

**MEASURING THE GAINS FROM TRADE: A CASE STUDY OF PAKISTAN**

**Hina Ali<sup>1§</sup>, Tahira Bano Qasim<sup>2</sup> and Mehwish Saleem<sup>1</sup>**

<sup>1</sup> Department of Economics, The Women University, Multan, Pakistan

<sup>2</sup> Department of Statistics, The Women University, Multan, Pakistan

<sup>§</sup> Corresponding Author Email: hinaali@wum.edu.pk

**ABSTRACT**

This study based on the pattern of Pakistan trade with its trading partners. In this work used the yearly data during the period from 1974 to 2014. The set of variables are Trade balance, Gross domestic Product, Real effective exchange rate, Inflation, foreign direct investment and Gross fixed Capital formation. In command to distinguish the relationship between the Long-run Equilibrium and Short-run disequilibrium dynamics, the study also deals with non-stationary data, the ARDL approach and Co-integration is used. This technique has been verified through ADF test that all of the variables are incorporated at first difference i.e.  $I(0)$  accept two variables, which are GDP and REER. Pakistan would gain when it improve its exports goods and reduce the imports by focusing on domestic goods. Government should adopt the policies that should also focus on cultivating Real Income of Pakistan in command to improve her Trade balance. Policy instruction that follows from this finding is that Policymakers should follow an energetic scheme of encourage production of manufactured and semi-manufactured goods in Pakistan, in order to expand the trade balance through the above network.

**KEYWORDS**

Trade balance, Gross domestic product, Real effective exchange rate, Inflation, ARDL, Co-integration, Pakistan.

**1. INTRODUCTION**

The Classical Method of Money Devaluation could remedy of trade deficit that involves the domestic expenditure of the country such as the imported goods tends to become more expensive than domestic products. As a result the domestic products will be cheaper in foreign countries. Hence, this phenomenon shifts contribute to decrease the domestic interest and International Journal of Global Business could comfort trade deficit. Accordingly, it is expected that devaluation would leads to improve the trade balance in the long-run.

Economic theory shows that the currency devaluation can be cause of improving the trade balance of any country but indicating that the influence of real depreciation on trade balance is not instant. The arrangement of the association of trade balance over time bears a resemblance to the letter J which is considered as the J curve phenomenon.

J curve phenomenon was illuminated by numerous factors. The first passage lay stresses on the fact that real exchange rate is affected by Nominal Devaluation and later

improve competitiveness which results to progresses the trade balance. Second passage is linked with the absorption effect of Devaluation. Pakistan has faced a negative trade balance over the period of time. In current time shows the negative effect of Trade Balance has become more severe. Knowing the association between Terms of Trade (TOT) and trade balance (TB) are the keys to success in trade policy for an economy. Actually, the J curve phenomenon is the improvement in the Trade Balance after Exchange Depreciates. The J curve shows the effect on every country when its currency suffers from devaluation. When the currency depreciates then its trade balance initially deteriorate then the higher Exchange Rate will be parallel to higher cost of imports and less valued of exports leading to a larger primary deficit. But still a country's exports will begin to rise. According to the definition, trade balance can be explains as the change between the values of goods and services which a country exports and which it imports. When a country's export exceeds its imports, it is said to have a Trade surplus and the TB is thought to be positive. When a country's import exceeds its exports, it is said to have a Trade surplus and the TB is thought to be negative.

Most of the developed and developing countries are gaining from bilateral and multilateral trade with other countries. Pakistan is considered as a developing country which faces the problems lie Inflation, terrorism, policy implications, Unemployment. World has become a global village that gets comfort with trade. Today, there is no one country in the world which produces domestically all of the commodities which it needs. For every country, Foreign Trade plays a major role in the Economic Development of a country. Pakistan is a country which is more efficient in agriculture so it exports more of Agricultural Products and imports more of Capital goods from other countries. Consequently, it is right to say that any country's economic growth depends of Foreign Trade. Another advantage of foreign Trade is that, it facilitate with foreign exchange, as foreign exchange can be used to eliminate Poverty and other Productive revolutions. Increasing demand for goods leads to increase the production of goods in the country. Foreign Trade enlarges the Market or market size within the economy and inspires the producers. As Pakistan is a developing country and suffering from poverty resulting in limited home markets. So it is more important that Pakistan should produce only those products in which Pakistan have Comparative advantage and sells the products to other countries. All the products whose demand is increasing but it has shortage in country, then that product should be imported in the country. On the other hand, if the demand for domestically produced goods is less than that product should be export at large quantity. Developing countries imports many consumer goods which it has low or no production. Trade has solved the problem that no country has to face the problem of shortage. Inflows of many products as well as inflows of Capital goods have increased the economic growth of less developed countries. Trade structure emphasis the investors to invest more to increase the production domestically. Not only local investors, but foreign trade provides the motivations for Foreign Investors to invest in those countries which have lack of investment. Foreign trade helps to increase the scale of production and national income of the country. In order to meet the foreign demands we should increase the production. Our production should be based on large scale so, GNP can be increase.

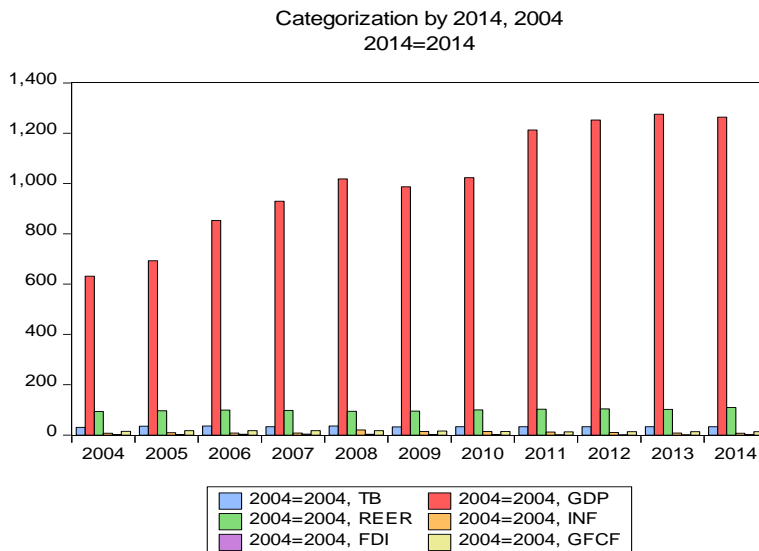
Measuring the gains from Trade is a phenomenon that shows whether the economy is gaining negatively or positively from bilateral and multilateral trade. Trade effect is often

seen in country's trade Balance. Akhtar and Malik (2000) and Aftab and Khan (2008) shows the negative effect and revealed that if trading country devalued their currency it results in worse of trade. Their study also revealed that Real Devaluation was not probably improving TB but the positive point is that, it can stop the trade balance deterioration. This study is useful to categorize the significant of Macro-Economic factors that are important for economic growth of Pakistan. This study also provides the policy implications for Economic growth of Pakistan.

Economic policies are necessary to create a balance in an economy as well as trade and trade balance by associating suitable policy. It is a debate between economists; there are different views about trade balance because Trade balance has a wide range to explain. Trade is a basic tool for every country to make its economic condition better.

