SBI ECOWRAP

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COSTS OF RUPEE DEPRECIATION

In the hindsight, the rupee depreciation of 13% in 2018 and around 7% since Jun'18 when the RBI started hiking rates is largely in consonance will \$ strengthening against all currencies. The rupee could not have been immune to such and hence the current depreciation was long overdue and trends in NDF market (rupee at 75 and implied 1 year yield at 7.7%) suggest the pain might not be just over yet!

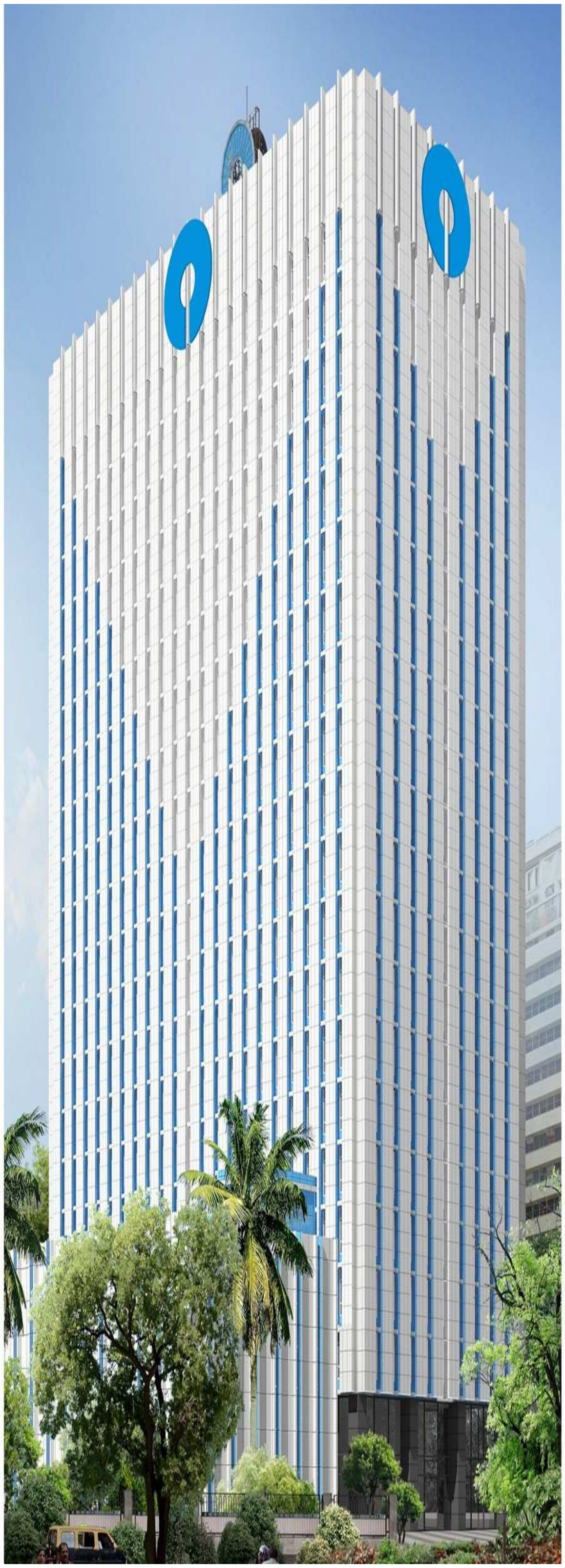
However, talking down the rupee as was done recently when the markets were volatile might have been counterproductive and thus the pace of depreciation picked up frantic pace in the last week or so. In this context, the statement by FM is most welcome and timely one as it has provided an immediate succor to battered market sentiments. The RBI could also chip in with a message that could be most comforting under the current circumstances.

There are two perceived benefits of rupee depreciation in the form of increased exports and automatic adjustment of trade deficit in policy circles. However, we believe the traditional view that weak exchange rates could dramatically boost exports growth is not entirely correct over the long term as India's export basket has changed significantly from traditional products to more mechanized engineering goods over the years, thus making them more income elastic rather than price elastic.

We believe, policy makers should be equally mindful of the costs of rupee depreciation. There are many. **First**, India's short term debt obligations at \$218 bn due on Dec'18 if rolled over could add a significant cost on the Government. **Second**, oil import bill could go up manifold. **Third**, With yields increasing, this could add up government fiscal costs too. On all these counts the costs could add up to 0.7% of GDP. It may be noted that the yields are already under pressure as unlike earlier years, the government borrowing programme has been evenly distributed between 2 halves in current fiscal.

Fourth, as per RBI estimates, assuming a 10% depreciation, this could add upto 50 bps on inflation number. In fact, continued rupee depreciation could result in rate action by RBI in October policy, even as headline CPI will decline meaningfully to 3.6-3.7% in September. This could be thus the biggest predicament waiting to unravel!

Finally, an interesting anecdote. Our empirical analysis reveals an asymmetric behavior on the part of portfolio investors in times of depreciation and appreciation. Thus, it is likely that once the rupee settles at a lower level, portfolio investors now conspicuous by their absence will return in hordes and the rupee will appreciate. This is what history of Indian foreign exchange market says and sometimes the time period of appreciating rupee following a depreciating rupee could be even higher! On a lighter note, this could make both camps happy!



