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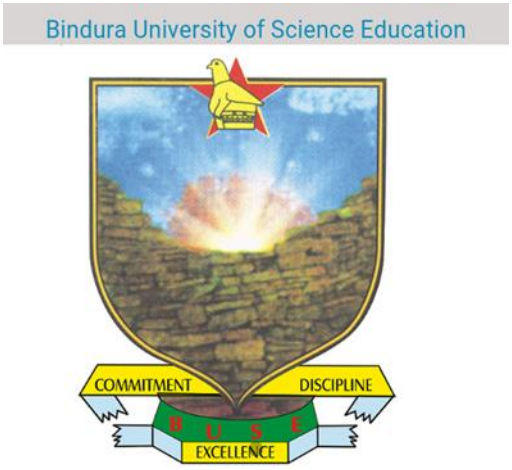
FACULTY OF COMMERCE

DEPARTMENT OF BANKING AND FINANCE



THE ANALYSIS OF INTERNALTIONAL REMITTANCE FLOWS ON HOUSEHOLD CONSUMPTION EXPENDITURE IN ZIMBABWE FROM 2000 TO 2022.

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE BACHELORS OF BANKING AND FINANCE HONOURS DEGREE OF BINDURA UNIVERSITY AT SCIENCE EDUCATION

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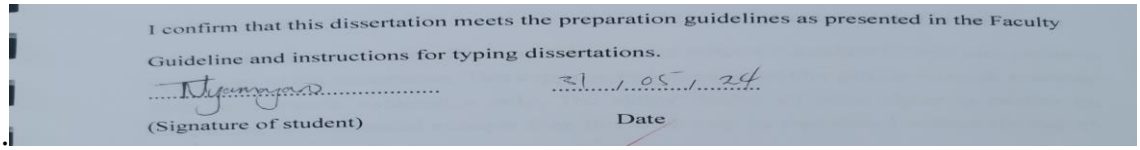

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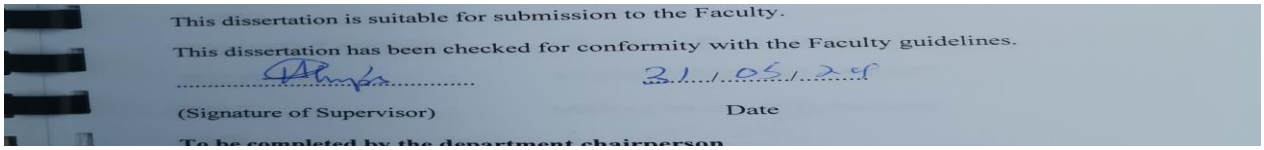

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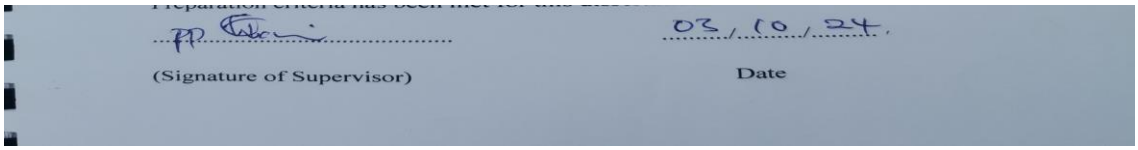

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I, Wellencky Nyamayaro affirm that this research project is my own work and has not been copied or lifted from any source without acknowledgement of the source.

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Dedication

This project is dedicated to my family, friends for their unwavering love and support throughout the research process.

ACKNOWLEDGEMENT

At the outset, I would like to express my sincere gratitude to those who have supported me on this journey. My deepest appreciation goes to my parents, who have been a constant source of strength. I am particularly indebted to my supervisor, Mr. Chaparadza, for his invaluable guidance and encouragement throughout this project. I would also like to thank Mr. Jonasi, Mr. Jaravaza, and the entire CBZ Bank staff for their helpfulness. Finally, my thanks extend to my friends for their understanding and support. To all of you, I am truly grateful."

ABSTRACT

This research examines how money sent home by Zimbabweans working abroad (international remittances) affects how much households spend (consumption expenditure) between 2000 and 2022. It builds on a previous study by Mondal and Khanam (2018) that looked at a similar question for developing countries up to 2016. This study improves on the earlier work by using more recent data, including additional factors that might influence spending, and by analyzing the impact on spending in both the short term and long term. The findings suggest that remittances can increase household spending, but the effect is not substantial. Further tests were conducted to strengthen these results. These tests showed an impact on spending in the short term, but not in the long term. Given that overall spending is crucial for household well-being, these results suggest that money sent home by Zimbabweans abroad can significantly improve household well-being in the short term. This happens by reducing the ups and downs of household spending in Zimbabwe.

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List of Abbreviations

IMF	International Monetary Fund
RBZ	Reserve Bank of Zimbabwe
IFAD	International Fund for Agricultural Development
LCH	Life Cycle Hypothesis
ZIMSTATS	Zimbabwe National Statistics Agency
OLS	Ordinary Least Squares
GDP	Gross Domestic Product
VECM	Vector Error Correction Model
MPC	Marginal Propensity to Consume
FDI	Foreign Direct Investment
DOLS	Dynamic Ordinary Least Squares
ADF	Augmented Dick-Fuller

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

There has been a rise in remittance inflows records in the previous years due to an increase in emigrants who are moving abroad searching for greener pastures. As many people migrate from one country to another, they repatriate some of their income back to their home countries where their families reside. The money remitted are then used for various purposes; inter alia, development and consumption. This study aimed at examining the causality of international remittances flows on a household consumption in Zimbabwe.

"This chapter lays the groundwork for the research by outlining the context (background), identifying the statement of the problem, defining the objectives, formulating specific inquiries (research questions), highlighting the importance of the study significance, acknowledging potential constraints or limitations and boundaries delimitations, and concluding with a brief overview (chapter summary).

1.2 Background of the study

According to World Bank (2019), database shows that most African countries receives most of the remittances from developed counties like USA, UK, Germany among other developed European countries. Remittance flows in Africa plays a very significant role by proving for household consumption through helping them to improve their standards of living, pay for education and healthcare and invest in small businesses Andrew P. Scott (19 May 2023). On the other side, they also contribute to the boast of economic growth activity of a country. Over time, remittances into Africa have been rising steadily. Remittances to Sub-Saharan Africa totaled $48 billion in 2019, according to the World Bank, making it a substantial source of outside funding for many of the region's nations. Increased migration from Africa to other regions and technological advancements that facilitate remittance transfers are some of the factors contributing to this growth.

On a global scale remittances are a significant source of financial flow. Remittances hit a record high of $689 billion in 2018 and are expected to reach $985 billion in 2024, according to the World Bank's Migration and Development Briefs. This increase is a result of rising migration

trends and technological developments that make remittance transfers easier. (Source: World Bank Migration and Development Briefs). Through laws and regulations, governments and international organizations influence the remittance market. The effectiveness of remittance markets can be increased, and their developmental impact can be maximized, by initiatives to lower remittance costs, advance financial literacy, and increase transparency. Initiatives that use remittances as a catalyst for sustainable development are also supported by international organizations such as the International Fund for Agricultural Development (IFAD). International Fund for Agricultural Development,(2021).

In the context of Zimbabwe remittance has proven to be more reliable and far exceeds foreign direct investments since 2005 to 2021 (ODI, 2007, Mukwedeya, 2021). In Zimbabwe international remittance service is provided by banks and other Independent remittances like Mukuru , Hello Paisa ,Western Union , Money gram among others. Due to economic hardships in Zimbabwe, there was a surge in numbers of emigrants out of the country since 2000 to date. The numbers have grown four times between 2007 and 2010 because of the hyperinflation in the country (Paul. S.V, 2015). Local citizens travelled outside of the country where economic conditions are better, saved some of their income and plough back to their loved ones in Zimbabwe and this has resulted in a surge in remittances inflows to Zimbabwe. Above 17.9% of emigrants have reported to migrate to South Africa and 79% were scattered all over the world (Howard.k and Faloola, 2014). According to Jamal (2019), these people were migrating from one place to another. Looking back in time, international money transfer to Zimbabwe has recorded a steady increase from US1.01billion in 2017 to reach US$1.97 million in 2022.The remittance has been an important source of income, which has contributed largely to household consumption and economic activity.

Fig 1.1 International remittance Trends and their Impact on Household Spending in Zimbabwe (1990-2020)

Table 1.1

Year	Total Remittances (USD million)	Remittances as % of GDP	Household Consumption Supported by Remittances (%)
1990	50	2.1%	8%
1995	120	3.5%	12%
2000	270	6.2%	17%
2005	361	8.1%	22%
2010	569	10.4%	27%
2015	823	12.7%	32%
2020	1,054	14.1%	35%

Source World bank, (2020)

According to the fig above its showing trends of remittances and household expenditure according to World Bank (2020), .It is important for policy makers to have an appreciation of how remittance flows trending as remittance have been a large source of consumption to many Zimbabweans. From the fig 1.1. Its showing that from 1990 to 2005 there was a steady increase this was because there were still low numbers of migrants during that period (World Bank, 2009).

A significant rise in remittance inflows was witnessed in the period of 2005 to 2015, mainly because of economic deadlock from 2005 and the worldwide financial crunches of 2007 to 2009, which caused many of Zimbabweans to move out of the country in search of better standard of living (Jonathan, 2016). However, on consumption levels there was a significant rise from 1990 to 2005, which has a linear relationship with the population growth in the country (Dorghamm 2018). A great significant change was reported from 1995 to 2000, because of the third Chimurenga war, and the public were just doing hand to mouth without investing any of their income. Since 1990 to 2008 however, there were changes in household spending, the annually changes were not substantial.

A sudden increase in consumption reported in around 2010 to 2015 as a result of shifts in people's income (introduction of US$ salaries) (Collins 2017). At this time people had valuable income (in US$) resulting in increase in consumption. However, consumption increased at a decreasing rate as there was a major policy in 2016 of re-introduction of Zimbabwean dollar

equally to US$ and this increased the rate of inflation resulting in reduced buying power of individuals (Peapack, 2019).

As mentioned by the World Bank (2019), it addresses international remittance flows received in Zimbabwe of over and above US$1 billion in 2020 from US$1.4 billion in 2019, which speaks a rise of about 29.19%. Migrants sent more money to Zimbabwe because of the covid 19 pandemic. This is in relation with a fall of remittances globally in 2020 of 1.8% (World Bank, 2021). This data gives a clear trend of how migrants from Zimbabwean outlay funds back home despite economic challenges that they might be facing with their jobs abroad.

As to (Puppe and Brandte, (2008), their study implies that comparing households without migrants, those with migrants spent more on consumption. According to Grossbard and Brown (2014), migration has a greater impact on consumption levels than household size. This suggests that an increase in income is likely a significant factor in determining consumption decisions. In a similar vein, most households receiving remittances may concur that hunger would have been a problem if remittances hadn't been received (Puppe and Brandt, 2006).

However, whilst non- receiving households may be more financially precarious, their way of living strategies tend to focus on the costs associated with remittances from families that receives remittances which they view as their target market for income opportunities. Remittances may be extremely important to the lives of receiving and non-receiving households, respectively, both directly and indirectly. Members of these households might, for instance, sell goods to households that receives remittances or provide services like housework assistance (Taylor and Francis, 2011)

1.3 Statement Problem

In Zimbabwe, international transfer flows have been proved to be the most important source of income from abroad which contributed largely on the aggregate demand and economic activity of the country. Most studies proved without doubt to have highlighted the impact of international remittance flows on the economic growth but did not draw attention on the impact of remittances on household consumptions. International remittances flows have been increasing since 2008 particularly in the case of Zimbabwe and the impact of international remittance flows on household consumption has no clear emphasis in place to articulate the issue. In that regard, this research aimed to study the causality of international remittances on household consumption.

1.4 Research Objective

1.4.1 Main Research Objective

The major goal of this investigation was to observe the effect of international remittance inflows on overall household's consumption in Zimbabwe.

1.4.2 Sub Research Objectives

To address the main research objective, the study came up with more specific objectives listed below.

1. To ascertain the causality and direction of causality between international remittances inflows and households' consumption in Zimbabwe.
2. To investigate the short and long-term nexus from international remittance inflows and households' consumption in Zimbabwe.
3. To ascertain the relationship of other economic variables such as unemployment and inflation rate on household consumption in Zimbabwe.

1.5 Research questions

1.5.1 Main Research Question

What is the impact of international remittance flows on aggregate household consumption expenditure?

1.5.2 Sub Research Question

1. Determine the long run effect of international remittance flows towards household consumption in Zimbabwe?
2. What is the relationship between other economic variables and international remittance flows in Zimbabwe?
3. How Zimbabwe current household consumption expenditure is determined by international remittance flows

1.6 Hypothesis testing

Ho: Statistically there is a significant causal effect of international remittances inflows on household consumption in Zimbabwe.

H1: There is a statistically significant long and short-run impact of international remittances inflows on household consumption in Zimbabwe.

H2: There is statistically significant relationship between other economic variables and household consumption in Zimbabwe.

1.7 Significance of the Study

Policy Makers (RBZ)

Considering that, international remittance flows are considered a great driver to economic growth. The information on this study would therefore be useful to policy makers in formulating strategies that can be best used of remittances.

Remitters

This research will also be valuable o remitters as it will help the to identify speed and convenience ways to improve remittance services.in addition the information will also contribute in promoting financial inclusion for example to remitters who are sending money to regions with limited access to formal financial services.

To Academia

The study gives the researcher an appreciation of understanding the long-term impact of international remittance flows on household consumption expenditure as well as their influence on economic growth. The research is also done in partial fulfillment of the requirements for Bindura University of Science Education's Honors Bachelor of Banking and Finance degree. This study will also help provide literature that helps scholars who may wish to carry out further studies on the subject international remittance flows.

1.8 Assumptions

In order to promote greater comprehension and coherence throughout the investigation, certain assumptions are established in this study. The following presumptions were taken into account when conducting the study's research:

1. Consumption expenditure is a term used to describe household consumption in Zimbabwe.

2. The household consumption statistics utilized is a realistic picture of the exact household consumption expenditure proportion in Zimbabwe from 1990 to 2022.
3. Household expenditure includes all aspects of a Zimbabwean household's general well-being, including schooling.
4. All remittances are defined as remittances from the diaspora.

