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**Abstract:** Considering the unceasing rise in the stock of external debt for a developing country like Pakistan characterized by macroeconomic uncertainty and downwards tendencies, this particular research activity aims to scrutinize the dynamic connection between external debt and economic growth. The economic outlook and perspective of Pakistan is blemished by lack of economic governance, financial administration and huge state expenditure. The economy is a victim of rise and fall cycles and characterized by the downward trajectory by main economic indicators in the intermittent and sporadic periods growth followed by decline. External debt is the main obstacle and economic security issues which effect growth in the short as well in long run whose solution is vital for the economic resurgence. Excessive borrowing and lack of proper utilization of the borrowed money are the terms deeply associated with the inefficient use of foreign debt that effect the whole economic system of the country. ARDL model was employed for exploring long run cointegration among the selected variables. Data sources from WDI, IMF, SBP and other financial institutions covering the period from 1972-2023 were entertain to explore the impact among variables. ECM model for short run association along with different investigative assessments are applied. External debt and debt service payment posted a devastating and insignificant impact in short while in long run it posted negative and insignificant impact on growth variable. Foreign direct investment, human capital and labor force posted an encouraging impact. Broad money was positive but insignificant while exchange rate, inflation and gross capital formation are negatively but significantly correlated. The external debt burden coupled with debt service payment has a devastating impact of the economic growth of Pakistan confirming the existence of debt crowding and overhang dilemma. Policy maker should ensure proper management, monitoring system, reducing the misallocation and mis-utilization of external debt, encouraging foreign direct investment, increase productivity level, and attraction of foreign exchange reserves.

**Introduction**

Generally, a justifiable policy regarding funding is required to finance the government's budgets to excite the economic growth level. Typically, when the revenue generated from tax is lagging behind the estimated expenditure, the government has left no option except to raise the taxes or to borrow

domestically or internationally (Owusu-Nantwi & Erickson, 2016). When the government is intended to avoid the increasing burden of taxes it option to borrow, which ultimately hints public debate (Ogunmuyiwa, 2011).

Many different economies whether that are developed or developing choice to borrowing either internally or across the border to fund the deficits of budgets as a response to the economic recession happened globally after World War-II. The public debt accumulation is the resultant influence of such strives, which is mainly experienced by many economies of the world in the shape of debt crises and economic recession the early stages of 2000 century (Donayre et al., 2017).

In the context of Pakistan the picture is gloomy and it is in the list of highly indebted countries as the present and future position of the debt is certainly grim (R. Ali & Mustafa, 2012). The GDP growth was contracted to -0.17% in the fiscal year 2023, beside a significant rise of 6.2% and 5.8% in the fiscal years 2022 and 2021 respectively. These imbalances in the economic area is attributed to rising government debts and fiscal deficits, increasing prices in the world market, and seasonal floods in most parts of the countries. (Pakistan Economic Survey, 2022-23). The GDP per capita of the country is standing at \$ 1568 in 2022-23 which was \$1765 in the financial year 2021-22, by assigning the depreciation of local currency, decline in GDP growth of the country and population rising as the key variable for this diverting effect making Pakistan among the list of lower income countries (Pakistan Economic Survey, 2022-23).

The tax structure is not very sound and the net revenue collected is most comprising of the salaried class and through indirect taxation. This depicts that revenue generated through collection of taxes has not considerably adequate to investment and finance the government expenditure which force the government to approach and rely on the borrowing resources both domestically and across the borders (Zohaib, 2020). The total external debt was recorded as Rs. 13601 during 2021. It surged to Rs.18157 billion in June, 2022. In the same manner by the end of financial year 2023, Pakistan total debt rises to Rs. 62,880 billion included Rs.24071billion as an external debt. The Pakistan debt to GDP ratio was 71.4, 73.9 and 74.3 in the financial years 2021, 2022 and June 2023 respectively. (Ministry of Finance, 2022-23)

Different theories proposes that the effective and judicious management and utilization of funds is the most consistent way to kindle the growth level in contrast with the inefficient use of external debt which will hampered and confine the overall national growth of the country leaving economy to a standstill (Lotto, 2018). The upsurge in the stock of external debt creates hurdles in the pathway of economic growth, which establishes hindrances to adverse effects coupled with the cost of debt in respect of the deviation from its prospective consumption areas towards the debt overhauling and loan repayment (Moss & Chiang, 2003). Severe imbalances in the macroeconomic indicators rose when countries failed to meet the obligations of the debt like high fiscal inconsistency, worsening in the foreign exchange funds and reserves, investor's hesitation to invest, exchange rate fluctuations and determined fall in the credit rating (Ejigayehu, 2013).