### 1.1 Objective of the study

- 1: To examine the effect of Inflation on trade balance.
- 2: To investigate the influence of REER on trade balance.
- 3: To analyze the gains from Trade in Pakistan.



**Figure 1: Trend of Dependent and Independent variables**  
Source: State Bank of Pakistan and World Development Indicators

## 2. LITERATURE REVIEW

Akhtar and Malik (2000) explained the performance of Pakistan's trade with its major trading partner. They used the Quarterly data to analyze from the time period 1982-1996. This study based on Trade balance in terms of imports, export and domestic price which affected by real gross domestic product (GDP), consumer price Index (CPI), unit of export (UVE), export incentives index (INDX), Whole price index (WPI). The Three-

stage least square technique was used for estimation in this study. The quarterly data which is used in the study was obtained from International financial Statistics. The aim of this paper was to show the effect on trade devaluation, export and real income on Trade Balance (TB) and also the price elasticity in import and exports. Most of the variables were not significant in this study. The study of bilateral trade between Pakistan and its trading partner revealed the result that Real Devaluation was not probably improve TB but the positive point is that, it can stop the trade balance deterioration.

Naqvi and Schuler (2007) examined the potential and challenges of bilateral trade between Pakistan and India. It was observed that these countries had very low level of Bilateral Trade. The authors showed the effect of Import, exports, Gross domestic Product (GDP) on trade Balance. This study used the Gravity model for forecasting the bilateral trade between these countries. The data covered the time period from 2001 to 2006. The source of obtaining data was World Bank (WB). This study examined the liberalization of trade into four sectors; Agriculture, Chemicals, textiles, Light engineering. This study revealed the idea that Pakistan would gain from enhancing its relationship with her partner by Three-way Strategy. The industrial sector would also attain profit by Cheaper Inputs and Greater competitiveness.

Aftab and Khan (2008) investigated the bilateral trade curves between Pakistan and its trading Partner. This paper showed the effect of Pakistani rupees on bilateral trade of Pakistan with trading countries. The dependent variable used was Trade balance which was the ratio of Imports and Exports and the explanatory variables were Domestic Income, Foreign income and real exchange rate between Pakistan and her trading partner. The quarterly data was obtained from January 1980 to April 2005. The approach applied in this paper was ARDL approach and it also deals with non-stationary data. The applicable statistic was near to F-Statistic to check the null hypothesis and the null hypothesis was tested against alternative hypothesis. They also consider the issue that if trading country also devalued their currency it results in worse of trade. This study suggested that Pakistan should expand its export's destination.

Ahmad et al. (2010) showed an increase in bilateral trade between Pakistan and her trade partner. The time period for collecting data covered the time period 2003-2008. The variable that estimated are Real GDP, Volume of imports, Volume of exports, Value of Exports, Value of Imports, Terms of trade, Household consumption, Investment, Government expenditure. They used the multi-pronged approach which included Grubel Lloyd Index (GLI) and Revealed Comparative Advantage Index data collected from TRAINS, IDB datasets. The port products of Pakistan with her trade partner are Mineral fuels, vegetable fats, wood, plastic, foodstuff, metals, chemicals, machinery, travel goods. With the implementation of Free trade Agreement (FTA), Pakistan and trading partner achieve success but both can further achieve more gain by promoting FTA at national level.

Niazi et al. (2010) worked out on Pakistan agriculture terms of trade. They kept the crop sector of Pakistan data from 1991-2003 keeping in mind the agriculture sector. They used Agriculture term of trade as an explained variable. The explanatory variables are Rural Population, GDP, Per Capita Income. The sources of obtaining data are Agricultural Statistics of Pakistan, Economic Survey of Pakistan, FAO's Online Agricultural Statistics and personal collection of data from Hydrocarbon Institute. The

collection of data for Rural Population is from Household Income and Expenditure Survey of Pakistan. This study discussed that Investment should increase in agriculture sector and subsidies should be provided to poor farmers. The goal of this study was to compute Price change in agriculture good to check whether the sector's profitability improved or deteriorated.

Khan and Kalirajan (2011) demonstrated on impact of trade cost on exports. This study focused on bilateral trade. They investigated trade data from 1999-2004 of Pakistan. They estimate Export in US Dollar, Population, Per capita GDP, Tariff rate, Real Exchange Rate. In this paper, author used the log data. To found the result, they used OLS method to estimate the variables. They explain that the gravity model is mostly used in cross-sectional data. All the data obtained from World Development Indicators (WDI), TRAINS, UN National account database. They measured the 'explicit beyond the border' and 'implicit beyond the border' costs in two periods to decompose the trade cost. The most important instruction given by this study is that investment in trade infrastructure should be increase.

Awel (2012) assert on the term of trade and economic growth on trading countries. He used the data from 1985-2010 and make use of panel Unit Root Test (IPS) to check whether the data is stationary or not. In this study, he employed dynamic panel data model. He used Net barter Terms of Trade and also income terms of trade to show the effect on economic Growth in this paper. The result indicated that theses both TOT have significant and negative effect. The collection of the data for the variables Real per capita Gross Domestic Product, Investment share of GDP, Total labor force, Growth of Net Barter terms of trade, Growth of income terms of trade, Volatility of Net Barter terms of trade, Volatility of income TOT. Data sources are United Nations Conference on Trade, Development Statistics database and Pen World Table. This study suggested that countries can promote their growth by improving TOT over time and also confirms that the external shocks that affect the terms of trade volatility can also results in affecting the economic growth.

Akram (2013) investigated on Intra-Industry Trade (IIT). The data on variables like GDP, Per capita GDP and Education are obtained from Word Development Indicator (WDI). The other variables included are Absolute difference between GDP per Capita of trading countries (DPCAP), Difference between ports of Pakistan and its trading partner (DIST). They used the data which covered the time period from 1990-1991, 1995-1996, 2000-2001. They applied technique augmented Dickey fuller test to check the Unit Root on time series data. This study found that the explaining variables are most important in defining Intra-industry trade. The data indicate that Pakistan's intra-industry trade with countries like India, Bangladesh and Sri Lanka is low.

Ramzan et al. (2013) showed the impact of trade openness on growth rate of Pakistan. They used the time series data and collect annual data. They explained the effect on Gross Domestic Product by the variables Employment rate, Exchange rate, Foreign Direct Investment (FDI), Inflation rate, Trade Openness. The methodology used to check the exogenous variable was Ordinary Least Square OLS method. Another technique that was applied to check the unit root of all the selected variables was Augmented Dickey Fuller (ADF) test. Ordinary Least Square (OLS) method was used to check the effect of variables and Co-integration was also employed which showed that all the variables in

this study were significant. The result of the paper was given that all the explanatory variables were positively related to GDP.

Ijaz et al. (2014) reported on term of trade and Inflation in Pakistan. They used the annual data covering the time period 1972-2012. The authors used the time series data. They estimate Inflation rate, Income growth, Real exchange Rate, Money supply, fiscal deficit, World oil price index, Foreign Export Price and TOT Index. Data sources are World Development Indicators (WDI), Handbook of Statistics on Pakistan Economy, State Bank of Pakistan. Indices were measured by taking 2005 as base year. In this paper, they used Augmented Dickey Fuller (ADF) test to check the stationary of the selected variables. They gave the suggestions that dependency on foreign imports should be decrease in order to reduce Inflation. They told that maintenance of Terms of Trade can help in reducing Inflation in Pakistan.

