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RISK MANAGEMENT THROUGH DERIVATIVES WITH SPECIAL REFERENCE TO OPTION AND SWAPS

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Most of the people save a portion of their earnings as Savings. They may hold the amount saved or invest the amount in some sources which offer them an attractive return. They have a lot of options for investment like gold, land, mutual funds, saving schemes, shares etc. Their prime intention for making investment is to get some additional return. Making investment in shares of well reputed companies is an attractive investment avenue. It offers them some attractive return. There is also risk here. There is a possibility to loss the amount invested due to unexpected market conditions. Derivative instruments like forwards, futures, option, swap etc. are available in the market as an instrument for hedging against risk in relating to shares or commodities. It also offers investors the opportunities to earn quick profit through market variations.

The Derivative security is a security or contract or instrument designed in such a way that its price is derived from the price of an underlying asset. For example, the price of call option on gold depends on the price of gold in the market. The price of a derivative security is affected by its features, rights and obligations. As like forward and futures, options and swaps are also available as derivative instruments for hedging against risk as well as for earning some quick profit.

Option is a particular type of contract between two parties where one person gives the other the right to buy or sell an underlying asset at a specified price within a specified time period.

In other words, the option is a specific derivative instrument by which one party gets the right to buy or sell a specified quantity of an asset at an agreed price, on or before a particular date. But the other party has the obligation to execute the contract, if the holder of the right wants. The primary difference between option as compared to forward and future is that option provides the holder of the right to buy or sell an underlying asset. But, it is not an obligation.

There are mainly two types of options: Call option and put option. The call option provides the right to buy an underlying asset at a specified price during a particular period. Put option provides the right to sell an underlying asset at a specified price. The holder of the option has the right to buy or sell an underlying asset. The other party has an obligation to buy or sell if the holder of the option wants. Every option traded on an exchange is valid only for a limited period of time. The validity period of the option contract is known as maturity or expiration date. Based on the maturity pattern of options, option contracts are categorized into American Style Option and European Style Option. An American style option can be exercised at any time up to and including the expiry date. Options can be exercised only on the maturity date of the option is called European Style Option. As like future contracts, options also have organized market. It can be traded through stock exchanges.

Derivative instruments provide opportunities in order to hedge against risk arising due to market fluctuations. If an individual or investor likes to sell a particular commodity in future and fearing decrease of price of a commodity, he may sell the particular commodity immediately to avoid the sale of the commodity at a lesser amount as compared to existing market price. But if the price does not decrease as he fears, he may suffer huge loss. If an investor or an individual likes to purchase a commodity in future and fearing the increase of price of a commodity, he may purchase the commodity immediately in order to avoid the purchase of particular commodity at a higher price as compared to existing market price. But if the price does not increase as he fears, he will suffer huge loss.

Option provides the investor or an individual the opportunity to use it as an instrument for hedging against market fluctuations. If an individual or an investor fears about the decrease in the price of a commodity and wish to sell the commodity at the near future, he may enter into a put option (Option to sell) for selling particular commodity at a specified price for a future period by spending a small amount as initial payment. If the price of a particular commodity decrease as he fears, he will excise the put option and thereby avoid the loss due to price fluctuations. If the price of the commodity

does not decrease as he fears, he will sell the particular commodity in the market without going for the option. At that time, amount paid as initial payment to the seller of the option will be lost. But the amount of loss would be very less as compared to the loss he may have, if the market price decrease.

If an individual or an investor fears about the increase of price of a particular commodity and he wish to purchase the particular commodity at near future, he may enter into a Call option or purchase a call option (Option to buy). If the price of the commodity increases as he fears, he may excise the option and thereby avoids the loss due to price fluctuations. If the price of the commodity does not increase as he fears, he may not excise the option and will make purchase of particular commodity from the market because the market price is less than the option price. In this regard, option is a more suitable choice as compared to forward and future because the purchaser of the option have no obligation to excise the contract. He has only the right to excise the option. He may or may not excise the option depends on the market conditions.

