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RESEARCH PAPER

The Stability of Pakistan Economy and IMF Deals: An Analysis

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ABSTRACT

This study examined the time series analysis of the Stability of Pakistan Economy and IMF Deals" from 1992 to 2021. The data utilized in this research is secondary, and we gather it from the source's World Bank and Economics survey of Pakistan. Logistic regression and Autoregressive distribution lags methods applied to determine the economic factors compelling Pakistan to continue relying on the IMF and establish a link between IMF loans and Pakistan's economy. Gross Domestic Product (GDP), Imports to Exports Ratio (IMPEX), Reserves (RES), Current account balance (CUR), Total debt service (TDS), Primary Deficit (PD), Government final consumption expenditure (GOV), Tax revenue (TR) and Governance (AVGGI) has been statistically significant impact on the IMF deals with Pakistan government in logistic regression model and Autoregressive distribution lags ARDL. We find that policy actions to increase tax revenue, decrease government expenditures, decrease imports, the exports ratio and adjust the exchange rate are essential considerations.

KEYWORDS Current Account Deficit, Foreign Reserves, GDP Growth, IMF, Pakistan

Introduction

The IMF is a 190-nation organization that assists member nations with balance-of-payments issues and restores and promotes 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 assists these countries in resolving current account imbalances and implementing adjustment policies supporting long-term economic stability and growth (Conway, 1994).

Pakistan and International Monetary Fund

Pakistan has yet to maintain significant economic growth while reducing poverty. Pakistan joined the International Monetary Fund on July 11, 1950. The IMF provides financial support to Pakistan under various terms and circumstances, as the country's economy has worsened 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. Pakistan's government seeks loans from the IMF to keep its balance of payments in line and satisfy its financial obligations (Mushtaq, et al. 2017). 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 offers 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. 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. Like this, we go to the IMF to solve short-term challenges, but our long-term structural problems persist and keep coming back without our initiatives to tackle them. The table below depicts the total number of IMF loan agreements with Pakistan since its independence.

In the last 60 years, Pakistan has gone to the IMF 22 times for bailouts, reflecting that our economy's engine has been choked numerous times. This indicates that a built-in structural defect chokes the economy's engine. 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, we have yet to perform well regarding the country's economic position. Pakistan has been a frequent borrower from the IMF, receiving various 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 for these rounds needs to be looked at more.

Literature Review

Various literatures are examined in this section. This study aims to look at prior research that explains the influence of IMF loans on developing countries' 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. Przeworski and Vreeland (2000) found that IMF loans reduce 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 (Kirsanova, et al., 2007). Money should be moved from affluent to poor nations because of IMF and World Bank initiatives, but the funds have been moving in the other way over the past several years due to significant debt repayments. Ul-Haque and Khan (1998) looked at several 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 applicable in enhancing economic stability provided the borrowing economy's government was reform-minded

and took measures to stabilize its economy. Ivanova, et al., (2003) evaluated the effectiveness of IMF programs and concluded that they primarily depended on the borrowing country's political and economic framework. A lack of political stability and collaboration, inadequate governance, and class inequities could have improved program completion.

Fidrmuc and Kostagianni (2015) looked at the influence of IMF loans on economic growth in many countries. They used data from 213 nations over 38 years (1971 to 2009). Their results showed that IMF plans could have worked better to boost economic growth and investment. Dreher and Vaubel (2004) used a variety of sources to assess the impact of IMF-supported initiatives on economic development. For 98 nations, he utilized panel data from 1970 to 2000. They concluded that the IMF's aid provided no statistically significant evidence. As a result, IMF stabilization initiatives could have been more effective. Lensink and Morrissey (2006) conducted another study on loans and grants in Kenya. For the years 1964 to 2002, the dataset was examined for 55 middle-income economies. According to the study, grants enhance revenue because there is no future payback, but loans reduce revenue owing to repayments and interests. Osei et al. (2005) also conducted a study in Ghana. 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.

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) researched 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. According to the investigation, grants reduce tax activities, while loans and aid result in a diversification of the tax base.

Like Conway (1994), IMF lending is more likely to occur in nations 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, 2006), 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 notorious for imposing onerous economic conditions. The International Monetary Fund (IMF) uses these circumstances to stimulate economic development and resolve crises.