Zaheer et al. (2014) observed the Intra Industry trade of Pakistan and the determinants that effect on IIT. This study contain the time period from 1980-2012. They took the determinants; Per capita GDP, the absolute difference of GDP between Pakistan and its trading partner, Average economic size, geographical difference between Pakistan and its trading partner and Real exchange rate. To estimate the data of Intra-Industry Trade, they used the G-L Index method. The data set was taken from World development Index (WDI) to check the determinants of Intra-industry trade. To check the Unit root of the data set, they employed Co integration and ganger causality test. The result of this paper showed that the data was stationary at 1<sup>st</sup> difference via Augmented Dickey Fuller (ADF) Unit Root test.

Ahmad and Batool (2014) explained gain and loss of trade in Pharmaceutical sector between two countries using both the Qualitative and Quantitative research tools. Trade data was extracted from the time period 2008-2013. Data collecting source was International Trade Centre. In this paper, the export and import were taken in US \$ million. Their study focused on the trade of Pharmaceutical product, Organic Chemical, Inorganic Chemicals, Animal, vegetable fats and oils, cleavage products. The methodology Revealed Comparative Advantage approach helped in estimating bilateral trade.

Farid and Idrees (2014) observed the trading between two countries: Pakistan and her trading partner. They examined the time series data based on 1980-2013. The authors estimated the Ordinary least square regression (OLS). The data for Nominal exchange rate was obtained from World Development Indicators (WDI) and the data for domestic exchange rate was taken from State bank of Pakistan. The other explanatory variables were domestic price level through GDP deflator and foreign price level through GDP deflator. The technique used to predict the results was ordinary least square regression and Augmented Dickey fuller (ADF) test was employed to check the unit root of the variables.

### 3. THEORETICAL FRAMEWORK

In the demand of analyzing the impact of Deterioration of currency on country`s trade balance, the existent study employed the model of Imperfect substitute as the theory was settled by Rose and Yellen (1989). The foremost molds of this model are following:-

1. Goods that are produced domestically and goods that are imported are Imperfect Substitute.
2. This model adopts two countries, Home and Foreign country.
3. Both countries produce single trade able goods. Price of these goods is assumed to be tacky.
4. Consumer in each country always tries to maximize the utility that is subject to the budget constraint by the consumption of both the goods.
5. Producer in each the country always tries to maximize the profit.

The presented model is the collection of some equations that are given below. The Demand function of Imports for home-based country is gives as follows:

$$M_d = M_d(P_{mrs}, Y) \quad (I)$$

where the symbols represent:

$M_d$  represents the demanded imports for Home-based country and characterizes the quality of demanded good taken as a function of country`s real income ( $Y$ ) that is measured in national production.

The current price of country`s import goods ( $P_m$ ) to the goods that are produced domestically ( $P$ ) mutually are measured in domestic currency. Relative price of these import goods are being in home country is denoted by  $P_{mrs}$ . Demand function of imports for the foreign countries can be shows as:

$$M_d^* = M_d^*(P_{mr}, Y) \quad (II)$$

where in this equation,

$M_d^*$  shows the imports demanded for foreign country and represent quality demand such as a function of foreign country`s real income and also the Relative price of the import goods ( $P^*$ ).

$P_{mr}^*$  denote the Relative price of foreign country`s imported goods.

The export supply function can be expresses as;

$$X_s = X_s(P_{xy}) \quad (III)$$

$X_s$  measures the Exports supply in home-based country and depending on Relative prices of goods exported at home

( $P_{xy}$ ) well-defined as “The proportion of prices of exportable at Domestic Currency ( $P_x$ ) to the Domestic price level ( $P$ ).”

$$X_s^* = X_s^*(P_{xy}^*) \quad (IV)$$

$X$  shows the supply of export goods in trading country depending on the Relative price of exported goods in the country i.e. foreign country.  $(P_{xy}^* = P_x^* / P^*)$ .

$$P_{my} = (eP_x^*) / P = (eP^* / P)(P_x^* / P^*) = (QP_x^*) / P^* = QP_{xy}^* \quad (V)$$

$e$  shows the domestic currency units of the price of foreign exchange in the arrangement of nominal exchange rate.

$Q = eP^* / P$  explains the real exchange rate correspondingly, the relative price of imported goods in foreign is given as:

$$P_{xy}^* = P_{xy} / Q \quad (VI)$$

Trade qualities and their relative price are determined by the following condition

$$Md = X_s^* \quad (VII)$$

$$Md_d^* = X_s^* \quad (VIII)$$

The above situation certifies the quality between home/exports of foreign country. In the presented model, real income  $(Y.Y^*)$  and price level  $(P.P^*)$  and the nominal along with real exchange rate in both the countries are supposed designate exogenous.

From the exceeding model, the reduced set from equation can be derived as:

$$P_{my} = P_{my}(QY) \quad (IX)$$

$$M = M(Q, Y) \quad (X)$$

$$P_{xy} = P_{xy}(QY^*) \quad (XI)$$

$$P_{xy} = P_{xy}(QY^*) \quad (XII)$$

In real terms, Trade balance of home country can be defined as:

$$TB = P_{xy}X - P_{my}M \quad (XIII)$$

The Real Trade balance can be stated as a ‘‘Partial reduced form’’ that defined in the form of  $Q$  and  $Y$ .

$$TB = TB(Q = Y = Y^*) \quad (XIV)$$

Equation (XIV) is the fundamental equation for analysis and that it can be written in log-log form:

$$\ln(TB)_{jt} = \alpha_0 + \alpha_1 \ln(Y_{pkt}) + \alpha_2 (Y^*)_{jt} + \alpha_3 \ln(REX)_{jt} + u_t \quad (XV)$$



TB expressed Trade Balance of Pakistan with its trading partner  $j$  and exact as the ratio of Pakistan's exports to the country  $j$  terminated her imports from country  $j$ .

$Y_{pk}, Y_{jt}$  showed Pakistan's real GDP, and real GDP of her trading partner, separately communicated in Index form to make it unit free.

$REX_j$  indicated the real bilateral exchange rate between Pakistan and each of its trading partner's currency.

<sup>xxx</sup> The predictable sign on  $\alpha_1$  is equation (XV) is unclear. It may assume Positive sign, in the situation if an increases in the production of imports substitute goods outcomes in an increase in  $Y_{pk}$ . It can assume Negative sign, in the circumstance that if the growth in  $Y_{pk}$  boosts its imports. In case of  $\alpha_2$ , the Predictable sign would be positive. Though, if an increase in the production of import substitute's results in increase in Foreign Income then the exports in Pakistan will have to undergo that will then postulate a negative sign. Lastly, the predictable sign on  $\alpha_3$  is Positive because the Real depreciation will lead to improve the Trade Balance.

#### 4. MODEL SPECIFICATION, DATA AND METHODOLOGY

For developing this model, I selected the time series data of 40 years. My study covered the time period from 1974-2014. In this study, the Econometric methodologies are applied that are; ARDL and Granger causality test. In my study, I used the secondary data that is obtained from different sources. The sources of the data collection are WDI (World development indicators), SBP (state Bank of Pakistan), IMF (international Monetary funds) and US Bureau of Labor Statistics.

