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Rupee Depreciation: Probable Causes and Outlook

The Indian Rupee has depreciated significantly against the US Dollar marking a new risk for Indian economy. Till the beginning of the financial year (Apr 11-Mar 12) very few had expected Rupee to depreciate with most hinting towards either appreciation or status quo in the rupee levels. Those few who had even anticipated may not have imagined the scale of depreciation with rupee touching a new low of around Rs 54 to the US Dollar.

What is even more interesting to note is that when other countries are trying to play currency wars and trying to keep their currencies devalued, India is trying to prevent depreciation of the currency. (Read our previous report for a review of the situation- Saying No To Currency Wars (20-Sep-11))

This paper reviews the probable reasons for this depreciation of the rupee and the outlook for the same. It also reflects on the policy options to help prevent the depreciation of the Rupee

I. Economics of Currency

Predicting currency movements is perhaps one of the hardest exercises in economics as it has many variables affecting the market movement. However, over a longer term currency movement is determined by following factors:

- **Balance of Payments:** It is the sum of current account and capital account of a country and is an external account of a country with other countries. Both current account and capital account play a role in determining the movement of the currency:
 - **Current Account Surplus/Deficit:** Current account surplus means exports are more than imports. In economics we assume prices to be in equilibrium and hence to balance the surplus, the currency should appreciate. Likewise for current account deficit countries, the currency should depreciate.
 - **Capital Account flows:** As currency adjustments do not happen immediately to adjust current account surpluses and deficits, capital flows play a role. Deficit countries need capital flows and surplus countries generate capital outflows. On a global level we assume that deficits will be cancelled by surpluses generated in other countries. In theory we assume current account deficits will be equal to capital inflows but in real world we could easily have a situation of excessive flows. So, some countries can have current account deficits and also a balance of payments surplus as capital inflows are higher than current account deficits. In this case, the currency does not depreciate but actually appreciates as in the case of India (explained below). Only when capital inflows are not enough, there will be depreciating pressure on the currency.
- **Interest Rate Differentials:** This is based on interest rate parity theory. This says that countries which have higher interest rates their currencies should depreciate. If this does not happen, there will be cases for arbitrage for foreign investors till the arbitrage opportunity disappears from the market. The reality is far more complex as higher interest rates could actually bring in higher capital inflows putting further appreciating pressure on the currency. In such a scenario, foreign investors earn both higher interest rates and also gain on the appreciating currency. This could



lead to a herd mentality by foreign investors posing macroeconomic problems for the monetary authority.

- **Inflation:** Higher inflation leads to central banks increasing policy rates which invites foreign capital on account of interest rate arbitrages. This could lead to further appreciation of the currency. However, it is important to differentiate between high inflation over a short term versus a prolonged one. Over short-term foreign investors see inflation as a temporary problem and still invest in the domestic economy. If inflation becomes a prolonged one, it leads to overall worsening of economic prospects and capital outflows and eventual depreciation of the currency.

Apart from this, inflation also helps understand the real changes in a value of currency. Real exchange rate = Nominal Exchange Rate* (Inflation of foreign country/Inflation of domestic economy). This implies if domestic inflation is higher, the real change in the value of the currency will be lower compared to the nominal change in currency.

- **Fiscal Deficit:** Fiscal deficits play a role especially during currency crisis. If a country follows a fixed exchange rates and also runs a large fiscal deficit it could lead to speculative attacks on the currency. Higher deficits imply government might resort to using forex reserves to finance its deficit. This leads to lowering of the reserves and in case there is a speculation on the currency, the government may not have adequate reserves to protect the fixed value of the currency. This pushes the government to devalue the currency. So, though fiscal deficits do not have a direct bearing on foreign exchange markets, they play a role in case there is a crisis.
- **Global economic conditions:** Barring domestic conditions, global conditions impact the currency movement as well. In times of high uncertainty as seen lately, most currencies usually depreciate against US Dollar as it is seen as a safe haven currency.

Hence even over a longer term, multiple factors determine an exchange rate with each one playing an important role over time.

