Why Indian Rupee Will Be More Volatile?

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Thematic Report

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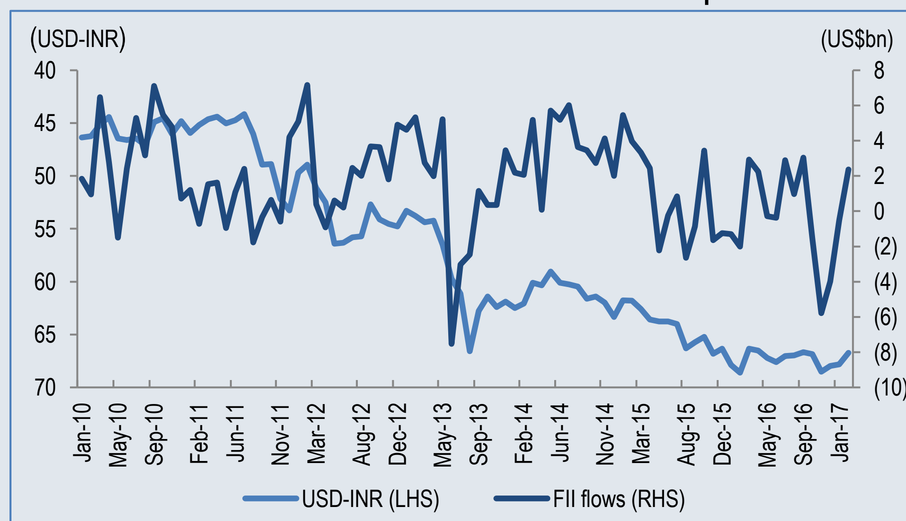
USD-INR Sensitivity To Capital Flows Has Increased

India's macroeconomic fundamentals have undoubtedly improved since 2013, but a basic analysis tells us that the sensitivity of the Indian rupee or INR to capital flows has increased. Moreover while the INR may have outperformed its Asian peers in recent times, it has broadly moved in line with other emerging markets. This means that we are destined to witness intermittent bouts of appreciation and depreciation in tandem with portfolio flows. In addition, we believe India's dependence on capital flows is on the rise as services exports and remittances-which have cushioned India's trade deficit - are likely to grow at a much slower pace. Back to fundamentals, a higher current account deficit or CAD going forward and inflation differentials with the developed world suggests a depreciation bias. We also note that effectiveness of the Reserve Bank of India or RBI intervention - apart from a signaling effect - is reducing as forex market turnover has more than trebled in the past decade, implying the exchange rate will increasingly be market-determined. Finally, forward markets - both onshore and offshore - are pricing in depreciation from current levels. On an average, we expect the USD-INR to trade at about 68.5 in FY18 and 70 in FY19, up from our earlier estimate of 70 and 72 respectively, and an estimated average of 67 in FY17, although intermittent swings are expected.

1. Has the INR decoupled because of strong macro fundamentals?

While there is no denying the fact that India's macroeconomic fundamentals have improved with a decline in the CAD, higher levels of foreign reserves and lower inflation, we believe that India's sensitivity to foreign portfolio flows has increased. Exhibit 1 below shows that USD-INR movements have mirrored foreign portfolio flows since early 2012.

Exhibit 1: Since late 2011 movements in USD-INR have mirrored portfolio flows…



Source: CEIC, Nirmal Bang Institutional Equities Research.

USD-INR sensitivity to portfolio flows has increased…: A basic analysis indicates that the correlation between portfolio flows and USD-INR increased to 0.59 for the period after the taper tantrum in July 2013, compared with a long-run average of 0.37, and 0.18 in the period immediately after the global financial crisis when the US resorted to quantitative easing (Exhibit 2). This leads us to believe that movements in the INR are increasingly becoming more sensitive to foreign portfolio flows.

Please refer to the disclaimer towards the end of the document.

