

Effect of inflation and exchange rate on the ppp theory



Background

The theoretical underpinning for the study of money demand and PPP is standard. The simplest form of the PPP theory suggests that goods market arbitrage enforces parity in national price levels. Hence, converted to a common currency, national price levels should be equal.

Law of One Price

The foundation of purchasing power parity is grounded in the law of one price. The theory states that barring frictional or complicating factors such as tariffs, taxes, and transportation costs, the price of internationally traded good in one country should achieve the identical price in another country, once the price is adjusted to a common currency.

Thus, the economic theory suggests that two long-run relationships could be found: one between domestic prices, foreign prices, and the nominal exchange rate; and another between domestic prices, money, real income, and the nominal interest rate. While we would expect both the real exchange rate and real money demand to be fairly stable in the long run, we would also expect temporary deviations from these two long-run equilibrium to affect future fluctuations in the variables such that the long-run equilibrium are restored.

This transformation, as well as some important economic structural reforms, could have arguably affected both the long-run money demand relationship and the real exchange rate, since it led to both some financial deepening (as low-income households gained access to formal banking services to a larger

extent), as well as a strong increase in foreign competition, which in turn could have had a one-off effect on the domestic price level.

Conceptually, the PPP's are very similar to consumer price indexes. The PPP's are measures of price level differences across space or, in their most popular form, across countries. Because the prices of goods and services in different countries are expressed in national currencies, the purchasing power parity between currencies of two countries, say A and B, is the number of units of currency of country B (or A) that has the same purchasing power as one unit of currency of country A (or B). Though the PPP's are similar to price index numbers in spatial comparisons, they assume special significance because the PPP's can be used as a conversion factor, in place of exchange rates, in converting various economic aggregates from different countries into a common currency unit. The converted aggregates are expressed in a common currency unit, and the aggregates are considered to be real value aggregates devoid of price variations among countries. These real aggregates make it feasible to undertake cross-country comparisons and to undertake economic and statistical analyses on global and regional levels.

The purchasing power of different currencies is equalized for a given basket of goods. In the "relative" version, the difference in the rate of change in prices at home and abroad – the difference in the inflation rates – is equal to the percentage depreciation or appreciation of the exchange rate.

The best-known and most-used purchasing power parity exchange rate is the Geary-Khamis dollar (the "international dollar"). PPP exchange rate (the "

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real exchange rate”) fluctuations are mostly due to different rates of inflation between the two economies. Aside from this volatility, consistent deviations of the market and PPP exchange rates are observed, for example (market exchange rate) prices of non-traded goods and services are usually lower where incomes are lower. (A U. S. dollar exchanged and spent in Pakistan will buy more haircuts than a dollar spent in the United States). PPP takes into account this lower cost of living and adjusts for it as though all income was spent locally. In other words, PPP is the amount of a certain basket of basic goods which can be bought in the given country with the money it produces.

Regardless, it is important to understand that purchasing power parity is a powerful tool that provides us a common lens by which to view the economic health and condition of different countries. Just as with any tool or device, we must be cognizant of the limitations and weakness of PPP and understand how we can control those limitations within a particular data set.

1. 2 Problem Statement

There can be substantial and prolonged periods of deviation from relative PPP exchange rates. To understand some of the potential causes for these deviations, it is most fruitful to take a closer look at the more important of the many assumptions we had to make before we could invoke the Law of One Price for individual goods on which PPP is based.

Purpose of the Research Study

The purpose of the study is to know the effect of inflation & exchange rate on purchasing power parity.

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This research report will help for understanding the Purchasing Power Parity and how its effect inflation, exchange rates will it changes country by country. This study relates to the consequence of PPP in explaining the exchange rates between the currencies of developed countries and of Pakistan. This research is based on the idea that how inflation and exchange rate exerts compels over the purchasing power parity. This report will adheres transpire the mitigations for importers and exporters. In broad sense, this will help the consumer and one interested in importing the products and commodities to estimate that how inflation can aggregate its impacts over their transactions. It will compel the corrosion of the frequent importers and exporters. Whereas, this research report will be beneficial for one's studying or interested in inflation and economy. Corporate and many financial institutions performing the international transaction can mitigate and minimize their risk due to inflationary pressure over Purchasing Power Parity.

1. 4 Research Question

What are the effects of inflation over PPP (Purchasing Power Parity?)

Effects aggregated in broader sense are negative and positive, whether the purchasing power parity shows its increasing trend or decreasing trend.

Positive in the sense that the country can now buy more goods from another country with the same size of currency bucket as compare to later one, whereas, the negative effects indicates the devaluation and limitation of purchasing goods from another country, spending more as compared to previous one.

