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Neat Theory, Messy Reality

The emergency rule imposed by President Musharraf on 3rd November-2007, created an environment of political uncertainty and hurt investor sentiment as many foreign investors withdrew dollars heavily from the stock market. Simultaneously, we witnessed a significant decline in the forward premiums on dollar rupee for all tenors in the foreign exchange market.

This report will begin by explaining the basics forward premiums while examining how premiums on dollar rupee have almost always deviated in our foreign exchange market from theory. The report will then analyze the downward movement in forward premiums on dollar rupee since the imposition of emergency, with emphasis on the dollar liquidity crunch that prevails in the market before presenting recommendations for generating dollar liquidity and thereby restoring forward points.

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Swap Points: How they are supposed to be?

In the FX swap market, one currency is swapped for another for a period of time, and then swapped back, creating an exchange and re-exchange. An FX swap has two separate legs settling on two different value dates, even though it is recorded in the turnover statistics as a single transaction. There are two kinds of FX swaps: a buy/sell swap, which means buying the fixed, or base, currency on the near date and selling it on the later date; and a sell/buy swap, which means selling the fixed currency on the near date and buying it on the later date. If, for example, a trader bought a fixed amount of dollars spot for rupees (the exchange) and sold those dollars six months forward for rupees (the re-exchange), that would be called a buy/sell dollar swap.

The popularity of FX swaps reflects the fact that banks or interbank market often finds it useful to shift temporarily into or out of one currency in exchange for a second currency without incurring the exchange rate risk of holding an open position or exposure in the currency that is temporarily held. This avoids a change in currency exposure, and differs from the spot or outright forward, where the purpose is to change a currency exposure. The use of FX swaps is similar to actual borrowing and lending of currencies on a collateralized basis. In this fashion FX swaps provide a way of using the foreign exchange markets as a funding instrument. They are widely used by traders and other market participants for managing liquidity and shifting delivery dates, for hedging, speculation, and taking positions on interest rates.

The cost of an FX swap is determined by the interest rate differential between the two swapped currencies. Just as in the case of outright forwards, arbitrage and the principle of covered interest rate parity will operate to make the cost of an FX swap equal to the foreign exchange value of the interest rate differential between the two currencies for the period of the swap.

A market maker will calculate swap points on the basis of borrowing and lending rates in the off shore deposit markets:

Box 1: Calculating Swap Points


$$\text{Swap/Forward Points} \approx S (R_d - R_i) \times n/360$$

Where S = Spot Exchange Rate

R_d = Domestic Interest Rate (for tenor *n*)

R_i = Foreign Interest Rate (for tenor *n*)

The counterparty that holds for the period of the swap the currency that pays the *higher* interest rate will *pay* the points, neutralizing the interest rate differential and equalizing the return on the two currencies; and the counterparty that holds the currency that pays



the *lower* interest will *earn* or receive the points. At the outset, the present value of the FX swap contract is thus usually arranged to be zero.


Twisting the Fundamentals

Historically, swap points in our foreign exchange market have never been precisely equivalent to interest rate differentials. Take for example 3 Month LIBOR which is currently at 5.15% compared to the 3 Month T-bill rate which is at 9.05% - an interest rate differential of 3.9%. In terms of this differential, the 3 Month forward points as of 4th Dec-07, when Spot rupee dollar exchange rate was at 61.31, (in accordance with the formula given in Box 1) must be 59 paisa. However the 3 Month forward points is currently at 29 paisa. Similarly, the 6 Month and 1 Year forward points differ significantly from the forward points that must exist in an equilibrium market in theory.

Hence actual dollar rupee swap points fail to reflect the difference in interest rates that exist between the two currencies. One must pay heed that forward points shall perfectly reflect the interest rate differential between the rupee and the dollar only if traders are allowed to freely borrow dollars at the dollar interest rate. This is because as long as interest rate differential exists between two economies, the trader can borrow the lower interest rate currency from its respective market and then execute sell/buy swaps in this currency while investing the higher interest rate currency in its domestic market. For example, a dealer can take dollar loans at LIBOR and conduct sell/buy dollar swaps in the foreign exchange market whereby the trader sells dollar spot in exchange for rupees and buy it forward at a forward rate (spot + swap/forward points).