##### Model Specification

###### Equation 1:-

$$Y = f(TB)$$

where Equation 1 represents as:

$$Y = \text{Output,}$$

$$TB = \text{Trade balance}$$

###### Equation 2:-

$$TB = \beta_0 + \beta_1(GDP) + \beta_2(REER) + \beta_3(INF) + \beta_4(FDI) + \beta_5(GFCF) + \varepsilon$$

These signs represent

$$TB = \text{trade balance}$$

$$GDP = \text{Gross domestic Product}$$

$$PEER = \text{Real Exchange Rate}$$

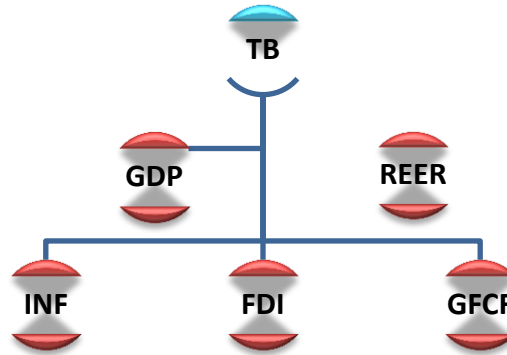
$$INF = \text{Inflation}$$

*FDI* = Foreign direct Investment

*GFCF* = Gross Fixed Capital Formation

These are some well-defined variables that effect Trade balance such as Gross domestic product, Real Exchange Rate, Inflation, Foreign direct Investment and Gross Fixed Capital Formation.

In equation (1) Output is a variable that depends on trade balance and in the 2nd equation trade balance depends on other variables.



**Figure 2: Model of Dependent and Independent Variables**

#### 4.1 Description of Variables

This section briefly explains the dependent and independent variables. Literature Review of the selected topic helped to select the variables.

##### Trade Balance

Trade Balance (TB) refers to the change between imports and exports of one country. It is the leading factor of that Country's BOP. A debit item includes country's imports, foreign aid and its domestic spending abroad and domestic investments abroad. A credit item includes exports of a country, foreign spending in the domestic economy and foreign investment in home country. A country has a Trade Deficit and Negative balance if its imports exceeds its exports and if exports exceeds its imports then a country has Trade Surplus and has Positive balance. It is also known as trade balance (TB).

The cost of Production such as land, labor, capital, taxes, incentives etc. that are used by the exporting country affect the Balance of trade of that country those in the importing country, The cost and accessibility of intermediate good, raw materials and also other inputs affect the Trade. If inflation is uncontrolled in an economy, the price of producing a unit of any product in the economy may be higher than the price occurs in a lower-inflation country. This would disturb exports, disturbing the trade balance.

Multilateral, bilateral and unilateral taxes or restrictions on trade highly affected the trade balance that result in trade deficit. Nations that are imperfect and restricted trade policies are imposed on them. The restricted policies for instance highly imported tariffs

and duties might have superior Negative balance than country that has Open trade policies, since they might be closed out of export markets due to the barriers to free trade.

Consider the figures of trade balance of U.S. for June, 2013. U.S. informed a trade deficit i.e. \$34.2 billion while the lowest deficit since October 2009 and below the \$45 billion deficit estimated on average by economists. Trade balance is a factor of GDP holding other things constant. Surplus in trade increases GDP and deficit in trade diminishes it. In financial terms, trade balance effect the total size and the composition of the current account balance and also the Balance of Payments. In fact, the continuing trade deficit may lead to foreign debt, on which a country should has to pay highly interest rate. A country with highly Trade Deficit is basically borrowing money to purchase the goods and services from other countries. On the other hand, a country with a highly trade Surplus is basically lending money to deficit countries.

### **Gross Domestic Product:**

Gross domestic product is the most commonly used measure of an economy's output and production. The term GDP refers the production of all final goods and services in the country over a particular period of time (quarterly, monthly and yearly). GDP per capita is the best indicator of economic growth. It includes the whole consumption of all private and public sectors.

### **Calculation of GDP:**

#### **GDP can be calculated by using the formula**

$$GDP = C + I + G + (X - M)$$

C indicates all private and consumer spending, in an economy.

G measures the quantity of Government Spending.

I show the investment of the whole economy, including business capital expenditure.

$(X - M)$  = Exports - Imports).determines that GDP also measure the difference between Exports and Imports.

The economists Samuelson and Nordhaus gracefully present the importance of GDP in their inspiring textbook i.e., Economics. GDP permits politicians and Central Bank to review whether the economy of the state is diminishing or increasing, whether it desires an enhancement or restriction.

In the report in November 2012, the organization for Economic Co-operation and development (ODEC) predicts the foremost share in GDP in 2060. This report explains that on the basis of 2005 Purchasing Power Parity values, GDP of China will be \$15.26 Trillion in the year 2016. The value of GDP of Chine exceeds U.S. GDP of 15.24\$ Trillion and will become World's largest Country. The organization ODEC predicts that the economy of China, in 2030 would be 1.5 times greater than U.S. and it was 1.7 times greater in 2060. This Report also predicts that India is likewise demanding to overhaul the Economy of U.S. to come to the second Biggest Country in the World.

The fluctuation occurs in GDP due to business cycle. When the economy is in the condition of boom and GDP goes to increase, there originates a point where inflationary postulates build up speedily as the Labor capacity is nearby occupied optimization. This indicates the Central Bank to begin a cycle of constricted monetary policy to calm down the over-heating Economy and also to control Inflation. As the interest rate of a country goes to increase, the productive companies and the consumers reduce their Spending and the Economy goes to slow down. Slowdown in the demand leads the productive companies to discharge the employees, which additionally disturbs the consumer self-assurance and also their demand. To interrupt this critical vicious circle, the Central Bank facilitates Monetary Policy to encourage growth of economic and employment up to the economy begins in the situation of boom once again rise and then repeat.

### **Real Effective Exchange Rate**

The term Real Effective Exchange Rate (REER) refers to the biased average of any Country's Currency comparative to an Index. The weights are analyzed by equating the comparative trade balances of one Country's Currency with each other country within the index. Various factors conclude Exchange rates, and all the factors are linked to the trading association between any two economies. Recollecting, Exchange rates are comparative and can be conveyed as an association of two countries in terms of their Currencies.

The following are the Principals that determine the exchange rate between two countries. Keeping in view, these factors are in no specific order; like numerous features of Economics, the Comparative importance of these factors is subject to more discussion.

As a general instruction, a country having a continuously lower Inflation Rate shows a rising Currency value in the economy, as its purchasing power rises comparatively with other currencies. During the last half decades of the Twentieth century, countries having low Inflation which included Germany and Japan, while the U.S. and Canada attained low Inflation in future. This is also usually accompanied by higher interest rates.

Exchange rate, inflation and Interest rates all are highly correlated. Higher interest rate offers lenders in an economy a higher return comparative to the other countries. A decline in exchange rate observably decreases the purchasing power of income and Capital Gains derived from any returns. Besides, the Exchange Rate influences other factors of Income such as rates of interest, inflation and also the Capital Gains from domestic securities. Although exchange rates are determined by several Composite Factors that over and over again leave even the most experienced Economists confounded, investors would have specific considerate that How Exchange Rates and Currency can values and plays a significant role in the rate of return on their investments.