The debt growth predicament or dilemma has been classified into two broad categories by different researchers and economists which is the debt overhang predicament or dilemma and the other is debt crowding out predicament or dilemma. Those channels through which the economic growth nexus is being dampened by the primary amount of external debt is referred to as the debt overhang predicament. In this strait the external debt starts causing the growth level and investment negatively (Ud-Din et al., 2020). In the context of literature indicator used for this effect is the debt to GDP ratio. Such studies include Hwang et al. (2010), Musebu Sichula (2012), Lee and Ng (2015), Fandamu and Phiri

(2017), Shkolnyk and Koilo (2018), Asafo and Matuka (2019). Other studies including Sheikh et al. (2013), Lau and Kon (2014), Chaudhry et al. (2017) found that foreign debt is a motivating element for the economic growth.

The debt crowding out predicament or dilemma situation arises when the central bank of the country is unable to encounter the prerequisites of the investors just because of the greater advancing rate and other liquidity restraints (Broner et al., 2013). Studies conducted by Hwang et al. (2010), Ndubuisi (2017) have used this kind of variable in the models and assured the presence of debt crowding out predicament hypothesis. In the scenario of Pakistan, researchers who make an attempt in order to find the connection between foreign debt and economic growth, without incorporating the debt overhang and crowding out predicament found external debt as swearword for the overall growth of the country. (Jibran et al., 2016), (Sajjad & KHAN, 2018). In contrast to it the finding of Siddiqui et al. (2001), proved that external debt is a blessing for the host country which can boost the living standard of the general masses and growth level of Pakistan.

Figure 1: External Debt and GDP Growth from 1972 -2023 (Millions US\$)

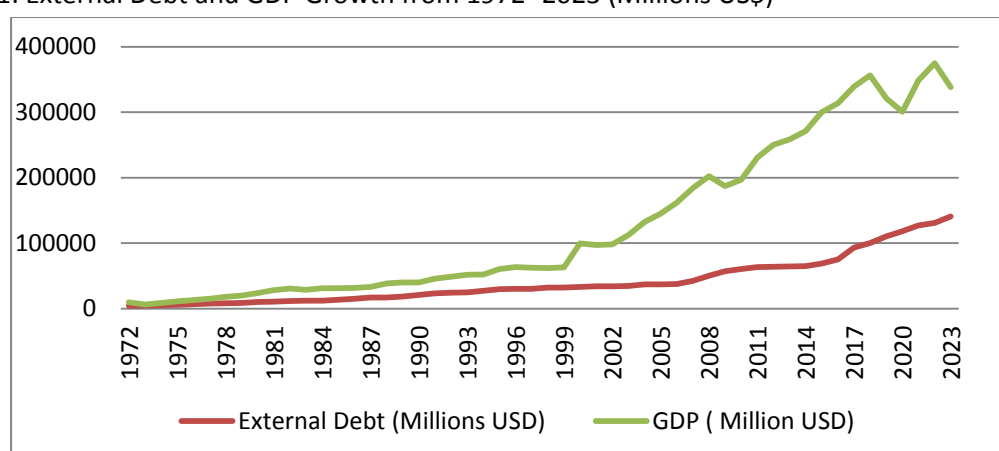
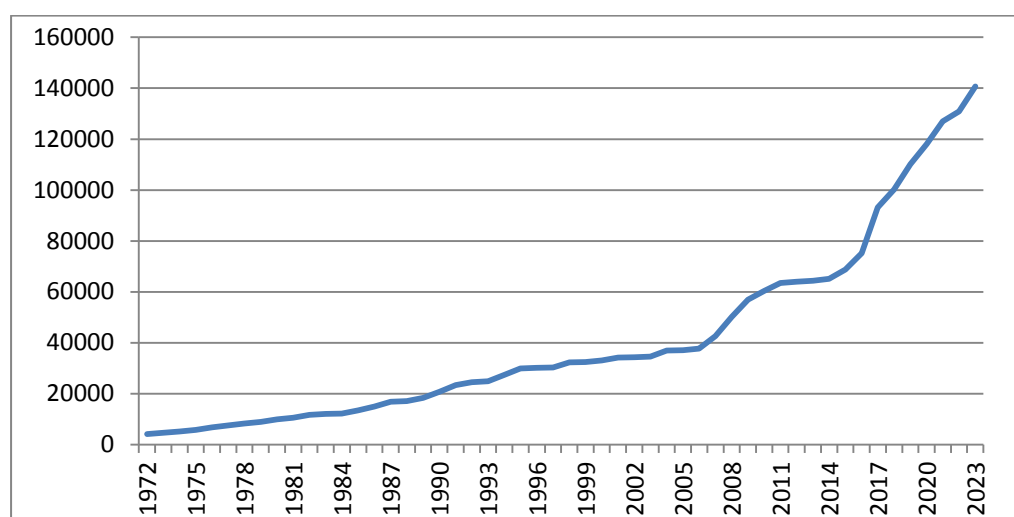