However in Pakistan this is not the case due to State Bank's regulations, particularly with respect to raising foreign currency loans. Before June 2007, the banks and DFI's were not allowed to take foreign currency loans in any tenor. This essentially means that the dealers could not freely take dollar loans and thereby conduct sell/buy swaps as we outlined in the example above. Commendably, in an attempt to liberalize its financial markets, the SBP in its Circular No.3 of 2007 (Box-2) relaxed this regulation and stated that all authorized dealers *could raise foreign currency borrowing from International Financial Institutions for converting into Pak Rupee and using the same (PKR) for liquidity management.*

Nevertheless a closer look at the Circular reveals that restrictions still exist with regards to raising foreign currency loans – the dealers were not allowed to borrow in any tenor for less than one year. Hence it is not surprising that relaxation on part of foreign currency borrowing resulted in raising only one year forward premium; 1 Year forward points jumped by 8 paisa to 2.33 in July 2007 over the previous month. It must be noted that the one year forward premium still was not reflective of the interest rate differential.



From this we proceed to our second reasoning for deviation of forward points from market equilibrium.

Being an emerging economy where political ambience is rather uncertain, Pakistan has a higher credit risk associated with it. Due to a high credit risk, borrowers are never able to raise dollar loans at LIBOR, even if allowed to, and almost always borrow at a rate above the LIBOR. Moreover the fact that loans can only be raised in one year or above tenor, the credit risk is higher and thereby a higher borrowing rate. This acts to reduce the forward points resulting in a further deviation from equilibrium forward points.

Box 2: SBP Circular

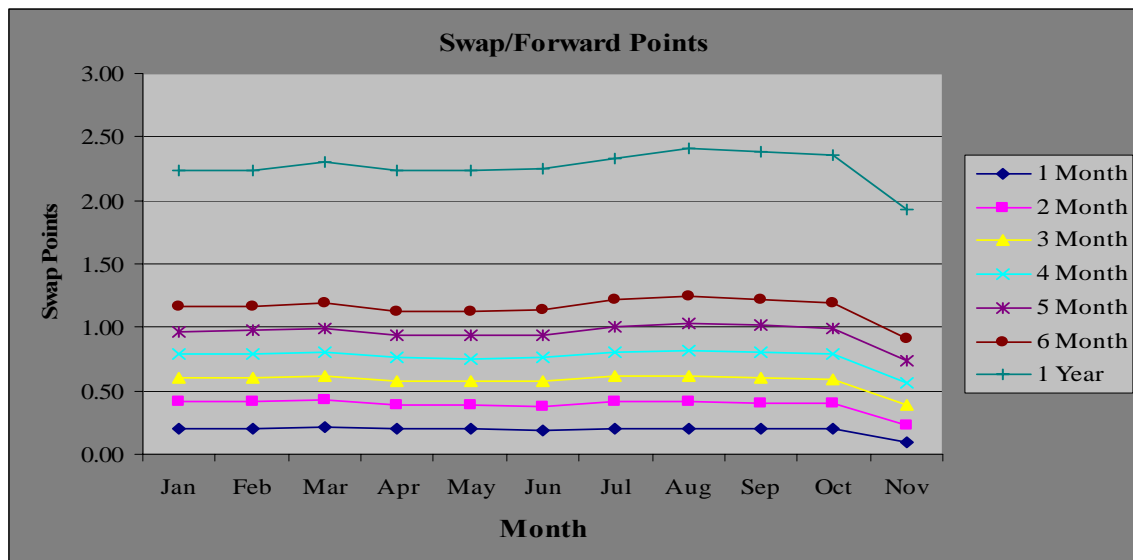
FE Circular No. 03 of 2007
<p style="text-align: center;">Borrowings in Foreign Currency by Authorized Dealers</p>
<p>In order to facilitate the Authorized Dealers (ADs), it is decided to allow ADs to raise foreign currency (FCY) borrowing from International Financial Institutions for converting into PKR and using the same (PKR) for liquidity management. While borrowing such FCY funds, ADs are required to ensure the following:</p> <ol style="list-style-type: none">1. ADs are allowed to borrow foreign currency to a maximum of 50% of their unimpaired Capital as per their last Audited Financial Accounts.2. The borrowing is permitted in currencies namely USD, EUR, GBP and JPY.3. The minimum tenor of the FCY borrowing should not be less than 1 year. The borrowing bank (AD) will be allowed to make payment of the principal amount in bullet at maturity or may start repayment of principal in installment after one year. However, frequency of the interest payment may be made in accordance with the related repayment schedule.4. Interest may be payable at a rate not exceeding the relevant LIBOR + 1.50%. Any exception to the above rate should be referred to Exchange Policy Department, SBP for prior approval.5. ADs will not be allowed to offer any security/collateral/guarantee whatsoever to the lenders as the borrowing will be clean and based on balance sheet strength of the borrowing bank (AD).6. Borrowing bank (AD) will not be allowed to sell such FCY funds out-rightly in the interbank market or to the customers. Similarly, such FCY funds cannot be used by borrowing bank for extending any FCY trade loan facility.7. Borrowing bank (AD) will be allowed to enter into FCY/PKR sell/buy Swaps in the interbank market. Though, the tenor of these Swaps may range from 1- month to 1-year, however, at any point in time, the outstanding amount of related Net Forward Purchases should not be lower than the FCY amount borrowed under this arrangement.8. ADs are advised to monthly report FCY transactions on the enclosed format to Banking Surveillance Department and Exchange Policy Department by 10th day of the following month. <p>The above permission is being granted to the ADs for their liquidity management. However, ADs are expected to exercise utmost prudence while entering into such arrangements.</p>


