Non-IMF Foreign Debt and Economic Growth: A Case of Developing Economy

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ARTICLE DETAILS

ABSTRACT

Purpose: This study aims to establish how foreign debt impacts Pakistan's long-term and short-term economic growth by categorizing it into two factors: IMF/non-IMF debt.

Design/Methodology/Approach: The link was studied using quarterly secondary data from the State Bank of Pakistan, Johansen cointegration methodology, and the VECM is used.

Finding: The study found that IMF debt is positively correlated with short-term economic development, while non-IMF borrowing is unrelated. Short-run study results show little link between international borrowings, inflation, and growth. Non-IMF external debt was found to have a positive link with economic growth, but IMF debt, foreign debt servicing costs, and inflation all had negative long-term relationships.

Implications/Originality/Value: The study found that if financing via foreign debt is ever required, the government should not seek out foreign loans from the IMF but instead rely on non-IMF foreign debt. The expense associated with making interest and principal payments on a foreign loan, has a major negative influence on the economic growth of Pakistan, cancelling out the long-term benefits of non-IMF foreign debt.

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Introduction

According to Dey et al. (2020), every country aims to achieve long-lasting, sustainable economic growth; however, the problem occurs when governments fail to achieve this objective and face a poor economic situation. In order to heal their economies, governments usually use easily accessible means of financial support, such as debt from foreign lending entities (Dey et al., 2020). Taking into consideration the case of Pakistan, Akram (2011), Ali et al. (2012), and
Mahmood et al. (2014) reported high fiscal and current account deficits, mismanagement of the previous debts, high debt servicing, high defense expenditure, poor macroeconomic policies, corruption, poor law and order condition, and political instability as some of the main factors which forced Pakistan to purse the foreign debt.

Foreign debt is comprised of short-period and long-period commercial debt and debt from international lending institutions such as International Monetary Fund (Ali et al., 2012). Primarily, the IMF’s function was to bolster monetary cooperation and stabilize the exchange rates (Bordo et al., 2000). The function of the IMF gradually changed when the world withdrew from the gold standard, and the exchange rate system collapsed (Vreeland, 2003). Consequently, IMF had to change its function from exchange rate stabilization to managing the balance of payment problem (Jensen, 2004; Reinhart et al., 2016). IMF’s functionality evolved with the changes in the world economic system. Today, it acts as an emergency crisis manager and lender of last resort for developing nations facing financial difficulties and poor economic growth (Hackler et al., 2020).

The analytical aspect of the IMF is vital as the credit scoring assigned to different countries by the IMF has a significant influence on the economic horizon of any country. According to Cheema (2004), the credit score assigned by the IMF to the borrowing country is considered very serious by other international lending organizations/countries, and therefore, the lending cost of other lending institutions/countries is heavily dependent upon the credit scoring of the IMF. Thus, any bad credit score assigned by the IMF administration intensifies the lending cost and, consequently, the debt burden on the developing country. The political aspect of the IMF debt factor is also of great significance for developing economies. According to Dreher et al. (2015), permanent members of the UNSC have a stronghold on the IMF, which makes them in a position to use IMF debt as a tool to manipulate the domestic and foreign policies of the borrowing states in favor of their own political and financial interests. Therefore, Vestergaard et al. (2014) stated that the developing countries and the emerging economies are very much distressed with the stronghold of the western powers on IMF, which can be the reason for the rise of the BRICS on the international horizon.

Pakistan has also relied on IMF debt for the last few decades due to its continuous macroeconomic instability, but despite that, it is still suffering from a rising debt burden and poor economic growth (Naeem et al., 2016; Sajjad et al., 2018). Hence, considering the analytical, political, and economic aspects of the IMF debt programs for developing economies and to have a better understanding of the IMF debt in the case of Pakistan, this study examined the relationship between the IMF debt and the non-IMF debt as two separate variables to examine the relationship between foreign debt and economic growth, because both these debts, their conditions, nature, and the policies of their creditors are different from each other.

