Abstract
This study explores the Impact of Budget Deficit on Economic Growth in Pakistan. Time Series data is used for the period of 1980 to 2010. Regression Analysis is used to estimate the Impact of Budget Deficit on Economic Growth in Pakistan. Pearson Correlation test is also applied to check the relationship among independent variables. The analysis reveals that the Model is good fit.

Keywords: Budget Deficit ; Economic Growth

1.Introduction
The government of Pakistan formulates a budget every year, which indicates its expected returns and expenditures in the coming financial year. Receipts of the Government are expected from different sectors, such from financial institutes, interest from loans given to other Governments, tax revenues, local bodies’ etc. expense of Government consist on different projects…developmental and non-developmental projects. If returns of the Government are equal to its expenditures the budget will be balanced. The budget will be in deficit if the expense of the Government more than its receipts.
The developing countries who faced a large budget deficit, Pakistan is also one of them, who has faced budget deficit. In Pakistan major economic problem, it is detained accountable for high inflation, and low growth rate.

History of budget deficit in Pakistan describes here, it was 6 percent of GDP during the decade of 1970s, 7.6 percent of GDP in 1980s. Pakistan is faced a chronic budget deficit in 1990s. In the half of 1990s this chronic deficit was declined 6.4 percent of GDP by the use of reduction in developmental expenditure.
Pakistan sustained a large budget deficit during the 1990s owing to the stagnation of fiscal effort over the last fifteen years. Realizing the imperfection of Pakistan’s tax structure a concentrated reforms effort was initiated in the early 2000. Total revenue was from 13.3 percent of GDP in 2000-01, 14.2 percent of GDP in 2001-02. These increase in revenues become possible because of the prudent tax policy of the Government. Total expenditure continuously decreasing from financial year 2000-01. rise in revenues and reduction in expenditures reduce the gap between revenue and expenditures and fiscal deficit reduced to 3 percent of GDP in 2000-05 from 5.2 percent of GDP in 1990.

Government financed its budget deficit via public debt and bank borrowing, it is term deficit financing. There are many reasons for deficit financing in Pakistan such as an increase in government expenditures in previous years, it has not been able to meet its expenditures from its revenues. No sound fiscal policy which is vital pre-requisite to attain macroeconomic stability. So, there is an increased in public debt due to fiscal
unruliness, and government has to face fiscal deficit. The people in Pakistan have low savings because they are consumption oriented, but government is forced to utilize deficit financing like an instrument to cover up the difference between its receipts and expenditures gap. Swift population growth is attached with low economic growth in Pakistan. Deficit financing is a finest refreshment in support of economy in short-range. On the other hand, deficit financing is a bad evil for economy in long term. For in full view, we discuss the main sources of financing and its effects on our economy. Each method has its own implications, which is discussed in detail. (i) Bank Borrowing (ii) Public Debt, it is of two type... external debt and domestic debt/non-bank borrowing. The government covers its budget deficit by borrowing from the central bank of country in two ways

1. Central bank issue new currency according to government borrowing
2. Government draw upon the cash balances of the past for meet up budget deficit.

The effects of the both financing methods are that increase the money supply in the country and this thing creates the inflationary pressure in the economy.

Here we also discussed the other variables of our model such as domestic credit, inflation, and investment (FDI).

Non-bank borrowing of the government by sale short term federal bonds, treasury bills, defense saving certificates etc. The continues process of borrowing from this source it increase interest rate, inflation and discourage the private investment.

There are also adverse effects of continues external borrowing e.g. imbalances in balance of trade, low GDP, capital flight from the country, on average external borrowing in Pakistan is one of forth part of total financing.

Cyclical movement of rate of inflation and economic growth, especially in developing countries, has received much attention among the economists, policy makers and the central banks. High and sustained economic growth with low inflation is the central objective of the macroeconomic policymakers [(Khan and Senhadji, 2001) by Nasir Iqbal and Saima Nawazi, 2008] 32

Like other developing countries, Pakistan has thrown its doors wide open to FDI, which is expected to bring huge benefits. However, unlike China and India, Pakistan has not been successful in obtaining substantial and consistent FDI inflow. Furthermore, the meager inflows that the country has received have not been utilized appropriately to enhance the economic performance [(Le and Ataaullah, 2006) by Muhammad Arshd Khan and Shujaat Ali Khan] 33

Objective of the Study:

Meaningful, attainable and clear cut objectives are the key to success in every kind of research. There is a need to find how the Budget Deficit has an impact on the economic growth of Pakistan. In the view of all above discussion following specific objectives are designed:

- To find the impact of Budget Deficit on economic growth in Pakistan.
- To find the relationship among the Budget Deficit and economic growth with the help of some supporting variables such as Foreign Direct Investment, Inflation and Domestic Credit.
- To empirically examine the impact of Budget Deficit on economic growth in Pakistan.

