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Government spending and economic growth in Zimbabwe from 1980 to 2014

BY

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DEDICATION

To my family and friends, thank you for your love, support, and encouragement. It is because of you that I have come this far.

Abstract

The study experimentally investigated the effects of various government spending components on economic growth in Zimbabwe from 1980 to 2014. Capital spending, social sector spending, and consumption spending made up the bulk of government spending. Other variables such as trade openness, foreign aid, labor force, and a dummy variable for drought were included in the empirical study. Estimations were made using time series data from the World Bank and ZIMSTAT. The Ordinary Least Squares (OLS) method was used in the investigation. The findings showed that consumption spending was growth-neutral while social sector spending was found to be growth-retarding. Capital expenditures were found to be growth-stimulating. The findings also demonstrated the growth-decelerating effects of trade openness, labor force, drought, and foreign aid. By increasing investment, Zimbabwe's economy can grow faster.

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List of Acronyms

ADF Augmented Dickey Fuller

BLUE Best Linear Unbiased Estimator

BOP Balance of Payments

CAPE Capital Expenditure

CONE Consumption Expenditure

DRC Democratic Republic of Congo

DRGHT Drought

ECM Error Correction Model

ESAP Economic Structural Adjustment Programme

FA Foreign Aid

GDP Gross Domestic Product

GDPG Gross Domestic Product Growth

GLS Generalized Least Squares

GNU Government of National Unity

JB Jacque Bera

IMF International Monetary Fund

LAB Labour Force

LDCs Least Developed Countries

OECD Organisation for Economic Co-operation and Development

OLS Ordinary Least Squares

RBZ Reserve Bank of Zimbabwe

R&D Research and Development

SSE Social Sector Expenditure

TRDO Trade Openness

UNDP United Nations Development Programme

USA United States of America

VECM Vector Error Correction Model

WB World Bank

ZIMPREST Zimbabwe Programme for Economic Recovery and Socio Transformation

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The study empirically examined the impact of various components of government expenditures on economic growth in Zimbabwe for the period 1980 to 2014. Government expenditure was broadly divided into three components: capital expenditure, social sector spending and consumption spending. The study included other variables such as trade openness, foreign aid, and labor force as well as a dummy variable for drought. This study is important because it recommends the government to prioritize its budget allocations towards capital spending in order to accelerate economic growth in Zimbabwe .Public Private Partnerships are also encouraged as these may help to improve the productivity and efficiency of public social sector spending. In addition, the study recommends that the government reallocates expenditures from consumptive purposes such as employment costs and foreign travel and channel them towards infrastructure development.

The process of economic growth is one topic that receives a lot of attention from policymakers since it is thought to be crucial to a country's economic development. According to Barro (1990), capital expenditures, including investments in infrastructure, are a part of what constitutes productive expenditure. One of the key factors that determines whether public spending is growth-stimulating or growth-retarding is government expenditures. It is noteworthy that public wasteful spending only has a minimal or indirect impact on growth. More specifically, classification states that while government spending has an impact on economic growth, productive spending has a direct impact on it (Kweka and Morrisey2006) . Particularly, there is disagreement over whether spending can be broadly classified as productive or wasteful. Expenditures are classified as many categories that can be evaluated based on how they increase private investment.

There is a view that the various aspects of government spending have varied effects on economic expansion. In general, productive public spending is thought to crowd out private investment and crowd in private investment, which is thought to slow growth (Laudau ,1983, Barro ,1990 and

Folster and Henrekson,1999). As a result, the effectiveness of public capital sector expenditure on economic growth is reliant on the effectiveness of the spending (commonly anticipated to have strong possibilities of future returns over the long term). In contrast to inefficient public spending, which frequently crowds out productive spending and benefits the economy externally, the social effect is consequently seen as growth-stimulating (Reinhart, 1990; Akpan, 2005; Afonso and Furceri, 2010). Public investment on social sector services like health and education, on the one hand, boosts the appeal of wasteful projects while also increasing the productivity of labor.

There has been more expenditure spent and allocated in Zimbabwe for both consumption-related expenses and social spending. In light of this, one could counter the common economic belief that investment in capital increases the likelihood of strong economic growth. Employment costs1 accounted for about 80% of the total budget as of 2014 (Ministry of Finance and Economic development and R&D services, as shown in Figure 1). Zimbabwe is one country where (the wage bill) consumes a larger portion of the budget. Despite the well reported Development, 2014), this is the case. The economy of the country has generally been weak, raising the question of whether this is due to low capital spending or excessive consumptive spending relative to more productive capital investments in the form of transportation, infrastructure, and communication.

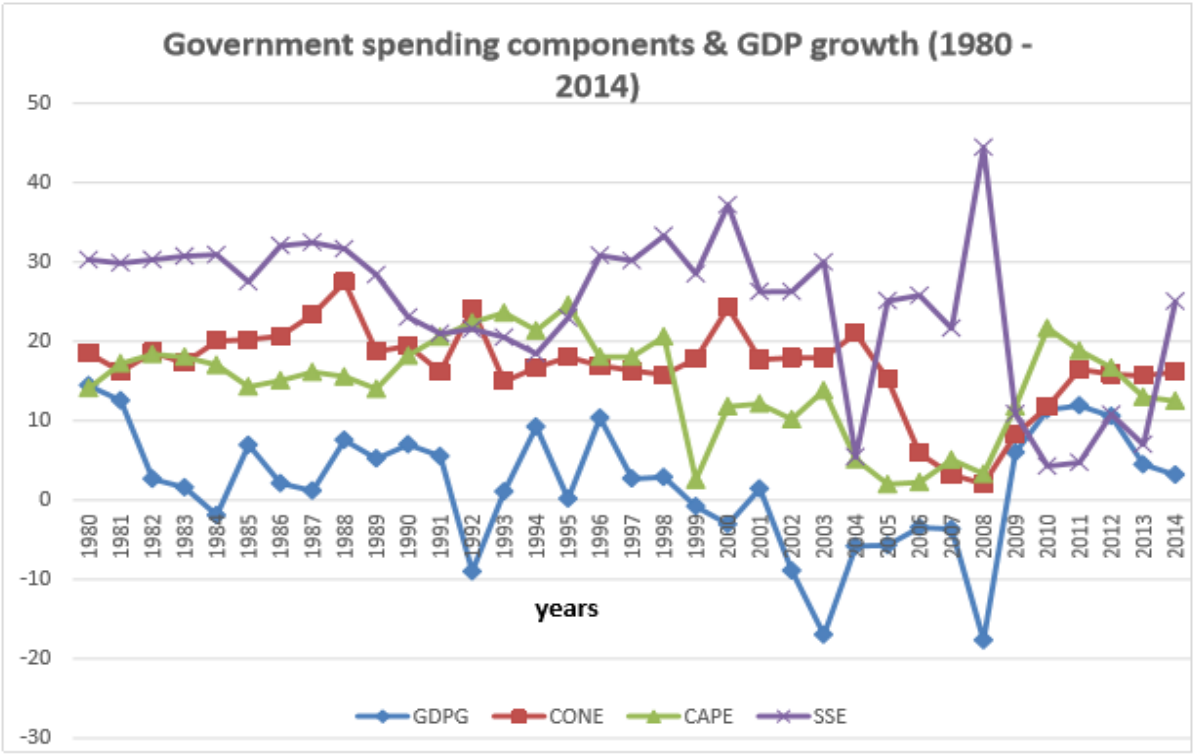
1.1 BACKGROUND OF THE STUDY

Immediately upon the country's independence in 1980, when its economy grew by an average of 4.5 percent, Zimbabwe's economic objectives were set forth (UNDP, 2010). The government increased spending on social programs like those in the health, education, and welfare sectors during this time. The socioeconomic Growth with Equity study indicates that the economy made great strides. Zimbabwe's Gross Domestic Product (GDP) expanded by 14.4% in 1980 and 12.53 percent in 1981(Austen, 2009). Zimbabwe had strong public support for its redistributing programs and adhered to a socialist worldview. According to RBZ (2009), impressive growth rates were reached in sectors including education and health. But there were unaffordably high budget deficits as a result of increased government spending .The drought, which had a significant negative impact on the country's agricultural sector and worsened the balance of

payments (BOP) imbalance by raising the price of food imports and lowering export earnings. Due to the drought, agricultural output severely declined, dropping from 12.53 percent in 1981 to 2.63 percent in 1982, and then to 1.59 percent in the farming season of 1982–1983. (Little, 1982). A $479 million (US) program to increase the country's economic growth rate was impacted by this (UNDP, 2010). Due to such consumption, the country had to import maize for the first time, which reduced GDP (World Bank, 2015). In response to rising government expenditures, the government created a 10% drought relief scheme in 1982.

Rising domestic demand and rising government spending on defense, healthcare, and education caused inflation to rise from 8.6% in 1980 to 17.9% in 1983. (Mlambo, 1997). Spending on social programs, drought relief, and Mozambique defense during the 1980s ensured the budget deficit. The government focused social sector investment on health and education in order to address the observed unprecedented growth in school enrollments at all levels with the health service sector and the transport, communication, and building sectors (Jenkins, 2002). Other social areas are growing significantly, which could explain this. Figure 1 shows that consumer spending made up around 29.74 percent of GDP on average, while capital expenditures made up about 20.04 percent.

Figure 1: Government spending components and GDP Growth (1980 - 2014)



Source: ZIMSTAT and World Bank

Since 1980 to 2014, Figure 1 depicts variations in both economic growth and the various components of governmental spending.

