

*Financial Market Volatility and the Risk Management Imperative**

V. K. Sharma

First of all, I would wish to thank Bangalore Chamber of Industry and Commerce for giving me this honour and privilege to address this very distinguished and august audience. I must congratulate and compliment Bangalore Chamber of Industry and Commerce (BCIC) on conceiving, and organising, this contextually, and topically, most appropriate and relevant Interactive Session on Forex Risk Management. What with the cataclysmic and apocalyptic events like the US downgrade and Eurozone sovereign debt crisis overwhelming the world and India, the year 2011 was characterised by unprecedented and excessive volatility in asset prices and currency values, catapulting the critical imperative of Risk Management to the centre-stage like never before. Against a financial backdrop as somber, traumatic, portentous and sobering as this, today's event has come not a day too soon!

2. To be honest, I am also impressed, no less, by just the right focus, emphasis and clarity in the Preamble, Objectives and Key Takeaways of today's Interactive Session, as set out by BCIC in their circular. However, if only to reinforce the context of today's Interactive Session, I would like to share with this learned and discerning audience the commonalities between the crisis of 2008-09 and the current one. Specifically, the rupee depreciated against the dollar by about 24 per cent between March 2008 and March 2009 (₹39.80 to ₹52.20) with the volatility doubling to about 12 per cent (as measured by annualised standard deviation of daily percentage changes). And during the current crisis, the rupee depreciated by almost 18 per cent in less than 6 months between August 5 and December 15, 2011, with the volatility almost doubling from about 5 per cent to 12 per cent. Equally deserving of the attention of this

learned audience is the fact that since March 2010 to date, the Reserve Bank hiked key policy rates 13 times, raising the effective policy rate from 3.25 per cent, (the effective rate then being the Reverse Repo Rate) to 8.5 per cent (the effective rate currently being the Repo Rate), resulting in a cumulative tightening of 5.25 per cent in a matter of a little over 1-1/2 years. Equally significantly, global commodity prices have been just as volatile since the crisis of 2008; crude prices, after rising steeply to US\$ 147 per barrel in July 2008 and then falling precipitously to US\$ 32 per barrel in December 2008, have risen from US\$ 32 to around US\$ 100 now. The reason why I have broadened the canvas to also include interest rates and commodities is to approach the subject matter of Generic Financial Risk Management holistically, as it is not just currency risk alone, but interest rate and commodity price risks just as much, that represent significant sources of risk not just to businesses themselves but equally to financing banks and thus potentially to systemic financial stability!

3. In an increasingly globalised trade and investment environment, business and industry have inevitably to contend with, and manage, not just their normal core business risks, but also financial risks like foreign exchange, interest rate, and commodity price risks. While it will be presumptuous on my part to even contemplate, much less attempt, telling this learned gathering how to manage their normal business risks, I do consider it my dharma to attempt shining light on financial risk management, comprising foreign exchange, interest rate and commodity price risks.

4. Before I proceed further, I would like to put the subject matter of Financial Risk Management in appropriate perspective. Risk Management is not about eliminating, or which is the same thing as completely hedging out risk but about first determining, like one's pain threshold, risk tolerance threshold and then

* Address delivered by Shri V.K. Sharma, Executive Director, Reserve Bank of India, at the Bangalore Chamber of Industry and Commerce, Bangalore, India, on January 5, 2012. The views expressed are those of the author and not of the Reserve Bank of India.

aligning an entity's existing risk, be it currency, interest rate or commodity price risk, with its risk tolerance threshold. Having said that, it would also be in order to have a sense of how risk itself is defined and measured. Risk is uncertainty of future outcomes such as cash flows. In finance theory and practice, it is typically measured by annualised standard deviation of a time-series of percentage changes in asset prices. While courting financial risks in pursuit of financial return is the staple and dharma of banking and finance industry, it is not so for industrial and manufacturing businesses! The staple and dharma of business and industry is courting their normal core business risks in pursuit of delivering a market-competitive return on equity to shareholders.