31 The difference between total expenditures and total receipts and capital receipts but excluding borrowing and other liabilities. Or it the sum of budget deficit plus borrowing and other liabilities by (Saif 113 sb)
33 Foreign Direct Investment and economic growth in Pakistan: A sectoral analysis.
**Significance:**
This study is helpful to find the impact of budget deficit in the economic development of Pakistan. On the basis of this study a large scale research can be conduct for Pakistan or any other country. It will open the doors for new researchers.

**Organization of the Study:**
The rest of the study is designed as: the review of literature of previous study is discussed in chapter 2. Chapter 3 includes the data source and model specification. The empirical findings and their analysis is presented in Chapter 4. Conclusions, recommendations and policy implementations are given in Chapter 5.

**Limitations:**
This study is designed to find how the taxes are contributing toward the economic growth of Pakistan. It is confined only for the Pakistan economy.

**2. Literature Review**

Muhammad Aslam Chaudhary and Ghulam Shabbir (2005) analyzed, “macroeconomic impacts of budget deficit on Pakistan foreign sector”. They used annual data for the period of 1965-99. For estimation they used ordinary least square (2SLS) technique. They resulted that there is a positive relationship between domestic credit and output growth.

Muhammad Ramzan Sheikh, Muhammad Zahir Faridi and Khadija Tariq (2010) analyzed, “domestic debt and economic growth in Pakistan: an empirical analysis. They used the annual data from the year 1972-2009. In statistical approach they used ordinary least square (OLS) approach. They resulted that there is an inverse relationship between domestic debt servicing and economic growth.

Gohar Fatima, Ather Maqsood Ahmed and Wali-Ur-Rehman (2011) analyzed, “fiscal deficit and economic growth: an analysis of Pakistan’s economy”. They used the time series data from the year 1980-2009. For statistical analysis they used a simultaneous equation model and two stages least square method (2SLS). They resulted that fiscal deficit effects economic growth directly and indirectly.

Muhammad Nadeem Qureshi and Kramat Ali (2010) analyzed, “public debt burden and economic growth: evidence from Pakistan”. For statistical analysis they used ordinary least square (OLS) method. They used time series data from the year 1981-2008. They estimated that there is a negative relationship between public debt and economic growth.

Tahir Mukhtar and Muhammad Zakaria (2008) analyzed, “budget deficit and interest rates: an empirical analysis for Pakistan”. They examine the long-run relationship between nominal interest rate and budget deficit for Pakistan”. They used quarterly time series data for the period of 1960-2005. For statistical analysis they used error correction model (ECM) and granger causality tests. They resulted that budget deficit-GDP ratio has significant positive impact on nominal interest rates.

Abdual Qayym Khan and Naeem-ur-Rehman Khattak (2008) analyzed, “an analysis of short-term effects of budget deficits on macroeconomics variables: evidence from Pakistan (1960-2005)”. They used the annual data for the period of 1960-2005. Error correction model (ECM) is used for the estimation. They resulted that some macroeconomic variables has positive relationship with budget deficit and some has negative relationship.

Nadeem A Burney and Naeem Akhtar (1999) analysis, “government budget deficits and exchange rate determination: evidence from Pakistan”. They used the data from the year 1971-1990. In statistical techniques they used ordinary least square (OLS) method. They resulted that budget deficit has significant impact on real exchange rate in Pakistan.
M. W. Siddiqi and Ilyas (2011) analyzed, “impact of revenue gap on budget deficit, debt burden and economic growth: evidence from Pakistan”. They used the time series data from the year 1980-2009. For statistical techniques they used auto-regressive distributed lag model to co-integration and error correction mechanism (ECM). They resulted that revenue gap has a short-run and long-run relationship with economic growth and budget deficit.