Zimbabwe's economy was through a severe crisis from 1997 to 2008. In 1997, this problem cost the economy 3% of its GDP (Clemens and Moss 2005). With the collapse of the Zimbabwean dollar, the decision was made to finance the problem which increases government expenditure. This was followed by a number of economic problems but were not adequately handled. Veterans happened on Friday, November 14, 1997. According to UNDP (2010), this day marks the beginning. Government expenditure grew in 1998 as a result of the government's need to make unforeseen payments for the Congo conflict (Mackenzie, 1996). The nation's involvement in the DRC conflict fulfilled a number of goals over a period of four years. Moreover, there were food shortages. Between 2000 and 2007, the economy of Zimbabwe declined dramatically. Hard currency, food, medicine, and gasoline were all consistently in short supply throughout this time, and industrial and agricultural productivity both decreased by 47% and 51%, respectively (UNDP, 2010). The economy of the nation as measured by GDP per capita shrank by up to 40%,

there was widespread poverty, and the unemployment rate was at 80%. Inflation ranged to over 66 000% (RBZ, 2009).

In 2008, there was a cholera outbreak in the nation, which increased government expenditure. The country's GDP expanded by about 4.08 percent (World Bank, 2015). The country's economy had a poor balance of payments and relatively slow growth, as seen by the GDP growth trends in Figure 1. Average data show that the (UNDP, 2010) in the country, public spending represented 97.8% of GDP. Notably, the economic growth rate for health care services was negative for the most of this time frame. Episodes of hyperinflation significantly impacted.

Zimbabwe had a number of macroeconomic problems, such as increasing budget and BOP deficits, but was nevertheless able to achieve average economic growth of 5% and keep budget deficits below 5% of GDP (RBZ, 2009). Nevertheless, the ESAP was unable to persuade the government to make economic adjustments that would have lowered the deficits to acceptable levels and resulted in swift economic growth (Evans, 1995). The objectives of the Economic Structural Adjustment Program, such as reducing BOP deficits to acceptable levels, were most likely set up within the first ten years of independence (Dashwood, 2000). Such macroeconomic problems called for the (ESAP), which brought about a dramatic improvement in the political landscape in 1991. The program concentrated on reducing the rigidities in the nation's structure and economy.

It is interesting that when the ESAP was put into place, the majority of government spending on treatment, common drugs, and preventative care declined (Robinson, 2002). A 39 percent increase in healthcare spending occurred between 1994 and 1995 as well (UNDP, 2010). Health and educational services suffered as a result. In contrast to a drop in government spending, for example, user fees and primary tuition charges were resumed. According to Gunning, Jan Willem, and Oostendop (2002), real per capita spending on children in the primary education sector has fallen to its lowest level since the country's founding. In 1992, the economy was struck by yet another severe drought, which increased government spending because the nation had to rely on imported food. As a result, capital expenses have to go down. For instance, to reduce the enormous budget deficit in 1995, the government reduced capital investment. Consumption spending averaged 17.89%

while sector spending was roughly equal to 22.54% of GDP (IMF, 1998). The country created a follow-up program, the Zimbabwe Program for Economic and Social Transformation, to largely achieve its intended goals (ZIMPREST). During the period of time between 1991 and 1996, when the economy grew steadily at an average rate of 2.89 percent, the program's objective was to enhance investment in the social sector.

2011 saw a strong GDP growth of 11% for the nation, however 2013 saw a rise in government spending. The estimated economic growth rate for 2014 was 3.1%. (UNDP, 2015). 5 percent economic growth in 2013. The country's economic growth may have been at its lowest when it failed to meet this aim. However, GDP growth abruptly fell from 10.6% in 2012 to a low of 4.5 percent by the end of 2013(Robertson, 2007). Because the election budget was more focused on consumption than the government budget of $3.09 billion, there was a dramatic increase in social sector spending of $104 million (Heidi, 2008). 2014's economic growth forecasts are positive, while social sector spending in the nation increased by 25%.

1.2 Problem Statement

The relationship between government spending and economic growth is extensively examined and discussed in this study. Spending on investments and productive activities should stimulate growth, but empirical evidence available to the general public has not been able to provide a definitive answer. However, a widely-documented theory holds that the nature and effect of government spending on economic growth depends on the type of spending. The International Monetary Fund recently designated the reduction of the wage bill as a top government objective, according to Keynes (1936). The debate in literature centers on whether or whether government spending encourages long-term economic growth. Indeed

Furthermore, previous Zimbabwean studies were unable to provide a disaggregated analysis of the subject. For instance, Mapfumo solely looked at the spending and economic growth of Zimbabwe (2012). As a result, none of these studies looked at how government expenditure affects economic growth in Zimbabwe. In light of these facts, this study explores how various public expenditure categories affect economic growth in Zimbabwe, concentrating solely on the effect of government agriculture spending. As a result, the relationships between different components, such as

consumption spending and social sector spending, are unclear. However, Kunofirwa and Odhiambo (2013) conducted a disaggregated analysis of the effects of various spending components in order to examine the connection between total government spending and growth in Zimbabwe.

1.3 Research objectives

General Objectives

The main aim of this study is to investigate the impact of government spending on economic growth in Zimbabwe.

Specific Objectives

The study has the following specific objectives:

- To determine the impact of capital expenditure on economic growth in Zimbabwe.
- To determine the impact of consumption spending on economic growth in Zimbabwe.
- To determine the impact of social sector spending on economic growth in Zimbabwe.

1.4 Research questions

In addressing the above objectives the following research questions are raised:

I .What is the impact of capital expenditure on economic growth in Zimbabwe?

What is the impact of government spending on economic growth in Zimbabwe?

Ii .What is the impact of consumption spending on economic growth in Zimbabwe?

iii. What is the impact of social sector spending on economic growth in Zimbabwe?

1.5 Hypothesis

Capital expenditure has a positive impact on economic growth in Zimbabwe.

1.6 Significance / Justification of the study

The results of a disaggregated analysis of how different government expenditure components affect economic growth will assist policy makers by providing guidance on how to proceed with their decisions. The outcomes of this study will be valuable for policy reasons in Zimbabwe, and it is anticipated that knowledge of how the various contributing to the empirical literature would inform and contribute to the current body of academic literature. Apart from coming up with informed choices regarding the type of spending to prioritize if the goal is to accelerate economic growth in Zimbabwe.

1.7 Organization of the study

The first chapter introduced the subject matter. Chapter two reviews the literature while the methodology of the study is provided in chapter three. Chapter four presents the empirical results as well as their interpretation. Chapter five concludes the study with policy recommendations and areas of further study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The theoretical and empirical research on government spending is discussed in this chapter, which also advances the understanding of the nature of the connection between government spending and economic growth. A survey of relevant empirical studies can helps a better grasp of the diverse findings about the relationship between spending and economic growth. The different theories that have served as the foundation for the study methodology are discussed in the theoretical literature.

2.1 Theoretical Literature

There is theoretical disagreement regarding how spending by the government affects economic growth. This is the case because economic theory contends that government spending may either contribute to economic growth or be an explanation for it minimizing long-term capital accumulation through investing. There are numerous theories that on the other hand, government consumer spending slows growth and displaces private. These include the Wagner's Law, and the Law of Increasing State Public Spending are Growth Stimulating via Multipliers on Aggregate Demand either growth-promoting or retarding. Below is a discussion about them.

2.1.1 Wagner's Law (1835-1917)

Wagner (1883) had earlier proposed that government spending economy will be complimented by an increased percentage of public expenditure, diverging from the Keynesian concept that economic development is dictated by increases in public spending. According to Wagner, there are three key reasons why the state needs to boost its spending. These include growth that raises public spending and state social programs. The law recommends that government spend tax

revenue. According to Wagner's law, estimates of the expansion of an industry come after economic growth, and the gains from growth define how far the economy will continue to grow after that. According to Wagner's law, this is economic public spending. According to the law, government expenditure is endogenous and increases more quickly than administrative costs.

In other words, the theory anticipates low public spending during periods of economic development that is restrained notwithstanding high levels of consumption and social sector spending (Sideris, 2007). As a result, it seems that performance. If such theoretical predictions are accurate, it does not seem to fit the Zimbabwean setting very well. This is due to the fact that the country has generally had low public spending trends, which may instead be influenced by other political variables rather than Zimbabwe's economic growth.

2.1.2 The Solow and Swan (1956) Growth Model

The model, created by Solow and Swan in 1956, predicted that increases in investment and saving rates would not raise capital per worker proportionally, leading to higher capital per worker growth and higher output per worker (Isiwu, 2019). Although population growth rates are essential factors in determining economic growth, higher rates of population growth have a negative effect on economic growth simply because a larger portion of savings in economies with higher population increases must go there (Barro , 1995). Due to declining returns, there is a higher production per worker. As a result, capital deepening would result in a lower capital ratio. A rate of return on capital in the absence of innovation and technological development.

2.1.3 Musgrave and Rostow’s (1969) Development Model

According to the theory, an increase in public spending may be linked to an increase in economic education and transportation costs, which would force the government to spend more on societal growth and development. According to Musgrave's (1969) theory, the demand for services provided by the public sector, such as health care, is likely to be extremely low at lower per capita income levels. This is due to the simple fact that income is used to meet basic necessities, and when per capita income starts to rise above them.