Figure 2: External Debt Accumulation Graph (1972-2023)



### Research objectives

To analyse how foreign or external debt has affected the economic growth of a developing country Pakistan and to define the kind of correlation between the two identified variables are the central purpose of this research activity.

### Research Questions

This specific research study tried to discover the most reasonable answer of the questions given as under:

- What effect or influence does foreign or external debt have upon the economic growth?
- What kind of peripheral correlation subsists between external debt and economic growth nexus?

### Hypothesis of the Study

- ❖ H1: A significant and substantial correlation exists between external or foreign debt and economic growth.

### Literature Review

#### In pakistan context

Zaman and Arslan (2014) researched the interconnection between external or foreign debt with economic growth. Data from 1972 till 2010 was collected for Pakistan by taking the OLS as an analyzing technique. A noteworthy connection was observed between inflows of foreign debt and growth performance. Arshad et al. (2015) analyzed how foreign debt contribute to the growth factor of Pakistan. The secondary data was chosen for the time period 1970-2014. Their study reveals that foreign debt has a destructing effect on the growth variable. Asghar (2016) reconnoitred the connection between foreign debt and growth variable in Pakistan for the period 1986-2015 by employing the regression analysis. He establishes an insignificant linking between foreign debt and growth performance.

Siddique et al. (2017) tends to discover the linkage between foreign debt variable and growth performance in Pakistan. The research consists of secondary data covering the period 1975-2015. The empirics from the study indicate a devastating affiliation between the two stated variables. Ud-Din et al. (2020) probed into finding the correlation exists between foreign or external debt with that of economic growth. They took Pakistan annual data for the period 1976-2018 by commissioning the methodology of ARDL. Foreign debt leads to hamper and obstruct the growth performance in the resident country were the conclusion drawn from their study. Khan et al. (2022) aims to study the interdependence between foreign obligation and economic growth. Secondary time series data for a developing country Pakistan was taken from 1976-2021. They found a sound and encouraging association between the two variables. M. Ali et al. (2023) delve into digging the connection of inflows of foreign debt on the growth performance of a host country. Annual secondary data for Pakistan from 1981-2020 was analysed using ARDL model. They found that external debt deleteriously result on the economic progress in the resident country.

#### Researches across the Globe

Udeh et al. (2016) researched the impact caused by the inflows of foreign debt in the case of Nigeria. Secondary time series data from 1980-2013 was analyzed using OLS method. An encouraging consequence was observed where the external debt caused a positive impact on the growth indicator.

Hossain and Shirin (2016) probed to dig out the interconnection between foreign debt and growth indicator in the case of Bangladesh. Different official sources were used to obtain secondary data from 2000-2015. Their analyses include ARDL method and others tools. A bidirectional association was

