Which Factors Compel Pakistan to Approach the IMF on a Regular Basis? A Time Series Analysis



By

Nouman Faraz Khan MPhil Economics and Finance PIDE2019FMPHILEAF10

Supervisor Dr. Faheem Jehangir Khan

PIDE School of Economics Pakistan Institute of Development Economics Islamabad 2023



Pakistan Institute of Development Economics P.O. Box 1091, Islamabad, Pakistan

CERTIFICATE

This is to certify that this thesis entitled: "Which Factors Compel Pakistan to Approach the IMF on a Regular Basis? A Time Series Analysis". submitted by Mr. Nouman Faraz Khan is accepted in its present form by the School of Economics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in Master of Philosophy in Economics and Finance.

Supervisor:

Dr. Faheem Jehangir Khan

Signature:

Internal Examiner:

Dr. Abdul Jalil

Signature:

External Examiner:

Dr. Zafar ul Hassan

Signature:

Head. PIDE School of Economics: Dr. Shujaat Farooq

Signature:

Date of Examination: March 28, 2023.

Author's Declaration

I <u>Nouman Faraz Khan</u> hereby state that my MPhil thesis titled <u>Which Factors</u> <u>Compel Pakistan to Approach the IMF on a Regular Basis? A Time Series</u> <u>Analysis</u> is my own work and has not been submitted previously by me for taking any degree from this University <u>Pakistan Institute of Development Economics</u> or anywhere else in the country/world.

At any time if my statement is found to be incorrect even after my Graduation the university has the right to withdraw my MPhil degree.

Signature of Student:

Date: March - 28 - 2023

Name of Student: Nouman Faraz Khan

Dedication

I dedicate this Research to my beloved parents, Mr. Gul Faraz Khan and Ms. Khadija Bibi who have been a great source of inspiration and support; their love encouraged me at every step-in life and particularly during my studies. I dedicate my little effort to my brothers and sisters whose love, trust, and prayers are unforgettable for me. (Nouman Faraz Khan)

ACKNOWLEDGEMENTS

Throughout the writing of this dissertation, I have received a great deal of support and assistance. I would like to thank Allah Almighty for giving me the strength, knowledge, ability, and opportunity to undertake and complete this research study successfully. Without his blessings, this achievement would have not been possible.

I am very grateful to my Supervisor Dr. Faheem Jehangir Khan, who supervised this dissertation and was a source of inspiration for me. He always encouraged me to set goals and to find my own ways to achieve them. I am thankful to Internal Reviewer Dr. Abdul Jalil for his cooperation throughout this research. His inspiring suggestions, conscious guidance, and superb planning encouraged me in the completion of this thesis.

I am obliged to all my teachers and staff of PIDE, for helping me through their incredible skills and knowledge in preparation and processing of this Research Work.

In addition, I would like to thank my parents for their wise counsel and sympathetic ear. You are always there for me. Finally, I could not have completed this dissertation without the support of my friends and all my fellows, who provided stimulating discussions as well as happy distractions to rest my mind outside of my research.

LIST OF ACRONYMS

BD	Budget deficit
EXP	Total Expenditure
GDP	Gross Domestic Product
IMF	International Monetary Fund
IMPEX	Imports to Exports Ratio
REER	Real exchange rate
SAF	Structural Adjustment Facility
SBA	Stand-by Arrangement
TR	Total Revenue
UNEMP	Unemployment

Abstract

A time series data is used to examine "Which Factors Compel Pakistan to Approach the IMF on a Regular Basis" from 1992 to 2021. This study aimed at answering what economic factors lead the country into signing the IMF agreement. In order to determine empirically which economic factors, lead a country to request financial support from the IMF, in addition to whether or not the IMF's recommendations are sound, this research developed and estimated two models. Obviously, such an analysis faces several challenging empirical issues. These include numerous factors, such as the dichotomous nature of the endogenous variable. The results have shown that economic factors such as GDP growth, higher government expenditure to GDP ratio, lower reserve holdings, larger current account deficits, larger debt servicing to exports ratio and higher imports to exports ratio are some of the key factors to determine whether the country will go for an IMF deal or not. Supply side variables are also significant which means that the tax to GDP ratio, the governance indicator, and the real effective exchange rate have significant and positive effects on GDP and IMF recommendations are good to go with but we need to fix our own problems. Regarding the concerns the Fund makes and the recommendations it provides to ensure that the receiving economy can more effectively use the funds, we find that policy actions to increase tax revenue, decrease government expenditures, decrease imports to exports ratio and adjust the exchange rate are important considerations that will have a positive impact and improve the economy so that it will not require assistance in the way that only a few other nations did.

Keywords: IMF, Pakistan, Growth, Current Account Deficit,

Table of	f Contents
----------	------------

LIST OF ACRONYMS
Abstract
Tablesv
Figuresvi
CHAPTER 11
INTRODUCTION
1.1. Background
1.2. Problem statement
1.3. Research Question
1.4. Objectives of the study
1.5. Significance of the Study
1.6. Organization of the study7
CHAPTER 2
LITERATURE REVIEW
LITERATURE REVIEW
LITERATURE REVIEW
LITERATURE REVIEW 8 2.1. Studies on Developing Countries: A Review 8 2.2. IMF and its Impact on Tax Revenues 9 2.3. Budget Deficit and IMF 10
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries11
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs11
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs112.4.2. Negative Effects of IMF Programs13
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs112.4.2. Negative Effects of IMF Programs132.5. Studies of IMF Programs and Economy of Pakistan14
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs112.4.2. Negative Effects of IMF Programs132.5. Studies of IMF Programs and Economy of Pakistan14Conclusion17
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs112.4.2. Negative Effects of IMF Programs132.5. Studies of IMF Programs and Economy of Pakistan14Conclusion17CHAPTER 318
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs112.4.2. Negative Effects of IMF Programs132.5. Studies of IMF Programs and Economy of Pakistan14Conclusion17CHAPTER 318DATA AND METHODOLOGY18
LITERATURE REVIEW82.1. Studies on Developing Countries: A Review82.2. IMF and its Impact on Tax Revenues92.3. Budget Deficit and IMF102.4. Empirical Studies on Different Countries112.4.1. Positive Effects of IMF Programs112.4.2. Negative Effects of IMF Programs132.5. Studies of IMF Programs and Economy of Pakistan14Conclusion17CHAPTER 318JATA AND METHODOLOGY183.1. Introduction18

	3.3. Varia	bles	18
	3.4 Econo	metric Model	19
	3.5. Dema	and for a Fund Arrangement	20
	3.5.1.	International Monetary Fund (IMF)	22
	3.5.2.	Net International Reserves (RES)	22
	3.5.3.	Current Account (CA)	23
	3.5.4.	Total Debt Servicing (TDS)	23
	3.5.5.	GDP	23
	3.5.6.	Primary deficit	24
	3.6. The	e Fund's Supply of an Arrangement	24
	3.6.1.	GDP	25
	3.6.2.	Government Expenditures	26
	3.6.3.	Governance Indicators (AvgGI)	26
	3.6.4.	Tax to GDP Ratio (TR)	27
	3.6.5.	Imports to Exports Ratio (IMPEX)	27
	3.6.5.	Real Effective Exchange Rate	27
	3.7. Ecc	onometric Technique	27
	3.8. Lin	ear Probability Model	28
	3.9. Log	gistic Regression	29
	3.10. U	Jnit Root Test	31
	3.11. A	Autoregressive Distributive Lag	31
	3.12. Lag	Selection Criteria	32
	3.13. Bou	nd Test	32
	3.14. Erro	r Correction Model	32
	3.15. Long	g Run Results	33
	3.16. CUS	SUM and CUSUMSQ Tests for Stability	33
С	HAPTER 4	4	34

EMPIRICAL RESULTS AND DISCUSSION	34
4.1. Introduction	34
4.2. Descriptive Statistics	34
4.3. Logistic Regression	35
4.4. Goodness of Fit	
4.6. Unit Root Test	
4.7 Lag length criteria	
4.8 Diagnostic Tests	40
4.9 Bound Test	41
4.10 Long run result:	41
4.11 Stability Test	43
4.12 Error Correction Model (ECM)	44
4.13 Correlation	44
CHAPTER 5	46
INTERVIEWS AND QUALITATIVE WORK	46
5.1. Introduction	46
Standby Arrangement/Structural Adjustment Facility 1988-1991	46
Standby Arrangement 1993-1994	47
Extended Fund Facility/ Extended Credit Facility of 1994-1995	47
Standby Arrangement 1995-1997 and Extended Fund Facility/Extend	ed Credit
Facility 1997-2000	47
Standby Arrangement 2000-2001	48
Extended Credit Facility 2001-2004	49
Standby Arrangement 2008-2011	49
Extended Fund Facility 2013-2016	50
5.2. Interviews of Officials from Ministry of Finance and Ministry of	Planning
	50

5.3. Why Have Previous IMF-Backed Reform Initiatives Failed to Address	
Root Causes?	56
5.4. Could Things Change in the Future?	58
CHAPTER 6	61
CONCLUSIONS	61
Policy Recommendations	63
REFERENCES	65

Tables

Table 1: Pakistan History of Lending Commitments with IMF. Source: IMF	5
Table 2: Variables Description	19
Table 3: Descriptive Statistics	34
Table 4: Logistic Regression	35
Table 5: Unit Root Test	39
Table 6: Lag Length Criteria	40
Table 7: Diagnostic tests	40
Table 8: Bound Test result	41
Table 9: Long Run Result	41
Table 10: ECM Result	44
Table 11: Correlation Matrix	45

Figures

Figure 1: History of Lending Commitments with IMF. Source: IMF	5
Figure 2: Stability Model on GDP	43
Figure 3: Stability Model on GDP Per Capita	43
Figure 4: Pakistan Primary Balance	51
Figure 5: Exchange Rate and Foreign Exchange Reserves	56

CHAPTER 1

INTRODUCTION

The IMF is a 190-nation organization with the purpose of assisting member nations with balance-of-payments issues, restoring stability, and promoting long-term economic growth (Bird & Rowlands, 2017). The main reasons for a country to choose the IMF program are poor macroeconomic conditions and a negative current account balance (Knight & Santaella, 1997). The most likely grounds for the IMF program to be used again include weak macroeconomic fundamentals such as a lack of international reserves, a large current account deficit, and low real growth (Bird & Rowlands, 2017). Furthermore, inefficient fiscal and monetary policy management can result in massive macroeconomic imbalances such as a large current account deficit and significant external and public debt (Bird, 2007). In theory, the IMF assists member countries in times of crisis by providing foreign exchange for international business. The Fund's primary mission is to give foreign exchange to countries in desperate need. The IMF program's focus is to assist these countries in resolving current account imbalances and implementing adjustment policies that support long-term economic stability and growth (Conway, 1994).

Any member country in financial distress, whether wealthy, middle-income, or impoverished, may seek assistance from the IMF. The IMF offers several concessional as well as non-concessional facilities to help its member countries deal with current account imbalances. These structural policies are used to monitor a country's progress toward its targets, which are set in consultation with the IMF. Policy adjustment aims to keep balance-of-payment shortfalls under control without compromising the country's stability, as well as ensuring that the country can repay its debts (Mercer-Blackman & Unigovskaya, 2000). To ensure the success of the IMF-supported program, the participating country is responsible for properly implementing adjustment strategies. Due to underground structural and macroeconomic concerns, a number of countries have frequently opted the IMF support programs over the years. Following the completion of the previous program, a successor program is usually executed quickly (Dreher, 2006b). Pakistan is in a similar situation as it is also facing the same challenges with an extra burden of debt repayments. Furthermore, if the fund program is discontinued or conditionality measures are not followed, a country's ability to establish macroeconomic stability may be harmed (Dreher, 2006b). IMF's institutional structure and lending policies have long been criticized. According to several assessments, the IMF is a non-transparent body whose policies have little impact on member countries' economies (Przeworski & Vreeland, 2000); (Hutchison & Noy, 2003). When finalizing loan facilities, the IMF demands structural adjustments, deregulation, lower government borrowing, higher interest rates for stable currencies, higher taxes and lower spending, trade liberalization, export promotion, privatization of state-owned enterprises, and lower government spending.

During the last few decades, IMF loans is an important source of external assistance for Pakistan. The twin-deficit concept is used to justify these loans. Domestic savings are insufficient to fund investment demands in low-income countries, and export profits are insufficient to cover imports. Foreign resources are transferred in the form of credits, endowments, lending, and foreign direct investment to meet the investment demand and import requirements of LDCs. For the most part, developing countries lack the financial resources needed to enhance economic growth, which is why we have seen a long-term decline in growth in Pakistan.