Emergency: Scaring the Greenback

On November 3rd, President Musharraf dismantled the constitutional facade and imposed, in effect, emergency rule. The declaration of emergency did not only prompt domestic reaction but strong responses from international agencies and rest of the world. Both Moody's Investors Service and Standard and Poor on November 5th downgraded Pakistan's credit rating outlook from stable to negative, stating that the imposition of emergency ruling by President Musharraf *represents a further erosion in governing capacity*. The American and the British Governments as well as countries in the European Union strongly condemned the imposition of emergency, declaring that they will now have to review their aid policy towards Pakistan and that it is likely that development as well as military aid will be suspended.

The aftershocks jolted the Karachi Stock Exchange on the very first day following the emergency as the benchmark KSE 100-index plunged by 635 points to register its highest one day decline. This is primarily because imposition of emergency rule creates an environment of uncertainty, hurting investor sentiment. In the weeks that followed, KSE continued to witness mayhem with foreign investors withdrawing around USD 180 million. This drained the dollar liquidity from the foreign exchange market and resulted in hurting the rupee strength vis-à-vis the dollar.

Figure 1: Swap/Forward Points (Jan '07- Nov '07)





The flight of dollars was rather anticipated by both local and foreign banks. Expecting foreign banks to conduct buy/sell dollar rupee swaps to maintain high dollar nostro positions as a result of dollar outflow, the local banks, too, began to follow a buy/sell strategy. At the same time the yield on the 10 year GOP Euro bond issue in June 2007 at a coupon of 6.875% spiked to beyond 9%. This was significantly high compared to the 4% yield of 10 Year US Treasury bond and thereby dollars financed via buy/sell swaps were channeled into investment in 10 Year GOP Euro bond by the offshore branches of the local banks. It must also be noted that a high yield on dollar bonds necessarily means a higher risk premium and therefore meant an ever high borrowing cost of dollars for commercial banks from the international market. This scenario in the wake of tight dollar liquidity in the global markets meant inflows of dollar from abroad dried up at a very rapid pace.

Thus as foreign investors withdrew from the stock market and local and foreign banks began to build up their dollar nostro positions through buy/sell swaps, the rupee depreciated approximately 1% while forward premiums dropped. In order to prevent the rupee from weakening against the dollar the SBP intervened in the foreign exchange market by selling dollars forward. This further depressed the forward premiums.

Hence the global financial crisis coupled with the outflow of dollars in response to imposition of emergency and subsequent buy/sells pursued by local and foreign banks has reduced the forward premiums despite a rising interest rate differential between the two currencies.