Two theoretical perspectives have previously been applied to the relation between foreign debt and economic growth (Akram, 2015; Shkolnyk et al., 2018). The first perspective is based on the Keynesian theory of public debt, which states that idol capital, when borrowed as public debt, helps in causing a positive trend in economic growth (Akram, 2015; Shkolnyk et al., 2018). Contrarily, the second perspective states that the rising level of debt creates a problem of overhang effect in the economy which negatively affects economic growth (Akram, 2015; Shkolnyk et al., 2018).

**Literature Review**

**IMF Debt and Economic Growth**

An analysis of the impact of public debt on the growth of the Bangladeshi and Indian economies has been conducted by (Bal et al., 2018). They used the 2SLS method for the data analysis and
took the data for 1974-2014 in Bangladesh and 1970-2013 in India. The findings of these studies revealed that public debt has a significant positive impact on economic growth in Bangladesh, whereas, in India, the public debt and economic growth were positively related in the short run but negatively related in the long run.

Furthermore, Hilton (2021), Onafowora et al. (2019), and Shahor (2018) also conducted studies in Israel, which examine whether there is a boundness between public debt and economic growth in this country as well as other countries. A study found that when the debt level was low, economic growth was negatively related to public debt, but when it was high, it was positively related. The results of the study did reveal, however, that the level of public debt in five Caribbean countries had a significant negative relationship with economic growth. As a result, the amount of public debt in Ghana was found to have no significant correlation with the rate of economic growth in the short run, on the other hand, a unidirectional relationship was found in the long run between the amount of public debt and the rate of economic growth.

Mohamad et al. (2021) analyzed the relationship between the amount of debt owed to the IMF and the growth of the economic conditions in many Southeast Asian economies. The data was taken for 1971-2009 in 213 economies and 1990-2017 in Southeast Asian economies, and both studies used the OLS regression method for the data analysis. The results revealed that the relationship of IMF debt with economic growth was significantly negative in 213 economies but significantly positive in the context of the Southeast Asian economies. Furthermore, the Study of Mohamad et al. (2021) also found that those economies that relied on the IMF debt during the Southeast Asian economic a financial crisis experienced better post-crisis economic growth.

H1: There is a significant relationship between the debt of the IMF and economic growth.

**Non-IMF Foreign Debt**

The relationship between external debt and economic growth has been found to be positive in several studies conducted in 84 emerging and advanced economies, Nigeria, 24 countries, and Bangladesh (Abdelaziz et al., 2019; Dey et al., 2020; Nemec, 2012; Umaru et al., 2013). The data was taken from 1980-2009 in 84 emerging and advanced economies, 1970-2010 in Nigeria, 2000-2017 in 24 countries, and 1980-2017 in Bangladesh. All the studies used the OLS regression method for the data analysis. The study revealed that external debt is significantly correlated with economic growth negatively.

Furthermore, Kinnavong (2018), Malik et al. (2010), and Sajjad et al. (2018), in order to examine the relationship between external debt and the growth of economic activity in Pakistan and Laos using the OLS regression by adding debt servicing as an independent variable. The annual data was taken for the period 1972-2005 and 1980-2016 in Pakistan and 1996-2015 in the case of Laos. It has been found from the empirical findings of these studies that both in Pakistan as well as Laos, external debt and debt servicing negatively affect economic growth.

Similarly, Kasidi et al. (2013) and Marobhe (2019), have investigated whether the external debt burden as well as debt servicing have an impact on economic growth in Tanzania. Taking annual data from 1990-2010 & 1970-2015 in Tanzania and using the OLS regression for the data analysis, both studies found a significant positive relationship between external debt and economic growth, whereas a significant negative relationship exists between debt servicing and economic growth.

Using the ARDL approach for the analysis of the data, Butts et al. (2012), Farhana et al. (2014), Ohiomu (2020), and Pahwa (2017), researchers have concluded that there is a significant relationship between external debt and economic growth. Taking annual data for the period 1970-2003 in Thailand, 1972-2011 in Bangladesh, 1980-2014 in India, and 1984-2018 in Nigeria, the
results of the research studies found that the relationship between external debt and economic growth was significantly negative in Bangladesh, India, and Nigeria. Interestingly, Thailand showed a significant positive correlation between its external debt and economic growth, whereas Japan showed a negative correlation.

