Summer 2021

The Effects of IMF's Lending and Conditionalities on Economic Growth: Case of SADC Countries

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A thesis submitted to the Department of Economics, Eastern Illinois University, in partial fulfillment of the requirements for the award of Master of Arts Degree in Economics.

August 2021

ACKNOWLEDGEMENT

First, I would like to thank God for His guidance and protection throughout my journey of completing this master's program. I would also like to express my gratitude to Dr. Ahmed Abou-Zaid for his supervision, guidance, and suggestions upon the successful completion of this thesis. Not forgetting Dr. Ali Moshtagh and Dr. Jim Bruehler for their great contribution and support in the last two years.

I am also grateful to Benjamim Eduardo for his continuous assistance in the course of this work. I would also like to thank my parents, to whom I dedicate this work, my siblings, friends, EIU colleagues and the Kabasele's family for supporting and praying for me.

ABSTRACT

I examine the impact of IMF credit use and its conditions on economic growth performance in 12 South African countries over a period of 1999-2019. The work adopts an empirical and quantitative approach to analyzing the relationship between the GDP per Capita, the use of IMF Credit, Government Final Consumption Expenditure, Net Domestic Credit and Current Account balance. These variables are the most recommended in the IMF conditionalities during the lending arrangements with SADC members.

The study uses Fixed-effect approach to evaluate how the use of IMF program and the conditions imposed directly affects economic growth. A dummy variable is included to evaluate GDP growth if a country met or not the imposed condition. The result from the analyses concludes that overall, the use of IMF credit has no statistical significance on the economic growth. But when some conditions are met, the GDP responds positively. Other variables current account, government expenditure, and net domestic shows significant and positive change on the GDP growth of SADC countries.

Keywords: IMF, IMF credit usage, Economic growth, conditionality, compliance

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Abbreviations and Acronyms

IMF	International Monetary Fund
SADC	Southern African Development Community
SDR	Special Drawing Right
PRGF	Poverty Reduction Growth Facility
ECF	Extended Credit Facility
RCF	Rapid Credit Facility
SBA	Stand-By Arrangement
QPC	Quantitative Performance Criteria
SBs	Structural Benchmarks
ITs	Indicative Targets

CHAPTER ONE

1.0 INTRODUCTION

1.1Background of the study

The IMF loan programs has been more popular in recent decades. More nations, mainly developing countries, have been participating in the loan program. As the participation in IMF programs has greatly expanded, there has been a vigorous debate about the efficacy of such participation in achieving the desired economic outcomes. One of the most asked question regarding IMF loan and economic growth is if countries truly benefit from access to IMF loan programs or would it be better if these programs did not exist?

In theory, the IMF program should promote economic growth both directly and indirectly, for several reasons. First, IMF loans has inflexible conditions attached to them, for instance, implementing fiscal austerity or changing the monetary policy. The disbursement of IMF funds only take place if the borrowing country agree to the conditions imposed. Following IMF's advice and accepting the conditionality should have similar effects: improved policy making and higher growth in the future, which leads them to increase their consumption, thus boost the growth. Further, the IMF gives policy advice during economic crises. This advice should help improve the economic climate and thus foster growth in the future. Finally, the loan from IMF helps alleviate financial constraints that the borrowing countries face and should stimulate their economies. In this research, the focus is to determine the effects of IMF's lending and conditionalities and evaluate the met conditions on poverty reduction and growth facilities program for SADC countries' economic growth while also considering the role and influences of major variable in their conditionalities.

1.2 Research question

This research aims at finding answers to the following questions:

I. Do the IMF loans influence economic growth in developing countries?

II. Do the policies or conditions imposed on IMF loans influence the economic growth of the borrowing countries?

1.3 Objectives of the Study

The major objective of this study is to empirically test if the IMF loans and its imposed conditions have favorable or non-favorable impact on the economic growth of SADC countries. This research will need to look at the channels through which these IMF loans and conditions are spent, whether these channels are drivers to growth of the economy. If the result of this study establishes that the funds program has had a positive impact on the growth of the economy, then I will further suggest more ways to enhance the efficiency of the Program. However, if the findings of this research assert unfavorable relationship between the fund and the drivers of growth, then I will further look at the reasons for this negative effect. It is hoped that the results of this work could be used by the policymakers of SADC countries on programs that will enhance their objectives of borrowing and committing to IMF loan conditions.