5. I turn now to the subject-matter proper of financial risk management. I propose to deal, in some detail, with the specifics of risk management strategies for hedging foreign exchange, interest rate and commodity price risks. I would very strongly encourage business and industry to invariably hedge their actual risk exposures without exception as a base-case strategy. To say the least, this is by far the most conservative and prudent strategy. Indeed, in the background of the measures announced by the Reserve Bank of India on December 15, withdrawal of the facility of canceling and rebooking of forward contracts leaves no other option but to follow the base-case strategy. But as this learned and discerning audience will readily recognise, the excruciating and wrenching volatility, experienced recently, unquestionably attests to the credentials of such a base-case strategy of being fully hedged. Of course, it does mean that risk is being completely eliminated and, therefore, so is being financial return. But then, this is just as well because, as I said before, this is not the *dharma* of business and industry whose cardinal principle it must be to earn their market-competitive return on equity from their normal core business risks only to the complete exclusion of foreign exchange, interest rate and commodities price risks.

6. As regards forex risk exposure of business and industry, I would like to take this distinguished audience back in time to the late 1990s when the Indian corporate sector went in for large scale ECBs. These ECBs were almost completely for domestic rupee

expenditure and were mostly un-hedged and LIBOR-linked-floating-interest-rate based. Indeed, so also was the case with the corporates in Thailand and Indonesia which became repositories of un-hedged currency and interest rate risk exposures creating credit risk for the domestic banks. The saving grace was that, unlike in East Asian countries, ECBs by corporates in India were subject to overall limits under Automatic and Approval routes. I am sure the distinguished audience would recall that such un-hedged and floating-rate-based foreign currency exposures culminated eventually into the now-all-too-familiar apocalyptic denouement, entailing forex losses in India and the East Asian Currency crisis in India's neighbourhood. I would, therefore, very strongly commend that business and industry be not tempted and enticed by nominally low interest rates and invariably rigorously evaluate such foreign currency borrowing options, benchmarking them against the comparable rupee borrowings. Only if business and industry find the long-term foreign currency borrowing costs are lower, on a fully-hedged basis, than the comparable rupee borrowing costs, must they choose such borrowing options. I also regret to have to say that the current popular, but uninformed and totally untenable, refrain has been that forward cover for foreign exchange for longer term such as five years, or so, is not available; what is available is out to one month, three months, six months and maximum one year and not beyond. But I would like to enlighten the discerning audience here that a long-term forward foreign exchange hedging solution can be easily customised by banks by recourse to what is known as rolling hedging strategy which simply involves simultaneously cancelling, and rebooking, a short-term forward exchange contract until the desired long-term maturity. Incidentally, such simultaneous cancellation and rebooking of forward contracts for rollover is exempted from the Reserve Bank restrictions introduced on December 15, 2011. Of course, precisely the same strategy can be replicated in the exchange-traded foreign currency futures markets as well. Contrary to the popular perception, this strategy is fairly simple and perfectly do-able and locks in the original starting spot exchange rate. What, in other words, this entirely unexceptionable, and highly desirable, strategy does substitute volatility of the spot exchange rate with that

of forward margins at each roll over date. It is empirically, and anecdotally, established that volatility of forward margins is far less onerous than that of the spot exchange rate. Therefore, I would very strongly encourage business and industry to routinely avail of this hedging solution both to cover forex risk of long-term imports and long-term foreign currency borrowings.

7. I turn next to the other very popular foreign currency funding option, namely, Foreign Currency Convertible Bonds (FCCBs). I must confess that I have been very intrigued by what I have read in business and finance newspapers. The sense that I got was that corporates use FCCBs to raise long-term fixed rate foreign currency funds hoping that overseas investors will exercise the option embedded in FCCBs and convert into equity. And precisely for this reason, it has been noticed that corporates do not make provision of domestic rupee and foreign currency resources. In fact, such basic motivation underlying the FCCB-based funding strategy is completely antithetical to both corporate finance theory and international practice and turns the entire rationale of such funding strategy on its head! This is because the very *raison d'être* of FCCB funding option is to lower borrowing costs below that of an otherwise comparable plain-vanilla non-convertible foreign currency bond. The short point is that the FCCB borrower is baiting the overseas investor with an equity option kicker/appetiser, embedded in an otherwise comparable plain-vanilla non-convertible bond. Effectively, in this structure, overseas investor in FCCB purchases an embedded option and pays an option premium in the form of lower coupon on FCCB. I hardly need belabor the point that equity is always more expensive than debt capital of whatever kind, including even junk/high-yield bonds. So I would urge business and industry to fully provide domestic rupee/foreign currency resources to meet potential liability under FCCBs, rather than hope that FCCBs will be converted which, in fact, if anything, can be the case of overseas investors, but certainly not, of issuers of FCCBs.

