rate is influenced by the supply and demand for dollars and dalasi. Dalasi depreciates when dollar demand outpaces dalasi demand. This is brought on by rising imports and declining exports. The Gambia is always a net importer of goods, and its import bill has gone up as a result of the conflict between Russia and Ukraine and the skyrocketing price of crude oil. The global supply chain shock is negatively affecting The Gambia's inflation situation and pressuring the dalasi exchange rate. Since the start of the war between Russia and Ukraine, the dalasi has decreased in value. As a result, the dalasi fell to an all-time low of 60.57 to the dollar in November 2022. This could even be higher if market price of dollar is considered instead of the central bank's exchange rate. Before the advent of the war, dalasi per USD was 52.58 as at January, 2021.

4.1.1 GMD USD Exchange Rate eight months before and After Russia Ukraine Conflict

Figure 4 Exchange rate eight months before and after Russa-Ukraine



Source: Central Bank of The Gambia

4.1.2 Data of the GMD-USD exchange rate from Start of the Conflict to November 2022:

Table 1 GMD-USD exchange rate from Start of the Conflict to November 2022

Date	Exchnage rate, GMD per USD
Jun2021	51.07
Jul2021	51.05
Aug2021	51.13
Sep2021	51.17
Oct2021	51.96
Nov2021	52.25
Dec2021	52.61
Jan2022	52.58
Feb2022	52.77
Mar2022	53.05

Apr2022	53.05
May2022	53.46
Jun2022	53.66
Jul2022	53.87
Aug2022	54.11
Sep2022	55.12
Oct2022	57.84
Nov2022	60.57

Source: Central Bank of The Gambia

In table- 4.1.2, I have collected the required data of GMD USD exchange rate from Central Bank of The Gambia. The table show exchange rate movement of last nine months before the conflict broke out and nine months into the conflict. The instability in the exchange rate reflects the concerns of developing economy like the Gambia to face major geo political crisis due to dependence of importation. The conflict has caused the deficit balance of trade to widen as import bill increased. The current account deficit of US$25.6 million (1.3 percent of GDP) in the first half of 2022, from US$8.3 million (0.5 percent of GDP) in the corresponding period of 2021. Due to the external shocks, the Gambia has intervened in the FX market by selling over US$74 million of external reserves to facilitate importation of essential goods (Gambia Monetary, 2022). The Gambia's exchange rate has come under significant pressure due to the balance of trade and the balance of payments and the rising strength of the US dollar. From the table 4.1.2, the exchange rate of GMD per USD was 51.07 and 60.57 in June 2021 and November 2022 respectively. The increment reflects the pressure of the conflict on the Gambian Dalasi against dollar. Such a shift in the exchange rate is hardly seen in The Gambia. Some African central banks, such as the Central Bank of Kenya, instructed commercial banks to start rationing dollar sales to businesses that required the hard currency, such as importers and manufacturers. The banks immediately complied as anticipated, despite the fact that the majority of Kenyan businesses now have a daily dollar transaction cap of $50,000. (Central Bank of Kenya, 2022). Similar moves was adopted by central bank of the Gambia when all the banks in the Gambia were directed to stop shipment for foreign currency for their customers. The directive further indicates that, shipment will be allowed for funding bank's accounts but not for individual. These measures lasted for about four months before it was abolished.

4.2 Paired Samples Statistics

Table 2 Paired Samples Statistics t test statistic

Particulars	**Mean**	**N**	**Std. Deviation**	**Std. Error Mean**
GMD USD Exchange Rate eight months before the conflict	51.84333	9	0.738054876	0.246018292
GMD USD Exchange Rate eight months before the conflict	54.97	9	2.572401602	0.857467201

