

## Testing Purchasing Power Parity: A Comparison of Pakistan and India

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### Abstract

We defined the purchasing power parity (PPP) in the scenario of Pakistan and India as a long term unit elasticity of exchange rate and compared it with relative national prices. The characteristic of finite sample are analyzed through time series regression analysis. It allows the cross sectional dependency, country heterogeneity and non-stationary disorder. Because the deviation of PPP is decrease with very slow rate, we execute the test on the data of 43 years. The past studies have showed that data was collected on the basis decades, like some of the researcher data contained on 08, 35 and 55 years. Additionally using the time series regression, this study observed the structural changes over a long term period. In this study, result identifies that the real exchange rate of India and Pakistan are not constant. The practical evidence shows that long run PPP holds for the sample countries.

**Keywords:** Purchasing Power Parity; Exchange rate; Time Series Regression Test; Relative National Prices

### 1. Introduction

It is an economic theory which is being used for the compression of money at a comparatively stage as per value of the second country's currency at the equivalent level of the each country purchasing power.

The PPP can be calculated as:

$$S = \frac{P_1}{P_2}$$

"S" donates the exchange rate of currency (1) to currency (2)

"P<sub>1</sub>" donates the cost of good (x) in currency (1)

"P<sub>2</sub>" donates the cost of good (x) in currency (2)

It is a simple theory which hold that the rate of exchange between two currencies must be equal to the ration aggregate price levels between two countries, in simple we can say that the a unit of home country must have the same value in the foreign country. Its means that the home currency has the same value of purchasing power in the foreign country as it is in home. According to the law of one price identical the same value of the money should be determined for the purchase and sale of products between two nations at the same time.

If the two countries are producing the same products or substitute of these products, in such case demand of one product is fluctuate due the change of inflation in one country. The shifting of demand from Pakistan to India will be continued until the value of Indian rupees appreciated. Prices paid by Indian consumer for the Pakistani goods no lower than the comparable products and Prices paid by Pakistani consumer for Indian goods are no higher than the comparable goods. This equilibrium appreciate the Indian Rupees. Purchasing power parity (PPP) creates a relationship between movement of country's inflation or deflation and foreign exchange rate relative to that of a foreign country (Coakley, Flood, Fuertes, & Taylor, 2005). Absolute PPP defined as purchasing power of a unit of foreign currency is exactly the same in the domestic economy (Saeed, Awan, Sial, & Sher, 2012).

Relative PPP point towards that change in national price level like inflation or deflation are offset by changes in the nominal exchange rate between the relevant currencies (Arize, 2011). Lot of studies have been held to test the validity of PPP, especially after the failure Brettonwood system in 1973. It is still under investigation that relative PPP fails to short hold in short run and long run PPP (Nusair, 2003).

The PPP theory was traced in 16<sup>th</sup> century in Salamanca school of Spain and to the writings of Gerrard de Malynes appearing in 1601 in England. There is a long history about the theory of purchasing power parity. But a standard and well known concept of the PPP was introduced after World War 1 at the time of date on international policy which was conducted for the determine of nominal exchange rates between the major industrialized countries due the high inflation which was exists before and after war (Taylor & Taylor, 2004). Due to this debate the concept of the purchasing power parity was introduced worldwide and economists started working on the PPP and introduced theories.

This paper provides the evidence about the exchange rate value between the two countries Pakistan and India. We explore the determinants of relative PPP between the Pakistan and India. We have selected the exchange rate as a dependent variable and other are independent variable like inflation, interest payment on external debt, gross domestic income, payment on external debts and external balance on goods and services. After that we choose the method to test the PPP analysis through time series regression framework. The test on time series regression line provides the results that there is stationary in the exchange rate of these two countries that have influenced due to the change of independent variable that provide the support about our hypothesis about the PPP. While all selected variables are important and their impact on the PPP but the interest is highly influenced in India on exchange rate and in the case of Pakistan external balance on goods and services has highly impact on exchange rate. Most of the studies about the PPP show the stationary result of real exchange rates. The test about the stationarity is mostly made between currencies by currency. On the basis of the previous studies this paper adopts a genuine time series of regression test which collected all the factors that have their direct influence on the variability of exchange rate. We accepted that there is stationary in the exchange rates and find that PPP is exists as per our sample.