8. Although as serious as foreign exchange risk, interest rate risk has not compelled as much attention in the Indian debt market space. If only to have a sense of how significant, and serious, it can be, I invite your

attention to what I said about the key policy rates rising cumulatively by 5.25 per cent since March 2010 to date. Just like unhedged foreign currency exposure, long-term floating rate loans represent a source of significant risk not only to businesses themselves, but equally to financing banks as they transfer interest rate risk from lenders to borrowers, effectively substituting interest rate risk of lenders with potential credit risk in terms of creating potential non-performing loans! At another level, as fixed rate loan has more certainty, and hence less risk, both for borrower and lender, it should be preferred both by borrowers and lenders alike. Thus, for interest rate risk management, the base-case, risk-neutral strategy, is invariably fixed rate long-term funding by corporates. Contextually, the current popular refrain in the policy debate is that absence of a competitive, liquid, deep and efficient corporate bond market has been the undoing of infrastructure financing which typically involves long-term fixed rate funding. And as to why banks cannot make long-term fixed rate infrastructure loans, the stock refrain is that this will create asset liability mismatch in banks' balance sheets as their liabilities are mostly short-term. Even then banks have a combined infrastructure loan portfolio of about ₹6 trillion (US\$ 110 bn), representing about 9 per cent of the total bank assets in India of ₹71 trillion (US\$ 1.35 trillion). As against this, corporate bond market is around ₹9 trillion (US\$ 170 bn). But this common and popular, but again uninformed and counter-intuitive, refrain that banks cannot fund long-term fixed rate infrastructure assets is untenable in that banks have not thought of using a very 'vibrant' Interest Rate Swap (IRS) market, where outstanding notional principal amounts aggregate ₹60 trillion (US\$ 1.14 trillion) (almost 82 per cent of total banking assets in India as also of the nation's GDP). For banks can easily transform their short term liability into a long-term fixed rate one and thus create a synthetic long-term financing solution for long gestation infrastructure projects by doing the following :

- (i) Receive fixed rate for one year and pay floating overnight rate in the IRS market. (Assuming banks' average liability is about one year)
- (ii) Receive floating overnight rate and pay 5/10-year in IRS market. This effectively synthetically

transforms a one-year floating rate liability of bank into a synthetic 5/10-year fixed rate liability. By loading margin over this rate, banks can make a 5/10-year fixed rate loan to an infrastructure company. And, significantly, considering that IRS trades about 140 to 150 basis points below sovereign yield, it is win-win for both banks and infrastructure companies who, even after bankers' spreads/ margins, will be able to borrow at around 5/10 year Govt. bond yield (currently 8.40 per cent). That is as simple as it can get in terms of creating two-in-one fixed-rate long-term market-based financing solutions for infrastructure.

Incidentally, another uninformed and untenable, refrain against use of IRS market is that this strategy entails 'basis' risk and 'liquidity' risk. It has been established that there is a statistically significant and positive correlation between one year IRS rate and one year bank deposit rate of 0.75 which will improve further to near perfect level of 0.90 to 1 once this strategy is actively engaged in. As regards 'liquidity' risk, banks have never so far experienced this and will not as their deposits have grown by 18 per cent-plus every year. Indeed, large corporates, can themselves do it in-house by accessing the Rupee Interest Rate Swap Markets. As I said before, corporates must treat fixed rate long-term funding as the base-case, or risk-neutral strategy. Considering that the five year OIS (Overnight Indexed Swap) have traded about 1 per cent to 1.5 per cent below the corresponding maturity government bond yields, corporates can, and should, swap their short-term floating-rate loans into fixed rate long-term loans and yet pick up the above negative yield spread, effectively borrowing long-term funds much more cheaply than perhaps would be the case if they were to borrow either from banks, or for that matter, from the corporate bond market. This is totally risk free arbitrage strategy corporates can, and must, engage in. Of course, when this starts getting done on a large scale as it indeed should, but has not so far happened, such negative yield spreads will automatically be arbitrated away. In fact, CFOs in corporates must routinely compare