Material and Methods

This study utilized the timeseries secondary data from 1992 to 2021, and we collected it from the World Bank and Economics survey of Pakistan. Different researchers have investigated the economic factors that determine the involvement of the IMF program, like Przeworski and Vreeland (2000), Knight and Santaella (1997), Bird

(2007), Barro and Lee (2005), Cho (2009) and Gündüz, (2016). After thoroughly literature review of previous studies, we have analyzed key IMF Deal, Gross Domestic Product (GDP), Imports to Exports Ratio (IMPEX), Reserves (RES), Current account balance (CUR), Total debt service (TDS), Primary Deficit (PD), Government final consumption expenditure (GOV), Tax revenue (TR) and Governance (AVGGI) are some of the parameters considered. Below table 1 explains variables in detail.

Table 1
Variables Description and Source

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

Econometric Model

The study identify the demand-side variables influencing Pakistan's decision to approach the IMF. Goldstein and Montiel (1986) proposed that nations enroll in IMF programs once they exceed a threshold established by economic criteria in their analysis of the technique utilized in empirical studies. A logit model, created to analyze qualitative choice outcomes, can be used to investigate this process (Melton, 2012).

Model 1

$$Y_t = \sum x_t$$

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

Where dummy variable Y dependent variable takes the value of 1 in a year when a country is enrolled in IMF program and 0 otherwise; GOV is the General government's final consumption expenditure (% of GDP); CUR is the ratio of the current account balance as a 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.

Model 2

$$Y_t = \sum x_t$$

$$GDP_t = \beta0 + \beta1\ GOV_t + \beta2\ TR_t + \beta3\ IMPEX_t + \beta4\ REER_t + \beta5\ AvgGI_t + + \beta6\ IMF_t + \varepsilon_t$$

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 means.

Logistic Regression

This method aims to determine the economic factors compelling Pakistan to continue relying on the IMF and establish a link between IMF loans and Pakistan's economy. It also suggests how Pakistan can get out of these IMF programs. The data is analyzed using a logistic regression model since the dependent variable is binary (0 and 1 values). As per Aldrich & Nelson (1984), a binary response with a binary predictor can also be predicted using logistic regression, often known as logit regression, a probabilistic statistical classification model. It assists in predicting 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. As a result, logit regression models the cumulative standard logistic distribution function, calculated as $Z = \beta0 + \beta1X$, as the probability of $Y = 1$.

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 uses 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 is integrated into order 2. In addition, the Johansen (1988) test for cointegration can be used to examine the relationship between variables.

Unit Root Test

The fact that variables are stationary is essential since it ensures efficient results. 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.

Autoregressive Distributive Lag

The ARDL-bound testing approach is chosen for this work following a literature review. Pesaran et al. (2001) is the first to apply this method. This method works with both time series and panel data. As in the presence of time series data, though, ARDL's bound testing approach offers more exciting features than other techniques, such as Engle-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 the generating process from a broad perspective to modelling. Finally, this approach is independent of the integrated I(1) and I(0). The ARDL technique can be used well for I(1) and I(0); however, it needs to be more flexible for series integrated I(2).

Results and Discussion

In this section, data analysis is applied to selected data from Pakistan to generate results and interpret them comprehensively. The present study uses descriptive statistics to show a data summary or overview. The research will briefly discuss the empirical findings in this section that were attained from the empirical approaches used to accomplish the study's goals.

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' value of annual observations for the period from 1992 to 2021.

Table 2
Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Obs
CUR	-0.20	-0.21	0.35	-0.74	0.22	0.08	3.80	34
GDP	4.21	4.45	7.71	-1.27	2.01	-0.39	3.19	34
GOV	11.01	10.76	16.78	7.35	2.21	0.59	3.41	34
IMPEX	1.44	1.39	2.22	0.93	0.35	0.60	2.46	34
PD	-0.04	-0.04	0.00	-0.08	0.02	-0.04	2.78	34
TDS	25.05	25.80	40.89	10.00	8.81	0.08	1.94	34
REER	110.19	107.55	142.49	96.49	11.81	0.77	2.89	34
RES	0.27	0.24	0.82	0.04	0.20	1.07	3.69	34
TR	10.68	10.29	12.96	9.40	1.05	1.10	2.90	34
AVGGI	-5.75	-5.69	-4.42	-7.07	0.69	0.18	2.30	34

The above table 2 shows descriptive statistics. 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 study's dependent variable is GDP, and IMF mean values significantly differ in their means.