Education is becoming a low priority for public spending due to the rising demand for trained labor in high income societies. The Zimbabwean environment, however, exhibits instances of rising public demand, which results in rising government spending (Ekpo, 1995). According to this logic, low income nations like Zimbabwe should be connected to low service demand, which implies an increase in investments that are beneficial to society as a whole. Increased population movements cause urban slum development. This theory predicts that despite slow economic development, consumption will increase as earnings rise.

2.1.4 The Peacock-Wiseman Hypothesis (1891-1955)

According to the theory, increased tax revenue has a significant impact on governmental spending growth. Range of important services, especially when the amount of money collected from imports is growing steadily. As a result, in Zimbabwe, government spending primarily corresponds to revenue trends especially during war period (Wahab, 2004). Consequently, the rise in takings leads to an increase in government spending. In Zimbabwe, tax receipts and duty payments account for the majority of government spending. Economic growth generates significant money for the government, allowing them to raise spending on military. Such a tax arrangement is also possible after taxes. To raise more money during a conflict, the government raises taxes even more.

2.1.5 Innovation-Based Theory

It recognizes that intellectual capital, the source of technological progress, is distinct from physical and human capital Physical and human capital is accumulated through saving and schooling, but intellectual capital grows through innovation. Amin et al 2013 mentioned that one version of the innovation-based theory was initiated by Romer (1990), who assumed that aggregate productivity is an increasing function of the degree of product variety. In this theory, innovation causes productivity growth by creating new, but not necessarily improved, varieties of products.

2.1.6 Harrod-Domar Model

The Harrod-Domar model therefore perhaps, has attempted to explain how economies would need shortfall between the consumption expenditure that households have and the income to the growth (or would be left to stagnate) over time (Etim, et al., 2018). The Harrod Domar model has goods based on investments (D'Amico, 2015). The investment in firms, in turn, is a result of the Firms,

the other "actor" in the Harrod Domar world, produce both capital goods and consumer households earn. The income that households earn, is the income generated by firms as a result of two main actors. The model assumes a closed economy in which households consume & save. Investments. Harrod-Domar model gives an elegant and aggregative view of a country's economy. The model links the growth rate in income (also referred to as the economic growth rate) to two fundamental these savings into income (referred to as Wages-Rents-Profits) (Etim, et al., 2018). System variables the ability of the economy to save and the influence of the capital-output ratio to convert Dynamics representation provides insight into the boundaries of the original model (Ajie & Wokekoro, 2015). In particular, the original Harrod Domar model equations do not account for any linkages such as savings and consumption, between household capital and firm capital. By pushing up the savings rate it is possible to accelerate economic growth. The capital-output lesser □), economic growth can be accelerated as well (Isiwu, 2019). System Dynamics

•Identifies boundaries in the Harrod Domar model and one key finding is that the Household ratio influences the rate of growth. By requiring lesser capital to produce income (more efficiency,

•Helps users, test and simulate the effect of changes in input variables on parts of the model stock described in the model is never really used in the equations used in the model. Representation of the Harrod Domar models provides the following important contributions: including the main output variable i.e., economic growth (Isiwu, 2019).

2.2 Empirical Literature Review

The theoretical review indicates that the examination of the necessity to supplement the reviewed theoretical assertions with some empirical findings in how different types of government expenditure effect economic growth has not received much attention (Barro, 1990). As a result, the impact of different parts of government spending on economic growth is separated. It seems to have an impact on economic expansion. However, there is empirical support for the claim that in trying to better comprehend the topic, various versions of the majority of the theories examined have been concentrating on total government spending.

The relationship between government expenditure and economic growth has been the subject of extensive empirical research, but the results have been contradictory, and the issue has continued to be divisive in academic circles. The inconsistent results can be explained by the fact that the

type of spending has a different impact on economic growth. The economy is anticipated to experience strong economic growth if financing for social services like health and education is used effectively; otherwise, inefficiencies in public economic growth would occur. Second, consuming spending slows the expansion of the economy. According to Hansson and Henrekson, (1994) ,as it is quite likely to crowd out private investment, it is important to notice that three strands of findings are shared across the empirical literature.

Panel analysis was utilized by Ram (1986) for 115 countries between 1950 and 1980. The findings supported the idea that government spending helps the economy grow. Similarly, using panels of data for 22 OECD spending on economic growth with yearly and period averages. According to the study, from 1970 to 1995, effective public spending improved organizations. In contrast to non-productive public spending like consumption, Bleaney et al.(2001) researched the effects of government economic growth with the aim of examining the relationship between public spending and economic growth growing slowly. These outcomes are consistent with what the Barro (1990) model predicted as well.

Komain et al(2007) expenditure cause economic growth employed a different technique but produced the same outcomes as the above. Olugbenga and Owoye (2007) conducted research in the same year to determine how government spending and economic growth are related for looked into the relationship between government spending and the country's economic expansion. Granger Causality test results demonstrated that between 1970 and 2005, thirty emerging countries had productive governments, according to the research. The findings showed that there is a long-term relationship between productive government spending and economic growth for sixteen countries. On the other hand, in 10 of the countries, government expenditure had no impact on economic growth. For four nations, there was also a positive feedback link between government spending and economic growth. Supporting US public spending and growth in a similar manner

Cooray (2009) examined the relationships between government spending and economic growth for Greece, the United Kingdom, and Ireland using cross-sectional data. Even when public investment has a favorable impact on output, it does not necessarily mean that output will increase. When inflation was factored into the equation, Vamvoukas (2005) used a trivariate causality analysis to evaluate the relationship between Greece and the United Kingdom. Public productivity of private investment has a significant negative net impact on production growth. It is noteworthy

that both the long-term and short-term outcomes held for Ireland and the United Kingdom. According to the study's findings, all countries' economies increase as a result of government size Granger. The using technology for private production increased public investment could thereby increase the marginal size and quality of government.

Narudeen and Usman (2010) looked at the impact of government spending on economic growth in Nigeria from 1970 to 2008 using a disaggregated approach. They came to the conclusion that government spending on transportation, communications, and health has a beneficial impact on education while spending on capital projects and recurrent expenses has a negative impact. This finding suggests that social sector spending slows economic expansion. However, they came to the conclusion that promoting economic growth. This is consistent with Keynesian ideas that spending on productive activities promotes economic growth.

Nwoeji et al. spending also for Nigeria but with a different sample size from that of Narudeen and Usaman (2010). The time series data included GDP and numerous components from 2012, which conducted a disaggregated examination of the impact of government spending on the economy. Models for capital and ongoing spending on social and community services including information on how government spending affects economic growth. Time series statistics on variables deemed important indicators of economic progress and government of Narudeen and Usaman's main goal (2010). The variance in the results can be traced to the influence of sample size on economic development over the course of the study. Their findings were in conflict with those growth figures for the years 1970 to 2009. They utilized the OLS multiple regression in a similar manner to

Afonso and Furceri (2010) discovered a sample of 43 developing nations, deviating from the theory that public spending promotes economic growth. Concentrating on 70 emerging nations where public capital spending has a large detrimental effect on growth. Since crowding-out effects have a greater negative impact on productivity growth, public investment has previously found evidence to support the growth-retarding effect of public capital spending. Investment effects on growth are inconsistent, according to Devarajan et al. They discovered that greater public investment raises the country's capital accumulation rate above the level decided by agents of the private sector. Nelson and Singh (1994) discovered that during two distinct time periods (1970–79 and 1980–89), state capital expenditure may exante push out private capital investment as people attempt to reduce costs.

Laudau (1983) looked at the impact of consumer expenditure on growth for a sample of 96 countries. Vinay (1993) conducted a study for fourteen developed nations between 1970 and 1990. Using panel data, the study was conducted over the years 1961 to 1976. His findings revealed the relationship between GDP and government consumption. Other factors that were included for the study were education levels and a few geographical dummies, which had a bad correlation with the growth rate of real per capita GDP. Devarajan and the study applied the Ordinary Least Squares approach to a five-year moving average utilizing panel data in a manner similar to this. They used many functional spending categories, such as those for health, education, and economic growth. Gemmell and Kneller (2001) and Bleaney et al. (2001) demonstrated

A multivariate co integration and variance decomposition method was used by Abu-Bader and Abu-Qarn in 2003 to examine how government spending affects economic growth. The trivariate framework's causality test revealed that in Egypt, Israel, and Syria based on the variables used. The share of government civilian spending to GDP and the military burden were the expenditure variables used. The employed bivariate framework revealed that there is a bidirectional relationship between government spending and economic growth, with military spending having a negative long-term relationship in all of the countries. In Israel and Egypt, however, government spending has a favorable impact on economic expansion.

Defense spending and economic growth in Nigeria provide the exact opposite proof of consumption spending on economic growth. He discovered a link between increased defense spending and economic expansion. Fifty-eight nations were included in Donald and Shuanglin's (1993) study. Their research suggested that while government spending on welfare has a positive impact on economic growth, spending on education and defense has a negative impact. Findings from Oyinlola (1993), Donald and Shuanglin (1993), and Shuanglin and Donald (1993) also revealed that consumption spending has a differential impact on economic growth. Oyinlola (1993) looked on the connection between negligible adverse effects on economic growth.

It has been proposed that such a relationship exists between government spending and economic growth for a sample of twenty-nine developed countries. On the one side, there is the argument that spending on health and education slows down economic growth. For instance, Folster and Henrekson (2001) looked into whether expenditure has a negative or positive impact on GDP based on how effectively it is used countries from 1970 and 1995. They discovered a strong inverse

link between social sector spending and economic development by using multiple econometric techniques. They came to the conclusion that indirect taxes, social contributions, and government consumption directly correspond to economic in terms of their share of GDP and business cycle volatility both Furceri (2010).

