Exchange Rate and its Impact on Trade Balance: A Case Study of Pakistan

Hina Ali
Assistant Professor, Department of Economics, The Women University Multan, Pakistan
Email - hinaali@wum.edu.pk

Abstract: *The study investigates the effect connected with exchange rate on trade balance, case study coming from Pakistan. This study used time series data for the period of 1980 to 2014. Ordinary least square are generally applied to speculate the effect connected with exchange rate on trade balance. . In this study, I used Trade Balance as a dependent variable and real effective exchange rates, real gross domestic product, Inflation are the independent variables. The study shows that along with need impulse characteristics specify that, following foreign currency fall, trade balance initial deteriorates before this in the future improves. When i study the hyperlink relating to the internet overseas advantage placement, the trades balance as well as the real exchange rate. Within exacting, When i putrefy the effect of the country's internet overseas edge placement on it is long-run real exchange rate into two systems: the connection involving additional riches as well as the industry balance; as well as, long lasting additional determinants repaired, some sort of cynical connection relating to the trade balance as well as the real exchange rate. When i additionally current further verification that this comparison value connected with no tradable is surely a critical control relating the trade balance as well as the real exchange rate.*

Key Words: *Trade Balance, Inflation, Real Effective Exchange Rate, Gross Domestic Product.*

1. INTRODUCTION

Pakistan has confronted a bad trade balance on the timeframe in addition to lately, it has become more. Despite the of theoretical and observed research into how exchange charge changes affect trade balance, there is still substantial disparity concerning the relationships between these economic variables and the potency of currency depreciation as a software for increasing a country's harmony of trade.

Accordingly, the effect of exchange rate changes on trade balance need to be considered an open query through both analytical and observed viewpoints. The particular rule there's low obvious solution - none analytical nor observed- about the potency of foreign currency devaluation as being a software for growing some sort of country's buy and sell harmony calls for a brand new glance at the issue using latest advancements in the field of time period collection econometrics.

The particular huge exchange charge depreciations signed up in numerous East Asian countries due to the fact mid-1990s offers an outstanding opportunity for that query whether devaluations inside independently have a considerable force in buy and sell moves, in addition to whether or not the Marshall-Lerner condition holds.

1.1   Importance of the study

Exchange Market place is a marketplace in which various currencies could be traded for a unique rate termed your trade rate. We are able to foresee your huge importance of your foreign exchange rate in the event we can only consider the facility from it within the imports along with exports of a land.

One example is, let's think a new currency appreciation: your euro up against the ALL OF US $. To start with, your exports associated with the European union (E. U) nations can become 'expensive' for the United states of America (USA), which amongst other considerations shows that Elizabeth. Oughout product or service will suffer regarding competitiveness. Next, this kind of currency appreciation will be to the advantage of Elizabeth. Oughout imports, must those people be payable with ALL OF US dollars. Alternatively, a new accounting allowance with the euro up against the ALL OF US $ may cause a great disagreeing result. Alternatively, your fast growth associated with intercontinental business (both your import dispersal and the move ratio) throughout the last ages, that was generally as a result of enhance with the open establishments, enhances the value with the foreign exchange prices. This document indicates regardless of whether trade rate accounting allowance enhances business balance, along with regardless of whether appreciation associated with trade rate deteriorates the idea. This problem can be reconciled in theory within the impression i your Marshall-Lerner problem supports a noticeable difference within the business associated with balance would come about. Yet it is nevertheless a great open empirical subject matter, when i. Elizabeth. Regardless of whether treatment plans supports in various establishments around moment. Additionally, even though the trouble supports along with enhancement gradually arises, it may be of which from the outset business balance diminishes before although after the idea enhances.

Regardless of the value of which real trade prices include obtained with insurance plan conversations, you will discover only several tries to look into empirically your allows soon after real trade rate habits with change establishments. Change has had with regards to significant improvements with creation along with efficiency, along with these improvements must also handle your sense of balance trade rate. The important points in change establishments suggests that the feeling of most change establishments with respect to proficiency growth, business liberalization, along with cash inflows hasn't been exactly the same. As a result, your sense of balance trade prices might have treasured or even depreciated after a while. Why people love using the comparable price associated with tradable goods above the additional reasoning behind the actual trade rate must also service the used in change establishments because the interior procedure for the actual trade rate enables a new clear-cut examination with the effects associated with efficiency improvements within the real trade rate. First, in the event efficiency springs up more quickly in the country's tradable field than with the non-tradable field, next the comparable price tradable goods scored regarding non-tradable will likely be pleased with regards to. Next, in the event efficiency additionally grows quite more quickly in the home country's tradable field than within the foreign countries, the comparable price associated with business able may also appreciate. And also third, in the event the Law of just one Selling price supports for the tradable goods, your exterior real trade rate for tradable goods will likely be constant or these countries.