1.9 Limitations of the study

In doing this study, the researcher-encountered constraints in gathering remittance data as some reliable websites could only show statistics of other countries neglecting Zimbabwe, which was the case study for this research, and some needed the researcher to pay a certain amount to get the necessary information. In addition, several reports were distorted especially those from early 2000, making it difficult to obtain some of the information that was important for this study. However, the researcher tried to overcome these constrains by way of paying the required fees to obtain the required information**.**

1.10 Delimitation of the research

The core of this research will be focused on the casual effect of remittances on household spending between 2000 to 2022 since it was the time that there was an increase or rise on international remittance flows in the country of Zimbabwe. The information of this study will be gathered from various websites that provides necessary and authentic information.

1.11 Structure of the study

This research will be divided into five chapters namely:

Chapter One

This chapter highlights all fundamentals of the research, objectives of the study, research questions and the scope of the study.

Chapter Two

This chapter in tells the literature assess the applicable and experimental theories. It gives an appreciation of what was written before by other authors in regards to the study.

Chapter Three

It outlines the research methodology of the study that is the strategy adopted in gathering information of the study.

Chapter Four

This chapter comprises of data interpretation and data analysis of the results from the data gathered and as well as from the existing literature.

Chapter Five

The final chapter that shows the summary, suggestion and policy recommendations for the stud

1.12 Chapter Summary

This chapter predominantly explains the reasons for conducting this investgation. It also highlighted the objectives, limitations, significant of the study, research objectives and research questions in order to determine the effect of remittance flows on household consumption.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section looks at the observed data that former or other researchers have generated, the theoretical side of how remittances affect household spending and how other factors similar to inflation and government expenditure, exchange rates among others can affect it. Additionally, this chapter also looks at legitimate journals and research literature from other researchers, which will help the researcher choose the best research method and analysis tools to adapt to in order to generate the most reliable study.

2.2 Theoretical Literature Review

The core of this section is to examine the corpus of the theories that has accumulated in regard to consumption. The main theories of consumption include the income effect theory of consumption, absolute income hypothesis and the life cycle theory. The theories where originated from the Keynesians Theory put forth with john Maynard Keynes in 1937.John discussed his opinions basing on the implications of earnings and other variables such as income distribution and fiscal policy that he identified on consumption. His main argument, though, was that a person's consumption is primarily influenced by their existing economic level, as a result, more viewpoints from advocates with comparable goals surfaced, each with a unique perspective that is further examined in this study section.

2.2.1 Income Effect Theory of Consumption

Income effect is an economic theory known as the "income effect “that describes how changes in income have an effect on people's consumption patterns. It implies that, under the

assumption that all other variables stay the same, an individual's consumption of goods and services rises as their income does. The income impact is predicated on the idea that people have a positive marginal propensity to consume, which means they will spend some of every extra dollar they earn.

The theory holds that when migrants sends money back to their home countries, recipient households experience a boost in their overall disposable income. This additional income permits them to afford additional goods and services, thereby increasing their consumption levels. The income effect theory is ingrained in the idea that households strive to maximize their utility or satisfaction, and one way to achieve this is by consuming more when they have more disposable income. Remittances therefore give households more money to spend on goods and services, which therefore leads to higher levels of consumption

According to the income effect idea, people's preferences for higher-quality products and services may change as their money rises. In the context of remittances recipient households may choose to upgrade their consumption habits, choosing more expensive or higher-quality goods than they could have previously afforded. For instance, they might decide to spend more on better food, better housing, or better education for their kids. Also as the income effect theory mostly emphasizes higher consumption, it's crucial to remember that remittances can also be channeled on investment and savings behavior. Some recipient households might decide to invest in income-generating ventures, like launching a small business, or save aside, some of the remittances for future needs. This investing and saving habit can support long-term economic growth and capital accumulation.

Based on the theory it is worth mentioning that the impact of remittances on consumption might differ based on a number of variables, including the volume and frequency of remittance transfers, the recipient nation's economic situation, cultural considerations, and personal preferences.

2.2.2 Absolute Income Theory of Consumption

John. M. Keynes proposed that this theory, also referred to as the Keynesian theory of consumption, in 1936. Keynes argued that the link between income and consumption is an essential part of macroeconomics. Keynes propounded that consumption is determined by household's real disposable income after taxes and that consumption is influenced by a variety

of factors, including demographics and inflation, but primarily by an individual's current income level (Sandberg, 2013).

The theory holds that consumption will rise in response to an increase in income, but not necessarily in direct proportion to income changes (Piketty, 2014). Keynes proposed the idea of the propensity to consume, which explains the fraction of total income that people choose to spend on consumption. According to Keynes, this propensity to consume is influenced largely by the level of absolute income. (Levitt, 2005).

The theory highlights that consumption will rise in response to an increase in the real disposable income, but not proportionately (Levitt, 2005). For instance, a family receiving $1000 in remittances it decides only to use a portion of that amount—roughly 50%—for consumption. According to Dubner (2005), there is evidence to suggest that there is a negative correlation between income and average propensity to consume (APC), or the proportion of income spent on consumption. However, rich families in a given country will always consume at a higher level than poor families. Furthermore, the theory supports the idea that low-income families actually have higher average consumption propensities than high-income earners because wealthy families typically have enough money for consumption due to their high-income levels. (Jackson, 2009).

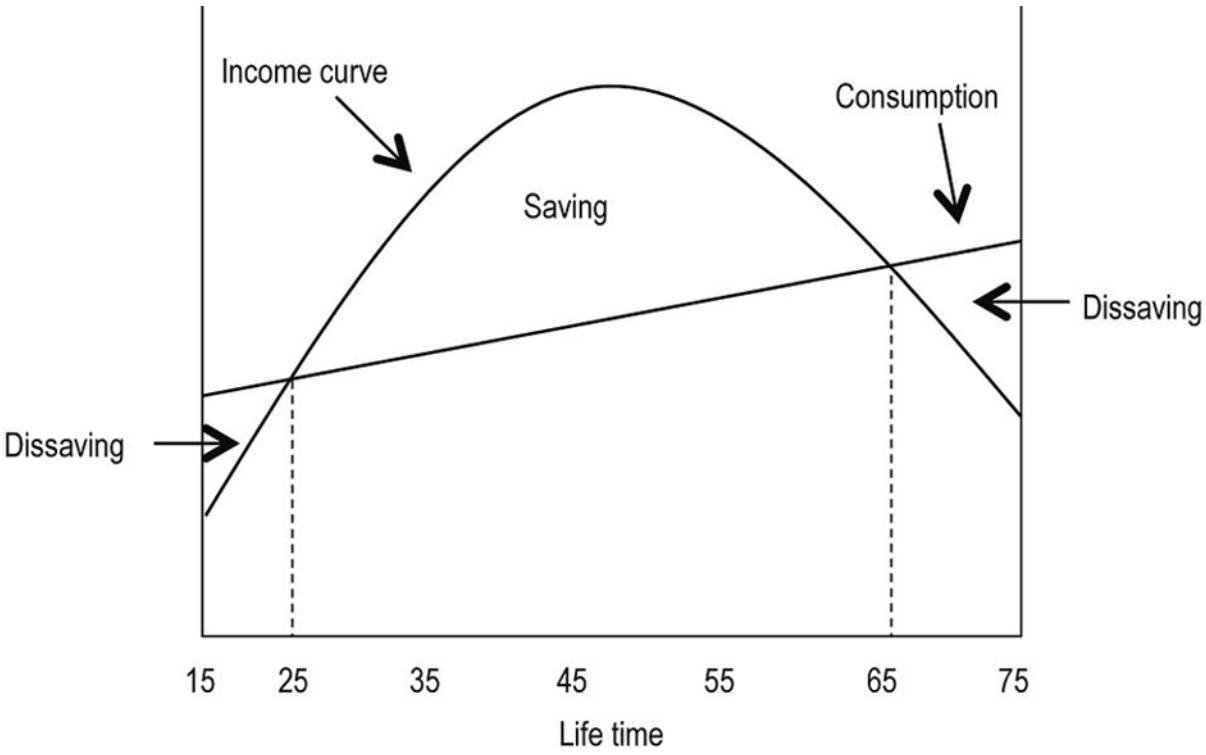
Overall, according to Keynes' Absolute Income Theory of Consumption, remittances can have a substantial impact on consumption trends by directly increasing the absolute income of recipient households, influencing their propensity to consume, changing the consumption function, and affecting the marginal propensity to consume. These dynamics highlight the role of remittances in driving consumption behavior in households and shaping economic outcomes in recipient countries.

2.2.3 Life Cycle Theory of Consumption

According to the theory, households attempt to balance their consumption by estimating their lifespan income, savings in cases they have extra money or a high income, and borrowing at times they do not have adequate funds or a low income (Piketty, 2020). The theory contends that people's consumption patterns are not determined by their current income rather, they plan their spending for final goods and services over the course of their lives, taking future incomes into account (Ariely, 2008).

In the context of wealth accumulation, the LCH (Life Cycle Hypothesis) also looks at each person's demographics, including factors that affect youth, middle age, and old age (Ariely, 2010). It was found that in the middle ages period that's where most wealth is acquired. According to Meadows (2014), young individuals tend to have an aggressive appetite since they believe they have little to lose in terms of time and money if they can't afford to finance their pursuits.

Figure 2.1: Life Cycle Theory of Consumption



Source James.W. Daccessed 12 June 2021

From the information on Fig 2, It anticipates that the person will die at the age of 75. The LCH makes the assumption that we are already aware of a person's expected time of his death (Bajari et al., 2013). Because of the dissaving's created when the person was elderly and the dissavings used when the person was a young individual without a source of income, the LCH also makes the assumption that net savings are zero.(Savings = 0). According to Oyita (2016), savings made during the person's employment years are therefore the same to the two dissaving periods previously described. This research, however, also imply that remittances do add to the money earned during a person's working or employment years. and have a casual effect on their consumption pattern.

Furthermore, while Keynesian theory remained more focused on short-term patterns of savings and consumption, this theory addresses the long-term aspect of consumption (Graebper, 2011). The theory also makes other assumption for example, it says that wealth accumulated by the elderly diminishes; nevertheless, this may possibly not be the case because young people or middle-aged people can inherit wealth (Rajan et al, 2013). A study conducted in Senegal by Research Gate found that elderly individuals between the ages of 50 and 65 received 45% of the remittances.

Furthermore, the theory also makes the assumption that people save and plan their spending, yet the majority of people, as of right now, lack the self-discipline to do so (Zingales et al., 2013). Conversely, remittances are typically sent for certain reasons, such as school fees or welfare, among other things. LCH also implies that the majority of wealth is acquired by people in their middle years; however, this may not always be the case if an individual experiences unemployment in their middle years but later finds work as a consultant on a part-time basis (Zingales et al, 2013).

According to this theory, remittances have little impact on consumption expenditure because households they have a fluctuating Patten of source of income rather than a consistent or reliable source of income, and individuals and households are unable to reliably foresee or predict the total amount of remittances they will receive in their lifetimes (Lewis, 2014). Remittances are typically given for specific purposes, as was previously discussed, thus the recipient may not be able to spread out their spending over the course of their lifetime as the LCH suggests. Remittances are typically associated with intangible elements such as the sender's caring for their family rather than being a reward for labor or services performed (Ginzizberg, 2017).

2.2.4 Relatively Income Theory of Consumption

Relative income theory, as defined by J.S. Duesenberry, an individual's consumption pattern is determined by their relative income in relation to other members of their society, rather than their absolute income (Cohan, 2021). In Harare, for instance, if the bulk of the population consumes 60% of their income on average, this would be your relative income. Regardless of future increases in your absolute income, you would still be able to maintain your 65% propensity to spend and save the remaining 35%, this would typically be the propensity to spend in Bindura. According Dueseenberry Sacchs, (2016) this is identified to as the “comparison effect”. Additionally, the theory suggests that people generally aims to maintain

their relative consumption patterns over time, even if it means saving less or borrowing for consumption. As a result, the volatility in income or wealth may not result to an exact change in consumption. For example, if an individual receives a raise but perceives that their peers are also experiencing increases in income, they may not significantly increase their consumption.

Duesenberry in his theory also suggests the idea of "consumption smoothing," proposing that individuals aim to maintain a steady level of consumption over time, even during the periods of income fluctuations. When households receive remittances, they may use these funds to smooth out their consumption patterns, particularly if remittance inflows are received on irregular basis. Remittances can act as a buffer against income shocks, enabling households to keep or increase their consumption patterns during periods of economic uncertainty or hardship.

In summary, Duesenberry's Relative Income Theory of Consumption shows some insights into how remittance inflows can determine consumption behavior by affecting relative income comparisons. Considering these dynamics, it is essential for policymakers and development experts seeking to leverage remittances as a tool for poverty alleviation and economic development.

2.2.5 The Permanent Income Theory of Consumption

According to this model Milton Friedman, suggests that households determine their consumption decisions not only on their current income but also on their long-term or permanent income expectations. Milton Friedman argue that, people base their spending decisions on more than just their current paycheck. They also consider their expected long-term average income, which takes into account the ups and downs of their earnings over time. In other words, they smooth out their consumption patterns by factoring in anticipated future income streams. The theory suggests that individuals aims to smoothen their consumption overtime, therefore Remittances can play a crucial role to smoothen consumption trends by providing a stable source of income that is often more predictable than other sources, such as employment allowances or salaries in volatile sectors. This can assist households maintain a steadier level of consumption, particularly in regions where income volatility is high.

In summary the permanent income theory of consumption explains that remittance have a greater impact on household consumption especially in Zimbabwe where they represent a significant portion of household income. Since remittances are usually seen as a steadier and

permanent source of income in most Zimbabwean household recipients compared to other forms of earnings, households may feel more confident in spending a larger portion of their remittance income. This can lead to higher consumption levels, including spending on goods and services, education, healthcare, and housing.

2.3 Empirical Literature Review

According to Yazan (2015), an empirical review contains any earlier research or literature that is relevant to the researcher's topic. Yazan illustrates the value of empirical research further by pointing out that it offers pertinent knowledge and factual data. Additionally, it offers a summary of the body of knowledge already available. Therefore, this section reviews the causality of remittance flows on consumption, long run impact of remittances on consumption and the relationship between other variables that are correlated to this same topic of how remittances affect household consumption expenditures as analyzed below.

