FOREIGN DEBT DYNAMICS AND GROWTH, EVIDENCE FROM PAKISTAN

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ABSTRACT

The paper explored the concept of association between the debts and economic growth. The study was conducted to check the relationship between Exports, Pubic Debts, External Debts and GPD of Pakistan. The phenomena have been examined in the economic system of Pakistan by taking data from 1980 to 2017. The data in the paper has been collected WBI (World Bank Indicators), IMF and State Bank of Pakistan. The factors included were time series and used unit root test for the status of non-stationary and stationary. The findings of unit root test confirm that the time series were found non-stationary at level while they have become stationary at first difference. The test of optimal lag selection recommends one single lag for the co-integration approach. The findings of Trace and Max Eigen value test confirm that there is negative and significant relationship between public debt, external debts and economic growth of Pakistan. The study recommends the positive and significant relationship between exports and economic growth of Pakistan. The paper recommends that the proper fiscal policy and appropriate monetary management lead to use the funds in income generation project for increasing future income. The authorities should support local producers and help them out to increase production which will be helpful for the repayment of foreign loans.

Keywords: External, public debts, Exports, GDP, Unit root, cointegrating etc

1. Introduction

The increasing of globalization has led to the have higher debts on the developing nations. Different studies have evaluated different reasons of the nations getting higher quantity of money; long term factors and short-term factors are the sources of debt accumulation. But this is also fact that the economies past performance might have effect on the borrowing capacity of external debts of the country. In simple world, growth performance of country is the primary factors of country's indebtness.

The developing nations are always having prime objective of getting higher economic growth and also the importance of mobilizing the country's resources and they decides to go for the borrowing external debts for the speedy economic growth. But the important issue in this regard is the continuing of consistent economic growth and this is the major issue of all countries but special case for the developing countries as their economic system face the fiscal deficits which is normally due to the higher debt services, especially the increasing current

account deficits and higher debt servicing (Reinhart et al., 2012). In developing economies, the major share is usually forward by the public debt structure and this also disturbs the economic growth (Atique and Malik, 2012). The country's higher reliance on the external debts cannot be rationalized and the higher level of domestic borrowing sometimes lead to the financial instability and also having significant effects on the private sector (Panizzza et al., 2010) but the developing nations decide to get external borrowing in the struggling time of the economic system due to the insignificant domestic capital for the investment in the markets.

Some of the economic theories argued that the external debts sometimes might be significant for the developing and developed countries to accelerate their economic growth. Some of the studies argued that the debt overhang theory can be used to analyzed the effect of external debts on the economic growth (Cohen, 1992) but liquidity constraint theory can also be used in estimating the relationship between the external borrowing and economic growth (Krugman, 1988). These theories state that the higher level of external debts is showing negative effects n the economic growth due to the higher internal borrowing by the government.

The higher level of borrowing of the country lead to the have higher interest rate which lead to the higher cost of borrowing and effect both investment and consumption of funds become more expensive this has been described as the crowding effect. Another reason for the higher external debts is the poor management of the developing countries which lead to the insignificant effects on the financial stability and sustainable economic growth. For any nation who borrows money is to utilize these funds in more productive investment so that they funds might generate a reasonable amount of income in future. The most risky factor associated with the higher borrowing that higher level of debts might affect the country's repayment abilities. The most of risk linked with the external borrowing is the service cost which also affect the tax system of the country which the developing nations can use for the future income.

Since the independence, Pakistan is always relying on the external and domestic borrowing and try to cover the fiscal requirements of the country but due to the poor management the condition of economy is getting worse every year passing. As the external debt financing was continue in the economic system of Pakistan but in 19802 the higher level of debt stock and debt servicing emerges and this economic imbalance situation continue to 1990s and trail enters in the starting of 2000s. The case can be seen, public debts were 54.4 percent of the

GDP in 1980s and this ratio has been increased to 100 percent in the start of 2000s. Pakistan debt servicing liability has been increasing due to the poor fiscal management and in 1990s 41 percent of the Pakistan's revenue were spending on the debt service obligation and this was increased to 74 percent in 2000s.