Exhibit 2: INR sensitivity to portfolio flows has increased

Time period	Key events in global markets	Correlation of USD-INR and foreign portfolio flows
January 1997-March 2003	Asian financial crisis and dotcom bubble	(0.27)
April 2003- September 2008	Pre-crisis boom	(0.45)
September 2008 - March 2010	Global financial crisis	(0.30)
March 2010- May 2013	US quantitative easing	(0.18)
July 2013- Present	Post taper tantrum in 2013	(0.59)
January 1997-present	Long-term average	(0.37)

Note: Negative number only indicates that USD-INR and portfolio flows move in opposite directions

Source: CEIC, Nirmal Bang Institutional Equities Research.

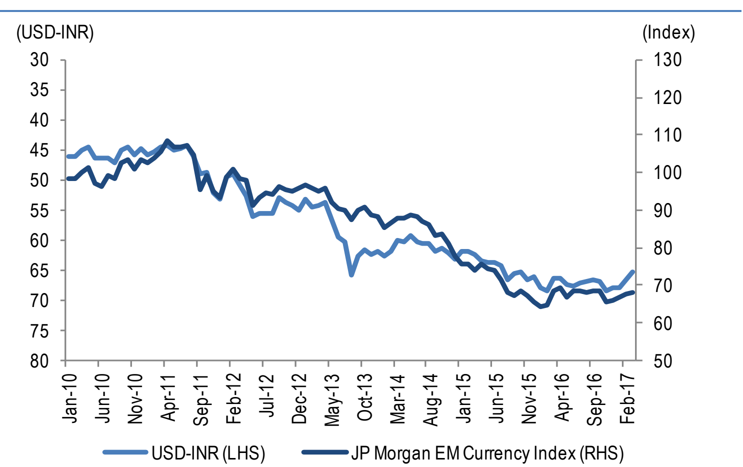
...and movements have been aligned with broad EM currencies…: Moreover while the INR may have outperformed its Asian peers in recent times, it has broadly moved with other emerging market (EM) peers. Between January and March 2017, the INR has been the best performer among its Asian peers, barring the Korean won which also strengthened because of domestic political developments and the impeachment of the country's president (Exhibit 3). Nevertheless, we find that the INR has broadly tracked movements in EM currencies as measured by the JP Morgan Emerging Market Currency Index (Exhibit 4).

Exhibit 3: INR has outperformed Asian peers recently …

Performance of major Asian currencies	Jan 2017 to date
Indian rupee (USD-INR)	3.8
Chinese yuan (USD-CNY)	-0.3
Indonesian rupiah (USD-IDR)	1.2
Philippines peso (USD-PHP)	-1.0
South Korean won (USD-KRW)	7.1
Thai baht (USD-THB)	3.3
Vietnamese dong (USD-VND)	-0.1

Source Bloomberg, Nirmal Bang Institutional Equities Research.

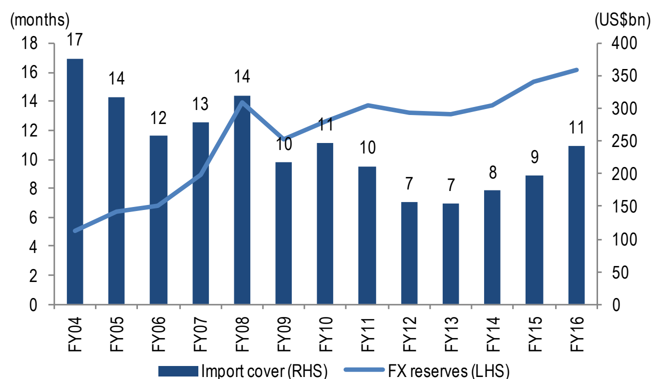
Exhibit 4…but movements in line with broader EM currencies



Source Bloomberg, Nirmal Bang Institutional Equities Research.