2.3.1 Remittance and Consumption

According to a study conducted in Zimbabwe by Bracking (2017), by 2010, 140,500 households were receiving an average of US$310 million in international remittances annually. In carrying out this study, the researcher used simple linear and log linear regression model. From a group of 13.2 million (Zimstat, 2011), it is clear that remittances are crucial to the general well-being of households in this nation. According to Bracking (2017), 79.4% of remittances went to urban households, and on average, they accounted for 5.3% of household income in Zimbabwe. According to their research, households in Chegutu that receive remittances spend 8% more on consumption than households that do not receive remittances or where migrants are not present. In other words, this study found that remittances had a greater impact on consumption expenditure among other factors.

Additionally; Zhou et al., (2013) examines how remittances have affected Zimbabwe's consumption from 1980 to 2017. For this purpose, an augmented Keynesian assumption consumption function was proposed, which takes into account income, remittances, taxes, inflation, and a dummy variable representing political and economic instability. More so, we propose a remittance equation that includes the following explanatory variables: trade openness, inflation, income, consumption, financial deepening, and a dummy variable for political and economic instability. A simultaneous equation model with endogenous variables was estimated using the Three Stage Least Squares method in order to address the potential

existence of the indigeneity problem between consumption and remittances. The findings suggest that remittances from the diaspora are a significant factor in determining private consumption in Zimbabwe.

According to Bhadra, (2007) carried out a study on the impact of Remittances on consumption and discovered that consumption percentage in cities or towns has been gaged to increase by a greater margin more than half (from 22 %in 1996/97 to 10% in 2004/05), which is by nearly 7% yearly. In carrying out this study the researcher used the simple linear regression model. It focused on identifying the relationship between remittance proceeds and increase in consumption levels of the higher and poor quintiles of the population, as well as a the comparison of income and consumption levels across Nepal's various development regions using data from the third Nepal Living Standard Survey. The study concluded that remittance proceeds significantly increases household consumption and per capita income. Remittance income and the percentage of the poor quintile population have a strong negative association, whereas the richest quintile population and remittance income have a substantial positive link. The study also concluded that remittance Inflows to Nepal do have a significant impact on poverty reduction through increasing income, smoothing consumption Pant (2008).

In a study of Bangladesh by Kamal (2020), recent years, an increase of remittances to Bangladesh has allowed rural households to use modern renewable energy sources. Nevertheless, most researcher focused on examining the relationship between remittances and consumption. In this reading, they figured the causal effect between Bangladesh's per capita remittance inflows and consumption for the 1982–2018 timeframe, utilizing yearly statistics. This research was the first of its kind. The result or conclusion of the research attained while controlling for variations in GDP and utilizing co-integration and causality tests. They reached a results that there is a unique positive relationship between remittance and consumption.

Yoousafzai (2015) researched on Pakistan one of the top countries that receives remittances. In 2015, Pakistan had been gra

\nted US$14.6 billion. This sum indicates that a large number of Pakistani households in fact rely on remittances. Nevertheless, it was found that the majority of these households were spending more money on investments such as hiring labor, paying for schooling, and accumulating assets than on food consumption. This is because household members in Pakistan that receive remittances see them as a short-term or transitory source of income. As a result,

this research supports the Permanent income hypothesis that we previously explained, finding that international remittances carry a positive impact with household consumption spending.

In accordance with the Permanent Income Hypothesis, remittances are viewed as transient or transitory income, and they have a cyclical influence on consumer spending. Rammcharran (2019) investigated the effects of remittances in Latin American and the Caribbean. According to his theory, remittances cannot be dispersed in a sustainable manner; instead, they cause a rise in consumer spending for the households receiving them during the period that the remittances are received.

2.3.2Long-run and short run impact of remittances on consumption

Kasekende et al. (2020) examined the long-run relationship over the years 1991–2020 between household spending in Lesotho and remittances being received in that same country. He used the Johansen co-integration approach and the Engle-Granger Residual approach. Even yet, remittances account for more than 20 percent of Lesotho's GDP, which is a substantial amount in comparison to other African nations. Nevertheless, the investigation's findings support a positive long-run equilibrium link between household spending, remittances, and the gross national product per person. The findings indicate that real interest rate and consumption in households have a negligible or nonexistent connection. Remittances have a detrimental short-term impact on the consumption of households; this suggests that a rise in remittances flows from Lesotho initially lowers household spending. Therefore, it implies that receiving remittances can lead to a temporary shift in household spending patterns as families adjust to this new source of income. These adjustments often involve relying on alternative, potentially informal, funding sources in the short term. However, this trend tends to subside over time.

2.4 Determinants Household Consumption Expenditure

The remaining factors influencing household consumption spending are as follows. We will ascertain their importance and effect on household consumption.

2.4.1 Inflation

Duflo (2011) described inflation as a widespread and ongoing increase in prices. It is mostly characterized constant depreciation native currency's constant. Patterns of consumption can significantly be affected by inflation. Changes in consumer behavior can also result from a decline in the purchasing power of money as the average price level of products and services

rises over time. Inflation may affect household consumption in different ways and one of these ways is that it reduces the purchasing power of the local currency, making it possible to purchase fewer products and services with the same amount of money. Because of this, customers can see a drop in their actual income, which could make it harder for them to afford particular products and services. Due to their diminished purchasing power, people might prioritize necessities over frivolous expenses thereby minimizing household consumption level.

Wadal (2011), investigated the impact of inflation on household expenditure. The examination was conducted using the (OSL) ordinary least square tests ,the Johaansen Co-integration test (JH), and vector error correction model test. JH assessment revealed a substantial influence of inflation on household consumption in the end, while the vector error correlation model disclosed the same conclusions in the short-run. Overall, this study shows that inflation has a positive impact on consumption expenditure.

Additionally, De Mello and Carneiro (2010) studied the context of household consumption to inflation using a function called the Euler equation-type consumption functions. The analyzed findings showed that high inflation harmed household consumption to lower levels while increasing an unfavorable attitude of consumers toward purchasing inferior goods, as highlighted by the consumption Euler equation.

2.4.2Disposable Personal Income

According to Babalola Emmanuel Olusola,(2002) real disposable income is the actual purchasing power of a household's income. Real disposable income allows individuals to buy wholesome food, good education, healthcare, access to water without having to drive far and all other basics that a normal human being need to survive Kruegger (2008). Revenue is what allows families to have a healthy lifestyle and partake in some extravagances that are offered in the country, therefore that need for money is what causes substantial changes in household Blundell (2013). For the majority of people, rising incomes will also result in higher consumption at the same time decrease in come will cause a decrease in consumption levels which may have far reaching effects on the on the population wellbeing Nicklaus (2015). In regards to the situations above it would be practical to say that real net income, influences the households' consumption in a nation Duaurte (2020). This affiliation is known as the consumption function.

Overall, real disposable income shows a crucial role in being influential to the level of household consumption expenditure and, subsequently, has significant implications for overall consumption activity and human well-being. Policymakers often thoroughly monitor changes in real disposable income to measure the health of the economy and formulate appropriate fiscal and monetary policies to enhance household consumption.

2.4.3Foreign Direct Investment (FDI)

Foreign direct investment (FDI) have a significant mechanism of increasing household consumption especially for developing countries. Since the inflow of FDI can promote the establishment of foreign companies or enhance the existing ones households have opportunities of employment. This will increase their income levels, which in turn can improve their consumption spending. More employed individuals mean more people with purchasing power to buy goods and services, hence stimulating household consumption Hailu, (2010).

(Maharani & Isnowati, 2014) also studied on the effect of foreign direct investment on economic growth which enhances household consumption. The method used on this research was quantitative method and the result showed that FDI can contribute to the economic growth, which probably results in higher salaries and overall income levels for households. With more disposable income, recipient's households may choose to increase their consumption spending on goods and services, including both necessities and discretionary items (Octavianingrum, 2015).

Inglesi-Lotz and Ajmi, (2021) also looked into the nexus between South Africa's household spending and FDI inflows. This research analyzed time series data on South Africa's economy, borrowing information from the World Bank and South African Reserve Bank for the period 1970 to 2020. Two statistical methods were used: the Fully Modified Ordinary Least Squares (FMOLS) and the Dynamic Ordinary Least Squares (DOLS). A co-integration test, specifically the Johansen test, indicated that the variables were interrelated in the long term. Interestingly, the FMOLS results showed a negative and statistically significant relationship between household consumption and foreign direct investment (FDI) inflows. In contrast, the DOLS results did not find a statistically significant connection between these two factors. However, other methods applied in the study revealed a positive and statistically significant relationship between economic growth and FDI inflows to South Africa

2.4.4 Government Expenditure

Fatas and Mihov (2020) looked at how fiscal policy have a nexus between government spending and consumption. The study made use of empirical evidence from an identified vector auto-regression as well as a broad class of general equilibrium models. The results were discovered through data analysis that showed a significant positive correlation between the government expenditure, employment, and household consumption. When these outcomes were compared to a conventional actual business cycle model, it was discovered that, even with the usual assumptions made for figures on the calibration parameters, they were unable to match the model's positive impacts on government expenditure and consumption. An increased government investment, led to lower consumption expenditure on a theoretical framework's source, but it also boosted employment, which ultimately produced a spike in private or family consumption.

Arifin H.S (2020), highlighted in his research that it is crucial to remember that the influence of government spending on consumption might differ based on the effectiveness of the spending, the kind of spending, the framework of fiscal policy, and the state of the economy as a whole. Furthermore, the way government spending is financed—by taxes, borrowing, or other sources—may have an impact on the sustainability and stability of the economy down the road. Government spending on consumption is essential for supplying public goods and services, boosting the economy, distributing money, and affecting consumption patterns or behavior.

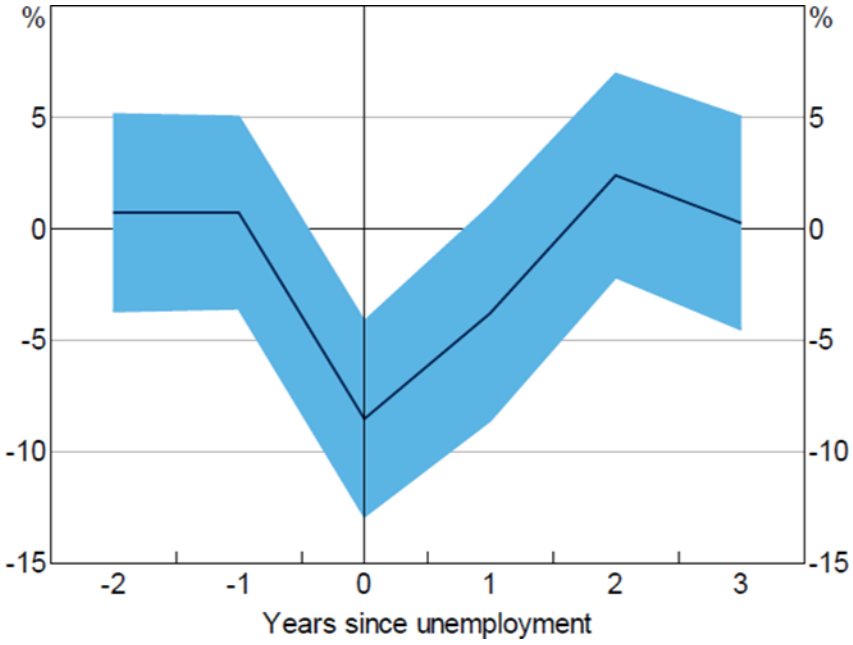
2.4.5Unemployment Rate

Due to high unemployment rate, savings are discouraged and more money is spent on consumption. Output is increased by both raising costs and adding more resources to the production process. In addition, we may be able to estimate how unemployment affects household well-being by observing their spending response to unemployment. Household consumption, as it influenced by present income, it affects household’s wellbeing. This is because of the fact that household spending is usually less unstable, sudden fluctuations in their earnings level could be worked out over a space of a lifetime. A stronger indicator of the relationship between unemployment and economic well-being is household spending.

Therefore, the unemployment level posed an important part in household expenditure. Studies suggest that unemployment has a long-lasting impact on household spending patterns, even

after wages recover. Malmendier and Shen (2021) found evidence that families may continue to spend less on household essentials for at least three years following a period of unemployment. This could be due to a commitment to maintaining certain expenses, like housing bills, or a need to rebuild savings depleted during unemployment.

Figure 2.2: Impact of Unemployment on Total Spending Yearly



Source: HIILDA Survey Releases, www.rba.gov.auu

The above diagram shows that households spend almost 10% less on average when there is no unemployment. Coefficients from various lead and lag regressions of an unemployment indicator, with year, individual fixed effects, and household size as controls; the shaded area represents the 95% confidence interval with clustered standard errors. The effects of unemployment on grocery and restaurant expenditures were also discovered by this same research**.**

2.4.6 Household Saving Status

According to Piketty (2014), Household savings can have a major impact on household consumption, as these factors are closely intertwined in the general financial behavior of individuals and families. Savings provide a cushion for households during periods of financial uncertainty or unforeseen expenses. When households have savings, they can maintain their level of consumption even if they experience a momentary decrease in income, such as during times of unemployment or illness. This study shows that households with higher savings are

more likely to have high consumption levels as savings can give them a sense of financial security and confidence.

In addition, Hahn (2018) claims that following World War II, there was a widespread feeling throughout European countries that preserving cash from war mortgages or loans proved to be immoral and may reduce the effective demand at the time. As a result, consumers changed their spending patterns and increased their consumption. Saving was even regarded as a sin since it was seen as a self-serving action that would damage the economy and cause unemployment. Rather than seeing saving as a sin, the author said that it should be seen as a virtue or blessing since it has long-term advantages that would boost the economy. Savings, according to Hahn, are future and current source of consumption, and it has a substantial relation with consumption expenditure.

In essence, savings are resources or output that is produced now and preserved for use at a later time (Cartullo,2017). Families save a part of their salary with various purposes, which include saving for unforeseen future events, saving for emergencies, to subsidy from return or interest on investments and so as to benefit from a steady increase in expenditure (Errsado, 2020). Overall, various household savings perform an essential role in supporting and influencing household consumption patterns, providing financial stability, security, and confidence that can impact spending behavior over both the short and long term.