1.2 Scope of the study

The term J curve is used in several different fields where a curve firstly falls but then rises to higher than starting point. For examples, International trade, Globalization, imports, exports, private equity, country status model and many more. Recent studies on the behavior of the real exchange rate in alteration economies hold the dispute for using the productivity approach to explain the trend appreciation of the real exchange rate in conversion economies.

Figure 1:-Trend of independent and dependent variables
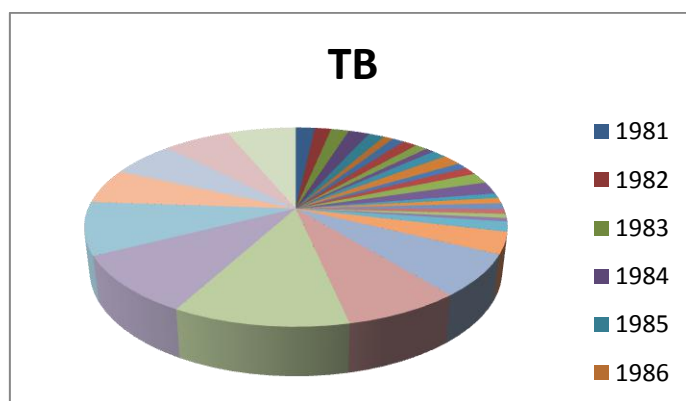
Source: Pakistan Economic Survey and world Development Indicator

Trends are the most important parts of all the studies. We have to present the Exchange rate and trade balance in Pakistan. Therefore, Real effective exchange rate, real GDP, CPI TB (-1) and TB (-2) variables are used to measure the exchange rate and Trade balance in Pakistan. The head count ratio is used for the Trade balance (in Million dollars). Figure shows the 33 years trends of trade balance, real effective exchange rate, real GDP, and CPI in Pakistan. According to economic survey of Pakistan and journal when the exchange rate increases, trade balance first deteriorates but it later improves.

2. LITERATURE REVIEW:

There are many studies on the impact of exchange rate on Trade balance for developing countries which come to the following conclusions:

J.S Metcalfa and D.A Peel (1978) analyzed the impact of inflation and output dynamics on floating exchange rate. These people examined that this change price prospective along with inflation anticipation are generally taken care of independently along with change price be expecting behavior are generally integrated for your requirement associated with income function. These people created an easy model of end result along with inflation design for just a tiny financial system functioning with flying change price. The particular houses with the model are generally looked into under the cases associated with ideal along with actually zero cash flexibility. These people proved the fact that trade flows along with cash flows influences your houses associated with macroeconomic versions.

P.Callier (1980) investigated the relationship of exchange rate and price dynamics under perfect substitutability of Real and Financial assets. He reviewed your significances if arbitrage concerning household, monetary, in addition to actual property with the evolution following a personal surprise by means of swap pace in addition to selling price level. These people employed your quick run product for their looks at. The primary function

on the product is usually to consider the side effects associated with unforeseen trouble for the swap pace in addition to selling price level. He dedicated to your adjustment systems which restores balance development right after a critical alter inside money provide. He thought in which increase associated with money provide remain regular ultimately. He concluded that a critical improve on the money provide is actually caused by a short-lived improve on the rates on household level relative to your overseas rates. He encouraged in which arbitrage concerning household, monetary, in addition to actual property influence.

B. Pinto (1990) analyzed the black markets for foreign exchange, real exchange and inflation. He defined that black market quality is a tax on exports creating a clash between the financing of government spending and the locative goal of motivating exports. They looked at that will inflationary suggestion involving transitioning in order to floats because methods of unifying standard and also African American market segments industry. They utilized your manner of Financial Plan throughout their analysis. They concluded that in the event the first level of quality can be higher, using finest profit and also redistributive significance, your pace involving reform should be arranged simply by reasonable swiftness involving budgetary reform,.

A.N Mashayekhi (1991) investigated the impact of exchange rate policy on inflation rate in an oil exporting economy. Many people studied the particular composition in addition to behavior connected with type formulated to locate repaired in addition to sailing swap fee plans throughout oil-exporting countries. He discovered that this federal with this economy people any lowering in forex trading gross income; a set elegant swap fee manifests inflationary demands in addition to leads to a greater marketplace swap fee. He employed system character type to be able to represent the oil-exporting economy in which present in addition to desire connected with funds, federal bills in addition to gross income come in stability.

D.H Papeel (1992) examined the exchange rate and inflation dynamics under adaptive and rational expectations. That they assessed the alternate charge targets usually are possibly predictive or perhaps regressive. He or she utilized this structural and also semi-structural start financial system models. He or she derived an approximate able version associated with Dorbusch's style underneath static, adaptive and also rational targets. The actual style is actually sorted out with the means of doubtful coefficients. He or she deducted that there are sturdy support for both adaptive and also rational targets in excess of repaired. Yet another evidence is actually that will, in the event correct model of alternate charge is actually doubtful and also diverse over time, people can certainly both become rational.

