

DEPRECIATION IN THE VALUE OF RUPEE – ITS CAUSES, IMPACT AND REMEDY: A FRAMEWORK STUDY

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ABSTRACT

We have seen for some of the items which were sold by business man where selling price is less than his actual purchase price. For imported items (like Toshiba laptops) the amount that we have to pay is in dollars but the Maximum Retail Price advertised by the company and printed on its catalog are in rupee. As rupee play a drastic impact in compare to dollar in the fluctuations of Indian economy as well as for foreign economy. According trends it takes around 4-5 months for consignment to arrive at their store, and by the time products are delivered to the business man the value of rupee gets devalued and we have to pay at current exchange rate and customers will pay only in printed MRP.

Believe that completely for the difference in amount told that was far more than the actual devaluation of rupee in last 6 months. But it is hard to ignore the rapid pace with which rupee is depreciating. As we can see in the value of dollar in rupee has increased from 45 to 61 in last two years. That is around 35%. In other words, value of rupee has depreciated by 35% (assuming inflation of dollar to be negligible).

Keywords: Exchange rates, Balance of Payment, FOREX Reserves

INTRODUCTION

Let us first try to understand how exchange rate is determined? All economies that interact with international economy can be broadly classified into three categories on the basis of exchange rate policy of the country.

Fixed Exchange Rate: These economies peg the value of their currency with some other prominent currency like US dollar. This system is simple and provides stability to the economy (of course, if the economy of the country to whose currency its currency is pegged is stable). This type of exchange rate regime is maintained by generally smaller economies like Nepal and Bhutan (pegged to Indian Rupee) or several African nations. Rational behind such regime is that in case of small economy – if the exchange rate is market determined – the sudden influx or outflux of even relatively small amount of foreign capital will have large impact on exchange rate and cause instability to its economy. Notable exception is

China which despite being large economy has its currency pegged to US dollar. But then when it comes to China, its irrational to talk about rationality .

Floating (or free) Exchange Rate: Bigger and developed economies like US, UK, Japan etc generally let market determine their exchange rate. In such economy exchange rate is determined by demand and supply of the currency.

For example consider exchange rate of US dollar versus Japanese Yen. If US wants to import certain item from Japan, it will have to pay the Japanese company in Japanese yen. This is because in common market of Japan, dollar will not fetch you anything. But the American company will not have Yen, so it will purchase Yen from the international currency market. This will increase the demand of Yen and supply of dollar. Thus the value of Yen vis a vis dollar will increase. Similarly if Japanese company is importing something from US, it will increase value of dollar as compared to Yen.

Export-import: Though the major, is not the only source for currency exchange. Capital flow – Americans investing in Japan and Japanese investing in USA – is also a significant source of currency exchange. Another source of currency exchange is remittance – that is the money sent home by Americans working in Japan and vice versa. Cumulative of all these exchanges determine the exchange rate. If net requirement of Dollar by Japanese is more than net Yen required by USA, dollar will appreciate against Yen. You should also understand that this is oversimplified for the purpose of illustration. In real world, there will be multilateral interactions and final exchange rate will be equilibrium reached by all those interactions.

Hybrid system: Most mid sized economy like India practices a mix of both these regimes. It allows for the exchange rate to float in a range which it deems comfortable. Once the market determined rate tries to breach this range, central bank (government) intervenes in the currency market and controls the exchange rate.

OBJECTIVES

Let us delve into this fascinating (though, painful in this case) phenomena of macroeconomics and try to understand its causes, impact and what our government can do to minimize its ill effects.

How Does Government Control Exchange Rate?

In fixed or hybrid exchange rate regime where government controls exchange rate, control is exercised by actively participating in international currency market through its central bank (Reserve Bank of India or RBI in our case). Suppose there is huge demand of rupee in India which is driving the value of rupee. Also, lets assume that RBI is comfortable only in range of Rs 50 to Rs. 60 per US dollar. This rapid surge in the demand of rupee (which might be because a. Indian export is far more than its import, b. foreign investors want to invest in India and c. large number of Indians earning abroad are remitting their money back home) is pushing the exchange rate below Rs. 50 per dollar. The RBI will then step in the market and will offer Rs. 50 for each dollar. Those buying rupees against dollar will now purchase from RBI since its offering better rate. Soon other traders will have to arrive at this rate, if they want to participate. Since RBI has the ability to print currency notes, it can keep the lower limit of exchange rate fixed at this value. When demand for rupee is subsided, RBI will step

back and let market determine the exchange rate. In the process, RBI will have accumulated a pool of dollars; this is called forex reserve or foreign exchange reserve.