2.4.7Age

Stoever (2019). Suggest that age can have a major impact on household consumption patterns. In his research, he highlighted that household consumption tends to rise with age as individuals develop in their careers and earn higher incomes. Younger adults, mainly those in their twenties, may have lower incomes as they begin their careers, which can limit their purchasing power and optional spending. Conversely, older adults, particularly those in their peak earning years, usually have higher incomes and more disposable income to allocate towards consumption.

A household's age distribution is important and cannot be disregarded. Within a given household, younger members may spend more on education, while older members may allocate the majority of their income to health and insurance. Dynan (2018). As a result, two distinct households receiving the same income have different spending patterns. Depending on the age of the family head, there will be changes in the consumption expenditures amongst families

Foster (2020). For instance, since age is a major factor, food and beverage intake tends to vary. While food and drink consumption tends to rise with age, younger family members are typically the ones that make long-term investments like real estate. Berg and Chardwick (2019) concluded that households headed by young and middle-aged people are more likely to be affected by government policies that affect long-term investments and assets like government bonds than they are by elderly people. This is because younger people rely more on their income from work, whereas older households rely less on it and hence spend more on consumption.

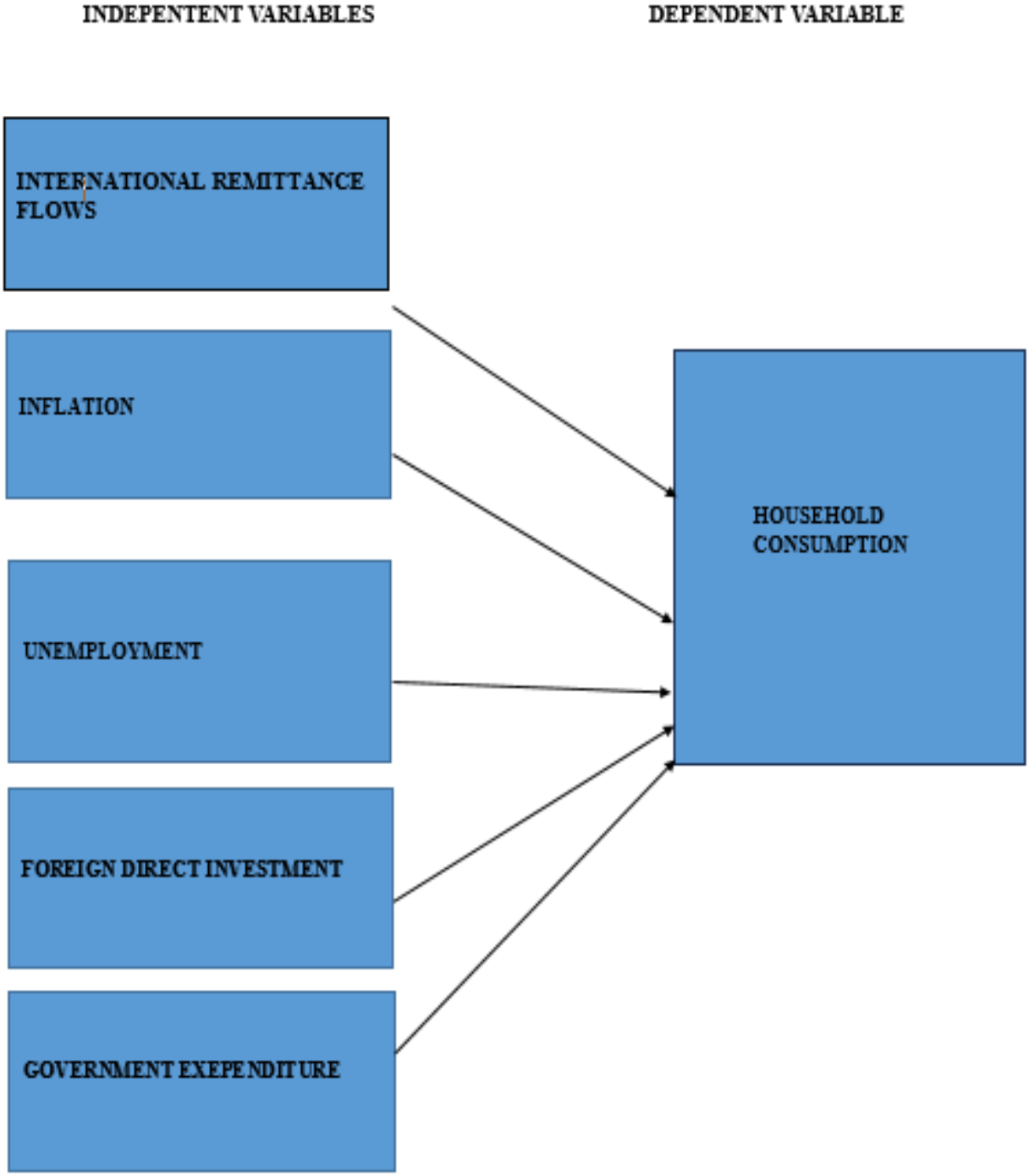
2.5 Gap Analysis

The impact of remittances on economic growth and development has been extensively studied. There is a broad consensus that remittance flows play a positive role in fostering overall economic growth and development, particularly in developing countries. In fact, these financial inflows are considered a key driver of economic expansion in many regions around the world.. This issue has been identified as a major driver economic growth around developing countries around the world. The literature suggests that remittance flows is affected by macroeconomic factors such as, interest rates as well as foreign direct investment, Studies have also shown a strong correlation between international remittance flows and economic growth and development.

However, most studies have focused on the economic growth as a whole, there is a lack of research on how international remittance inflows affects household consumption in Zimbabwe. Therefore, this study aims to fill this gap by examining the relationship between international remittance flows and household consumption in achieving economic growth.

2.6 Conceptual Framework

Fig 2.3



2.7 Definition of terms

2.7.1 Remittance

Remittances inflows refer to the transfer of funds from individuals living and working outside of their home country back to their families and relatives at home. These transfers can represent funds earned by migrants over employment, business activities, or other means in a foreign country. These remittances flows can be sent through many channels, including banks, money transfer operators, online platforms, and informal channels such as friends or relatives physically carrying cash Jack P.M (2021).

2.7.2 Consumption

The money spent by households, both domestic and foreign residents, to cover their essential living expenses is referred to as household consumption expenditure. This includes groceries, clothing, rent or housing costs, healthcare, entertainment, and various services. It even encompasses certain agricultural inputs like seeds and fertilizers. Notably, household consumption expenditure forms the biggest chunk of a nation's Gross Domestic Product (GDP), typically accounting for roughly 60%. As a result, it serves as a crucial variable for analyzing economic demand, as highlighted by the OECD (2000)."

2.7.3 Inflation

According to Jason Fernando, (2024), Inflation reflects the gradual erosion of a currency's buying power over time. It essentially measures how quickly the prices of goods and services are rising. A high inflation rate signifies a rapid increase in prices, while a low rate suggests a slower rise.

2.7.4 Foreign direct investment

Foreign Direct Investment (FDI) reflects to an long term investment made by a company or individual in one country into business opportunities located in another country, with the purpose of establishing a long-term interest in the foreign economy. This investment involves acquiring a significant degree of influence or control over the management, operations, and decision-making processes of the foreign business entity. Unlike portfolio investment, which involves purchasing stocks, bonds, or other financial assets, FDI typically involves establishing or acquiring physical assets such as factories, facilities, land, or equipment in the foreign country. Balance of Payments Manual, fifth edition (IMF, 1993).

2.8 Chapter summary

This section examined a comprehensive knowledge of household consumption spending, as well as additional theories that address household consumption expenditures and empirical data on household consumption components. Literature showed even if there are other elements that influence household spending, research has shown that disposable income has a major role despite the perspectives that consumer spending vary from one household to another. The following chapter goes into the research models this study employed to determine how remittances affect household consumption expenditures in Zimbabwe.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This section will center on a thorough summary of the data or information used to evaluate the impact of international remittance flows on household consumption expenditure in Zimbabwe. Secondary data will be used in this study with variables such as inflation, foreign direct investment, and exchange rates sourced from existing data sources like the RBZ and World Bank. Additionally, this chapter will highlight the methodologies, model specifications as well various econometric methods to analyze how remittances influence household consumption patterns in Zimbabwe

3.2 Research Philosophy

A researcher's perspective of reality, the nature of knowledge, and the process of acquiring knowledge are shaped by the framework that research philosophy offers. Diverse research philosophies provide unique perspectives for understanding scientific research Tamminen & Poucher, (2020).This study's philosophy will focus on establishing causal relationships and generalizable patterns between international remittances and household consumption. The research would aim to identify and quantify the impact of remittances on household consumption, using statistical techniques to analyze large-scale data sets. The emphasis will be on generating reliable and generalizable findings that can contribute to existing knowledge and inform policy decisions.

3.3 Research Approach

This research was conducted using the Vector Error Correction Model (VECM) and the granger causality Test to identify the impact and causal direction of international remittance flows on household consumption in Zimbabwe. According to McChesney and Aldridge (2019), a statistical model called the Vector Error Correction Model (VECM) is used to examine the short-term dynamics and long-term equilibrium connection between many time series data. Its strategies will enables the researcher to analyze the relationships and dynamics among multiple time series variables, especially when these variables exhibit co-integration. It provides insights into the relationship among the variables.

3.4 Research Design

Murthy and Bhojanna (2008) define the research design as a set of specified criteria for data analysis and collecting that aims to balance the economy of the technique with the relevance of the study. To understand the current factors affecting the link between international remittance inflows and household consumption this research employed a statistical model. This method involves gathering quantitative data from recommended sources that is World Bank and Reserve bank of Zimbabwe. Since the study aimed to identify how household consumption is affected by international remittance inflows, this fit well. As Monsen and Van Horn (2018) point out, numerical data can be used to explore potential relationships between variables.

3.4.1 Model Specification

For this research, Vector Error Correction Model (VECM) regression model was used to capture the relationship between remittance flows and household consumption. The model used

various variables to achieve the goal of this study. It also adapted two new variables, unemployment and government expenditure and their justifications are explained below in this chapter. The equation to this model is as follows:

Household Consumption =

$$B0 + \beta 1R + \beta 3I + \beta 4UN + \beta 5GOV = + \beta 6FDI + \varepsilon \quad [1]$$

Where R = Remittances®

I = Inflation (I)

UN = Unemployment (UN)

GOV = Government Expenditure (GOV)

FDI = Foreign Direct Investment (FDI)

ε = Error term(ε)

β0 = Intercept

β1 β3…. = Regression coefficients

Both theoretical and empirical evidence have highlighted remittances, inflation, unemployment, foreign direct investments, exchange rates, and other variables as key drivers of household consumption.

3.5 Justification of variables

This chapter explains why the chosen variables were selected for analysis in Chapter 4. It details the specific measures used to represent each variable (proxies) and the anticipated effects or outcomes predicted by the researcher for this study.

3.5.1 Remittance

Remittances act as a buffer against economic cycles. They offer a critical source of income for recipient countries, particularly during economic hardship, as noted by Ribajj and Mexhuanni (2021). These funds sent home by migrant's amount to billions of dollars and represent a significant source of external financing for developing nations. Remittances are also considered more stable compared to other financial sources like private debt or portfolio investments. While estimates suggest a significant portion of the global population benefits from remittances, their true scale is difficult to capture due to the informal nature of many transactions. This lack of formal documentation makes them challenging to track accurately in balance of payments accounts. Therefore, main justification of using this variable is that we will rely on data for total formal international remittances flows, which are readily available.

3.5.2 Foreign direct investment

Incorporating foreign direct investment (FDI) into the analysis allows the study to examine how these external investments contribute to the overall economic health of a nation. This can include factors like job creation, infrastructure development, and technological advancements. Furthermore, the study can investigate whether FDI complements or substitutes the impact of remittances on household consumption. For example, FDI might create new jobs and increase household income, potentially reducing reliance on remittances for basic needs. However, it's also possible that FDI might lead to higher prices for goods and services, potentially offsetting some of the benefits of remittances. By examining these interactions, the study can gain a more comprehensive understanding of the broader economic context within which remittances operate. According to Aggarwal and Spataffora (2006) and Tambamma (2012), this knowledge is crucial for policymakers aiming to design effective strategies that leverage both FDI and remittances to improve household well-being and economic growth.

3.5.3 Inflation

The rationale of using inflation as a variable is that inflation diminishes the purchasing power of money over time. Higher inflation rates mean that the same amount of money buys fewer goods and services. Including inflation in the analysis allows for the adjustment of real remittance and consumption values, providing a more accurate assessment of their impact on household consumption. Additionally, the way households choose to spend their money is affected by both current inflation and their beliefs about future inflation. When households anticipate higher inflation in the future, they might change their spending habits, including how they utilize remittance income.

3.5.4 Government Expenditure

In this study government, expenditure provides additional insights into the relationship between remittances and household consumption. The money governments spend (government expenditure) goes towards public services like education, healthcare, infrastructure, and social programs. These services directly affect how well people live (household well-being) and what they choose to spend their money on (consumption patterns). For instance, if the government invests more in social programs, households may need to rely less on money sent from abroad (remittances) to cover basic needs. This can then change how they spend their own money.

3.5.5 Unemployment

In contrast to the idea that saving is a good thing during tough economic times, some argue that high unemployment actually discourages saving. This is because people with jobs are more likely to put money aside, knowing they have a steady income stream. Additionally, increased spending by employed individual’s fuels production, which benefits the overall economy. When unemployment rises, we can gauge the impact on household well-being by examining how consumption patterns change. This is because consumption is often a more stable indicator of welfare compared to current income. While income might fluctuate in the short term, consumption tends to be smoother over a person's lifetime. Therefore, focusing on

consumption habits provides a clearer picture of how unemployment affects economic well-being. This perspective aligns with the views of Pentrose and LaCava (2021) and Heendren (2017).

More so, by incorporating unemployment data in this study, we can gain insight into how joblessness might influence the relationship between remittances and household spending. This allows us to see if remittances act as a replacement for income lost due to unemployment, directly impacting how much households consume, Malmmendier and Shen (2021).