IMF loans are paid in installments and are contingent on the country adhering to an IMFapproved macroeconomic adjustments and reform program. The rules are meant to reassure the international community that borrowers take the required steps to address their economic problems and, as a result, able to repay their loans on time (Guitián, 1981). For the IMF's limited financial resources to be accessible to other member countries in the future, loan repayment must be completed on time.

When approaching the IMF, Pakistan has two main goals: one, to enhance foreign currency reserves, and two, to avoid current account and fiscal deficits from growing out of control. These have been Pakistan's two key issues. Every program Pakistan has signed has aimed to achieve these goals, but the government has continuously failed to follow through on its promises. Developing economies face constant risks from foreign reserves, current account deficit, and fiscal deficit. Because of their limited resources and income, they are unable to save, which implies they are unable to invest. People's ability to pay taxes is affected in these conditions, resulting in a reduction in state revenue. Finally, developing economies face a shortage of investment and savings, as well as a deficit in their balance of payments.

1.1. Background

Pakistan has not been able to maintain significant economic growth while also reducing poverty. Pakistan joined the International Monetary Fund on July 11, 1950. The IMF is providing financial support to Pakistan under various terms and circumstances, as the country's economy has been worsening since its foundation. Pakistan has borrowed from the IMF 22 times in its 62-year history and has signed a new 23rd deal under the Extended Fund Facility (EFF) for the three-year period 2019-2022. On December 8, 1958, Pakistan borrowed 25 million SDRs under the Standby Arrangement for the first time, but the agreement was dissolved before it expired, and the entire loan amount remained undrawn. Since then, we have been receiving loans from the IMF under various facilities to help us deal with the problem of a reducing foreign reserves, balance of payment and fiscal deficits.

The IMF lends under concessional and non-concessional arrangements or can provide outright loans. A lending arrangement, which is like a line of credit, is approved by the IMF Executive Board to support a country's economic and financial program. The arrangement requires the member to observe specific terms and subject to periodic reviews to continue to draw upon it. An outright loan is also approved by the IMF Executive Board; however, it does not require a member to observe specific terms.

Pakistan's government seeks loans from the IMF to keep its balance of payments in line and satisfy its financial obligations. The primary goal of obtaining IMF loans is for the Pakistani government to stabilize the country's deteriorating economy, exchange rates, and balance of payments; however, this relief is usually only temporary, and it often leads to a new crisis in the long run as the debt matures and the government returns to an in long run and short run monetary crisis due to insufficient dollar raising in the federal reserve. For such goals, the IMF offer massive loans. Pakistan has frequently found itself in the IMF programs. Pakistan has completed only three of the 22 programs it has undertaken with the IMF, earning it the label "one tranche country." China, meanwhile, has only participated in two IMF programs, the most recent of which was in 1986, 36 years ago. Similarly, India and Bangladesh completed their previous programs 30 and 10 years earlier, respectively. However, they grow more quickly without the IMF. On the other hand, our long-term growth rate is declining as we approach the IMF every few years. We may claim that while our growth rate is decreasing, our trips to the IMF are rising. We resemble a drug addict who takes drugs and feels happy for a short while, but when he comes to his senses, he starts to crave more drugs. Similar to this, we go to the IMF to solve short-term challenges, but our longterm structural problems persist and keep coming back without our initiatives to tackle them. The below table depicts the total number of IMF loan agreements with Pakistan since its independence.

	Amount Agreed
Standby Arrangement 8-Dec-58	25,000
Standby Arrangement 16-Mar-65	37,500
Standby Arrangement 17-Oct-68	75,000
Standby Arrangement 18-May-72	100,000
Standby Arrangement 11-Aug-73	75,000
Standby Arrangement 11-Nov-74	75,000
Standby Arrangement 9-Mar-77	80,000
Extended Fund Facility 24-Nov-80	1,268,000
Extended Fund Facility 2-Dec-81	919,000
Standby Arrangement 28-Dec-88	273,150
Structural Adjustment Facility Commitment 28-Dec-88	382,410
Standby Arrangement 16-Sep-93	265,400
Extended Fund Facility 22-Feb-94	379,100
Extended Credit Facility 22-Feb-94	606,600
Standby Arrangement 13-Dec-95	562,590
Extended Credit Facility 20-Oct-97	682,380
Extended Fund Facility 20-Oct-97	454,920
Standby Arrangement 29-Nov-00	465,000
Extended Credit Facility 6-Dec-01	1,033,700
Standby Arrangement 24-Nov-08	7,235,900
Extended Fund Facility 4-Sep-13	4,393,000
Rapid Financing Instrument 16-Apr-20	1,015,500
Extended Fund Facility 3-Jul-19	4,268,000

Table 1: Pakistan History of Lending Commitments with IMF. Source: IMF

Figure 1: History of Lending Commitments with IMF. Source: IMF

1.2. Problem statement

In the last 60 years, we have gone to the IMF 22 times for bailouts, reflecting that our economy's engine has been choked numerous times. This indicates that the economy's engine is choked by a built-in structural defect. The essence of the argument is that it is a structural problem,

not a situational one that must be identified and addressed in the same way. Despite receiving these funds, Pakistan's economic progress remains unstable. Although Pakistan and the IMF have had a lengthy relationship, but we have not performed well in terms of the country's economic position. Pakistan has been a frequent borrower from the IMF, receiving a variety of short and long-term loans. We visit the IMF almost every two years, yet our growth rate is far lower than our neighbors', which was -0.5 percent this year. The primary reason of these rounds appears to be something that needs to be looked at more.

1.3. Research Question

- 1. What are the indicators that could help explain the demand-side variables that drive Pakistan to approach the IMF?
- 2. What are the effects of supply-side variables on the Pakistan economy??
- 3. What initiatives will Pakistan take to exit the IMF's programs?

1.4. Objectives of the study

Objectives of this study are:

- 1. To know the causes for Pakistan's continued reliance on the IMF and establish a link between IMF loans and Pakistan's economy?
- 2. To give suggestions that how can we come out of these IMF programs.

1.5. Significance of the Study

The fundamental relevance of this research is that it investigates why Pakistan has been seeking assistance from the IMF for such a considerable length of time. The IMF provides advice to member nations on economic and financial policies that enhance stability, minimize susceptibility to crises, and promote sustainable development and high living standards. The IMF aids nations affected by crises by providing them with financial assistance to allow them to gain breathing space while implementing adjustment programs to restore economic stability and prosperity. A lot of research has already been done using various approaches to analyze the impact of the IMF on macroeconomic indicators. This research is significant since we will be looking into the underlying reason behind the entire scenario. Unfortunately, there has not been much research done on this subject. The findings are hoped to be valuable to policymakers in other developing economies facing similar issues and reliant on IMF assistance.

1.6. Organization of the study

Chapter 1 begins with introduction, background, an explanation of the study's purpose, as well as the problem statement and the research questions that are answered. Chapter 2 is to review previous research on the subject, which is done after the goals and questions have been established. Afterwards, in chapter 3, we'll look at the data and methodology that are used to arrive at our conclusions. Chapter 4 including the interviews of related officials and stakeholders. Chapter 5 includes analysis. Chapter 6 wrap up with a conclusion and policy statement.

CHAPTER 2 LITERATURE REVIEW

Various literatures are examined in this section. The goal of this study is to look at prior research that explains the influence of IMF loans on developing country income, expenditures, and budget deficits. In addition, the literature is examined to determine if developing nations' fiscal policies are developed independently or in response to IMF pressure.

2.1. Studies on Developing Countries: A Review

Przeworski and Vreeland (2000) found that IMF loan reduces growth rates for as long as a nation is under its control. When a nation exits the program, it rises quicker than if it stayed in, but not as quickly as if it had never joined. The IMF's strategies and conditional linkages were designed to promote growth. Debt is a heavy concern for emerging nations from South to East Asia, according to Stiglitz (2006). Money should be moved from affluent to poor nations because of IMF and World Bank initiatives, but the fund's money has been moving in the other way over the past several years due to significant debt repayments.

Ul Haque and Khan (1998) looked at a number of research that looked at cross-country samples throughout a variety of time periods and employed a variety of approaches. They assessed that IMF policies were typically useful in enhancing economic stability provided the borrowing economy's government was reform-minded and also took measures to stabilize its own economy. Ivanova, Mayer, Mourmouras, and Anayiotos (2003) evaluated the effectiveness of IMF programs and concluded that it was mostly dependent on the borrowing country's political and economic framework. Program completion was hampered by a lack of political stability and collaboration, inadequate governance, and class inequities.

Fidrmuc and Kostagianni (2015) looked at the influence of IMF loans on economic growth in a large number of countries. They used data from 213 nations over 38 years (1971 to 2009). Their results showed that IMF plans did not work in terms of boosting economic growth and investment. Dreher and Vaubel (2004) used a variety of sources to assess the impact of IMFsupported initiatives on economic development. For 98 nations, he utilized panel data from 1970 to 2000. Concluded that the IMF's aid provided no statistically significant evidence. As a result, IMF stabilization initiatives were ineffective.

Lensink and Morrissey (2006) conducted another research in Kenya on loans and grants. For the years 1964 to 2002, the dataset was examined for 55 middle-income economies. As per the study's findings, grants enhance revenue because there is no future payback, but loans reduce revenue owing to repayments and interests. A study was also conducted in Ghana by Osei et al. (2005). The consequences of the IMF on the receiving country's concerns were once again demonstrated in the study. The IMF demanded that various policy reforms be implemented to raise tax revenues by extending the tax base, which Ghana did.

2.2. IMF and its Impact on Tax Revenues

The role of grants on tax receipts is addressed by Gupta et al. (2004). The research was carried out in Kenya. Grants, he claims, are inversely proportional to tax receipts. He analyzed data from 46 nations between 1980 and 1990. His research stated that grants result in fewer tax receipts and a decreased tax burden. Industrial and agricultural value added as a proportion of GDP, trade, and income are the factors investigated in this work.

Baloch (2014) conducted research to determine the influence of IMF loans on Pakistan's tax policy. According to the conclusions, IMF plans result in an expansion in the budget deficit

and a persistent fall in the tax-to-GDP ratio. In research conducted in Ghana, Osei et al. (2005) found that anytime a government takes out a loan, it is required of the receiving country to implement fiscal policy reforms, primarily a rise in revenues through the expansion of the tax base, as part of the donor program.

Additionally, Odedukon (2003) did research using data from 72 low-income nations from 1970 to 1999. The study uses cross-country regression research to determine the influence of recipient countries' revenues on aid. Grants reduce tax activities, while loans and aid result in a diversification of the tax base, according to the investigation.

2.3. Budget Deficit and IMF

For Hong Kong, Cho (2009) performed research. The research focused on the effects of IMF programs on the government's budget deficits, expenditures, and income. Within the period 1951-2000, dataset was gathered for 93 developing nations. As per the research's results, IMF initiatives lower spending and revenue while having no effect on the budget deficit. A research on IMF Stability Programs, Policy Behavior, and Macroeconomic Outcomes: A Case Study of Pakistan was undertaken by (Hakro & Ahmed, 2006) . To estimate the effect of IMF programs, the research uses a generalized evaluation estimator approach. The independent variables are GDP, current account balance, fiscal balance, and so on. As per the study's conclusions, the IMF program enhanced budget balance and reduced the budget deficit.

Killick, Malik, and Manuel (1992) looked at the impact of IMF programs on nations' behavior before and after they joined the programme. Balance of payments, inflation, exchange rate, budget deficit, and government expenditure as a percentage of GDP are all independent factors. As per the study's results, IMF initiatives reduce the budget deficit through reducing

government spending. According to Alam and Fauziah (2013), public debt is described as a sovereign taking from its domestic people, foreign governments, or international organizations. The federal government normally borrows money on a national basis, whereas provincial, local, district, and municipality administrative entities borrow money on a smaller level. Whenever there is a budget deficit, the government takes out a loan to cover the shortfall. Awhile back, several scholars looked at the influence of the budget deficit or other economic factors.

Research by (Schadler et al. 1993) found that IMF programs reduce budget deficits as a percentage of GDP in economies that borrow from the IMF. Likewise, research by (Conway, 1999) looked at how nations performed prior and afterwards entering the programme, as well as the circumstances in other countries. The research focused on the fiscal imbalance and government spending. According to the data, IMF initiatives decrease the budget gap while also lowering government spending.

2.4. Empirical Studies on Different Countries

The following are some cases of positive, negative, and even neutral macroeconomic effects of IMF programs on developing nations found in the extant empirical studies.