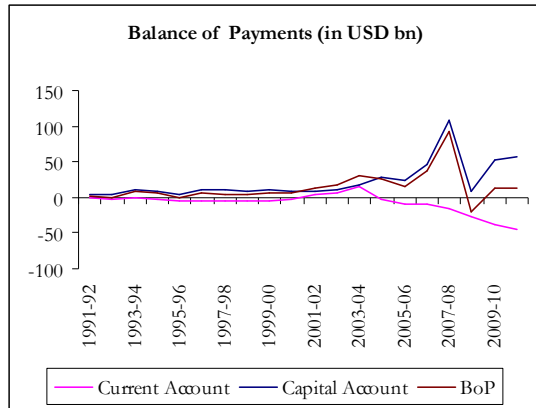
II. Rupee Movement since 1991

If we look at India's Balance of Payments since 1970-71, we see that external account mostly balances in 1970s. Infact in second half of 1970s there is a current account surplus. This was a period of import substitution strategy and India followed a closed economy model. In 1980s, current account deficits start to rise culminating into a BoP crisis in 1991. It was in the 1991 Union Budget where Indian Rupee was devalued and the government also opened up the economy. This was followed by several reforms liberalizing the economy and exchange rate regime shifted from fixed to managed floating one. Hence, we need to analyse the current account and rupee movement from 1991 onwards.

India has always had current account deficit barring initial years in 2000s (Figure 1). The deficit has been financed by capital flows and mostly capital flows have been higher than current account deficit resulting in balance of payments surplus. The surplus has inturn led to rise in forex reserves from USD 5.8 bn in 1990-91 to USD 304.8 bn by 2010-11 (Figure 2). In 1990-91, gold contributed around 60% of forex reserves and forex currency assets were around 38%. This percentage has changed to 1.5% and 90% respectively by 2010-11.

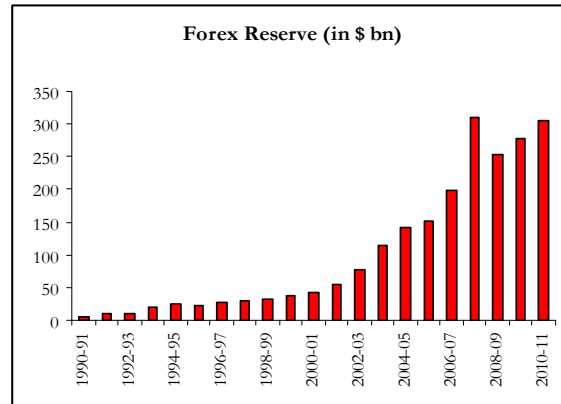


Figure 1



Source: RBI

Figure 2



Source: RBI

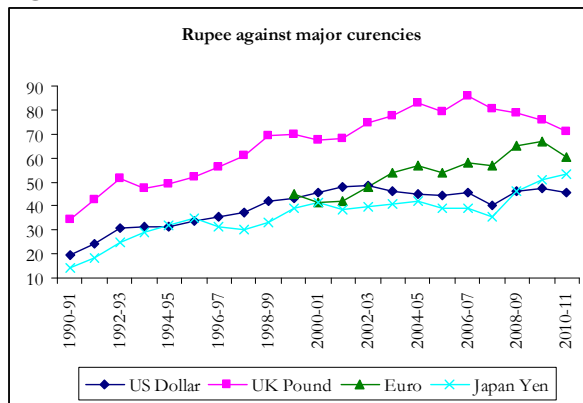
What is even more stunning to note is the changes in BoP post 2005 (Table 1). In 1990s, Balance of Payments surplus is just about \$4.1 bn and increases to \$22 bn in 2000s. However if we divided the 2000s period into 2000-05 and 2005-11, we see a sharp rise in both current account deficit and capital account surplus. The rise in Forex reserves is also mainly seen in 2005-11.

Table 1: Balance of Payments (in USD bn)

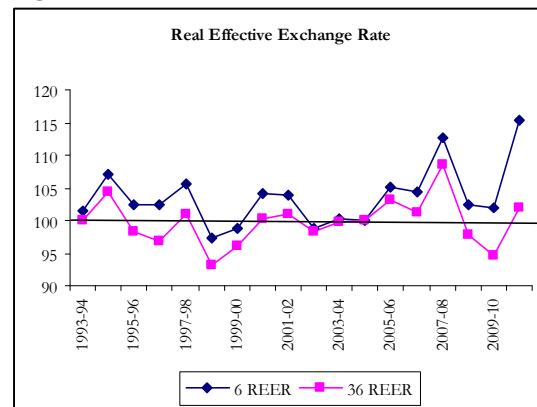
	Current Account	Capital Account	BoP	Forex Reserve
1990-00	-3.8	7.9	4.1	23.5
2000-11	-11.6	33.6	22.0	174.8
2000-05	3.7	14.7	18.4	85.4
2005-11	-24.3	49.3	25.0	249.4