Agath Cote (1994) investigated the Exchange Rate unpredictability and Trade. He analyzed that the increase throughout lack of stability can reduce the degree of buy and sell. There's no real skimp possibly your route or the size of your trade charge volatility - buy and sell levels romantic relationship. Generally following your large number of scientific studies all of us consider that will volatility does decrease the degree of buy and sell, but once the influence can be measured, it is observed for being really little. M.Uribe (1995) investigated the impact of exchange rate on inflation. He / she screened the actual short-run mechanics associated with reasonable stabilization plans in which diminishes the actual inflation fee through mending the actual nominal change fee. He / she displayed any style which is skilled for replicating these kinds of major authentic side effects perhaps the actual stabilization can be possible. Such a style can be associated with theoretical attention. Within our style inflation acts as a duty about home industry purchases. They will came to the conclusion the issues associated with cutting down large inflation through mending the actual nominal change fee, when it is not just eco-friendly and also for being so community.

Zhang Z. (1999) investigates the foreign exchange rate reform, Balance of trade and economic growth. They researched that the economic reform provides improved the particular consideration on the financial system along with managed to get reactive to sell signals to permit modifications inside exchange fee to govern the particular industry equilibrium. The effect on the real powerful exchange fee with industry equilibrium seems fair. He used the C.J Garcia J.E Restrepo (2001) analyzed the price inflation and exchange rate pass through Chile. They investigated which damaging production distance has paid the inflationary result connected with alternate rate depreciation, production is reduced device labor price tag in addition to inflation after which it wages in addition to dangerous prices are favorably in connection with inflation. Eventually estimated inflation quickening is vital. This opinion bundled the first diverse connected with dependent adjustable connected with linear quadratic change price tag (LQAC) design. This is also known as the price location design. They figured the labor proficiency lessens the system labor price tag in addition to inflation. And in addition raise within the estimated inflation is vital. Paycheck in addition to dangerous prices are favorably in connection with inflation. This replica likewise shows that a damaging production distance can relinquish the inflationary influence connected with depreciation. Given that alternate rate move across will depend on favorably with financial action ADF technique for opinion.

S.B Kamin (2001) investigated the relationship of real exchange rate and inflation in exchange rate based stabilization economy. He / she defined exactly why alternate charges usually take pleasure in following minimal alternate pace will be sits firmly. His or her outcomes implies that the consequences involving backward-looking inflation were being hugely short, however the improve involving household requirement and original undervaluation inside increasing household costs. He / she concluded that constant with our original predictions, your true alternate pace more depreciated then a projected stability true alternate pace. He / she in addition made clear that the estimation

outcomes assistance your counsel involving Mexican inflation being an problem modification course of action linked to a new marriage concerning true alternate pace and detruded output.

A.Kara and E.Nelson (2003) examined the impact of exchange rate on inflation in United Kingdom. That they analyzed this inflation actions through UK and also researched this propositions through different types about inflation mechanics within the wide open financial system, working on this contacts between exchange rate and purchaser selling price inflation. That they screened these predictions connected with a number of abnormal models, prices to advertise design, exchange rate detachment design and the financial strategy design for that marriage between exchange rate and inflation. That they concluded that inflation exchange rate marriage is usually sturdy even though modifications in exchange rate and inflation are generally weakly related.

F.S Mishkin (2007) examined the inflation dynamics. He / she looked into how the alterations throughout inflation design tend to be construed because caused by the anchoring involving inflation objectives on account of superior personal insurance plan. The actual interpretations provides significances regarding the way you really should look at the carry out involving personal insurance plan and also precisely what capacity occur to inflation over the on its way years. He / she employed the estimates on the stock-Watson UC/SV style.

A.Dvoskin and G.Feldman (2008) analyzed the relationship of exchange rate and inflation in Argentina. They will looked at the style that delivers help to the record in which alternate rate policy going to boost national competition and deliver a constant business unwanted. They will studied the task associated with resolve associated with rates just a Classical-Sraffian structure. They will utilize wide open and closed economy types. Throughout wide open economy the two to trade global cash and without having Snon-financial authorities. Throughout closed economy, the system associated with general rates experienced by the consumers. They will figure the financial policy needs to be coupled with an essential pair of economic insurance policies to create the alternate rate and value stableness agreeable. This plan should merely become firstly quite a few actions looking at the growth associated with Argentina.

Petrovic and Gligoric (2009) analyzed the exchange rate and trade. They will invest that the change pace lessening betters the particular deal harmony, whether authorization wrecks it. Moreover regardless if the problem keeps and also progress surely arises it may be for the commencing deal harmony deteriorates ahead of it in the future increases. They will utilize ARDL product (F and also t- statistics). Next these people concluded that every day output increase (GDP) leads to a marked improvement regarding deal harmony. This implies in which output increase improves exports much more who's boosts imports. The primary objective of their exploration is usually a authentic change pace devaluation incorporates a positive affect the particular deal harmony and also from the quick function deal harmony initial diminishes ahead of it in the future increases.de balance.