#### 1.1 Objective of study

Exchange rate fluctuation is one of the unsolved factors which need to be further researched. Due to the significant difference of the exchange rate in any economy, no one can deny the importance of understanding the foreign exchange markets. There is need to understand and study behavior of exchange market, exchange rate determinants and factor effecting purchasing power parity. Most prominent questions which answers are required in this study are as follow: What are the basic determinants of exchange rate? Does Gross National Income can affect Exchange Rate? Is there purchasing power parity exists between India and Pakistan? How it is determined? What should be equilibrium?

#### 1.2 Contribution of study

This study examines the purchasing power parity between India and Pakistan. The result could be helpful or used as tool for the policy maker for monitor and design the foreign policy. This will also help to ensure the exchange rate for export and import products. It May be helpful for foreign trader, Speculator and arbitrage for long term and short term investments.

#### 1.3 Limitations of the Study

This study contributes in two developing economies of Pakistan and India. Therefore, these implications cannot be based on the entire domain however, the consequences or results of this can be adopted or implicated in those areas or countries have the same nature of economy. The data for this study have been taken from the sources of World Bank and its results are beneficial for measuring the PPP in Pakistan and India.

## 2. Literature Review

Snell (1996) conducted a research in University of Edinburgh, United Kingdom and reject non-stationary by using unit root test for ten most highly profiled industrial countries real exchange rates in latest drift. Steigerwald (1996) adopted the unit root test to find out the PPP and rejected the dynamic restrictions implicit of unit root tests accordingly determined a restrictive dynamic structure linking between relative price indices and nominal exchange rates. Engel & Rogers (2001) asserts that local currency pricing have effects on the exchange rate due to change of value of local currency.

He find out that exchange rate has negative and positive influence on real exchange rate variability. Papell (1997) shows the stronger impact on the hypothesis through of unit root test, while there are weak results in the correlation against null hypothesis through unit root test. Feenstra & Kendall (1997) determinend two hypotheses about PPP. One is changes in the price of traded goods that are connected to home substitutes will influence the PPP rate, the other one is PPP should grip on forward rather than spot exchange rates that concluded that PPP worth is influenced due to change in interest rate.

The influence of these two hypotheses through interest rate effect is very low. Connell (1998) conducted a reserch on purchasing power parity in United States and concluded that panel test results have strong impamt

mena verversion in real exchange rate. Payne, Lee, & Hofler (2005) Conducted a research on PPP on the economy of Croatia through battery unit root test on different variables and finded that there is low purchasing power partity in transition economy of Croatia. Alba & Park (2005) that lira real exchange rate has a significant impact on PPP. Christidou & Panagiotidis (2010) used the nonlinear unit root test on time series via a vis the US dollar on the 15 European Union countries and rejected the PPP after the introduction of single currency.

Chang & Tzeng (2011) invigated the purchasing power partity between Russia, Ploand Lativa, Lithuania, Romania, Czech Republic, Hungary and Estonia and provided the avidence of strong long rup PPP of these countries. ALBA & PARK (2003) used the panel unit root tests for measuring the PPP for US dollar real exchange rates for the developing economies with the variables of inflation level and growth rate of per capita GDP and founded the stronger PPP evidence after 1980. Serletis & Gogas (2004) used the regression test Fisher and Seater and concluded that there is weak evidendce of the PPP. HOLMES (2001) asserts that there is stationarity real exchange rate using quartely data form 1973-99 and concluded that there is less PPP for most less developed countries.

The unqualified form of purchasing power parity is based on concept without consumer shifts their demand, where the prices are lower and international barrier. It is supposed that the basket of same of products between India and Pakistan in common currency. In 1990s, a number of countries adopted financial policies and market oriented economies along with presenting foreign investor with vast business opportunities (Salehizadeh & Taylor, 1998). In the short time period, Capital flows, interest rate differential and custom-made derivative helping the foreign investors to manage the partially hedge against currency fluctuation (Chiu, 2002). PPP (Purchasing power parity) is often engaged to represent the long term equilibrium between the currencies of two different countries.

