Chapter 6 – Limitations of the Study and Directions for Future Research

6.1 Limitations

The study has the following limitations:

1. The research outcomes are based on the data and analysis of transactions involving two currencies viz., US$ and Euro. Data on Forward rates for other major foreign currencies, like Pound Sterling and Japanese Yen, were not available, as transactions were not undertaken by the source companies in the currencies named. Hence, generalizing the results for foreign trade transactions in currencies other than US$ and Euro would not be appropriate.
2. The study was carried out based on data collected from business entities located in the city of Vadodara, Gujarat only.
3. Data on Forward rates for Euro payable were not available.
4. The volume/activity in Options, for expirations beyond one month, was either nil or very low. Therefore, it would not be accurate to generalize the advantage of Options over Forwards for hedging requirements that require a horizon of more than one month. For Options having maturities greater than three months, no activity was observed in most cases.
5. The exact time at which banks provided Forward rates to business entities was difficult to ascertain. The researcher was informed that the Forward rates were provided in the late afternoon. Therefore, to set up notional Futures and Option hedges, the settlement rates on the respective dates as reported by NSE were taken as exchange rates at which the hedges would be set up for the exchange-traded derivatives.
6. Options were available only on US$-INR at the time this research study was undertaken.

6.2 Directions for Future research

This research work found that exchange-traded derivatives provided more effective hedges when compared to Forwards. Further investigation could be done to find out reasons that explain why the hedge involving forwards products is less effective. Is the rate offered by banks for Forwards less competitive? Are the banks themselves taking cover, on the exchanges, for the Forwards they have offered to the clients and doing an arbitrage? Answers to these questions may yield helpful insights to bankers. Further, another question that arises is: could it be that as more participants were drawn to hedging with futures and options, their advantage over forwards gradually diminished or even disappeared?

Options on currencies other than US$ have been introduced from February 27, 2018 only. Further study could be done to explore if the Options hedge is more effective than the Forward hedge for other foreign currencies like the Japanese Yen, Euro and Pound Sterling.

In this study a simple hedging strategy, with regard to Options, was examined. For an exporter having foreign currency receivables, the Put Option was bought to hedge exchange rate risk. Similarly for an importer a Call Option was considered for hedging exchange rate risk. Going long on an Option entails the payment of premium. The cost of hedging could be reduced by combining two options. To illustrate, we assume that an exporter expects a remittance of US$ 10,000 after a month. To hedge the risk of a decline in the US$, the exporter could combine a Put Option with an exercise or strike price of Rs. 69.00 per US$ trading at a premium of Rs 0.05 per US$ with the sale of a Call Option having the same exercise price and trading at Rs. 0.03 per US$. Accordingly, the Exporter could buy Put Options and sell the Call Options in the appropriate numbers for US$ 10,000. Considering the net premium outflow at Rs. 0.02 and a coincidence of the expiration dates of the options as well as the inflow of the export receivable, the payoff on this position is depicted in Table 6.1

Table 6.1 Pay-off on Long Puts and Short Calls strategy at expiry

Alternative spot rates at expiry (Rs./US$)	Profit(+) / Loss(-) on Put (Rs.) A	Profit(+)/ Loss(-) on Call (Rs.) B	Total Pay-off (Rs.) A+B-0.02	Exchange Rate realized per US$(Rs.) Spot Rate + Total Pay-off
Spot rate = 70, i.e., higher than the strike	0 (out-of-the-money)	-1	-1.02	68.98
Spot rate = Strike	0	0	-0.02	68.98
Spot rate = 65, i.e., lower than the strike	4	0 (out-of-the-money)	+3.98	68.98

The strategy locks in an exchange rate of Rs. 68.98 per US$ in two instances, viz., if the spot rate turns out to be equal to or less than the strike rate at expiration. It is important to recall that the exporter is hedging against an anticipated decline in the US$; it implies that a scenario in which the spot rate turns out to be greater than the strike rate is deemed unlikely. Hence the outcome of an exchange rate of Rs. 68.98 in Table 6.1 pertains to a scenario which is considered improbable. A Forward hedge too provides protection against exchange rate fluctuations by locking in an exchange rate for an export transaction having a foreign currency receivable. When the export receivable is to be realized on a date other than expiry of the Options the effective exchange rate would have to be determined through following steps, on the date of receipt of US$ 10,000:

1. Square off the long position on Puts by selling them at the prevailing premium. The profit (loss) would be premium at which the Puts are sold minus the premium at

which the Puts were bought. If the spot exchange rate on the day the position is offset is below the Strike of Rs. 69.00, it is likely that Puts would be sold at profit

2. Square off the short position on calls by buying them at the prevailing price, i.e., premium. The profit (loss) would equal the Price at which the Calls were sold less the price at which they have been bought. If the spot exchange rate is below the exercise price, then the premium on the calls is likely to be lower than the premium at which they were sold. This could lead to a profit in the short position of calls.
3. Sell the foreign currency received at the spot rate. The exporter would sell US$ 10,000 at the prevailing exchange rate and realize INR.
4. Consequently the effective exchange rate (Rs. / US$) realized would be: Spot Rate +/(-) Profit on Put (loss on Put) +/(-) Profit on Call (loss on Call)

6.3 Concluding note

The use of exchange-traded derivatives still does not seem to be as popular as the OTC products. A study could be conducted to ascertain the reasons behind this. Is it that business entities lack the knowledge and skill of utilizing exchange-traded derivatives? Is it possible that the senior executives, particularly at the Board level are unfamiliar with the relatively recent contracts and therefore, wary? Are they apprehensive about dealing on exchanges when compared to dealing with bankers where there is, perhaps, greater comfort due to existing business relations? If reasons could be ascertained, then steps to popularize and increase the use of exchange-traded derivatives could be taken by the government.