### **Inflation**

The term Inflation means the rise in general price in the country over specific period of time. The measure of inflation is the source by Inflation rate with annual percentage. Inflation can be in the form of Stealing, walking or running, running hyperactive or gallop. The types of inflation are demand Pull inflation, cost Push inflation, Mixed Inflation, markup or stagflation according to velocity and nature.

The cause of inflation depends upon the numerous factors. For example Inflation happens when government print an excess amount of money to deal with crises, when additional money is issued, it will enhance the buying power of some specific groups in economy. Consequently, the prices end up rising at an extreme high speed. Inflation can be due to the reasons such as:

Demand side factors: rise in disposable income, rise in Nominal Money Supply, Credit Expansion, Black money expenditures, Reimbursement of public debts, Growth of the Private sector, Deficit financing policy, Increase in public expenditures.

Supply side factors: These factors are lack of production, Artificial Scarcities Industrial disputes, Increase in exports, Global Factors, Ignoring the domestic production of Consumer Goods, Natural Calamities, and Application of law of diminishing returns to Scale.

High inflation rates time and again depress Investment and lead to long term growth low for the following reasons:-

The Inflation Rate is a crucial statistic. Unstable and higher inflation rate creates uncertainty and misperception about future predicted Prices and Costs. This has a tendency to decrease Investment and leads to low rates of economic growth. Hence, decrease in demand for goods by consumers. Prices need to be changed more frequently, when Inflation rate is high; which incurs a cost. Likewise high rates of Inflation may earn numerous wage negotiations with Trades Unions who will be trying to continue their real wages; this can be costly for industrial firm.

High growth of Inflation is frequently unmanageable. To reduce Inflation, the economy requires painful variations such as Deflationary Fiscal Policy and Higher Rate of interest. That may cause lower down the inflationary growth. If a country suffers from High inflation it means the costs will be high. High cost will reduce the exports of the country which will affect the economic growth of that country. Consumers feel doubtful of country with high rates of inflation; it depresses private investment and creates lower growth.

### **Foreign Direct Investment**

FDI is the pronunciation of foreign direct investment. There is strong relationship between the FDI and the economic growth. With the help of the FDI the large amount of the FDI is required for the economic growth in the country. To increase the economic growth by 7% to 8% there should be increase FDI with the investment of 35% to 40% of GDP. National savings has to be decrease 10%. FDI refers to the Foreign Direct investment which is the investment in the country in a business by an investor from the country for which the foreign investor has control over the company.

Foreign direct investment was established in one country and controls the ownership of the business in another country. Basically the difference between the foreign direct investment and the Portfolio foreign investment is the element of the “control”. The control includes the management, techniques, and the inputs. The history of the investment does not put impact on the definition of the FDI. There are two types of the

foreign direct investment: First is organically and the second is the In-Organically. With the help of FDI, the investors are trying to construct new capital, long term capital and the short term capital. The Foreign direct investment also includes the Balance of Payments. The term BOP includes the overall economic transactions between the residents of a country and rest of the world in the particular period of the time. Another term i.e. direct investment is the investment in which the investors try to construct new facilities and invest the profit of the Intra Company Loans. Stock of FDI is the net FDI for a given period of time. The Net FDI is defined as the Inward FDI minus the outward FDI. The example of the FDI is the international factors movement's means that the factors move across the world in order to get the objective of the economy and earn a high profit.

FDI is the most essential indicator of an economy. There are the three types of the FDI such as the foreign direct investment, portfolio investment and the foreign loans. The most important investment out of these is the Foreign Direct investment. The foreign direct investment includes the investment in an industry and in the services. The foreign loans included in the investment in the Infrastructures. In the poor countries where the conditions of the infra-structure is not respectable, in that situation the most important and using investment is the foreign loan which help the poor state. FDI is most important investment because with the help of the FDI a country can gain the knowledge of advance technology and can achieve Economic growth. The value earned from the FDI is increase the GDP of the ECONOMY and the economic growth. The FDI is the way of employment in the other countries where the investment activities is established. Therefore the FDI is the way of earning the foreign exchange earnings and incomes of the skilled and the semi-skilled workers.

### **Gross Fixed Capital Formation**

Basically, GFCF is a macroeconomic concept, which used in Official National Accounts. GFCF is an essentially net investment. It is a constituent of expenditure method of calculating GDP. More exactly, GFCF measures the net increase in Fixed Capital. GFCF includes the spending on improvement of land plant, machinery and equipment purchases: the construction of Roads, Railways, and Industrial and Commercial buildings. The term GFCF refers to the gaining less disposals of fixed assets plus chief developments and transfer costs on land and other non-produced assets. The assets acquired may be the used or may be new assets that are traded on Second-hand Markets. The assets should be sold for continued use by another Economic component, they may be simply uncontrolled by the Owner. They may be sold as scrap and be broken down into returnable components, material that can be recovering, or waste produced.

The most vital prohibition from GFCF is sales and purchases of Land. The original reason, leaving sideways was the problems elaborate in estimating the value of land in a typical way that does not regarded as being increased. All that happens is that the ownership of the identical land changes. GFCF measure only the improvement of land as a net addition of wealth. In some situations such as land near the sea or lake or a river, new land can be formed and it can sold where it had not exist already, adding to fixed assets. This measure always employed on local enterprises of a national region.

**Table 1**  
**List of the Variables with Expected Signs**

<i>Variables n of v</i>	<i>Description of variables</i>	<i>Unit of Measurement</i>	<i>Expected Sign</i>	<i>Sources</i>
<b>GDP</b>	Gross domestic product	US\$ Dollar	Positive (+)	PBS
<b>REER</b>	Real effective exchange rate	2010=100	Negative (-)	SBP
<b>INF</b>	Inflation	Million Dollar	Positive (+)	IMF
<b>FDI</b>	Foreign direct Investment	Trillion	Negative (-)	WDI
<b>GFCF</b>	Gross Fixed Capital Formation	% of GDP	Positive (+)	SBP
<b>TB</b>	Trade balance	2000=100	Positive (+)	WDI

Source: The data on variables taken from different web sites

#### 4.2 Sources of Data

To make analysis of our research the more reliable, we need a consistent set of data. So we choose annually collected data that has been taken from the Pakistan bureau of statistics (PBS), federal bureau of statistics (PBS), State bank of Pakistan (SBP), world development index (WDI) and IMF. To study the relationship among the selected variables, our analysis based upon the data taken from the time period 1974 to 2014. This time duration has chosen due to the availability of data in different sources.

#### 4.3 Procedure of Estimation

The estimating procedure includes several steps. The process of estimation has completed through the software E-views 9.5. The analyses process used the time series data to check its characteristics. Stationarity is also checked by E-views.

#### 4.4 Stationary of Data

It is important in our approximation to check the stationarity of data of the variables collecting from different sources. The stationarity of the variables in the model appears when the obtained mean and variance of the model are same or constant and non-stationarity desires the situation that Mean and Variance are not constant. The time series data may be contaminated by Spurious Regression issue, the spurious regression problem could be avoid by checking the data stationary, that whether the data is stationary or not.