3.5.6 A Priori Expectation

Fig 3.1

Variable	Definition	Expected effect to household consumption expenditure
REM	**Total amount of money sent home by migrants (diaspora remittances)**	**+**
GOVEXPEND	**Total government spending on goods and services**	**-**
INF	**Annual Inflation rate**	**-**
UNEMPLOY	**National Unemployment rate (Annual %)**	**-**
FDI	**Net inflow of foreign direct investment**	**-**

3.6 Analytical Approach

Granger causality Test

Developed by Clive Granger in 1969, the Granger causality test is a statistical method used to assess if past values of one time series can be used to predict another. In essence, it examines whether one series "grangers" the other. For stable data (stationary), the test analyzes the original values of variables. However, for fluctuating data (non-stationary), it uses differences between consecutive observations. The optimal number of past values considered (lags) is

chosen using statistical criteria like the Akaike or Schwarz information criterion. A lagged value from one variable is included in the model if it meets two conditions: (1) it's statistically significant based on a t-test, and (2) it improves the model's explanatory power along with other lags from the same variable, as measured by an F-test. Ultimately, the test rejects the idea of no causal relationship (null hypothesis) only if at least one lagged value of a potential cause significantly contributes to the model's explanatory power (Granger, 1969).

Vector Error Correction Model

Vector Error Correction Model is a co-integrated VAR model. This idea of Vector Error Correction Model (VECM) consists of a VAR model of the order p - 1 on the differences of the variables, which indicates its use of past values of the variables (lags) up to a certain order (p) to predict their current values and an error-correction term that captures the long-run equilibrium relationship between the variables**.** Vector Auto regression (VAR) differs from single-variable models by incorporating multiple time series, enhancing its forecasting capabilities. Essentially, it extends the autoregressive (AR) approach to include multiple variables. VAR employs a system of equations where each equation considers a systematic trend and the lagged values of all variables involved. Typically, VAR is applied to stationary data, often achieved by differencing the original series. While this process ensures stationarity, it may also result in losing some information about the relationships among the original integrated variables. Therefore, differencing the data to achieve stationarity can be an approach, but this might remove important long-term relationships between the original variables. Co-integration offers a more robust way to assess the validity of using the original levels in regression analysis. Johansen's method is a standard test to determine co-integration. If co-integration is found, a vector error correction model (VECM) that incorporates both the original levels

3.7 Diagnostic Tests

Regression analysis relies on diagnostic tests to check a model's reliability in several ways (Al-Harbi, 2017). These tests ensure the strength of the results by examining issues like co-integration test, serial correlation, normalcy, and heteroscedasticity. In this study, the researcher will use the following tests:

3.7.1 Unit Root Test

When analyzing time series data, a crucial diagnostic test is the unit root test (Gujarati, 2004). This test checks for stationarity, which means the data's average level and variability remain constant over time to avoid misleading regression results. Stationarity is essential for accurate forecasting. To assess stationarity in this study, three different unit root tests were employed: the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP). The ADF test, along with the Phillips-Perron (PP) test, helps determine if a unit root exists. If a unit root is present, the variable is considered non-stationary. If the data in its original form (levels) isn't stationary, techniques like differencing can be applied to make it suitable for further analysis.

Here's a breakdown of the hypotheses involved in the ADF test

Null Hypothesis Ho : The data has a unit root (it's non-stationary).

Alternative Hypothesis H1: The data does not have a unit root (it's stationary).

In a unit root test, a test statistic lower than the critical value and a 'p-value' less than 0.05 indicate that we can reject the null hypothesis. This means the data likely exhibits stationarity, suggesting there's no unit root present.

3.7.2Granger causality Tests

The Granger causality test is a statistical method used to assess whether one-time series variable can be helpful in predicting another. It implies causation of variables, and also focuses on forecasting ability (Clive Granger,1986).

Hypothesis

Ho; does no granger cause

H1; does have granger cause

The p-value associated with the F-statistic are used to determine the statistical significance. If the p-value is less than the chosen significance level (e.g., 0.05 or 5%), then we reject the null hypothesis.

3.7.3 Co-integration Test

Co-integration analysis is a statistical test used to assess whether a long-term relationship exists between a dependent variable and one or more independent variables. Some view it as a safeguard against spurious regressions (Granger, 1969). This study employs the Johansen test for co-integration. If the test indicates no long-term relationship, a Vector Auto regression (VAR) model will be estimated. However, if the variables are co-integrated, a Vector Error Correction Model (VECM) will be used to examine the impact of remittances on household consumption expenditure. The specific type of Johansen test (Trace or Eigenvalue) can influence the interpretation of the results.

The test uses the following hypothesis

Null Hypothesis: No co-integration

Alternate Hypothesis: There is co-integration

Interpretation of results using P values is that reject the null hypothesis if the p- value is less than, 0.05 (significance level), indicating no co-integration. Fail to reject the null hypothesis if the p-value is greater than, 0.05 (significance level), indicating co integration of variables

3.7.4 Heteroscedasticity Test

In regression analysis, heteroscedasticity occurs when the spread of the errors (the difference between predicted and actual values) varies across different levels of the independent

variable(s). It's important to check for heteroscedasticity because it can undermine the reliability of statistical tests that rely on the assumption of constant variance (homoscedasticity). For reliable results in, the errors (the difference between predicted and actual values) should have a consistent spread across all data points. This aligns with the homoscedasticity assumption, a core principle of classical linear regression models. In simpler terms, homoscedasticity means the 'noise' around the regression line is evenly distributed. In tests for heteroscedasticity, the hypotheses are generally formulated as follows:

Null Hypothesis Ho: Homoscedasticity (constant variance of the residuals).

Alternative Hypothesis H*1*: Heteroscedasticity (variance of the residuals varies).

3.7.5 Autocorrelation Test

The Corporate Finance Institute (CFI, 2021) defines autocorrelation, also known as serial correlation, as the relationship between a time series and its own past values. Autocorrelation in the context of time series data refers to the correlation of a signal with a lagged version of itself. In regression analysis, autocorrelation of residuals indicates that the residuals are not independent from one another, which violates one of the key assumptions of ordinary least squares (OLS) regression. Detecting and addressing autocorrelation is crucial because it can lead to inefficient estimates and invalid statistical inferences. In statistics, the Durbin-Watson statistic is a popular tool for detecting autocorrelation in a series of data. Most statistical software programs can perform this test. Breusch-Godfrey test results shows that a high p-value (typically greater than 0.05) suggests you fail to reject the null hypothesis. This implies there is no statistically significant evidence of autocorrelation at the chosen lags. Conversely, a low p-value (typically less than 0.05) indicates you reject the null hypothesis. This suggests there is evidence of autocorrelation up to the lags included in the test.

Null Hypothesis Ho: The residuals are independently distributed (no autocorrelation).

Alternative Hypothesis H1 the residuals are not independently distributed (autocorrelation is present)

3.7.6 Normality Test

While normality is often assumed for confidence intervals and hypothesis tests linked to the t-distribution, some argue it is unnecessary for many conclusions in multiple regression analysis ([Greene, 2002]). Normality tests assess how well data follows a normal distribution. Many statistical methods rely on the assumption that data is normally distributed. When a variable fails this test, researchers may transform the data (like taking logarithms or square roots) to achieve normality. The skewness and kurtosis tests are commonly used to assess how well data follows a normal distribution.

Normality Hypothesis:

Null Hypothesis (H_0): The residuals in the analysis follow a normal distribution.

Alternative Hypothesis (H_1): The residuals in the analysis do not follow a normal distribution.

In interpreting the results of a normality test, if p-value less than 0.05 (chosen significance level) leads us to reject the null hypothesis. This suggests the residuals deviate from a normal distribution. Conversely, if p-value greater than 0.05 indicates we fail to reject the null hypothesis, implying the residuals seem to follow a normal distribution.

3.8 Data classification and source

This section outlines how the data used to analyze how remittance distribution affects economic was gathered from secondary sources. Time series data on remittances and household consumption expenditure from 1990 to 2022 came from various sources. International remittance data was collected from World Bank website and the Reserve Bank of Zimbabwe (RBZ), which also provided with macroeconomic indicators like, unemployment, inflation, and government spending. Additionally, RBZ also provided data on household consumption expenditure and foreign direct investment.

This study leveraged time series data's ability to predict future values to analyze the impact of remittances on household consumption expenditure. Time series analysis involves studying and modeling sequences of data points indexed by time, making it ideal for understanding how variables change over time. We used annual data from 1990 to 2022.

3.9 Chapter Summary

This chapter outlined the chosen model, research methods, and the reasoning behind the variables used in the analysis. It also explained the expected effects (positive or negative) of each variable on household consumption expenditure. Additionally, the chapter detailed the diagnostic tests performed and the critical steps involved in the chosen estimation technique (OLS and VECM) for analyzing the impact of remittances. Secondary data sources, including RBZ publications and World Bank reports on remittances, were utilized. The next chapter will present and discuss the estimated results from the analysis.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter analyzes the time series data to understand how international remittance flows impact household consumption and It is built on the research methods explained in Chapter 3.In additionally, this section will also delve into the results of the unit root tests to check for stationarity. Then, we will examine the model diagnostics to ensure its reliability. Finally, we will report the key findings from the model estimation.

4.2 Specification Tests

Below table 4.1 shows, the investigation statistics examined on variables, including Household Consumption Expenditure, Remittances, Government Expenditure, Inflation, Foreign Direct Investment, and Unemployment. To analyze the properties of these variables, the study conducted two-unit root tests: The Augmented Dickey-Fuller (ADF) test and the Phillips-Peron (PP) test. Additionally, a co- integration analysis was performed using the Johansen Co-integration test and the Granger causality test to determine the causality between international remittance flows and household consumption. The results and findings presented in this section were based on the hypotheses discussed in the previous chapter.

4.2.1 Stationarity Tests

Table 4.1 Augmented Dick-Fuller Test (ADF) Results

Variable	**ADF-Statistic**	**Critical-Value**		**Order of Integration**
Household expenditure (HOUSEXP)	-4.666379	1%	-3.788030	l(1)
		5%	-3.012363	
		10%	-2.646119	
Remittances (REM)	-4.666379	1%	-3.788030	l(0)
		5%	-2.934236	
		10%	-2.646119	
Government Expenditure (GOVEXP)	-3.385230	1%	-3.788030	l(1)
		5%	-3.012363	
		10%	-2.646119	
Inflation (I)	-5.739900	1%	-3.831511	l(1)
		5%	-3.029970	
		10%	-2.655194	
Foreign Direct Investment(FDI)	-8.60576	1%	-3.788030	l(1)
		5%	-3.012363	
		10%	-2.646119	
Unemployment (UN)	-5.340070	1%	-3.808546	l(1)
		5%	-3.020686	
		10%	-2.650413	

Source: (E-views 10 Output) table 4.1; Stationarity Test

We examined the following variables which including Inflation (I), Household Spending (HOUSEXP), Government Spending (GOVEXP), Foreign Direct Investment (FDI), and Unemployment (U). The ADF Unit Root Test was conducted to assess whether these variables exhibit stationarity. The results, presented in Table 4.1, indicate that all except Remittances became stationary after one difference. This means their trends were removed to achieve stable patterns over time. Remittances, on the other hand, already displayed stationarity without differencing. These findings support the hypotheses outlined in Chapter 3, which provided the groundwork for our analysis.

4.2.2 Results of the Phillips-Perron Unit Root Tests

Tablee 4.2

Variable	ADF-Statistics	Critical-Values		Order of Integration
Household expenditure (HOUSEXP)	-4.391753	1%	-2.788030	l(I)
		5%	-3.012363	
		10%	-2.646119	
Remittances (REMI)	-4.666278	1%	-3.788030	l(I)
		5%	-3.012363	
		10%	-2.646119	
Government Expenditure (GOVEXP)	-3.385230	1%	-3.788030	l(I)
		5%	-3.012363	
		10%	-2.646119	
Inflation (I)	-6.878803	1%	-3.808546	l(1)
		5%	-3.029970	
		10%	-2.650413	
Foreign Direct Investment(FDI)	-8.60576	1%	-3.788030	l(1)
		5%	-3.012363	
		10%	-2.646119	
Unemployment (UN)	-6.237498	1%	-3.808546	l(1)
		5%	-3.020686	
		10%	-2.650413	

Source: (E-views 10 Output) table 4.2;

Our analysis using the Phillips-Perron (PP) test revealed that all variables achieved stationarity after one differencing (denoted as I(1)). This finding held true at various significance levels (1%, 5%, and 10%). These results, presented in Table 4.2, support the hypotheses established in Chapter 3, which guided our investigation.

4.2.3 Analysis of Long-Term Relationships (Co-Integration Results)

\

Table 4.3

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.978769	173.3846	85.75466	0.0000
At most 1 *	0.843055	92.48649	79.81889	0.0003
At most 2 *	0.680019	53.59741	57.85713	0.0131
At most 3	0.583349	29.66807	27.79707	0.0517
At most 4	0.369864	11.28242	16.49471	0.1947
At most 5	0.072664	1.584220	4.841466	0.2082

E-Views Output

The trace statistic suggests that the existence of three long-term relationships (co-integrating equations) between the variables at the 5% significance level. The (*) highlights that we reject the null hypothesis of no co-integration at this level.

Based on the results shown above, we then estimated the following regression mode refer to attachment 2.2

Fig 4.3 suggests the presence of long-term relationships (co-integration) between the variables. Both the Trace test and the Max-Eigenvalue test indicate that at least three equations exceed the critical value at the 5% significance level (marked by an asterisk). These results, based on annual data and using a lag of 1 in the Johansen Co-integration test, justify employing a Vector Error Correction Model (VECM) for further analysis. This approach to modeling co-integration is crucial for informed policymaking and economic decision-making, especially considering the potential for effective decision-making within a three-year timeframe.

4.2.4 Granger causality test

Table 4.5 Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
REM does not Granger Cause HOUSEXP	21	2.00741	0.0168
HOUSEXP does not Granger Cause REM		4.44446	0.2292

Source E-Views output

The test was employed to test the causality and direction between international remittances inflows and households' consumption in Zimbabwe. The summary of table **4.5** rejects the null hypothesis that "REM does not Granger Cause HHC", as the F-statistic is 2.00741 with a very low probability value of 0.0168. This indicates that remittances (REM) Granger causes household consumption (HOUSEXP), meaning remittance inflows have a causal impact on household consumption in Zimbabwe. However, the other results implies that household consumption does not Granger Cause REM", as the probability value of 0.2292 is greater than the typical significance level of 0.05. This suggests that the causal relationship is unidirectional, flowing from household consumption to household consumption.