1.4 Hypothesis

The hypothesis to be tested for this study are:

H_0: IMF loans impact the GDP in SADC countries

H_1: IMF loans do not impact the GDP in SADC countries

H_0: The conditions imposed by IMF impact the growth of GDP in SADC countries

H_1: The conditions imposed by IMF does not affect the growth of GDP in SADC countries

1.5 Justification and Scope of the study

Over the years the IMF has come under strong criticism and attack. With some even arguing that the IMF takes away the freedom and of the developing countries through its lending programs. Some has alleged that the lending and conditionalities is a 'bait' towards the trapping to an unending stream of national debt.

Although there are numerous research done on developing countries, usually the researched countries lack strong similarities on social and economic situation. Therefore, taking inspiration from Dreher (2004) and Barro and Lee (2003), this research on the IMF and its relationship will focus solely on southern regions of Africa with countries that share similar social and economic system. This study will contribute to the already existing research of IMF and growth, but it will make a greater impact on the SADC countries because there is still shortage of research of the IMF programs that focus solely on the economic conditions of this region.

1.6 Organization of the Study

The study is composed of four sections. Chapter one introduces the background to the study. The chapter two gives an overview about SADC countries and IMF and the relationship between both. Chapter three presents previous literatures on the studies of IMF lending conditionality and hypotheses. Chapter four discusses the methodology, the result of the empirical analysis summarizes the findings and concludes

CHAPTER TWO

2.0 Overview of IMF and SADC Countries

2.1 IMF History and Structure

The IMF and the World Bank established in 1945, are products of the Bretton Wood conference which was planned by the USA and The Great Britain with the aim to establish an International monetary system with paper currencies as its base. The US dollar served as the anchor of the system, whiles the gold remains its source of value. With a membership of 190 countries, its initial role was to aid member countries that have exhausted their foreign exchange reserve and have trade deficit. The IMF serves as a lender of last resort to countries who are unable to borrow from the external financial markets when the country is facing difficulties with its external payments. The highest unit governing body is the Board of Governors. They are the highest decision-making body of the IMF (IMF, 1993). They are made of one governor and one alternate governor representing each member country. The governor is usually the minister of finance or can be the head of the central bank and is appointed by the member countries. The Figure 3 in appendix indicates the structure of the IMF. Voting process by the Board of Governors is done by Mail-in-ballot. The duties of the board of Governors consist of appointing executive directors, approval of quota increases for members' countries, admit new members, allocates Special Drawing Rights (SDR), and take care of the amendments of by-laws and articles of agreements (IMF, 2013).

2.2 Quotas and SDR

The IMF is a quota-based institution. Quotas are the financial and governance pillar of the IMF. For the IMF to effectively carry out its mandate each member contributes a deposit called "quota"; the amount of quota a country contributes shows its size in the world economy. The

initial determinant for a country's loan size is its quota contribution. Also, the quota determines the maximum amount of financial resources a country is obliged to contribute. Furthermore, the quota contribution is the key determinant for the voting power in IMF decisions. The higher the quota, the more power. According to IMF (1993), Votes comprises SDR 100,000 of quota plus basic votes (same for all members). Finally, quota determines a member's share of general allocation of SDR.

The Special Drawing Rights (SDR) which is an international reserve asset that function as IMF unit of account (IMF, 2020), determines the quotas. SDR is not a currency nor a country's claim on the IMF, but it is a potential claim on the freely usable currencies of the IMF members. The currencies are the US Dollars, Euro, Chinese Yuan, Japanese Yen, and Pound sterling. The determination of the SDR Value in terms of the US dollars is done on daily basis, according to the spot exchange rates observed around London noon time (IMF, 2018). The SDRs are allocated in two different forms: General and Special. In 2009, countries who joined the IMF after 1981 had a Special one-time allocation, after previous allocation was made on in the SDR system on equitable basis. The SDR operates in a form self-financing mechanism and levies charges on allocations which are then used to pay interest on SDR holdings. SDR can be traded by members in the voluntary market. Moreover, based on requirements the IMF can also designate members to buy SDRs.

2.3 IMF Lending and Programs Design

The IMF lends through a series of concessional and non-concessional arrangements. Concessional arrangements are loans that pays rates similar to the market loans while non-concessional borrowing is defined as loans that offers more generous terms than market loans. (Ames et al, 2001). The IMF has an Executive Board in every member country. Through them, a

lending arrangement, which works like a line of credit is approved to support a country's adjustment program. The arrangement demands that the recipient country should observe specific terms, which are subject to periodic reviews to continue to draw upon it.

Furthermore, the recipient country has the responsibility of selecting, designing, and implementing policies to make the IMF-supported program successful. According to IMF department of Finance, the program is described in a letter of intent, which often has a memorandum of economic and financial policies attached (2017). The program's objectives and policies depend on a country's prevailing circumstances. But the most important goal is to restore, maintain and correct the Balance of payments viability and macroeconomic stability.