Now let us move to other extreme. Suppose Indian exports have dwindled, imports are on surge, foreign investors are fleeing Indian market and remittances are at all time low. Now, every one wants dollar but there is little supply. This will drive the price of dollar up. Its about to breach the upper limit of Rs. 60/ USD. RBI will step in again and will put its dollar reserves on sale at the rate of Rs. 60/ USD. This will stop the further depreciation of rupee.

As you can see, in order to be able to stop the currency from appreciating, RBI will have to print money and for preventing its depreciation it needs a reserve of dollar. This constraint has interesting implications on the current predicament of RBI in the context of depreciating rupee.

Effect of exchange rate on Import and Export

Suppose US company wants to buy Indian textile and suppose on T-Shirt costs Rs. 120 and exchange rate is Rs. 50/\$. So for american company the cost of T-Shirt is \$2.4. Now, if rupee depreciates to Rs. 60/\$ the price of T-shirt becomes \$2 only. This will make Indian T-shirt cheaper to buy and will increase its demand. Companies who were importing from other nations (may be China or Bangladesh) might shift to India and Indian exports will increase.

Consider the opposite scenario. Rupee appreciates to Rs. 40/\$ making the cost of one T-shirt \$3. This will repel US importers and might drive them to other rival exporters whose garments are cheaper. Thus, depreciating currency helps exports while appreciating currency has opposite effect.

Similarly if India imports \$ 1000 iPad from US, at exchange rate of Rs. 60, it will cost Rs. 60000. If currency appreciates to Rs. 50/\$ the price will reduce by Rs. 10000. This might encourage many new people to buy iPad which earlier thought it to be too expensive. Thus, the demand for imported products will increase in appreciating currency and will drive imports upward. Depreciating currency will have opposite effect.

Balance of Payment (BOP) Accounts

International monetary transactions of a nation is recorded in two accounts.

Current Account: This records all the trades (export-import), remittances, interests and earnings on investments made into out side countries and other flows which is current in nature (meaning with no intention of future return). If total inflows in the country (its export, remittances and earning from its investments abroad) is more than its outflows (its import, remittances out of the country, payments of interests etc.) then the country is said to have current account surplus. China, owing to its huge exports, is currently the nation with largest current account surplus. Similarly, if outflows exceeds inflows, the country is said to be in current account deficit. USA has the largest current account deficit. India too has huge current account deficit (about 120 billion USD in FY 2012)

Capital Account: This records all the flow (into or out of the country) made for future return – investment in stocks, bond or companies, in real estate or FDI (investment made for setting up of business or industry). It also includes loans taken from abroad (which actually is investment by foreign lender into the nation). Foreign Currency Reserves are also part of

Capital account but are generally not reported. A country is said to be in Capital account surplus if total inflows into the country (FII, FDI and borrowing from foreign companies/banks) exceeds total outflows (investments into foreign countries and lending to foreign countries or companies). In case situation is reversed, country has capital account deficit.

Payments always get balanced: You can spend only as much money as you have. Or in other words, total amount you spend and invest must always be equal to the money you have earned and loans you have taken. What this means in the context of BoP is that current account surplus must always be balanced by Capital account deficit and if a country is having current account deficit, it must always get equivalent money form of capital account surplus.

BOP and FOREX Reserves: Countries having floating exchange rate and free capital flows do not have to build foreign currency reserves. But as we have seen earlier, those who exercise some or full control over exchange rate, do so by manipulating their Forex Reserves. The difference in current account surplus and capital account (excluding forex reserves) deficit is balanced by equal increase in forex reserves (China) and if country is not able to meet current account deficit by capital flows, then it will have to liquidate its forex reserve (current situation of India).

For example, China which has huge exports (current account surplus) as well has huge inflows in FDI and FII, balances this by building up huge forex reserves as well as by investing in foreign countries. Chinese government parks large percentage of its surplus into US government bonds and encourages its government backed and other companies to buy assets in foreign countries (mostly US). So it deliberately runs huge capital account deficit so that it can export. Otherwise, it will have to let its artificially depreciated currency appreciate. This is interesting and perhaps topic for another future article.

Negative Feedback Mechanism

Wikipedia defines negative feedback as following “Negative feedback occurs when the result of a process influences the operation of the process itself in such a way as to reduce changes.” In order to understand this concept look at the adjacent diagram (Again taken from Wikipedia. As you can see in the diagram, when water level in the reservoir decreases, the piston stopping water flow is lifted and water starts to pour in. When water is filled, the piston will again come down to stop more water from pouring and this will maintain the water at desired level. The equilibrium level of water will be determined by the arrangement of the system rather than the flow of water.