CURRENT RUPEE DEPRECIATION LIKELY TO BE FOLLOWED BY APPRECIATION

- Foreign portfolio investment (FPI) generally responds negatively to domestic currency depreciation over a period of time. This is obvious, as a typical portfolio investor brings in foreign currency but invests in domestic currency and therefore a depreciation in domestic currency will only mean that a portfolio investor will be able to take out a lower amount of foreign currency compared to what was originally invested. Thus, it will always be the endeavour of the portfolio investors to prefer a wait and watch policy in the event of a gradual depreciation of the domestic currency. Hence, portfolio investors have a typical asymmetric behavior as they behave oppositely to appreciation and depreciation of the domestic currency.
- We analysed the movement of rupee against dollar since global financial crisis period and it is quite visible from the data that depreciation was always followed by appreciation of currency. There were two instances where, the phase of currency depreciation lengthened more than 3 quarters, but once the currency settled at a lower level, appreciation of currency picked up dramatic pace.
- We believe, this time will be no different as currency will start appreciating once the dust settles for the currency to settle at a lower level.

Currency Depreciation/Appreciation and Capital outflows/inflows post Global Financial Crisis								
Currency Depreciation					Currency Appreciation			
Sl. No.	Time Period	No. of Months rupee depreciated	Currency depreciation (Rs/$)	FPI outflow (in $ Million)	Time Period	No. of Months rupee appreciated	Currency appreciation (Rs/$)	FPI inflow (in $ Million)
1	Feb'08-Mar'09	14	39.8-51.3	9015	Apr'09-Apr'10	13	50.1-44.5	33035
2	Aug'11-Nov'11	4	45.3-50.9	2060	Dec'11-Feb-12	3	52.6-49.2	15769
3	May'13-Sep'13	5	55.1-63.8	6692	Oct'13-May'14	8	61.6-59.3	19352
4	May'15-Feb'16	10	63.8-68.2	8071	Mar'16-Sep'16	7	67.0-66.7	11041
5	Oct'16-Jan'17	4	66.7-68.1	11610	Feb'17-Jan'18	12	67.0-63.7	34772
6	Feb'18-Aug'18	7	64.4-69.4	8847	-			
Source: SBI Research								

COSTS OF RUPEE DEPRECIATION

- The rupee has now depreciated by 7% from June 2018, when the RBI started hiking rates and close to 13% in 2018. Thus, by any stretch of imagination, the depreciation in rupee has now outpaced other Asian currencies like Indonesia. We believe, beyond a certain level of depreciation, the costs could outweigh benefits. There are many components of such cost.

- **Short-term external debt repayment:** India's short term debt obligations as on Dec'17 were to the tune of $217.6 billion. Assuming half of this amount has either been paid in H1 2018 or is rolled over to 2019, the remaining repayment amount in Rupee terms would be Rs 7.1 trillion at average 2017 exchange rate of Rs 65.1/ US dollar). For H2 assuming that rupee depreciates to an average value of 71.4/US dollar, the debt repayment amount would be Rs 7.8 trillion, thereby implying an extra cost of Rs 670 bn. This is a model estimate of the cost that depreciation can put on the country as the repayment is done throughout the year.

Short-term External Debt Repayment	
Total Residual Maturity of External Debt Outstanding as at End-Dec'17 ($ bn)	217.6
Assuming 50% has either been paid or rolled over, remaining Residual Maturity of External Debt Outstanding as at End-Dec'17 ($ bn)	108.8
Rupee exchange Rate Average for 2017	65.1
Rupee Value of Short term debt (Rs bn)	7084
Rupee exchange Rate Average for H2 2018	71.4
Rupee Value of Short term debt (Rs bn)	7763
Extra cost (Rs Bn)	**679**
Source: SBI Research	

Cost of Oil Imports		
	Scenario 1	Scenario 2
Import volume for H2 2018 (bn bbl)	0.76	0.76
Average Crude Oil Price H2 2018 (Indian Basket, $/bbl)	74.24	76
Import Value ($ bn)	57	58
Rupee exchange Rate Average for 2017	65.1	65.1
Import Value (Rs bn)	3683	3770
Rupee exchange Rate Average for H2 2018	71.4	73.0
Value Rs bn	4036	4227
Extra cost	**353**	**457**
Source: SBI Research		