The IMF's program design comprises different types of arrangements or loan, depending on the borrowing country needs. For the scope of this study, the focus lays on Poverty Reduction and Growth Facility (PRGF) which is the most used programs on developing countries. The PRGF program was founded in September 1999 with the objectives of making poverty reduction efforts on low-income members of the IMF. Through PRGF, IMF adopted principles to promote the full use of external aid while maintaining macroeconomic and debt sustainability

The PRGT program includes the following arrangements: Extended Credit Facility (ECF), Rapid Credit Facility (RCF), and the Stand-by arrangement (SBA). The ECF was created to make the Fund's financial support more flexible and better tailored to the diverse needs of the low-income countries, including in times of crisis (Lane and Phillips, 2002). The ECF is the IMF's main vehicle for giving medium-term support to low-income countries with Balance of payments problems. The Rapid Credit Facility (RCF) is given to members experiencing urgent balance of payments need. The fund support under RCF carries zero interest rate and limited conditionality. The Stand-By arrangement (SBA) unlike ECF is an arrangement used by middle income

countries as well. It responds quickly to members' external financing needs and support policies that help borrowing country to recover from crisis and restore sustainable growth.

2.4 IMF Conditions and Reviews

There are conditions which covers the design of IMF-supported programs, they are mostly macroeconomic, structural, fiscal and monetary policies (Dreher, 2004). Performance in these areas serves as the specific tools which are used to monitor the progress of the recipient countries toward the goals outlined in the cooperation with the IMF Executive board. Moreover, the conditionalities help borrower countries to solve their Balance of Payments problems without needing to resort to ways and policies that are harmful to the nation both domestically and internationally. At the same time, the measures are meant to serve as a form of insurance for the IMF, by ensuring that the imposed conditions on the borrowing country will be favorable enough for them to repay the loan and its interest by the due date (Joyce, 2004).

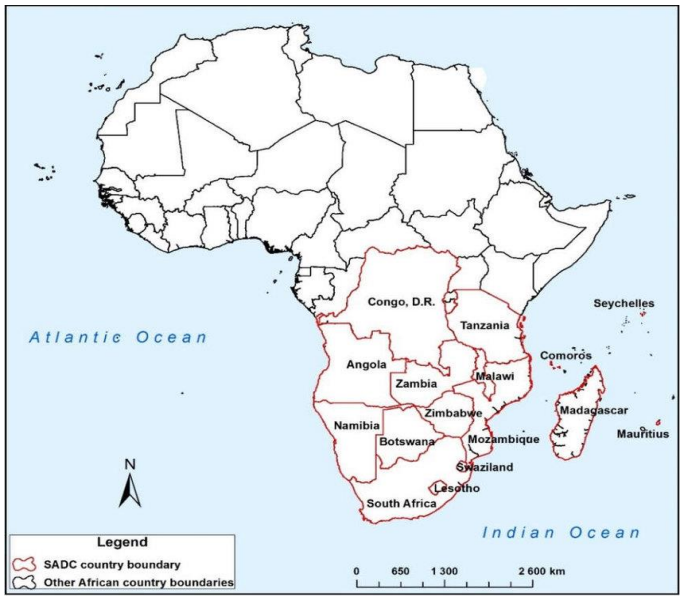
The IMF uses three main tools to review, assess, and monitor borrowers' compliance. The Quantitative Performance Criteria (QPCs) is a tool that relates to macroeconomic variables such as fiscal balances, external borrowing, international reserves, and monetary and credit aggregates. Through this assessment, IMF review if the borrower met the minimum level of federal government primary balance, the minimum level of international and ceiling on government borrowing. The Indicative targets (ITs) tool is also set to track quantitative indicators as QPCs, however, the ITs works better in capturing results on the face of uncertainty about economic trends. ITs monitor performance of borrowers' commitment in meeting the minimum domestic revenue collection and level of social assistance spending. Last, the Structural Benchmarks (SBs) which performs a different role as the other tools. SBs are non-quantifiable tool that measures borrowers' economic reforms. The SBs focuses on measuring if

the country is improving financial sector operations, building up social safety nets, and/or strengthening public financial management.

2.5 SADC creation and Political History

Southern Africa Development Community (SADC) is an economic block comprised of 16 South African countries founded in 1992. However, SADC originated in the 1960s and 1970s under the name of Southern African Development Coordination Conference (SADCC) in Lusaka with only nine countries members. SADC primary objective is the integration of economic development among southern African nations. This development achievement pan consists of reduction of members state dependence, mobilization of the members' resources to promote the implementation of national, regional, and interstate policies, to establish relation to create genuine and equitable regional integration, and finally action to secure international cooperation within the framework of the strategy for economic liberation (SADC website).

