!!!!!! --- PROBABLY FOR THE CHOP !!!!!

[Quick definition of RPPP]

Purchasing Power Parity (PPP) is an equilibrium condition which states that the cost of an object should be constant anywhere it can be purchased. In an international context if PPP is pressumed to be true then the spot ??exchange?? rate between two countries can be calculated as:

S=Ph/Pf

Studies by SOME BLOKE in the period after the first world suggested that the countries inflation rates has an affect on the purchasing power of their currency. Extending PPP to account for differences in inflation rates gives the equilbrium condition of Relative Purchasing Power Parity (RPPP), this can be expressed formally as:

dS = Ih - If

Namely for a given period of time the change in the spot rate should equal the difference in the two countries inflation rates.

[Quick overview of our data and methodology]

To investigate RPPP we will be using Consumer Price Index (CPI) and exchange rate data sourced from the FRED (federal freserve, StLois Branch), which in turn sources its data from the Office for Economic Development (OECD). The CPI data is based upon SOMETHING OR OTHER and the exchange data is annual averages of prices quoted on the New York Stock exchange.

To compute our RPPP values we will use the following equation:

ln(St) – ln(S{t-1}) = (ln(Ph,t) – ln(Ph,{t-1})) – (ln(Pf,t) – ln(Pf,{t-1}))

The US Dollar will be treated as the home currency and exchange rates are direct (USD/foreign currency). In our initial analysis we calcualte RPPP for each year in a given time series. The RPPP value of given in year is calculated with the year as t and the previous year as t-1.

[Discussion of US vs India]

[Discussion of US vs UK]

[Discussion of US vs France and Germany]

[Discussoins on the patterns that prevail]

[Does the accuracy of RPPP increase over time]

This is an essay on the validity of relatve purchasing power parity by calculating and comparing RPPP values for the USA against UK, India,

!!!! END OF CHOP !!!!

In this essay we will investigate the validity of Relative Purchasing Power Parity (RPPP) by comparing purchasing power of the USA against China, France, Germany, India and the UK. RPPP extends the idea of Purchasing Power Parity to national economies and looks for account for the influences of exchange rates and inflation rate differentials.

If RPPP holds then for some time period dt the following equilibrium between exchange rates and inflation is observed:

dS = Ih – If

This can be extended to:

LONG VERSION

We have gathered historic Consumer Price Index (CPI) and excahnge rate data from FRED and will investigate the validity of RPPP under various ?EXCHANGE SITUATIONS?. In order to analyse the validity we will be using the notion of an RPPP score, this is calculated by re-arranging equation 1 as follows:

RPPP score = dS – (Ih – If)

This gives us the following situations:

RPPP score > 1 : Exchange rate OVERVALUED => Home currency overvalued

RPPP score ~= O : RPPP equilbrium is holding

RPPP score < 1 : Exchange UNDERVALUED => Home currency undervalued

For the purposes of our investigations the home country will always be the USA, therefore the home currency is the US dollar and exchange rates are DIRECT QUOTATIONS?, eg the cost of a USD in the unit of the foreign currency. Both the CPI and exchange rate data are annual averages.

RPPP for the US dollar against multi-country currencies

Multi-country currencies such as AFRICA 1, AFRICA2 and the Euro present a conceptual barrier to the validity of RPPP. To illustrate this lets consider two seperate RPPP equilibriums across the same time frame, USA against France and USA against Germany.

This would lead two versions of EQUATION 1, Ih is the same in both instances as is dS thanks to the shared currency, this implies that RPPP can only hold for both equilibriums is if the inflation rates of France and Germany are equal.

There are many influences upon the inflation rate of country some of which such as MONEY SUPPLY, INTEREST rates, etc are directly controlled by the central bank and will apply universally to all countries within the currency. However there are some influences such as NON-TRADEABLE economy will lead to some inter-country variations in inflation and purchasing power.

To compare this we have HAVE DA FOLLOWING LOVLELY GRAPH:

RPPP for the USA against a pegged foreign currency

According to the IMF there are XX coutries that offically engage in pegging, namely the ACT of deliberately acting to maintain specific exchange rates with a target foreign currency. This presents an interesting challenge to RPPP, if we pressume that the attempts at pegging prove successful then dS is held very low, theorteically zero. In order for RPPP to be held then the inflation rates differential must also be approximately zero.

Counter to this agrument is the fact that the exchange rate pegging methods such as quantative easing and OTHER stuff often lead to increased inflation in the currency being supressed.

Does this tnflation volatitlty prevent RPPP from occurring or does it serve as a mechanism through which the inflation rates are manipulated to account for the supressed dS?

To investigate this Figure 2 compares RPPP scores for the US dollar against the Chinese Yuan.

LOVELY GRAPH 2

ERE we see some stuff…

RPPP for the USD against freely floating, single occupancy currency

Next we will compare the validity of RPPP the USA against the freely floating british pound.

LOVELY graph 3

Does RPPP validity increase with dt ?

There are some theorise PEEEPS that RPPP is a slowly moving market force that can get lost on the volatility of shorter time rames. In order to test this theory we will re-calculate our RPPP scores by locking the t-1 date to the earliest date in the dataset and calculating RPPP values across ever increasing time frames.

Doing this across all of our data set yields the following result:

DA big graph.

Conclusion