- **Oil import bill:** Next is the impact on oil import bill. We assume that the volume of our crude oil imports would increase by a modest 3.6% (average of past 5 years) in 2018. If we reduce the volume of oil imported in the first half of the current FY, the remaining volume of crude to be imported comes to 0.76 bn bbl. At an average oil price of $74.24/bbl for the remaining half, crude import bill of India in 2018 should amount to $57 billion. If the average exchange rate remained at Rs 65.1/ US dollar the crude oil import bill would have been Rs 3643 billion. However, with rupee depreciating to an average of Rs 71.4/US dollar in H2 2018 end, the import bill would increase to Rs 4036 billion, implying an extra cost of around Rs 0.353 trillion. With crude oil averaging to $76/bbl for the remaining half and average exchange rate at Rs 73/ US dollar the extra cost could go up to Rs 457 billion.
- **Inflation:** As per RBI, a depreciation of the Indian rupee by around 5% relative to the baseline, inflation could edge higher by around 20 bps. With rupee expected to depreciate by say around 14% this year, keeping everything else constant inflation could edge by 56 bps going by the RBI numbers.
- **Consumption**: If the rupee continues to depreciate, it may move RBI towards increasing the regulatory interest rates. This could pressurise RBI to go for more rate hikes. RBI's successive rate hikes will have a negative impact on consumption expenditure (PFCE) as well as investment expenditure, thereby widening the output gap. For instance, during FY14, 3 successive rate hikes led to collapse of private consumption expenditure to 2.0% in Q3 FY15 from 8.6% growth in Q2 FY15. During Q1 FY19, PFCE increased by 8.6% (6-quarter high) and RBI has already hiked Repo rate in two successive rate hikes. The continued rupee depreciation and given the significant costs of RBI intervention in forex market and hence the RBI apathy to take that route could result in at least one more hike, possibly frontloaded.
- Now, this may have impact on PFCE in Q2 FY19. If we mimic the trend that was followed in FY15 we may expect PFCE to decline in subsequent quarters and this may lead to Rs 500 billion decline in consumption expenditure.
- **Fiscal Cost :** With yields crossing 8%, there will be increased fiscal costs on the part of the Government every year. We expect such costs to be at least Rs 6000-7000 crores. Interestingly every year, Government generally frontloads the borrowing programme to the H1. For example, in FY14-FY18, the central government frontloaded on an average 59% of borrowing programme, that has declined to 39% in current fiscal. State Government's borrowing trend is similar to Central Govt. This was mainly to avoid the rising interest costs to the Government. However, as a result, there will now be increased borrowing pressures on the Government and hence yields will increase from current levels.

Now a word on the efficacy of exchange rate depreciation in promoting exports. We empirically estimated the relationship between exchange rate and exports from Jan'07 to Jun'18 and the results from the macro data shows that the relationship between these two are very weak. The historic trend suggests depreciation of exchange rates could boost exports growth by 2 billion (US $) / Rs 150 bn on an average in the long run.

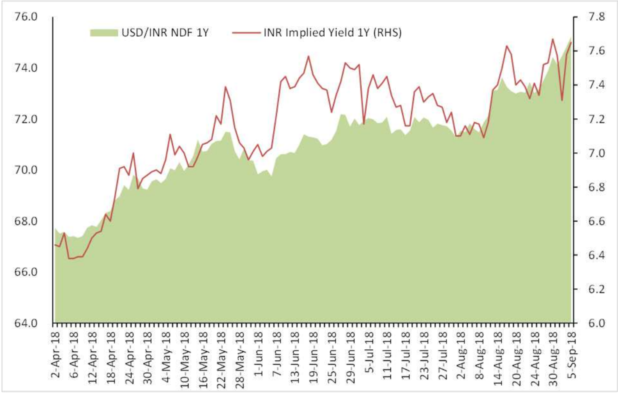
Summary of Rupee Depreciation (Rs Billion)	
Short-term external debt repayment rollover	679
Increased Oil import	353
Fiscal Burden	60
Perceived Cost	1092
Perceived Benefit: Increase in exports over trend growth	150
Memo:	
Consumption decline	500
Source: SBI Research	

Gross Borrowing in H1 % Total Borrowing		
	Central Govt.	State Govt.
2013-14	59%	39%
2014-15	57%	38%
2015-16	58%	38%
2016-17	59%	35%
2017-18	61%	42%
2018-19*	38%	25%
Avg (FY14-FY18)	59%	38%
Source: SBI Research * Till Aug'18		

EXPECTED LEVEL OF RUPEE: NDF AT 75

- In the offshore NDF markets the rupee is trading at Rs75 per dollar levels. During this financial year the rupee has depreciated sharply; with NDF implied yield on rupee hardening sharply from 6.5% to 7.7% in September. The last 364 day T-bill cutoff was 7.32%. Thus, rupee will continue to face pressure in foreseeable future.

Rupee Movements in Offshore NDF Markets



Source: Bloomberg, SBI Research

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ABOUT US

The Economic Research Department (ERD) in SBI Corporate Centre is the successor to the Economic and Statistical Research Department (E&SRD). The latter came into being in 1956, immediately after the State Bank of India was formed, with the objective of "tendering technical advice to the management on economic and financial problems in which the Bank has interest and which required expert analysis".

After the first reorganization of the Bank, when specialized departments like Management Science, Management Information Systems, Planning and Market Segment Departments took over the statistical work of E&SRD, the Department was renamed as ERD.

However, with the ERD team now taking on multidimensional functionalities in the area of risk management , corporate analytics, strategy and so on, who knows, the time may have come to rename it again!

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