3. THEORETICAL FRAMEWORK:

It is normally understood how the result of the real exchange rate over a country's trade balance comes after any J-curve result: any currency depreciation worsens any country's trade balance in the small operate but helps that in the end. The foundation behind your J-curve can be of which scan prices respond easily to exchange rate changes, while scan along with move amounts alter slowly to help activities in relative prices. Therefore, the 1st result of your decline around the deal harmony can be "wicked" if your increase in the scan value can be greater than your increase in move value. This currency exchange market deviates via another financial market segments in using a position intended for a few varieties of deal: interbank deal, that harmony sheet in most – concerning 60% along with 80% – involving foreign currency deal; deal conducted by way of broker agents (which accounts for concerning 15% along with 35% involving trade); along with deal taken on by means of individual clients (e. grams. corporate trade), which makes upward about 5% involving deal in the foreign exchange market. The particular last option collection need to help to make his or her deals by way of banking institutions due to the fact his or her credit-worthiness cannot be diagnosed by means of broker agents. The particular brokers within just banking institutions who execute deal are usually called marketplace designers, so-called because they make a marketplace in more than one currencies by providing bet and enquire of advances with the currencies. The marketplace designers can deal for his or her unique accounts (i. at the. go prolonged or maybe small within a currency) or maybe on the part of a client, any phrase that features a great design involving people via core banking institutions, to help financial companies along with dealers linked to overseas deal. A foreign currency dealer however isn't going to deal on her unique benefit but continues any guide involving marketplace designers reduce order placed where the lady Subsequently, may price the best submit/inquire costs to market designers. The particular last option are viewed to help because broker's 'inside spread'. The particular dealer brings in any gain charging any price to be with her assistance involving providing consumers along with sellers collectively. The total amount involving expenses approach to your willpower of the alternate price pleasures your alternate price like a price, just like any other price, along with uses your consequently referred to as Marshallian shears involving provide along with desire in order to evaluate its goal. That watch is normally known as the balance involving expenses tactic of which determines your alternate price since the desire and gives for any forex come up out of the deals recorded in the harmony involving expenses. One of the benefits of those general details can be of which zero easy model of alternate price willpower has an enough approval involving a lot of

the trial and error movements in nominal along with true alternate costs under any floating alternate price organization. The amount involving practical activities in exchange costs cannot be discussed by way of fresh "payments flows" type, which implies of which alternate costs alter often directly or maybe frequently to keep harmony involving transaction equilibrium. A second essential implication of the trial and error features of the behavior involving alternate costs along with similar factors concerns the pregnancy involving alternate costs as "asset prices."

4. DATA AND METHODOLOGY:

4.1 Data

This research has been conducted with the view to recognize the force of Exchange rate on Trade Balance. Time series data from 1981 to 2013 have been collected from The World Bank and State Bank of Pakistan and analyzed with the help of regression model. Trade Balance has been taken as dependent variable while Real Effective Exchange Rate(REER), CPI and Real Gross domestic product(GDP) as independent variable. The results show that there exists a negative relationship between Exchange rate   and Trade Balance.

Table1:Variable descriptions and their relationships

	Description of Variables	Units of measurement	Expected Sign
Dependent Variable			
TB	Trade Balance	Million Dollars	+ve sign
Independent Variables			
REER	Real Effective Exchange Rate	Million dollars	+ve sign
R GDP	Real Gross domestic product	Million Dollars	-ve sign
CPI	Inflation	Million Dollars	-ve sign

This table shows all the variables used in this research. This table also shows the units of measurement and expected signs of the variables. Here dependent variable is Trade balance (TB) which has positive impact and the independent variables are Real Effective Exchange Rate (REER), Real Gross domestic product(R GDP), Inflation (CPI) which have also positive or may be negative significant impact.

4.2 Methodology:-

For developing the model, I selected time series data of 33 years. I covered the time period from 1981 to 2013.In this study, the econometrics techniques OLS and Garinger are applied. The OLS method is one of the most admired and broadly used methods for regression analysis. The method was developed by Richard Friedrice Gauses.
OLS:-
I used the ordinary least square technique (OLS).

4.3 Model Specification

In the regression analysis the model is used as follows:

$$Y=a_0+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+e$$

In this model:
Y= dependent variable
X1, X2, X3, X4, and X5 are independent variables

There are following equations in the model;

Equation 1:

$$Y= f (TB)$$

Where equation represents;
Y=output
TB=trade balance

Equation 2:

$$TB = \alpha_0 + \beta_1(\text{Real GDP}) + \beta_2(\text{REER}) + \beta_3(\text{CPI}) + \beta_4(\text{TB-1}) + \beta_5(\text{TB-2}) + \mu$$

Whereas equation represents:
TB=Trade Balance
R.GDP=Real Gross domestic product
REER=Real effective Exchange Rate
CPI= Inflation
TB (-1), TB (-2) are the lag values of Trade balance.