discovered between the foreign debt and growth performance. Chaudhry et al. (2017) extended their research activity in discovering the correlation between inflows of capital in the form of external debt on the growth variable. They took twenty five developing economies cover 1990-2014 data period. They found a motivating effect of foreign debt on the economic growth of host countries. Pegkas (2018) reconnoitred the dynamic effect of external debt upon the economic performance for the Greece economy by adopting ARDL and VAR methodology. His study was based on the secondary data from 1970 to 2016. He concluded from his studies that external debt obstructs the growth in the country. Shittu et al. (2018) undertake an investigation for finding the association between external debts on the economic performance. Their analysis includes data from five African countries for the period 1990 up to 2015. The response was measured using dynamic OLS, FMOLS. Foreign debt impedes the growth variable in these countries were their major findings. Dey and Tareque (2020) sought to find out the inter-connection between economic performance and external debt in Bangladesh economy. Secondary data ranging from 1980 to 2017 was analyzed using ARDL model. An overwhelming consequence was caused by the inflows of foreign debt on the growth factor of the host country. Hilton (2021) investigated the impact caused by the inflows of foreign debt on the growth performance for a developing economy Ghana. Secondary time series data which spanned from 1978-2018 were analyzed using ARDL and Granger causality model. A unidirectional Granger causality was observed in the long run between the two variables while in the short run they found no evidence regarding their connection.

### **Research Gap**

One of the most confronting and challenging issue faced by almost all developing nations of world including Pakistan is the resource allocations which are already scarce. To provide a track for an economy suffered with fiscal deficit these countries usually approach to other developed economies and financial institutions for borrowing funds (Tahir et al., 2019).

Our research activity has exceptionality and diversion from other research studies in the sense that unlike other studies we have taken the utmost influential variables simultaneously. This empower us to comprehend the dependency exist among the variables, enhance the generalizability of the research discoveries and have a wide range of policy implications for the all the decision makers. (Stock.J.H, 2003) In the same fashion, this particular research has taken into consideration the most recent data available for a longer span of time. By doing so we were able to capture the different changes and trends efficiently, stay align with up-to-date literature, replicate the present realities. (Blanchard, 2013)

Consequently, the undertaken research study is an effort to investigate the impact caused by the inflows of capital in the form of external debt on the economic growth by captivating the most recent and rationalized time series data for a longer interval of time to upturn the consistency and accurateness by employing a very distinctive methodology for the purpose of discovering the consequences and magnitude of inflows of fund upon the growth nexus in the context of Pakistan.

### **Data/Statistics and Empirical Methodology**

#### **Theoretical Framework**

##### **Solow Growth Model**

The Solow Neo Classical Model for the economic growth is concisely touched. Initially, the effect and significance of external obligation or indebtedness upon the growth factor has been scrutinized by using the structure provided by Solow's growth model. Investment is considered as a crucial variable for the economic progress by Solow (1956) and to attain this goal, the nation employs both external and internal assets (Khan et al., 2022). The establishment of this model is having closed economy mostly

depend on the labour and capital for the production. Subsequently, the Solow model is centered on the Cobb Douglas production function; it is probable to perceive the influence of external debt on the public savings which is hired as investment.

$$Y = F(AK, L)$$

$$Y = L^{1-\alpha}AK^\alpha$$

In the above equation;

'Y' represents the output level, 'K' represents the capital input, 'L' represents the labour input, and 'A' is the technology, while  $\alpha$  and  $1-\alpha$  are the labour and capital output elasticity.

The level of technology is presumed to be increase at the continuous rate because it is not an input of production. Likewise, growth of population greatly affected the labour magnitude. Therefore they both are considered as exogenous. The equation listed above can be written in mathematical form as;

$$Y = k^\alpha$$

This equation elucidates that if a specific nation employs more capital than labour if the productivity per worker will increase that is more output per labour as for as diminishing law of returns hold for each labour employed. According to this model, those countries who have the potential for greater investment and high saving rate tends to be more developed as their per worker productivity is large which results large scale production (Ejigayehu, 2013).

### **Debt Overhang Theory**

In an underdeveloped country the accumulation level of external debt is so high that in spite of funding the investment initiatives in the debtor country, a greater part of the revenue is averted to the debt servicing. This effect or dilemma usually happens because the resources are not utilized well or there exist a gap in the production (Krugman, 1988). A better debt stock modify the benefit of both borrower and creditor economies. Financial assistance is the rearranging of debt commitments to offer the indebted nation numerous arrangements of debt assistance. These arrangements include facilitation the liability on the borrower nation by cutting credit interest rates, pull down primary balances and altering credit terms.