CHAPTER 02

LITERATURE REVIEW

As prescribed by the title of the study “ Effects of inflation and exchange rate over purchasing parity”. It is clearly determined that the two adjacent bodies, exchange rate and inflation rate can be jointly counted which can affect the purchasing power parity, The report on integration of Inflation (CPI) and PPP concludes that Consumer price index (CPI) and purchasing power parity (PPP) conversion factors share conceptual similarities. The CPI measures changes in levels of prices of goods and services over time within a country whereas PPP’s measure differences in levels of prices across countries or regions within a country. Therefore the CPI and PPP’s refer, respectively, to the time and spatial dimension of price movements. The consumer price index is one of the most widely used economic indicators, compiled and disseminated by national statistical offices on a regular basis. The CPI measures play a prominent role in monitoring the effects of government policies, particularly monetary policy, and provide the general public with a measure of changes in the prices of goods and services consumed. Purchasing power parities are defined as “ the number of currency units required to buy goods equivalent to what can be bought with one unit of the currency of the base country; or with one unit of the common currency of a group of countries. Officer (1982)

It is been observed that in most cases it was found at least one co-integrating vector matching PPP. In three cases, the results depended on using the countries’ interest rates to explain the deviations from the long-run relation implied by PPP theory. However, the application of PPP theory should

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not be “ confined” to the search for long-run relations: it should also lead to the study of short-run dynamics whereas; the factor of inflation is always to be considered to alter the maximization of effects over purchasing power parity. As per other empirical studies for South Africa, indicates that there exists a stable money demand type of relationship among domestic prices, broad money, real income, and interest rates, as well as a long-run relationship among domestic prices, foreign prices, and the nominal exchange rate.

In the short run, shocks to the nominal exchange rate affect domestic prices but have virtually no impact on real output, while shocks to broad money have a temporary impact on real output before becoming inflationary. Both types of shocks seem to trigger a monetary policy response, as the short-term interest rate adjusts quickly. South Africa adopted a formal inflation-targeting framework for monetary policy early in 2000, following less than satisfactory experiences with other monetary policy regimes (such as an exchange rate peg and money growth targeting, during the previous decades. The inflation target was set at 3 to 6 percent by 2002, and transparency and accountability of the South African Reserve Bank (SARB) were enhanced.

According to a study the research has determined the facts and the level of relationship between how the inflation can under its stemmed branches i-e WPI, CPI and SPI indices can affect the purchasing power parity and exchange rate. There are few economic theories that have received as much scrutiny as purchasing power parity (PPP) and the determination of long-run real exchange rates. There is a vast empirical literature on these two related <https://assignbuster.com/effect-of-inflation-and-exchange-rate-on-the-ppp-theory/>

subjects presented in the research report. The message which emerges from the existing literature by this report is that it has only a very partial picture of why deviations from PPP are so constant over time. The inability to fully explain the dynamics of real exchange rates stems from the imperfect knowledge of the dynamics of price adjustment and of the fundamental variables driving long-run relative prices in the world economy has been kept as the based foundation in this study. When it's added to that an imperfect knowledge of the channels through which non-monetary shocks drive nominal exchange rates in the short run (Anton, 2006).

The aim here is not to offer yet another comprehensive review, but to justify the relationship and the emerging affects of inflation on Purchasing Power Parity with the real exchange rates. Exchange rates may change over time in response to a number of different forces. Prominent among these forces are: (i) Domestic compared to foreign inflation rates, (ii) Commercial polices of the Government, including tariff and non-tariff barriers to trade, and (iii) International movements of capital and incomes. Anticipating movements in each of the above exchange rates will require analysis of changes in these three critical sets of variables, which often will be causally related to each other. But here in this study the determination is about the changes that can be unveiled through the affects measured in this study. Moreover, it also provides a test of purchasing power parity (PPP) as an explanation for long term foreign exchange rate movements. It essentially extends the analysis of the South East Asian nations, Indonesia, the Philippines, Malaysia, South Korea and Thailand. It imposes symmetry and proportionality restrictions flowing from the absolute form of purchasing power parity (PPP). The tests

are also run for sub-periods with similar results. Symmetry and proportionality restrictions find little support in the unit root tests though the Johansen tests suggest that the foreign exchange rate and inflation rates are linked in a long run sense. Anton, (2006), The description illustrates that there is strong evidence that PPP holds as a long run constraint in countries at a lower stage of economic development and characterized by under developed capital markets. For those countries that has substantial foreign exchange speculation and capital movements, the changes of exchange rate deviate largely from PPP. The research also shows the there is lack of evidence to support the conventional wisdom which predict that a large share of non tradable sector, severe trade restrictions and intensified government intervention in foreign exchange market would lead to a divergence between the exchange rate and PPP. Nevertheless, most of the results are based on the data of the major industrial countries. While developing economics share many common characteristics in terms of exchange rate determination, there are some major differences between the two types of economics.

Tang, M, (2005), this is simply the combination or effects gathered due to disturbance in inflation. As per the research, it has to be monitored that how the purchasing power parity is affected due to inflation and apparently the exchange rate. Whenever the inflation has aroused and sounded hyper, the exchange rate had showed a boosted move in the economy portraying the Purchasing Power Parity to decline. On the other hand, when it is said that inflation had decreased, it tends to appreciate the home currency resulting in incline in purchasing power parity because now the one in home country

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can achieve or being facilitated more if comparing goods from other country. In other words, a country who's PPP had shown an incline can buy more goods from other country as from the factor of inflation and Purchasing Power Parity.