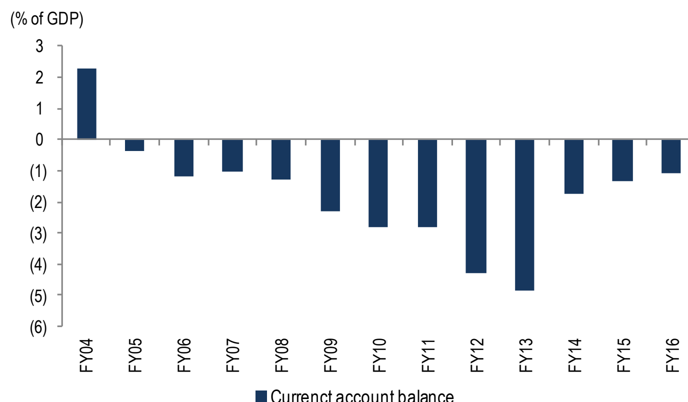
… despite improvement in macro fundamentals: The sensitivity of the INR to portfolio flows has increased despite significant improvement in macroeconomic fundamentals. This is not to say that the improvement in macro fundamentals is of no benefit. The rise in FX reserves and improvement in import cover (Exhibit 5), reduction in the CAD (Exhibit 6) and decline in inflation, all signal a commitment to macroeconomic stability by policymakers, which in itself supports inflows. Besides, the rising sensitivity to capital flows indicates that the exchange rate is, for the most part, market-determined, thereby minimising the moral hazard of market participants relying on policymakers to bail them out in times of extreme adverse movements in the currency.

Exhibit 5: …even as FX reserves have risen….



Source RBI, CEIC, Nirmal Bang Institutional Equities Research.

Exhibit 6: …and the current account deficit declined

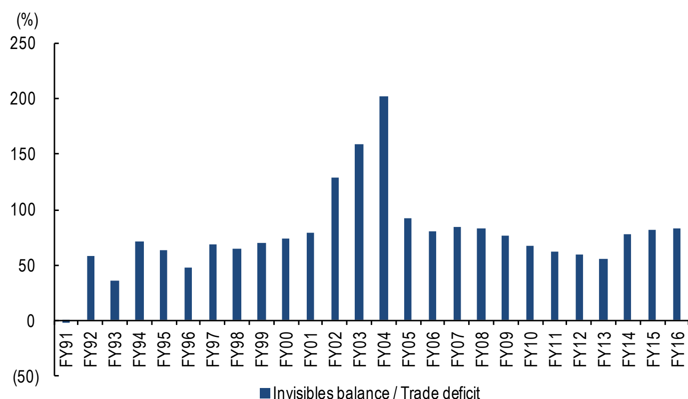


Source: RBI, CEIC, Nirmal Bang Institutional Equities Research.

2. Why India's dependency on capital flows is increasing?

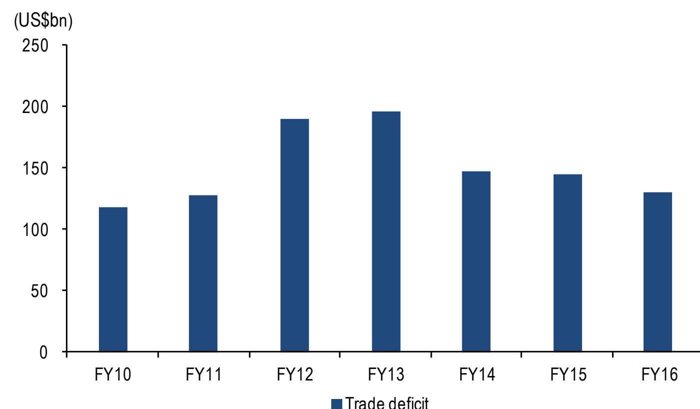
The invisibles surplus is declining..: Since the 1991 balance of payments crisis, the net invisibles balance, which includes net services exports and remittances from abroad, have offset to a large extent India's trade deficit. The invisibles surplus, as a share of trade deficit, rose from 35% in FY93 to a high of 202% in FY04, resulting in a current account surplus but has been declining since then for the most part. It fell below 70% in FY10 and touched a low of 55% in FY13, the year of the taper tantrum (Exhibit 7). Though it has improved in the past couple of years, it has been driven a lower trade deficit rather than improvement in the invisibles surplus (Exhibit 8). The trade deficit improved on account of a number of factors including the fall in crude oil prices, temporary restrictions on gold imports and growth slowdown as a result of which exports and imports declined.

Exhibit 7: Invisibles surplus offsetting trade deficit declining….