### **Data and Selected Variables**

In the prevailing study task, quantitative analysis is emphasized. Secondary time series annually collected data from 1972 -2023 were used in this research activity. Per Capita Gross Domestic product (GDPPC) was taken as dependent variable against external debt, debt services, broad money, foreign reserves, real operational exchange rate, foreign direct investment, inflation, human capital, labour and gross capital formation as independent variables. Different sources like World Development Indicators, IMF, State Bank of Pakistan and Economic and Finance Divisions were consulted for data collection.

### **Techniques and Methods for the Analysis of Data**

In order to investigate the given data for the purpose of validating the stationary in the data, unit root test that is ADF was carried out. For the detection of heteroscedasticity this research activity used the Breusch Pagan Godfrey test. Serial correlation present in the data was checked by employing Breusch Godfrey LM test. Model stability was evaluated with the help of Ramsey RESET test. And to certify the normal distribution of all the residuals Normality test was carried out. In the same way, EG and ECM test was perceived to dig out the correlation for short run and long run period of time.

### **The Technique of ARDL**

After carrying out ADF test, it was detected that some of the variables became stationary at the level that is  $I(0)$ , while some are stationary at  $I(1)$  that first difference. In such conditions the ARDL is

considered the most operative for the purpose of discovering the connection. ECM technique will be utilized to construct the association for short run.

In ARDL form

$$\begin{aligned}
 GDPPC_t = & \alpha_o + \sum_{i=1}^n \alpha_{1i} GDPPC_{t,i-1} + \sum_{i=1}^n \alpha_{2i} EXD_{t,i} + \sum_{i=1}^n \alpha_{3i} DS_{t,i} + \sum_{i=1}^n \alpha_{4i} BM_{t,i} \\
 & + \sum_{i=1}^n \alpha_{5i} ROER_{t,i} + \sum_{i=1}^n \alpha_{6i} FDI_{t,i} + \sum_{i=1}^n \alpha_{6i} FRES_{t,i} + \sum_{i=1}^n \alpha_{6i} HK_{t,i} + \sum_{i=1}^n \alpha_{6i} INFL_{t,i} \\
 & + \sum_{i=1}^n \alpha_{6i} LF + \sum_{i=1}^n \alpha_{6i} GCFO_{t,i} \\
 \Delta GDPPC_t = & \alpha_o + \sum_{i=1}^n \alpha_{1i} \Delta GDPPC_{t,i-1} + \sum_{i=1}^n \alpha_{2i} \Delta EXD_{t,i} + \sum_{i=1}^n \alpha_{3i} \Delta DS_{t,i} + \sum_{i=1}^n \alpha_{4i} \Delta BM_{t,i} \\
 & + \sum_{i=1}^n \alpha_{5i} \Delta ROER_{t,i} + \sum_{i=1}^n \alpha_{6i} \Delta FDI_{t,i} + \sum_{i=1}^n \alpha_{6i} \Delta FRES_{t,i} + \sum_{i=1}^n \alpha_{6i} \Delta HK_{t,i} + \sum_{i=1}^n \alpha_{6i} \Delta INFL_{t,i} \\
 & + \sum_{i=1}^n \alpha_{6i} \Delta LF_{t,i} + \sum_{i=1}^n \alpha_{6i} \Delta GCFO_{t,i} \\
 & + \gamma_1 GDPPC_t + \gamma_2 EXD_t + \gamma_3 DS_t + \gamma_4 BM_t + \gamma_5 ROER_t + \gamma_6 FDI_t + \gamma_7 FRES_t + \gamma_8 HK_t + \gamma_9 INFL_t + \gamma_{10} LF_t + \gamma_{11} GCFO_t \\
 & + u_t
 \end{aligned}$$

Table 1: Explanation/Description of variables along with their sources (GDPPC is the Dependent variable)

Variables used	Signs/Symbol	Definition	Sources
External Debt	EXD	External debt relative to GDP	WDI (2023), IMF, SB
Debt Services	DS	Debt services as percentage of goods exported	WDI (2023),SB
Broad Money	BM	Broad money	WDI (2023), SB, IMF
Real Operational Exchange Rate	ROER	Exchange Rate	Economic division, 2023
Foreign direct investment	FDI	FDI as a percentage of GDP	WDI (2023)
Foreign Reserves	FRES	Foreign exchange reserves as percentage of GDP.	WDI (2023), IMF, SB
Human Capital	HC	Primary and secondary school enrollment	WDI (2023)
Inflation	INF	CPI growth rate	WDI (2023)
Labor Force	LF	Total population above age 14	WDI (2023)
Gross Capital Formation	GCFO	GCFO as percentage of GDP	WDI (2023)