Anjum Aqeel and Muhammad Nishat (2000) analyzed, “the twins’ deficits phenomenon: evidence from Pakistan”. They used the data from the year 1973-98. In statistical techniques they used error correction model (ECM) and Granger causality tests. They resulted that budget deficit has positive as significant long-run effect on trade deficit, but in short-run the causal effect is negative between budget deficit and current account balance.

Tahir Mehmood, Muhammad Zakaria Mehbbob Ahmed (2007) analyzed, “an empirical investigation for the twin deficits hypothesis in Pakistan”. They used quarterly time-series data for the period of 1975-2005. In statistical approach they used co-integration technique, Grangur causality test and simultaneous equation model. They resulted that budget deficit has significant and positive effect on current account deficit in Pakistan.

Catao and Trnoness (2003) analyzed, “fiscal deficit and inflation”. In statistical approach they used co-integration technique. They used the panel data from the year 1970-2000. They resulted that fiscal deficit and inflation has positive impact in developing countries, but not among low-inflation advanced countries.

Faiz Balquees (2003) analyzed, “analysis of budget deficits, debt accumulation and debt instability”. She used the data from the year 1980-2003, and used co-integration techniques for statistical analysis. She resulted that there is a negative relationship between budget deficit and debt.

3. Data Source and Model Specification

Sources of Data:
We obtained data on variables from WDI, Economic Survey of Pakistan and IFS.

Methodology:
The required analysis is based on time series data for period of 1980-2010 on variables including: Gross Domestic Product (gdp), Foreign Direct Investment (Investment), Inflation, Domestic Credit (credit), and Budget Deficit (bdgt).

“Annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

“Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments.”

“Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.”

“Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises.”

34 World Development Indicator.
“A financial situation that accurse when an entity has more money going out then coming in. the term budget deficit is more commonly used to refer to Government spending rather than business or individual spending. When it refers to federal Gov’t spending’s, a budget deficit is known as “nation debt”.

Model Specification:
To empirically examine the relationship between GDP and Budget Deficit along with some supporting variables such as FDI, Inflation and Domestic Credit, following model is estimated

\[ Y = f(Bd, Inv, Dc, Inf) \]

\[ Y = \alpha + \beta_1 Bd + \beta_2 Inv + \beta_3 Dc + \beta_4 Inf + \epsilon \]

Where

\( Y \) = GDP - a proxy used to measure the Economic Growth of an Economy

\( Bd \) = Budget Deficit

\( Inv \) = Investment (FDI)

\( Dc \) = Domestic Credit

\( Inf \) = Inflation

\( \epsilon \) = error term
4. Empirical Results and Data Analysis
We used Statistical Package for Social Sciences (SPSS) for statistical analysis of our study. Empirical results are being drawn by the regression analysis. Before applying the regression analysis normality of the data and scatter plots are drawn. After that Correlation test is applied to check the relationship among Independent variables.

<table>
<thead>
<tr>
<th>Statistics</th>
<th>inflation</th>
<th>investment</th>
<th>Credit</th>
<th>Bdgt</th>
<th>gdp</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Valid</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>31</td>
<td>30</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>8.3667</td>
<td>.9667</td>
<td>25.4000</td>
<td>-4.0645</td>
<td>5.0667</td>
</tr>
<tr>
<td>Median</td>
<td>8.0000</td>
<td>1.0000</td>
<td>25.0000</td>
<td>-4.0000</td>
<td>5.0000</td>
</tr>
<tr>
<td>Mode</td>
<td>6.00</td>
<td>1.00</td>
<td>25.00</td>
<td>-4.00a</td>
<td>4.00a</td>
</tr>
<tr>
<td>Minimum</td>
<td>3.00</td>
<td>.00</td>
<td>21.00</td>
<td>-7.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>20.00</td>
<td>4.00</td>
<td>30.00</td>
<td>3.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Percentiles</td>
<td>25</td>
<td>.00</td>
<td>24.0000</td>
<td>-6.0000</td>
<td>4.0000</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>1.0000</td>
<td>25.0000</td>
<td>-4.0000</td>
<td>5.0000</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>1.0000</td>
<td>28.0000</td>
<td>-3.0000</td>
<td>7.0000</td>
</tr>
</tbody>
</table>