Furthermore, Akram (2015) and Guei (2019), in their study of 13 emerging economies and the Philippines, have examined the relationship between external debt and economic growth in the context of the debt servicing variable being added as an independent variable. The studies used the ARDL approach for data analysis and took annual data for 1990-2016 in 13 emerging economies and 1975-2010 in the Philippines. In these studies, external debt and debt servicing were significantly negatively correlated with economic growth.

Similarly, Ali et al. (2012), and Mohamed (2018), were also employed in the analysis of the relationship between the level of external debt and the growth of the economy in Pakistan, Sudan and Vietnam, using the VECM. The data for these studies were taken from 1970-2010 in Pakistan, 1969-2015 in Sudan, and 2000-2013 in Vietnam. The findings identified that the relationship of external debt with GDP was significantly negative in Pakistan, but on the other hand, in Sudan and Vietnam, external debt was significantly positively correlated with economic growth as a result of its external debt.

H2: Economic growth is significantly influenced by foreign debt other than that of the IMF.

H3: Foreign debt service and economic growth have a significant relationship.

Inflation

Akram (2011), and Kharusi et al. (2018), concluded that there is a direct correlation between external debt and inflation in the growth of the economy of Pakistan and Oman. The ARDL approach and taking data for the period 1972-2009 and 1970-2009 in Pakistan and 1990 to 2015 in Oman, it was evident that there is a significant negative relationship between external debt and economic growth in this region. Furthermore, the Study of Akram (2011) showed that inflation is significantly positively correlated with economic growth, whereas Kharusi et al. (2018) and Ramzan et al. (2014) suggested that inflation and economic growth were negatively correlated.

In South Africa, Mhlaba et al. (2019) studied the relationship of public debt with economic growth. The data was taken quarterly from 2002-2016, and the analysis was performed using the ARDL method. According to the analysis of the study, the percentage of gross public debt over GDP as well as the inflation rate have a significant negative relationship with the GDP. According to Tahir et al. (2020), Pakistan's economic expansion is positively correlated with the amount of foreign capital. It is important to note that data for the period 1976-2018 was taken, and this data was analyzed using the ARDL method. As a result of the study, all of the factors that contribute to foreign inflows, such as remittances, external debt, foreign direct investment, and development assistance, were positively related to economic growth. Further, the study found that inflation and economic growth are significantly negatively correlated, which is significant.

H4: There is a significant relationship between inflation and economic growth.

Methodology

The quantitative research design and its relevant procedure were used in the Study (Checherita et al., 2010; Marobhe, 2019; Siddique et al., 2015). The study used the deductive research approach and adopted an explanatory type of nature to investigate the causal relationship of the variables under consideration (Saunders et al., 2007). The secondary data was taken quarterly for the period from January 2010 to September 2021 (Mhlaba et al., 2019; Thao et al., 2018). The study variables are reported in Table 1, and the logarithm of the data values was taken (Marobhe, 2019;
Ramzan et al., 2014; Saifuddin, 2016; Thao et al., 2018).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Sources of References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foreign Debt:</strong></td>
<td></td>
</tr>
<tr>
<td>1) IMF debt</td>
<td>(Fidrmuc et al., 2015; Mohamad et al., 2021)</td>
</tr>
<tr>
<td>2) Non-IMF foreign debt</td>
<td>(Abdelaziz et al., 2019; Are, 2018; Pahwa, 2017; Umaru et al., 2013; Zaghdoudi, 2020)</td>
</tr>
<tr>
<td>3) Foreign Debt Servicing</td>
<td>(Are, 2018; Kasidi et al., 2013; Kinnavong, 2018; Malik et al., 2010; Marobhe, 2019)</td>
</tr>
<tr>
<td><strong>Economic Growth:</strong></td>
<td></td>
</tr>
<tr>
<td>GDP (CMP) (Dependent Variable)</td>
<td>(Mhlaba et al., 2019; Pahwa, 2017)</td>
</tr>
<tr>
<td><strong>Control Variables:</strong></td>
<td></td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>(Ramzan et al., 2014; Suidarma et al., 2021)</td>
</tr>
</tbody>
</table>