#### 4.5 Unit Root Test

Unit root test is used to observe the stationarity of our selected Variables. If the spurious regression found in the estimated coefficients then we assume that these coefficients do not have the assumption of BLUE (best linear unbiased estimate) property. To avoid the problem of spurious regression, we used the ADF test which was established by Dickey and Fuller. They framed this process to check the stationarity and then f-version that collected the lagged values of the dependant variable to control the problem of autocorrelation in residual term.

### Null Hypothesis

$H_0$  : Data is not integrated.

### Alternative Hypothesis

$H_1$  : Data is integrated.

If the calculated value of F statistics is greater than the critical value, in this case we will reject the Null hypothesis and we will accept alternative hypothesis. For the model approximation simple OLS will be used, if all the variables are stationary at level I (0) but if all the variables are stationary at first difference I (1) then the Johansen Co-integration method will be used and if the variables are stationary are in mixed order at level as well as at 1<sup>st</sup> difference then ARDL technique will be used.

### 4.6 Co-integration Analysis

The term Co-integration specifies that long run relationship exist among the variables which having non-stationary at level I (0). There are numerous co-integration methods to analyse the long term relationship among the variables. Some famous approaches of co-integration are Engle-Granger (1987) and Johansen and Jeselius methods. Engle-Granger is two stepped residual base method. The modern ARDL technique is used now a day.

### 4.7 Auto Regressive Distributed Lag Approaches

Perasan et al. (2001) characterised the ARDL technique to check the short run and long run relationship among the variables. Only one state could be predictable through ARDL method. Furthermore ARDL is applicable when sample size is small. Johansen and Engle Granger are supposed not to be suitable to use if sample size is small. When the combination of variable of order zero I(0) or I(1) then ARDL approach is favoured and if there is a mixture of stationary at level and first difference then ARDL is also used. The present study also used the ARDL approach as some variables are stationary at level and some are stationary at 1<sup>st</sup> difference. As the ARDL method is to be implemented at small samples, due to this reason this study used ARDL method. If model includes dummy variables then to analyse the co-integration, our study used ARDL approach. ARDL would not give the reliable results when variables are integrated of order I (2). Hence in this case ARDL is not used.

$$\begin{aligned} \Delta \ln(TB)_t = & \beta_0 + \sum_{i=0}^{K1} \beta_{1i} \Delta \ln(GDP)_{t-i} + \sum_{i=0}^{K2} \beta_{2i} \Delta \ln(REER)_{t-i} \\ & + \sum_{i=0}^{K3} \beta_{3i} \Delta \ln(INF)_{t-i} + \sum_{i=0}^{K4} \beta_{4i} \Delta \ln(FDI)_{t-i} \\ & + \sum_{i=0}^{K5} \beta_{5i} \Delta \ln(GFCF)_{t-i} + \eta_1(GDP)_{t-1} + \eta_2(REER)_{t-1} \\ & + \eta_3(INF)_{t-1} + \eta_4(FDI)_{t-1} + \eta_5(GFCF)_{t-1} + \mu_t \end{aligned}$$



In the above model  $\Delta$  is the major transformation operative. This equation describes the long time period and short time period relationship among variables.

$$\begin{aligned} \beta_0 &= \text{Intercept} \\ \beta_1, \beta_2, \dots &= \text{Short run coefficients} \\ \eta_1, \eta_2, \dots &= \text{Long run coefficients} \\ \mu_t &= \text{Error term} \end{aligned}$$

The order of above ARDL equation is  $[k_1, k_2, k_3, k_4, k_5]$ . As we move to the ARDL approach, we have verified the level of significance of all the variables in the model since if any variable is  $I(2)$  or above, then ARDL methodology is not valid. For analysis, we applied Augmented Dickey- Fuller Test (ADF) on the model. We regulated Bound Test to check whether the long run estimation exist in the model or not. Null hypothesis assumes that there is no co-integration among the Variables. If the calculated value of F-statistic is greater than the upper bound, then we found that the null hypothesis is rejected. While if value of F-statistic is less than Lower bound then we found that null hypothesis is accepted. If it lies between the Lower and Upper bounds, the test is questionable.

The following equation will be used to estimate the long run coefficients of the Model.

$$\begin{aligned} TB_t = \rho_0 + \sum_{i=1}^{k1} \rho_{1i} (GDP)_{t-i} + \sum_{i=0}^{k2} \rho_{2i} (REER)_{t-i} + \sum_{i=0}^{k3} \rho_{3i} (INF)_{t-i} \\ + \sum_{i=0}^{k4} \rho_{4i} (FDI)_{t-i} + \sum_{i=0}^{k5} \rho_{5i} (GFCF)_{t-i} + \mu_t \end{aligned}$$

The next step is to define the short run coefficients of the models with the help of error correction term. We will apply the short run error correction model of ARDL approach. The model is given below.

$$\begin{aligned} \Delta TB_t = \theta_0 + \sum_{i=1}^{k1} \theta_{1i} \Delta(GDP)_{t-i} + \sum_{i=0}^{k2} \theta_{2i} \Delta(REER)_{t-i} \\ + \sum_{i=0}^{k3} \theta_{3i} \Delta(INF)_{t-i} + \sum_{i=0}^{k4} \theta_{4i} \Delta(FDI)_{t-i} \\ + \sum_{i=0}^{k5} \theta_{5i} \Delta(GFCF)_{t-i} + \lambda(ECM)_{t-i} + \varepsilon_t \end{aligned} \quad (5.5)$$

Here,  $(ECM)_{t-i}$  is the lag appreciated of ECM and  $\lambda$  is its measurement assessment of ECM which demonstrations the rapidity of modification.

#### 4.8 Estimates of Short and Long Run Co-efficient of the Model

When the stationairty of variables are proved correctly and we are sure about the relationships of variables. Then the next step is to use the ARDL methodology of

co-integration to estimate long and short run co efficient of variables, to analyse the effect of independent variables on TB.

#### 4.9 Error Correction Term

ECM signifies the step at which the adjustment of stability is attained. Most importantly this term give proves of the occurrence of stable long run relationship among variables. This term monitors the instability of the last period balancing that has precious economic effect. The value of ECM must be negative to show that there is relation among the variables in the model.

#### 4.10 Bound Test

Bound Test is useful in ARDL Test. In this test we observe the value of f-statistics and the value of upper bound. The comparison of these values give the result that whether long run relationship exist or not in our model.

#### 4.11 Tests for Stability

To interpret the results correctly, it is required to know the stability of parameters and for the policy makers for constructing good policies for the economy. Non stability situations can affect the results wrong. To analyse the coefficients of stability, we plot the (CUSUM) cumulative sum of recursive residuals. If plotted lines are inside the critical boundaries according to our collected data then our model is stable and acceptable. In all such conditions, our model will be appropriate for policy making.

## 5. ECONOMETRIC ISSUES

### 5.1 Descriptive Analysis

In this section, we will examine the mean values of all the variables. Kurtosis value elaborates the peak of the distribution. Skewness value shows that whether the distribution is positive or negative. We will also examine the minimum and maximum values of the variables. The values of Jarquebera tell that whether the distribution is normal or not.