Source RBI, CEIC, Nirmal Bang Institutional Equities Research.

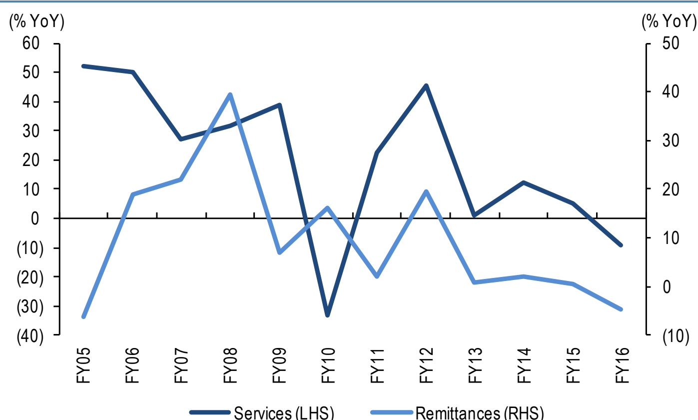
Exhibit 8: …recent improvement driven by lower trade deficit



Source: RBI, CEIC, Nirmal Bang Institutional Equities Research.

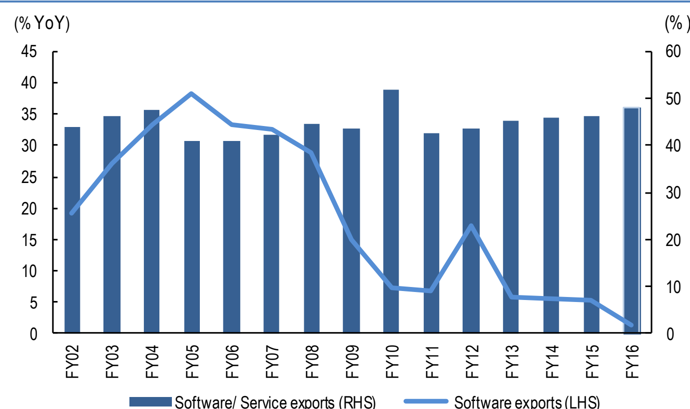
… as services exports and remittances which offset the trade deficit are growing at a slower pace: Services exports and remittances have been affected by vagaries of economic cycles in the past and have exhibited sharp swings in line with global growth. Nevertheless, since FY12 both services and remittances have both witnessed a secular decline (Exhibit 9). Also, the Indian IT industry, which is primarily responsible for the services surplus, is expected to grow at a much slower pace than in the past (Exhibit 10). The Gulf countries account for nearly 50% of the remittances to India, and therefore a recovery in crude oil prices may to some extent help in stabilising remittances, but with limited migration opportunities, headwinds for the IT industry and second-generation migrants less likely to send money back to India, it is difficult to envisage a sharp upturn in remittances.

Exhibit 9: Services and remittances are on the decline….



Source RBI, CEIC, Nirmal Bang Institutional Equities Research.