## Results and Discussion

### Augmented Dickey Fuller Test of Unit Root

In dealing with time series data it is crucial to evaluate the data for the properties of unit root. For this purpose ADF test has been applied to check the data stationarity. In the below table the results are given which depicts a mixed integration order. Some variables are stationary at the I(0) while others are at I(1)

Table.2: Results of Unit Root Tests (ADF)

Name of Variable	Level value	Prob.	1 <sup>st</sup> Difference Value	Prob.	Decision/Judgment
GDPPC	-5.77 *	0.000	-7.25	0.0000	I(0)
EXD	-0.46	0.507	-8.98 *	0.0000	I(1)
DS	-5.8 *	0.000	-7.5	0.0000	I(0)
BM	-0.54	0.473	-4.39 *	0.0011	I(1)
ROER	-3.79 *	0.000	-4.9	0.0013	I(0)
FDI	-2.08	0.251	-6.63 **	0.0300	I(1)
FRES	-2.56	0.1062	-7.56 *	0.0000	I(1)
HC	-7.37 *	0.000	-6.54	0.0000	I(0)
INF	-5.09 *	0.000	-2.89	0.1754	I(0)
LF	-4.15	0.0019	-4.98 **	0.0410	I(0)
GCFO	-1.2	0.660	-5.85 *	0.0001	I(1)

\*, \*\* indicates the rejection of null hypothesis at 1%, 5% level of significance.

### Auto-Regressive Distributive Lag Model (ARDL)

To scrutinize the correlation between the different variables Persearn and Shin (1996) established the ARDL methodology. This method is implemented when variables display blend order of assimilation.

### Bound Test

In order to check for the long run cointegration among the stated variables, the bound test was conducted. The derived value of F-statistic is 8.006 which are greater than the lower and upper bound values which sanctions the long run association as given in table 3.

Table 3: Results for bound test

Bound Investigation/Test				
Test indicator/statistic	Value	Significance	Lower bound I	Upper bound I(1)
F-Statistics Value	8.006	10%	1.76	2.77
K	11	5%	1.98	3.04
		2.5%	2.18	3.28
		1%	2.41	3.61



### Long Run Estimations

Table 4 presents the results for the long run correlation among all the variables which were also confirmed from the bound test results given in table. In the table it is evident that debt services, Human capital and Labour force are significant at 1% level of significance, real operational exchange rate at 5% and External debt, foreign direct investment, foreign reserves, Inflation and Gross capital formation are significant at 10% level, while Broad money shows insignificant behaviour. EXD, DS, ROER, INF and GCFO are negatively shows a devastating correlation with growth variable while BM, FDI, FRES, HC and LF shows an encouraging relationship with the growth. External debt coefficient values signifies that an increase of one per cent the external debt factor will causes to decrease the growth variable by 0.22 per cent approx. This also confirms the existence of debt overhang predicament in case of Pakistan. Our finding also aligns with many empirical studies which includes, (Nor-Eddine & Driss, 2019), Ud-Din et al. (2020) Issac et al. (2021),

Correspondingly the finding of (Khan. A.A, 2016) , I. Ajayi and Edewusi (2020) revelled that no issue of such predicament were observed. Similarly (Ricci. L.A, 2005), (Sichula.M, 2012) research works were contradictory to our finding as they found no association between these variables.

In the same sense debt services shows a devastating and significant consequences on economic growth variable having negative coefficient value. This shows that an increase of 1% rise in the debt services will lead to decrease the growth factor by 0.80% in the long run period. The results is in line with (Farhani.S, 2016) (Ud-Din et al., 2020), (Epaphra & Mesiet, 2021),. Conversely, (Sánchez-Juárez, 2016) and (Daka. L, 2017) finding reveals an encouraging effect on the growth. In the same manner, (M. Sichula, 2012) find no association between the two variables. Additionally, other variables stated in the table portraits the relationship with economic growth in the case of Pakistan. The role of BM is positive but insignificant; ROER, INF and GCFO are negative but significant while remaining variables are positive and significant.