Business and investment decisions consist on the long time span, therefore long term currency forecast is necessary (Salehizadeh & Taylor, 1998).It is necessary to take the black market under consideration to analyses the PPP. Black markets have a long existence on the foreign exchange in many developing countries. Existence of black market typically leaves the current or past imbalance on the International balance of payment. Such market also increase the demand of foreign currency in local market (Sundar, Varela, & Naka, 1997).During the last two eras Sri Lanka, India and Pakistan has been experienced the extraordinary earning due to the rapid development of export base garments industries (Sundar, Varela, & Naka, 1997). In last two decades many problems related to PPP have been discussed in international finance (Wu, Cheng, & Hou, 2011). Hoque and Banerjee (2012) condemned that real exchange rate in Pakistan, Sri Lanka and India are not constant. The Observed evidence declared that long term PPP is not exist for Sample countries. PPP theory declared that change in real rate of exchange between two countries must be equal to inflation differential between the pair of country. If the quantity indexes exactly add up over different levels of aggression when PPP measured in the value of term (Hill, 2000).Additive is highly useful if the international assessments are required at the different stages of aggregation as example in a national account relationships (Papell & Alba, 2007).

Results of validity of PPP in Pakistan and India are used as tool of measurement to aid the think tanks and policy makers in making and ensuring policies for exchange rate to enhance the export in garments in prospects of these countries (Hoque & Banerjee, 2012).Because the deviation of PPP decreases for the policies of exchange rate at a very slow rate. Structural changes for the long time period and lacking of previous studies on PPP matter for decision making. If Changes in GDP, Inflation, per capita income and State income leave the impact on the exchange rate than no PPP exists. Exchange rate of Pakistan is highly fluctuating as compare to the exchange of India with Dollar.

In the series with PPP real exchange rate is known as nominal exchange rate by comparing the foreign price level and Domestic price level (holmes, 2001). Hoque and Banerjee (2012), Gave the three contributions about this topic. First of all it confirms the stationary of Bangladesh, India and Pakistan as major garments exporters among the developing countries. Secondly PPP deviation is very slow, there for researchers use a long span data to measure the mean deterioration in the data. Third Consumer price index and producer price index consist on the non-tradable and tradable good respectively (Wu, Cheng, & Hou, 2011). Several authors gave the exception of long run PPP in industrial countries by investigating effect of country characteristic on PPP (Coakley, Flood, Fuertes, & Taylor, 2005). Chiu (2002) examine the impact of geogrphical charateristic, productivity growth, trade oppenness, government spending on PPP and inflation.

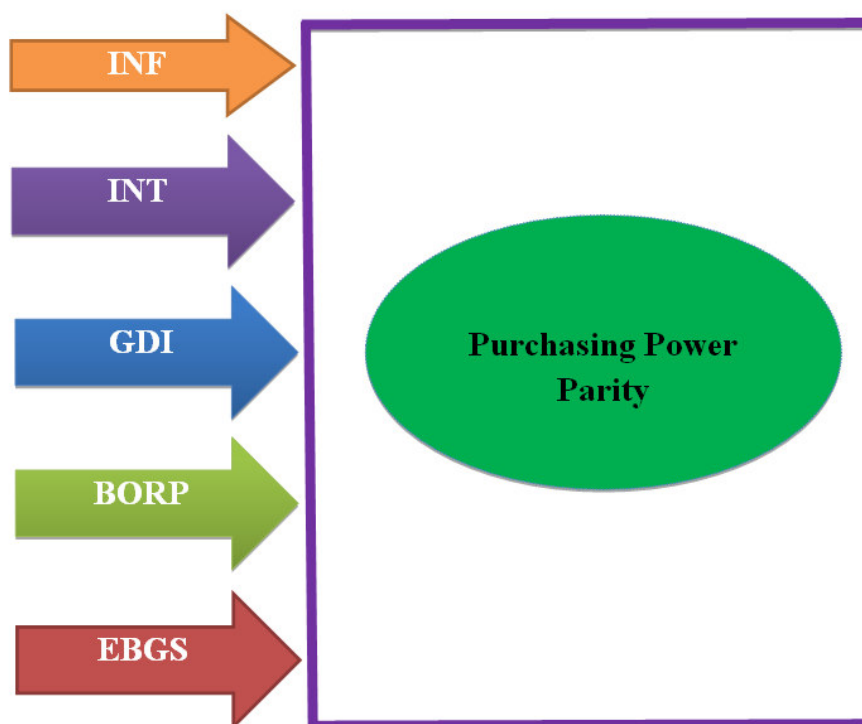
## 2.1 Development of Hypothesis

This study wants to make the comparison between two countries named as Pakistan and India to test whether both countries have same factors which influence the purchasing power parity. Following are the hypothesis of this study:

- H1:** There is a Negative relationship between INT and PPP
- H2:** There is a positive relationship between INF and PPP
- H3:** There is a positive relationship between GDI and PPP

- H4:** There is a negative relationship between BORP and PPP  
**H5:** There is a positive relationship between EBGs and PPP

## 2.2 Research Model



## 2.3 Abbreviation of the Models

Inflation Rate	INF
Interest Rate	INT
Gross Domestic Income	GDI
Balance of Repayments	BORP
External Balance of Goods and Services	EBGS

## 3. Research Methodology

### 3.1 Explanation of Variables

#### a. Inflation

If there is a continuous increase in the prices of the products and fall in the purchasing value of the money. If the inflation in any part of the world is not sustained then it will impact on the rate of dollar. If inflation trends to increase then the purchasing power parity will be low if inflation tends to decrease then the purchasing power parity will be high. The difference of the prices for the same product in the different countries is due to the change of inflation rates which is normally equal to the appreciation and depreciation of the exchange rate.

#### b. Interest payment of External debts

Interest payment of external debts means the interest which is paid by the specific country in foreign currency, services or goods in a financial year. It refers to the IMF charges, interest paid on short term charges, and interest paid on long term debt. Long term debts are those which have the maturity of more than one year and cashable in form of goods, services or currency. Short term debts are those that have the life of one year or less than one year. The large debt increases the inflation, and if there is a trend of continuously increasing in the rate of inflation then it will decrease the value of the local currency against the foreign currency. On the other hand, higher interest rate influences the rise of exchange rate and attracts foreign capital and lower interest rate decreases the exchange rate.

#### c. Gross Domestic Income

It is used to measure the purchasing power against the incomes which are generated by the production of domestic sources. These sources also include those income changes in the terms of trade. Gross Domestic Income includes the three factors like production expenditure and income sources.

d. Balance of Repayments

The second name of the BOP is the international payment, and these payments contained the services and income, financial claims, services and income and gifts. BOL classified these payments into two accounts capital account and current account. Capital account depends on transactions in monetary tools while current account contained investment, services, goods and current transfers.

e. External balance on goods and services

The external balance of goods and services refers to the difference of imports and exports. It compares with the total amount of deficit and excess of money which is attained after the calculations of export of goods and services minus imports of goods and services.

3.2 Sample and Data Collection

Sample is a representative part of population. It is difficult due to time, cost and convenience to collect data from whole population therefore a sample is used to get the results about population (Sekran, 2005). In this study sample is the facts and figure of factors determining PPP from Pakistan and India as well. Data has been collected from the Websites of World bank, Pakistan Bureau of Statistics, State Bank of Pakistan, Statistics Department of India and Reserve Bank of India etc. The sample period is 1970 to 2012 and total observations are 258. Yearly data of dependent variable on Exchange rate and dependent variables on Inflation, Interest, Gross domestic Income, Balance of repayment and External balance on goods and services (In US Dollars) were collected for the comparison of purchasing power of parity of Pakistan and India.

3.3 Measures and Instruments

This study uses two softwares named as SPSS version 17.0 and Eviews version 7.0. Different Measures such as Collinearity test, Descriptive tests, and Regression Analysis have been used to check the relationship among the dependent variables and independent variables as well. In this paper we used regression and non-regression test to check the validity of Purchasing power parity of Pakistan and India on the basis of exchange rate. Inflation is the main cause that has direct impact on the value of exchange rate, if home country face inflation the value of the currency will be decrease that may have direct impact on the decrease of purchasing power parity. Due to the inflation in home country, consumers and firms of that country try to focus on importing. Purchasing power parity measures the relationship between the inflation and exchange rate.