2.4.1. Positive Effects of IMF Programs

During the duration of 1993-2002, Atoyan and Conway (2006) analyzed the impact of IMF programs on the economic growth of 95 low-income countries and transition economies. A combination of matching, censored-sample, and instrumental variables is used to arrive at the final conclusions. Research shows that IMF support programs improve fiscal balance and economic growth, resulting in higher growth in per capita income. IMF loans in underdeveloped nations are

examined by (Evrensel, 2002). According to the findings, the IMF program has a positive shortterm impact on the balance of payments, the current account, and the fiscal deficit, but over the long term, all those gains in economic indicators are lost. Many nations' macroeconomic situations worsen after participation in IMF programs, according to the report.

With the use of the Propensity Score Match (PSM) approach, Bird and Rowlands (2017) evaluated the impact of IMF financing programs on economic growth in low-income nations (LICs). After joining up for the program, participants may expect to be monitored for up to two years. The findings imply that IMF loan has a favorable influence on economic growth, particularly in LICs, both in the short and long term. Many nations took part in the Structural Adjustment Facility and the Enhanced Structural Adjustment Facility between 1986 and 1995. These resources aided the countries in their efforts to improve economic circumstances and boost growth. In addition to Schadler and Bredenkamp (1999). Economic development might be boosted by the IMF's policy advice or technical support, according to Boockmann and Dreher (2003). In addition, the organization demands that governments implement policy changes. Economic circumstances and growth benefit from a certain method of formulating economic policy.

The long-term association between economic growth and IMF financing programs is examined by (Mumssen, Bal-Gunduz, Ebeke, & Kaltani, 2013). Economic stability and long-term growth may be achieved through the IMF's efforts, according to the findings of this study. There is a greater benefit for nations with significant imbalances and difficult economic situations to participate in programs.

2.4.2. Negative Effects of IMF Programs

Even before the loan is disbursed, the country's economic policy is negatively affected by IMF lending programs. IMF loans may affect economic circumstances if these funds are considered as subsidized income insurance against shocks, generally known as the Moral Hazard theory, by (Vaubel, 1983), (Dreher, 2006b), and (Stone, 2004). It is possible that this guarantee is provide the borrower countries an incentive to stick with bad economic policies in order to gain political advantage. Because of the moral hazard, countries are reliant on the IMF program until they implement solid policies. Debtor nations face balance of payment difficulties of their own, according to a number of studies. According to the available statistics, budget deficits, inflation, and domestic credit and inflation rates have all risen as inter-program years have increased, (Evrensel, 2002).

Time series data is employed by Amjad and Kemal (1997) to assess poverty levels in both rural and urban regions. They came to the conclusion that pursuing structural adjustment changes raised poverty levels, leading to lower growth rates, employment, and government expenditure on social services. Gera (2007) used household surveys to examine the impact of IMF-supported initiatives on social welfare in Pakistan's economy between 1988 and 1999. Overall, the effect of structural adjustment policies on labor and the poor, according to the study, was discouraging.

Like Conway (1994), IMF lending is more likely to occur in nations that have previously borrowed from the IMF. If a country's undrawn IMF quota relates to the availability of loans from the IMF, then economic measures become more expensive. According to (Dreher, 2006a), countries that engage in moral hazard and poor economic policies may see their economies expand less rapidly. As well as distributing funding through structured loans, the International Monetary Fund is also notorious for imposing onerous economic conditions. The International Monetary Fund (IMF) uses these circumstances to stimulate economic development and resolve crises.

In addition, Easterly (2005) showed that IMF funding had no substantial beneficial influence on economic growth or policy. International Monetary Fund financing programs can have an unfavorable effect on economic growth because of low investment, limited trade openness, and a lack of law and order (Feldstein, 1998) have attacked IMF conditionality and its "one size fits all" approach. According to (Dreher, 2006b), frequent government participation and non-compliance with conditionality may have little effect on economic performance. Further arguing that the IMF intervention in monetary and fiscal matters does not necessarily set fundamental challenges faced by some of the poorer nations, (Marchesi & Sirtori, 2011) corroborate the idea.

2.5. Studies of IMF Programs and Economy of Pakistan

High government spending and poor tax collection, according to (Awan & Mukhtar, 2019), produced economic problems and worsened Pakistan's balance of payments, forcing the country to seek IMF help numerous occasions. Instead of relying on the IMF as well as the World Bank for financial aid, Pakistan could cut wasteful spending and broaden its tax base to boost income.

For the years 1973-2000, Hakro & Ahmed (2006) examined the impact of nation participation in the IMF on macroeconomic performance. Despite a surge in unemployment and inflation, the budget deficit narrowly improved, according to a new report. The connection between Pakistan and the International Monetary Fund (IMF) has been examined by Uddin (2008). The conditionality of programs, such as decreasing development spending and budget cuts that have a negative impact on the country's social structure, limiting government borrowing from banks that raises public debt, raising sales and agricultural taxes, and reducing subsidies that increase poverty, have been the focus of his criticisms. Further, the book contends that the government was unable to undertake reforms and significant economic measures because of political instability and lack of government ownership of programs.

There has been a long-running discussion concerning the impact of IMF adjustment programs on Pakistan's macroeconomic performance during the previous three decades. Before-follow and with-without approaches are used in most empirical research on Pakistan. For the 1980-83 period, (Bilquees, 1987) focuses on the three-year structural adjustment program under the EFF accords. Structural weaknesses in Pakistan's economy are determined to have been worsened by the adjustment program. A study by (Khan, 1990) found that Pakistan's economic conditions improved as a result of the IMF's adjustment program from 1960 to 2000 because of its increased involvement in financial and economic transformation.

For the period 1990 to 2015, Nath & Nanda (2017) studied the economic performance of Bangladesh, Pakistan, and Sri Lanka under IMF loan facilities or programs. Exports and imports are both expressed as a percentage of gross domestic product; the current account balance is a percentage of GDP; the current account is expressed as a percentage of gross domestic product; and the fiscal balance and inflation are both included in the research. It has been determined that the average of three years' performance before, during and after the programs has been computed for a set of factors. For three years, the researchers used the difference means and the total number program approach. According to the report, Bangladesh and Sri Lanka have fared well following the execution of the program, however Pakistan's performance has been less than ideal. The Structural Adjustment Program (SAP) has also been studied by (Gera, 2007), who found that it had a positive impact on Pakistani social welfare between 1988 and 1999. Poverty and inequality have both increased, according to a poll of households. It also discovers a significant drop in labor earnings as a result of the general rise in unemployment.

According to (Bengali, Ahmed, & Hijazi, 2001), Pakistan's macroeconomic performance suffers as a result of the country's structural reform program. So, the primary goal of IMF should be to raise economic growth, with stabilization as a secondary goal. This is what the report proposes. From 1988 to 2000, IMF structural adjustment initiatives had a significant impact in Pakistan, (Isran, 2016). He contends that the primary goal of IMF programs is to speed up and stabilize important macroeconomic indicators. IMF projects, on the other hand, appear to have had a detrimental influence on Pakistan's economy and on Pakistani politics. There is extensive discussion of the reasons for the negative economic effects of IMF policies, such as subsidy cuts, reduced government spending on unproductive sectors, an increase in interest rates, privatization, the closure of industries that result in increased unemployment, policies that are inflationary, a decrease in government demand through devaluation, and other factors.

During the years 1988-2002, Hussain (2002) examined the economic consequences of IMF programs in Pakistan. A comparison of the first and second stages of the study sheds light on the findings. Firstly, from 1988 and 1999, Pakistan was rocked by a nine-year era of political upheaval. IMF's proposals for strong economic measures and reforms are not implemented by any government, and only short-term goals are given priority above long-term economic consequences. Furthermore, the International Monetary Fund (IMF) refused to accept the recommendations of Pakistani economic managers who are familiar with the country's dynamic environment and economy. A military junta took power in 1999 and immediately set about reforming the country's political system, implementing stern economic measures, and implementing IMF reform recommendations. International Monetary Fund structural programs have had an impact on

Pakistan's economy, according to Amjad (2015). Findings show that inflation, the current account deficit, and overall growth rates have all increased unexpectedly. The statistics also reveal a significant increase in government spending throughout the course of the program.

Structural Adjustment Programs (SAP), according to Akbar Zaidi (2015) are designed to promote economic growth. A rise in prices and a drop in investment and growth are the facts, though. Corrupt ruling elites who profit from readily available help are criticized in the report. International Organization for Economic Co-operation (IEO) in 2002 evaluated the extensive assessments conducted during and following the competition of the IMF program. Since 1971, Pakistan has had only little success and efficacy with IMF initiatives, according to the research. Overly optimistic assumptions and unrealistic goals are discovered in the design and implementation of IMF initiatives, according to the research. The new administration of 2008 was ineffective since it relied on the backing of smaller parties to remain in office. To win the public's acceptance, this administration was unable to implement single-handed reforms to the economy and lacked the strength to confront the tax code's numerous special privileges.

Conclusion

The conclusion that can be derived from the analysis of literature is that the IMF provides loans to poor countries in order to improve their status, primarily by reducing their current account and budget deficits. These loans are primarily aimed at raising tax revenues, reducing spending, and bringing the fiscal imbalance into balance.

The studies specifically state that the IMF plays a role in developing countries' fiscal policy planning. Because the fundamental goal of IMF conditions is for the receiving country to implement austerity in government spending by cutting spending and raising taxes.

CHAPTER 3 DATA AND METHODOLOGY

3.1. Introduction

The research strategy, the research's analysis approach, data and variables used in this analysis all are described in this chapter. This chapter also discussed how data examined. The information utilized in this research secondary, and we gather it from the source's World Bank and Economics survey of Pakistan.

3.2. Data

This research relies on secondary data. The data from 1992-2021 are used and many sources, including the World Bank and economic survey of Pakistan and IMF.

3.3. Variables

Different researches have investigated the economic factors that determine the involvement of the IMF program, like, Przeworski and Vreeland (2000), Knight and Santaella (1997), Bird (2003), Barro and Lee (2005), and Cho (2009), (Gündüz, 2016). After doing a thorough literature study, we can narrow our analysis to a few key variables. International reserves, debt servicing, fiscal deficit, budget deficit, tax revenue, government expenditures, GDP and IMF are some of the parameters that considered.

Variables	Description	Source
IMF Deal	Dummy variable, IMF Deal-No = 0, IMF Deal-Yes = 1	IMF
Gross Domestic Product (GDP)	Growth rate of GDP measured as annual percentage change	World Bank
Imports to Exports Ratio (IMPEX)	Imports divided by Exports	World Bank
Reserves (RES)	RES is the ratio of international reserves to imports	World Bank
Current account balance (CUR)	Current account balance (% of GDP)	World Bank
Total debt service (TDS)	Ratio of total debt service to exports	World Bank
Primary Deficit (PD)	Primary deficit: % of GDP	Economic Survey of Pakistan
Government final consumption expenditure (GOV)	General government final consumption expenditure (% of GDP)	World Bank
Tax revenue (TR)	Tax revenue (% of GDP)	World Bank
Governance (AVGGI)	Consists of six governance metrics that are used to assess the effectiveness of a country's governance.	World Bank

Table 2: Variables Description

3.4 Econometric Model

We start by identifying the demand-side variables that influence Pakistan's decision to approach the IMF. Goldstein and Montiel (1986) proposed that nations enroll in IMF programs once they had beyond a threshold established by economic criteria in their analysis of the technique utilized in empirical studies. A logit model, which is created for the analysis of qualitative choice outcomes, can be used to investigate this process (Melton, 2012). Written as follows, the basic specification is:

$$P_i = 1/[1 + \exp(-X_i\beta]]$$
 (1)

Where X is a vector of economic parameters, P is the probability that country will join in a Fund program, and their coefficients. Elements of X must be determined to use the model for empirical research. The variables under consideration are described afterwards to make the analysis clearer.

Model 1

 $Y_t = \sum x_t$

 $Y_t = \beta 0 + \beta 1 PB_t + \beta 2 CUR_t + \beta 3 RES_t + \beta 4 GDP_t + \beta 6 IMPEX_t + \beta 7 TDS_t + \epsilon_t$

Where Y takes the value of 1 in a year when a country is enrolled in IMF program, and 0 otherwise; GOV is the General government final consumption expenditure (% of GDP); CUR is the ratio of the current account balance as percent of GDP, RES is the ratio of international reserves to imports; GDP is the Growth rate of GDP measured as annual percentage change; IMPEX is the Imports to Exports Ratio, TDS is the Total debt service (% of exports of goods, services and primary income); and e, is a disturbance term with zero mean.