**Econometric Model**

The study used the Vector Error Correction Model (VECM) with the GDPCMP as a dependent variable, Debt to the IMF, Debt to Non-IMF Loans, and Interest on Foreign Debt are the three independent variables, and inflation as the control variable. The functional form of the model is as follows:

\[ GDPCMP = f(\text{IMFD}, \text{NIMFFD}, \text{FDS}, \text{IR}) \]

The econometric form of the short-run model of the study with log is written as:

\[
\Delta \log GDPCMP_{t-1} = \beta_0 + \beta_1 \sum \log IMFD_{t-1} + \beta_2 \sum \log NIMFFD_{t-1} + \beta_3 \sum \log FDS_{t-1} + \beta_4 \sum \log IR_{t-1} + \sum VECT_{t-1} \] \hfill (1)

The econometric form of the long-run model of the study with log is written as:

\[
\log GDPCMP = \beta_0 + \beta_1 \log IMFD + \beta_2 \log NIMFFD + \beta_3 \log FDS + \beta_4 \log IR + \epsilon \] \hfill (2)

The GDPCMP shows the current market price of gross domestic product, \( \beta_0 \) represents the constant term, \( \beta x \) represents the coefficient of IMF debt, non-IMF debt, foreign debt serving, and inflation rate, and \( \epsilon \) denotes the error term of the given model. Whereas \( \sum VECT \) is the vector error correction term, \( t-i \) means that the variable is lagged by the \( t \) period.

The study analyzed the relationship of foreign debt with economic growth by applying the Johansen cointegration analysis and VECM model (Mohamed, 2018; Suidarma et al., 2021; Tahir et al., 2020; Thao et al., 2018). The analysis was done with STATA statistical software because this software is very suitable for time-series data analysis (Acock, 2005).

**Results**

The descriptive statistics of GDPCMP showed that the mean value was 5.412, the minimum value was 5.24, the maximum value was 5.516, and the standard deviation was 0.066. The mean value of IMFD was 3.777, the maximum value was 3.466, the minimum value was 3.951, and the standard deviation was 0.128. The standard deviation of lnIMFD was a bit higher, showing a significant rise in the IMF debt level during the sample period. Furthermore, the mean value of NIMFFD was 4.858, the minimum value was 4.723, the maximum value was 5.079, and the
dispersion from the mean was 0.113. The standard deviation was a bit high, meaning a substantial increase in the non-IMF foreign debt during the sample period. An average FDS value of 3.183 was obtained, a minimum value of 2.844 was obtained, a maximum value of 3.623 was obtained, and a standard deviation of 0.199 was obtained. This means there was enough deviation of the data values from the mean values and a significant increase in the foreign debt servicing over the sample period. Finally, the mean value of CPI was 0.841, the minimum value was 0.223, the maximum value was 1.188, and the standard deviation was 0.232. The standard deviation of lnCPI was higher, showing a significant deviation of the data values from the mean values, which means a significant increase in inflation during the sample period.

As a result of the analysis, the results showed that lnGDPCMP was negatively correlated with lnIMFD and lnCPI and positively correlated with lnNIMFFD and lnFDS. The non-IMF foreign debt and the foreign debt servicing were positively correlated, whereas the correlation between IMF debt and foreign debt was negative. The highest correlation between non-IMF foreign debt and foreign debt servicing was found, whereas the correlation between non-IMF foreign debt and inflation was the lowest. Furthermore, the results also showed the relationship between lnGDPCM with lnNIMFFD and lnCPI, lnIMFD with lnCPI, and the relationship between lnNIMFFD and lnFDS were found to be significant.

**Preliminary Data analysis**

**Unit Root Analysis**

The Augmented Dicky-Fuller test was used to conduct the unit root test. According to the results, all variables had lower t-statistics than the critical values at 1%, 5%, and 10%, and their probability values exceeded 1%, 5%, and 10%. This result led to the conclusion that all variables in the study were not stationary at the level where they were recorded (Gujarati, 2003). As a result of the first difference, it was found that for all variables, the t-statistics were greater than the critical values for 1%, 5%, and 10% levels, and the probability value was less than 1%, 5%, and 10%. Thus, the decision was made to determine that the proxies were stationary at the first difference in the data (Gujarati, 2003).