However, other studies have shown the exact opposite, demonstrating that social outcomes really improve the standard of work and labor productivity. According to Lin (1994), who took into account a diverse sample of 47 nations, the improvement of health outcomes due to increased public health spending has a number of positive effects on economic growth. The most significant benefit of increased health expenditures is that it stimulates economic growth. Additionally, the welfare spending growth rate is a growth-stimulating sector. Khan and Reinhart (1990), for instance, demonstrated the large detrimental influence on economic growth.

Akpan (2005) used the Error Correction Model (ECM) to examine the relationship between various aspects of public spending and economic growth, including administrative, economic, social, and community service spending on education as well as the pertinent roles of social security and health spending. the distinct timeframe of 1970 to 2006. The analysis's consideration of capital investment, recurrent spending, and transfers revealed a substantial relationship between productivity and public spending. The study came to the conclusion that these government spending components have a favorable impact on economic growth. Afonso and Alegre (2011) obtained the same results for a panel of European countries. utilizing a disjointed breakdown of consumer spending, economic expansion, and labor market.

Nkiru and utilizing an Error Correction Model (ECM) to investigate the long run and short run effects of public Izuchukwu (2013) examined the impact of government spending on economic growth in Nigeria with an emphasis on disaggregated and sectorial expenditures analyses. Results indicated that from 1977 to 2012, Nigeria spent its entire educational budget. The study's ex-post factor research methodology was very significant and favorably correlated with long-term economic growth in Nigeria. Results on social spending, however, go against the findings of Narudeen and Usman (2010), who showed that social sector spending in Nigeria slows growth.

Locally, Saungweme and Matandare (2014) who also investigated the effect of one form of government spending — agricultural spending — while omitting other considerations aggregated

capital spending, which includes transport and communication and government spending, and did not disaggregate the expenditures, supported Mapfumo et al (2012) .'s findings. Making use of the Granger causality. However, there are a number of limitations to these investigations. First, the research only briefly looked at capital expenditures made for agriculture. In this regard, the current paper examines Zimbabwe's economic growth expenditures from 1980 to 2009.

Utilizing an ECM Development (R&D) improves economic growth, which in turn lowers poverty. Spending categories include consumer and social sector spending. Consumption is included in this analysis.

2.3 Conclusion

The expenditure taken into account in this chapter's theoretical and empirical research on the impact of government spending on economic growth. Spending productivity, its linked productivity, and a country's development stage are taken into consideration on this score. While government spending on capital projects promotes economic expansion as a result of such expenditures. Although there are various theoretical stances on this matter, it can be said that the relationship between government spending and growth depends on the form notably, Wagner and Musgrave stated that increases in public spending occur as a result of economic growth.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter outlines the technique used to examine how government spending in Zimbabwe affected economic growth from 1980 to 2014. The chapter describes the model and goes over how the variables were chosen and why. Along with the model estimation, many diagnostic tests are also described.

3.1 Theoretical model

The Keynesian growth model, which divides components into three categories, including capital expenditure, social sector spending, and which were excluded from Narudeen and Usaman's (2010) model, such as labor force, forms the basis for the study's framework (2010). However, this analysis categorizes government spending as such since it has multiplier effects, which accelerate economic growth. This study adopts the model consumption expenditure to analyze the effect of government spending on economic growth in Zimbabwe. The study also takes other factors like trade openness, drought, and foreign aid that have an impact on economic growth into account. According to the model's expression:

GDPG=F(CAPE,SSE,CONE,LAB,FA,DRGHT,TRDO……
…….(1)

where LAB is the labor force, SSE is social sector spending, CONE is consumer spending, and FA is foreign aid. Trade openness is TRDO, while DRGHT is drought.

3.2 Empirical model

Assuming a linear relationship between the variables and economic growth, Equation 1 becomes:

βo+β1CAPEt+β2SSEt+β3CONEt+β4LABt+β5FAt+β6TRDOt+β7DRGHTt+μt……
……(2)

Where βo is the intercept and βs are the coefficients to be estimated and μt is the error term

3.2.0 Choice of Variables and their Justification

Gross Domestic Product Growth (GDPG)

As stated by Todaro (2000), economic growth is the constant process by which the economy's Increasing levels of national output are achieved over time by increasing the productive capacity of the country income. Economic growth is measured in this study using the GDP growth rate. This the difference between the GDP at the end of the year and the years before. Utilized is this variable in several empirical research studies on economic growth by Lin (1994) and Landau (1986).

Capital Expenditure (CAPE)

Capital expenditures are the nation's investments in profitable endeavors like production (Chakraborty, 2005and Musibau, 2008). It is anticipated that capital investments would help to fuel economic expansion. A key factor in determining returns is capital expenditure. The significance of capital investment is defended by Khan and Reinhart (1990) .The long-term economic growth-stimulating effects of capital expenditures make them a significant part of government spending. A ratio of GDP is used in this study to express capital expenditure .Development of the nation's communications, transportation, and infrastructure has been determined to be a key factor in economic growth since it increases output through the creation of jobs and, consequently, has a favorable impact on capital formation.

Social Sector Expenditure (SSE)

Spending on health and education is viewed in the study as a social sector expenditure that indirectly Spending on the social sector is seen as one of the most crucial avenues for developing human capital since it lowers crime rates, increases female involvement in the workforce, and prolongs life expectancy, which translates into more years of employment .Economic growth is impacted by how much money the government spends. A ratio of GDP is used in this study to

express social sector spending. Public health, female political and civic engagement, and community affairs may all benefit from increased government spending on education. The social sector, such as education spending, benefits from health status improvement and the economy grows more quickly (Capolupo, 2000 and Ravikumar, 2001). One of the areas where spending is most inefficiently used is education, which has received less attention. The coefficient is as a result

Government Consumption Expenditure (CONE)

Government spending on goods and services that is considered to be unproductive is referred to as consumption expenditure. Defense, pensions, and personnel costs are all examples of government consumer spending. A ratio of GDP is used to represent this variable. We anticipate consumption expenditures to be adversely correlated with economic growth because they have a lower potential for future returns to the economy.

Labour Force (LAB)

Solow asserts that the labor market is one of the two primary factors that determine economic growth (1956).This research makes use of the labor force participation rate, which is the participation rate calculated as the percentage of the labor force that is in the labor force also rises as population growth does. if employment rates are high in the labor force. Thus, a positive relationship between economic development and labor force participation is hypothesized. This variable is utilized since it has been used in prior research by Otani and Delano, for example (1990) the percentage of people who are economically active who are 15 years of age or older. Insufficient employment among the labor force has a detrimental effect on economic expansion. According to Mark, a higher labor force will result from the people being fully employed, which supplies labor for the production of products and services during the designated time.

Foreign Aid (FA)

Another factor influencing growth in developing countries is foreign capital, which is why it is possible for both bilateral and multilateral donors to provide significant budgetary help. As a result, it was appropriately considered in analyses of economic growth (Kweka and Morrisey, 1999). To evaluate the growth effects of such donor cash, foreign aid is now essential. Foreign

aid can either Donor grants are referred to as in this study and are expressed as a percentage of GDP. Depending on the policy climate of the recipient economy, Zimbabwe has either growth-retarding or growth-stimulating. Foreign aid is believed to promote growth by fostering a reliance syndrome, according to empirical evidence supporting this claim. Thus, the coefficient of off process in developing nations. On the other hand, other people discovered that rise in aid should result in resource closure.

Drought (DRGHT)

This variable is regarded as a qualitative variable to represent the effects of drought on economic growth potential. In light of this logic, a bad indication for the expansion is anticipated. When there is a drought, a value of one is assigned; otherwise, a value of zero. Since gaining its independence, droughts have consistently had an impact on Zimbabwe's agro-based economy. Possibilities for a drought. Because of the close ties between agriculture and the other sectors, a drought, for example, has an impact on the entire economy. We would anticipate that the occurrence of a drought would result in decreased agricultural output, which would then negatively affect national output and the drought coefficient for growth.

Trade Openness (TRDO)

The trade openness variable calculates how open a nation is to foreign trade.

(2012) Nkuna and Kwalingana A nation that allows for more trade tends to be more

The GDP component of this variable is calculated as the total of imports and exports. Trade openness suggests that a country is attractive to foreign investors. As a result, we anticipate a positive correlation between trade-related characteristics including liberalized trade, the ability to pay off foreign debt with export earnings, and economic development. Zimbabwe is open to trade, but it focuses more on importing than exporting, which deters foreign investment. As a result, we anticipate that trade openness will harm economic development.

3.3.0 Model Estimation Procedures

The stationarity of the data and the adherence to the proper model specification are both requirements for the validity of the OLS in this study. Pre-estimation tests like stationarity and

multicollinearity should be performed in order to diagnose the six assumptions of the Classical Linear Regression Model (CLRM), which include no perfect multicollinearity, normality of the error term, homoscedasticity of the error term, and no perfect normality of the error term. The following assumptions should be true for the model's variables: independent variables that are exogenous, testing, and no autocorrelation.