The external debts of Pakistan continue to increase in 1990 to 1999 and it showed from 20.66 billion $ to 33.89 billion $ which shows continue poor management of the fiscal policies. The amount were dropped to 32.78 billion $ in 2000 due to some part of debt rescheduling. In 2003, the external debts of Pakistan reaches to 35.74 billion but after this year, the debts got highest pace of increasing trend and reaches to 54.60 billion $ in 2010. In 2013, the external debts become 60.9 billion $ and then in 2014 it was 65.4 B $ in 2014. The speed of external debts were not stopped and reach to 73.1 billion $ in 2016. In 2017 the total debts of Pakistan were 75.7 billion. The paper has explored the relationship among the external debt, public debt, exports and economic growth.

2. Literature Review

Farrukh et al., (2014) checked the effect of debts on the gross domestic growth of Pakistan. The study has included FDI, Net exports; Growth, External debt servicing and Savings are the variables to get the study objectives of getting relationship between the debts and GDP of Pakistan. The data of the study was panel and collected from WBI (World Bank Indicators) from 1980 to 2013 and used regression models for the data analysis. The findings of the study showed that debt servicing is having negative impact on the economic development of Pakistan which concludes debt forgiveness sometimes invites FDI but this might not be as positive as the overburden affects the economy. Further results show that the external debt is having negative but significant effects on the GDP of Pakistan. findings confirms a significant & positive association between the GDP and adjusting saving of Pakistan which means that the nation's habit of saving can be significant for the development of economic system.

According to Akram (2017), there can be found the positive effect of public debt as the policy makers argued that when the public debts have been properly managed then it can be used for the economic growth and also it can increase the country's ability of debt repayment. But there is negative effect of public debts as examined in two directors i.e. crowding effect and also the debt overhang. The present study has examined effects of debts on the investment and GDP and per capital GDP. The findings argued that there is no existence of crowding effects

might not be confirmed in the case of Pakistan. The results show that there is a negative connection among per capital and investment of Pakistan. This seems that the crowded out the private sector investment.

Tchereni et al., (2013) checked the effect of external debt on the EG of Malawi. The study has covers the time period from 1970 to 2010 and found that there is insignificant association between the external debts and economic growth for Malawi from 1975 to 2003. The analysis of the study was based on time series analysis. The study recommends that the existing government should make policies which should support the local produers and not rely on the external debts for the running of their economic system and support the local industries will help them to compete in the international and local markets. Another study by Panth et al., (2006) conducted in Jamica who argued that there is a significant but negative connection among the pubic debts and EG and also have insignificant effects on the growth in productivity. The study recommends that crowding out by the Jamica government have negative impact on the economic growth.

Iyoha (1996) got negative relationship among the economic growth and country's debts among the African countries and this is due to the crowd out effect. The same findings can be seen in the evaluation done by Rais and Anwar (2012) and Akram (2011) who conducted study in the Pakistan economic system from 1972 to 2009 and from 1972 to 2010. This study recommends that the increase in the public and external debts lead to the economic disaster and poor social conditions of the country. The same findings can be seen in the study of Chikuba (2003) and Isu (2010) for the Zambia and Nigerian economic system. The above findings can be linked with the results of Mbah et al., (2016) and Umaru et al., (2013) who conducted their study in the Nigerian economic system and argued that there is a significant but negative impact of debts on the country's EG between 1970 to 2013 and 1970 to 2011.

Another study conducted by Shabbir (200) to examined by the effect of debts on the economic growth of developing countries. The study has taken 24 developing economies from 1976 to 2003. The study has used fixed effect and random effect models due to the fact that the nature of the data has been found panel. The findings of panel data argued that debt servicing is having significant and also having negative impact on the EG of the country and shows that low level of funds might be available to support the investment of private sector and this also supports the crowd out effect.

The study conducted by Adosla (2009) to checked the impact of debt service payments on the Nigerian EG. The study has used the regression model for the data analysis. The findings of the model argued that the debt service has showing negative effects on the Nigerian economic growth. The study conducted in Malaysia by Abu Baker & Hassan (2008) examined the impact of external debts on the economic growth. The study has included disaggregate and aggregate level of analysis. The findings of the study argued that on both aggregate and disaggregate level the external debt is having positive impact on the economic growth.

3. Methodology

The prevailing examination is performed in the objective to evaluate the effect of external debts on the EG of Pakistan. The study will be carried out in the economy of Pakistan. The study evaluated for the estimation of existence of relationship among the public debt, external debt and EG of Pakistan. For the prevailing factors, the data was collected from the WBI (World Bank Indicators) and help is also been taken from the IMF official website and also State Bank of Pakistan. The data for these factors have been collected from 1980 to 2017.