By understanding these things, we may feel a doubt. What is the profit made by the option seller from this contract? Or why he is entering in option contract? If he may not have any profit, he may not enter in this kind of contracts. The option seller has an obligation to excise the contract when the option purchaser wants. In option, the purchaser of the right (right to buy or sell) or the option purchaser pays an amount as initial payment to the option seller at the time of entering in the option. The purchaser may or may not excise the option. If the market price increases or decrease as he fears, he will excise the option. On the other hand, if the market price fluctuates in the opposite direction as he fears, he may not excise the option. If he may not excise the option during the period, the initial payment already paid by the option purchaser will not be returned and this amount will belongs to option seller.

Option seller enters in contract with the intention of earning this premium amount. By losing a small amount of money as premium as compared to expected loss due to market fluctuations, he will reduce or avoid the loss due to market fluctuations. So, option provides a great opportunity to avoid or reduce the loss arises due to market fluctuations.

The transactions on option can be explained with the help of some examples. Let us think of an investor who buys a European Call option to purchase 100 shares of State Bank of India (SBI) with a strike price of Rs.320 per share. Further assume that the current market price of the share (SBI) is Rs.310, the expiration date of the option is 2 months, and the price of the

option to purchase one share is Rs.20. Initial investment is Rs.2,000(100 x 20). Since the option is European, the investor can exercise only on the expiration date. If the market price of SBI share on that date is less than Rs.320 then the investor will not exercise the option. There is no point in buying SBI share for Rs.320 if the same is available from the market at the lesser price than Rs.320. In this position, the investor will lose the whole of his initial investment of Rs.2,000.

Let us assume that the share price of SBI is above Rs.320 on the expiration date then the option will be exercised. Assume that the share price is Rs.350. By exercising the options, the investor is able to buy 100 shares of SBI for Rs.320 per share and if the share is sold immediately, the investor makes a gain of Rs.3,000 { 100 (350 -320)} ignoring transaction costs. When the initial cost of the option is taken into account, the net profit to the investor is Rs.1,000 (Rs.3,000 – Rs.2,000).

Buyer of the put option gets the right to sell the underlying asset to the option writer (seller) at the specified price within the particular time. It can also be explained with the help of an example. The investor buys a European put option to sell 100 SBI shares with a strike price of Rs.320 per share. Suppose the current price of SBI share is Rs.310, the expiration date of the option is three months and the initial price of the put option to sell one share is Rs.15. In this case, the initial investment is Rs.1,500 (15 x 100). Since the option is European, it can exercise only on due date. It can be exercised only if the share price falls below the strike price of Rs.320. Let us assume that the market price on the expiration date is Rs.300. In this situation, the investor can purchase 100 shares of SBI from the market at Rs.300 and will sell to the option seller at Rs.320, and hence, make a gain of Rs.2,000 {100 x (320-300)}. After deducting the initial cost of Rs.1,500 on the purchase option, the net gain will be Rs.500.

However, if the market price is Rs.320 or more than Rs.320, the put option expires worthless and the investor loses Rs.1,500.

The option act as an instrument for hedging against market fluctuations. It is explained with the help of another example. An investor who has 500 shares of a company whose current market price is Rs.356. The value of his holdings is Rs.1,78,000. If there is a fall in the price of his share, the value of his stockholding will decline. When a fall in share price is expected, the investor can buy put options on the stock to hedge his risk. Let us assume that put option with the exercise price of Rs.350 is available for a premium of Rs.14. The investor can buy 500 put options on the stock by paying Rs.7,000 (Rs.14 x 500) as initial payment. If the share price has declined to Rs.296 as the intrinsic value of the put option, the share would have

increased being the excess of the strike price over the current market price. The intrinsic value of the put option purchased by the investor will be now Rs.54 (Rs.350 –Rs.296). As the price of the share has come down to Rs.296 from Rs.356, there is a decline in the value of the stockholding to the extent of Rs.30,000 (500 x Rs.60). He may either exercise his put option or close out his long position by selling the put option.

If he exercise the right under the put option to sell the shares at Rs.350 per share, he would receive Rs.1,75,000 as sale proceeds, the reduction in value being only Rs.3,000(500 x Rs.6). As he already paid premium of Rs.7,000 to buy the put option, the total loss of the investor would be Rs.10,000 (3,000 + 7,000). If he had not hedged his risk with a put option, the reduction in the value of the stockholding would have been Rs.30,000 {500 x (356-296)}.So, the option open a great opportunity in order to overcome or reduce the loss arise due to market fluctuations.