Similar negative feedback system exists in economics. For example, consider exchange rate and export-import. Actual situation will be very complicated because of a large number of variable interacting together. To keep things simple, we will consider only two variables at a time – export-import and exchange rate. As we have discussed above, appreciation currency causes increase in import while discourages export. This will lead to increase in demand for foreign currency and simultaneously increase in supply of local currency. This putting a downward pressure on exchange rate. If government does not interfere and there is no net capital flow, then exchange rate will quickly adjust such that values of imports and exports are perfectly matched.

Relation between Interest Rate and Exchange Rate (Interest Rate Parity)

Another beautiful example of such feedback system is interest rate parity. In order to explain it lets assume Interest rate for borrowing in USA is 4% and interest one gets on government bond in India is 8%. It will make perfect business sense if you borrowed \$1000 from USA, purchased Indian government bond and after a year you got interest of \$80. Paid \$40 as interest to the bank you borrowed from, and made a profit of \$40. That without investing a single penny of your own. Such situation where you can make money without investing any capital at all is called arbitrage (which in itself is fascinating financial concept and deserves a complete article on itself).

The only problem with this is it will not be only you who can think of this. Other people too would want to make profit out of this opportunity and soon there will be many dollars flowing from USA to India causing Indian Rupee to appreciate in comparison to USD and whatever gains you could make from excess interest rate will be offset by the increase in exchange rate.

Self-fulfilling Prophecies or Positive Feedback

Directly opposite to the concept of Negative feedback is Self Fulfilling Prophecies or Positive feedback. For example suppose there is a rumor, completely unfounded, that the price of gold is going to increase to very high in a week. People will want to profit from this information and will buy some gold to sold later at higher price. Initially, some people will be fooled by the rumor and buy gold. This temporary surge in short term demand will lead to momentary increase in price. This increase in price will give credence to the rumor, and more people will flock in to buy gold. This will further increase the price, pulling even more people. The rumor, which originated without any analysis or “fundamental” cause, was the reason itself for the rumor becoming true.

Such positive feedback is very common in our life, engineering and economics. In context of exchange rate, sometimes positive feedback plays a prominent role. Suppose, all the traders in foreign exchange market believe that rupee has depreciated far below its ‘intrinsic’ value and it will appreciate in near future. In order to profit from this anticipated gain, they will try to hoard the rupee, thus increasing its demand and causing it to appreciate.

Opposite of this is also true. If traders believe that rupee (or for that matter any currency) is about to depreciate, they might actually trigger it by shorting the currency.

The Paradox of Negative and Positive Feedback

What seems to be positive feedback in short term might actually be negative feedback if looked broadly. For example, let’s look at the currency example again. The general belief that currency has fallen far below its true value caused it to appreciate through positive feedback mechanism. But, at the same time it also prevented currency to depreciate further and hence acted as negative feedback.

Existence of negative and positive feedback loops give rise to several interesting phenomena in economics and in other areas. But the article has already surpassed 2600 words, so I cannot give many examples. However, one example very crucial to our ongoing discussion cannot be omitted. It is what economists say Impossible Trinity.

Impossible Trinity: The concept of impossible trinity states that a country (or an economy) can not simultaneously have Fixed exchange rate, Free capital flow and independent monetary policy (which roughly means control over interest rate).

For example, suppose India pegs its currency to say Rs. 60/\$ and intends to maintain free capital flow. Now, if it sets interest rate that is higher than that of USA, then money will start flowing in from US to bank on this arbitrage opportunity (as we discussed earlier). So, in order to maintain its exchange rate, it will have to buy Dollars. But it will have a limit to how much it can buy. Similarly, if it sets interest rates lower than US, money will start flowing out. To prevent rupee from falling, it will have to sell off its dollar reserve. But that can last only till its reserves gets fully depleted. Thus government will have to set interest rate equal to that of US.

If you look closely, India, in recent times, has tried to achieve this impossible trinity to some extent. It kept currency undervalued, wanted foreign investors to come in, and had to increase interest rate to contain inflation. What makes this more ludicrous is that it was attempted when our premier is a trained economist!

Now let us look at the unprecedented devaluation of rupee more closely.

Causes of Depreciation

What is good for Economy is bad for Politics: India's trade balance is highly unfavorable. What this means is India imports far more than it exports. In fact, Indian export is only about 80% of its imports, a deficit of about \$ 120 bn (2011). This deficit is largely balanced by remittances (which stood at \$69 bn in 2012), FDI's and FII's.