3.1 Statistical Model

The paper has adopted the extended model of production function which has been initially used by Cunningham (1993) to examine the impact of exports, public debts and external debt on the economic growth of Pakistan as it is among the heavy indebted nations.

Before estimating any equation, it is important to check the univariate time series of the factors by adopting the unit root for every time series. If the factor has been found with unit root then the factor has been considered as non-stationary. Therefore, the measurement based on the non-stationary factors might lead to spurious findings which can lead to have higher t-value and R-square, but lacking the coherent economic description (Granger and Newbold, 1974). But the standard procedure is that it has been used to estimate the status of stationary or not.

The paper has included the test of ADF (Augmented Dicky Fuller) test for checking the standard procedure of unit root. The ADF has been included with three different specifications i.e. 1) lacking both intercept and trend, 2) having intercept but lacking trend term and 3) including both trend and intercept. The paper has included the last option which to get more precise findings about the association of the time series.

$$\Delta Yt = \beta 1 + \beta 2t + \delta Yt-1 + \alpha \Sigma i=1 \Delta Yt-i + \varepsilon t \quad \ldots\ldots\ldots\ldots\ldots (3)$$

Where Yt is relevant time series, t is time trend and εt is white noise error term.

For the ADF estimation, it is significant to estimate the lag length, low number of lags might lead to the rejection of null hypotheses and insignificant results can be received means that it will have negative impact on the test. Inclusion of too many lags sometimes leads to the decrease the accurateness of the test (Harris and Sollis, 2003).

After selecting the suitable lag length for the equation, it is important to use the co-integration model among the public debts, exports, external debts and GDP. The objective for the selection of co-integration model whether the factors considered as non-stationary are co-integrated or not.

4. Results & Discussions

4.1 Result of Unit Root Test

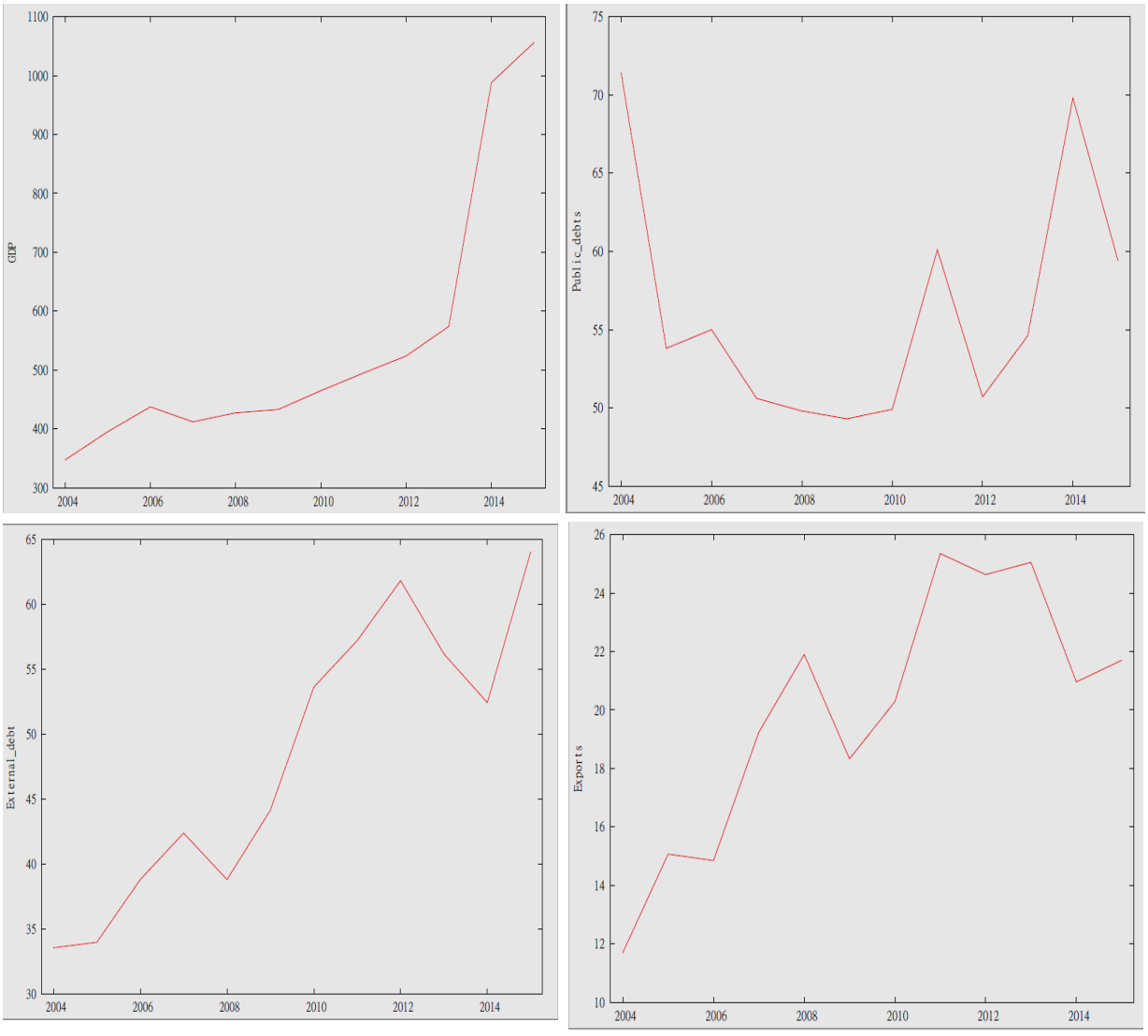
The non-stationary factors induced in the equation sometimes lead to the insignificant results. Including non-stationary time series also the cause of spurious results and sometimes the relationship become meaningless. Therefore, it is significant to estimate the stationary status of the factors before entering in the equation. The ADF test has been estimated under the null hypotheses that it has unit root against the alternate that it does not have unit root. The ADF test in the paper has been included with intercept and trend to get more accurate and significant results.