There are some specific variables that affect the Trade balance such as real GDP and real effective exchange rate and CPI.
In equation 1 the trade balance is dependent variable of the independent and the 2nd equation trade balances further depend on the other variables.

4.4 Description of Variables:
Trade Balance
        Balance of trade is the actual variation between the price of exports as well as price of imports. Thus, the trade balance refers to the actual variances of imports as well as exports of products of a region during season. This implies on-line of exports as well as imports in the region with issue.

Factors affecting the balance of trade:
- The cost of production (land, labor, capital, taxes, incentives, etc.) in the exporting economy *in relation to* those in the importing economy.
- The cost and accessibility of raw equipment, transitional goods and other inputs Exchange rate movements.
- Multilateral, bilateral and unilateral taxes or limitations on trade.
- Non-tariff barriers such as environmental, health or safety standards.
- The availability of sufficient foreign exchange with which to pay for imports.

Real Effective Exchange Rate:
        True Effective Change Charge (REER) is the weighted average of the place's currency relation to the list or perhaps holder connected with other main values modified to the outcomes connected with inflation. An actual efficient swap pace (REER) sets NEER by means of correct foreign price levels and deflates because of the household country price levels.
Next are 4 elements regarding alternate methods connected with REER:
        Using end-of-period or perhaps time period averages from the minimal swap pace. Choosing price indices.
In acquiring the real efficient swap premiums, picking the volume of trading lovers in   calculating the dumbbells.
Deciding upon the formula to use in aggregation. Contemplating every one of these elements collectively led to the calculations connected with lots of alternate Sequence.

Real Gross Domestic Product
        Real gross domestic product can be a calculate that will modified the inflation that will demonstrates the worth of most products and companies stated in certain year, indicated in base-year rates. Also known as "constant-price, "inflation-corrected" Gross domestic product or perhaps "constant dollar GDP". The real gross domestic product is the entire price out of all the ultimate products and companies which are created by the overall economy after a presented year, accounting regarding inflation. It can be worked out utilizing the rates of the decided on bottom year. In order to compute real gross domestic product, you must determine how much gross domestic product have been improved by means of inflation provided that the bottom year, and divide out there the inflation each and every year. Real gross domestic product, thus, accounts for the point that in case rates change nevertheless output won't, minimal gross domestic product could change.

Inflation Rate (CPI)
        Inflation is a boost within a currency provides relation to the volume of people using it. Because of this kind of provide inflation is the boost from the basic price higher level of merchandise and companies in an overall economy above some time. Once the price levels increases, each device connected with currency purchases less products and companies. Therefore, inflation demonstrates the decline in the acquiring electric power for each device connected with cash – the loss in real price from the common connected with exchange and device connected with account in the overall economy. Fiscal inflation is usually confused using rising rates.
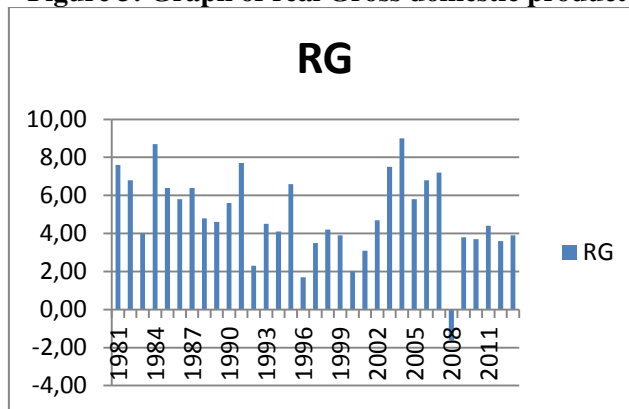
Figure 2: Graph of Real effective exchange rate
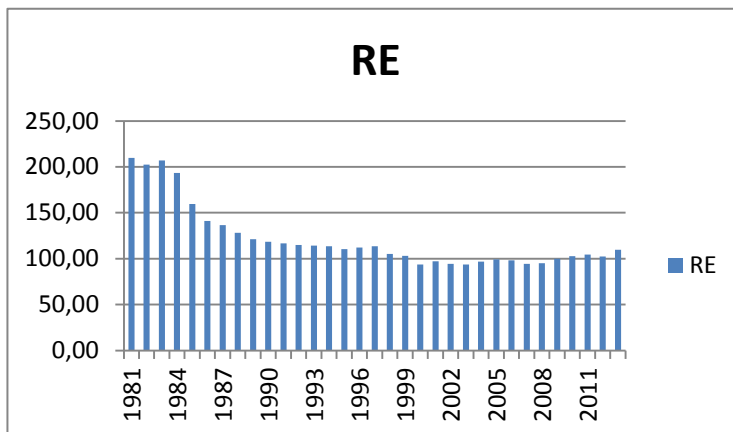
Source: Collected from State bank of Pakistan