Exhibit 10: …and software exports are growing at a slower pace

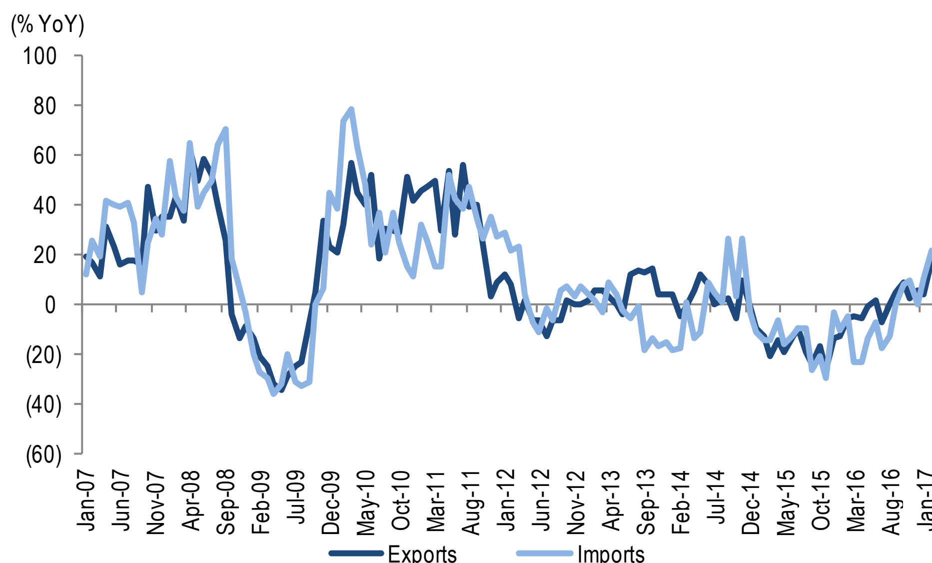


Source: RBI, CEIC, Nirmal Bang Institutional Equities Research

3. Why the INR has a depreciation bias?

CAD set to increase even as dependence on capital flows is on the rise: The current account deficit has been declining since FY13 and is estimated to be less than 1% in FY17. However, we expect the CAD to rise to 1.9% in FY18 as growth recovers, and it is likely to sustain at around 1.5%-2.0% level in the coming years. Exports are recovering after over two years of decline, but this has been offset by a similar rise in imports (Exhibit 11).

Exhibit 11: Exports rising, but so are imports



Source: RBI, CEIC, Nirmal Bang Institutional Equities Research.

Moreover apart from domestic demand, the import intensity of India's key exports like gems and jewellery, mineral oil and chemicals is high (Exhibit 12). Besides India's CAD is sensitive to commodity prices, particularly of crude oil and gold, and therefore the deficit could possibly be higher should global commodity prices rise, similar to the decline in the CAD in recent years which was supported partially by the fall in global commodity prices.

Exhibit 12: Import intensity of some of India's key exports is high

Key exports	% share in exports	Import intensity (exports / imports- % share)
Gems and jewellery	15.08	69.96
Mineral oil and products	11.91	32.21
Nuclear reactors and machinery	5.05	40.30
Organic chemicals	4.39	73.69

Source: Ministry of Commerce, Nirmal Bang Institutional Equities Research.

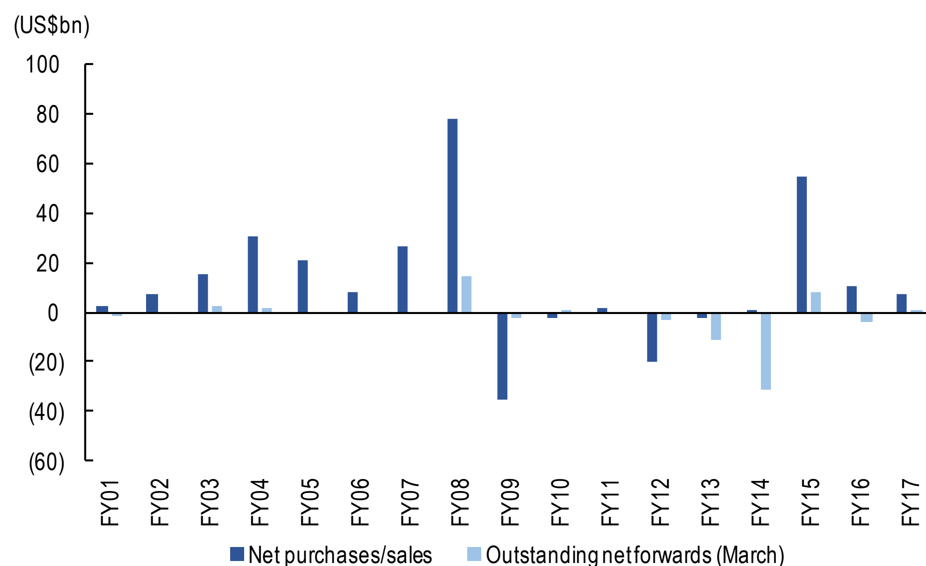
Further, though a weak exchange rate in itself may not encourage exports, if the INR strengthens against the US dollar or USD while the currencies of its competitor countries for manufacturing exports such as China, Vietnam and Philippines weaken, it does not bode well for India's export competitiveness. In fact it could possibly derail the nascent export recovery, and if imports do not fall proportionally the CAD may widen.