Figure:1 SADC region on the map and its respective countries.



2.6 SADC and Poverty Reduction and Growth

SADC countries have been experiencing positive population growth over the last three decades (Table 5, appendix). Growth in population implies that economies must grow rapidly to generate new employments at level that satisfy the need of the population and to reduce poverty. But the economy of SADC countries fails to follow the population growth pace which has been resulting in extreme poverty.

According to Mapuva et al (2014), the poverty level in southern Africa continues to increase; about half of the population is living on less than $1 a day. In the hope to reduce the poverty level, these countries use IMF funding programs as resource, however, the result from the fund are not reflected on the economy.

CHAPTER THREE

3.0 LITERATURE REVIEW

3.1 IMF and Economic Growth

The IMF's main goals is to promote growth. As the IMF former managing director Michel Camdessus, said in his statement at the United Nations Economic and Social Council in Geneva, on July 11, 1990: "Our primary objective is growth. In my view, there is no ambiguity about this. It is toward growth that our programs and their conditionality are aimed". This statement reinforces the objective of IMF, which is economic growth. But over the years studies have shown opposite results compared to the primary goal of IMF.

Economic growth can be defined simply as Economic expansion. The IMF's Social Dimensions of the IMF's Policy dialogue (1995), defines Economic growth has that "which brings lasting employment gains and poverty reduction, provides greater equality of income through greater equality of opportunity, including for women, and respects human freedom and protects the environment." According to the IMF's Policy Dialogue, growth is achieved on the following foundations: Macroeconomic policy, Social policy, Structural policy; and Good governance and Participatory Development. For the scope of this research, however, the focus is only in one aspect of the three Pillars of Economic growth as according to the IMF, which is the Macroeconomic Policy.

3.1.1 The Negative impact of IMF lending on GDP growth

The weight of evidence on the relationship between IMF loans and economic growth, has suggested more negative effect than positive. Barro and Lee (2003) studied the relationship between IMF loan and GDP growth for developing countries. The study was conducted using panel data for the period 1975 to 2000 using VAR approach. The results showed that higher IMF

loan participation rate reduces economic growth. In addition, the involvement in IMF loan programs decreases the investment level of the borrowing country and tends to lower the rule of law and democracy. They concluded that a country is better off economically without committing to be involved with IMF loans program. Dreher (2004) also established that the IMF programs were designed to enhanced growth, but they achieve the opposite. In his study using panel data for 98 countries, he found that IMF programs decrease growth rate when the endogeneity is accounted for further, weak evidence shows that compliance with the IMF conditionalities reduce this negative effect. Connors (1979) and Gylfason (1987) had also reported the same result of no economic growth impacted by the IMF loan.

3.1.2 The positive impact of IMF lending on GDP growth

Positive results were reported by Hackler et all (2018). In this study the authors used 93 developing countries to analyze the direct effect of IMF loan condition compliance on GDP growth. The researchers selected a list of conditions imposed by the IMF for loan arrangements and used countries as the dummy variable to examine how compliance on conditions directly affects GDP growth. By using OLS method, the results suggests that real GPD growth rates are directly affected by the IMF loan when the imposed conditions are met. Conway (1994) reassessed the relationship between economic growth and IMF program by examining the performance of three macroeconomic measures: the real GDP per capita, fiscal surplus GDP, and current account. The estimation technique employed in the research included instrumental-variable, and matching. The result from the panel data of 95 developing countries suggest that current account and fiscal surplus improve economic growth with IMF participation.

3.2 IMF and Poverty

Poverty is an issue that numerous scholars continue to research because it is a phenomenon that represent challenges to eradicate. The World Development Report has defined Poverty as an unacceptable impoverishment and penury in human well-being that consist of both social and physiological deprivation. Poverty is a challenge that goes beyond economics, it also includes some other aspects of cultural, political, and social issues. In terms of physiological deprivation, it includes the lack of the basic material or biological needs, including improper education, inadequate health and nutrition, and lack of shelter.