3.3.1Stationarity

Time series data are subjected to a stationarity test to determine whether a unit root exists (Gujarati, 2004). With the aid of Augmented Dickey-Fuller spurious regressions, a unit root can be verified to exist. In time series regressions, despite the fact that there is no significant link (ADF and Phillips Peron (PP) test) and one frequently finds a very high R2 (in excess of 0.9), spurious regressions occur. This study makes use of the ADF. The variable is nonstationary if there is a unit root present. Differentiation is used to make variables stationary if they are not in levels.

3.3.2 Co-integration

This test is performed to determine whether the dependent variable and other variables have a long-term relationship. The Error Correction Model (ECM) will be used to analyze the impact of independent variables before the OLS model is estimated. A test for co-integration can be thought of as a pre-test to prevent spurious the same order. The results of co-integration, however, disprove the existence of a long-term link between the independent and dependent variables. Co-integration is a test to determine whether there are long-run relationship regression scenarios (Granger, 1969). The Johansen test is used to administer the examination. If the government makes investments in economic expansion.

3.3.3 Autocorrelations test

The correlation between individuals in a set of observations that are arranged according to time is referred to as autocorrelation. It is the correlation of a time series with its own past and present values. One type of persistence that is a tendency for observations is positive autocorrelation. In the presence of autocorrelation, OLS estimators are ineffective. the ability of a system to

maintain its current state from one observation to the next. By reducing the number of independent statistical tests that can be used, autocorrelation makes the application of statistical tests more difficult. The Breusch-Godfrey (BG) test is used to determine whether autocorrelation is present or not.

3.3.4Multicollinearity test

The multicollinearity test is used to determine whether there is a significant correlation among the independent variables.

When employing the pair-wise correlation matrix, the absolute correlation coefficient between two variables. Multicollinearity becomes a significant issue if the independent variables are highly linked (Gujarati, 2004). if there is significant interdependence among separate issues. To test for multicollinearity in this study, the pair wise correlation matrix technique is used.

Exogenous variables shouldn't have a value more than 0.8 in absolute terms; otherwise, multicollinearity would be a problem, and the remedy would be to remove one of the highly correlated variables.

3.3.5Model misspecification test

A functional form misspecification typically indicates that the model does not take into account any significant non linearities. Model misspecification also happens when a crucial variable is left out .Functional form misspecification typically leads to bias in the remaining parameter estimators. The bias and contradictory results are caused by the model's misspecification. The Ramsey RESET test is used in this study to determine whether the model has been properly described.

3.3.6Normality test

When doing confidence interval and hypothesis testing, the normalcy assumption is crucial. Normality is frequently perceived as being needless and perhaps always occurring after a student t-distribution, though. The Jacque-Bera (JB) test is used in the study to formally assess if an addition to the regression model is improper, but it is not required to do so in order to achieve many of the findings we use in Greene's multiple regression analysis (2002).

3.3.7Model Validity test

In order to be used for interpreting estimated outcomes, a model must pass validity checks such the F-test, which has a positive relationship to R-squared. A comparison between the 5% level of significance and the likelihood of the F-test is used to determine whether the entire model is valid. For time series data, the R-squared value should be at least 50% when evaluating the model's goodness of fit.

3.4Data Type and Sources

For the years 1980 through 2014, this analysis used secondary yearly time series data. The World Bank served as the source for the data on labor force, consumption spending, and expenditure, while ZIMSTAT and other World Bank data sources provided the data on use. ZIMSTAT provided information on foreign aid, capital social sector spending, and trade openness.

3.5Conclusion

The crucial estimation steps required by the estimation technique (OLS) to be used in the empirical examination of the effect of government spending on economic growth in Zimbabwe have been detailed in this chapter. The estimated results are presented and discussed in the following chapter.

CHAPTER FOUR

ESTIMATION, PRESENTATION AND INTERPRETATION OF RESULTS

4.0 Introduction

The empirical outcomes of the study are presented and discussed in this chapter. Statistics that are descriptive are Results of the estimate test, the model diagnostic test, and the results of the stationarity test are reported in that order.

4.1 Descriptive statistics

In the table 1 below, the descriptive statistics for the variables employed in this study are shown. The factors for gross domestic product growth (GDPG), capital expenditure (CAPE), social openness (TRDO), foreign aid (FA), and trade are: consumption expenditure (CONE), foreign aid (FA), labor force, and sector expenditure (SSE) (LAB). This descriptive data is presented in Table 1.

Table 1: Descriptive Statistics

	GDPG	FA	CAPE	CONE	SSE	LAB	TRDO
Mean	1.8553	4.0203	14.5639	16.7583	24.5480	78.1563	68.5281
Median	2.6343	3.7000	15.5694	17.2929	26.2732	73.80	70.9227
Maximum	14.4207	7.0000	24.5773	27.4871	44.4250	86.70	110.931
Minimum	-17.6689	1.24000	2.0004	2.0471	4.25626	71.40	35.9169
Std. Dev.	7.6660	1.5748	6.2428	5.3562	9.4933	6.1164	20.9712
Skewness	-0.7073	0.3647	-0.6381	-0.9915	-0.7150	0.5242	0.2058
Kurtosis	3.3445	2.0302	2.6057	4.5129	3.1017	1.3783	2.1312
Jarque-Bera	3.0913	2.1475	2.6015	9.0728	2.9972	5.4384	1.3480
Probability	0.2132	0.3417	0.2723	0.0107	0.2234	0.0659	0.5097
Sum	64.9349	140.710	509.7346	586.5408	859.1813	2735.47	2398.5
SumSq. Dev.	1998.117	84.3183	1325.083	975.4086	3064.179	1271.963	14952.8
Observations	35	35	35	35	35	35	35

According to the table, some variables are favorably and others adversely skewed. Theand0.5242. this means that the distribution of the variables is asymmetrical. There are standard deviations of the coefficients of skewness of the variables, according to descriptive statistics, range from -0.715 to 0.71 whereas the other variables have a respectable degree of dispersion, indicating that the data values are close to the mean, TRDO has a comparatively large (20.97116) and tiny (1.57478) and FA typical value

4.2 Multicollinearity test results

The correlation coefficients in Table 2 fall within the necessary range of -0.8 to 0.8, which allows for the isolation of the variable. These findings show that the model can be used to estimate since the variables do not change in regular ways and, as a result, their individual impacts on the variables are not consistently explained, suggesting poor correlation between the variables. To put it plainly, the explanatory variables do not satisfy the requirement for perfect multicollinearity.

Table 2: Pairwise Correlation Matrix

	DCAPE	DCONE	DLABF	DTRDO	FA	SSE
DCAPE	1.000000					
DCONE	0.130497	1.000000				
DLABF	0.188206	0.050440	1.000000			
DTRDO	0.179083	0.068265	0.038922	1.000000		
FA	0.077673	-0.074981	-0.271895	0.024546	1.000000	
SSE	-0.004871	-0.164477	0.004790	0.240338	-0.367146	1.000000

4.3 Stationarity tests results

For the purpose of determining if a unit root existed, the ADF test was used in the study. First, the levels of the variables were tested under the null hypothesis. Only the probabilities that a unit root exists were compared to the null hypothesis, which states that there isn't a unit root, in order to test for uniformity. It was taken into account the ADF test data. Results from the unit root test are presented in Table 3 below.

Table 3: Unit root tests results of variables in levels

Variable	ADF Probability	Decision on Ho	Remarks
GDPG	0.0443	Reject	Stationary
SSE	0.0084	Reject	Stationary
CONE	0.1987	Fail to reject	Non stationary
CAPE	0.2281	Fail to reject	Non stationary
LAB	0.2788	Fail to reject	Non stationary
FA	0.0265	Reject	Stationary
TRDO	0.1146	Fail to reject	Non stationary

In contrast to CAPE, TRDO, CONE, and LAB, which do not have stationary levels, Table 3's findings indicate that GDPG, FA, and SSE do. In order to test for stationarity, non-stationary variables are only differed once. The stationarity test results for DCAPE, DCONE, DLAB, and DTRDO are presented in Table 4 below.

Table 4: Unit root tests of variables at first difference

Variable	ADF Probability	Decision on Ho	Remarks
DCONE	0.0000	Reject	Stationary
DCAPE	0.0000	Reject	Stationary
DLAB	0.0160	Reject	Stationary
DTRDO	0.0000	Reject	Stationary

It is known that the variables with single differences are integrated at order one, I (1) due to the absence of cointegration. Thus, the use of the ECM is disqualified. The variables do not cointegrate in the study of order one integration. This argument is based on Johansen's (1988) contention that the Ordinary Least Squares method should be used for model estimate if the variables are not integrated in the same order and GDPG, FA, and SSE are stationary in levels and DTRDO, DLAB, DCONE, and DCAPE.

4.4 Regression Results

Given that the p-value for the F-statistic is 0.000142, the model has an R-squared of 64.28 percent, which is more than 50%, and thus suggests that the model is significant. Results from the well-fitting model are displayed in Table 5. Thus, 63.28 percent of fluctuations in economic development are explained by Rsquared's dependability is validated by this quality check, which it underwent. Furthermore, the findings demonstrate that, at a combined change in the explanatory variables of 1%, all the coefficients are simultaneously not equal to zero. A value of 54.66% can be seen in the modified R-squared estimates using OLS.