**Cointegration Analysis**

For the cointegration analysis, the study used the Johansen cointegration test (Gujarati, 2003; Thao et al., 2018). The results showed that trace statistics was greater than the critical value at 5% at zero ranks but less at the first rank, while the maximum Eigen statistic was less than the critical value at 5%. This means that the trace statistics indicated 1 cointegrating equation while the maximum eigenvalue indicated no cointegration. In such a case where the trace statistics and the maximum eigenvalues indicate different results, then the trace statistic results are preferred (Gujarati, 2003; Thao et al., 2018).

**Vector Error Correction Model**

As the cointegration analysis found one cointegrating equation, the study analyzed the relationship of the variables through the VECM (Gujarati, 2003; Thao et al., 2018). Before running the VECM, the selection of the appropriate lag is necessary. Table 2 presents the result of the lag order selection criteria:

<table>
<thead>
<tr>
<th>Sample: (5 – 47) Number of obs = 43</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lag</strong></td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>
The study selected lag 2 based on Akaike’s information criterion (AIC) because when the sample observations are 60 and below, the AIC is a better criterion than the other criteria (Liew, 2004).

**Short Run Results of the Model**

The coefficient of the error term was found to be significant and negative with a magnitude of 0.201. According to this indicator, 20.1% is the speed at which an equilibrium adjusts from a short run disequilibrium to a long run equilibrium. The short-run result of the model showed that in the short-run, the relationship of lnIMFD with lnGDPCMP was positive and significant, whereas lnNIMFFD had insignificant. Furthermore, the relationship between the lnFDS and lnCPI with the lnGDPCMP was insignificant and negative in the short run.

<table>
<thead>
<tr>
<th>Table 3: Short run result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coef.</td>
</tr>
<tr>
<td>Ce1_L1</td>
</tr>
<tr>
<td>lngdpcmp (LD)</td>
</tr>
<tr>
<td>lnimfd (LD)</td>
</tr>
<tr>
<td>lnimffd (LD)</td>
</tr>
<tr>
<td>lnfds (LD)</td>
</tr>
<tr>
<td>lncpi (LD)</td>
</tr>
<tr>
<td>Constant</td>
</tr>
</tbody>
</table>

**Long Run Results of the Model**

The results showed that in the long run, there existed a significant positive relationship between lnGDPCMP and lnNIMFFD, whereas the relationship of the lnGDPCMP with the lnIMFD, lnFDS, and lnCPI was significant and negative. Furthermore, the value of the R-square was 0.4550 with a p-value of 0.0001, and the study explains 45.50% of the dependent variables. The coefficient of the IMF debt (IMFD) showed a significant negative relationship of -0.2601 with economic growth.

The coefficient of non-IMF foreign debt (NIMFFD) showed a significant positive relationship of 1.417 with economic growth. Further, the coefficient of foreign debt servicing (FDS) shows a negative relationship with GDP, with a coefficient of 0.5494 showing a negative correlation with GDP growth. The results of this study indicated that if foreign debt servicing increases by 1%, it will have a negative effect on economic growth by 54.94%, assuming all other variables are held constant. There was a negative correlation between the coefficient of inflation (CPI) and economic growth of 0.1824. Therefore, if the CPI increases by 1%, it is expected to decrease the economic growth by 18.24%, while other variables remain the same.

<table>
<thead>
<tr>
<th>Table 4: Johansen normalization restriction imposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coef.</td>
</tr>
<tr>
<td>Lngdpcmp</td>
</tr>
<tr>
<td>Lnlnmfd</td>
</tr>
<tr>
<td>Lnlnmffd</td>
</tr>
<tr>
<td>Lnfds</td>
</tr>
<tr>
<td>Lncpi</td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td>R²</td>
</tr>
<tr>
<td>p-value</td>
</tr>
</tbody>
</table>

**VECM Diagnostic Tests**

Firstly, the autocorrelation test for the VECM model showed that the probability values were greater than 0.05 on both lags, which meant that no autocorrelation existed (Thảo & Trườn,
Secondly, the results of the normality test showed that the probability values of all the study variables were greater than 0.05 which indicated that the data of the study variables had normal distribution (Gujarati, 2003). Additionally, the results of the VIF test showed that all independent variables showed VIF values below 10, indicating that there was no problem of multicollinearity (Asteriou & Hall, 2007; Gujarati, 2003). In addition, Breusch-Pagan test results indicated a probability value greater than 0.05, which did not support the null hypothesis. Hence, homoscedasticity was assumed (Asteriou & Hall, 2007; Gujarati, 2003).