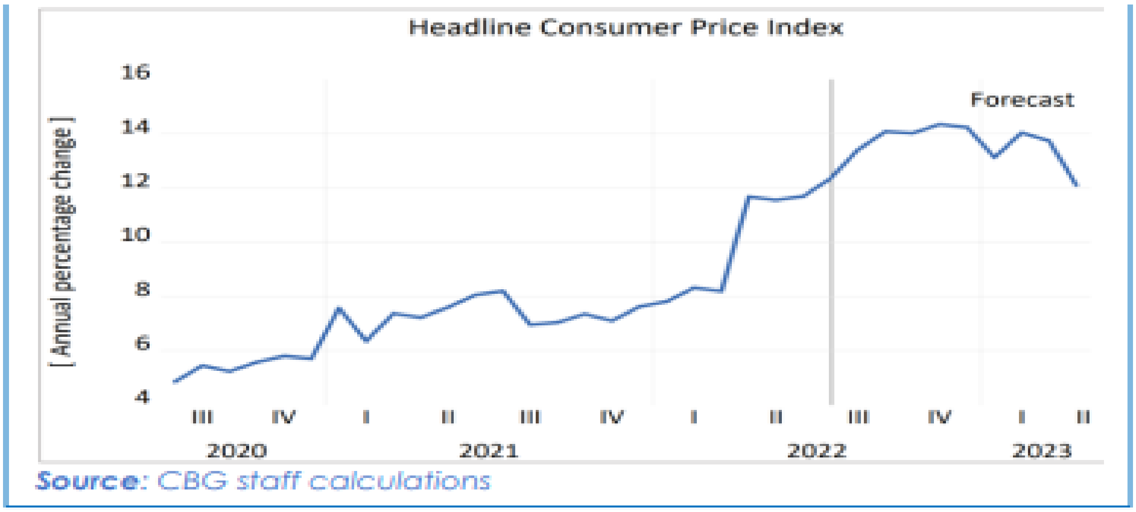
4.2.1 T Test of Exchange Rate Before and After Russia Ukraine War

Table 3 T Test of Exchange Rate Before and After Russia Ukraine War

Details	**Mean**	**Standard. Deviation**	**Standard. Error Mean**	**95% Confidence Interval of the Difference upper**	**95% Confidence Interval of the Difference Lower**	**t**	**dt**	**sig 2 tails**
GMD USD Exchange Rate eight months before and after the conflict	3.12666667	2.0457395	0.681913158	4.69916123	1.554172104	4.585139073	8	0.00179

According to table 4.2.1, the dalasi exchange rate differs significantly after the Russia-Ukraine war ($P<0.05$). In a major geopolitical crisis, the global supply chain puts countries at risk of supply shock, and Gambia is no exception. In the Gambia, inflation has risen and the currency has depreciated. In July 2022, headline inflation increased to 12.3 percent, up from 8.2 percent in March 2022. The primary contributor to headline inflation remains food prices, which account for more than half of the consumer basket, the majority of which is imported. This is the first time that inflation in Gambia has reached double digits. The Dalasi fell by 5.7 percent against the US dollar between June 2021 and June 2022. It is a challenge for the country's growth prospects. The depreciation of the currency puts pressure on inflation because Gambia imports crude oil. Inflationary pressures harm ordinary citizens and stifle growth. The central bank of The Gambia has attempted to halt the depreciation of the dalasi through open market operations, setting and reviewing target and monetary policies. Gambia needs to invest in