Source: RBI

Based on this, if we look at Rupee movement, we broadly see it has depreciated since 1991. Figure 3 looks at the Rupee movement against the major currencies. A better way to understand the Rupee movement is to track the real effective exchange rate. Real effective exchange rate (REER) is based on basket of currencies against which a country trades and is adjusted for inflation. A rise in index means appreciation of the currency against the basket and a decline indicates depreciation. RBI releases REER for 6 currency and 36 currency trade baskets since 1993-94 and we see that the currency did depreciate in the 1990s but has appreciated post 2005. It depreciated following Lehman crisis but has again appreciated in 2010-11.

Figure 3

Source: RBI

Figure 4

Source: RBI

Table 2 summarizes the findings of Balance of Payments and Rupee movement. In the 1990s, Rupee depreciates against its major trading currencies as the average REER is less than 100. However, in 2000s we see Rupee appreciating against major trading currencies. If we divide the 2000s period further to 2000-05 and 2005-11, we see there is depreciation in the first phase and large appreciation in the second half of the decade.

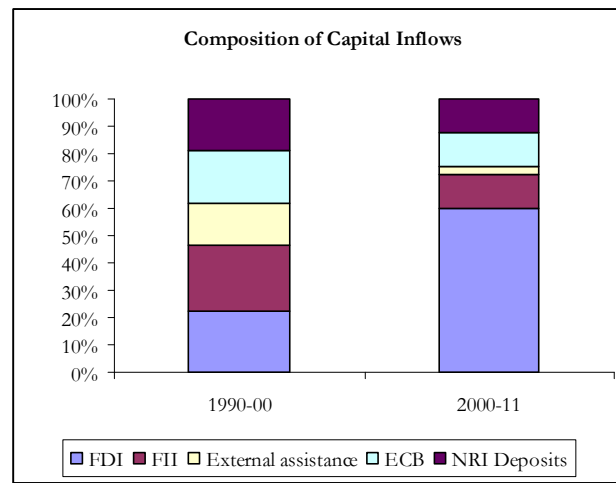
Table 2: Balance of Payments and Rupee

	BoP (in \$ bn)	6 REER	36 REER
1990-00	4.1	99.5	98.5
2000-11	22.0	103.4	100.6
2000-05	18.4	99.2	99.8
2005-10	25.0	107.0	101.2

Source: RBI

Hence, overall we see the Rupee following the path economic theories highlighted above have suggested.

- As India opened up its economy post 1991, Rupee depreciated as it had current account deficits. Earlier current account deficits were mainly on account of merchandise trade deficits. However, as services exports picked up it helped lower the pressure on current account deficit majorly. Without services exports, current account deficit would have been much higher.
- There was a blip during South East Asian crisis when current account deficit increased from \$4.6 bn to \$5.5 bn in 1997-98. Capital inflows declined from \$11.4 bn to \$10.1 bn leading to a decline in BoP surplus and depreciation of the rupee. However, given the scale of the crisis the depreciation pressure on Rupee was much lesser. There was active monetary management by RBI during the period. Similar measures have been taken by RBI in current phase of Rupee depreciation as well (discussed below).
- Till around 2005, India received capital inflows just enough to balance the current account deficit. The situation changed after 2005 as India started receiving capital inflows much higher than current account deficit. The capital inflow composition also changed where external financing dominated in early 1990s and now most of the capital inflows came via foreign investment. Within foreign investment, share of portfolio flows was much higher. As capital inflows were higher than the current account deficit Rupee appreciated against major currencies.