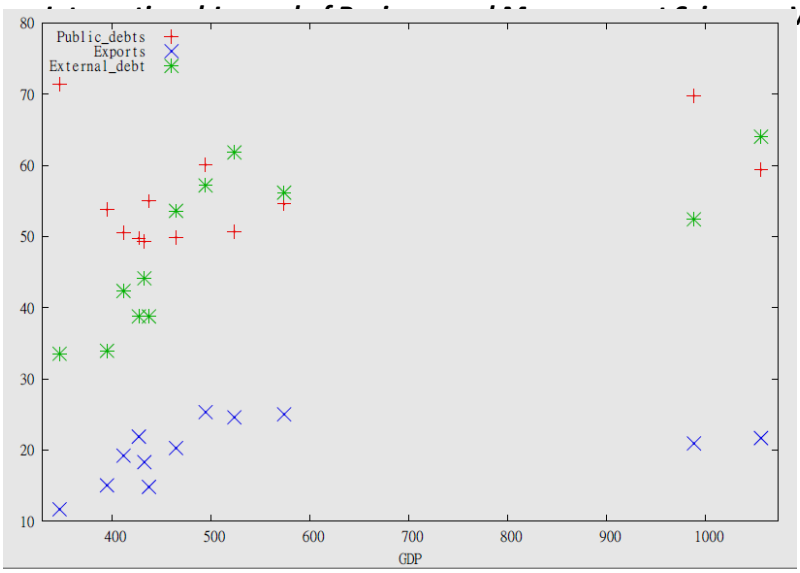
Table 1:

	ADF at Level		ADF at 1st Difference	
	Calculated	Lags	Calculated	Lags
Exports	-2.209	1	-4.349**	1
External Debts	-2.009	1	-4.278**	1
GDP	-2.002	1	-4.236**	1
Public Debts	-2.078	1	-5.413**	1

Note: The asterisks (*) indicates the statistical significance at 5 percent level of significance.

The findings in the table were based on the inclusion of both trend and intercept. The findings show that the all the factors are having status of non-stationary at level. This means that the null hypotheses that the time series are non-stationary cannot be ignored. But the opposite case can be seen when the test has been used on first difference and the alternate hypotheses have been accepted for all time series. This has been concluded that the time series are having no stationary at the first difference.





4.2 Optimal Lag Selection

When the unit root of time series has been estimated then it is important that the lag order should be checked for the co-integration model. It is important that the lag structure of the model should be determine i.e. estimated number of lags which can be used for the relationship among the series. The paper has included the findings of both tests for the determination of lag structure i.e. HQ and SC statistics for the optimal lag:

Table 2:

Lag	SC	HQ
0	-5.196	-5.993
1	-4.192*	-6.136*
2	-10.239	-12.169
3	-9.491	-11.700

** Indicates lag order selected by the criterion*

SC: Schwarz criterion

HQ: Hannan-Quinn information criterion

4.3 Results from the Cointegration Analysis

The below findings argued that the unit root test argued that the series were found non-stationary at level but these series become stationary when ADF was run with first difference. while the above test shows the optimal lag criteria and argued that one lag should appropriate for the analysis.