**Table 2**  
**Descriptive Statistics**

<i>Variables</i>	<i>Means</i>	<i>Maxi</i>	<i>Mini</i>	<i>Standard Deviation</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>Jarque-Bera</i>	<i>Pro</i>
<i>TB</i>	33.7807	38.9094	27.7198	2.7300	-0.2849	2.8341	0.6020	0.7400
<i>GDP</i>	539.100	1275.30	132.589	324.7961	1.1142	3.0474	8.4881	0.0143
<i>REER</i>	139.111	228.984	93.7225	47.8044	0.7333	1.7827	6.2059	0.0449
<i>INF</i>	9.2469	26.6630	2.9141	4.8893	1.5332	6.0218	31.6646	0.0000
<i>FDI</i>	0.8209	3.6683	0.0455	0.8332	2.0679	6.9004	55.2119	0.0000
<i>GFCF</i>	16.2444	19.2354	12.2206	1.7437	-0.7509	2.7328	3.9754	0.1370

Source: Authors calculation based on the software E views 9.5

The descriptive analytic table illustrates the interpretation of all variables. Average value of TB is 33.7807. Its maximum value is 39.9094 and minimum value is 27.7198. TB is negatively skewed because its value is less than zero. The kurtosis value of TB shows that it is platykurtic and is normally distributed. The mean value of GDP is 539.100. It is positively skewed. The kurtosis value shows that GDP is mesokurtic. The value of Jarque-Bera indicates that it is normally distributed. The average value of REER is 139.111. The table shows that REER is positively skewed. The kurtosis value illustrates that it is platykurtic because its value is less than 3 and the value of Jarque-Bera shows that the variable is normally distributed. The variable INF has average value 9.2469. Its maximum value is 26.6630 and minimum value is 2.9141. The value of skewness shows that INF is positively skewed. The kurtosis value indicates that the selected variable is leptokurtic. The value of Jarque-Bera shows that INF is normally distributed. The variable FDI has average value 0.8209. Its maximum value is 3.6683 and minimum value is 0.0455. The value of skewness indicates that FDI is positively skewed. The kurtosis value indicates that it is leptokurtic. The value of Jarque-Bera shows that FDI is not normally distributed. Average value of GFCF is 16.2444. Its maximum value is 19.2354 and minimum value is 12.2206. GFCF is negatively skewed because its value is less than zero. The kurtosis value of GFCF shows that it is platykurtic and is normally distributed.

**Table 3**  
**Correlation among variables**

<b>Variables</b>	<b>TB</b>	<b>GDP</b>	<b>REER</b>	<b>INF</b>	<b>FDI</b>	<b>GFCF</b>
<b>TB</b>	1					
<b>GDP</b>	-0.0421	1				
<b>REER</b>	-0.1495	-0.6466	1			
<b>INF</b>	0.3010	0.0328	0.1547	1		
<b>FDI</b>	0.2032	0.4875	-0.5676	0.1199	1	
<b>GFCF</b>	0.3187	0.4676	0.1813	-0.1585	0.1684	1

Source: Authors calculation based on the software E views 9.5

In the present model, we deal with the correlation of matrix for trade balance, Real exchange rate, Gross domestic product, Inflation, Foreign direct investment and Gross Fixed capital formation. As all the variables are stationary so that correlation is significant for these variables. The table evaluate air wise zero order correlation in order to study the degree of association among the independent variable. The Correlation table shows that there is negative relationship between TB and GDP. TB also has negative relationship with REER. The dependent variable TB has positive relationship with INF, FDI and GFCF. The correlation between TB and GDP is -0.0421 shows no multicollinearity. The correlation between TB and REER is -0.1495 shows no multicollinearity. The correlation between TB and INF is 0.3010 shows no multicollinearity. The correlation between TB and FDI is 0.2032 shows no

multicollinearity. GDP and REER have negative relationship. The correlation between FDI and REER is -0.5676 shows no multicollinearity.

## 5.2 Time Series Analysis

We used the time series data. The data collected is based on yearly data ranging from 1974 to 2014. The data shows that there are many fluctuations in the data which is shown by Trend Graph. Stationary data is useful for forecasting; forecasting is not possible on the data which is non-stationary. The analysis of time series data requires different techniques which are calculated on E Views 9.5.

## 5.3 ADF Test for Unit Root

ADF test is a technique that is used to check the stationarity of variables. If some of the variables are found to be stationary at Level and some variables are stationary at 1st difference, then after that we have to apply ARDL approach for analysis. With the help of unit root, we check as:

**Table 4**  
**Unit Root**

<i>Variables</i>	<i>Level</i>		<i>1<sup>st</sup> difference</i>		<i>Conclusion</i>
	<i>Intercept</i>	<i>Trend and Intercept</i>	<i>Intercept</i>	<i>Trend and Intercept</i>	
<i>TB</i>	-3.303**	-2.989**	-	-	I(0)
<i>GDP</i>	-	-	-4.620*	-4.978**	I(1)
<i>REER</i>	-	-	-5.922*	-3.687**	I(1)
<i>INF</i>	-4.652**	-4.496**	-	-	I(0)
<i>FDI</i>	-2.725	-5.227	-	-	I(0)
<i>GFCF</i>	-2.457**	-3.704**	-	-	I(0)

Source: Calculations based on Eviews 9.5 (\* \*\* \*\*\*) shows the level of significance at 1%, 5%, 10%)

ADF test is applied to check the unit root in variables. According to the

$H_0$  : Data is integrated

$H_1$  : Data is not integrated

In conclusion of the table, the term I(0) represents that variables are stationary at Level. The term I(1) shows that variables are stationary at First difference. A comparison is supposed by comparing the estimated value with the critical value in ADF test. The stationarity of the variable can be determined when the estimated value is less than the tabulated value. The table shows that GDP and REER are stationary at 1<sup>st</sup> difference. The variables TB, FDI, GFCF and INF are stationary at level.

**Table 5**  
**Basic results in ARDL Lag Table**

<b>R<sup>2</sup></b>	<b>Adjusted R<sup>2</sup></b>	<b>Akaike</b>	<b>Schwarz</b>	<b>Hannan</b>	<b>Durbin Watson</b>	<b>Probability</b>
0.838750	0.751406	3.180109	4.362783	3.974118	1.751389	0.000001

Source: Authors calculation based on the software E views 9.5

**Table 7**  
**Bound Test for Co integration**

<b>F value</b>	10.48248	
<b>Critical Bound Values</b>	<b>LCB</b>	<b>UCB</b>
<b>10%</b>	2.08	3.00
<b>5%</b>	2.39	3.38

Source: Authors calculation based on the software E views 9.5

In the bound test, the F-statistics value is greater than the value of Upper critical Bound. This criterion explains the occurrence of Long Run relationship among the variables.

**Table 6**  
**Diagnostic Test**

<b>Test Statistics</b>		
<b>Serial correlation</b>	Lagrange multiplier test	0.309458(0.7370)**
<b>Normality</b>	Based on a test of Skewness and kurtosis of residuals	5.032250 (0.080772)*
<b>Heteroscedasticity</b>	Based on the regression of Squared Residuals on square the Fitted values	0.730877(0.7175)*
<b>Functional form</b>	Ramsey's RESET Test using the square of the fitted values	2.924840 (0.1007) *

\*mean the rejection of null hypothesis at 5% level of significance

The above table of diagnostic test interpret that there does not exist serial correlation and the Variables are Normally Distributed. The probability value in heteroscedasticity verifies that here the problem of heteroscedasticity does not occur in the model that signifies the constant variance. Another form i.e., functional form shows that there is no Description Error in our selected model.