3.5. Demand for a Fund Arrangement

Several variables are considered based on the literature and data availability that influence a country's decision to ask for IMF program. Real GDP growth of the country is considered. Countries with slow or declining real growth are more inclined to borrow because of decreasing government revenues, and thus, a negative sign is expected. Although Bird and Rowlands (2001) do not observe real GDP per capita growth to be significant, Knight and Santaella (1997) and Barro and Lee (2005) found it to be significant and with the expected negative coefficient in the research. The current account balance is considered (as a percentage of GDP).

Among the primary goals of the IMF, as stated in the Articles of Agreement (Article I), is to help member economies with balance of payment concerns. As a result, a negative sign is expected, as a larger current account deficit could raise the likelihood of an IMF drawing program. But, according to Bird (2003), while nations who turn to the IMF out of need have a balance of payment problem, a current account deficit is not enough of a reason to borrow from the Fund. Second, because reserves provide governments with buffers towards unforeseen circumstances, net international reserves (as a percentage of months of imports) are included. For an economy experiencing external adjustment challenges, a larger reserve to import ratio allows for additional adjustment space without the demand for IMF bailout. This variable has been found to be significant across research (Conway 1994, and Knight and Santaella 1997).

A few of similar variables have been uncovered in previous empirical studies. An economy in need of financial resources due to a balance of payments shortfall is more prone to request help from the Fund; such need is evidenced in low holdings of international reserves, significant external indebtedness, as well as a deficit in the overall balance of payments or its key elements. Furthermore, countries with inadequate foreign reserve holdings are less capable of addressing balance of payments problems through reserve usage, and thus are more prone to seek an arrangement. Balance of payments issues are frequently caused by a high amount of foreign debt. Countries that are facing a decline in their trade balance or poor growth in their export markets are more likely to seek an IMF arrangement, Przeworski and Vreeland (2000).

21

3.5.1. International Monetary Fund (IMF)

Pakistan, like several other emerging economies, receives funds from the IMF to tackle structural as well as balance-of-payments issues. When the International Monetary Fund (IMF) grants funding to Pakistan, it attaches conditions to the lending, such as tax hikes. In the research, loans are treated as dummy variables. Because loan data is not available on a year basis, this is the issue. Only the years in which the loans are issued is available for analysis. A continuous data stream does not exist. IMF loans are thus treated as a dummy variable. The years in which data is known, the value is 1, whereas the years for which data is not available, the value is 0 (Dreher, 2006b).

3.5.2. Net International Reserves (RES)

Because reserves provide governments with buffers against unforeseen circumstances, net international reserves (as a percentage of months of imports) are considered. As a country facing external adjustment challenges, a larger reserve to import ratio allows for additional adjustment space without the demand for IMF help. Country having higher international reserves will have no need to go to IMF. This variable has been found to be significant across investigations (see Conway 1994, and Knight and Santaella 1997). Theoretically, foreign exchange reserves and demand for an IMF arrangement have a negative connection. While foreign exchange reserves (FOREX) rise, there is more money in the central bank to pay the country's deficit.

3.5.3. Current Account (CA)

The current account, according to the IMF, is the account that illustrates the flow of goods, services, primary income, and secondary income between residents and non-residents. Among the key features of the IMF's Balance of Payments Statistics is this.

3.5.4. Total Debt Servicing (TDS)

Debt servicing is an expense that does not contribute to development. Governments have accumulated a massive amount of debt, including domestically and internationally. Debt servicing is the repayment of a debt with interest rates, which consumes a large portion of our budget. Most countries with debt payment issues have extremely huge budget deficits then rely on the lending programs (Bird and Rowlands, 2001). When debt payment costs rise, there are less money available for development expenditures. As it is obvious, country experiencing having higher external debt servicing will have to go to IMF.

3.5.5. GDP

GDP growth is a best indicator of economic growth. Economic growth can be defined as an increase in the productive capacity of the economy over a period of time. Bird and Rowlands (2001) do not observe real GDP per capita growth to be significant, Knight and Santaella (1997) and Barro and Lee (2005) found it to be significant and with the expected negative coefficient in the research. Country experiencing a sustainable economic growth will have no need to go to IMF.
3.5.6. Primary deficit

Primary deficit is the difference between revenues and expenditure of the fiscal authority. Primary deficit plus inclusion of interest payment of government is known as overall deficit. In the study undertaken here overall deficit is used for estimation procedure. Overall deficit or fiscal balance defined as "difference between total revenue and total expenditure. When the difference is positive, then the fiscal position is in surplus, otherwise, it is in deficit". Country experiencing primary deficit will have to go to IMF to adjust its accounts.

3.6. The Fund's Supply of an Arrangement

IMF immediate goals are to help the member's countries in the grounds of sustainability in order to facilitate economic development. Mostly, IMF loans are provided under certain IMF supported programs that are attached to numbers of policy conditionality. Moreover, the objective of IMF conditionality is to attain vivid macroeconomic outcomes and economic growth. This conditionality follows a mechanism consist of complex and multiple policy measures such as an increase in domestic interest rates, fiscal atrocity driven by government, spur investment, and trade liberalization. Hence, understanding thoroughly the impacts of IMF conditionality, this study analyzing the effectiveness of IMF supported programs on the macroeconomic outcome of Pakistan. The study explore the impact of IMF programs on whether IMF support programs effectively increase the economic growth of Pakistan. Evidence that a particular economy is committed to implementing a comprehensive policy program to address its external adjustment challenges is a necessary condition for the IMF to approve a funding arrangement (Bird, 2003). The 'supply-side' factors behind acceptance of a financial arrangement are the factors that impact the Fund's determination to allow a financial arrangement. The IMF has placed an increasing stress on structural measures such as deregulation, privatization, and so on over the last decade. The programs have become more complicated and comprehensive because of this, but these aspects are not directly addressed in the empirical research proposed here. We are taking these variables as supply side variables which are recommended by the IMF and have direct impact on economy.

 $Y_t = \sum x_t$

 $GDP_t = \beta 0 + \beta 1 \ GOV_t + \beta 2 \ TR_t + \beta 3 \ IMPEX_t + \beta 4 \ REER_t + \beta 5 \ AvgGI_t + + \beta 6 \ IMF_t + \epsilon_t$

Where GDP is the GDP per capita, TR is the tax to GDP ratio, AvgGI is the governance indicator, IMPEX is the imports to exports ratio, REER is the real effective exchange rate, IMF takes the value of 1 in a year when a country is enrolled in IMF program, and 0 otherwise; and e, is a disturbance term with zero mean.

3.6.1. GDP

Model 2

GDP growth is a best indicator of economic growth and is measured as annual percentage change. Economic growth can be defined as an increase in the productive capacity of the economy over a period of time. GDP is used by economists to see the growth of economy, whether it is shrinking or stretching in size and how it will effect macroeconomic variables. As recommended by Dreher (2006), the dependent variable is GDP per capita. Because to data constraints, Dreher preferred 5-year averages, however we are good to go with annual data.

3.6.2. Government Expenditures

Government Expenditure (GOV% of GDP) is a measure of the government's overall spending, which comprises all current purchases of goods and services (compensation of employees, national defense, and security). The impact of GOV on economic growth is uncertain because the outcome is dependent on several factors as well as the current economic environment. This variable is significant in the IMF loan procedure since it assesses borrowing countries' spending levels.

"General government, final consumption expenditure encompasses all government current expenditures for procurement of goods and services," as per the WDI definition. Bader and Qarn (2010) investigated the relationship between government spending, military spending, and economic growth in their study. Olulu et al. (2014) look at how government spending affects economic growth. The final consumption expenditure of the general government is used as a proxy for government spending. In their analysis, Wu et al. (2017) employed this proxy to explore the link between government spending, corruption, and factor productivity.

3.6.3. Governance Indicators (AvgGI)

The governance indicators are made up of six governance dimensions that are used to assess the quality of a country's government. Rule of law, political stability, government effectiveness, voice and accountability, regulatory quality, and corruption control are the six dimensions. Each of these factors encourages development if they are appropriately handled. To this study, we average each statistic from 1992 to 2021 and look at the relationship with GDP growth.

3.6.4. Tax to GDP Ratio (TR)

Since the IMF's recommendation to increase tax revenues. As an independent variable, we consider this with few other variables. Following Lotz et al., (1967), we are using this as a measure for tax revenues.

3.6.5. Imports to Exports Ratio (IMPEX)

The Imports to Exports Ratio is equal to the imports divided by exports. The Imports to Exports Ratio of GDP was employed by Arif et al. (2017). As a result, during the years 1988 to 2020, this research use time series data from world development indicators to convert trade to percent of GDP. The inclusion of this variable is motivated by the fact that it is one of the most important sources of revenue in low-income countries (Milner et al, 1991).

3.6.5. Real Effective Exchange Rate

The nominal effective exchange rate (a measure of a currency's value versus a weighted average of multiple foreign currencies) is divided by a price deflator or index of costs to get the real effective exchange rate. Bird and Rowland (2001) discover a significant and positive coefficient. Knight and Santaella (1997), on the other hand, conclude that the real effective exchange rate has a negative significant coefficient.

3.7. Econometric Technique

An econometric model shows the statistical relationship between dependent and independent variables backed by specific economic theory. In this sections, two econometric models along with methodologies and variables description are discussed in two sub-sections. Furthermore, the estimation of parameter and goodness of fit measures are discussed in rest of subsections.

Model 1 Analysis

3.8. Linear Probability Model

The observed parameter for each observation in this instance of the binomial regression model has values of 0 or 1. One or more explanatory variables are viewed as influencing the likelihood of seeing a 0 or 1 in any given case. This link, which is particularly straightforward for the "linear probability model," enables the model to be fitted using a simple linear regression (Aldrich and Nelson, 1984). The linear regression model $Yi = \beta 0 + \beta 1xi + \varepsilon i$ is known as the linear probability model where Y is binary. The probability of the anticipated value is.

 $\{Y|X = x\} = \Pr(Y = 1|X = x) = X\beta.$

Where, Y^{\wedge} = the predicted probability that Yi =1, with X.

 $\beta 1$ = Change in probability that Y = 1 for certain change in X.

 $\beta 1 = \mathbf{P} (\mathbf{Y} = \mathbf{1} | \mathbf{X} = \mathbf{x} + \Delta \mathbf{x}) - \mathbf{Pr} (\mathbf{Y} = \mathbf{1} | \mathbf{X} = \mathbf{x}) / \Delta \mathbf{x}$

The marginal affects are actually the estimated coefficients in this model because it is predicated that $Y = X\beta + \varepsilon$. E (Y|X) = Pr[Y = 1|X] = X\beta for all exogenous variables. If, however, certain components of X are endogenous, they will exhibit a correlation with. The zero conditional mean assumption E (ε |X) = 0 is applicable since the LPM with exogenous predictors is founded on standard regression.

3.9. Logistic Regression

This project aims to determine the economic factors compelling Pakistan to continue relying on IMF and establish a link between IMF loans and the Pakistan's economy. It also sorts to give suggestions on how Pakistan can get out of these IMF programs. Since the dependent variable is binary (0 and 1 values) the data is analyzed using a logistic regression model. As per Aldrich and Nelson (1984), a binary response with a binary predictor can also be predicted using logistic regression, often known as logit regression, which is a kind of probabilistic statistical classification model. It assists in the prediction of a categorical dependent variable's result depending on one or multiple independent variables. As a result, it is applied in determining the qualitative response model's variables. A logistic function is used to represent the probability describing the potential outcomes of a single trial because of the explanatory variables. The term "logistic regression" is commonly (and henceforth in this study) used to describe a problem where the dependent variable is binary, meaning there are only two possible categories. Multinomial logistic regression as well as ordered logistic regression is applied to describe problems where there are more than two categories. Probability scores are used as the anticipated values of the categorical dependent variable in logistic regression to evaluate the association with both the categorical dependent variable and one or more independent variables, which are typically (but not always) continuous. As a result, it uses similar strategies to tackle the same range of issues as does probit regression; the former assumes a logistic function while the latter a standard normal distribution function, albeit both produce identical outcomes. As a result, logit regression models the cumulative standard logistic distribution function, calculated as $Z = \beta 0 + \beta 1 X$, as the probability of Y = 1. This suggests that:

 $Pr(Y = 1|X) = F (\beta 0 + \beta 1X)$

Where F is the cumulative logistic distribution function given by: F $(\beta 0 + \beta 1X) = 1/1 + e^{-(\beta 0 + \beta 1x)}$

The goodness of fit here are:

(i) The fraction correctly predicted = fraction of Y's for which predicted probability is > 50% (if Yi = 1) or is < 50% (if Yi = 1).