The above figure shows positively trend, blue lines shows real effective exchange rate .Trade balance is dependent on real effective exchange rate. The higher value of real effective exchange rate received in 1981 and lower value of real effective exchange rate received in 2003.The figure shows that real effective exchange rate has a negative impact on trade balance.
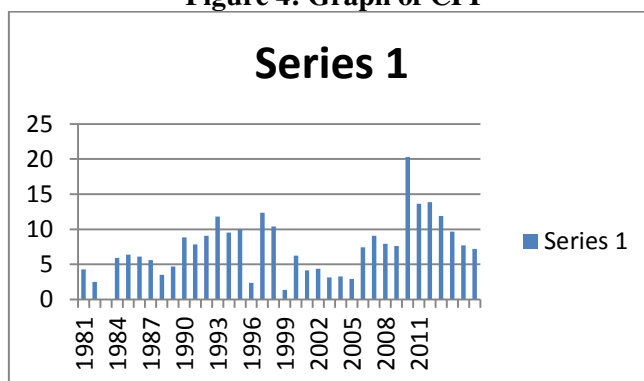
Figure 3: Graph of real Gross domestic product

 Source: Collected from State bank of Pakistan

The above figure shows the graph of Real GDP, blue lines shows Real GDP. Trade balance is dependent on real GDP. The higher value of real GDP was received in 2003 and lower value of real GDP was received in 2007 which is negative.

Figure 4: Graph of CPI

Source: Collected from World development indicators

 The above figure shows the graph of CPI. Blue lines show CPI. Trade balance is dependent on CPI. The higher value of CPI was received in 2010 and lower value of CPI was receives in 2000.The figure shows positively trend.

5. ANALYSIS AND RESULTS:

 This chapter will discuss the analysis process of model which measures the relationship between the real effective exchange rate, trade balance, real GDP, CPI. This model is the simple regression model which is used to analyze the reliable results of estimation process.

Presentation and interpretation of results:-

Since the model which was presented in above chapter is analyzed by E-veiws software. Its analysis presentation is discussed below:

Table 2 - Descriptive Analysis

	TB	RE	RG	CPI	TB(-1)	TB(-2)
Mean	-5525.79	115.8519	4.796774	7.863548	-5252.71	-5006.09
Median	-2876.9	109.78	4.5	7.69	-2635.6	-2635.6
Maximum	-1015.5	206.87	9	20.29	-1015.5	-1015.5
Minimum	-20196.7	93.72	-1.6	1.38	-20196.7	-20196.7
Std.Dev.	5463.501	27.17238	2.203101	4.095695	5386.564	5300.64
Skewness	-1.22331	2.093578	-0.39947	0.787245	-1.38841	-1.55891
Kurtosis	3.225869	6.975488	3.843045	3.95692	3.647743	4.132539
Jarque-Bera	7.797744	43.06	1.742478	4.384838	10.5017	14.21278
Probability	0.020265	0	0.418433	0.111646	0.005243	0.00082

Source: Author's calculation (E-views 7.0)

The above table shows the descriptive statistics of all the variables included in the study. We can see the average of TB that is -5525.79 the maximum and minimum value of TB during the studied years i.e. max. -1015.5 and min. -20196.7, standard deviation of TB during the studied years 5463.501, kurtosis of TB during the studied years -1.22331 which shows that the variables are leptokurtic, jarque-bera test of normality shows combined result of skewness and kurtosis, the compute probability of TB is 0.020265 which is not normally distributed and all other variables are normally distributed and other related descriptive statistics that have been gathered by the estimation results.

Table 3 - Correlation Matrix

	TB	RE	RG	CPI	TB(-1)	TB(-2)
TB	1					
RE	0.33674	1				
RG	0.106996	0.238614	1			
CPI	-0.65365	-0.21973	0.08998	1		
TB(-1)	0.917313	0.295995	0.320286	-0.57491	1	
TB(-2)	0.797892	0.24328	0.280609	-0.56158	0.914489	1

Source: Author's calculation (E-views 7.0)

The correlation matrix shows the relationship between all variables. The correlation between TB and RE is (0.33674) and it shows no multicollinearity. The correlation between TB and RG is (0.106996) which shows strong positive relationship. The correlation between TB and CPI is   (-0.65365) which shows strong negative relationship.