Home country is denoted by “h” and the Sign for foreign country denoted by “P”. Inflation rate of home country is denoted by “ $I_h$ ” and the inflation rate for the foreign country is denoted by “ $I_f$ ”. Suppose Price indexes of home country and foreign countries are equal. After the addition of impact of inflation the price index of home as under;

$$P_h (1 + I_h) \dots\dots\dots (1)$$

In the opposite direction price index for the foreign country (f) as under;

$$P_f (1 + I_f) \dots\dots\dots (2)$$

The Purchasing power parity (PPP) theory recommends the rate of exchange for any country not remained constant and it can be maintained to adjust the purchasing power parity. If the exchange rate of the foreign currency change due to occurrence of inflation the foreign price index for the home country perspective will be as under;

$$P_f (1 + I_f) (1 + e_f) \dots\dots\dots (3)$$

Percentage change in the value of foreign currency is denoted by  $e_f$ . We can solve for  $e_f$  under the PPP, as follows;

$$P_f (1 + I_f) (1 + e_f) = P_h (1 + I_h) \dots\dots\dots (4)$$

Solution for  $e_f$ ;

$$1 + e_f = P_h (1 + I_h) / P_f (1 + I_f) \dots\dots\dots (5a)$$

$$e_f = (P_h (1 + I_h) / P_f (1 + I_f)) - 1 \dots\dots\dots (5b)$$

$P_h$  is equals to  $P_f$  (It is initially assumed that price indexes are equal ), they cancel the price index;

$$e_f = ((1 + I_h) / (1 + I_f)) - 1 \dots\dots\dots (6)$$

The results of regression tests are tabulated in Exhibit 1 for Pakistan and Exhibit 2 for India.

$$y = \beta_0 + \beta_1 x + \beta + \epsilon \quad (1)$$

$$[y = \beta_0 + \beta_1 \text{inf} + \beta_2 \text{int} + \beta_3 \text{gdi} + \beta_4 \text{borp} + \beta_5 \text{ebgs} + \epsilon] \quad (1.1)$$

Whereas  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  are independent variables which need to be estimated with regression test.

Multiple regression models;

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_k x_k + \epsilon_0 + \sum_{i=1}^k \beta_i x_i + \epsilon, \quad (1.2)$$

3.4 Findings and Discussions

This research is empirical due to which the study uses two different countries data to make analysis. First of all the study tries to check either model is fit or not so that study can be continued further. To check the fitness of



model researchers used ANOVA and found that **p value is 0.0000** and **F value is 204.951** and concluded that model is fit.

### 3.5 Reliability Results

It is necessary to check the reliability of data before going to apply the regression tests on data. This research study uses collinearity as reliability test. In collinearity test two main indicators named as Tolerance and Variable Inflation Factor (VIF) are used. Different Researchers use different benchmark for tolerance value and VIF. Following is the exhibit of Collinerity results:

Factors	Tolerance		Collinearity	
	Pakistan	India	Pakistan	India
INF.	.909	.925	1.100	1.081
INT.	.218	.250	4.87	4.230
GDI.	.606	.808	1.651	1.238
BORP.	.244	.506	4.105	1.975
EBGS.	.421	.312	2.377	3.940

### 3.6 Interpretation

In the above table it is found that no one value is less than the standard value of tolerance (0.20) for both countries data and the no one value is greater than benchmark value of collinearity (5.0/10) in both countries data (B. G. Tabachnick & Fidell, L.S, 2001; Kleinbaum et al., 1988; Mayer, 1990; Belsely, 1991). Therefore we conclude that there is reliability among the data and further regression analysis can be preceded.

### 3.7 Comprehensive Regression Analysis

This study uses Eviews software for regression analysis. Regression test tells about the relationship between dependent and independent variables as well. Here t value and p value tells about the significance of relationship between variables and the coefficient tells about positive and negative relationship between variables. Following are the tables of comprehensive regression tests:

#### Exhibit 1

##### Purchasing Power Parity (Pakistan)

Variable	Coefficient	Std. Error	t-Statistic	Probability
Inflation	0.125360	0.157571	0.795581	0.3414
Interest	-4.488191	1.929135	-2.326530	0.0256
Gross domestic income	9.211110	7.010000	13.14294	0.0000
Balance of repayments	-3.360000	1.680000	-1.997824	0.0531
External balance on goods and services	2.461111	6.711111	0.366581	0.7160
Cumulative	-7.030577	5.126740	-1.371354	0.1785