(ii) Pseudo-R2, which is equivalent to the R2 in a linear model having normally distributed error, measures the fit through the likelihood function and assesses the improvement in the log likelihood ratio compared to having no Xs.

Model 2 Analysis

The second model for this research is also focused on time-series data. The study's goal is to see if variables are co-integrated. First, the analysis is used the cointegration test proposed by Engle and Granger (1987). They used a simple OLS technique. All variables must be stationary at the first difference before Engle and Granger may be applied. We cannot use Engle and Granger if either of the variables are integrated to order 2. In addition, the Johansen (1988) test for co-integration can be used to examine the relationship between variables. Asymptotic features are used to this test. The findings of the Johansen test more credible when the sample size is large.

Furthermore, if the sample size is small, the results useless. Keeping in mind the drawbacks of the techniques discussed above. For this study, the ARDL bounds testing approach the best and most suitable estimation technique. This chapter go over the tests used in the research's first unit root test in order. Moreover, the ARDL bounds testing approach described in depth, as well as the study's lag length criterion. Additionally, the bound test dealt in this research. The research addresses the error correction model as well as short-run outcomes, as well as long-run results and elasticity. Finally, the stability test discussed in this research.

3.10. Unit Root Test

The fact that variables are stationary is essential since it ensures that we get efficient results. We can argue the regression, or the findings are misleading if the variables are not stationary. For the first time, Dickey and Fuller (1979) established a test for data stationarity. However, one test for stationarity of variables was proposed by Phillips and Perron (1988). The study checks the stationarity of variables using the augmented dickey fuller (ADF) and Phillip Peron (PP) tests.

3.11. Autoregressive Distributive Lag

Following a review of the literature, the ARDL bound testing approach is chosen for this work. Pesaran et al. (2001) is the first to apply this method. This method works with both time series and panel data. As in presence of time series data, though, ARDL's bound testing approach offers more interesting features than other techniques such as Engle and Granger and Johansen. Firstly, in the case of a small sample size, the ARDL approach outperforms alternative techniques. Furthermore, ARDL gives adequate lags to catch data generating process from a broad perspective to particular modelling.

Finally, this approach is not bound to both the integrated I(1) and I(0). The ARDL technique can be used well for I(1) and I(0), however it is not flexible enough for series integrated I(2). According to Danish et al. (2017), this approach enables us to obtain ECM using a simple linear transmission technique. Finally, Banerjee et al. (1998) believes that using this strategy can assist us avoid difficulties caused by non-stationary time-series. In a summary, the ARDL bound

testing approach is the finest technique for small-time series data analysis among all other techniques. The ARDL technique can directly estimate the error term, short-run, as well as long-run coefficients.

3.12. Lag Selection Criteria

The Akaike Information Criterion and the Schwarz Criterion used as lag length criterion in this study. Because the study has a small quantity of observations, AIC and SC used.

3.13. Bound Test

The bound test is essential since it is the first step in determining the relationship between variables. When the results are bound, it means that the variables are co-integrated. We cannot use short-run and long-run co-integration tests if there is no co-integration. The bound test reveals the long-term relationship between variables. We can claim that there is co-integration or a link among variables if the F statistic value is greater than the upper bond values I(1) at the 5% level of significance. When the F-stats value is smaller than the lower bound value I(0), we can conclude that the variables are not co-integrated. Finally, if the F-stats value is between I(1) and I(0), we might conclude that the long-term relationship among variables is uncertain.

3.14. Error Correction Model

We looked at the value of error correction model for short-run results. It should have a negative as well as significant value. The ECM value indicates how quickly any imbalance return to equilibrium. The ECM value has been addressed in most studies as being between 0 and 1, although a few studies believe it can also be between 0 and 2. Yet, ECM values larger than 1 indicate that autocorrelation may be a concern.

3.15. Long Run Results

The study looks at two things before interpreting the long-run results of ARDL. First, probability value and secondly sign of coefficients. Probability value tells us about the significance of variables. Here again, we set the critical value at 5%. Furthermore, the sign of coefficients tells us about the positive and negative relationship between variables.

3.16. CUSUM and CUSUMSQ Tests for Stability

Cusum and Cusum of square tests talk about the stability of variables. It also states us about whether there are structural breaks in the data or not. The calculated line should be in between the lower and upper bound line at 5% of the significance level. This will show that there exists no structural break. If the blue line crosses the red line at any the point, then we can say that there exists any structural break in the data for variables.

CHAPTER 4

EMPIRICAL RESULTS AND DISCUSSION

4.1. Introduction

In this chapter, data analysis is applied to selected data of Pakistan to generated results and interpreted in a comprehensive method. Firstly, the present study descriptive statistics for showing data summary or overview. The research work will briefly discuss the empirical findings in this chapter that were attained from the empirical approaches used to accomplish the study's goals.

4.2. Descriptive Statistics

For each variable used in the empirical analysis, give the total number of observations (N) and the summary statistics (Mean, Median, Maximum, Minimum, and Standard Deviation). This

data set contains 30 years' worth of annual observations for the period from 1992 to 2021.

	CUR	GDP	GOV	IMPEX	PD	TDS	REER	RES	TR	AVGGI
Mean	-0.2023	4.21343	11.0087	1.43785	-0.0439	25.049	110.192	0.26776	10.68	-5.7523
Median	-0.2122	4.44561	10.7584	1.38893	-0.0432	25.8008	107.551	0.2413	10.29	-5.6947
Maximum	0.35012	7.7059	16.7849	2.21915	-0.0013	40.8924	142.492	0.81505	12.959	-4.4222
Minimum	-0.7433	-1.2741	7.34671	0.93402	-0.0779	9.9955	96.4869	0.03653	9.403	-7.0693
Std. Dev.	0.22363	2.00809	2.21201	0.34867	0.01774	8.81305	11.8057	0.19916	1.0543	0.6897
Skewness	0.07554	-0.3948	0.5899	0.60063	-0.0431	0.08059	0.77113	1.07106	1.1018	0.1804
Kurtosis	3.80133	3.19293	3.40703	2.46231	2.78069	1.93848	2.893	3.69304	2.8954	2.29763
Observations	34	34	34	34	34	34	34	34	34	34

Table 3: Descriptive Statistics

"Source: Author"

The above table showing descriptive statistics and Data are said to be more closely grouped around the mean when the standard deviation is low and more dispersed when the standard deviation is high. While a high or low standard deviation implies that data points are, respectively, above or below the mean, a standard deviation that is close to zero suggests that data points are, on the other hand, relatively close to the mean. The descriptive statistics are presented the dependent variable of the study is GDP and IMF mean value have big difference and its means.

4.3. Logistic Regression

Logistic regression is a statistical analysis method to predict a binary outcome, such as yes or no, based on prior observations of a data set. A logistic regression model predicts a dependent data variable by analyzing the relationship between one or more existing independent variables.

	dy/dx	Std. Err.	Z	P>z
PD	0.26357	0.020249	1.2	0.019
GDP	-0.46478	0.03847	-1.68	0.042
TDS	0.6204	0.00629	3.24	0.001
IMPEX	0.1087	0.262538	0.03	0.004
RES	-0.3688	0.621454	-1.19	0.006
REER	-0.0941	0.006885	-1.37	0.172
СА	0.0553	0.030105	0.18	0.854
McFadden R-squared	0.675425		Prob(LR statistic)	0.006371

 Table 4: Logistic Regression

"The ***, **, and * asterisks indicate the level of significance at 1%, 5%, and 10% respectively".

The coefficients represent the dy/dx value which means percentage change in the dependent variable because of one-unit change in the independent variable. The dy/dx values for PD, GDP, TDS, IMPEX, RES, REER, CA representing respectively the percentage change of each variable in the dependent variable with the increase by one unit in the independent variable.

Table 5 shows the result of the Logistic Regression Model and the results are showed and interpreted in the marginal effects form. The PD significantly affect the IMF deal and the

coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable PD while holding other variables in the model constant. The marginal effect is 0.2635, which means that the mean response value increases by 0.263 for every one unit change in the predictor. It implies that as PD increases, country will be more likely to go to the IMF deal.

The GDP significantly affect the IMF deal and the coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable GDP while holding other variables in the model constant. The coefficient is -0.464, the mean response value decreases by 0.464 for every one unit change in the predictor. Lower GDP growth can indicate economic slowdown or contraction, which can lead to balance of payments issues and fiscal imbalances, compelling a country to seek IMF assistance to stabilize its economy. It implies that as GDP increases, country will be less likely to go to the IMF deal.

The TDS significantly affect the IMF deal and the coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable TDS while holding other variables in the model constant. The coefficient is 0.6204, the mean response value increases by 0.6204 for every one unit change in the predictor. It implies that as TDS increases, country will be more likely to go to the IMF deal. A higher ratio of debt servicing to exports can indicate a higher burden of external debt payments, which can strain the balance of payments and prompt a country to seek IMF assistance to manage its debt obligations.

The IMPEX significantly affect the IMF deal and the coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable IMPEX while holding other variables in the model constant. The coefficient is 0.1087, the mean response value decreases by 0.1087 for every one unit change in the predictor. It implies

36

that as IMPEX increases, country will be more likely to go to the IMF deal. Higher imports to exports ratio may reflect an imbalance in trade, where a country is importing more than it is exporting, leading to a deterioration in the current account balance and potentially necessitating IMF assistance to address the trade imbalance.

The RES significantly affect the IMF deal and the coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable RES while holding other variables in the model constant. The coefficient is -0.368, the mean response value decreases by 0.368 for every one unit change in the predictor. It implies that as RES increases, country will be less likely to go to the IMF deal. Lower reserve holdings may reflect dwindling foreign exchange reserves, which can pose challenges in managing external payments and may trigger a need for IMF assistance to bolster reserves and stabilize the balance of payments.

The REER significantly affect the IMF deal and the coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable REER while holding other variables in the model constant. The coefficient is -0.0941, the mean response value decreases by 0.0941 for every one unit change in the predictor. It implies that as REER increases, country will be less likely to go to the IMF deal.

The CA significantly affect the IMF deal and the coefficient value signifies how much the mean of the dependent variable IMF deal changes given a one-unit shift in the independent variable CA while holding other variables in the model constant. The coefficient is 0.05531, the mean response value decreases by 5.81 for every one unit change in the predictor. Larger current account deficits, which imply a higher level of imports compared to exports, can strain the balance of

37

payments, deplete reserves, and lead a country to seek IMF assistance to address the external imbalance.

4.4. Goodness of Fit

There is a traditional goodness of fit measure such as R-square which is meaningless for binary outcome variable (Gujarati, 2004). The meaningful measures of goodness of fit for binary outcome variable are Pseudo and McFadden R-square. The value of McFadden R-square for above estimated model is 0.675425 showing that estimated model is good fitted. However, these measures are not much important, the things matter here are the significance and expected signs of the parameters.

4.6. Unit Root Test

The unit root test findings are outlined in table below and findings show that the variables considered in this analysis are a combination of stationary I(0) regressors and non-stationary I(1) regressors. After their first distinction the dependent variable IMF deal and GDP and all independent variables are stable, i.e. I(0) and I(1), with and without terms to the pattern. The table below provides a summary of the findings. Since it is challenging to make forecasts when the data is non-stationary, stationarity is crucial to achieve reliable results for time series data and to prevent erroneous regression analysis. The Augmented Dickey Fuller test (ADF Test), a standard statistical test for determining whether a particular time series is stationary or not, is shown in the table below. When examining the stationarity of a series across all variables, it is one of the statistical tests that is most frequently applied. Results are shown with a trend and intercept at both the level and the first differential. The presence of the trend alternative indicates that this model includes a linear time trend.

Variable	Level		1st Difference	Decision	
variable	Statistic	Prob	Statistic	Prob	Decision
GDP	-3.137	0.117	-4.968	0.002	I(0)
GOV	-2.435	0.750	-4.552	0.022	I(1)
TR	-1.477	0.814	-3.488	0.061	I(1)
IMPEX	-2.262	0.439	-5.604	0.000	I(1)
REER	-2.437	0.750	-4.359	0.011	I(0)
AVGGI	-1.333	0.850	-5.659	0.001	I(1)
IMF Deal	-4.200	0.012	-5.324	0.001	I(0)

Table 5: Unit Root Test

"The ***, **, and * asterisks indicate the level of significance at 1%, 5%, and 10% respectively".

Table show that all the variables are not integrated in the same order. We can observe from the table that variables like GDP, REER and IMF Deal are stationarity at level and all other remaining variables like GOV, TR, REER and AVGGI are integrated of order 1. As we can observe from the table the order of integration of all the variables are not the same and the results are mixed obtained from the unit root test which justifies using the ARDL technique to estimate the long-run and short-run relationship among the variables.