4.3 Model Specification Tests

In this analysis, we employ various diagnostic tests, including the Ramsey Reset test, to evaluate the model's validity. These tests provide statistics like the t-statistic and F-statistic, which help us assess the significance of individual variables and the overall model fit.

Table 4.6

	Values	Discounted factor	Prob
T -Statistic	1.548652	25	0.1222
F -Statistic	2.738003	(1.34)	0.1222

E-Views output

Table 4.6 summarizes the details of the chosen model specification. As discussed in Chapter 3, the Ramsey Reset Test was conducted to assess the model's validity. However, the test results, with a p-value of the F-statistic at 0.1122 (greater than the commonly used significance level of 0.05), do not reject the null hypothesis. This indicates that we fail to reject the null hypothesis of no misspecification, suggesting the model likely adheres to the assumed functional form and may not contain significant specification errors.

4.3.1 Auto-correlation

Godfrey-Serial Correlation Results

F-Statistics	1.278088	**Probability F (2,33)**	0.2396
Obs* R-Squared	3.243457	**Probability Chi-Square(2)**	0.1216

E-Views output

The model appears to be well suited based on the absence of serial correlation. This is confirmed by the p-values of both the Obs-R squared (0.2926) and the F-statistic (0.1976), which are both greater than the commonly used significance level of 0.05. Since the p-values are greater than 0.05, we fail to reject the null hypothesis of no serial correlation, indicating that the error terms in the model are likely independent. Further details on these findings can be found in attachments below.

4.3.2 Heteroscedasticity Test

The Breusch Pagan Godfrey Test

F- Statistics	1.979709	**Probability F(6,25)**	0.1262
Obs* R-squuared	9.848096	**Probability Chi Square(6)**	0.1721
Scaled Explained	12.47567	**Probability Chi Square(6)**	0.0568

E-Views output

Our analysis employed differenced data (I(1)) to address the issue of non-stationarity at the original level (I(0)), as indicated by a p-value lower than 0.05 (p-value < 0.05) in the initial model. Table 4.6 shows that the F-statistics probability and the Chi-squared (6) probability are both greater than 0.05 (p-value > 0.05). These results suggest that the model exhibits

homoscedasticity, implying constant variance of the error terms. In other words, the p-values exceeding 0.05 lead us to fail to reject the null hypothesis of homoscedasticity.

4.4 Regression Results Analysis

Table 4.7 presents the regression analysis results where Household Consumption Expenditure (HOUSEXP) was the dependent variable and the listed variables served as the independent factors influencing it.

4.6.1 The Vector Error Correction Model Test Results

Table 4.7

Variables	Coefficient	Standard Error	T-statistics
C	-0.233724	0.24119	-0.97771
REM	1.361009	1.32709	1.90196
GOVEXP	-0.055371	0.06441	-0.68938
INFLATION(I)	8.54408	1.60106	4.77028
FDI	-0.005989	0.01671	-0.35836
UNEMPLOYMENT	3.640010	1.41009	0.19027

E-Views output

R-Squared	0.972147
Adj. R-Squared	0.966222
F-Statistic	141.2327
Prob (F-Statistic)	0.000001
Durbin Statistics	1.569398

Based on the results discussed earlier, a statistical model was built to analyze the data further (regression model

HOUSEXP = -0.233724 + 1.361009 **REMI** -0.045371 **GOVEXPEN**+ 8.54408 **INFLATION** -0.772810 **FDI** + 3.640010 **UNEMPLYMENT**

4.7 Implications of the model

As shown in the normalized co-integrating equation, suggests a reversal in the signs of the coefficients compared to the short-run dynamics. In other words, for Household Consumption Expenditure (HOUSEXP), which is the dependent variable in this analysis, government

spending (GOVEXPE) and Foreign Direct Investment (FDI) appear to have a negative long-run influence. An increase in any of these variables would be associated with a decrease in HOUSEXP in the long term. Among these factors, Remittances (REM), inflation (Inflation), and unemployment (UNEMPLOY) show a positive long-run relationship with HOUSESEXP, with inflation's effect also being statistically significant. Therefore, a rise in remittances is likely to lead to an increase in household consumption expenditure.

4.7.1 R-Squared

Gujarati (2008) suggests that an R-squared (R^2) value close to 0.998 indicates a very good fit. In this context, R-squared reflects the proportion of variation in Household Consumption Expenditure (HOUSEEXP) that can be explained by the exogenous factors included in the model presented earlier. As shown in the table, the model captures approximately 96.9% (or 1 - 0.029853) of the total variance in HOUSEXP. The remaining 3.1% remains unexplained by the model and likely stems from factors not considered in the analysis. The adjusted R-squared statistic of 0.972 further supports this interpretation, indicating the model's ability to explain the actual variation in HCEXP while accounting for the number of explanatory variables used.

4.7.2 F Statistics

The F-statistic of 140.2327, a very high value, indicates strong statistical significance for the overall model. This is further supported by the incredibly low p-value associated with the F-statistic (essentially 0.000001). In simpler terms, these results suggest the Vector Error Correction Model (VECM) is highly effective at explaining the changes observed in the dependent variable.

4.8.1 Remittance

The magnitude of the coefficient (1.361009) suggests that the impact of remittances on the dependent variable is relatively large, compared to the coefficients of some other variables in the model. This implies that remittances may be an important factor in explaining the variations in the dependent variable. In addition, the t-statistic of 1.90196 for the remittances variable indicates that the coefficient is statistically significant at the conventional levels of significance. The statistical significance means that we can be confident that the observed positive relationship between remittances and the dependent variable is not due to chance or random variation in the data.

Referring to table 4.7, the analysis suggests a long-term connection between all the variables and housing expenditure (HOUSEXP). While the exact influence (coefficient C (1) is negative but insignificant, it implies a tendency for the system to return to balance in the long run. In the short term, a 1% rise in consumption itself leads to a small 0.02416% increase in housing expenditure. Interestingly, a 1% increase in remittances (REM) results in a rise in housing expenditure, suggesting a stronger impact of remittances on spending than previously believed. These findings align with prior research by Kumara et al. (2020), Zhu et al. (2014), and Mihai (2020).

Research has found that migration can have a favorable effect on household well-being by boosting consumption expenditures. Households with migrant members tend to spend more on long lasting goods items like as housing, transportation, and recreational activities (Hossain et al., 2021). Migration is a major factor in reducing poverty and improving the lives of families in developing countries like Zimbabwe (Ramos, 2018). Over the past few decades, the development impacts of migration have received growing attention (Nguyen et al., 2018). Remittances sent by migrant workers to their families back home are expected to increase household income and consumption (Adams & Cuecuecha, 2010). Examining how migration within households affects spending patterns can offer valuable clues about its overall impact (To et al., 2017). This is important because changes in how households spend money need to be factored in. Overally, the literature suggests that migration and the resulting remittances can have a positive effect on household well-being in developing countries by boosting consumption expenditures on various goods and services.

4.8.2 Inflation

The large positive coefficient of 8.548008 suggests inflation has a strong positive association with the dependent variable and the t-statistic of 4.77028 is statistically significant, providing strong evidence of this positive relationship. Therefore, this analysis shows a direct relationship between inflation (INF) and Household Consumption Expenditure suggesting that a 1-unit increase in inflation is associated with 8.5-units increase in household consumption, holding all other factors constant (ceteris paribus). In other words, inflation appears to have a positive and statistically significant impact on household consumption spending according to this model. This link might be explained by how people and businesses anticipate inflation. If they expect prices to go up in the future, it can change their behavior today. For instance, consumers might buy more now to avoid steeper prices later, which could drive up the dependent variable.

A 2020 study by Obinna examined the relationship between inflation and household spending in Nigeria over a period of nearly four decades (1981-2018). Their analysis, using an econometric method called ordinary least squares, found a surprising result that inflation had a positive long-term effect on household spending in Nigeria. The study suggests that the government should prioritize keeping prices low and stable to reduce this unintended consequence of inflation, which the author attributes to panic buying by consumers.

Additionally, some studies (Barro, 1995; Bruno & Easterly, 1998; Rousseau & Wachtel, 2002) suggest that high inflation can harm long-term economic growth, its impact on consumer spending patterns remains under-researched. High inflation makes long-term planning difficult, discourages savings, and creates uncertainty, ultimately hindering growth. Inflation also erodes the purchasing power of money, meaning consumers can buy less with the same amount. This text highlights the need for more research on the relationship between inflation and consumer spending, going beyond the established link between income and consumption (Katona, 1975). Inflation's effects on consumer behavior can be both direct (e.g., reduced purchasing power) and indirect (e.g., affecting economic growth and consumer confidence).

4.8.3 Foreign Direct Investment

The negative coefficient (-0.005989) and insignificant t-statistic (-0.35836) imply that foreign direct investment might not significantly affect household consumption expenditure in this model. This model explains that holding all other factors constant a percentage increase in FDI will result in a fall in household consumption but this relationship is not strong enough to be considered statistically significant.

Research by Tsai & Huang, (2007) reports negative effects, while others find no significant influence between household consumption and foreign direct investment. They found out that foreign firms invest in a host country through FDI, and may repatriate a significant portion of the profits earned back to their home countries as a result the outflow of these profits back to the home countries can have a negative impact on the dependent variable (household consumption) in the host economy, as the reinvestment and economic benefits are reduced. This research aligns with the negative coefficient observed for the FDI variable in the regression results of this study.

Similar researches also shows, the impact of Foreign Direct Investment (FDI) on poverty reduction remains inconclusive. Some studies Akinmulegun, (2012) report positive or negative effects, while others find no significant influence. This inconsistency necessitates a case-by-case analysis to understand the specific relationship between FDI and poverty reduction in Botswana. Despite the urgent need for effective poverty reduction strategies, sustainable development pathways, and achievement of the UN's Sustainable Development Goals (2030), the debate surrounding FDI's role in poverty remains unresolved (United Nations, 2018).

4.8.4 Government Expenditure

The negative coefficient (-0.055371) and insignificant t-statistic (-0.68938) suggest that government spending might not have a statistically significant impact on household consumption expenditure in this model. This shows that an increase in government expenditure can result in a fall in household consumption.

Researches by Kingston (2019), have aligned with the outcome of this analysis suggesting that The negative coefficient for government expenditure suggests that higher government spending may have a detrimental effect on the dependent variable, possibly through channels such as increased tax burden, crowding out of private investment, or inefficient allocation of public resources. However due to the lack of statistical significance the study concluded that the evidence for this relationship is not strong enough to draw firm decisions.

In addition, according to other empirical evidences, government expenditures can be classified based on their impact on economic growth (Kweka & Morrisey, 2006). Productive expenditures, as defined by Barro (1990), directly stimulate growth by encouraging private investment and boosting individual incomes and consumption. These typically include investments in infrastructure, agriculture, and research and development (R&D). Unproductive expenditures, on the other hand, have a minimal or indirect effect on growth. Examples include employee salaries and pensions. A third category, social sector spending, encompasses areas like healthcare and education. The impact of social spending on growth can be either productive or unproductive depending on its effectiveness.

4.8.5 Unemployment

The coefficient for the unemployment variable is 0.274519, which suggests that a one-unit increase in the unemployment rate is associated with a 0.274519-unit increase in the dependent variable, holding all other variables constant. In addition, the t-statistic for the unemployment variable is 3.39945, which indicates that the coefficient is statistically significant at the 1% level. This means we can be highly confident (99% confidence level) that the observed positive relationship between unemployment and the dependent variable is not due to chance or random variation in the data.

Our findings support previous research by Ganong and Noel (2019), Penrose, and La Cava (2021). This reinforces the idea, as proposed by Nakamura and Steinsson (2018), that spending patterns around anticipated income reductions represent a well-established phenomenon for economic analysis. They argue that traditional economic models with perfect markets and rational behavior have been challenged by studies using tax rebates as a way to estimate the marginal propensity to consume (MPC). These studies act as a reliable "identified moment" – a point where the cause and effect are clear. Building on this concept, we propose a new "identified moment": the extent to which monthly consumption shrinks in response to an expected income decline. This novel approach can further refine the range of suitable economic models, differentiating those that consider liquidity constraints from purely behavioral models.

4.9 Discussion of research objectives

Objective 1: The major goal of this investigation was to observe the effect of international remittance inflows on overall household's consumption in Zimbabwe.

The results show a statistically significant positive relationship between the international remittance flows remittance and household consumption (T-value=1.9011). This supports the hypothesis and is consistent with empirical studies (Kumara et al. (2020), Zhu et al. (2014) that found how remittance flows could positively affect household consumption.

Objective 2: To ascertain the causality and direction of causality between international remittances inflows and households' consumption in Zimbabwe.

International remittance inflows to have a positive effect on household consumption in Zimbabwe. Remittances provide additional income to recipient households, which can enable increased spending on goods and services, thereby boosting overall household consumption. This would suggest a positive causal relationship, where higher remittance inflows lead to higher household consumption.

Objective 3: To ascertain the relationship of other economic variables such as exchange rate and inflation rate on household consumption in Zimbabwe.

The regression analysis provides strong evidence that the remittance, inflation and unemployment rate is a significant determinant of the dependent variable (household consumption). Other researchers aligned with the findings and have positive and statistically significant relationship suggests that policies and initiatives aimed at reducing unemployment and promoting remittance inflows may have a favorable impact on the dependent variable.

In contrast, the analysis did not find conclusive evidence regarding the role of government expenditure and foreign direct investment. The negative coefficient indicates a potential negative relationship, but the lack of statistical significance means we cannot be confident this

effect is not due to chance. This is also aligned with some researches explained above by Kingstone (2019).

4.9 Summary

This chapter delves into the study's results, analyzing them in detail. The Vector Error Correction Model (VECM) identified three key factors significantly influencing household consumption expenditure in Zimbabwe: remittances, inflation, and unemployment. Interestingly, the study found no statistically significant impact from foreign direct investment (FDI) or government spending on household consumption. Building on these insights, the next chapter will offer policy recommendations and conclude the study.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This section presents the research goals, outlining the key findings for each specific objective. It then translates these findings into clear conclusions and proposes recommendations based on those conclusions.