3.3 IMF and developing Countries

The IMF constantly suffers heavy criticism about its programs with developing countries. Over decades several developing nations had been receiving loan from the IMF in the hope of reducing poverty rate and experience economic growth; however, the reality had been far from what IMF says is its objective, economic growth. Bird and Mosley (2004) made some important remarks concerning the IMF and the Developing countries in their book. Most of the remarks were from the report of the Meltzer Commission (the International Financial Institution Advisory Commission at the US Congress, 2000). According to Bird and Mosley (2004), Events and reforms have led the IMF into dealing with problems such as Poverty reduction and growth which they were not originally aiming at. Bird and Mosley further explains that the IMF through their conditional lending arrangement gives too little for the local and recipient country room to make credible and judicious long-term decisions on growth and Poverty reduction. Jonathan Sonnenberg (2018), in his famous article make 15 some important criticisms about how the IMF programs like the Poverty Reduction and Growth Fund and the HIPC has landed some African countries into a debt cycle. Sonnenberg (2018) makes a damning claim that the HIPC imitative of the Bretton Wood twins has contributed to an “extortive trend of debt-cycling”.

The IMF is mainly focused on making the conditions favorable for itself in the immediate medium term to regain its loans and the repayments. All the conditions are merely insurance cover for their lending and not as growth and poverty alleviation instruments as claimed. According to Meltzer commission, the Poverty Reduction and Growth Facility (PRGF) should be abandoned, and the IMF should rather focus on short-term crisis lending, for instance, the lending instrument given out during the Covid-19 crisis in the early quarters of the year 2020. Once more, the Meltzer Commission made some suggestions that the current conditionalities should be replaced by rather Fiscal and Financial requirements observed over some period of years. The IMF should focus on rather exchange rate policies, financial sector surveillance and monetary policies. According to Bird and Mosley (2004), the IMF should refrain from the So-called structural adjustment conditionalities. Because of the conditionalities involved in the lending by the IMF, moral hazards are likely to happen, causing the innocent citizen of the recipient country to feel the effect. Hence, the aim of Poverty alleviation "backfires", leading to a opposite effect.

CHAPTER FOUR

4.0 Methodology

4.1 Sample and Data

The study uses a sample of 12 countries with annual data covering the period from 1999 to 2019. Although SADC has 16 countries members, this research excludes four countries. South Africa is an outlier within SADC due to its economic development discrepancy compared to the rest of the members countries. The other three countries (Namibia, Seychelles, Mauritius) have data limitation. The dependent variable used in this study is the rate of **GDP growth per capita**. The **Use of IMF credit** as the main independent variable, and other explanatory variables include **Current account balance as a percentage of GDP, Net Domestic credit**, in place of **Fiscal policy discipline**, I used **General Government final consumption expenditure as percent of GDP**, **Total investment as percent of GDP**, and **Average of governance indicators**. The source of data used in this research are from the World Bank Development Indicator (WDI, 22), the World Economic Outlook, and the IMF annual Reports. The selected countries for this study are presented in the appendix, table 4.

To fully measure the impact of the fund and the conditions on the borrowing country, the Monitoring of Fund Arrangements (MONA) was used. As explained on the IMF website, the MONA database contains comparable information on the economic objectives and outcomes in Fund-supported arrangements. It tracks the performance of countries in terms of scheduled purchases and reviews, quantitative and structural conditionality, and macroeconomic indicators. Data are available for most arrangements since 2002 to the present, and are collected at the time of arrangement approval, and following each review.

4.2 Variable Description

- **GDP per capita**

GDP per capita is gross domestic product divided by the country's population. GDP per capita properly captures the true value of prosperity in a country, and it is commonly used as a proxy of the initial conditions of a country in terms of development. This variable is used as dependent variable to capture the change in economic development over the years.

- **IMF Credit Usage (IMF credit)**

Use of IMF Credit data is related to the operations of the IMF and provided by the IMF Treasurer's Department. They are converted from special drawing rights into dollars using end-of-period exchange rates for stocks and average-over-the-period exchange rates for flows. The IMF credit usage is the right choice for this research because all its policy programs require ceilings on domestic credit creation and public spending (Bird 1998: 94). Relative to the World Bank, where noncompliance with conditionality normally takes years to monitor, the Fund's conditions can be monitored after very few lags, this makes it easier to document noncompliance. (Mosley, Harrigan, and Toye 1998: 68). The Use of IMF credit was originally in nominal terms, hence the **log IMFcredit**, was estimated to arrive at the real value of the **IMFcredit**. The arguments surrounding the impact of IMF credit usage on GDP is complex and several studies came up with different conclusion.

- **Net Domestic Credit (NDC)**

According to World Bank World Development Index 2020, Net domestic credit is the sum of net claims on the central government and claims on other sectors of the domestic economy (IFS line 32). It is the total sum of net credit given to the non-financial public sector, and credits offered to

the private sector, together with other accounts. Countries with high debt are likely to not benefit from the IMF fund's credit usage.