Figure 5 Consumer Price Index ***in Gambia***

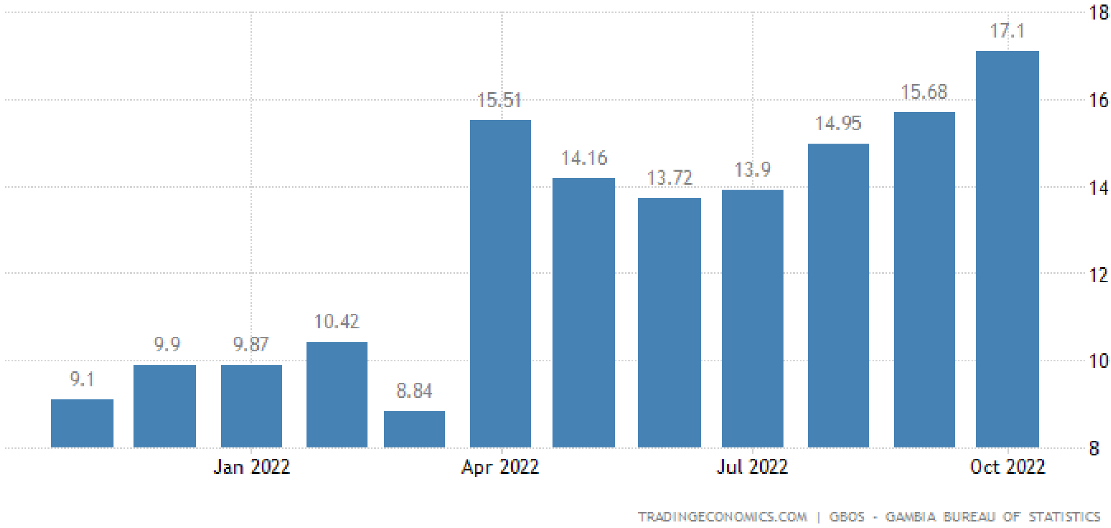


agriculture and artisanal industry to accelerate exportation and reduce importation of food and energy related. Green energy alternatives need to be popularized and made viable. Efforts must be made to encourage export in every sector, where Gambia is having dependency on imports.

4.2.2 Food and livelihood

Cost of food in Gambia increased 17.10 percent in October of 2022 over the same month in the previous year. All food basket items' price indices rose, with the exception of meat, nonalcoholic drinks, and vegetables. Despite the persistence shortage of dollar, food importation remains to be the key driver to acquire dollar. Because of the excess importation, Gambia is always experiencing current account deficit which always has effect on exchange rate.

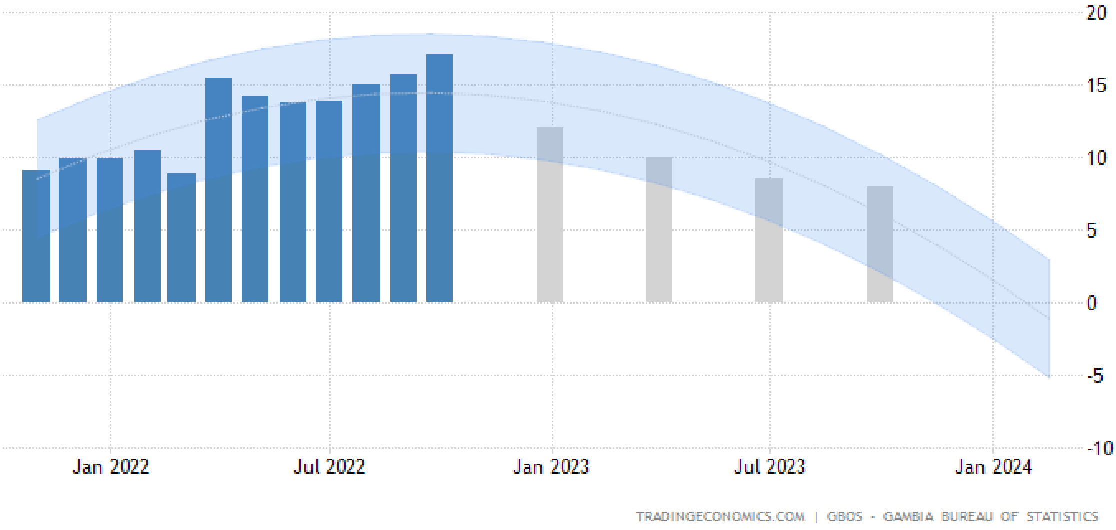
Figure 6 Cost of food in Gambia



4.2.3 FORECAST ON FOOD INFLATION

Food Inflation in Gambia is expected to be 12.00 percent by the end of this quarter, according to Trading Economics global macro models and analyst's expectations. In the long-term, the Gambia Food Inflation is projected to trend around 7.00 percent in 2023 and 6.80 percent in 2024, according to our econometric models. Based on the data used, the inflation was influenced by supply chain disruption and spillover of the effect of the war. The supply chain disruption has put pressure on all countries to demand USD for transaction, thus making USD to appreciate against all major currency including the Gambian Dalasi. The rise in dollar is expected to peaked in the first quarter of 2023 as governments are trying ways to trade without dollar.