Mark J. Holmes., (2001), finds that there is no relation between Purchasing Power Parity confined to high inflation developing countries & their techniques use new econometric techniques.

Duo Qin & Tao Tan., (2008), investigates their study categorized into two types: short-run and long-run common currency shocks. These shocks are used as explanatory variables to model the inflation and intraregional trade growths of the country concerned. The resulting models provide us with a base to simulate and evaluate the counterfactual situation of how much inflation and trade growths would be affected by the removal of these shocks. Methodologically using the approach can be considered as a special case of the latent variable structural models used commonly in behavioral research. First of all, the regional long-run exchange rate variability covariates with the world exchange rate variability a great deal whereas the short-run exchange rate variability is mainly regional specific. Consequently, a currency union would result in reducing the intraregional short-run currency volatility risks without much loss of the regional capacity of assimilating disequilibrium risks from the world currency movement.

Results: Their dynamic modeling results show that the regional short-run shocks exert significant impact on the inflation and the intraregional trade growths of all the countries studied, overshadowing the impact found of the

regional long-run shocks. They also find that the dynamic transmission paths of the regional shocks differ significantly from country to country. These finding makes it an oversimplified statement that smaller countries would benefit more than larger countries from a currency union. The benefit of a currency union is found, however, to be less substantial as far as the model-simulated magnitudes in inflation reduction and trade promotion are concerned. At the regional level, the magnitudes in trade promotion are much larger than the amount of inflation being reduced; at the country level, results vary and, in many cases, the benefits may not to be considered as substantial enough to warrant a vote for the union.

Muhammad Zakaria, Eatzaz Ahmad and M. Mazhar Iqbal., (2007), investigates the determination of bilateral nominal exchange rates of Pak-rupee against its twelve major trading partners using standard econometric techniques based on quarterly date for the period 1983-2004. The results shows that nominal exchange rates depend on a number of endogenous and policy variables related to Pakistan and its trading partners. Specifically, fluctuations in nominal exchange rates can be explained by relative inflation rate at home and abroad, both governments' monetary policies, terms of trade, trade policies and capital mobility. Their results also show that some controlled form of monetary policy may be useful for maintaining stability in exchange rates.

Adnan Haider, Safdar Ullah Khan., (2007), investigates fiscal vis-a -vis monetary determinants of inflation which provide a brief review of some selected domestic and international studies. This review provides us the literature for Pakistan into two sets including studies which used government <https://assignbuster.com/effect-of-inflation-and-exchange-rate-on-the-ppp-theory/>

borrowing as a determinant of inflation and those which have not incorporated this determinant in their model setup.

In the case of Turkey, Akcay, Alper and Ozmucur (1996) they investigate determinants of inflation using annual data from 1948 to 1994 vis-a-vis quarterly data from 1987 to 95. Their analysis reveals that a one unit increase in the deficit GNP ratio under money neutrality will increase the long-run inflation by 1.59 units. Also a one unit increase in the deficit GNP ratio under money neutrality will increase the long-run inflation by 5.67 which is much higher than 1.59 for the whole sample indicating greater impact of deficit on inflation during pre-bond financing period.

Methodology: Co-integration methodology using Auto Regressive Distributed Lag model this paper try to find long run relationship between inflation and volatility in government borrowing from central bank in Pakistan.

Results: The fiscal imbalances and weak forecaster for future inflation in economies under study. More specifically, they found that the predicted rise in fiscal deficit scenario in future could possibly impact in an insignificant manner towards increasing inflation in the economy.

CHAPTER 03

METHODOLOGY

3.1 Methodology

The data that will be used for testing of high inflation and exchange rate on Purchasing Power Parity (PPP) is of 5 years. Since, to determine the effects on purchasing power parity, various commodities are necessary to be taken

into account. In this report, to determine the purchasing power parity “Crude Oil” will be taken as a commodity.

3. 2 Sampling Technique

Under the non-Probability sampling, the researcher will use the convenience sampling because to measure the affects any 5 years of data is required, which can be accomplished by convenience sampling technique, predicting as the most appropriate technique for this project.

3. 3 Sample Size

In this research report one variable is Inflation and researcher took 5 years of Secondary data.

And second variable is Exchange Rate and researcher took 5 years of secondary data.

3. 4 Data Collection

Since this report is based on effects on purchasing power parity due to inflation and exchange rate and according to sample size, 5 years of data will be taken into account. There is a large amount of data that has already been collected by others, although it may not necessarily have been analyzed. Locating these sources and retrieving the information is a good starting point in any data collection effort. Hence secondary data will be used in this report.

3. 5 HYPOTHESIS

H0: Positive effects due to increase in inflation and exchange rate on Purchasing Power Parity.

H1: Negative effects due to increase in inflation and exchange rate on Purchasing Power Parity.