Inflation differential also suggests a depreciation bias: Economic theory tells us that a country with a higher inflation should witness depreciation of its currency against its trading partners. Considering the fact that the US inflation target is 2% and India's medium term inflation target is 4%, it implies depreciation of about 2% of the INR against the USD to maintain competitiveness. Besides, Indian inflation in the short term is expected to be around 5%+, which means that the depreciation could well be higher than 3%. This relationship may not hold if interest rates in India rise significantly to curb inflation, attracting capital flows, which leads to strengthening of the currency. However, given the fact that interest rates are rising globally, and we are expecting only a calibrated increase in interest rates in India, we expect the relationship to hold true at least partially, which suggests a depreciation bias for the INR.

4. Why we believe the effectiveness of RBI intervention is decreasing?

Rising foreign exchange market volume reduces RBI's ability to control markets….: The RBI has actively intervened in the spot market, and more recently in the forward market, buying USD in times of heavy inflows and selling USD in times of outflows, thereby limiting swings in the currency (Exhibit 13).

Exhibit 13: RBI has actively intervened in FX spot and forward markets

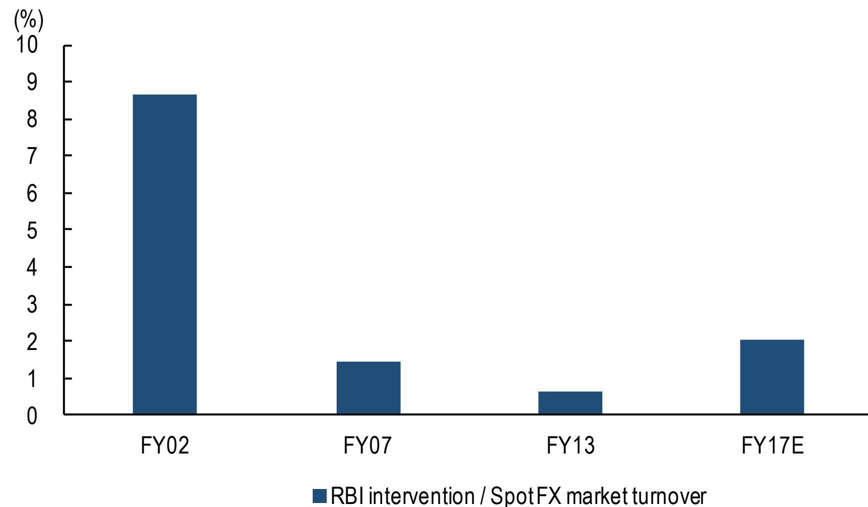


Note: FY17 data as of January

Source: CEIC, Nirmal Bang Institutional Equities Research.

However, we find that total RBI intervention measured as total spot sales and purchases as a percentage of the spot forex market's turnover has been declining, although the central bank stepped up its intervention in the period after the taper tantrum of 2013. In addition, volumes in the onshore spot FX market alone grew over 13x between FY02 and FY17, limiting the effectiveness of RBI intervention (Exhibit 14).

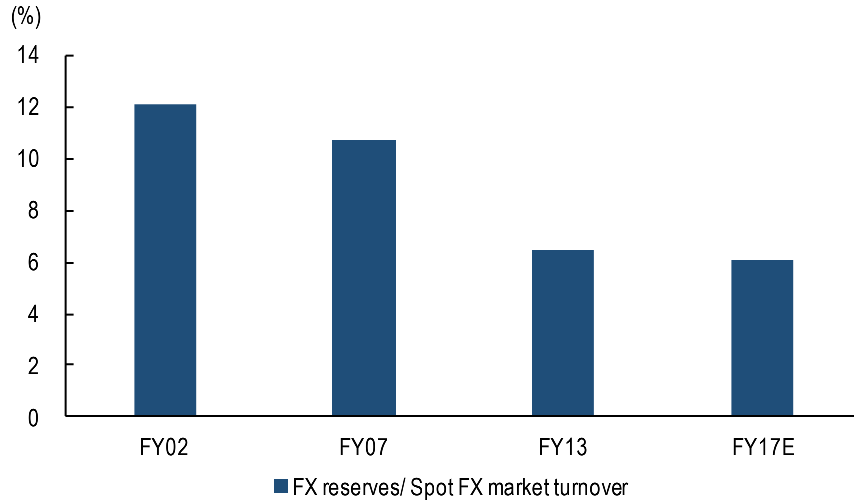
Exhibit 14: RBI intervention as a share of market turnover on the decline