the two fixed rate long-term funding options to continually assess if they can borrow fixed rate long-term funds cheaply by borrowing in the short term market where they might have a comparative advantage. But the reverse *viz.*, corporates borrowing fixed rate long-term and swapping loan proceeds into overnight floating rate funds must be scrupulously avoided. Nothing supports this better than the recent period of tightening cycle which caused overnight floating rates to go up from 3.5 per cent in March 2010 to 8.5 per cent in October 2011 *i.e.*, effective cumulative rise in overnight interest rates of 5 per cent. Having said that, it is both counter-intuitive, and disturbing, to note that some corporates have consistently been 'receiving fixed' and 'paying floating'. What this means is that corporates have been speculating by courting interest rate risk by paying 'overnight floating rate' and receiving 'fixed rate'. Why I say this is for the reason that if corporates first borrowed fixed rate long-term funds and then swapped them into overnight floating rate, then they are exposed to interest rate risk because of 5 per cent increase in interest rates. On the other hand, if they speculate in IRS market without any underlying exposure in the fixed rate long-term loans, then they will obviously be paying overnight and receiving OIS fixed rates and, therefore, they lose both on the floating rate side as also on the fixed rate side because during the same period, five year OIS rates also increased, though only, by 0.6 per cent. We thus see if they have speculated in interest rate markets, rather than hedge, they have lost both ways any which way one looks at it. What I have said about management of rupee interest rate risk applies just as much to floating rate Libor-linked long-term foreign currency loans as well and I would, therefore, strongly commend to business and industry to go in for interest rate swap-enabled fixed rate long-term financing both in domestic and foreign currencies.

9. As regards commodity prices, business and industry can use international commodity exchanges to hedge dollar price risk, and domestic commodity exchanges to hedge rupee price risk. In fact, whenever

some commodities, like crude oil, are in backwardation (the futures price being lower than the current spot price), in addition to buying price protection, business and industry also earn what is known as 'rolling', or 'convenience', yield.

10. By now, I am sure this learned audience must have got a fairly good sense of the repertoire of derivatives to choose from in management of financial risks business and industry need to contend with day in and day out. However, as regards derivatives, I would like to quote Financial Times Columnist Wolfgang Munchau and Warren Buffett who famously described derivatives 'as probably the most dangerous financial products ever invented' and 'financial weapons of mass destruction', respectively. I would beg to differ because, to my mind, they are as strong statements as saying that cars and driving are most dangerous because they might lead to accidents. The problem is not so much with derivatives, or with cars, for that matter, but with how we use them. In this context, as this distinguished audience is well aware, there have reportedly been massive derivatives-related losses incurred by business and industry in India. These losses arose primarily because derivatives were used by business and industry not for hedging, but for speculative purposes. As reported in the media, huge losses were sustained by business and industry on account of complex structured and synthetic, but so much less transparent, derivatives. In other words, business and industry must go in for plain vanilla derivatives which upfront, transparently, and explicitly, disclose cost of hedging strategy rather than arcane, complex, synthetic and structured derivatives which camouflage risk. As regards prudent use of derivatives, the touch-stone that business and industry can use with profit is that any derivatives strategy which promises reduction, or elimination, of hedging cost, or

promises enhancing income, is intrinsically speculative and the one that involves incurring hedging cost and promises no income enhancing is intrinsically a hedging strategy.

11. To sum up, such is the insidiousness of risk that its under-pricing is perceived as low, or no risk, and, therefore, economic agents including banks, business and industry are caught unawares and unpleasantly surprised when risk suddenly eventuates. Therefore, to my mind, nothing conveys and expresses the Risk Management mantra more trenchantly than the following : 'Just as you make friends when you don't need them, not when you need them and certainly not after you need them, so also you hedge when you don't need it, not when you need it and certainly not after you need it'. Complete internalisation and ingraining of this holistic risk hedging culture, attitude and temper by business and industry will, in equilibrium, reduce cost of both debt and equity capital by reducing volatility of return on equity (ROE) as markets will perceive them as much less risky and more safe. If I have succeeded in alerting and sensitising the learned and discerning audience to the Financial Risk Management imperative enough, I will feel vindicated that I have delivered on my dharma today. And, I have no doubt, if business and industry completely internalise and ingrain this mantra and dharma, they will exemplify the following fairy tale ending *viz.* 'And they lived happily ever after'! Finally, with the fond hope that I have not unwittingly come across as pontificating on the mantra and dharma of Financial Risk Management, I conclude my address and going forward wish business and industry a truly blissful Risk Management nirvana.

12. Thank you all so very much indeed.