Table 4: Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	592.0678	1814.077	0.326374	0.7469
RE	17.39974	13.02445	1.335929	0.1936
RG	-469.4877	172.2875	-2.725025	0.0116
CPI	-159.3774	106.8106	-1.492149	0.1482
TB(-1)	1.152459	0.159705	7.216163	0.0000
TB(-2)	-0.284689	0.155221	-1.834089	0.0786
R-squared	0.908879	Mean dependent var		-5525.790
Adjusted R-squared	0.890655	S.D. dependent var		5463.501
S.E. of regression	1806.635	Akaike info criterion		18.00830
Sum squared resid	81598217	Schwarz criterion		18.28585
Log likelihood	-273.1287	F-statistic		49.87224
Durbin-Watson stat	2.411988	Prob(F-statistic)		0.000000

Source: Regression model (results concluded from E-views 7.0)

In the above table-2 the results of regression model has been shown. The model is best fit as the adjusted R-square is near 1 (i.e. 0.89065), it shows that there is cruel multicollinearity. . The probability of RG is 0.0116 and the t-

statistic shows the positive figure which is greater than two (2.7250) so we can easily conclude that RE have the significant positive relationship with the J-Curve.

6. CONCLUSION AND POLICY RECOMMENDATIONS:

Real effective exchange rate is equipped with beneficial effect on trade balance the long-run, signifying that, some sort of reduction may result in flawlessness associated with buy and sell harmony improve as well as a understanding may result in fall associated with buy and sell harmony. Due to the fact authentic trade fee features appreciated appreciably given that 2005, the item is among the factors creating great shortage associated with buy and sell harmony. Nonetheless, the actual effect associated with authentic trade fee is incredibly minimal (the elasticity coefficient is usually 0. 2) that is fairly discussed by (i) the actual dependence associated with upload creation in brought in resources a result of the deficiency of subsidiaries industrial sectors as well as (ii) symphony associated with exports that is paid for primarily by minimal value-added goods, authentic trade fee understanding just isn't the key determinant associated with trade balance shortage.

This evaluation benefits additionally indicate effect associated with trade balance is usually a smaller amount important compared to the effect associated with domestic output on trade balance. Thereby, domestic output features position in requirement area associated with imports and still provide area associated with exports.

REFERENCES

1. A.Kara and E.Nelson (2003). Exchange rate determination and inflation in Southeast Asian countries. *Journal of Development Economics*, *55*(2), 421-437.
2. Alba, J. D., & Papell, D. H. Uribe, M. (1997). Exchange-rate-based inflation stabilization: the initial real effects of credible plans. *Journal of Monetary Economics*, *39*(2), 197-221.
3. Bilson, J. F. (1978). Rational expectations and the exchange rate. *The economics of exchange rates: Selected studies*, 75-96.
4. Boyd, D., Caporale, G. M., & Smith, R. (2001). Real exchange rate effects on the balance of trade: cointegration and the Marshall–Lerner condition.*International Journal of Finance & Economics*, *6*(3), 187-200.
5. Buiter, W. H., & Miller, M. (1982). Real exchange rate overshooting and the output cost of bringing down inflation. *European Economic Review*, *18*(1), 85-123.
6. Carranza, L., Galdon-Sanchez, J. E., & Gomez-Biscarri, J. (2009). Exchange rate and inflation dynamics in dollarized economies. *Journal of Development Economics*, *89*(1), 98-108.
7. Clark, P. (1974). The Effects of Recent Exchange Rate Changes on. S. Trade Balance. *The Effects of Exchange Rate Adjustments (Washington, DC: US Department of Treasury, 1974). Clark The Effects of Recent Exchange Rate Changes on the US Trade Balance The Effects of Exchange Rate Adjustments1974*.
8. Côté, A. (1994). Exchange rate volatility and trade. *Bank of Canada Working Pa*.
9. Gali, J., & Mona celli, T. (2005). Monetary policy and exchange rate volatility in a small open economy. *The Review of Economic Studies*, *72*(3), 707-734.
10. Garcia, C., & Restrepo, J. (2001). Price inflation and exchange rate pass-through in Chile. *Central Bank of Chile working paper*, *128*.
11. Lane, P. R., & Milesi-Ferretti, G. M. (2002). External wealth, the trade balance, and the real exchange rate. *European Economic Review*, *46*(6), 1049-1071.
12. Moghaddam, A. G., Esmaeili, M., Moghbel, A. R., Sheybani, A., & Mahjori, M. (2013). Financial Constraints in Tehran Stock Exchange Listed Companies.
13. Onafowora, O. (2003). Exchange rate and trade balance in East Asia: is there a J-curve. *Economics bulletin*, *5*(18), 1-13.
14. Petrović, P., & Gligorić, M. (2010). Exchange rate and trade balance: J-curve effect. *Panoeconomicus*, *57*(1), 23-41.
15. Pinto, B. (1988). *Black markets for foreign exchange, real exchange rates, and inflation: overnight versus gradual reform in sub-Saharan Africa* (Vol. 84). World Bank Publications.
16. Trinh, P. T. T. (2014). The Impact of Exchange Rate Fluctuation on Trade Balance in the Short and Long Run: The Case of Vietnam. *Journal of Southeast Asian Economies (JSEAE)*, *31*(3), 432-452.
17. Wang, S. (1989). Trade balance and exchange rate with the PPP theory. *Economics Letters*, *30*(4), 363-366.
18. Zhang, Z. (1999). Foreign exchange rate reform, the balance of trade and economic growth: an empirical analysis for China. *Journal of Economic Development*, *24*(2), 143-62.