Figure 7 FORECAST ON FOOD INFLATION



4.2.4 Energy Security

The effect of the conflict caused the pump price to change in Gambia for almost three times during this year, this was to reflect the cost of fuel price in the international market as supply chain is disrupted. In some case, the increase in fuel price is precipitated by the expiration of a government subsidy that underpinned the preceding price.

Table 4.2.4 Market Price per pump for Diesel (AGO) and Petrol (PMS)

Table 4 Price per pump for Diesel (AGO) and Petrol (PMS)

Date	**Diesel (AGO)**	**Petrol (PMS)**
Nov-21	**52.23**	**55.53**
Nov-22	**73**	**77.89**
% Change in price (Nov 2021- November 2022)	**40%**	**40%**

Data Source: Based on arthor's calculation based data from Atlast(Oryx) Petrol Station.

From the table 4.2.4 shows the pump price of diesel and petrol. It is not surprising to notice the price changes in pump prices as the shock of the conflict spread across the world. This was caused by the shortage of dollar in the economy which pushed price of fuel up. Invariably, the shock of the world has made countries like the Gambia to experience hike in food basket prices. And this have caused inflation, double digit inflation to be specific.

Findings: Based on the exchange rate table 4.1.2, it was found out that dalasi has depreciated against dollars significantly since the advent of the war. In October 2021, the GMD per dollar was GMD51.96. In November 2022, the exchange rate has increased to GMD 60.57 per USD. The study also revealed that, in July 2022, inflation has increased to 12.3 percent, up from 8.2 percent in March 2022. High importation of essential goods like crude oil and foods stuffs using dollar made the dalasi to depreciated.

Recommendation: To increase exports and decrease imports of goods, The Gambia must turn its current account deficit into a surplus by developing its agricultural sector and artisanal industry.

Chapter 5 Conclusion

5.1 Introduction

This study mainly focused the impact of the Russia -Ukraine conflict on exchange rate in the Gambia by analyzing how US dollar have appreciated against Gambian Dalasi.

Therefore, the study focused on finding out the exchange rate of Gambian Dalasi from 4 months before the conflict broke out. It tries analyze the impact of conflict by taking consideration of the events that occurs since the conflict broke out up to November 2022. The study also analyzes how the exchange rate impacted the Gambia’s economy and how the country is suspicious to external shocks.

5.2 Conclusion on The Impact on The Exchange Rate in The Gambia

According to the study, the Russia-Ukraine conflict has had a negative impact on the Gambian dalasi exchange rate. Gambia's reliance on imported fossil fuels, edible oil, food products, fertilizers, and other equipment has made the dalasi more vulnerable to geopolitical shocks. The preceding is supported by other research’s literature review and the paired t test. Further analysis shows that currency depreciation puts pressure on inflation because Gambia imports most of its fossil fuels and food.

5.3 Recommendations

Based on study findings, analysis of data, and results obtained from the impact of Russia-Ukraine conflict on exchange rate in the Gambia. Below detailed the final recommendations of the study are as follows.

The Gambia as most West African countries should not embark on sit-and-wait policies towards the conflict. According to the analysis of the data, Gambia will be hugely impacted when the Russia-Ukraine prolonged.

5.3.1 Recommendation Based on The Impact on Exchange Rate

The Gambia must find ways to become self-sufficient in food and energy, as these are essential to people's survival. The dominance of the US dollar as a currency must be questioned. The Gambia should diversify its currency reserves by trading in Gambian Dalasi or others currencies of trading partners other than the US Dollar. The Gambia should consider using Chinese Yuan to trade with Asian partners. Because the Chinese Yuan is an international currency recognized by the IMF, most Asian countries, including China, India, and Saudi Arabia, are considering using it to trade. Despite Western sanctions targeting Russia's financial sector, Russia is able to withstand the sanctions because it can trade in Yuan and also demands ruble as a means of settlement. This is achievable by enacting calculated policies that will benefit your economy during this difficult period. The youthful population advantage should be used to enhance creativity, teamwork, and patriotism. Diversity fosters creativity but the Gambia's diversity has resulted in destructive divisions exploited by politicians. Visionary leaders are required to tap into diversity for creativity in order for it to reflect on economic productivity. The Gambia should focus on sectors that will boost exports or increase foreign currency receipts.