More Action Needed

In order to address the dollar shortage and thereby falling forward points in the foreign exchange market, State Bank of Pakistan reduced the Special Cash Reserve Requirement (SCRR) from 15% to 5%. This will return USD 400 million to the banks and DFIs, giving them a temporary liquidity comfort. However we believe this will have only a short lived impact on the dollar liquidity. The likely outcome of this move is that local and foreign banks will further strengthen their dollar nostro positions with the dollars injected. Hence the impact of this move is not likely to last for long.

In order to solve the current dollar liquidity crunch the SBP needs to come up with a long term solution. Following are a few recommendations which we would like to suggest for improving the current scenario:

Firstly the SBP must allow authorized dealers to raise dollars in tenors less than one year. This is because due to political uncertainty the one year risk premium is very high and thereby means that the borrowing rate is significantly above LIBOR. If authorized dealers



are allowed to borrow in say 1 Month or 6 Month tenors we will see increased activity in shorter tenors and the forward points rise.

Secondly the SBP will have to take the aggressive action of selling dollars ready even if it means a slight drain on the foreign exchange reserves position. By selling dollars ready, we will not only see the rupee regain its value but a surge in dollar liquidity will push the premiums upwards.

Lastly, we believe the SBP must make a move to increase dollar deposits in the foreign exchange markets. In recent months the dollar deposits have increased almost negligibly relative to dollar loans. Since the beginning of this year the FE 25 deposits grew by 7% from USD 3.64 billion in Jan-07 to 3.92 billion in Oct-07 while the FE loans increased by over 40% from USD 1.22 billion to USD 1.7 billion. The low growth in deposits emanates from the fact that currently banks offer an insignificant return of 0.5%-1.0% on dollar deposits while FE loaning has been rising at a rapid pace due to high rupee interest rate; customers prefer to take loans in dollars at a lower borrowing cost rather than in rupee. Dollar deposits can only be increased, if the depositors get a credible return on their dollar accounts.

What the SBP can do is that it can incentivize these banks to increase the return on dollar deposits particularly for Non-Resident Pakistanis, by further reducing SCRR and CRR requirements for the banks.



Economic Snapshot

Fiscal year 07-08														
Units	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	
<u>Inflation</u>														
Headline Inflation	%	8.11	8.07	8.88	6.64	7.39	7.67	6.9	7.4	7.0	6.4	6.5	8.4	9.3
Core inflation	%	5.70	5.62	5.5	5.3	5.72	5.42	5.2	4.7	5.1	6.0	6.0	6.1	6.5
Food inflation	%	10.54	10.62	12.71	8.7	9.99	10.74	9.4	11.3	9.7	8.5	8.6	13	14.7
Non-food inflation	%	6.41	6.27	6.22	5.2	5.59	5.54	5.2	4.7	5.1	4.9	4.9	5	5.4
<u>T-bill (Wgt Avg)</u>														
3 month	%	8.64	8.65	8.64	8.64	8.64	8.65	8.69	8.69	8.69	8.69	9.05	9.05	9.05
6 month	%	8.81	8.81	8.81	8.81	8.81	8.82	8.9	8.9	8.9	8.9	9.12	9.12	9.12
12 month	%	9.00	9.00	9.00	9.00	9.01	9.01	9.08	9.10	9.16	9.16	9.39	9.39	9.39
<u>External Sector</u>														
Export	Mln US\$	1,288	1,448	1,536	1,227	1,421	1,536	1,446	1,540	1,583	1,434	1,475	1,463	n.a
Import	Mln US\$	2,162	2,139	2,365	2,100	2,103	2,070	2,159	2,190	2,373	2,423	2,206	2,150	n.a
Trade balance	Mln US\$	(874)	(691)	(829)	(873)	(682)	(534)	(713)	(650)	(790)	(989)	(731)	(687)	n.a
<u>Remittances</u>	Mln US\$	410	448	475	391	457	520	513	537	505	495	489	516	n.a
<u>Forex Reserves</u>	Mln US\$	12,503	12,460	12,960	13,212	13,378	13,624	13,661	13,778	15,182	15,723	16,106	16,145	16,354



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