Swap is another instrument for risk management. It is a contract for temporary exchange of obligations that each party has in the underlying contract. It basically involves an exchange of one set of financial obligations with another. The parties that agree to swaps are counter parties. Currency swaps, debt equity swaps, interest rate swaps etc. are different types of swaps.

All the swaps involve the exchange of a serous of periodical payments between at least two parties. For example, a firm having a loan of ten crore rupees payable at ten percent fixed coupon rate for five years, want to exchange for a floating interest rate with that party who is also interested to exchange its liability from floating to fixed. It means, for a swap agreement, there must be at least two parties who are ready to exchange their liability with each other.

Swaps are mainly divided into interest rate swap and currency swap. An interest rate swap is a financial agreement between two parties who wish to change the interest payments or receipts in the same currency on assets or liabilities to a different basis. There is no exchange of principal amount in swap. It is an exchange of interest payment for a specific maturity on agreed upon notional amount, which means theoretical principal underlies the swap. The simplest example of interest rate swap is to exchange of fixed rate of interest payments for floating rate interest. Payments between two parties are done in the same currency.

It can be explained with the help of an example. X Ltd. has taken a fixed interest rate loan from bank 'J'. They prefer a loan with floating rate interest. X Ltd. can convert the liability

from fixed to floating with another party or with an intermediary. If Z Ltd. having a floating interest rate loan from bank 'K' and desires to convert their liability into fixed interest rate liability. An agreement can be made between X Ltd. and Z Ltd. to exchange interest payment in future at specified dates for a specified period. It is called interest rate swap, in which X Ltd. will pay interest at floating rate to Z Ltd. and in turn, Z Ltd. will pay interest at fixed rate to X Ltd. The relationship between Z Ltd. and its Banker 'K' and the relationship between X Ltd. and its banker 'J' remain unaffected.

Interest received by X Ltd. at fixed rate from Z Ltd will be passed on to bank 'J' and interest received by Z Ltd. at floating rate from X Ltd. will be passed on to bank 'K'. The interest payments are made and exchanged at the time of every six months till the end of loan period.

A currency swap is a derivative contract to exchange one currency with another at specified exchange rates. It is a foreign exchange agreement between two parties to exchange a given amount (of loan) in one currency for an equivalent amount (of loan) in another currency based on agreed terms and time period. It can be explained with the help of an example. An Indian MNC XYZ has borrowed rupee at a fixed rate from the home market. It wants dollar for its operations in USA. Company ABC raises a loan in dollar for its operations in rupee. The principal amount are equivalent at the current market rate of exchange. These amounts are exchanged. The company XYZ gets dollars and company ABC gets rupees. Subsequently, company XYZ makes periodic interest payment to ABC in dollars and company ABC makes interest payment to XYZ in rupees. At maturity, rupee and dollars are re-exchanged. This is a case of currency swap.

Likewise, forward and futures, option and swap can be used to hedge against risk. For instance, if a company has issued fixed rate bonds and feels that interest rate is going down or decrease, they may exchange the fixed rate obligation with floating rate obligation. For this, the company may enter into a swap agreement with a counter party, whereby, it has to receive fixed rate interest and pay floating rate interest. The fixed rate it has to pay is compensated by the fixed rate it receives from the counter party. If a company have floating rate commitments and feels the increase of floating rate, they may enter in a swap contract to exchange their floating rate of interest with fixed rate of interest. Risk due to fluctuations in the interest rate can be overcome through swap agreements. Same kind of agreements can be made for currency payments too. The swap opens an opportunity to overcome the risk due to price fluctuations. The limitation is that swap agreements cannot be altered or terminated

before the maturity without the concern of both the parties.

Investors face some risks while making investment in avenues due to the possibility of varying the market price. The investors make investments to get some additional return. There is a possibility to loss the amount invested too.

The derivative instruments like forward, futures, option and swaps provide a great opportunity to save their investment from loss. It acts as hedge against market risk. If we analyze the market properly and make derivative contracts to overcome the difficulties, it will be helpful to earn more profit and to protect our investments. It also provides an opportunity to earn some quick profit.