Furthermore, the relevant authorities should try to make policies that could enhance the supply-side by increasing domestic production. In that case, the government can achieve this by trying to pursue policies that increase the competitiveness of the Gambia’s agricultural products in the global market. As a result, we would be able to achieve long-term economic growth. Tourism is another appealing sector, and it is necessary to increase economic activity in the sector by empowering both traditional and non-traditional exports, i.e., increasing domestic production of non-tradable goods. This will aid in the inflow of foreign exchange, resulting in the domestic currency's stabilization (dalasi). Furthermore, the government should reduce its interference in the production of goods and services, and measures to reduce the government's budget deficit must be implemented.

In terms of monetary policy, the Gambia's central bank, after consulting the Minister, should use any of its discretionary instruments of control to limit unusual movements in the country's money supply and prices. In other words, they should pursue policies that promote price stability through prudent monetary policy, resulting in exchange rate stability. In this vein, The Gambia's central bank's monetary policy committee should be given real independence in order to uphold tighter monetary policy by increasing open-market operations and mopping up excess liquidity, for example. Furthermore, the convergence criteria for government borrowings established by the Economic Community of West African States (ECOWAS) should be strictly followed. The criteria applied to government borrowings in the West African sub-region should be strictly adhered to in order to lay the groundwork for uniform inflation and interest rates across the region. In conclusion, countries liquidity injections should be centered on direct productive activity rather than consumption in order to discourage monetary growth in the economy.

References

1. Zhu, H. (2022). The formation of Russian borders and its impact on Russia's national security. *Journal of Education, Humanities and Social Sciences*.
2. WB/IMF Debt Sustainability Analysis (June 2022). Available at https://www.worldbank.org/en/country/gambia/overview
3. African Development Bank (2020). African Economic Outlook 2020 Supplement: Amid COVID-19. Abidjan, Côte d'Ivoire: African Development Bank. https://www.afdb.org/en/documents/african-economic-outlook -2020-supplement.
4. Afdb Africa's Growth Performance and Outlook Amid the Covid19 Pandemic. Accessible at https://www.afdb.org/sites/default/files/2021/03/09/aeo_2021_-_chap1_-_en.pdf
5. The Gambia Import from Russia. UN COMTRADE database (2022). Accessible at https://tradingeconomics.com/gambia/imports/russia
6. Avdiu (2021) How COVID19 changed the path of remittances in The Gambia. Available at https://blogs.worldbank.org/africacan/how-covid19-changed-path-remittances-gambia
7. UNCTAD (2022). The Impact on Trade and Development of the War in Ukraine. UNCTAD Rapid Assessment.
8. The World Bank is an international financial institution. Retrievable here. https://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS?locations=GM
9. Ashraf (2022) The Gambia Economic Update. Accessible at https://www.worldbank.org/en/country/gambia/publication/afw-the-gambia-economic-update-reversing-the-impact-of-the-pandemic-and-aiming-for-long-term-sustainable-growth