Figure 5

Source: RBI

- Other factors also led to appreciation of the rupee. First, India entered a favorable growth phase registering growth rates of 9% and above since 2003. This surprised investors as few had imagined India could grow at that rate consistently. The high growth led to surge in capital inflows mainly in portfolio inflows. Second, India's inflation started rising around 2007 leading to RBI tightening policy rates. This led to higher interest rate differential between India and other countries leading to additional capital inflows as highlighted above. It is important to understand that at that time investors did not feel inflation will remain persistent and thought it to be a transitory issue and could be tackled by monetary policy.
- During Lehman crisis capital flows shrunk sharply from a high of \$107 bn in 2007-08 to just \$7.8 bn in 2008-09 and led to sharp depreciation of the currency. Rupee plunged from around Rs 39 per \$ to Rs. 50 per \$. REER moved from 112.76 in 2007-08 to 102.97 in 2008-09 depreciating sharply by 9.3%. The current account deficit also declined sharply as well tracking decline in oil prices from \$ 12 bn in Jul-Sep 08 to \$0.3 bn in Jan-Mar 09. The currency also depreciated tracking the global crisis which led to preference for dollar assets compared to other currency assets.
- Indian economy recovered much quicker and sharper from the global crisis. The capital inflows increased from \$7.8 bn to \$51.8 bn in 2009-10 and \$57 bn in 2010-11. The higher capital inflows were on account of both FDI and FII. External Commercial Borrowings also picked up in 2010-11. The current account deficit also increased from \$27.9 bn in 2008-09 to \$44.2 bn in 2010-11. REER (6 currency) appreciated by 13% in 2010-11 and 36 REER by 7.7%.

III. Depreciation of Rupee: 2011-12

Before we analyse the factors for the recent depreciation of the rupee, let us look at the survey of professional forecasters released by RBI. Current account deficit is more or less same but consensus expects capital inflows in 2010-11 to be lower in each succeeding quarter. This leads to lower BoP estimate. However, the forecasters maintain their forecast for Rupee/Dollar unchanged. This is surprising as with lower capital inflows, markets should have expected some depreciating pressure on Rupee as well. BoP surplus of \$10.3 bn would have been lowest (barring 2008-09) figure since 2000-01. The lowest figure for INR/USD is 47.1 in Q3 10-11, 46 in Q4 10-11 and 45.6 in Q1 10-11. It is



safe to say most of the participants missed the estimate by a wide mark. It was a complete surprise for most analysts.

	Survey done in the period		
	Q3 2010-11	Q4 2010-11	Q1 2011-12
Rupee/USD	43.5	44.5	44.5
Current Account Balance (US \$ bn)	-59.4	-56.9	-54.7
Capital Account Balance (US \$ bn)	83	75	65
BoP (US \$ bn)	23.6	18.1	10.3
<i>Source: RBI</i>			

Even the Q1 11-12 numbers did not really sound an alarm (Table 4). The current account deficit was at \$14.2 bn and capital account was at \$19.6 bn leading to a BoP surplus of \$5.4 bn. BoP surplus in Q4 2010-11 was \$ 2bn. More importantly, capital inflows had risen from \$7.4 bn in Q4 2010-11 to \$ 19.6 bn in Q1 2011-12 on account of foreign investment (both FDI and FII).

The problems start to surface from Q2 11-12 onwards. In Table 4, we have put some of the data released by RBI and Commerce Ministry for the period post Q1 11-12. As we can see, current account deficits is likely to be higher but capital inflows especially FII inflows are going to be much lower. Compared to EAC projections, current account deficit is likely to be higher and capital account lower leading to either a negligible BoP surplus or BoP deficit.

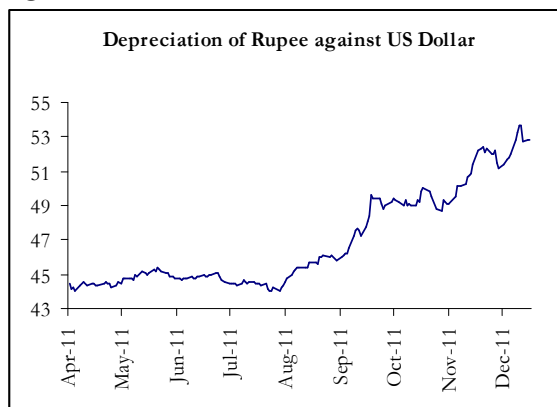
	Q1 11-12	Jul 11-Oct 11		PM's EAC Projection
Trade Deficit	-35.5	-54.5		-154.0
Exports of Goods	80.6	98.3		330.2
Imports of Goods	116.1	152.9		484.2
Net Invisibles	21.3			100.0
Services exports	31.0	45.0		
Services Imports	18.9	26.4		
Net Service Receivables	12.1	18.6		60.5
Transfers + Income	9.3			39.5
Current Account Deficit	-14.2			-54.0
	Q1	Jul-11 to Aug-11	Sep-11 to 20-Dec-11	
Capital Account	19.6			72.0
FDI	7.2	13.8		32.0
FII	2.5	0.6	1.5	14.0
ECB Borrowings	2.9			
NRI Deposits	1.2	0.9		
Others	5.8			
<i>Source: RBI</i>				