#### Exhibit 2

##### Purchasing Power Parity (India)

Variable	Coefficient	Std. Error	t-Statistic	Probability
Inflation	-0.198483	0.214067	-0.927201	0.3598
Interest	8.130578	2.845304	2.857542	0.0070
Gross domestic income	3.700000	2.160000	1.708044	0.0960
Balance of repayments	2.290000	3.920000	5.845976	0.0000
External balance on goods and services	-1.670000	2.260000	-0.740059	0.4639
Cumulative	6.162276	3.041107	2.026326	0.0500

### 3.8 Interpretation

#### Hypothesis One

Study developed the hypothesis on the basis of previous literature to investigate the relationship between interest and PPP. After analysis the study found the p value 0.0256 and t value - 2.327 and beta value is negative for Pakistan. Therefore we accept the hypothesis and conclude that there is significant negative relationship between interest and purchasing power parity in Pakistan. On the other hand we concluded that interest has strong positive relationship between interest and PPP in India because the value of t is 2.86 and p value is 0.0070 and beta has positive sign and reject the hypothesis. In the end we conclude that interest has significant positive and negative relationship with PPP in India and Pakistan respectively. In Pakistan if interest rate increases the PPP will have down word trend while on other side India it is opposite to Pakistan and if interest rate increases the PPP also will move upward.

#### Hypothesis Two

Study developed the hypothesis on the basis of previous literature to investigate the relationship between inflation and PPP. After analysis the study found the p value 0.341 and t value 0.796 and beta value is positive for Pakistan. Therefore we reject the hypothesis and conclude that there is insignificant positive relationship

between inflation and purchasing power parity in Pakistan. On the other hand we concluded that inflation has weak negative relationship between inflation and PPP in India because the value of  $t$  is  $-0.927$  and  $p$  value is  $0.360$  and  $\beta$  has negative sign and reject the hypothesis. In the end we conclude that inflation has insignificant positive and negative relationship with PPP in Pakistan India and respectively. In Pakistan if inflation rate increases the PPP will have upward trend while on other side India it is opposite to Pakistan and if inflation rate increases the PPP also will move downward.

### Hypothesis Three

Study developed the hypothesis on the basis of previous literature to investigate the relationship between Gross Domestic Income and PPP. After analysis the study found the  $p$  value  $0.0000$  and  $t$  value  $13.1429$  and  $\beta$  value is positive for Pakistan. Therefore we accept the hypothesis and conclude that there is significant positive relationship GDI and purchasing power parity in Pakistan. On the other hand we concluded that Gross domestic Income has weak positive relationship between GDI and PPP in India because the value of  $t$  is  $1.7080$  and  $p$  value is  $0.0960$  and  $\beta$  has positive sign and reject the hypothesis. In the end we conclude that GDI has insignificant positive and significant positive relationship with PPP in India and Pakistan respectively. In Pakistan and India if GDI rate increases the PPP will have upward trend.

### Hypothesis Four

Study developed the hypothesis on the basis of previous literature to investigate the relationship between BORP and PPP. After analysis the study found the  $p$  value  $0.0461$  and  $t$  value  $-1.9978$  and  $\beta$  value is negative for Pakistan. Therefore we accept the hypothesis and conclude that there is significant negative relationship BORP and purchasing power parity in Pakistan. On the other hand we concluded that BORP has strong positive relationship between BORP and PPP in India because the value of  $t$  is  $5.8460$  and  $p$  value is  $0.0000$  and  $\beta$  has positive sign and accept the hypothesis. In the end we conclude that BORP has significant negative and significant positive relationship with PPP in Pakistan and India respectively. In Pakistan if BORP decreases then PPP moves upward and in India if BORP increases the PPP will have upward trend.

### Hypothesis five

Study developed the hypothesis on the basis of previous literature to investigate the relationship between EBGS and PPP. After analysis the study found the  $p$  value  $0.7160$  and  $t$  value  $0.36658$  and  $\beta$  value is positive for Pakistan. Therefore we reject the hypothesis and conclude that there is insignificant positive relationship EBGS and PPP in Pakistan. On the other hand we concluded that BORP has weak negative relationship between EBGS and PPP in India because the value of  $t$  is  $-0.7401$  and  $p$  value is  $0.4639$  and  $\beta$  has negative sign and reject the hypothesis. In the end we conclude that EBGS has insignificant positive and insignificant negative relationship with PPP in Pakistan and India respectively. In Pakistan if EBGS increased then it trend to upward PPP and in the case of India if EBGS decreased then trend to downwards PPP.