- **Government Expenditure (GE)**

GE (% of GDP) represents government general expenditures; it includes all current expenditures for goods and services (compensation of employees, national defense, and security). The effect of GE on economic growth is ambiguous because its outcome depends on many factors and the economic situation at a given time. This variable is important in the process of IMF loans arrangements because it assess spending level of borrowing countries.

- **Current Account (CA)**

IMF defines the Current account as that which shows the flow of goods, services, primary income, secondary income between residents and non-residents. It is one of the main features of the IMF's Balance of Payments Statistics.

- **Total Investment (TI)**

The collected data was the gross capital formation which also known as Investment. It includes capital expenditures in machinery and equipment dwellings, change in stocks and valuables (gold). Investment is believed to be one of the most important type of capital movement because it stimulates additional investment, which result in increase in GDP.

- **Governance Indicators (AvgGI)**

The governance indicators is composed of six dimensions of governance used to measure the quality of a nation's government. The six dimensions are rule of law, political stability, government effectiveness, voice and accountability, regulatory quality, control of corruption.

Each one these indicators, if managed well, promotes development. For the scope of this paper, I averaged each indicator over the period of 1999-2018 and measured the relationship with GDP growth.

4.3 Model Specification

The models used on this research are specified as follow:

Model 1: Effect of IMF credit Use in GDP growth:

$$GDPper\ capita_{it} = \beta_0 + \beta_1\ LnIMFcredit_{it} + \beta_2\ NDC_{it} + \beta_3\ LnGE_{it} + \beta_4\ CA_{it} + \beta_5\ LnInv_{it} + \beta_6\ AvgGI_{it} + \varepsilon_{it}$$

Model 2: Effect of IMF Conditions in GDP growth:

$$GDPper\ capita_{it} = \beta_0 + \beta_1\ LnIMFcredit_{it} + \beta_2\ X_{it} + \beta_3 Program_{it} + \beta_4\ Met\ conditionX_{it} + \varepsilon_{it}$$

The first model is specified to capture the contemporaneous effect of IMF credit use on economic growth. The model 2 is an expanded formula of model 1. Assessing the performance of program countries without discriminating among them by their degree of compliance could give a misleading view of the effects of the IMF programs

Therefore, the second model is focusing on direct impact of IMF conditions on GDP growth by looking at specific IMF program and the countries that have met IMF conditions imposed on this program. The B_2X_t is a Vector of variables controlling for development which includes CA, NDC, Investment, and GE. I use two dummy variables; one specifies met conditions and the other the program type. Although IMF has numerous programs, this study is limited on the Poverty Reduction Growth Facility (PRGF) program because it is the most used program among SADC countries. The dummies are specified 1 if the country used PRGF program and 1 if met the conditions, otherwise it is zero.

The IMF conditions included in this model are the following:

1) Fiscal deficit (FD): the limit imposed on fiscal deficit of a country

2) Balance of Payment (BoP): controlling medium and long-term debt to international creditors

3) Ceiling on External arrears (CEA): controlling overdue debts and payments to domestic creditors

4.3 Estimation Strategy

The data used in this model consist of several cross-sectional values surveyed over time. This is also known as panel or longitudinal data. Panel data is considered to have more advantages than time series or cross-sectional data because it provides more information, efficiency, and variability. The appropriate estimation techniques for panel model are fixed and random effects, and pooled Ordinary Least Square (OLS).

The pooled OLS is the less complex method because it assumes that all the entities (countries) are the same and pools them together disregarding heterogeneities. This method has high risk of providing spurious regression results. However, Fixed Effect (EF) and Random Effect (RE) methods account for heterogeneities among entities being analyzed. Fixed effect approach takes into consideration the differences between individual entities and if the omitted variables are correlated. It is a preferred approach when analyzing the impact of variables that very over time. On the other hand, Random effect approach is preferred when variables on the model are constant over time.

To determine whether to use Fixed Effect or Random Effect, the Hausman test was performed. The hausman test looks to see if there is a correlation between errors terms and the regressors in

the model. The null hypothesis states that there is no correlation. The results from the test reject the null hypothesis; thus, the Fixed Effect is the appropriate approach for these models.

Table 3: Hausman Test	
Model	P-value
Direct IMF credit use	0.0127
IMF Conditions	0.0398

4.4 Results and Discussion

The results presented on table 2 explains the impact of the selected independent variables on GDP growth per capita.

