1. INTRODUCTION

The economy of Pakistan has been facing the economic issues such as Trade Deficit and Budget Deficit since its independence. The Budget Deficit is largely financed via Debt including both domestic and external debts. The burden of external debt has acute negotiation on country’s economic and political sovereignty (Ying-shuang, 2011).

Theoretically, it may viewed that the external borrowings availed for short term can increase the GDP by efficiently investing the funds in growth and development projects that yield higher returns as compared to the cost of investment and have strict governance of the projects. Hameed, Ashraf and Chaudhary (2008) concludes that regrettably, no proper utilization to gain benefit on foreign investment has been observed in Pakistan and there is also a great lack of good governance of funds in the country, hence, the return on debt is inefficient resulting in non-repayment of debt thus, more and more burden of foreign debt on the economy. This causes Debt Doubling situation and the borrowing country has to bear the pressure of high interest rate on debt in company with low ratio of debt repayment.

The Foreign debt is repaid either through country’s foreign exchange reserve, if not; the country either defaults or borrows from external sources to repay the debt at back-breaking terms. Figure 1 depicts the Public Debt as percentage of GDP. Interestingly during 1998-99, public debt reached as 100% of GDP. Presently it stands at 59.5% of GDP. The figure illustrates the Public Debt is not lesser than 50 % in any year. Public Debt is 63% during 2011-12 and 59.5% in 2012-13.

![Figure 1 Public Debt as percentage of GDP](image)

The composition of Public may be observed in figure 2. Initially the emphasize was largely on External Debt till 2003, thereafter tendency of domestic borrowing has been increasing; presently it stands at 65%.
Investigating the Role of External Trade and External Debt on the Economic Growth of Pakistan

Figure 2. Source of Public Debt

[Graph showing sources of public debt]

It has been observed that the increase in foreign debt and debt servicing effects the economic growth of the country. For instance, the study of Waheed (2003) suggests that in Pakistan, the factors responsible for high indebtedness include paying no heed to the tax payment system, low return on investment, high government expenditure, dependence on external debt, misutilization of funds obtained from external sources as availability of funds is not enough to promote growth in economy, there is always a need for good organizations that works as a medium for economic growth by improving the Efficiency of Capital. There is huge Burden of Debt Servicing every on Pakistan Economy. Figure 3 depicts that during 2013-14 the debt servicing reached to 46.6% of total revenue. When 46.6% of revenue is consumed to pay off the debt servicing, then it is quite to enhance developmental side in Pakistan.

Figure 3. Public Debt Servicing

<table>
<thead>
<tr>
<th>Table-9.3: Public Debt Servicing (Rs. in billion)</th>
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<tbody>
<tr>
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<tr>
<td>Servicing of External Debt</td>
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<tr>
<td>Repayment of External Debt</td>
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<tr>
<td>Servicing of Domestic Debt</td>
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<tr>
<td>Servicing of Public Debt</td>
</tr>
<tr>
<td>Source: Budget Wing and Debt Policy Coordination Office Staff Calculations, Finance Division</td>
</tr>
</tbody>
</table>

In the long run, foreign debt may cause adverse effect on the GDP of the country due to high accumulation of debt; the country has to repay the debt with great amount of interest, and concurrently the GDP collapse. Malik, Hayat and Hayat Suggest that in Pakistan, the general influence of foreign debt on inflation is adverse as there are insufficient funds available at the time of paying off Liability (Malik, Hayat and Hayat, 2010). Furthermore, the imports are much higher imports as compared to exports resulting in negativity of Balance of Payment. In order to tackle the situation, government prints new currency, increasing the supply of money in the market resulting in inflation. In addition, the tax collected is approximately 9% of the total Gross Domestic Product (GDP), which is at a very low level as compared to the other developing countries of the world thus the tax also cannot contribute in the repayment of foreign debt.

The Internal Trade has significant contribution in boosting the economic activities. Since net gain on Trade (X-M) adds value in the National Income. However, many of the developing economies such as Pakistan are facing the challenge of Trade Deficit. Despite of many efforts such as Currency Depreciation and Regional and International Trade Agreements including Free Trade Agreements (FTAs) and Preferential Trade Agreements (PTAs) with many Countries, the Deficit could not be converted into Surplus. For many years the Export of Pakistan was largely composed of Raw and Agri-based products such as wheat, rice etc. thereafter, some improvement have been observed in Industrialization, however, the major Export is still relied upon Cotton and its output which stands more than 50% of total export following figure 4 shows that it contributes 53% during 2013-14.