Logistic Regression

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

Table 3
Logistic Regression

	dy/dx	Std. Err.	Z	P>z
PD	0.263	0.020	1.20	0.019
GDP	-0.464	0.038	-1.68	0.042
TDS	0.620	0.006	3.24	0.001
IMPEX	0.108	0.262	0.03	0.004
RES	-0.368	0.621	-1.19	0.006
REER	-0.094	0.006	-1.37	0.172
CA	0.055	0.030	0.18	0.854

McFadden R-squared	0.675	**Prob (LR statistic)**	0.006

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

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

Table 3 shows the result of the Logistic Regression Model, and the results are shown and interpreted in the marginal effects form. The PD significantly affects 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 0.263, which means that the mean response value increases by 0.263 for every unit change in the predictor. It implies that countries will be more likely to go to the IMF deal as PD increases. The GDP significantly affects 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, leading to balance of payments issues and fiscal imbalances, compelling a country to seek IMF assistance to stabilize its economy. It implies that countries will be less likely to go to the IMF deal as GDP increases.

The TDS significantly affects 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 0.620; the mean response value increases by 0.620 for every one-unit change in the predictor. It implies that the country will be more likely to go to the IMF deal as TDS increases. 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 affects 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 0.108; the mean response value decreases by 0.108 for every one-unit change in the predictor. It implies that the country will be more likely to go to the IMF deal as IMPEX increases. A higher import-to-experience 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 affects 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 the country will be less likely to go to the IMF deal as RES increases. 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 affects 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 -0.094; the mean response value decreases by 0.094 for every one unit change in the predictor. It implies that the country will be less likely to go to the IMF deal as REER increases. The CA significantly affects 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. More significant current account deficits, which imply higher imports than exports, can strain the balance of payments, deplete reserves, and lead a country to seek IMF assistance to address the external imbalance. A traditional goodness of fit measure such as R-square is meaningless for binary outcome variables (Gujarati, 2004). The meaningful measures of goodness of fit for binary outcome variables are Pseudo's and McFadden's R-square. The value of McFadden R-square for the above-estimated model is 0.675, showing that the estimated model is well-fitted. However, these measures are not very important; the things that matter here are the significance and expected signs of the parameters.

Unit Root Test

The unit root test findings are outlined in the table below, showing 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.

Table 4
Unit Root Test for Variables Stationary

Variable	Level		1st Difference		Decision
	Statistic	Prob	Statistic	Prob	
GDP	-3.137**	0.017			I(0)
GOV	-2.435	0.750	-4.552**	0.022	I(1)
TR	-1.477	0.814	-3.488**	0.051	I(1)
IMPEX	-2.262	0.439	-5.604***	0.000	I(1)
REER	-2.437	0.050**			I(0)
AVGGI	-1.333	0.850	-5.659***	0.001	I(1)
IMF Deal	-4.200	0.012**			I(0)

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

Table 4 shows 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 the level, and all other remaining variables like GOV, TR, IMPEX and AVGGI are integrated into order 1. As we can observe from the table, the order of integration of all the variables is 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. Auto-Regressive Distributed Lag (ARDL) became an appropriate method for this study.

Table 5
ARDL 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
C	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 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 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 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 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. GOV, TR, IMPEX, REER, and IMF have statistically significant positive relationships with the dependent variable. The intercept term is also statistically significant.