### 3.9 Descriptive Statistics

Factors	Minimum		Maximum		Mean		St. Deviation	
	Pak.	Ind.	Pak.	Ind.	Pak.	Ind.	Pak.	Ind.
INF.	2.91	-7.63	26.66	28.60	9.3619	8.9221	5.32771	5.20577
INT.	.01	.26	1.99	1.69	1.2400	.7426	.53312	.41904
GDI	1.90E10	9.67E9	1.09E11	5.58E11	5.5817E10	1.3127E11	2.92293E10	1.54898E11
BORP	5.92E6	1.20E8	3.83E9	1.52E10	1.6887E9	3.9507E9	9.63780E8	3.84002E9
EBGS	-5.09E12	-5.84E12	3.28E12	-1.30E11	-1.8353E12	-8.2855E11	1.83793E12	1.34909E12
PPP	4.76	7.49	93.40	53.44	33.8712	25.9074	26.08069	16.67759

### Interpretation

Above table has been taken from the SPSS results of data of two different countries Pakistan and India. Descriptive results of two countries have been taken from the facts and figures of the data. If we make comparison between two countries concerning inflation we found that in forty three years period India inflation in minimum category remained very low which is two positive sign while in maximum category India inflation rate remained high. If we take mean inflation between countries for the period of 43 years we concluded that India inflation rate was low as compared to Pakistan. The standard deviation value of India is also low. If we make the comparison of Pak & India we found that minimum interest rate in 43 years in Pakistan remained low as compared to India while maximum interest rate of India remained low. The mean interest rate of India was low as compared to Pakistan in last 43 years and the St. Deviation of India also is low. If we make the comparison of GDI of Pak & India we found that GDI is low in India in minimum and in maximum value India rate is high and S.D of GDI is low in Pakistan and the mean value of GDI is high in India.

If we make the comparison of BOP of two countries we found that BOP in minimum value is high in India and in maximum value is high in India also. The mean value of BOP is high in India for last 43 year and S.D is also high in India for BOP. If we make the comparison of EBGS of two countries we found that EBGS is low in India in maximum value and high in Pakistan in minimum value. The mean value of EBS is low in India and S.D value is high in Pakistan. If we make the comparison of PPP in maximum value it is high in India and in

minimum value it is low in India. The mean value of PPP is high in Pakistan and S.D is high in Pakistan.

#### 4 Conclusion

Purchasing power parity is one of the most puzzling parameter in finance since then it was introduced first time by Prof Cassel in the 20<sup>th</sup> Century. This study includes the indicators that are very realistic to provide the evidence about the weak and strong combination of PPP in the both traditional economies of Pakistan and India. It is a methodical amplification of the econometric disputes in testing PPP using time series regression test for both of the countries that is consisting the data of 43 years. In this paper we find very little support for weak of PPP. We find that there is a strong combination of evidences that support the PPP. We find that in case of India the PPP is mostly cause by interaction between interest rate and exchange rate while in case of Pakistan we concluded that there is a strong integration between domestic income and exchange rate. Our findings propose that entire PPP may be considered as a serious practical solution that justifies study.