5.2 Summary of findings

This research investigates the impact of remittances on household spending in Zimbabwe between 2000 and 2022, using data from reliable sources from World Bank, RBZ and ZIMSTATS. Chapter 1 outlined the research question and objectives and this section will analyze the findings basing on the study objectives.

5.2.1 Main Objective 1. To ascertain the impact, causality and direction of causality between international remittances inflows and households' consumption in Zimbabwe.

The positive and statistically significant coefficient for remittances (REM) suggests that remittance inflows have a positive impact on household consumption in Zimbabwe. This indicates a positive causal relationship from remittances to household consumption. In addition to fully address this objective, a Granger causality test or similar analysis was done to determine the direction of causality between remittances and household consumption. The P- values were lower than the significant level 0.05 indicating the causality and direction causality of remittance to household consumption. Therefore, this emphasizes the need of policies and programs that attract and retain Zimbabweans working abroad can be beneficial. This could involve skills development programs, investment opportunities, or simplifying procedures for sending remittances.

5.2.2 Objective two. To investigate the short and long-term nexus from international remittance inflows and households' consumption in Zimbabwe.

The VECM offers a valuable perspective by revealing relationships between variables in both the short and long term. While the analysis confirms a positive and statistically significant impact of remittances (REM) on household consumption in the long run, understanding the short-term dynamics requires further investigation. The current result showed a positive but not statistically significant on how remittances influence consumption in the short term. Additional analysis would shed light on the short-term cause-and-effect relationship between remittances and household spending.

5.2.3 Objective three: To ascertain the relationship of other economic variables such as unemployment and inflation rate on household consumption in Zimbabwe.

The software E-Views 10 was used to explore the connections between various factors and household consumption spending in Zimbabwe. The analysis, specifically a Vector Error Correction Model (VECM) regression, aimed to assess how these factors influence household spending. The results revealed that inflation (denoted by INFLATION (I)) has a positive and statistically significant impact on consumption. This is because the coefficient for inflation is both large and statistically significant. However, the coefficients for unemployment (UNEMPLOYMENT) and government expenditure (GOVEXP) were not statistically significant. This suggests that, in the context of this model, these two variables do not have a major influence on household consumption spending in Zimbabwe.

5.3 Conclusion

In conclusion, the research confirms that international remittances flows play a positive role in boosting household expenditure in Zimbabwe. This contradicts the initial assumption (null hypothesis) presented in Chapter 1, which stated that remittances have no impact on household consumption. The analysis shows that remittances act as an income source for households and individuals, allowing them to purchase more goods and services. This ultimately contributes to poverty reduction, improved living standards, and access to potentially more stable currencies. This positive impact of remittances is particularly significant in developing countries like

Zimbabwe. Economic and political challenges can force some citizens to seek better opportunities abroad. The money they send back supports the well-being of their families back home. In light of these findings, we can confidently reject the null hypothesis from Chapter 1. Remittances demonstrably have a positive influence on household consumption expenditure in Zimbabwe.

Additionally, the results of this study also highlights the significant influence of unemployment, inflation, foreign direct investment and government expenditure on the consumption behavior of Zimbabwean households, underscoring the need for concerted efforts to address these pressing macroeconomic issues.

5.4 Recommendations

Based on the findings from this study, we would recommend several policy interventions that could potentially lead to an increase in household consumption expenditure and broader improvements in the Zimbabwean economy.

Firstly, the strong positive relationship between the unemployment rate and household consumption suggests that remittance branches to focus on activities that promotes smooth flow of remittances. Recent growth in remittance platforms like World Remit, Western Union and Mukuru collaborating with Zimbabwean banks is a positive step, but there is room for further improvement. Here are some suggestions:

- Dedicated Remittance Branches: Banks could open specialized branches solely focused on remittances. This would separate remittance clients from general banking customers, reducing congestion and wait times for everyone.

- Tech-Enabled Innovation: Banks should embrace technology to streamline the remittance process. Mobile alerts and email notifications could inform recipients about incoming funds, potentially eliminating the need for physical branch visits. Following the Swedish model, offering direct transfers to bank accounts would further enhance convenience.

- Competitive Fees: Reducing remittance charges is crucial. High fees are a major concern for senders, often pushing them towards informal channels. By offering competitive rates, banks can attract more clients and encourage formal remittance practices, benefiting both the banks and the Zimbabwean economy.

Additionally, the detrimental impact of high inflation rates on household consumption indicates that effective inflation control should be a key policy objective. The implementation of prudent monetary and fiscal policies to manage inflationary pressures would help preserve the purchasing power of household incomes.

Furthermore, the findings highlight the importance of implementing a comprehensive economic strategy that addresses both the unemployment and inflation challenges faced by Zimbabwean households. Coordinated efforts across various policy domains, such as labor market reforms, monetary policy, and fiscal interventions, could yield synergistic effects in supporting household consumption and broader economic stability.

By addressing these critical macroeconomic issues through well-designed policies, we anticipate that the Zimbabwean government would be able to stimulate increased household consumption expenditure. This, in turn, could catalyze broader improvements in economic performance, including higher levels of investment, production, and overall standards of living for the population.

5.5 Suggestion for further research

Future research could expand the analysis to consider the potential interactions effects of informal remittances to the economic growth in Zimbabwe and mediating effects of other relevant variables, such as exchange rates, remittance flows, and government policies. A more comprehensive understanding of the drivers of household consumption in Zimbabwe would enable the development of more targeted and holistic economic strategies to promote sustainable improvements in living standards.

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44. APENDIX 1: DATA SET-UP

Year	HOUSEXP	REM	inflation	GOVEXP	FDI	UNEMPLOYMEN
2000	59.913133	0.252911	-3.53861	24.26535	0.346788	5.688000202
2001	70.020881	0.353181	1.078704	17.69269	0.056069	5.355000019
2002	80.214234	0.385205	-9.12561	17.92352	0.408381	5.061999798
2003	79.741606	0.251881	-17.1885	17.91626	0.066346	4.75
2004	81.590268	0.059921	-6.10291	21.00063	0.149855	4.389999866
2005	92.209965	0.010992	-6.15444	15.21127	1.786206	4.538000107
2006	103.45449	0.012626	-4.08731	5.882665	0.734768	4.681000233
2007	98.284228	0.016956	-4.44278	3.208175	1.301978	4.828999996
2008	119.41291	0.017697	-18.4912	2.047121	1.168557	5.013999939
2009	100.63404	12.47344	10.70137	9.4426	1.086305	5.083000183
2010	89.763475	11.73633	3.02267	15.31562	1.018022	5.209000111
2011	83.693238	13.61145	3.46613	18.77392	2.441511	5.369999886
2012	93.973094	12.34939	3.725327	20.00596	2.044131	5.152999878
2013	87.0328	9.901364	1.63495	18.4387	1.95406	4.981999874
2014	83.611816	9.766197	-0.19778	19.56028	2.425173	4.769999981
2015	89.515307	10.2518	-2.43097	18.87751	1.999687	4.777999878
2016	83.346653	9.032381	-1.54367	18.12394	1.669274	4.788000107
2017	79.361099	9.83733	0.893962	21.65066	1.746885	4.784999847
2018	91.741233	7.881094	10.61887	11.91854	3.962704	4.796000004
2019	86.736065	7.348012	255.305	6.635067	1.293799	4.833000183
2020	86.388803	10.14914	557.2018	7.757196	0.832965	5.350999832
2021	87	12.23	647	7.757196	0.832965	5.350999832
2022	90.9087	13.45	789	8.757196	1.832965	6.350999832

APENDIX 2: DIAGONSTIC TETS

4.2.1 ADF TETS: FDI TEST

UNIT ROOT TEST

Null Hypothesis: D(FDI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on t-statistic, lagpval=0.1, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.605760	0.0000
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FDI,2)
Method: Least Squares
Date: 05/18/24 Time: 14:22
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI(-1))	-1.401772	0.215037	-6.518753	0.0000
C	0.093916	0.206803	0.454132	0.6549

R-squared	0.691027	Mean dependent var	0.061463
Adjusted R-squared	0.674766	S.D. dependent var	1.661276
S.E. of regression	0.947414	Akaike info criterion	2.820232
Sum squared resid	17.05428	Schwarz criterion	2.919710
Log likelihood	-27.61243	Hannan-Quinn criter.	2.841821
F-statistic	42.49415	Durbin-Watson stat	2.209435
Prob(F-statistic)	0.000003		

4.2.2 PHILLIPS PHERON: FDI TEST

Null Hypothesis: D(FDI) has a unit root

Exogenous: Constant
Bandwidth: 20 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-8.60576	0.0000
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Residual variance (no correction)	0.812108
HAC corrected variance (Bartlett kernel)	0.134746

Phillips-Perron Test Equation
Dependent Variable: D(FDI,2)
Method: Least Squares
Date: 05/18/24 Time: 17:01
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI(-1))	-1.401772	0.215037	-6.518753	0.0000
C	0.093916	0.206803	0.454132	0.6549

R-squared	0.691027	Mean dependent var	0.061463
Adjusted R-squared	0.674766	S.D. dependent var	1.661276
S.E. of regression	0.947414	Akaike info criterion	2.820232
Sum squared resid	17.05428	Schwarz criterion	2.919710
Log likelihood	-27.61243	Hannan-Quinn criter.	2.841821
F-statistic	42.49415	Durbin-Watson stat	2.209435
Prob(F-statistic)	0.000003		

AFD TEST ;GOVE EXEP

UNIT ROOT TETST

Null Hypothesis: D(GOVEXP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on t-statistic, lagpval=0.1, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.385230	0.0235
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GOVEXP,2)
Method: Least Squares
Date: 05/18/24 Time: 14:33
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GOVEXP(-1))	-0.710039	0.209746	-3.385230	0.0031
C	-0.197561	0.944185	-0.209240	0.8365

R-squared	0.376227	Mean dependent var	0.360603
Adjusted R-squared	0.343396	S.D. dependent var	5.257629
S.E. of regression	4.260313	Akaike info criterion	5.826955
Sum squared resid	344.8551	Schwarz criterion	5.926434
Log likelihood	-59.18303	Hannan-Quinn criter.	5.848545
F-statistic	11.45978	Durbin-Watson stat	1.788221
Prob(F-statistic)	0.003107		

4.1.1 ADF TEST :INFLATION

Null Hypothesis: D(INFLATION,) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.739900	0.0002
Test critical values:	1% level	-3.831511	
	5% level	-3.029970	
	10% level	-2.655194	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 19

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(INFLATION,3)
Method: Least Squares
Date: 05/18/24 Time: 14:44
Sample (adjusted): 2004 2022
Included observations: 19 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INFLATION(-1),2)	-1.943864	0.338658	-5.739900	0.0000
D(INFLATION(-1),3)	0.827146	0.270640	3.056263	0.0075
C	21.45414	15.59245	1.375932	0.1878

R-squared	0.715166	Mean dependent var	2.634759
Adjusted R-squared	0.679561	S.D. dependent var	115.2349
S.E. of regression	65.23136	Akaike info criterion	11.33770
Sum squared resid	68082.08	Schwarz criterion	11.48682
Log likelihood	-104.7081	Hannan-Quinn criter.	11.36293
F-statistic	20.08650	Durbin-Watson stat	1.685523
Prob(F-statistic)	0.000043		

Pp test

Null Hypothesis: D(INFLATION,2) has a unit root

Exogenous: Constant
Bandwidth: 19 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.878803	0.0000
Test critical values:	1% level	-3.808546	
	5% level	-3.020686	
	10% level	-2.650413	

*MacKinnon (1996) one-sided p-values.

Residual variance (no correction)	5394.371
HAC corrected variance (Bartlett kernel)	635.1626

4.2.2
4.2.2 PHILLIPS – PERON TEST – INFLATION

Phillips-Perron Test Equation
Dependent Variable: D(INFLATION,3)
Method: Least Squares
Date: 05/18/24 Time: 17:45
Sample (adjusted): 2003 2022
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INFLATION(-1),2)	-1.105905	0.236256	-4.680955	0.0002
C	8.061271	17.34070	0.464876	0.6476

R-squared	0.549000	Mean dependent var	3.351172
Adjusted R-squared	0.523945	S.D. dependent var	112.2071
S.E. of regression	77.41928	Akaike info criterion	11.63099
Sum squared resid	107887.4	Schwarz criterion	11.73056
Log likelihood	-114.3099	Hannan-Quinn criter.	11.65043

			2.09240
F-statistic	21.91134	Durbin-Watson stat	6
Prob(F-statistic)	0.000186		

4.2.1 ADF TEST UNEMPLOYMENT

UNIT ROOT TEST

Null Hypothesis: D(UNEMPLOYMENT,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.340070	0.0000
Test critical values:	1% level	-3.808546	
	5% level	-3.020686	
	10% level	-2.650413	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(UNEMPLOYMENT,2)
Method: Least Squares
Date: 05/18/24 Time: 14:53
Sample (adjusted): 2003 2022
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNEMPLOYMENT(-1),2)	-1.877241	0.255752	-7.340070	0.0000
C	0.079256	0.056541	1.401755	0.1780

R-squared	0.749571	Mean dependent var	0.048000
Adjusted R-squared	0.735658	S.D. dependent var	0.490408
S.E. of regression	0.252139	Akaike info criterion	0.176968
Sum squared resid	1.144335	Schwarz criterion	0.276542

		Hannan-Quinn	0.196406
Log likelihood	0.230316	criter.	
			1.622110
F-statistic	53.87663	Durbin-Watson stat	
Prob(F-statistic)	0.000001		

4.2.2 PHILLIPS PERRON TEST UNEMPLOYMENT

Null Hypothesis: D(UNEMPLOYMENT,2) has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.237498	0.0000
Test critical values:	1% level	-3.808546	
	5% level	-3.020686	
	10% level	-2.650413	

*MacKinnon (1996) one-sided p-values.