Stability Test

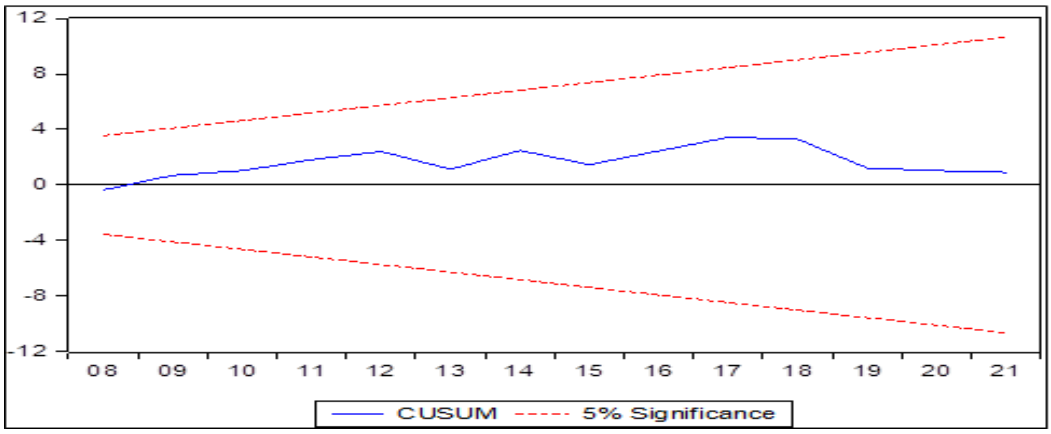

Figure 1: Stability Model on GDP

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

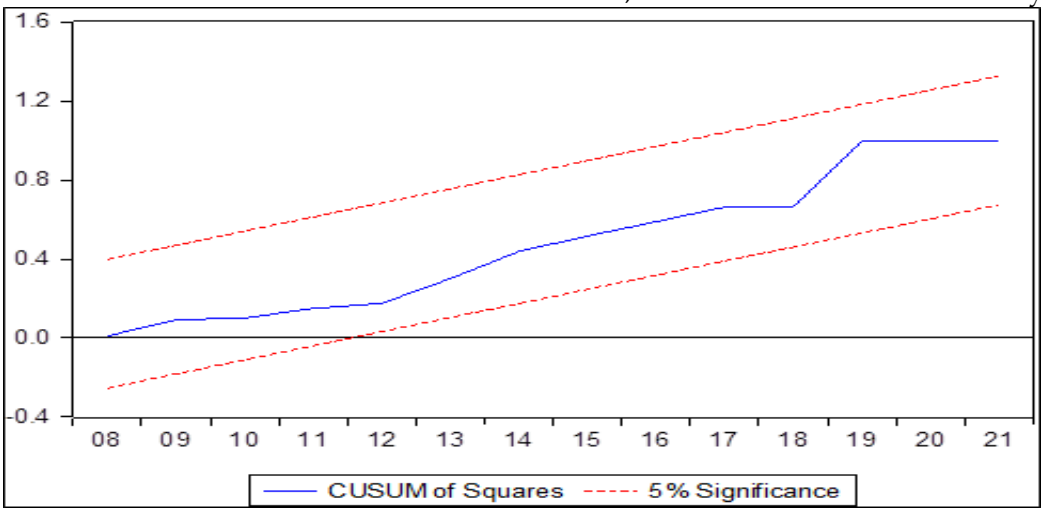

Figure 2: Stability Model on GDP Per Capita

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.

Error Correction Model (ECM)

Table 6
ECM Result

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 6 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.

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.

Table 7
Correlation Matrix

Variables	GDP	GOV	REER	TO	TR	AVGGI	IMF Deal
GDP	1	0.05	-0.22	-0.52	0.66	0.33	-0.19
GOV	0.05	1	0.61	0.25	0.38	0.80	0.00
REER	-0.22	0.61	1	0.11	0.16	0.47	-0.09
IMPEX	-0.52	0.25	0.11	1	-0.50	-0.13	-0.19
TR	0.6	0.38	0.16	-0.50	1	0.60	-0.06
AVGGI	0.33	0.80	0.47	-0.13	0.60	1	0.06
IMF Deal	-0.19	0.00	-0.09	-0.19	-0.06	0.06	1

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.

Table 7 presenting 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.

Conclusion

A time series of data is used to examine "the determinants of Pakistan Approach to IMF on the Rugular Basis" from 1988 to 2021. This study aimed to answer what economic factors led the country to sign the IMF agreement. To empirically determine which economic factors, lead a country to request financial support from the IMF and whether the IMF's recommendations are sound, this research developed and estimated two models. Such an analysis faces a few challenging empirical issues. These include numerous factors, such as the dichotomous nature of the endogenous variable. Therefore, the current analysis's outcomes must be regarded as preliminary. However, the preliminary empirical findings are promising.

Supply-side variables are also significant, meaning that the tax-to-GDP ratio, the governance indicator, and the imports-to-exports ratio significantly and positively affect GDP. IMF recommendations are good to go with, but we must fix our problems. The time series technique is implied for this purpose. First, the author conducted unit root tests using Augmented Dicky Fuller (ADF) 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 the ARDL test because none of the variables are at a second difference. Gross Domestic Product (GDP), Imports to Exports Ratio (IMPEX), Reserves (RES), Current account balance (CUR), Total debt service (TDS), Primary Deficit (PD), Government final consumption expenditure (GOV), Tax revenue (TR) and Governance (AVGGI) has been statistically significant impact on the IMF deals with Pakistan government in logistic regression model and Autoregressive distribution lags ARDL.

Recommendations

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

Develop and implement a comprehensive reserves management strategy that includes 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 export promotion, prudent debt

management, and effective balance of payments management. 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 improving the business environment, reducing regulatory hurdles, and promoting private-sector investment to spur economic growth. Investment in physical infrastructure, such as transportation, energy, and communication, 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.

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