Figure 4. Concentration of Export of Pakistan

It is the need of the day to develop strategies to increase exports, decrease imports, improve tax policy, and expand the production by proper utilization of the Foreign Debt by investing in developmental programs that could bring favorable impact on the Economic growth (Zaman, 2010).

1.1 Problem Statement

The common observation for the economy of Pakistan is that it earns slow economic growth and high fall down in economic expansion. This study is designed to investigate the role of International Trade and External Debt including Debt Servicing on the Economic Growth for the economy of Pakistan.
2. LITERATURE REVIEW

There are many research studies that have discussed the relation of National Debt on the economic growth. There is yet no unanimous relation, some studies concludes positive relation, whereas other studies suggests the existence of negative relation between Debt and Economic growth. For instance, Abu Bakar and Hassan (2008) conducted a study in Malaysia which concludes that the effect of foreign loan on Gross Domestic Product at aggregate and disaggregate level is positive. The study further elaborates that Malaysia is not facing the problem of Debt Sticking and the foreign debt is employed effectively. The positive influence of foreign aid on the economic growth of Pakistan and boosting of GDP by agricultural, industrial and social sector developmental plans was studied. The similar study was made by Rauch and Trindade in (2002). The study suggested that the flow of foreign capital help in the economic growth of Pakistan. Kasidi and Said (2013) conducted study to examine the relationship between total external debt, debt payment and GDP of Tanzania. The time series analysis determined that Debt payment has negative effect on GDP growth whereas debt supply has positive impact on the GDP.

Furthermore, Malik, Hayat and Hayat in 2010 determined that the foreign loan has positive impact on the economic growth, as the funds can be used for investment in various sectors like power, agriculture and infrastructure development. On the other hand these funds bring negative impact if used for consumption purpose. Atique and Malik (2012) determined the indirect relationship between the economic growth and debt. The used Ordinary Least Square Method (OLS) and explored the reason that the reason of negative effect is exchange rate between foreign currency and Pakistani Rupee. Furthermore, the debt servicing ratio in Pakistan is very high i.e. 47.3% of the total revenue of government. In continuation with it, Debt Overhang problem in Indonesia was identified by Cholifani (2008), the study demonstrated a significant adverse relationship between foreign debt and GDP in the long run. Likewise, the comprehensive study by Iqbal, Shahid and Shar (2010) endorse that the growth rate and the Debt pay off are increased by increase in exports and domestic saving. Furthermore, they concluded that the growth process is increased by educated and skilled human capital. The country should give more attention towards inflow of FDI and deter the inflow of debt in the economy.

The study of Schclarek (2004) provides comprehensive view about the relation of Economic growth with External debt in the economy of Nigeria. The OLS analysis is deployed for empirical evidences. The empirical analysis concludes negative effect of External Debt on the economic growth Checherita-Westphal and Rother (2012) conducted study to determine the relation of Debt with Economic growth on the economy of Ghana. The study considered time series analysis to establish the relation. The study conducted that external debt and debt servicing has negative impact on the economic growth. The study of Siddiqui and Malik (2001) was conducted to investigate the relationship between debt and economic growth. The study took cross country analysis for countries of South Asia. The empirical analysis suggested that external debt has positive effect on economic growth.

The study of Hameed, Ashraf and Chaudhary (2008) used various statistical techniques to establish the linkage between the economy and rising external debt. They proposed that in Pakistan, person’s indebtedness is higher than income per capita as the Foreign Debt has surpassed Gross Domestic Product. The results of the study show that consumption expenditure is positively impacted by foreign debt and propensity to consume increases for luxurious items bringing negative impact to the economy by reducing National Income. Fosu (1999) measured GDP using capital stock, labor force public debt to analyze the factors that hinders in Economic Growth. The study concluded that due to debt hanging problem, External Debt adversely impact GDP in short as well as long run, Furthermore, the economic growth is largely distracted due to reliability on external debt financing. Changyong, Jun and Chen (2012) used Ramsey-Cass-Koopman’s Model to determine the relationship between Economic growth & crises and foreign debt. The study concluded that Debt Repayment Ratio can predict the growth and crises in economy. When there is gradual increase in Public debt, the ratio decreases resulting in retarded economic growth and augmented economic crises, whereas, Levy and Choudhry (1993) suggested that payment of external debt decrease the Gross National Product (GNP) in a country by enhancement of cash disbursement and reduction in Domestic Investment. The study concluded that data from 1970 till 2013 to analyze short and long run connection between Economic Growth and External debt. The study was conducted in Pakistan using Production Function Model. The variables in the study were Debt Service, Stock, GDP and Labor force. The results of study show that the performance potential of stocks and labor force is reduced by the trend of repayment in economy. In addition, foreign debt servicing puts negative impact on GDP.