OLS estimators are used in the case when all the variables have ordered I(0) and the vector error correction method (VECM) Johnson approach is applicable if all the variables are not stationary.in case if some variables are I(1) then OLS is not the right method because OLS requires to behave like a constant if we apply OLS in this study mistakenly it will show a high t-value the results will be spurious. Auto-Regressive Distributed Lag (ARDL) become appropriate method for this study.

4.7 Lag length criteria

The lag length criteria is checked through the Akaike information criterion (AIC) and Schwarz information criterion (SIC). The following table shows both AIC and SIC. The selected lag length is 1.

Lag	AIC	SIC
0	86.95	87.25
1	84.31*	86.39*

Table 6: Lag Length Criteria

*indicates shows the lag selection order

criterionAIC: Akaike information criterion

SIC: Schwarz information criterion (SIC)

4.8 Diagnostic Tests

Diagnostics test are applied to check normality, autocorrelation and hetereoscadicty. After the Bound test, we also apply diagnostic to check the normality, autocorrelation and hetereoscadicty of our results. The null hypothesis (H0) of the diagnostic test is follow.

For Autocorrelation

H1: there is no autocorrelation

H0: there is auto correlation

For Heteroscedasticity

H1: there is no Heteroscedasticity

H0: there is Heteroscedasticity

Fable	7:	Diagn	ostic	tests
			00010	

Normality test		Autotest(BG	Test)	Hetero test(BPG test)		
Jarque-Bera	2.44	F-statistic	2.52	F-Statistics	0.79	
Probability	.293	Prob. F(1,6)	0.16	Prob. F(11,6)	0.64	

Prob.Chi-		Prob. Chi-	
Square(1)	0.02	Square(1,1)	0.46

Interpretation: the autocorrelation BG test state that there will be autocorrelation if F value is greater than significance value. Here F value is 2.52 which is greater than significance value and we are not accepting null hypothesis. For Heteroscedasticity if the F is greater than significance value and we are not accepting null hypothesis.

4.9 Bound Test

Test Statists	Value	Significance level	I(0)	I(1)
		10%	2.334	3.515
F stats	7.63	5%	2.794	4.148
		1%	3.976	5.691

Table 8: Bound Test result

The bound test of the model conduct and the F statistic value is 7.63 which is greater than the upper and lower bound value which shows the existence of a long-run relationship.

4.10 Long run result:

Table 9: Long Run Result

Variable	Coefficient	Std. error	t-statistic	Probability
GOV	1.37	0.40	3.39	0.009
TR	10.17	2.29	4.44	0.014
IMPEX	-423.94	102.85	3.10	0.008

REER	23.96	4.01	5.98	0.029
AvgGI	64.62	24.75	2.61	0.422
IMF	129.88	58.06	0.51	0.005
С	7671.90	5159.74	2.57	0.042

"The ***, **, and * asterisks indicate the level of significance at 1%, 5%, and 10% respectively".

The coefficient of GOV is 1.37, with a t-statistic of 3.39 and a probability of 0.009. This suggests that there is a statistically significant positive relationship between GOV and the dependent variable at the 5% significance level. The coefficient of TR is 10.17, with a t-statistic of 4.44 and a probability of 0.014. This indicates that there is a statistically significant positive relationship between TR and the dependent variable at the 5% significance level. The coefficient of IMPEX is -423.94, with a t-statistic of 3.10 and a probability of 0.008. This suggests that there is a statistically significant negative relationship between IMPEX and the dependent variable at the 5% significance level. The coefficient of REER is 23.96, with a t-statistic of 5.98 and a probability of 0.029. This suggests that there is a statistically significant positive relationship between REER and the dependent variable at the 5% significance level. The coefficient of IMF is 129.88, with a t-statistic of 0.51 and a probability of 0.005.

The variables GOV, TR, IMPEX, REER, and IMF have statistically significant positive relationships with the dependent variable. The intercept term is also statistically significant.

4.11 Stability Test



Figure 2: Stability Model on GDP

The Cusum series does not cross the critical lines, which indicates model stability.



Figure 3: Stability Model on GDP Per Capita

The Cusum series does not cross the critical lines, which indicates model stability.

The graphs show that the plot of CUSUM falls inside the Critical line and that the CUSUM values are within the 5% critical interval. Thus, we may say that the model produces results that are stable.

4.12 Error Correction Model (ECM)

Variable	Coefficient	Std. Error	t-Statistic
D(GOV)	-4.96	0.45	-11.03
D(TR)	9.41	1.07	8.81
D(IMPEX)	32.83	4.49	7.31
CointEq(-1)*	-0.77	0.07	-11.05
R-squared	0.92	Mean dependent var	3379.06
Adjusted R-squared	0.90	S.D. dependent var	8051.21
S.E. of regression	2515.09	Akaike info criterion	18.69
Sum squared resid	559404.00	Schwarz criterion	18.89
Log-likelihood	-164.22	Durbin-Watson stat	2.78

Table 10: ECM Result

Table 5.7 shows the results error correction model (ECM). The value of CointEq (-1) is -.77. Which means that the 77% error in the dependent variable is corrected in the signal period.

4.13 Correlation

A correlation is a number between -1 and +1 that indicates how linear two quantitative variables are. Correlations are used to assess the strength of a linear relationship between two (and only two) variables. The coefficients of correlation range from -1.0 (perfect negative correlation)

to 1.0 (perfect positive correlation) (perfect positive correlation). The correlation coefficients are closer to -1.0 or 1.0 the stronger the association. The correlation coefficient approaches zero as the link between the two variables becomes weaker.

	GDP	GOV	REER	ТО	TR	AVGGI	IMF_DEAL
GDP	1	0.055492	-0.22586	-0.52701	0.669177	0.335749	-0.19379
GOV	0.055492	1	0.613016	0.252808	0.381981	0.80432	0.003347
REER	-0.22586	0.613016	1	0.112617	0.169893	0.479375	-0.09049
IMPEX	-0.52701	0.252808	0.112617	1	-0.50306	-0.13819	-0.19234
TR	0.669177	0.381981	0.169893	-0.50306	1	0.609428	-0.06472
AVGGI	0.335749	0.80432	0.479375	-0.13819	0.609428	1	0.068538
IMF DEAL	-0.19379	0.003347	-0.09049	-0.19234	-0.0647	0.068538	1

 Table 11: Correlation Matrix

If the value is close to 1, the relationship is perfect: when one variable is increased, the other variable tends to increase (if it is positive) or to decrease (if it is negative) (if it is negative). High degree: if the value of the coefficient is between 0.50 and 1, it is considered a strong link.

The analysis of the correlation matrix is shown in the table. If the value of the coefficient is between 0.50 and 1 then the correlation is high.

CHAPTER 5

INTERVIEWS AND QUALITATIVE WORK

5.1. Introduction

This chapter is based on qualitative research methods which include the expert opinion and interviews of officials from relevant and concerned ministerial departments. A considerable number of professionals from government and non-government organizations, including the Finance Ministry, as well as few academic personnel, interviewed as part of this research. For our research, we use audio recordings of their brief interviews. Finally, we reconcile the findings of our study with those of the interviews. We have a brief discussion on both findings and made appropriate policy recommendations.

Standby Arrangement/Structural Adjustment Facility 1988-1991

Twenty-six days after PPP came in power, Pakistan entered into a 3 years SAF program along with a 2 years Standby Arrangement. During that time Pakistan's foreign exchange reserves were fast depleting with only about 1.5 months of reserves left, overall budget deficit stood at 6.2% while broad money growth, inflation and current account deficit stood at 7%, 3% and 8% than a year earlier value of 16%, 1.6% and 4.6% respectively. The classic features of these paired programs were to liberalize exchange rate and trade, increase investment and stabilize the economy in general. The initial results were a success but as the 90s decade is marked by constant spells of political instability, the effect translated to economy too. The liberalization programs were greatly hampered too. Added to the miseries, the unrest in Gulf States led to an increase in oil prices on one hand, and decreasing remittances on another (Siddiqui 2019). Due to these reasons as Din (2008) puts it, the program was prematurely terminated in December 1990 in which per capita

GDP took a further downturn from 4.3 to 1.46 and so did other factors; inflation increased, investment decreased and terms of trade further went into negative.

Standby Arrangement 1993-1994

Din (2008) reveals that the political instability caused by ousting government of PML-N, along with the tragic floods in 1992, the macroeconomic fundamentals were in shambles. The caretaker government exercised an effort to do something about it, took some pre-program steps and entered into a Standby Arrangement which was renounced only 7 months later to be replaced by another program.

Extended Fund Facility/ Extended Credit Facility of 1994-1995

A twin program scheme was initiated again to structurally adjust the economy on internal and external front. The objectives were more or less the same as were in 1988. However, in the following year 1995 the program was suspended on the pre-text of non-compliance of conditionalities. Shafqat (1996) argues that with India building up its nuclear arsenal PPP's PM too, despite opposition from IMF and pressure from people to increase welfare spending, took care of military's arsenal buildup. Resultantly things came at a cross where her populist manifesto, need for working on nuclear arsenal made it hard to comply with Fund's conditions and the program was cancelled. Hence, due to these reasons primarily the program ended.

Standby Arrangement 1995-1997 and Extended Fund Facility/Extended Credit Facility 1997-2000

Din (2008) argues that after suspension of the previous program of PPP government the state of economic affairs was fast worsening. Resultantly, first an SBA followed by a EFF in 1997 was adopted. The programs had objectives of increasing revenue, adopting a contractionary

monetary and fiscal policy, reforming CBR (now FBR) state owned enterprises, adopting a fully market based exchange rate gradually and lowering customs and adopting other such initiatives to boost investor confidence. The program was somewhat smooth and in 1997 the SBA was changed into EFF and inflation at least had impressive results as it came from 12% in 1995 to 6% in 1998. GDP per capita growth too was increasing year-on-year till 1996 but then things took a downturn again. With Pakistan's nuclear tests in 1998 and the sanctions following it, within months the program was cancelled. Things were sour for the country, even after the military takeover in 1999 until 9/11 happened and Pakistan became blue-eyed boy of the Western powers again.

Standby Arrangement 2000-2001

Din (2008) reports that after coming to power the military ruler post 1999 had several economic woes, coupled with the miseries brought by sanctions of 1998 nuclear tests. Pakistan had no choice but to reach out to the IMF again. However, the IMF, considering Pakistan's history with the Fund was very rigid and instead gave a 10 months Standby Arrangement program. It had 56 conditions attached which was unprecedented as normally such has a program has about 19 conditions which aren't too stringent. Failing on debt repayments and import bill, Pakistan had no choice but to complete the program and it was first program to be completed after 1977. Moreover, being the sole decision maker the General found it rather easy to implement the program. Although Pakistan faced a severe drought in this time but the General managed affairs. Further the privatization of UBL, PTCL and divesting Sui Southern Gas Company's shares proved as a cash cow. This led to a buildup of trust between IMF and Pakistan, and Pakistan was awarded with another program in 2001.

Extended Credit Facility 2001-2004

In December 2001 Pakistan entered into a new program with 71 conditions, relating to SOE reforms, economic management in general, liberalization of trade and improving tax mechanism etc. along with performance criteria and structural benchmarks. This program too had successful areas just like the previous one and the Banking sector was restructured along with reforms in the tax machinery. However, investment, inflation and terms of trade did not have much success. In 1999 the General led the country with 1.24% of per capita GDP which after twists and turns was at -0.23 in 2001 and 1.04 in 2002. Things, however, took a different turn when Pakistan sided with US in War on Terror and at the end of this program in 2004 GDP per capita growth rate had reached to 5.1%. However, investment continued to decline under this military ruler's regime be it with or without an IMF program. Inflation too after a slight decline increased from about 4% in 1999 to 7.4% by the end of this program in 2004. Also due to decrease in spending fiscal deficit was in check and due to aid and support from Western allies the external front bade well too, till the bubble busted afterwards.

Standby Arrangement 2008-2011

Although the General smoothly ran his government after 9/11, but things turned upside down at the end of his tenure. Current account deficit loomed, growth which was based on import led consumption (Economic Survey, Various Years) started to show signs of despair. Added to the adversities, Pakistan had to face a stringent security situation, investor confidence shrank and the economy was in shambles. Although this program was called off on account of non-compliance but it did achieve something. Considering the international oil price increase, Global recession, massive floods in 2010 and the suicide bombing and other security issues, under this program Pakistan started off with -0.35% growth rate in per capita GDP and ended with 0.6% only to be increased further by a 100 basis points the next year. Moreover, inflation too dropped from 20 to about 11.9% while terms of trade faced a deep dive from 2.7 to 0.1%.