#### References:

1. Arize, a. c. (2011). Purchasing power parity in LDCs: An empirical investigation. *Global Finance Journal* , 22, 56-71.
2. Alba, D. J., & Park, D. (2005). An empirical investigation of purchasing power parity (PPP) for Turkey. *Journal of Policy Modeling* , 27, 989-1000.
3. ALBA, D. J., & PARK, D. (2003). Purchasing Power Parity in Developing Countries: Multi-Period Evidence Under the Current Float. *World Development* , 31 (12), 2049-2060.
4. Belsely, D.A., (1991), "conditioning diagnostics: collinearity and weak data in regressions. Wiley, New York, NY.
5. Chiu, R. I. (2002). Testing the purchasing power parity in panel data. *International Review of Economics and Finance* , 11, 349-362.
6. Coakley, J., Flood, R. p., Fuertes, A. M., & Taylor, m. p. (2005). Purchasing power parity and the theory of general relativity: th first test. *Journal of International Money and Finance* , 24, 293-316.
7. Chang, T., & Tzeng, H.-W. (2011). Long-run purchasing power parity with asymmetric adjustment: Further evidence from nine transition countries. *Economic Modelling* , 28, 1383-1391.
8. Christidou, M., & Panagiotidis, T. (2010). Purchasing Power Parity and the European single currency: Some new evidence. *Economic Modelling* , 27, 1116-1123.
9. Connell, G. J. (1998). The overvaluation of purchasing power parity. *Journal of International Economics* , 44, 1-19.
10. Engel, C., & Rogers, H. J. (2001). Deviations from purchasing power parity: causes and welfare costs. *Journal of International Economics* , 55, 29-57.
11. Feenstra, C. R., & Kendall, D. J. (1997). *Pass-through of exchange rates and purchasing power parity* (Vol. 43).
12. Hill, R. j. (2000). Measuring substitution bias in international comparisons based on the additive purchasing power parity methods. *European economic review* , 44, 145-162.
13. Holmes, m. j. (2001). New evidence on real exchange rate stationarity and purchasing power parity in less developed countries. *Journal of microeconomics* , 23 (4), 601-614.
14. Hoque, A., & Banerjee, R. (2012). Does Purchasing Power Parity Hold for Garment Export-. *Procedia - Social and Behavioral Sciences* , 65, 8-13.
15. HOLMES, J. M. (2001). New Evidence on Real Exchange Rate Stationarity and Purchasing Power Parity in Less Developed Countries. *Journal of Macroeconomics* , 23 (4), 601-614.
16. Khan, F. N., & Eatzaz, A. (2005). Test of purchasing power parity based o cointegration technique. *Pakistan economic and social review* , 43 (2), 167-183.
17. lancieri, E. (1990). Purchasing Power Parities and Phase IV of the international comparison Project: Do They Lead to real estimates of GDP and its component. *18* (1), 29-48.
18. Mudabber, A. (2005). Purchasing power parity based on capital account, exchange rate volatility and cointegration: Evidence from some Developing countries. *Applied Econometrics and International Development* , 5 (3), 105-116.
19. Nusair, S. A. (2003). Testing the validity of purchasing power parity. *Journal of economic development* , 28 (2), 129-146.
20. Papell, D. H. (1997). Searching for stationarity: Purchasing power parity under the current float. *Journal of International Economics* , 43, 313-332.
21. Payne, J., Lee, J., & Hofler, R. (2005). Purchasing power parity: Evidence from a transition economy. *Journal of Policy Modeling* , 27, 665-672.
22. Papell, D. H., & Alba, J. D. (2007). Purchasing power parity and country characteristics: Evidence from panel data tests. *Journal of Development Economics* , 83, 240-251.



23. Serletis, A., & Gogas, P. (2004). Long-horizon regression tests of the theory of purchasing power parity. *Journal of Banking & Finance* , 28, 1961-1985.
24. Snell, A. (1996). A test of purchasing power parity based on the largest principal component of real exchange rates of the main OECD economies. *Economics Letters* , 51, 225-231.
25. Steigerwald, D. G. (1996). Purchasing power parity, unit roots, and dynamic structure. *Journal of Empirical Finance* , 2.
26. Saeed, A., Awan, R. U., Sial, D. M., & Sher, F. (2012). AN ECONOMETRIC ANALYSIS OF DETERMINANTS OF EXCHANGE RATE IN PAKISTAN. *International Journal of Business and Social Science* , 3 (6).
27. Salehizadeh, M., & Taylor, R. (1998). A test of purchasing power parity for emerging economies. *Journal of international financial market* , 9, 183-191.
28. Sundar, C., Varela, O., & Naka, A. (1997). Black market and official exchange rates, cointegration and purchasing power parity in developing countries. *Global finance journal* , 8 (2), 221-238.
29. Taylor, A. M., & Taylor, M. P. (2004). The Purchasing Power Parity Debate. *Journal of Economic Perspectives* , 18 (4), 135-158.
30. Wu, J. L., Cheng, S. y., & Hou, h. (2011). Further evidence on purchasing power parity and country characteristics. *International Review of Economics and Finance* , 20, 257-266.

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