Apart from difficulty in capital inflows, Indian economy prospects have declined sharply. Just at the beginning of the year, forecasts for India's growth for 2011-12 were around 8-8.5% and have been revised downwards to around 6.5%-7%. It has been a shocking turnaround of events for Indian economy. Both foreign and domestic investors have become jittery in the last few months because of following reasons:

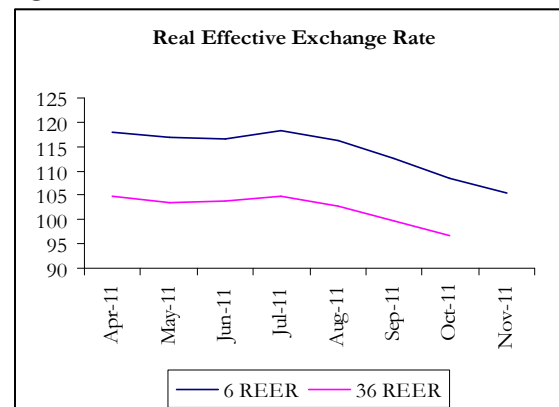


- **Persistent inflation:** Inflation has remained around 9-10% for almost two years now. Even inflation after Dec-11 is expected to ease mainly because of base-effect. Qualitatively speaking inflation still remains high with core inflation itself around 8% levels. It is important to recall that the episode of 2007-08 when despite high inflation and high interest rates, capital inflows were abundant. This was because markets believed this inflation is temporary. Even this time, investors felt the same as capital inflows resumed quickly as India recovered from the global crisis. However, as inflation remained persistent and became a more structural issue investors reversed their expectations on Indian economy.
- **Persistent fiscal deficits:** The fiscal deficits continue to remain high. The government projected a fiscal deficit target of 4.6% for 2011-12 but is likely to be much higher on account of higher subsidies. The markets questioned the fiscal deficit numbers just after the budget and projected the numbers could be much higher. This indeed has become the case. As highlighted above, persistent fiscal deficits play a role in shaping expectations over the currency rate as well.
- **Lack of reforms:** There have been very few meaningful reforms in the last few years in Indian economy. Moreover, the policies seem to be getting increasingly populist. The government wanted to reverse this perception and announced FDI in retail but had to hold back amidst huge furor from both opposition and allies. This has further made investors negative over the Indian economy. As FII inflows are going to be difficult given the uncertain global conditions, the focus has to be on FDI.
- **Continued Global uncertainty:** This is an obvious point with global economy continuing to remain in a highly uncertain zone. This has led to pressure on most currencies against the US Dollar.

All these reasons together have led to sharp depreciation of the rupee. The rupee has depreciated by nearly 20% against USD from Apr-11 to 20-Dec-11. In terms of 6 REER (Apr-Nov) and 36 REER (Apr-Oct) Rupee has depreciated by 10.44% and 7.7% respectively. The later numbers of REER are likely to show higher depreciation as well. During Lehman crisis, the two indices had depreciated by 9.3% and 9.9% respectively.

Figure 6


Source: STCI PD Research

Figure 7


Source: RBI

IV. Outlook and Policy Measures

The above analysis shows that Rupee has depreciated amidst a mix of economic developments in India. Apart from lower capital inflows uncertainty over domestic economy has also made investors nervous over Indian economy which has further fuelled depreciation pressures. India was receiving capital inflows even amidst continued global uncertainty in 2009-11 as its domestic outlook was



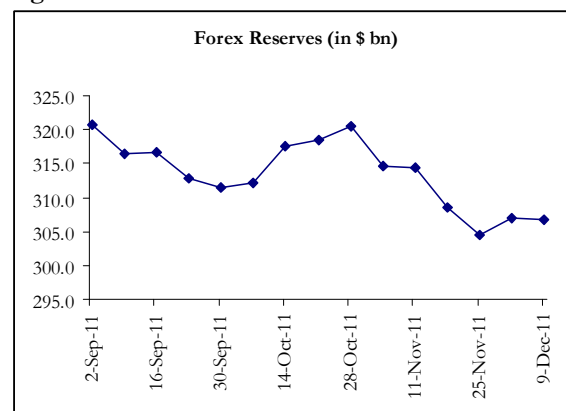
positive. With domestic outlook also turning negative, Rupee depreciation was a natural outcome. Depreciation leads to imports becoming costlier which is a worry for India as it meets most of its oil demand via imports. Apart from oil, prices of other imported commodities like metals, gold etc will also rise pushing overall inflation higher. Even if prices of global oil and commodities decline, the Indian consumers might not benefit as depreciation will negate the impact. Inflation was expected to decline from Dec-11 onwards but Rupee depreciation has played a spoilsport. Inflation may still decline (as there is huge base effect) but Rupee depreciation is likely to lower the scale of decline.