*a. Multiple modes exist. The smallest value is shown*
Histogram:

1. Histogram for GDP:
   - Mean = $c_{0.057}
   - Std. Dev. = 2.01603
   - N = 30

2. Histogram for Credit:
   - Mean = 22.40
   - Std. Dev. = 2.01788
   - N = 30
Scatter Diagrams:
Correlation:

<table>
<thead>
<tr>
<th></th>
<th>inflation</th>
<th>investment</th>
<th>credit</th>
<th>bgd</th>
</tr>
</thead>
<tbody>
<tr>
<td>inflation</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.356</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.053</td>
<td>.908</td>
<td>.460</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>investment</td>
<td>Pearson Correlation</td>
<td>.356</td>
<td>1</td>
<td>.403*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.053</td>
<td>.027</td>
<td>.469</td>
</tr>
<tr>
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<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Credit</td>
<td>Pearson Correlation</td>
<td>.022</td>
<td>.403*</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.908</td>
<td>.027</td>
<td>.221</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Bgd</td>
<td>Pearson Correlation</td>
<td>-.140</td>
<td>-.137</td>
<td>.230</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.460</td>
<td>.469</td>
<td>.221</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
Results:
The correlation between inflation and investment is .053 which indicates that there exists weak relationship between these two variables. The correlation between credit and investment is .027 which indicates that there exists weak relationship between these two variables. The correlation between budget deficit and investment is .469 which indicates that there exists moderate relationship between these two variables.

Regression Analysis:

**Variables Entered/Removed**

<table>
<thead>
<tr>
<th>Model</th>
<th>Variables Entered</th>
<th>Variables Removed</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Budget Deficit, Investment, Inflation, Credit</td>
<td></td>
<td>Enter</td>
</tr>
</tbody>
</table>

a. All requested variables entered.
b. Dependent Variable: GDP

**Introductory table gives the information about all the variables:**

This table gives information about all the variables telling that GDP is our dependent variable and budget deficit, investment, inflation & credit are the independent variables.

**Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.662</td>
<td>.438</td>
<td>.348</td>
<td>1.62775</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Budget Deficit, investment, inflation, credit

This table tells the total contribution of all independent variables in dependent variables:
Adjusted R Square notifies that 34.8% changes in dependent variable (GDP) are because of independent
variables (Budget deficit, Investment, Inflation & Credit).

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>51.628</td>
<td>4</td>
<td>12.907</td>
<td>15.21</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>66.239</td>
<td>25</td>
<td>2.650</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>117.867</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Budget Deficit, investment, inflation, credit
b. Dependent Variable: GDP

This is a model gives the information about the good fitness of the model:

Regression results show that Significance level 0.005 is less than 0.05, which tells us that model is a good fit.

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-.236</td>
<td>3.620</td>
<td>-.065</td>
</tr>
<tr>
<td></td>
<td>inflation</td>
<td>.009</td>
<td>.083</td>
<td>.017</td>
</tr>
<tr>
<td></td>
<td>investment</td>
<td>-.656</td>
<td>.380</td>
<td>-.314</td>
</tr>
<tr>
<td></td>
<td>credit</td>
<td>.296</td>
<td>.134</td>
<td>.383</td>
</tr>
<tr>
<td></td>
<td>Budget Deficit</td>
<td>.412</td>
<td>.154</td>
<td>.428</td>
</tr>
</tbody>
</table>

a. Dependent Variable: GDP
This table tells that the relation of all independent variables with dependent variables:
This table tells us that which independent variables are more important and relevant to our study. Result shows that variables (Budget and Credit) have significance level less than 0.05 thus they are more important and relevant than the variables (Inflation & Investment) whose significance value is greater than 0.05.

Conclusion:
Gross domestic product and inflation is normally distributed. Investment domestic credit and budget deficit is positively skewed. There is a non-linear relationship between dependent variable GDP and independent variables inflation and investment. Linear relationship exists between GDP, budget deficit and domestic credit.

Regression results show that model is a good fit. Independent variables cause 34.8% changes in dependent variable. Correlation between inflation and investment is weak and correlation between credit and investment is also weak while correlation between budget deficit and investment is moderate.
References