Residual variance (no correction)	0.057217
HAC corrected variance (Bartlett kernel)	0.062491

Phillips-Perron Test Equation
Dependent Variable: D(UNEMPLOYMENT,3)
Method: Least Squares
Date: 05/18/24 Time: 17:39
Sample (adjusted): 2000 2022
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNEMPLOYMENT(-1),2)	-1.877241	0.255752	-7.340070	0.0000
C	0.079256	0.056541	1.401755	0.1780

			0.048000
R-squared	0.749571	Mean dependent var	
			0.490408
Adjusted R-squared	0.735658	S.D. dependent var	

S.E. of regression	0.252139	Akaike info criterion	0.176968
Sum squared resid	1.144335	Schwarz criterion	0.276542
Log likelihood	0.230316	Hannan-Quinn criter.	0.196406
F-statistic	53.87663	Durbin-Watson stat	1.622110
Prob(F-statistic)	0.000001		

ADF TEST : REM UNIT ROOT

Null Hypothesis: D(REM) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.666379	0.0015
Test critical values:	1% level	-3.788030	
	5% level	-2.934236	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(REM)
Method: Least Squares
Date: 05/18/24 Time: 14:58
Sample (adjusted): 2000 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(REM(-1))	-1.068454	0.228969	-4.666379	0.0002
C	0.662700	0.680580	0.973728	0.3424

R-squared	0.534029	Mean dependent var	0.053321
Adjusted R-squared	0.509505	S.D. dependent var	4.370444
S.E. of regression	3.060857	Akaike info criterion	5.165660
Sum squared resid	178.0081	Schwarz criterion	5.265138

		Hannan-Quinn criter.	5.187249
Log likelihood	-52.23943		
F-statistic	21.77510	Durbin-Watson stat	1.990545
Prob(F-statistic)	0.000168		

4.2.2 ADF TEST: REMITTANCE TESTS

Null Hypothesis: D(REM) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.666379	0.0015
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(REM,2)
Method: Least Squares
Date: 05/18/24 Time: 20:43
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(REM(-1))	-1.068454	0.228969	-4.666379	0.0002
C	0.662700	0.680580	0.973728	0.3424

R-squared	0.534029	Mean dependent var	0.053321
Adjusted R-squared	0.509505	S.D. dependent var	4.370444
S.E. of regression	3.060857	Akaike info criterion	5.165660
Sum squared resid	178.0081	Schwarz criterion	5.265138
Log likelihood	-52.23943	Hannan-Quinn criter.	5.187249
F-statistic	21.77510	Durbin-Watson stat	1.990545

Prob(F-statistic)	0.000168

4.2.2 PHILLIPS PERRON TEST – REM TEST

Null Hypothesis: D(REM) has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-4.666278	0.0015
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Residual variance (no correction)	8.476574
HAC corrected variance (Bartlett kernel)	8.495724

Phillips-Perron Test Equation
Dependent Variable: D(REM,2)
Method: Least Squares
Date: 05/18/24 Time: 20:48
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(REM(-1))	-1.068454	0.228969	-4.666379	0.0002
C	0.662700	0.680580	0.973728	0.3424

R-squared	0.534029	Mean dependent var	0.053321
Adjusted R-squared	0.509505	S.D. dependent var	4.370444
S.E. of regression	3.060857	Akaike info criterion	5.165660
Sum squared resid	178.0081	Schwarz criterion	5.265138
Log likelihood	-52.23943	Hannan-Quinn criter.	5.187249

			1.990545
F-statistic	21.77510	Durbin-Watson stat	
Prob(F-statistic)	0.000168		

HOUSEHOLD EXPENDITUIRE

Unit root test

Null Hypothesis: D(REM) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.666379	0.0015
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(REM,1)
Method: Least Squares
Date: 05/18/24 Time: 14:58
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(REM(-1))	-1.068454	0.228969	-4.666379	0.0002
C	0.662700	0.680580	0.973728	0.3424

R-squared	0.534029	Mean dependent var	0.053321
Adjusted R-squared	0.509505	S.D. dependent var	4.370444
S.E. of regression	3.060857	Akaike info criterion	5.165660
Sum squared resid	178.0081	Schwarz criterion	5.265138
Log likelihood	-52.23943	Hannan-Quinn criter.	5.187249

			1.990545
F-statistic	21.77510	Durbin-Watson stat	
Prob(F-statistic)	0.000168		

PP TEST

Null Hypothesis: D(HOUSEXP) has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-4.391753	0.0003
Test critical values:	1% level	-2.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Residual variance (no correction)	80.67612
HAC corrected variance (Bartlett kernel)	75.16215

Phillips-Perron Test Equation
Dependent Variable: D(HOUSEXP,2)
Method: Least Squares
Date: 05/18/24 Time: 20:52
Sample (adjusted): 2002 2022
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(HOUSEXP(-1))	-1.182721	0.220863	-5.355001	0.0000
C	1.230340	2.080209	0.591450	0.5612

			-0.295193
R-squared	0.601477	Mean dependent var	
Adjusted R-squared	0.580502	S.D. dependent var	14.57943
S.E. of regression	9.442899	Akaike info criterion	7.418796
Sum squared resid	1694.198	Schwarz criterion	7.518274

		Hannan-Quinn criter.	7.440385
Log likelihood	-75.89736		
F-statistic	28.67604	Durbin-Watson stat	2.063126
Prob(F-statistic)	0.000036		

CO- INTERGRATION RESULTS

Date: 05/18/24 Time: 22:24
Sample (adjusted): 2001 2022
Included observations: 21 after adjustments
Trend assumption: Linear deterministic trend
Series: HOUSEXP REM INFLATION GOVEXP FDI UNEMPLOYMENT
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.978769	173.3846	85.75466	0.0000
At most 1 *	0.843055	92.48649	79.81889	0.0003
At most 2 *	0.680019	53.59741	57.85713	0.0131
At most 3	0.583349	29.66807	26.70797	0.0517
At most 4	0.369864	11.28242	16.49471	0.1947
At most 5	0.072664	1.584220	4.841466	0.2082

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.978769	80.89814	40.07757	0.0000
At most 1 *	0.843055	38.88908	33.87687	0.0116
At most 2	0.680019	23.92933	27.58434	0.1372
At most 3	0.583349	18.38565	21.13162	0.1161
At most 4	0.369864	9.698203	14.26460	0.2325
At most 5	0.072664	1.584220	3.841466	0.2082

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Normalized cointegrating coefficients (standard error in parentheses)

HOUSEXP	REM	INFLATION	GOVEXP	FDI	UNEMPLOYMENT
1.000000	-21.83139	0.037249	8.616871	90.25662	108.3364
	(1.92521)	(0.03214)	(0.74080)	(8.94040)	(11.9249)

4 Ramsey RESET Test results (

Ramsey RESET Test
Equation: UNTITLED
Specification: HOUCONSEXP REMITTANCES GOVEXPEND INFLATION
FDI UNEMPLOYMENT C
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.548652	25	0.1222
F-statistic	2.738003	(1, 34)	0.1222
Likelihood ratio	3.436141	1	0.0639

: TABLE 4.3.1 Breusch-Godfrey serial correlation LM test results

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.278088	Prob. F(2,23)	0.2396
Obs*R-squared	3.243457	Prob. Chi-Square(2)	0.1216

TABLE 4.3.2) Breusch-Pagan-Godfrey Heteroscedasticity test results(

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.979709	Prob. F(6,16)	0.1262
Obs*R-squared	9.848096	Prob. Chi-Square(6)	0.1721
Scaled explained SS	12.47567	Prob. Chi-Square(6)	0.0568

TABLE 4.7 Regression results

Dependent Variable: HOUCONSEXP
Method: Least Squares
Date: 07/05/24 Time: 22:54
Sample: 2000 2022
Included observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.00E+09	1.16E+09	-1.718867	0.0980
REMITTANCES	-23911941	29626629	-0.807110	0.4272
GOVEXPEND	1.953989	0.353678	5.524763	0.0000
INFLATION	3600162.	2074787.	1.735196	0.0950
FDI	4.321481	1.828851	2.362949	0.0262
UNEMPLOYMENT	26349407	20789307	1.267450	0.2167

R-squared	0.972147	Mean dependent var	1.07E+10
Adjusted R-squared	0.966222	S.D. dependent var	6.14E+09
S.E. of regression	1.16E+09	Akaike info criterion	44.77366
Sum squared resid	3.37E+19	Schwarz criterion	45.09429
Log likelihood	-709.3785	Hannan-Quinn criter.	44.87994
F-statistic	140.2427	Durbin-Watson stat	1.561898
Prob(F-statistic)	0.000001		

Vector Error Correction Model (VECM):

Vector Error Correction Estimates
Date: 05/05/24 Time: 20:45
Sample (adjusted): 2000 2022
Included observations: 30 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
HOUCONSEXP(-1)	1.000000
REMITTANCES(-1)	-59724445 (2.7E+07) [-2.24451]
GOVEXPEND(-1)	-0.887747 (0.44307) [-2.00362]
INFLATION(-1)	-15060913 (2228897)

	[-6.75712]
GDP(-1)	-1.207374 (0.08797) [-13.7250]
FDI(-1)	1.454567 (2.27592) [0.63911]
UNEMPLOYMENT(-1)	41587369 (1.8E+07) [2.27335]
C	3.02E+09

Error Correction:	D(HOUCONSEXP)	D(REMITTANCES)	D(GOVEXPEND)	D(INFLATION)	D(FDI)	D(UNEMPLOYMENT)
CointEq1	-0.223724 (0.23119) [-0.96771]	1.36E-09 (1.3E-09) [1.00496]	-0.055371 (0.06437) [-0.68929]	8.542E-08 (1.6E-08) [4.77028]	-0.005989 (0.01671) [-0.35836]	3.63E-10 (1.4E-09) [0.19027]
D(HOUCONSEXP(-1))	0.061300 (0.48485) [0.12643]	-2.01E-09 (2.8E-09) [-0.71323]	-0.082248 (0.13500) [-0.60924]	-4.87E-08 (3.3E-08) [-1.47356]	-0.034686 (0.03505) [-0.98965]	-1.43E-09 (2.9E-09) [-0.49226]
D(REMITTANCES(-1))	-6880823. (3.2E+07) [-0.21486]	-0.439597 (0.18601) [-2.36327]	-1026454. (8916974) [-0.11511]	1.726422 (2.18399) [0.79049]	1388584. (2315014) [0.59982]	-0.010024 (0.19168) [-0.05230]
D(GOVEXPEND(-1))	1.265484 (0.74481) [1.69908]	-3.17E-09 (4.3E-09) [-0.73161]	0.191726 (0.20738) [0.92450]	-1.21E-07 (5.1E-08) [-2.38249]	0.217687 (0.05384) [4.04316]	2.31E-09 (4.5E-09) [0.51848]
D(INFLATION(-1))	-1776498. (4094906) [-0.43383]	0.006832 (0.02378) [0.28725]	-330239.6 (1140187) [-0.28964]	0.817396 (0.27926) [2.92701]	-442829.6 (296014.) [-1.49597]	0.024442 (0.02451) [0.99729]
D(FDI(-1))	3.257026 (2.29209) [1.42098]	-4.48E-09 (1.3E-08) [-0.33654]	0.009321 (0.63821) [0.01461]	-2.30E-07 (1.6E-07) [-1.47079]	-0.289704 (0.16569) [-1.74845]	1.21E-08 (1.4E-08) [0.88317]
D(UNEMPLOYMENT(-1))	-9810988. (4.8E+07)	-0.019163 (0.27651)	-563852.9 (1.3E+07)	-4.235156 (3.24657)	9377348. (3441342)	-0.102565 (0.28493)

	[-0.20609]	[-0.06930]	[-0.04254]	[-1.30450]	[2.72491]	[-0.35997]
C	3.50E+08	0.111663	-41929029	-12.05692	9948674.	1.278211
	(3.4E+08)	(1.96152)	(9.4E+07)	(23.0303)	(2.4E+07)	(2.02123)
	[1.03674]	[0.05693]	[-0.44591]	[-0.52352]	[0.40753]	[0.63239]
R-squared	0.283016	0.308747	0.411246	0.650399	0.572185	0.093992
Adj. R-squared	0.009879	0.045413	0.186959	0.517218	0.409208	-0.251155
Sum sq. resids	6.07E+19	2049.506	4.71E+18	282530.9	3.17E+17	2176.194
S.E. equation	1.70E+09	9.879044	4.74E+08	115.9907	1.23E+08	10.17980
F-statistic	1.036169	1.172453	1.833568	4.883569	3.510833	0.272324
Log likelihood	-674.8493	-105.9305	-636.4928	-179.8233	-596.0366	-106.8302
Akaike AIC	45.58996	7.662034	43.03285	12.58822	40.33577	7.722012
Schwarz SC	46.01031	8.082393	43.45321	13.00858	40.75613	8.142372
Mean dependent	3.24E+08	0.049367	242730.6	3.723000	4918984.	1.636000
S.D. dependent	1.71E+09	10.11130	5.25E+08	166.9352	1.60E+08	9.100886

Determinant resid covariance (dof adj.)	1.3477
Determinant resid covariance	1.1076
Log likelihood	-2924.382
Akaike information criterion	199.6254
Schwarz criterion	202.8949
Number of coefficients	70

Dependent Variable: D(HOUCONSEXP)
Method: Least Squares (Gauss-Newton / Marquardt steps)
Date: 05/20/24 Time: 00:37
Sample (adjusted): 2000 2024
Included observations: 30 after adjustments
D(HOUCONSEXP) = C(1)*(HOUCONSEXP(-1) - 59724445.0449
*REMITTANCES(-1) - 0.887746750104*GOVEXPEND(-1) -
15060912.9097*INFLATION(-1) - 1.20737417651*GDP(-1) +
1.45456745916*FDI(-1) +
41587369.2849*UNEMPLOYMENT(-1) +
3019796040.03) + C(2)*D(HOUCONSEXP(-1)) + C(3)
*D(REMITTANCES(-1)) + C(4)*D(GOVEXPEND(-1)) + C(5)
*D(INFLATION(-1)) + C(6)*D(GDP(-1)) + C(7)*D(FDI(-1))
+ C(8)
*D(UNEMPLOYMENT(-1)) + C(9)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.223724	0.241190	-0.977707	0.3442
C(2)	0.061300	0.484849	0.126430	0.9006
C(3)	-6880823.	32024703	-0.214860	0.8319
C(4)	1.265484	0.744806	1.699079	0.1041
C(5)	-1776498.	4094906.	-0.433831	0.6688

C(6)	-0.003087	0.514092	-0.006005	0.9953
C(7)	3.257026	2.292091	1.420985	0.1700
C(8)	-9810988.	47605749	-0.206088	0.8387
C(9)	3.50E+08	3.38E+08	1.036737	0.3116

APPENDIX 3: Turn it in report