#### **5.4 Estimates of Long Run co Efficient of the Model**

To conclude the long run counterpart on Trade function, we examine bound test. Long run estimates are explained by the following table:

**Table 7**  
**Long run Estimates of the Model**

Variables	Coefficients	Std. Error	T-Statistics	Probability
<b>GDP</b>	0.007128	0.002484	2.86918	0.0084
<b>REER</b>	-0.010586	0.009086	-1.165077	0.2554
<b>INF</b>	0.20585	0.127303	1.614928	0.1194
<b>FDI</b>	-1.477080	0.661372	-2.233358	0.0351
<b>GFCF</b>	2.145571	0.504424	4.253504	0.0003
<b>C</b>	-3.549924	8.663592	-0.409752	0.6856

Source: Authors calculation based on the software E views 9.5

The table shows that TB and GDP are positively related. In our Estimation, gross domestic product has positively impression on economic growth. GDP is the basic component of TB. The variable nominal effective exchange rate and trade balance are negatively related.

### 5.5 Estimates of Short Run Co Efficient of the Model

To determine short run estimates of Trade balance. It has done with desired lags and consequences of short run estimates are:

**Table 8**  
**Short run Estimates of the Model**

Variables	Coefficients	Std. Error	T-Statistics	Probability
D(GDP)	-0.013036	0.004758	-2.739584	0.0114
D(GDP(-1))	-0.012007	0.004714	-2.547138	0.0177
D(REER)	0.001172	0.022025	0.053191	0.9580
D(INF)	0.189783	0.069712	2.722378	0.0119
D(FDI)	1.684757	0.535299	3.144183	0.0044
D(FDI(-1))	2.295585	0.586683	3.912821	0.0007
D(GFCF)	0.678921	0.262560	2.585777	0.0162
D(GFCF(-1))	-0.969983	0.222588	-4.357758	0.0002
D(GFCF(-2))	-1.465728	0.235227	-6.235359	0.0000
CointEq(-1)	-0.878827	0.100066	-8.782502	0.0000
CointEq = TB- (0.0071 * GDP -0.0106 * REER + 0.2056 * INF - 1.4771 * FDI + 2.1456 * GFCF -3.5499)				

Source: Authors calculation based on the software E views 9.5

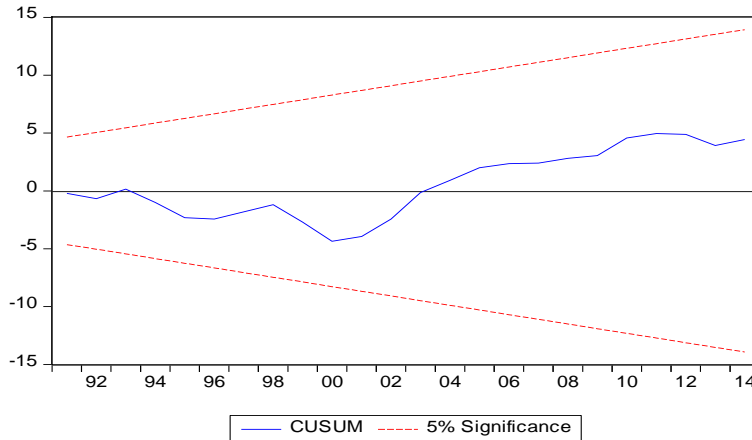
This table shows the short run estimated relationship among the variables. The value of coefficient of co-integration lies between 0 and-1. The coefficient of co integration is -1.698032 and is significant.

### 5.6 Stability Test

The stability of long run and short run parameters are verified through CUSUM and CUSUM SQUARE stability test. The graphs place within the Critical Bounds at 5% level of significance. The graphs show that the model is perfect fundamentally Stable and Properly Specified.

The result of graph shows that our estimates are stable:

[TB/ GDP, REER, INF, FDI, GFCF]

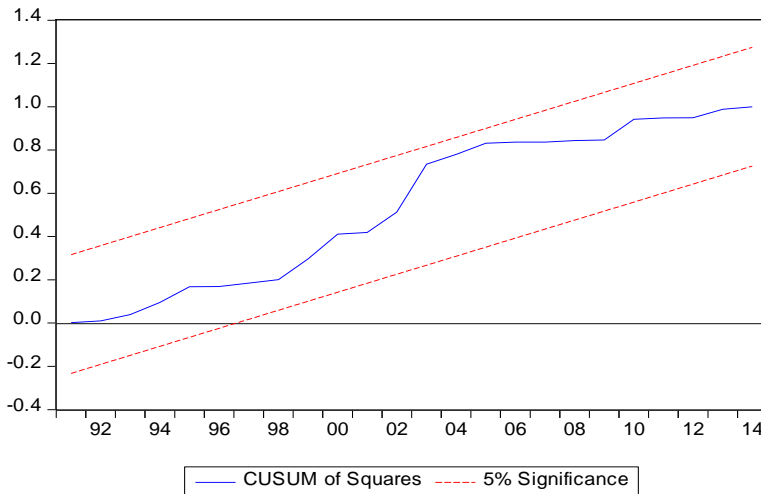


Source: Data collected from different websites

**Figure 3: Plot of CUSUM of Residual Test**

The result of graph shows that our estimates are stable:

[TB/ GDP, REER, INF, FDI, GFCF]



Source: Data collected from different websites

**Figure 4: Plot of CUSUM of SQUARE of Residual Test**

## 6. CONCLUSION AND POLICY RECOMMENDATION

### 6.1 Conclusion

In this paper, an effort is made to find the Gains from trade in Pakistan. The analysis is applied on annually collected data from different sources (WDI, IMF, PBS) ranging from 1974 to 2014. Moreover, the ADF test is functional to check the stationary among variables. ADF test requires that some of the variables should be stationary at level and some should be stationary at 1st difference. Also, the test of stationary of variables was made by Granger Causality test (GCT). The variables Trade Balance, Inflation, FDI and Gross Fixed capital formation are Stationary at Level while GDP and REER are stationary at 1<sup>st</sup> difference. Trade balance is engaged as the Dependent variable in the present study.

Founded taking place the conclusion of the study, it is recommended that Policymakers must recover the Trade Balance by considering the alternate measures for devaluation as the successive devaluation does not have thru a significant change in the Trade Balance. However, devaluation is an essential microeconomic policy that a country could apply to make economic specially trade conditions better. Many developing countries, along with Pakistan have depreciated their currency value whenever, they have met a serious problem of trade deficit. Result of this study support that devaluation has the effect of improving the trade balance but its effect on trade balance is very rapid. In outdated view opposes that currency devaluation should be consider as an effective policy tools to improve the Trade Balance of Pakistan facing the determined BOP Deficits.

### 6.2 Policy Implications

Government should adopt such policies in which real income should improve in Pakistan, in order to improve the Trade balance. Policymakers in Pakistan should choose an active scheme of encouraging the production of manufactured and semi manufactured goods in order to improve the trade balance through the above channel.

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