Table 5:Estimated OLS results

Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	17.59966	4.645316	3.788690	0.0008***
DCAPE	0.402153	0.182583	2.202572	0.0367**
SSE	-0.288125	0.109874	-2.622314	0.0144**
DLAB	-3.114240	0.807432	-3.856970	0.0007****
DCONE	0.011713	0.219858	0.053276	0.9579
DTRDO	-0.293398	0.107971	-2.717376	0.0116**
FA	-1.4923822	0.680606	-2.192726	0.0375**
DRGHT	-4.285895	1.943014	-2.205798	0.0364**

R-squared=0.642750	F-statistic=6.682589.	Prob (F-statistic)=0.000142
Adjusted R-squared=0.546567.	Durbin-Watson=2.054701	

***;**;* means significant at 1% ; 5% and 10% respectively

The null hypothesis in the test for autocorrelation is that the successive error terms do not exhibit serial correlation, which is the case in the null hypothesis. When compared to the alternative that serial correlation exists, the OLS estimators are regarded as residuals. The findings demonstrate that since the errors were estimated with an F-statistic probability value of 0.8692, which is greater

than 0.05 and indicates that the homoscedastic and are not serially correlated, the efficient and can be utilized for hypothesis testing with confidence.

A pvalue of 0.820215 and 0.396376, respectively, make up the Jarque-Bera statistic. As a result of the pvalue being higher than 0.05, we are unable to rule out the possibility that the residuals are not normally distributed. Because both the t-statistic and F-statistic probability values are larger than 0.05, the Ramsey RESET test findings show that the model is appropriately described. The model can be deemed valid for accurate interpretation based on the results of the diagnostic tests.

The findings indicate that six of the seven independent factors that were utilized to explain Zimbabwe's economic growth are statistically significant. Spending on consuming is the only expenditure that is statistically significant.

At the 5% level of significance, capital spending and economic growth are positively correlated. A unit's increased capital investment boosts economic growth by this argues that the government should give such worthwhile infrastructure projects top priority in order to attract private investment and boost economic growth in Zimbabwe. This is consistent with both empirical data and economic theory by 0.4 units. Therefore, capital spending is crucial for boosting the economy (Ram, 1986 and Komain et al.,2007). The findings of capital spending provide credence to the idea that capital spending stimulates economic growth. When compared to other types of public spending, capital expenditure expenditures often have better possibilities for long-term economic benefits growth potential

The findings demonstrate that, statistically, social sector spending is growth-decelerating .Mismanagement and theft of public monies put the desired value-for5% level of significance A 0.29-unit reduction in economic growth results from a unit increase in the social sector efficiency in the use of such expenditures is related to economy. One explanation for this is Social sector spending may lower the chances for the economy's growth for a number of reasons, including their productivity and money. These results are consistent with Folster andAfonso and Furceri and Henrekson (2001) (2010).

At the 1% level of significance, the labor force statistically contributes to Zimbabwe's economic growth explanation. The variable has a negative relationship with economic growth, with a unit increase in Zimbabwe's labor force resulting in a 3.11 unit decrease in economic growth. Since we

anticipate that a country's labor force will raise its overall productivity, the outcomes are contrary to theory. The majority of Zimbabwe's work force is unemployed, which could explain these outcomes by the fact that they are not significantly boosting the country's economy. The conclusions of Otani and Delano (1990) that labor force increase slows economic growth are supported by these data.

It is statistically significant at the 5% level that the TRDO coefficient is adversely correlated with economic growth. Increases in trade openness cause a 0.29-unit decline in economic growth. The findings show that Zimbabwe's economic woes are negatively impacted by its openness to the world community because the country has relied more on imports than on domestic products. A nation's output is decreased as a result of such import dependence, which also lowers growth potential. Given that Zimbabwe has had BOP economic development, this may help to explain the situation.

The impact of foreign aid on economic growth is statistically significant but unfavorable. This causes Zimbabwe's economy to grow 1.49 units slower. This could be explained by the real exchange rate appreciating, which would reduce export competitiveness. At a significance level of 5%, this variable is statistically significant. an expansion of governments' capacity to provide foreign aid. Additionally, foreign aid may hinder growth by inhibiting the growth of the private sector, deteriorating the quality of the bureaucracy, and weakening governance could overwhelm management by causing a dependency syndrome in the host nation additionally, research has shown that assistance inflows might have a negative impact on the economy of the receiving country (Ekanayake et al.,2010).

At a statistical significance level of 5%, the dummy variable's coefficient is negative. Droughts cause a delay in the economy, with the effects being most pronounced in the manufacturing sectors .Zimbabwe's economy is largely agriculturally based and is very dependent on it. Imports of food caused by the drought impair the nation's balance of payments. The nation also depends on hydroelectric power, for example during a drought. Consequently, power outages are prevalent when the close ties between the agriculture industry and other economic sectors are compromised. because of decreased crop yield, which raised food prices. On the other hand, extensive use of demonstrates that the occurrence of drought reduces economic growth by about 4.29 units. The

findings show that droughts have a negative effect on economic growth, probably as a result of water shortages that affect all areas of society.

4.5 Conclusion

The empirical findings of the study were given and covered in this chapter. The OLS results revealed that Capital spending, social sector spending, labor force, drought, and foreign aid are all statistically important in explaining Zimbabwe's economic growth. But the outcomes demonstrated that consumption expenditures have little impact on economic growth .On the basis of these findings, the chapter offers policy recommendations and a conclusion.

CHAPTER FIVE

POLICY IMPLICATION AND RECOMMENDATIONS

5.0 Introduction

The major research findings and their corresponding policy consequences are outlined in this chapter. Also addressed in this chapter are potential areas for future investigation.

5.1 Summary and Conclusion of the Study

The study's goal was to determine how different aspects of government spending affected economic growth. Data for some of these aspects came from ZIMSTAT, while other portions were obtained. The study also included a dummy variable for drought and decomposed government trade openness, foreign aid, labor force growth, and other variables. Spending information is broken down into capital expenditure, social sector expenditure, and consumption expenditure. Additional non-government spending components, including the information from the World Bank, were incorporated in the economic growth regression (2015).

All diagnostic tests were successfully completed by the estimated model, which led to parsimonious results impact on economic growth. The growth-delaying potential of social sector spending, this was in keeping with the Keynesian theoretical claims that capital likewise Usaman, Narudeen (2010). Spending in the social sector was determined to have an adverse impact relative to other sources of public spending. Capital's ability to spur growth statistical significance and the predicted signals were present in the explanatory variables, with the exception of showed the predicted positive indication, demonstrating that capital spending stimulates growth. It was discovered to be statistically insignificant for consumption spending that the use of public funds has inherent inefficiencies. Accordingly, such spending reflects investments in profitable ventures with better growth potential. Additionally, expenditures

The findings also indicated that factors such as the labor force, trade openings, droughts, and foreign help all contributed to growth, despite the fact that the majority of Zimbabwe's labor

force is unemployed and as a result does not significantly slow growth. The possibility for economic growth is one way that labor force growth has been proven to negatively impact the economy. Contrary to expectations, trade openness had a negative impact on growth, which could be explained by Zimbabwe's reliance on imports as its main source of income .Results showed that Zimbabwe's economy grows less rapidly when there is a drought because it increases the country's BOP issues, which limit growth potential. Last but not least, the country's reliance on the agriculture industry may be reflected in this.

5.2 Policy implications

According to the findings, capital investment in Zimbabwe is growth-stimulating .Spending in the social sector has a negative impact on economic growth .The theory is that promoting Public Private Partnerships (PPPs) can lessen fiscal pressure and the "crowding out" nature to capital expenditure – improving the transport and communication system, power generating to improve the use of social sector expenditures on health and education, thus lessening the investment in the nation and improving the nation's growth potential. The study complements activities in the private sector, which together should raise the amount spent in the social sector. PPPs are anticipated to allow public spending to share responsibility for fostering infrastructure development. PPPs can also support private sector initiatives, boosting productivity and efficiency.

The government should restrict the importation of consumer goods and promote trade openness. On the other hand, the government should prevent the growth-decelerating effects of importing capital goods. By doing this, it will be ensured that access to the nation's physical and human capital is for the benefit of the latter rather than for selfish ends. Second, the government needs to report on the study's findings regarding foreign aid. To begin with, foreign aid should be used wisely to boost investment and expand the country's ability to import capital goods and trade internationally. Such a policy initiative aids in balancing the growth-inhibiting impact of technology. This is implied by the claim that aid is connected to technology transfer that raises capital productivity and encourages endogenous technical change. Additionally, it is beneficial to the

5.3Suggestions for further Research

Future research can look into the direction of causality among the various spending because it was outside the purview of this study. The report also suggests future spending on things like health care, education, agriculture, and defense. Zimbabwe's economy is expanding thanks to such elements. The causality issue was not explored in the disaggregation can provide a more educated picture on how each of these sector-specific public studies to further disaggregate government expenditure components into sector-specific spending components affects economic growth in Zimbabwe.

Future studies may also take into account political elements that could be linked to economic expansion. Although the focus of this study was only on economic factors, political factors may also have been involved in Zimbabwe's economic growth.