Economically it makes sense for India to let its currency appreciate because it will make imports cheaper and help reduce its trade imbalance. But, appreciating currency will have negative impact on its exports. Now, India mainly exports labor intensive goods and services – Software services, polished diamond, textiles, processed cashew nuts, leather goods. These sectors generate huge employment. Appreciation of currency causes fall in the profitability in these sectors, leading to many people loose their jobs. Looked from perspective of politicians, this is hugely unpopular.

Even though the overall gain from appreciated rupee is far more than the losses, gains per individual are small in magnitude and distributed over a large population; whereas losses per individual is large and concentrated in minority of the population. Such policies are impossible to pursue in a democracy like India because those at loss will be far more vocal while people at gain will not bother at all.

Under such political considerations, our government, a coalition of several parties can not afford to be bold. So, in last 5-6 years, driven by impressive economic growth of India, when foreign investors flocked, there was upward pressure on the rupee. Government was unwilling to let rupee appreciate and kept it artificially devalued. In the process it amassed huge foreign exchange reserves (about \$300bn). Where did the government bring this money from? It simply printed the money!

Printing of More Money Causes Inflation, another Politically Unpopular Thing

So, in order to curb the money supply, government issued bonds under Market Stabilization Scheme (MSS bonds). It did curb the inflation to some extent, but when bond matures, government has to pay the money along with the interest. So, this scheme does not really curb inflation, it postpones it. When those bonds matured, government made payments, again by printing more money, as government is running budget deficit and does not have income to pay. This caused inflation which you might have noticed during recent times. How does government curb inflation now? It increased interest rate to reduce the supply of money.

Increase in interest rate caused a slowdown in growth. Also, global economic slowdown reduced demand for India exports and exports fell too (about 30% in last year). Import however, did not fall by that amount because Oil, the major component of our imports, is essential commodity. So the trade balance turned more unfavorable. Also, looking at the slowing pace of growth new investor abstained from investing in India and older investor too started to get uneasy. As they tried to pull back their money, it put downward pressure on rupee.

If foreign investor expects the currency of a country to fall, it will withdraw its investments because its investment value will fall with the currency. For example suppose you invested \$1000 at Rs.40/\$. So your investment in India is Rs. 40000. Tomorrow if rupee falls to Rs. 60/\$ then value of your investment has fallen to \$667. Foreign investors fearing further fall in rupee started to flee Indian market and this put further downward pressure on rupee (Positive feedback). Government could interfere, but owing to its huge budget deficit, had limited resources and rupee had a free fall. There is more to it, but the article swelling like Dollar

Impact

Economists do not agree about impact of nominal exchange rate on real economy. Many argue that Nominal values do not have any impact on real economy while others claim that the effect nominal variables have on human psychology and expectations of future does hamper real economy (applying positive feedback, you can see how?).

Two very visible impacts are 1. Increasing oil prices and 2. India gaining competitive advantage in certain export. Why oil price is increasing is quite obvious. The later impact needs some elaboration. What has made the devaluation of rupee more problematic is global slowdown. Alternatively, it might well be that this downfall was brought about by the global slowdown. But in either cases, the demand for goods and services in developed economy is dwindling. But demand in certain goods like textile will not be impacted that much (people are not going to shun wearing cloths because of slowdown). Main competitor of India in such sector is China. During the same period when Indian rupee has been falling, salaries of labors in China has been on the rise. This had made Indian export more favorable.

Another impact, which may seem like silver lining in the dark cloud is that it has forced government to bring certain economic reforms (FDI in retail and other sectors) and has brought a near crisis like situation which can force unwilling government to bring reforms (as it did in 90s).

CONCLUSION

Government has tried several things to control downward spiraling rupee but those steps are too little, too late and many are pointed in wrong direction; like curbing import of gold. A government should not be telling people what to buy and what not to buy. Demand of gold in India is culture induced. Also, demand of gold increases when economic uncertainty increases. Trying to micromanage people's behavior will have undesirable impact in long term.

There are not many options in short term, but in long term government needs to bring reforms pending for many decades. Those reforms need strong political will and I seriously doubt it can be effected without another crisis. Lets see!

I started out this article in response to questions students have been asking me about falling rupee. When I set out to explain, it soon reached epic proportions. I have a lot more to say, but 3800 words are way too much to read in one sitting. It took me more than a week and 5-6 sessions to write. Will say more later or in comments.

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