Table 3: Unrestricted Cointegration Rank Test (Trace Statistics)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.920008	53.95848	47.85613	0.0120
At most 1	0.824618	26.17430	29.79707	0.1236
At most 2	0.381402	7.025632	15.49471	0.5747
At most 3	0.146487	1.742337	3.841466	0.1868

Table 4: *Unrestricted Cointegration Rank Test (Maximum Eigenvalue)*

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.920008	27.78418	27.58434	0.0472
At most 1	0.824618	19.14867	21.13162	0.0926
At most 2	0.381402	5.283295	14.26460	0.7057
At most 3	0.146487	1.742337	3.841466	0.1868

The next step is to estimate the long run relationship between the series selected in the study. According to Johansen (1988) who argued that the co-integration test can be used to check more than single co-integration association. The test has been used basically to check the required number of co-integrating vectors in the system. The test suggested that when the co-integrating vector ($0 \leq r \leq n$) is zero then this is the condition when it is confirm that there is no long run relationship among the factors.

The Johansen co-integration test has been estimated on the basis of Trace and Max Eigenvalue respectively. These tests has been used to check the long run association among the time series (exports, GDP, public debts and external debts). According to the results in the table argued that there is a long run equilibrium relationship among the selected non-stationary time series. The findings argued that the null hypotheses is not accepted and support alternate hypotheses that at least one vector has been accepted from the model and having long run relationship between exports, public debt and external debts with GDP of Pakistan. The findings of Mosely (1980) argued that the relationship between debts and

economic growth can be found positive for the UK and this relationship has been negative in the case of Scandinavian and French countries. This means that the debts for these countries aid the economic growth of the country. However, the studies in Pakistan i.e. Ali (1993) and Shabbir and Mahmood (1992) concluded that there is no significant association between the debts and economic growth of Pakistan.

Table 5: *Long Run Equilibrium Equation*

Independent Variables	Coefficient	t statistics
External Debt *	-0.44811	-2.152031
Exports *	0.30308	3.518262
Public Debts *	-0.40292	-3.303032
Constant	-0.17840	-1.336054

Note: The asterisks (*) indicates the statistical significance at 5 percent level of significance.

For the developing countries, different theories argued that the export is the most important element of their economic growth while in some cases the foreign debts can also be helpful for boosting the country's economic growth. But majority of the studies conducted in the different economies have confirmed the relationship between these factors. The study of Lucas (1993) argued that the export is the factor which can be helpful for the positive economic growth. Mankiw (1992) support the findings with the theoretical support and argued that the changes in export lead to the variation in the economic growth of the country. According to Benhabib and Spiegel (1994) argued that there is negative relationship between debts and economic growth this means that the overburden of debts discourage the economic growth of the country especially when the case is Pakistan, the continue increasing of debt burden, devaluation of rupee, increasing inflation, decreasing exports etc are the factors which harm the economic growth of the country.

5. Conclusion

The increasing external and public debt is the major concern of developing countries. The governments of these countries are trying to take different measures to control the negative impact of increasing debts. Sometimes the countries are using the debts to attract foreign capital and also using them in the support of local producers to accelerate the economic growth. In this case the statement might be in the support of debt cycle theory which is in

favor of using the debts for the enhancement of economic growth of the country. The debt cycle theory argued that the country first goes for the foreign debt and then they use it for the generation of different resources to get sustainable economic growth. In case of Pakistan, the debt (both foreign and public) is increasing with the passing year. The findings taken from the models used in the analysis argued that there is a negative relationship among the public debt, external debt and economic growth (GDP) of Pakistan. The findings show that the poor fiscal policies and inappropriate monetary management by the government lead to the higher inflation, increasing interest rate, budget deficits, current account deficits, decreasing export and increasing imports shock the economic growth of Pakistan. Just like the other developing countries, there is a negative relationship between the debts and economic growth. The major defect in this process is that the government is not utilizing these funds for the generation of income sources and that is the major cause of wastage of debts getting from external sources. The authorities and policy makers should use revise policies to increase the country exports. The local producers should be given incentives and financing facilities so that they might increase their production and helpful in controlling the prices in the market. The regulatory authorities should take measure to control the value of rupee and also dollar rate in the market so that the investors might supply their investment to the market and not stuck in the foreign currency to wash away from the market.

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