What are the policy options with RBI?

- **Raising Policy rates:** This measure was used by countries like Iceland and Denmark in the initial phase of the crisis. The rationale was to prevent sudden capital outflows and prevent meltdown of their currencies. In India's case, this cannot be done as RBI has already tightened policy rates significantly since Mar-10 to tame inflationary expectations. Higher interest rates alongwith domestic and global factors have pushed growth levels much lower than expectations. In its Dec-11 monetary policy review, RBI mentioned that future monetary policy actions are likely to reverse the cycle responding to the risks to growth. India's interest rates are already higher than most countries anyways but this has not led to higher capital inflows. On the other hand, lower policy rates in future could lead to further capital outflows.
- **Using Forex Reserves:** RBI can sell forex reserves and buy Indian Rupees leading to demand for rupee. RBI Deputy Governor Dr. Subir Gokarn in a recent speech (An assessment of recent macroeconomic developments, Dec-11) said using forex reserves poses problems on both sides – “Not using reserves to prevent currency depreciation poses the risk that the exchange rate will spiral out of control, reinforced by self-fulfilling expectations. On the other hand, using them up in large quantities to prevent depreciation may result in a deterioration of confidence in the economy's ability to meet even its short-term external obligations. Since both outcomes are undesirable, the appropriate policy response is to find a balance that avoids either.”

Based on weekly forex reserves data (Figure 8), RBI seems to be selling forex reserves selectively to support Rupee. Its intervention has been limited as liquidity in money markets has remained tight in recent months and further intervention only tightens liquidity further.

Figure 8



Source: RBI

- **Easing Capital Controls:** Dr Gokarn in the same speech said capital controls could be eased to allow more capital inflows. He added that “resisting currency depreciation is best done by increasing the supply of foreign currency by expanding market participation.” This in essence,



has been RBI's response to depreciating Rupee. Following measures have been taken lately:

- Increased the FII limit on investment in government and corporate debt instruments.
 - First, it raised the ceilings on interest rates payable on non-resident deposits. This was later deregulated allowing banks to determine their own deposit rates.
 - The all-in-cost ceiling for External Commercial Borrowings was enhanced to allow more ECB borrowings.
- **Administrative measures:** Apart from easing capital controls, administrative measures have been taken to curb market speculation.
- Earlier, entities that borrow abroad were liberally allowed to retain those funds overseas. They are now required to bring the proportion of those funds to be used for domestic expenditure into the country immediately.
 - Earlier people could rebook forward contracts after cancellation. This facility has been withdrawn which will ensure only hedgers book forward contracts and volatility is curbed.
 - Net Overnight Open Position Limit (NOOPL) of forex dealers has been reduced across the board and revised limits in respect of individual banks are being advised to the forex dealers separately.

After these recent measures, Rupee depreciation has abated but it still remains under pressure. Both domestic and global conditions are indicating that the downward pressure on Rupee to remain in future. RBI is likely to continue its policy mix of controlled intervention in forex markets and administrative measures to curb volatility in Rupee. Apart from RBI, government should take some measures to bring FDI and create a healthy environment for economic growth. Some analysts have even suggested that Government should float overseas bonds to raise capital inflows.

V. Conclusion

Growing Indian economy has led to widening of current account deficit as imports of both oil and non-oil have risen. Despite dramatic rise in software exports, current account deficits have remained elevated. Apart from rising CAD, financing CAD has also been seen as a concern as most of these capital inflows are short-term in nature. PM's Economic Advisory Council in particular has always mentioned this as a policy concern. Boosting exports and looking for more stable longer term foreign inflows have been suggested as ways to alleviate concerns on current account deficit. The exports have risen but so have prices of crude oil leading to further widening of current account deficit. Efforts have been made to invite FDI but much more needs to be done especially after the holdback of retail FDI and recent criticisms of policy paralysis. Without a more stable source of capital inflows, Rupee is expected to remain highly volatile shifting gears from an appreciating currency outlook to depreciating reality in quick time.



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