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APPENDIX 1: RAW DATA

Period	CONE	CAPE	SSE	GDPG	DRGHT	FA	LAB	TRDO
1980	18.5115	14.1025	30.2927	14.42068	0	2	73.39	49.8904
1981	16.1944	17.2079	29.8563	12.52542	0	2.04	73.43	45.3306
1982	18.5933	18.3743	30.2939	2.634297	0	2.2	73.39	39.1453
1983	17.2929	18.0432	30.7278	1.585305	1	3.3	73.36	35.9169
1984	20.0402	17.0065	30.9132	-1.90736	1	5.2	73.54	41.3661
1985	20.2034	14.2781	27.4903	6.944388	0	2	73.32	44.2137
1986	20.6480	15.0647	32.0444	2.099029	1	2.64	73.33	45.5704
1987	23.3656	16.1146	32.4633	1.150737	1	3	73.29	45.2906
1988	27.4871	15.5694	31.6547	7.552375	0	3.1	73.3	44.1004
1989	18.6904	14.0099	28.3914	5.199766	0	3	73.4	45.0625

1990	19.4461	18.2097	23.0292	6.988553	0	3.3	73.2	45.6593
1991	16.1197	20.5854	20.9814	5.531782	1	3.75	73.32	51.0516
1992	24.1580	22.3628	21.5436	-9.01557	1	3.35	73.4	63.7125
1993	14.9471	23.5917	20.5132	1.051459	0	4.71	73.7	63.1671
1994	16.6938	21.3715	18.4341	9.235199	0	3.86	73.8	71.1195
1995	18.0130	24.5773	22.9631	0.158026	0	5	73.8	79.1568
1996	16.9398	18.0497	30.8164	10.3607	0	4	73.8	72.0696
1997	16.3151	18.0497	30.1792	2.680594	0	1.24	73.8	82.2051
1998	15.7841	20.6015	33.3216	2.885212	0	3.8	72.7	88.5140
1999	17.7909	2.5537	28.4953	-0.81782	0	3.7	71.4	70.9227
2000	24.2654	11.7980	37.1819	-3.05919	0	2.6	74.9	74.0674
2001	17.6927	12.1178	26.2598	1.439615	0	3	78.2	67.8979
2002	17.9235	10.1725	26.2732	-8.89402	1	3	81.3	66.8074
2003	17.9163	13.8138	29.9876	-16.9951	1	3	84.2	70.4520
2004	21.0006	5.1078	5.43340	-5.80754	0	3	86.7	76.0396
2005	15.2113	2.0004	25.1021	-5.71108	1	6.2	86.6	76.0437
2006	5.8827	2.2247	25.7826	-3.4615	0	5.3	86.4	82.8207
2007	3.2082	5.0784	21.6436	-3.65333	0	6.82	86.3	84.1729
2008	2.0471	3.2859	44.425	-17.6689	1	7	86.2	109.5216
2009	8.2435	11.7657	10.8677	5.984391	1	6	86.2	103.678

2010	11.7539	21.6616	4.2563	11.37592	0	6.68	86.2	96.3341
2011	16.4730	18.8366	4.7334	11.90541	0	5.52	86.3	110.9313
2012	15.8638	16.6702	10.8051	10.5652	1	6.2	86.4	91.1422
2013	15.6645	12.9932	6.9913	4.484095	0	5	86.5	83.1082
2014	16.1600	12.4935	25.0333	3.168211	0	6	86.4	82.0003

APPENDIX 2: UNIT ROOT TESTS

Null Hypothesis: CAPE has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.739896	0.2281
Test critical values: 1% level.	-4.252879	
5% level	-3.548490	
10% level	-3.207094	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CAPE)

Method: Least Squares

Date: 11/29/22 Time: 11:40

Sample (adjusted): 1981 2014

Included observations: 34 after adjustments

Variable.	Coefficient	Std. Error.	t-Statistic	Prob
CAPE (-1).	-0.381570	0.139264	-2.739896	0.0101
C	7.418964	3.104233	2.389951	0.0231
@TREND (1980)	-0.107767	0.088470	-1.218121	0.2324

R-squared	0.195529	Mean dependent var	-0.047324
Adjusted R-squared	0.143627	S.D. dependent var	5.038835
S.E. of regression	4.662959	Akaike info criterion	6.001275
Sum squared resid	674.0387	Schwarz criterion	6.135954
Log likelihood	-99.02167	Hannan-Quinn criter	6.047204
F-statistic	3.767309	Durbin-Watson stat	2.045532
Prob(F-statistic)	0.034310		

Null Hypothesis: D(CAPE) has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic.	-7.135826	0.0000
Test critical values: 1% level	-2.636901	
5% level	-1.951332	

10% level	-1.610747

*MacKinnon (1996) one-sided p-values

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CAPE,2)

Method: Least Squares Date: 11/29/22 Time: 11:41

Sample (adjusted): 1982 2014 Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (CAPE (-1))	-1.222539	0.171324	-7.135826	0.0000

R-squared.	0.614011	Mean dependent var.	-0.109246
Adjusted R-squared	0.614011	S.D. dependent var	7.981296
S.E. of regression	4.958618	Akaike info criterion	6.069966
Sum squared resid	786.8126	Schwarz criterion	6.115314
Log likelihood	-99.15443	Hannan-Quinn criter	6.085224
Durbin-Watson stat	2.052735		

Null Hypothesis: CONE has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

.	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.824690	0.1987
Test critical values: 1% level	-4.252879	

5% level	-3.548490
10% level	-3.207094

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(CONE)

Method: Least Squares Date: 11/29/22 Time: 11:31

Sample (adjusted): 1981 2014 Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic.	Prob.
CONE (-1)	-0.415570	0.147120	-2.824690	0.0082
C	8.899991	3.491727	2.548879	0.0160
@TREND (1980).	-0.114148	0.080305	-1.421426	0.1652

R-squared	0.204865	Mean dependent var	-0.069162
Adjusted R-squared	0.153566	S.D. dependent var	4.232925
S.E. of regression	3.894368	Akaike info criterion	5.641037
Sum squared resid	470.1493	Schwarz criterion	5.775716
Log likelihood.	-92.89763	Hannan-Quinn criter	5.686967
F-statistic	3.993554	Durbin-Watson stat	1.924925
Prob(F-statistic)	0.028631		

Null Hypothesis: D(CONE) has a unit root

Exogenous: None

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic.	-6.733574	0.0000
Test critical values: 1% level	-2.636901	
5% level	-1.951332	
10% level.	-1.610747	

*MacKinnon (1996) one-sided p-values

Augmented Dickey-Fuller Test Equation Dependent

Variable: D(CONE,2)

Method: Least Squares

Date: 11/29/22 Time: 11:32 Sample (adjusted): 1982 2014

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error.	t-Statistic	Prob.
D (CONE (-1)).	-1.168147.	0.173481.	-6.733574.	0.0000

R-squared.	0.586176	Mean dependent var.	0.085234
Adjusted R-squared.	0.586176	S.D. dependent var	6.557088
S.E. of regression	4.218119	Akaike info criterion	5.746490
Sum squared resid	569.3610	Schwarz criterion	5.791839
Log likelihood	-93.81709	Hannan-Quinn criter	5.761749

Durbin-Watson stat 1.959463

Null Hypothesis: SSE has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic.	Prob.*
Augmented Dickey-Fuller test statistic.	-4.325630	0.0084
Test critical values: 1% level.	-4.252879	
5% level	-3.548490	
10% level	-3.207094	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SSE)

Method: Least Squares

Date: 11/29/22 Time: 11:33 Sample (adjusted): 1981 2014

Included observations: 34 after adjustments

Variable	Coefficient.	Std. Error.	t-Statistic.	Prob.
SSE (-1).	-0.769144.	0.177811.	-4.325630	0.0001
C.	25.00058.	6.633690	3.768729.	0.0007
@TREND (1980).	-0.359158.	0.172051.	-2.087503	0.0452

R-squared.	0.377047	Mean dependent var.	-0.154685
Adjusted R-squared.	0.336857	S.D. dependent var	10.26910

S.E. of regression.	8.362497	Akaike info criterion.	7.169488
Sum squared resid	2167.872	Schwarz criterion	7.304167
Log likelihood.	-118.8813	Hannan-Quinn criter.	7.215418
F-statistic.	9.381508	Durbin-Watson stat.	1.985284
Prob(F-statistic)	0.000652		

Null Hypothesis: FA has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic.	-3.838316	0.0265
Test critical values: 1% level	-4.252879	
5% level	-3.548490	
10% level	-3.207094	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FA)

Method: Least Squares

Date: 11/29/22 Time: 11:35 Sample (adjusted): 1981 2014

Included observations: 34 after adjustments

Variable Coefficient.	Std. Error.	t-Statistic.	Prob
FA (-1).	-0.644115	0.167812	-3.838316. 0.0006
C	1.468506.	0.521263.	2.817207 0.0084
@TREND (1980).	0.068638.	0.026284.	2.611363 0.0138

R-squared	0.322149	Mean dependent var.	0.117647
Adjusted R-squared	0.278417	S.D. dependent var	1.293743
S.E. of regression	1.098983	Akaike info criterion	3.110745
Sum squared resid.	37.44067	Schwarz criterion	3.245424
Log likelihood.	-49.88266	Hannan-Quinn criter	3.156674
F-statistic	7.366399	Durbin-Watson stat	2.099115
Prob(F-statistic)	0.002413		

Null Hypothesis: GDPG has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 0 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic.	-3.605457	0.0443
Test critical values: 1% level.	-4.252879	
5% level.	-3.548490	

10% level.	-3.207094

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GDPG)

Method: Least Squares Date: 11/29/22 Time: 11:36 Sample (adjusted): 1981 2014

Included observations: 34 after adjustments

Variable.	Coefficient	Std. Error.	t-Statistic.	Prob.
GDPG (-1).	-0.567545.	0.157413	-3.605457.	0.0011
C	1.340997	2.526396.	0.530795.	0.5993
@TREND (1980)	-0.036624.	0.122947.	-0.297881.	0.7678