Table 2: Fixed-Effect results for IMF credit use

Variables	Coefficient (SE)
LnIMFcredit	0.022 (.312)
NDC	-1.581 (9.381) *
LnGE	2.749 (0.923) **
CA	0.125 (0.035) ***
LnInv	4.209 (0.852) ***
AvgGI	0.244 (1.575)
Constant	-18.448 (6.474)
Observations	252
R^2	0.647
Number of countries	12

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

The result shows no evidence of economic growth resulting from the use of IMF credit. For the scope of this study, it can be concluded that contemporaneous effect of IMF credit use is

insignificant on SADC countries' GDP growth per capita. This result corroborates with Hutchison (2004) and Hardoy (2002). The insignificant result can be related to the fact that SADC countries typically enter into an agreement with the IMF only when facing terrible economic problems. One of the biggest criticisms on IMF is that it usually does not focus on the countries' governance quality before making loan arrangements. The lack of understanding in the overall governance system of the borrowing country can result in the misallocation of the funding.

As can be seen, most explanatory variables have the expected sign. Net domestic credit has a negative relationship with GDP growth. As domestic credit increases by 1%, the economy of SADC countries decreases by 1.58%. This result was expected because southern African countries lack a stable financial system. Evans (2013) study argues that one of the major's implication in Africa's economic growth is an inefficient financial system. The foundations for building sustained economic growth in SADC countries depends on the type of financial system. Considering institutional constraints, regulations, and other macro-economic factors working against domestic credit in the economy, SADC policymakers should make the environment conducive and supportive so that performance is enhanced, and good lending behavior is guaranteed.

The increase in government expenditure leads to economic growth of 2.749%. This result is consistent with Barro (1999) who claims that the impact of government expenditure on economic growth is positive for the growing economies. SADC countries are developing economies, which means they are still in growth phase of economic life cycle. It is believed that increasing government expenditure is one of the ways the government can stimulate the economy. Thus,

increasing government spending through education, health care, and infrastructure is crucial for a string economy.

Current account shows a strong positive relationship with GDP per capita. The significance level is 1% and goes in line with the expected results. As current account increases by 1%, the economy grows 0.125%. Although the magnitude of the increase is low, the current account and GDP is expected to move in the same direction.

Total investment also shows a strong positive relationship with GDP per capita. The significance level of these two variables is 1% and goes in line with the expected results. An increase of 1% in total investment leads to 4.209% in economy growth. Several empirical studies have proven positive relationship between Investment and economic growth. Therefore, I expected a significant and positive results. High investment leads to an expansion of economic growth. By including property rights, it becomes possible for society to meet a higher productivity trading relationship and to enjoy the benefits of voluntary exchange (Grossman, 1988).

The result on the relationship between the average of governance indicators and the GDP growth is quite surprising because it would be expected either a positive or negative relationship between these variables. However, what is not surprising is that southern African countries have low quality of governance. The lack of significance between these variables could be explained by what Vaubel (1983) refers to as “moral hazard hypothesis”. The idea behind this hypothesis is that the availability of IMF lending programs may be a boost for countries to deteriorate their economic policies to be eligible for more funds from the IMF. In the last two decades SADC countries, especially Mozambique, Zimbabwe, and Angola, have been granted large sum of IMF funds but the quality of governance continues to deteriorate. Dreher (2005) argues that it is evident that the balance of payments problems of IMF borrowers has been caused by their own

and their macroeconomic performance has been deteriorating as the number of IMF loan programs increases.

Table 3: Model 2- Fixed-Effect results for IMF Conditions

Variables	Coefficient (SE)
LnIMFc	0.0129 (0.315)
NDC	-1.371 (9.851)
LnGE	2.587 (0.927) **
CA	0.126 (0.034) ***
LnInv	4.186 (0.851) ***
FD	-1.414 (0.638) *
BoP	-0.087 (0.369)
CEA	-0.449 (0.409)
PRGF	0.629 (0.756)
Constant	-18.119 (6.392) **
Observations	79
R^2	0.360
Number of countries	9

Robust standard errors in parentheses
***p<0.01, **p<0.05, *p<0.1

The results from variables used on the model 1 are similar with the second model, except the net domestic credit that came out insignificant.

Limit on Fiscal deficit is the only met condition while the conditions on Balance of Payment and Ceilings on External Arrears are insignificant. The loan program countries meeting the condition for Fiscal Deficit experienced a decrease in real GDP growth rates. The results suggest, with

90% confidence, that the fiscal deficit condition decreases a country's real GDP growth rates by an average of 1.414%. According to Bird and Mosley (2004), the Fund's conditionalities are ineffective. They argue that IMF uses the conditionalities and arrangements to exert to much coercion on the developing countries. This is in sync with Sonnenberg (2018) accusations. Bird and Mosley further explains that the IMF through their conditional lending arrangement gives too little for the local and recipient country room to make credible and judicious long-term decisions on growth and Poverty reduction. The IMF is only focused on making the conditions favorable for itself in the immediate medium term to regain it loans and the repayments

Killick (1995) also gives evidence that highly indebted countries as well as countries with small amounts of IMF credit are less likely to complete a program and that fiscal conditions are especially unlikely to be met. He also stresses that new programs are approved for political reasons even if non-compliance with conditionality of previous ones is evident.