**Stability analysis**

After running the VECM model checking the stability of the model is important. In order to accomplish this, the study used the CUSUM test and the square of the CUSUM test for this purpose (Othman et al., 2015). Based on the graphs of both tests, it is evident that the estimated lines fall within the critical lines that are considered significant at an alpha level of 5%. Hence, this indicated that the model was stable, the results reported were reliable, and the findings can be used for policy recommendations (Tahir et al., 2020).

![Figure 01 CUSUM Stability](image1)

![Figure 02 CUSUM Squared Stability](image2)
Discussion
The result of the study showed that the relationship of the IMF debt with economic growth was significantly positive in the short run but significantly negative in the long run, and this meant the overall effect, in the long run, was negative (Abdelaziz et al., 2019; Dey et al., 2020; Kharusi et al., 2018; Kinnavong, 2018; Pahwa, 2017; Sajjad et al., 2018). Long-term economic growth is significantly and positively correlated with non-IMF foreign debt, but the relationship is insignificant in the short run. There is no doubt that there is evidence that the economic growth of Pakistan has been positively affected both in the short and long term by the non-IMF foreign debt (Agyapong et al., 2019; Marobhe, 2019; Rahman et al., 2012; Shahor, 2018; Suidarma et al., 2021).

Thus, foreign debt servicing has a negligible impact on short-term economic growth, but a significant negative relationship with long-term economic growth. Thus, the increase in foreign debt servicing negatively affected Pakistan's economic growth because it resulted in outflows of capital (Kasidi et al., 2013; Malik et al., 2010; Marobhe, 2019; Sajjad et al., 2018; Shabbir, 2013). Additionally, inflation was positively correlated with economic growth in the short run, but negatively correlated in the long run (Mhlaba et al., 2019; Ramzan et al., 2014; Tahir et al., 2020).

Conclusion
According to the study's results, it has been revealed that the long-run results of the study are significant, whereas the short-run results found in the study are mostly insignificant. Pakistan's IMF loan debt correlates negatively with economic growth, but non-IMF loan debt correlates positively. Furthermore, the study also found that foreign debt servicing as well as the inflation rate of Pakistan had a significant negative impact on the economic growth of the country in the long run. According to the study's findings, the perspective of debt overhang theory was supported in the context of IMF debt to Pakistan, whereas the Keynesian theory of public debt was supported in the case of non-IMF foreign debt to Pakistan.

Recommendations and Future Directions
The study gives the following policy recommendations in the light of its findings:

- The authorities of Pakistan should decrease their reliance on the IMF debt. However, if the foreign debt is still inevitable, then the Government can approach the non-IMF creditors.
- Non-IMF foreign debt influences GDP growth positively, but foreign debt servicing negatively. Therefore, a much better option for the authorities is to increase reliance on other capital such as FDI, remittances, household savings, public-private investment, and boost trading activities (Bal et al., 2018; Onafowora et al., 2019; Tahir et al., 2020).
- Suppose the foreign debt is still needed from IMF in the future and cannot be avoided. In that case, the authorities should negotiate for lenient economic conditions, fixed interest rates, fixed exchange rates to minimize IMF debt's impact on Pakistan's growth (Ali et al., 2012; Ramzan et al., 2014).

Limitations
The study has the following limitations:

- The study has taken the quarterly data with 47 observations for each variable, but future studies can improve results by increasing the number of observations.
- The study has not taken the corruption index of Pakistan due to the unavailability of the quarterly data, but future studies can take this variable to get better findings.
Furthermore, the study has also dropped the quality of governance due to the unavailability of the quarterly data, but future studies can take this variable to have an improved understanding.

Reference