10. Gunay, (2022). The source of financial contagion and spillovers: An evaluation of the covid-19 pandemic and the global financial crisis. Plos One, 17(1), e0261835.
11. IMF. (2022). World Economic Outlook: War Sets Back the Global Recovery. International Monetary Fund, April.
12. UN DESA. (2022). Financing for Sustainable Development Report 2022. UN Department of Economic and Social Affairs, April.
13. WHO Africa. (2021). Africa faces a 470 million COVID-19 vaccine shortfall in 2021. World Health Organization (WHO), Africa. Available at: https://www.afro.who.int/news/africa-faces-470-million-covid-19-vaccineshortfall-2021.
14. Nesteruk, (2022), Impact of the Russian invasion of Ukraine on the COVID-19 pandemic dynamics. medRxiv preprint doi: https://doi.org/10.1101/2022.03.26.22272979
15. Inoue, Hiroyasu. 2021. Propagation of International Supply-Chain Disruptions between Firms in a Country. Journal of Risk and Financial Management 14: 461. https://doi.org/10.3390/jrfm14100461
16. International Monetary Fund, World Economic Outlook (2022). https://www.imf.org/en/Publications/WEO/Issues/2022/01/25/world-economic-outlook update-january-2022 I
17. What are the sanctions on Russia and are they hurting its economy? (n.d.). Retrieved January 4, 2023, from https://www.bbc.com/news/world-europe-60125659
18. What are the sanctions on Russia and are they hurting its economy? (n.d.). Retrieved January 4, 2023, from https://www.bbc.com/news/world-europe-60125659
19. https://www.afro.who.int/news/africa-faces-470-million-covid-19-vaccine-shortfall-2021. (n.d.). Retrieved January 4, 2023, from

20. Yung, J. (2014). Can Interest Rate Factors Explain Exchange Rate Fluctuations? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2517474

21. Greenaway-McGrevy, R., Mark, N. C., Sul, D., & Wu, J. L. (2018). IDENTIFYING EXCHANGE RATE COMMON FACTORS. *International Economic Review*, *59*(4), 2193–2218. https://doi.org/10.1111/iere.12334

22. Lowe, A. B. (2019). The Impact of Exchange Rate on Inflation: A Case Study of The Gambia(1978-2016). *European Scientific Journal ESJ*, *15*(10). https://doi.org/10.19044/esj.2019.v15n10p261

23. Kah, F. B. O., & Diongue, A. K. (2020). Modeling exchange rate volatility in the gambia using dynamic conditonal correlaton model. *African Journal of Applied Statistics*, *7*(1), 805–827. https://doi.org/10.16929/ajas/2020.805.243

24. Touray, S., K. Dibba, M., & O. Jallow, M. (2017). Exchange Rate Pass Through: The Case of The Gambia. *International Review of Business Research Papers*, *13*(1), 104–118. https://doi.org/10.21102/irbrp.2017.03.131.08

25. Sulistyowati, N. D., & Kartika, C. (2018). EFFECT OF OVERSEAS DEBT AND INTEREST RATE RATE OF EXCHANGE RATE RATE (EXCHANGE RATE). *Develop*, *2*(2), 36–43. https://doi.org/10.25139/dev.v2i2.1073

26. Manneh, M., & Yaffa, S. (2021). Demand Side Management and Its Impact on the Gambia Energy Sector. *Journal of Economics & Management Research*, 1–9. https://doi.org/10.47363/jesmr/2021(2)126

27. Jallow, M. M. (2018). Accelerating Economic Development and Improving the Current Account Balance: What Roles can Industrial Policy Play in The Gambia? *European Scientific Journal ESJ*, *14*(34). https://doi.org/10.19044/esj.2018.v14n34p127

28. The Gambia - national debt 2027 | Statista. (n.d.). Retrieved January 4, 2023, from https://www.statista.com/statistics/531587/national-debt-of-gambia/

29. T. (2022, December 5). Gambia's Debt Stood at D90.7billion - Finance Minister -. Retrieved January 4, 2023, from https://www.voicegambia.com/2022/12/05/gambias-debt-stood-at-d90-7billion-finance-minister/

30. ESTEVÃO. (2022, August 4). Three ways a strong dollar impacts emerging markets. Retrieved January 5, 2023, from https://blogs.worldbank.org/voices/three-ways-strong-dollar-impacts-emerging-markets

31. Arize, A. C., Malindretos, J., & Kasibhatla, K. M. (2003). Does exchange-rate volatility depress export flows: The case of LDCs. *International Advances in Economic Research*, *9*(1), 7–19. *https://doi.org/10.1007/bf02295297*

32. Schnabl, G. (2005). The Russian Currency Basket: The Rising Role of the Euro for Russia's Exchange Rate Policies. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.871627