Extended Fund Facility 2013-2016

PML-N's tenure was a time in which the economy started to stand back on its feet. Much of the security problems had been neutralized during the previous regimes. The war against insurgents in the country was eliminated to a great extent but was not over. Fortunately, oil prices decreased and the contracts on Gawadar Port in the previous regime had materialized to become China Pakistan Economic Corridor. However, the government still had a lot of economic woes, combined with an acute energy crisis. Investor confidence lost during the operations against insurgents had to be restored. Rightly IMF (2013) asserts that to the problems just mentioned international and local investment attraction was pertinent for long run success. Hence with a structural adjustment program a ray of hope emerged. During this program until the end of it in late 2016 a lot of macroeconomic goals were met and several governance and restructuring schemes found success. However, it was after this program and towards the end of 2017 when a political crisis started to reverse back everything.

5.2. Interviews of Officials from Ministry of Finance and Ministry of Planning

The IMF is generally recognized as the lender of last resort. Its endorsement and certification are required for the continuance of aid flows and for maintaining the trust of global markets. That type a certification might not have been needed if Pakistan's circumstances were normal. However because of Pakistan's low and dwindling reserves, markets are uncertain and reluctant to do business with it. With or without the IMF, strong, decisive action is required. The lender of last resort was established, nonetheless, in order to stabilize unsteady markets with an IMF endorsement. We have frequently used the IMF throughout our history. Our long-term policy

and structural flaws have not been addressed in any way. We should review our approach to policy now. Since policy has been erratic and unconsidered, all governments have thus far failed to fend off the IMF.

Upon asking about the factors that compel Pakistan to approach IMF, it was argued that primary balance is one of the most crucial factor as it is shown in the following graph.



Figure 4: Pakistan Primary Balance

Source: Author's own computation.

From 1988 to 2002, the primary balance was negative each year, with percentages ranging from -2.72% to -6.13%, according to the graph. This shows that Pakistan had to borrow money to make up the difference between what it was spending on government programs and services compared to what it was bringing in through revenue. In 2003, the primary balance improved significantly to -0.13%, indicating that Pakistan's government was close to breaking even, or potentially running a surplus.

In 2008, the primary balance deteriorated further to -6.27%, which was the worst primary balance during this period. The primary balance improved in 2009 and 2010 to -4.49% and - 5.34%, respectively. The primary balance then worsened in the following years, ranging from -

5.98% in 2011 to -7.79% in 2019, indicating that Pakistan was once again borrowing more to fund its government programs and services than it was collecting in revenue.

In 2020 and 2021, the primary balance improved slightly to -7.03% and -6.05%, respectively, but still remained negative. Overall, the data shows that Pakistan has struggled with negative primary balances for most of the period from 1988 to 2021, indicating a persistent reliance on borrowing to fund government operations.

Furthermore, we haven't focused on improving labour skills. Here our people believe that it is appropriate if they can obtain a government role following completion of their master's degree, but we should place more emphasis on skill development because doing so will increase productivity, which will increase exports and result in a different situation than we currently have. Overall, we failed to innovate or grow our industries, and neither did our workforce, which prevented us from developing. And as a result of our lack of value addition, we did not progress.



Figure 5: Pakistan Imports to Exports Ratio

Source: Author's own computation.

In 1988, the ratio was 1.40, indicating that Pakistan was importing more goods than it was exporting and we were knocking at the IMF doors. The ratio increased in 1989 to 1.45, but then decreased in 1990 to 1.37. In 1991, the ratio decreased significantly to 1.09, indicating a decrease in imports or an increase in exports, resulting in a lower trade deficit. The ratio increased again in 1992 and remained relatively high through 1997, indicating a trade deficit during that period and again we were in the IMF program. The ratio then fluctuated, but generally decreased through 2003, indicating that Pakistan's trade deficit may have decreased during that time. From 2005 to 2008, the ratio increased again, suggesting an increase in Pakistan's trade deficit. The ratio decreased significantly in 2009 and remained below 1 through 2015. From 2016 to 2019, the ratio increased to 1.87, which is still above 1, indicating that Pakistan was importing more goods than it was exporting. In 2021, the ratio increased slightly to 1.99, indicating a slightly larger trade deficit compared to the previous year and this led to the IMF's program every year the ratio has increased.

Most developed nations that saw success adopted a policy of raising both the quantity and the quality of their exports. Those economies have significantly increased the volume, diversity, as well as modernity of their exports from low levels that were primarily made up of largely unprocessed raw materials or manufactured goods with low value-added. China which did its last program with IMF back in 1986 and the so-called East Asian tigers are the most frequently mentioned examples. Since Pakistan's independence, however, exports have continued to represent a substantially smaller portion of the country's economy.

As with electricity, etc., we don't have any targeted subsidy system. Similar to this, if we look at the tax rebate system, the entire sector is receiving tax rebates without making a distinction between larger and smaller businessmen that you want to support. In addition, our decision-makers

who are concerned are either employed by or associated with the relevant businesses or industries. Therefore, the owner of the sugar mill makes the decision on whether or not to export sugar. Similarly, the person who is in any way connected to the business or mill owner makes the decision on whether or not the government should import cotton. Therefore, if you make decisions like this for a certain group, they won't have any long-term benefits, and you'll have to keep applying for IMF programs.

Pakistan's low level of exports has forced it to rely in recent years on a substantial and growing amount of remittances as well as on official and private funding to pay for its import bill. Nevertheless, it is important to keep in mind that these global flows, particularly private flows, might be unstable due to external and internal shocks.

Furthermore, it was also argued that Pakistan has almost all the time shown an almost unique tendency to allow fiscal and balance of payments pressures to pile up into a near-crisis situation every few years. When this happens, traditional economic adjustment techniques must be used, frequently with the assistance of the IMF. These stresses have been reduced before they could develop into a full-fledged economic crisis, however the cumulative cost of these recurring crisis-aversion programs has been to slow down social and economic development, leading to the moderate, and in a few cases, poor-comparative development indicators which we see today.

The underlying problems merely emerged again with the subsequent external shock or time of internal economic mismanagement since each phenomenon was dealt with short-term measures that stabilized the economy without appropriate follow-through on structural reforms. It has also restricted the focus of leading policymakers on more basic challenges of economic development as well as structural transformation because of their focus on short-term macroeconomic risks.

54

In addition, the chronic and unfixed structural problems in Pakistan's economy are the main causes of the country's recurrent macroeconomic crisis which leads us to IMF again and again. Although there are many areas of economic management in Pakistan that can be improved—as in most developing nations—the two main reasons of macroeconomic issues have been the difference between public sector spending and income and Pakistan's undeveloped export base, that makes the nation extremely vulnerable to the external sector.

The ongoing losses of several public sector companies and the considerably greater losses in the energy industry offer more room for public finances to be improved. Considering the relatively low level of government spending on health as well as education, which at least partially explains why Pakistan falls so drastically below on social indicators of development, the argument is more convincing. Furthermore, the possibility for sustained high growth is limited by insufficient public infrastructure investment. Consequently, it is obvious that public spending needs to be rationalized and made more effective.

Even with an increasing real exchange rate, these foreign inflows have historically been adequate in good years to meet the country's foreign exchange needs while simultaneously increasing its foreign exchange reserves. Over time, erroneous commitment to an overvalued exchange rate has made it more difficult for Pakistani exporters to stay competitive in global markets (while also causing the loss of a significant portion of foreign exchange reserves to prevent required exchange rate depreciation). However, some of the highly affluent exporters from emerging markets have used the exchange rate as a tool to maintain their competitiveness and to accumulate foreign exchange reserves to strengthen their resilience as well as economic security.

Moving the exchange rate parity in step with market dynamics is highly suggested. After a period, the loss of foreign exchange reserves and BOP crises have always been a clear conclusion

55

anytime SBP interfered in forex markets in order to stabilize the currency rate against market forces. This led to the IMF's program. As a result, currency depreciation and the loss of foreign currency reserves were both caused (Jalil, A. 2021).



Figure 5: Exchange Rate and Foreign Exchange Reserves

5.3. Why Have Previous IMF-Backed Reform Initiatives Failed to Address the Root Causes?

Upon inquiry about failure of the previous programs, it was mentioned that we need to make some political decisions in order to meet the IMF's targets, and those political decisions will have an impact on the people. Our politicians cannot take the chance of losing their political capital in the current political context. If any government implement any type of tax reform, the tax will first affect traders before trickling down to consumers, who will then become annoyed. As a result, the people in our country are becoming addicted to the subsidy system, which prevents an increase in income and production. As a result, our administration agreed to the IMF's demands from start, and in order to comply, the government had to bear a huge costs in the form of loss of political capital. Similar to this, if 1 lac people drop once the BISP program has been scrutinized, the vote bank will ultimately suffer. Similarly, how many people will recognize that decision and believe

Source: Author's own computation.

that the IMF did a wonderful job of saving our nation from a financial disaster if they advise to increase the price of electricity by 20 rupees.

Why did not things get better and last longer despite the several times IMF loans were used and related policy conditions? It was argued that the policy conditionality of the IMF cannot, on its own, bring about long-lasting policy change in the absence of a national commitment to the underlying reforms, even while it can reinforce what national governments are determined to do. In addition, IMF engagement is better at solving short-term problems with macroeconomic imbalances by its own nature and can only play a limited role in supporting longer-term attempts to resolve deeper structural issues. Governments in some countries have taken use of the IMF's presence (and conditions) to execute difficult structural reforms, but these were reforms that the governments wanted to carry out.

Furthermore, like many other nations that depend on the IMF for assistance, Pakistan also waits until a crisis seems close before deciding to ask for assistance. Then at this point, both the government and the IMF staff concur that the instant priority of the IMF program should be, initially and above all else, on preventing the severity of macroeconomic imbalances and reestablishing macroeconomic stability. The programs have generally been successful at accomplishing that. As reserves began to be replenished, the current account and fiscal imbalances were controlled, as well as the economy's trust was restored, domestic investment and foreign investment increased. In addition to these stabilization efforts, the government and IMF officials often also reached an agreement on a set of plans to tackle the core structural issues. On the fiscal side, this has frequently included aims for greater tax revenues accompanied by promises to improve tax administration and bring more individuals into the tax net. This has usually been followed with plans to reduce losses in state enterprises via tariff policy, efficient management,

and privatization. On the external side, the structural strategy has concentrated mostly on enhancing the business environment and tariff policies to promote exports.

Lastly, the IMF program was abandoned by Pakistan before it was fully executed in most cases because these reforms were not carried out. There is a typical trend even if every episode and every program is different. The first year of the programs mostly proceeded smoothly, with the government adopting the immediate fiscal, monetary, and exchange rate actions required to stabilize the economy and reinstate some level of confidence. However, as time went on and the crisis-related constraints eased, the government's abilities and political will to carry out the initiatives faded as they began to address some of the structural problems that had led to the macroeconomic crisis and the programs were left to wane.

5.4. Could Things Change in the Future?

It was also brought under discussion that how can Pakistan get out of the cycle of approaching crisis to stabilization, to partial but insufficient structural reform, and vulnerability buildup that leads to a new crisis?

One suggestion is that Pakistan start a strategy to create and approve a national economic agenda. Successful developing market economies are notable for having a strong consensus on a fundamental economic agenda. All politicians from various political parties, business executives, and economists concur on the overall scope and content of the economic strategy. There are, perhaps, disparities in the emphasis placed on policies or on time, but most of the content is well-liked. This has two benefits. First, when the current administration attempts a challenging reform—such as privatization or labour market reforms—there will be discussion about the approach or process, but not about the primary objectives. Furthermore, this widespread agreement offers domestic and foreign investors a degree of assurance regarding the future economic

environment in which they can flourish and make long investment strategies. In Pakistan, there is broad agreement over the direction of foreign policy as well as the national security agenda, but not when it comes to economics. As a result, the party in power controls the economy's day-to-day operations and, if a crisis is approaching, takes action to regain macroeconomic stability. However, it finds it significantly more difficult to put more fundamental reforms into place.

Visions for the future are plenty, but there is a disconnection between these visions and the willingness or ability to take the necessary measures to achieve the vision. It is time for Pakistan to have a national discussion about what kind of economy it wants to be in ten years, and then agree on the activities needed to achieve that goal. This is a wide topic, yet even at the most basic macroeconomic level, Pakistan requires a realistic action plan to achieve the growth rates that are frequently declared as aspirations instead of objectives.