There are many studies conducted to determine the relationship between trade and the economic growth. For instance, Frankel and Romer (1999) used time series analysis to establish short and long run association between trade and economic growth. Statistical technique used for the short run was vector error correction model while long run analysis was made using co-integration model. The study concluded that the variables had significant association in short as well as long run and economic growth is positively affected by increase in exports likewise increase in imports have adverse impact on the economy. Likewise, Anderson0 and Marcouller (2002) applied Panel Regression to study the relationship between Economic Growth and International Trade. The data used for study was taken from 10 countries. The results show that in the long run, the variables have significant positive relationship between each other. Chaudhry, Malik and Ramzan (2009) used Time Series econometric technique to explain the relationship between foreign debt and economic growth in Pakistan. The study concluded that as due to inefficient allocation of the resources produced from foreign loan in investment and consumption expenditures, the foreign debt has adverse impact on the growth in the economy.

The research of Makki and Somwaru (2004) is comprised on time series analysis to determine the relation of Trade with economic growth. The study concludes that export has positive effect on the economic expansion, whereas, the import contributes negatively with economic growth. In regard of Export, the study of Narayan and Smyth (2000) provides empirical analysis. The analysis was based on the OLS estimates. It concludes that export and GDP has Casual relation. Export causes GDP.
3. HYPOTHESES OF THE RESEARCH

Based on the Literature Review and the objective of the study following hypotheses have been designed:

**H1** - External Debt has significant effect on the Economic Growth of Pakistan

**H2** - Debt Servicing has significant effect on the Economic Growth of Pakistan

**H3** - Exports has significant effect on the Economic Growth of Pakistan

**H4** - Import has significant effect on the Economic Growth of Pakistan

4. RESEARCH METHODS

4.1 Sample size and data source

The data for External debt, Debt servicing, Exports, Import and Real GDP growth has been taken for 41 years (1972 to 2013) from the Handbook of Statistics on Pakistan Economy 2010 and missing values have been collected from the library of State Bank of Pakistan.

4.2 Statistical Technique

This study is aimed to determine the effect of various economic indicators on the economic growth of Pakistan. The effect of these indicators shall be investigated by applying OLS Regression model. However, the key Gaussian Assumptions shall be tested before applying the OLS Model so to ensure the validity and reliability of the estimates. The key Gaussian Assumptions such as: Homoscedasticity has been tested by applying Breusch-Pagan-Godfrey test, whereas autocorrelation is investigated via Durbin Watson test and that of multicollinearity is tested via VIF statistics.

4.3. Regression Model Developed

The basic Regression model is as follows:

\[ Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \ldots + \nu_t \]

Here the dependent variable is: Real GDP growth (GDP)
And independent variables are:
- External Debt (ED)
- Debt Servicing (DS)
- Exports (EX)
- Import (M)

Therefore, the model would become as follows:

5. RESULTS OF THE STUDY

Before application of OLS Gaussian Assumptions such as Homoscedasticity, multicollinearity and autocorrelation need be tested. However, the results with our basic equation were not meeting the criteria of Gaussian Assumptions. Therefore, we applied “Ln transform” to overcome the issues such as auto correlation and Homoscedasticity. The basic equation is:

\[ GDP_t = \beta_0 + \beta_1 ED_t + \beta_2 DS_t + \beta_3 EX_t + \beta_4 M_t + \nu_t \]

By applying “Ln Transform” we get following equation:

\[ ln(GDP_t) = \beta_0 + \beta_1 ED_t + \beta_2 DS_t + \beta_3 EX_t + \beta_4 M_t + \nu_t \]

<table>
<thead>
<tr>
<th>Table 1: Gaussian Assumptions</th>
<th>Test</th>
<th>Values</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 No perfect multicollinearity</td>
<td>VIF</td>
<td>All values</td>
<td>Adapted</td>
</tr>
<tr>
<td>2 No autocorrelation</td>
<td>Durbin-Watson</td>
<td>D-W: 1.312</td>
<td>Accepted</td>
</tr>
<tr>
<td>3 Homoscedasticity</td>
<td>Breusch-Pagan test</td>
<td>P: 0.2512</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