R-squared.	0.301613	Mean dependent var	-0.330955
Adjusted R-squared	0.256556	S.D. dependent var	7.897943
S.E. of regression	6.809860	Akaike info criterion	6.758717
Sum squared resid	1437.600	Schwarz criterion	6.893396
Log likelihood.	-111.8982	Hannan-Quinn criter	6.804647
F-statistic	6.694000	Durbin-Watson stat	2.056040
Prob(F-statistic)	0.003833		

Null Hypothesis: LAB has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic.	-2.609464.	0.2788
Test critical values: 1% level.	-4.262735	
. 5% level.	-3.552973	
10% level.	-3.209642	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LAB)

Method: Least Squares Date: 11/29/22 Time: 11:36 Sample (adjusted): 1982 2014

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error.	t-Statistic.	Prob.
LAB (-1)	-0.127984.	0.049046.	-2.609464	0.0142
D (LAB (-1)).	0.681876.	0.130345	5.231307	0.0000
C	8.820624	3.367189	2.619581	0.0139
@TREND (1980).	0.071711	0.030624.	2.341678	0.0263

R-squared	0.531620	Mean dependent var.	0.393030
Adjusted R-squared	0.483167	S .D. dependent var.	1.193449
S.E. of regression	0.857984	Akaike info criterion.	2.644750
Sum squared resid	21.34795	Schwarz criterion	2.826144

Log likelihood	-39.63837	Hannan-Quinn criter.	2.705783
F-statistic	10.97184	Durbin-Watson stat.	1.945615
Prob(F-statistic)	0.000055		

Null Hypothesis: TRDO has a unit root

Exogenous: Constant, Linear Trend

Lag Length: 3 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic.	-3.142654	0.1146
Test critical values: 1% level.	-4.284580	
5% level.	-3.562882	
10% level	-3.215267	

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

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(TRDO)

Method: Least Squares Date: 11/29/22 Time: 11:38 Sample (adjusted): 1984 2014

Included observations: 31 after adjustments

Variable	Coefficient.	Std. Error.	t-Statistic.	Prob.
TRDO (-1)	-0.634835	0.202006	-3.142654	0.0043
D(TRDO(-1))	0.249357	0.207031	1.204445	0.2397
D(TRDO(-2))	0.359219	0.191336	1.877426	0.0722

D (TRDO (-3))	0.649615	0.187729	3.460386	0.0019
C.	23.95844	6.613787	3.622500	0.0013
@TREND (1980).	1.055319	0.441590	2.389819	0.0247

R-squared	0.445625	Mean dependent var	1.486563
Adjusted R-squared.	0.334751	S.D. dependent var	8.824477
S.E. of regression.	7.197493	Akaike info criterion	6.957328
Sum squared resid.	1295.098	Schwarz criterion	7.234874
Log likelihood.	-101.8386	Hannan-Quinn criter	7.047801
F-statistic.	4.019174	Durbin-Watson stat	2.007027
Prob(F-statistic)	0.008185		

APPENDIX 3: DESCRIPTIVE STATISTICS TABLE

	GDPG	FA	CAPE	CONE	SSE	LAB	TRDO
Mean	1.8553	4.0203	14.5639	16.7583	24.5480	78.1563	68.5281
Median	2.6343	3.7000	15.5694	17.2929	26.2732	73.80	70.9227
Maximum	14.4207	7.0000	24.5773	27.4871	44.4250	86.70	110.931
Minimum	-17.6689	1.24000	2.0004	2.0471	4.25626	71.40	35.9169
Std. Dev.	7.6660	1.5748	6.2428	5.3562	9.4933	6.1164	20.9712
Skewness	-0.7073	0.3647	-0.6381	-0.9915	-0.7150	0.5242	0.2058

Kurtosis	3.3445	2.0302	2.6057	4.5129	3.1017	1.3783	2.1312
Jarque-Bera	3.0913	2.1475	2.6015	9.0728	2.9972	5.4384	1.3480
Probability	0.2132	0.3417	0.2723	0.0107	0.2234	0.0659	0.5097
Sum	64.9349	140.710	509.7346	586.5408	859.1813	2735.47	2398.5
SumSq. Dev.	1998.117	84.3183	1325.083	975.4086	3064.179	1271.963	14952.8
Observations	35	35	35	35	35	35	35

APPENDIX 4: CORRELATION MATRIX TABLE

	DCAPE	DCONE	DLABF	DTRDO	FA	SSE
DCAPE	1.000000	0.130497	0.188206	0.179083	-0.004871	0.077673
DCONE	0.130497	1.000000	0.050440	0.68265	-0.164477	-0.074981
DLABF	0.188206	0.050440	1.000000	0.038922	0.004790	-0.271895
DTRDO	0.179083	0.068265	0.038922	1.000000	0.240338	0.024546
FA	0.077673	-0.074981	-0.271895	0.024546	1.000000	-0.367146
SSE	-0.004871	-0.164477	0.004790	0.240338	-0.367146	1.000000

APPENDIX 5: OLS ESTIMATED RESULTS

Dependent Variable: GDPG

Method: Least Squares

Date: 11/29/22 Time: 11:43

Sample (adjusted): 1981 2014

Included observations: 34 after adjustments

Variable	Coefficient	Std. Error.	t-Statistic.	Prob.
C	17.59966	4.645316	3.788690	0.0008
DCAPE	0.402153	0.182583	2.202572	0.0367
DCONE	0.011713	0.219858	0.053276	0.9579
SSE -0.288125	0.109874	-2.622314	0.0144	
DLAB	-3.114240	0.807432	-3.856970	0.0007
DRGHT	-4.285895	1.943014	-2.205798	0.0364
DTRDO	-0.293398	0.107971	-2.717376	0.0116
FA	-1.492382	0.680606	-2.192726	0.0375

R-squared.	0.642750	Mean dependent v	1.485714
Adjusted R-squared.	0.546567	S.D. dependent var.	7.458134
S.E. of regression	5.022116	Akaike info criterion.	6.267904
Sum squared resid.	655.7629	Schwarz criterion	6.627048
Log likelihood	-98.55437	Hannan-Quinn criter.	6.390382
F-statistic.	6.682589	Durbin-Watson stat	1.946336
Prob(F-statistic)	0.000142		

APPENDIX 7: AUTOCORRELATION TEST

Breusch-Godfrey Serial Correlation LM Test:

F-statistic.	0.141058	Prob. F(2,24)	0.8692
Obs*R-squared	0.395020	Prob. Chi-Square(2).	0.8208

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 11/29/22 Time: 11:44

Sample: 1981 2014

Included observations: 34

Presample missing value lagged residuals set to zero.

Variable.	Coefficient.	Std. Error	t-Statistic.	Prob.
C.	0.513488.	5.265891	0.097512.	0.9231
DCAPE	0.005980	0.192455.	0.031074.	0.9755
DCONE.	-0.002236	0.227614.	-0.009823.	0.9922
SSE.	-0.002591	0.116676	-0.022209.	0.9825
DLAB.	-0.074750	0.887943.	-0.084184.	0.9336
DRGHT	-0.069886	2.071100	-0.033744.	0.9734
DTRDO.	-0.010654	0.116216.	-0.091670.	0.9277
FA	-0.092369	0.796461	-0.115974	0.9086
RESID(-1).	0.000484	0.235019	0.002058	0.9984

RESID(-2)	-0.116876	0.222023	-0.526413.
0.6034			

R-squared.	0.011618	Mean dependent var	3.45E-15
Adjusted R-squared.	-0.359025	S.D. dependent var.	4.457758
S.E. of regression	5.196730	Akaike info criterion	6.373865
Sum squared resid.	648.1441	Schwarz criterion.	6.822794
Log likelihood	-98.35570	Hannan-Quinn criter.	6.526963
F-statistic	0.031346	Durbin-Watson stat.	1.967761
Prob(F-statistic)	0.999996		

Breusch-Godfrey Serial Correlation LM Test:

F-statistic.	0.141058	Prob. F (2,24).	0.8692
Obs*R-squared	0.395020	Prob. Chi-Square (2)	0.8208

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 11/29/22 Time: 11:45

Sample: 1981 2014

Included observations: 34

Presample missing value lagged residuals set to zero.

Variable.	Coefficient	Std. Error.	t-Statistic.	Prob.
C.	0.513488.	5.265891.	0.097512.	0.9231
DCAPE.	0.005980.	0.192455.	0.031074	0.9755
DCONE	-0.002236	0.227614	-0.009823.	0.9922
SSE.	-0.002591	0.116676	-0.022209	0.9825
DLAB	-0.074750.	0.887943.	-0.084184.	0.9336
DRGHT.	-0.069886	2.071100	-0.033744.	0.9734
DTRDO.	-0.010654.	0.116216.	-0.091670.	0.9277
FA.	-0.092369.	0.796461	-0.115974.	0.9086
RESID(-1)	0.000484	0.235019	0.002058	0.9984
RESID(-2).	-0.116876	0.222023	-0.526413	0.6034

R-squared	0.011618	Mean dependent var.	3.45E-15
Adjusted R-square	-0.359025	S.D. dependent var.	4.457758
S.E. of regression	5.196730	Akaike info criterion	6.373865
Sum squared resid	648.1441	Schwarz criterion	6.822794
Log likelihood	-98.35570	Hannan-Quinn criter.	6.526963
F-statistic.	0.031346	Durbin-Watson stat	1.967761
Prob(F-statistic).	0.999996		