Source: RBI, Goyal (2013), Nirmal Bang Institutional Equities Research.

… and increases intervention costs: Moreover the cost of intervention is increasing with rising FX market turnover, which means that market forces are likely to outweigh RBI intervention in determining the exchange rate. As a case in point, while FX reserves are currently 6.7x FY02 levels, spot FX market turnover has risen to 13.3x FY02 levels. As a result, FX reserves as a percentage of FX market turnover has fallen from 12.1% in FY02 to about 6% in FY17E (Exhibit 15). Therefore, for the RBI to effectively stem INR depreciation, it will have to drawdown a larger share of its reserves, weakening macro fundamentals in the interim which may lead to capital outflows and result in further depreciation. On a similar vein, in times of INR appreciation, the RBI will have to buy more USD to effectively stem appreciation, which increases liquidity in the system. The higher level of liquidity could potentially be inflationary unless sterilised, and sterilisation through issuance of Market Stabilisation Scheme (MSS) bonds could mean higher costs to the exchequer. If liquidity is sucked out through hikes in Cash Reserve Ratio (CRR), banks may try to make good the loss in revenues through higher lending rates. In a nutshell, we believe RBI intervention will only be effective at the margin, and more as a signaling tool.

Exhibit 15: FX reserves increase at a slower pace relative to market turnover

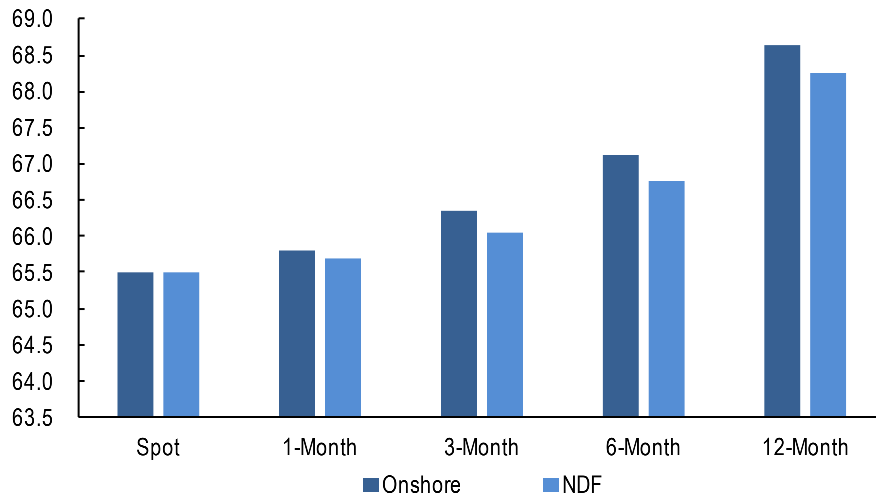


Source: RBI, Goyal (2013), Nirmal Bang Institutional Equities Research.

5. What are the markets pricing in?

Markets- both onshore and offshore - are pricing in depreciation: Finally, we look at what markets are anticipating and find that forward markets - onshore as well as offshore non-deliverable forward (NDF) markets - are expecting the INR to depreciate from current levels in the next 12 months (Exhibit 16). The onshore market is, however, expecting the INR to depreciate slightly more than the offshore market. On an average, we expect the INR to trade at about 68.5 in FY18 and 70 in FY17, up from our earlier estimate of 70 and 72 respectively, and an estimated average of 67 in FY17, but intermittent swings are expected.

Exhibit 16: Forward markets are expecting depreciation from current levels



Source: Bloomberg.

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