The table 1 summarizes the results related to key Assumptions. The multicollinearity has been investigated with VIF; we take value 5 as our critical point. VIF of all factors is less than 5 hence the null hypothesis of perfect multicollinearity can be rejected. The Autocorrelation has been determined via Durbin-Watson test, the value (1.813) is close to 2 hence the hypothesis of Autocorrelation can be rejected. The Homoscedasticity has been tested by applying the Breusch-Pagan-Godfrey. The p value is more than 0.05 hence we accept the null hypothesis of presence of Homoscedasticity; hence there is no Heteroscedasticity in the data series.

<table>
<thead>
<tr>
<th>Table 2: Model Summary</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.85116</td>
<td>0.72448</td>
<td>0.7051</td>
<td>0.351201</td>
<td>1.813</td>
</tr>
</tbody>
</table>

Attar Iqbal, Yasmeen Raza Toorahi, Dr. Jawed Hussain, Attoallah Laghari
The table 2 shows the adjusted R Square is 0.705, describing the 70.5% of degree of explanation of the model.

<table>
<thead>
<tr>
<th>Table 3. ANOVA</th>
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<tbody>
<tr>
<td>Sum of</td>
</tr>
<tr>
<td>Squares</td>
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<tr>
<td>Regression</td>
</tr>
<tr>
<td>Residual</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The ANOVA is used here as test of significance for the model. The results are shown in table 3. It shows that the model is significant because the sig value is less than 0.05. Therefore, now the Regression Model may be applied.

5. APPLICATION OF OLS

Since the basic Gaussian Assumptions are satisfied now the Regression Model may be applied. The technical analysis of the study is based on the results of Regression analysis which is summarized in table 4. The beta coefficient of External debt (ED) is significant since its sig value (0.042) is less than 0.05; it means the first hypothesis is accepted that there is significant effect of external debt on the economic growth of Pakistan. The sign of beta coefficient is positive it suggests that ED has positive effect on the economic growth. Besides to it, the beta coefficient of Debt Servicing (DS) is also significant since its sig value is less than 0.05. The negative sign of beta coefficient justifies the presence of negative relation of debt servicing. It means as the burden of debt servicing increases, the real GDP growth starts declining. On the others side the Export has also significant effect on the economic growth since its beta is significant. The sign of beta coefficient suggests the existence of positive effect of export on the economic growth. Since the beta coefficient of inflation is insignificant, it means the Inflation has no significant effect on the economic growth.

<table>
<thead>
<tr>
<th>Table 4. Regression Analysis</th>
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</table>

The results of Regression Model are summarized in table 4. Based on the results the equation for estimation would be as:

\[ GDP_t = \beta_0 + \beta_1 ED_t + \beta_2 DS_t + \beta_3 X_t + \beta_4 M_t + \epsilon_t \]

CONCLUSION:

The results of the study are based on OLS estimates. The study concludes that External Debt has significant positive effect on the economic growth of Pakistan. It means that rise in External Debt contribute to an increase in economic growth of Pakistan, this finding resembles with the findings of Siddiqui and Malik (2001) which also endorses the positive relation of debt on the real GDP growth. The study further concludes that there is significant effect of Debt Servicing on the Economic Growth; however, the negative sign of beta coefficient suggests the presence of significant negative effect of debt servicing on the economic growth. It means as the burden of debt servicing. It suggests that increases in Debt Servicing causes significant decline in the growth of real GDP. The findings of Ahmed, Butt, Alam and Kazmi (2000) are endorsed by this study that debt servicing has negative influence on the economic growth. This study highlights that though External Debt contributes in economic growth yet the burden of debt servicing has negative effect on the economic growth, hence the effective Debt Management is strongly required. The study of Reinhart and Rogoff (2010) proposes that Debt can contribute positively in economic growth if it is managed properly and spent on developmental expenditures.

The study further concludes that there is significant positive effect of export on the economic growth of Pakistan. It means that rise in export of Pakistan can lead to a boom in economic growth of Pakistan which is very similar to the results of Siddiqui (2004), which also endorses the positive boom of economic growth due to rise in Export of an economy. Finally the study could not find any significant effect of Import on the economic growth.

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