2.0 Conclusion and Limitations

The objective of this paper was to estimate the effect of the IMF lending on the economy of SADC countries. Together with this objective, was to also estimate the effect of most of the macroeconomic variables which matter in the IMF conditionalities in the lending out of the loan to these countries. Two fixed-effect models were applied to examine this relationship. A panel data for 12 countries from 1999 to 2019 were used in this study.

As has been shown in several studies, with respect to this objective, IMF programs are a failure. The results attained from this research determines no significant effect on economic growth caused by IMF credit use. The results also showed that the condition imposed by the IMF program are insignificant, besides the fiscal deficit that showed low but significant impact on GDP growth of SADC countries.

This results from this study supports Hutchison (2004), Hardoy (2002) and many other research that the IMF is only focused on making the conditions favorable for itself in the immediate medium term to regain it loans and the repayments. From this results, policymakers of SADC should be more aware of the conditions imposed by the IMF during program loan arrangements.

Every research work has its limitations. One of the challenges of this work was data availability. There was no data for three countries. In addition, the countries in this dataset likely have very different production structures and most IMF relief recipients in developing regions tend to have less accurate valuations of GDP relative to developed countries. Further, it is important to note that this research did not consider the lag of GDP. Therefore, some alterations could be made to the data to be able to draw more precise conclusions. Future research should investigate whether SADC countries experience economic growth over time because of IMF program.

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Appendix

Descriptive Statistics

Table 4: Descriptive Statistics 1999-2019 (Full Sample)

Variable	(1) Mean	(2) Standard deviation	(3) Minimum	(4) Maximum	(5) Observation
GDPPC	1.78	4.20	-18.49	18.06	252
IMFcredit	364	389	10253	1860	252
NDC	1360	3650	-168	23600	252
GE	21.74	11.68	2.04	60.37	252
CA	-4.40	10.59	-57.96	22.19	252
INV	23.19	10.56	1.53	53.98	252
GI	-0.61	0.61	-2.10	0.89	252

Table 5: Socio-Demographic- Population in SADC (2009-2019)

SADC Member States	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Angola	22,099	22,802	23,533	24,292	25,080	25,901	26,681	27,503	28,359	29,250	30,175
Botswana	1,951	1,988	2,025	2,063	2,101	2 156	2 195	2 230	2 155	2 303	2,339
Comoros	669	687	705	724	744	764	785	806	828	851	851
DRC	70 391	72 884	75 259	77 817	80 462	83 197	85 026	86 895	88 806	91 724	97,356
Eswatini	1 044	1 055	1 067	1 080	1 093	1 106	1 119	1 132	1 093	1 120	1,134
Lesotho	1 887	1 892	1 897	1 901	1 908	1 916	1 924	1 942	1 953	2 183	2,125
Madagascar	19 601	20 142	20 696	21 263	21 842	22 434	23 040	23 658	24 290	25 680	26,969
Malawi	13 520	13 948	14 389	14 845	15 317	15 805	16 311	16 833	17 373	17 564	18,629
Mauritius	1 247	1 250	1 252	1 256	1 259	1 261	1 263	1 263	1 265	1 265	1,266
Mozambique	21 803	22 417	23 050	23 701	24 366	25 042	25 728	26 424	27 864	28 586	29,318
Namibia	2 103	2 143	2 116	2 155	2 196	2 238	2 281	2 459	2 369	2 414	2,459
Seychelles	87	88	87	87	89	91	93	95	96	97	98
South Africa	50 545	51 329	52 129	52 930	53 751	54 574	55 407	56 253	57 098	5793	58,775
Tanzania	41 916	43 187	44 485	44 929	46 356	47 831	49 359	50 942	52 555	54 199	55,891
Zambia	12 626	13 093	13 719	14 145	14 600	15 023	15 934	16 405	15 474	16 887	17,381
Zimbabwe	12 231	12 336	12 754	13 062	13 368	13 652	13 944	14 240	14 745	15 27	15,573
SADC Total	273,720	281,241	289,163	296,251	304,532	312,992	320,630	328,608	337,254	347,334	360,339

Source: SADC report website

Table 6: Countries in the sample

Angola	Madagascar
Botswana	Malawi
Comoros	Mozambique
Republic Democratic of Congo	Tanzania
Eswatini	Zambia
Lesotho	Zimbabwe

Figure 2: IMF Organizational chart