The argument that a national economic consensus has not been formed in many years and is unlikely to do so now is frequently cited as an argument against it. Perhaps. However, it is also true that previous attempts to implement significant structural reforms without such a consensus have failed. Furthermore, there is enough underlying consensus on fundamental economic principles across the political spectrum that, with some political leadership, creating such a consensus should be feasible. The new government's top concern will be to resolve an approaching balance of payments problem with a stabilization program which will unavoidably cause distress and slow growth in the short run.

The more crucial goal for Pakistan is to achieve a high-level equilibrium that would prevent the country from repeatedly needing stabilization. To do this, reforms that capitalize of the youth's talent and the private sector's entrepreneurship and innovation skills must be implemented to

59
provide the country's population with the economic as well as social performance they want and deserve.

CHAPTER 6

CONCLUSIONS

A time series data is used to examine "Which Factors Compel Pakistan to Approach the IMF on a Regular Basis" from 1988 to 2021. This study aimed at answering what economic factors lead the country into signing the IMF agreement. In order to determine empirically which economic factors lead a country to request financial support from the IMF, in addition to whether or not the IMF's recommendations are sound, this research developed and estimated two models. Obviously, such an analysis faces a number of challenging empirical issues. These include numerous factors, such as the dichotomous nature of the endogenous variable. The outcomes of the current analysis must therefore be regarded as preliminary. However, the preliminary empirical findings are promising. They support the idea put out by Goldstein and Montiel (1986), which argues that the occurrence of entering into an agreement is not entirely random. In addition, we are able to demonstrate that there is a distinct set of apparent economic indicators that are substantially connected with the event of turning to a financial arrangement based on estimations with the large sample that we have analyzed. Our results support past research of Bird et al. (2004) and Knight and Santaella (1996), demonstrating that low GDP growth and higher debt servicing are most likely to be significant indicators of a country's decision with regard to the economic factors that lead a country to seek an assistance. Similarly, primary deficit, low level of international reserves and higher imports to exports ratio are also the most significance factors in approaching the IMF. Our results are similar with past study of Knight and Santaella (1996), which revealed that higher debt servicing considered to be significant variable of a country's decision to go to IMF.

The IMF has played a significant role in stabilizing the county's economy by lending support to poor countries. Some of the criticisms of IMF are the policies of structural adjustments which involve higher interest rates and taxes to stabilize the economy. These policies make a country's economy go from bad to worst leading to increased poverty and underdevelopment.

Supply side variables are also significant which means that the tax to GDP ratio, the government final consumption expenditure and the imports to exports ratio, have significant and positive effects on GDP and IMF recommendations are good to go with but we need to fix our own problems. The time series techniques is implied for this purpose. First, the author conducted unit root tests using Augmented Dicky Fuller (ADF) and Phillips Perron (PP) to ensure that the variables were stationary. Some variables are stationary at the level, but few are at the first difference, according to the results of the unit root. Unit root test results smooth the road to ARDL test because none of the variables are at 2nd difference. Furthermore, the AIC and SC were utilized to select the lag length in the study. Third, the bound test is employed to determine whether the variables are cointegrated. Findings of the bound test reveal that the data is cointegrated, as shown by the results. Where the coefficients have a different sign, the results are significant.

Regarding the concerns the Fund makes and the recommendations it provides to ensure that the receiving economy can more effectively use the funds, we find that policy actions to increase tax revenue, decrease government expenditures, adjust the exchange rate and decrease the imports to exports ratio are important considerations that will have a positive impact and improve the economy so that it will not require assistance in the way that only a few other nations did.

Policy Recommendations

This research can aid in the leadership of a nation's better knowledge of the key economic forces that may push that nation to seek for the IMF fund program. Here are the few recommendations:

1. Reserves Management: Develop and implement a comprehensive reserves management strategy that includes measures such as diversifying sources of foreign exchange reserves, improving export earnings, and reducing external vulnerabilities. This could involve building up and maintaining an adequate level of foreign exchange reserves through a combination of export promotion, prudent debt management, and effective balance of payments management.

2. GDP Growth Promotion: Focus on policies that promote sustainable and inclusive GDP growth, such as investment in physical and human capital, infrastructure development, and export-oriented industries. This could involve implementing measures to improve the business environment, reduce regulatory hurdles, and promote private sector investment to spur economic growth. Investment in physical infrastructure, such as transportation networks, energy systems, and communication networks, is crucial to support economic growth. This could involve developing and upgrading infrastructure to improve connectivity, reduce transportation costs, and enhance productivity. Similarly, investment in human capital, including education and skills development, is essential to build a skilled and productive workforce that can contribute to economic growth in the long term.

3. Fiscal Consolidation with a Focus on Revenue Enhancement: Implement measures to enhance revenue collection by broadening the tax base, improving tax administration, and reducing tax evasion. Rationalize government expenditures by prioritizing essential spending and

63

reducing non-productive expenditures. This could help improve fiscal sustainability, reduce fiscal deficits, and reduce the reliance on external borrowing.

4. Structural Reforms: Implement structural reforms to address governance issues, reduce corruption, and promote transparency and accountability in public institutions. Improve the business climate by simplifying regulations, promoting competition, and creating an enabling environment for private sector investment. Enhance export competitiveness by investing in research and development, innovation, and technology to diversify the economy and reduce reliance on imports.

5. Trade Policy Reforms: Review and implement trade policies that support exportoriented growth, such as reducing trade barriers, improving trade facilitation measures, and diversifying export markets. This could involve exploring new trade agreements, enhancing trade diversification, and promoting value-added exports to increase export earnings.

6. Debt Management: Develop and implement a prudent debt management strategy to manage external debt sustainability, including managing debt levels, terms, and costs. This could involve optimizing the mix of concessional and non-concessional borrowing, monitoring debt levels to avoid excessive reliance on external borrowing, and managing debt servicing costs to reduce the burden on the budget.

64

REFERENCES

- Akbar Zaidi, S. (2015). Issues in Pakistan's economy: A political economy perspective. *OUP Catalogue*.
- Aldrich, J. H., and Nelson, F. D. Linear Probability, Logit, and Probit Models. John Herbert Aldrich Quantitative Applications in the Social Sciences, 1984, 45.
- Amjad, R. (2015). Economic Management under IMF Tutelage. *Moving the Economy Forward*, 48.
- Amjad, R., & Kemal, A. R. (1997). Macroeconomic policies and their impact on poverty alleviation in Pakistan. *The Pakistan development review*, 39-68.
- Atoyan, R., & Conway, P. (2006). Evaluating the impact of IMF programs: A comparison of matching and instrumental-variable estimators. *The Review of International Organizations*, 1(2), 99-124.
- Awan, A. G., & Mukhtar, S. (2019). Causes of Trade deficit and its impact on Pakistan's Economic growth. *Global Journal of Management, Social Sciences and Humanities*, *5*(3), 480-498.
- Barro, R. J., & Lee, J.-W. (2005). IMF programs: Who is chosen and what are the effects? *Journal of monetary Economics*, *52*(7), 1245-1269.
- Bengali, K., Ahmed, Q. M., & Hijazi, S. T. (2001). Stabilisation policy vs. growth-oriented policy:
 Implication for the Pakistan economy [with comments]. *The Pakistan development review*, 453-466.
- Bilquees, F. (1987). The IMF stabilization package and Pakistan's stabilization experience. *The Pakistan development review*, 26(4), 767-774.
- Bird, G. (2007). The IMF: A bird's eye view of its role and operations. *Journal of Economic Surveys*, 21(4), 683-745.

- Bird, G., & Rowlands, D. (2017). The effect of IMF programmes on economic growth in low income countries: An empirical analysis. *The Journal of Development Studies*, 53(12), 2179-2196.
- Boockmann, B., & Dreher, A. (2003). The contribution of the IMF and the World Bank to economic freedom. *European Journal of Political Economy*, *19*(3), 633-649.
- Cho, H. J. (2009). Do IMF Programs Discipline Budget Deficit? *The Korean Journal of International Studies*, 7(2), 7-33.
- Conway, P. (1994). IMF lending programs: Participation and impact. *Journal of Development Economics*, 45(2), 365-391.
- Dreher, A. (2006a). Does globalization affect growth? Evidence from a new index of globalization. *Applied economics*, *38*(10), 1091-1110.
- Dreher, A. (2006b). IMF and economic growth: The effects of programs, loans, and compliance with conditionality. *World Development*, *34*(5), 769-788.
- Dreher, A., & Vaubel, R. (2004). The causes and consequences of IMF conditionality. *Emerging Markets Finance and Trade*, 40(3), 26-54.
- Easterly, W. (2005). What did structural adjustment adjust?: The association of policies and growth with repeated IMF and World Bank adjustment loans. *Journal of Development Economics*, 76(1), 1-22.
- Evrensel, A. Y. (2002). Effectiveness of IMF-supported stabilization programs in developing countries. *Journal of International Money and Finance*, 21(5), 565-587.
- Feldstein, M. (1998). Refocusing the IMF. foreign Affairs, 20-33.

Fidrmuc, J., & Kostagianni, S. (2015). Impact of IMF assistance on economic growth revisited.

- Gera, N. (2007). Impact of structural adjustment programmes on overall social welfare in Pakistan. *South Asia Economic Journal*, 8(1), 39-64.
- Guitián, M. (1981). Fund conditionality and the international adjustment process: a look into the 1980s. *Finance and Development*, *18*(2), 14.
- Gündüz, Y. B. (2016). The economic impact of short-term IMF engagement in low-income countries. *World Development*, 87, 30-49.
- Hakro, N. A., & Ahmed, W. W. (2006). IMF Stabilization Programs, Policy Conduct and Macroeconomic Outcomes: A Case Study of Pakistan. *Lahore Journal of Economics*, 11(1).
- Hussain, D. (2002). Why does Pakistan have to accumulate foreign reserves. *Dawn (Karachi)*, *Aug*, *1*(2).
- Hutchison, M. M., & Noy, I. (2003). Macroeconomic effects of IMF-sponsored programs in Latin America: output costs, program recidivism and the vicious cycle of failed stabilizations. *Journal of International Money and Finance*, 22(7), 991-1014.
- Isran, M. A. (2016). Impact of IMF programmes on Pak-Economy 1988-2002. Journal of Independent Studies & Research: Management & Social Sciences & Economics, 14(2).
- Ivanova, A., Mayer, W., Mourmouras, A., & Anayiotos, G. (2003). What determines the implementation of IMF-supported programs?
- Jalil, A. (2021) Don't Fall in Love with Parity: Understanding Exchange Rate Depreciation. Pakistan Institute of Development Economics (PIDE), Islamabad.
- Khan, M. S. (1990). The macroeconomic effects of fund-supported adjustment programs. *Staff Papers*, 37(2), 195-231.

- Killick, T., Malik, M., & Manuel, M. (1992). What can we know about the effects of IMF programmes? *World Economy*, *15*(5), 575-598.
- Knight, M., & Santaella, J. A. (1997). Economic determinants of IMF financial arrangements. Journal of Development Economics, 54(2), 405-436.
- Lensink, R., & Morrissey, O. (2006). Foreign direct investment: Flows, volatility, and the impact on growth. *Review of International Economics*, *14*(3), 478-493.
- Marchesi, S., & Sirtori, E. (2011). Is two better than one? The effects of IMF and World Bank interaction on growth. *The Review of International Organizations*, *6*(3), 287-306.
- Melton, J. "Models for Binary dependent variables". IMT Institute of Advance studies Lecture Note, 2012.
- Mercer-Blackman, M. V., & Unigovskaya, M. A. (2000). *Compliance with IMF program indicators and growth in transition economies*: International Monetary Fund.
- Mumssen, M. C., Bal-Gunduz, Y., Ebeke, M. C., & Kaltani, M. L. (2013). *IMF-supported* programs in low income countries: Economic impact over the short and longer term: International Monetary Fund.
- Nath, J., & Nanda, P. (2017). Imf lending facilities and economic performance: Case study of Bangladesh, Pakistan and Sri Lanka. *Indian Journal of Regional Science*, 49(1), 134-144.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. Journal of applied econometrics, 16(3), 289-326.
- Przeworski, A., & Vreeland, J. R. (2000). The effect of IMF programs on economic growth. Journal of Development Economics, 62(2), 385-421.
- Schadler, S. M., & Bredenkamp, H. (1999). Economic Adjustment and Reform in Low-Income Countries (ESAF Review Background Papers): International Monetary Fund.

- Stone, R. W. (2004). The political economy of IMF lending in Africa. *American Political Science Review*, 98(4), 577-591.
- Ul Haque, N., & Khan, M. S. (1998). Do IMF-supported programs work? A survey of the crosscountry empirical evidence.

Vaubel, R. (1983). The moral hazard of IMF lending. World Economy, 6(3), 291-304.