Table 4. Long Run Estimations

Variable(s)	Coefficient Value	t-statistics	Prob.values
EXD	-0.223383 <sup>***</sup>	-3.168541	0.0505
DS	-0.806252 <sup>*</sup>	-2.673194	0.0120
BM	0.055159	0.685219	0.5424
ROER	-0.028613 <sup>**</sup>	-2.052709	0.0428
FDI	0.551382 <sup>***</sup>	2.747226	0.0709
FRES	0.173979 <sup>***</sup>	2.025292	0.0541
HC	0.309083 <sup>*</sup>	2.804530	0.0106
INF	-0.206815 <sup>***</sup>	-3.108948	0.0529
LF	0.541685 <sup>*</sup>	7.124017	0.0057
GCFO	-0.193358 <sup>***</sup>	-2.052709	0.0528
C	51.82888	5.177158	0.0000

**Short run Assessments/Estimates**

Table 5 illustrates the ECM results that portraits the adjustment of the long run disequilibrium speed, while the parameters negative sign indicates the adjustment in the long run at any level in the short run. The value of ECM is negative and 89.7% which shows that deviation will be rectified in next period and will back the equilibrium period.

Table 5: Error corrections model: Short run Assessments/Estimates

Variable(s)	Coefficient Value	t-statistics	Prob.values
EXD	-0.058730	-0.834620	0.4105
DS	-0.138284	-0.825558	0.4183
BM	-0.154292	-3.752160	0.0331
ROER	-0.028613	-3.213916	0.0004
FDI	-0.193358	-4.215472	0.0004
FRES	0.025093	0.897718	0.3795
HC	0.099868	3.626444	0.0016
INF	-0.123758	-1.627263	0.1135
LF	0.051860	1.480263	0.1537
GCFO	-0.152830	-0.447012	0.6584
Cointegration	-0.897669	-8.708494	0.00000

Error corrections model: Short run Assessments/Estimates

**Diagnostic Tests Results**

This particular research activity has operated different diagnostic tests for the stated ARDL model. The result of BPG statistics and Durbin Watson signifies that there is no issue of serial and auto correlation in the model. The normal distribution of the residuals and no hitch of hetroscedasticity were confirmed by the Jarque Bera and LM tests as given in table 6.

Table 6: Results of diagnostic tests

Assessment	Evaluations	F-Statistics value
R-Squared Value	0.75	-----
Adjusted R-Squared	0.59	-----
Jarque –Bera (Prob)	0.421632 (0.809923)	-----
LM (Prob.)	3.10	0.210 (0.05)
BPG (Prob)	2.20	0.8665(0.05)
Durbin Watson	1.98	-----
Log likelihood	41.77	-----
S.E Regression	1.21	-----
RAMSEY RESET	2.0	0.9694(0.05)

### Tests for Stability

In the same manner, CUSUM and CUSUM square test were employed for the confirmation of the model stability. It is evident that the lines are in between the critical lines of 5% level of significance that all the stated variables coefficients were stable which proved its stability level as clear from figure 3 and 4.

Figure 3

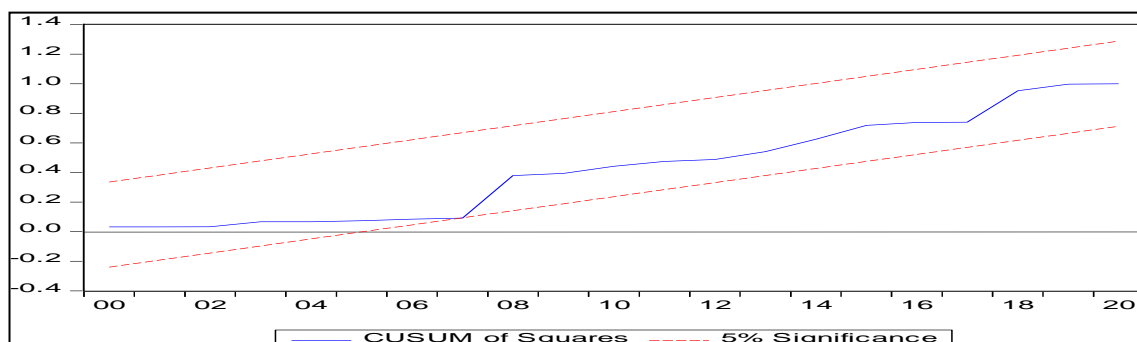
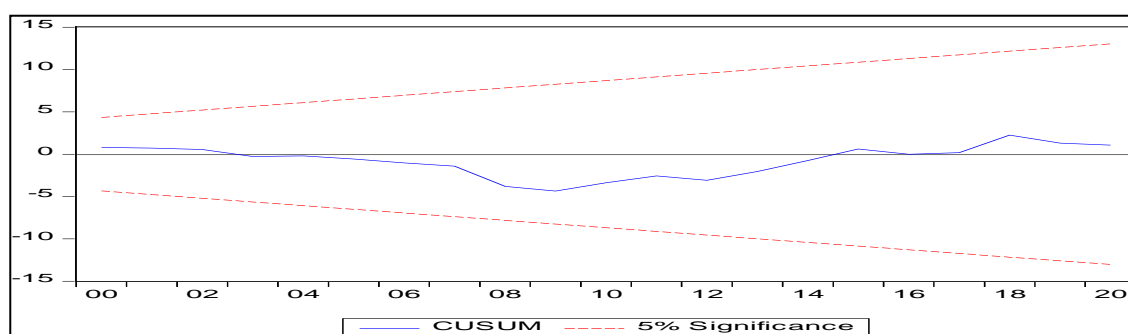