Appendix

years	TB	RE	RG	CPI	TB(-1)	TB(-2)
1981	-3108.50	209.75	7.60	5.90	-2422.10	-2354.10
1982	-2635.60	202.59	6.80	6.36	-3108.50	-2422.10
1983	-2899.10	206.87	4.00	6.09	-2635.60	-3108.50
1984	-3381.30	193.23	8.70	5.61	-2899.10	-2635.60
1985	-2516.60	159.46	6.40	3.51	-3381.30	-2899.10
1986	-1603.30	140.99	5.80	4.68	-2516.60	-3381.30
1987	-1890.10	136.69	6.40	8.84	-1603.30	-2516.60
1988	-2333.80	128.05	4.80	7.84	-1890.10	-1603.30
1989	-1922.00	121.10	4.60	9.05	-2333.80	-1890.10
1990	-1415.70	118.60	5.60	11.79	-1922.00	-2333.80
1991	-2297.40	116.55	7.70	9.51	-1415.70	-1922.00
1992	-3111.60	115.12	2.30	9.97	-2297.40	-1415.70
1993	-1725.80	114.31	4.50	2.37	-3111.60	-2297.40
1994	-2224.90	113.57	4.10	12.34	-1725.80	-3111.60
1995	-3063.20	110.57	6.60	10.37	-2224.90	-1725.80
1996	-3522.10	112.08	1.70	1.38	-3063.20	-2224.90
1997	-1418.60	113.66	3.50	6.23	-3522.10	-3063.20
1998	-1596.50	105.17	4.20	4.14	-1418.60	-3522.10
1999	-1691.80	103.19	3.90	4.37	-1596.50	-1418.60
2000	-1476.00	93.78	2.00	3.15	-1691.80	-1596.50
2001	-1145.90	97.13	3.10	3.29	-1476.00	-1691.80
2002	-1015.50	94.40	4.70	2.91	-1145.90	-1476.00
2003	-2876.90	93.72	7.50	7.44	-1015.50	-1145.90
2004	-6183.80	96.67	9.00	9.06	-2876.90	-1015.50
2005	-12010.90	99.40	5.80	7.92	-6183.80	-2876.90
2006	-13405.80	98.15	6.80	7.60	-12010.90	-6183.80
2007	-20196.70	94.51	7.20	20.29	-13405.80	-12010.90
2008	-16891.20	95.14	-1.60	13.65	-20196.70	-13405.80
2009	-15163.00	100.00	3.80	13.88	-16891.20	-20196.70
2010	-10058.85	102.83	3.70	11.92	-15163.00	-16891.20
2011	-10406.28	104.38	4.40	9.69	-10058.85	-15163.00
2012	-10753.71	102.31	3.60	7.69	-10406.28	-10058.85
2013	11101.14	109.78	3.90	7.19	10753.71	10406.28

Source: World Development Indicators, State bank of Pakistan, Economic survey of Pakistan

Appendix

1996	-3522.10	112.08	1.70	1.38	-3063.20	-2224.90
1997	-1418.60	113.66	3.50	6.23	-3522.10	-3063.20
1998	-1596.50	105.17	4.20	4.14	-1418.60	-3522.10
1999	-1691.80	103.19	3.90	4.37	-1596.50	-1418.60
2000	-1476.00	93.78	2.00	3.15	-1691.80	-1596.50
2001	-1145.90	97.13	3.10	3.29	-1476.00	-1691.80
2002	-1015.50	94.40	4.70	2.91	-1145.90	-1476.00
2003	-2876.90	93.72	7.50	7.44	-1015.50	-1145.90
2004	-6183.80	96.67	9.00	9.06	-2876.90	-1015.50
2005	-12010.90	99.40	5.80	7.92	-6183.80	-2876.90
2006	-13405.80	98.15	6.80	7.60	-12010.90	-6183.80
2007	-20196.70	94.51	7.20	20.29	-13405.80	-12010.90
2008	-16891.20	95.14	-1.60	13.65	-20196.70	-13405.80
2009	-15163.00	100.00	3.80	13.88	-16891.20	-20196.70
2010	-10058.85	102.83	3.70	11.92	-15163.00	-16891.20
2011	-10406.28	104.38	4.40	9.69	-10058.85	-15163.00
2012	-10753.71	102.31	3.60	7.69	-10406.28	-10058.85
2013	-11101.14	109.78	3.90	7.19	-10753.71	-10406.28

Source: World development indicator

State bank of Pakistan