Figure 4



### Core Inferences of the Study

This specific and unique research activity has investigated the effects of external debt on the growth variable in the context of Pakistan by employing the time series secondary data spanning from 1972 upto 2023. ARDL model coupled ECM model and varieties of different diagnostic tests were employed for researching the impact caused by independent variables which are, External Debt, Debt Services, Broad Money, Real operational Exchange Rate, Foreign Direct Investment, Foreign Reserves, Human Capital, Inflation, Labour Force and Gross Capital Formation on the dependent variable that is Per Capita Gross Domestic Product. Additionally the dilemma of debt overhang and debt crowding were also investigated in the particular study.

- External debt and economic growth shows a devastating and insignificant correlation in the short run, while in the long run the relationship is negative but significant. A one per cent rise in the external debt will lead to decrease growth factor by 0.22 per cent in the long run which also demonstrates the dilemma of debt overhang.
- Similarly Debt service payment portrayed a negative and insignificant impact in the short run, while the same effect was also observed in the long run but significant. The growth variable will be decrease by 0.13 per cent when there is one per cent rise in the debt service payment in the long run which verifies the dilemma of debt crowding.
- The impact of Broad money was positive but insignificant, while foreign direct investment, foreign reserves, Human capital and Labour force were proved to be positively and significantly related with the economic growth in long run.

- Similarly, Real operational exchange rate, Inflation and Gross capital mixed formation are negatively but significantly correlated with growth factor in the long run.

### Conclusions

The external debt burden coupled with debt service payment has a devastating impact on the economic growth of Pakistan. This is because of the fact that the stated variables hint to reduce revenue generated from tax leads to financial crisis. It is assumed that such loans will help to meet the developmental needs of the country. But in Pakistan it didn't happens because debt received from different financial institution and countries are obliged with strict and hard conditions which one way or another way damped the economic growth in Pakistan as a developing country like eliminating fuel subsidies, tax reinstatement, circular debt ending, power tariffs rising and also decrease the percentage of developmental budget expenditure. Most of the loan is used for unproductive expenditures and thus diverts from its core objective and does not bring the desirable outcome in the country. Pakistan is really in hard water as it's spends a major portion of its BOP to assist its external debt.

### Recommendations

- The pragmatic conclusions of this particular research study endorse that a well-established policy mechanism for the reduction of the external debt and debt service payment along with boosting the economic growth should be developed in the case of Pakistan.
- Foreign investment should be fortified by re-building the trust and confidence of the investors which is one way to get rid of heavy relying on foreign debt.
- The government of Pakistan should make productive polices to advance Gross domestic product, Human capital.
- Soft loans with low interest rate with repayment period is longer coupled with no strict objection can be stimulated to keep the prevailing exchange rate at stable position.
- More incentives should be given to abroad Pakistanis as they have major role in foreign remittances and foreign exchange reserves.
- Tax base need to be prolonged to organize more resources.
- Through different financial incentives entrepreneurship need to be encouraged as it will create employment opportunities for the masses of the country.

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