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# Managing Currency Risk Using Foreign Exchange Options

**T**he most important aspect of foreign exchange risk management is to incorporate foreign exchange expectations into all basic decisions. Foreign exchange options are a valuable risk management tool. A foreign exchange option contract provides the right, but not the obligation, to buy or sell a foreign currency at a predetermined exchange rate for a specific date or time period. By offering a fixed rate and the option of either exercising the contract or buying/selling on the spot market, an options contract allows one to take advantage of favorable market conditions, while protecting oneself against unfavorable currency movements. A premium is payable on the trade date. If the option is not exercised, the premium is forfeited.

The book is an invaluable guide to the use of currency options for corporate treasurers and other financial executives. Setting the principal OTC instruments within the company's risk management framework, it provides a thoroughly practical and authoritative guide to the characteristics, advantages and uses of currency options in the management and control of foreign exchange risk. The book aims to discuss and explain: short history of foreign exchange options, the basics option characteristics, put-call parity, option pricing, the marketplace, using options for hedging - simple, the delta and option replication, OTC market practice, bank relationships, using options for hedging - intermediate, using options for

hedging - advanced, risk control, documentation and counter party credit risk.

The book is organized into related chapters that should usually be read in the order presented. The first few chapters of the book give an introduction to the option product so as to help the readers develop familiarity and understanding of the product. Chapter two provides a basic understanding of foreign exchange as is essential to comprehend the derivative, option contract, premium and certain other related terms like call and put, face value, strike etc. Chapter three describes option characteristics graphically that give a picture of the profit / loss profiles at different levels of spot foreign exchange, at maturity. The concept of interim value of options and four possibilities of being long or short in both calls and puts is explained with a brief example.

Currency options are traded both on OTC markets and stock exchanges. Currency options do not have a unique price; instead the price is dependent on the financial institution quoting the option. Chapter four talks about the market place i.e., over the counter and exchange-listed options where the foreign exchange options are traded. The chapter briefly gives location, products, brokers, documentation and regulation of the two and then compares them. Chapter five talks about put call parity with a working example showing the relationship between options and the underlying and how a long call can equal the risk profile of

a short put. Chapter six explains the Black Scholes formula for option pricing. The formula given by Fisher Black and Myron Scholes for determining the equilibrium value of an option is widely used by those who deal with options to search for situations where the market price of an option differs substantially from its fair value. For foreign exchange option pricing the original Black Scholes is used with various adaptations like Garman Kohlgagen adaptation. Input factors for pricing, volatility, components of price - intrinsic value and time value, time value effects are briefly explained.

Hedging a particular currency exposure means establishing an offsetting currency position such that whatever is lost or gained on the original currency exposure is exactly offset by a corresponding foreign exchange gain or loss on the currency hedge. A variety of hedging techniques are available. The basic option strategies and their simple combinations for hedging purposes are discussed in chapter seven. It also guides on the risk reversal directional risk strategy participating forwards and seagulls used extensively to hedge foreign exchange risk exposure. A simple decision table as a first step in designing a hedging strategy is provided. Chapter eight introduces an extremely important option element - the delta - and leads to another way of hedging foreign exchange risk through option replication. The delta of an option is the rate of change of the options value relative to a change in the underlying rate and plays an important part in the interim valuation and performance of options. Thus the mathematical probability of option exercise can be calculated from the delta.

Chapter nine explains how the market functions and the methods used to transact options from a volatility quote. It also explains the market practices of the inter bank market through explanations and examples and then how those practices can be used to the advantage of

all but especially the end user the corporate. Chapter ten talks about roles and responsibilities of the salesperson and bank dealer and the professional conduct expected of them. Chapter eleven introduces exotic option any option that is not a regular plain European or American style option. The various exotics listed in the chapter are: Compound options, Forward start options, Average rate options, Barrier options, Look Back options and Basket options. Chapter twelve introduces a very special exotic option the digital and looks at strategies that are constructed using combinations of simple (vanilla) and exotic options, like a digital option with a vanilla or a digital option with a barrier option. Chapter thirteen talks of risk control. Interim value of options can be calculated at different levels of spot assuming no changes in traded volatility or interest rates for a given amount of time. The second last chapter covers the documentation of option transactions and the last chapter covers counter party credit risk and its techniques. The counter party credit risk has considerably reduced in the form of derivative instruments.

The glossary of terms used in the book is attached giving a ready reckoner for the first time readers. Appendix includes a full list of currency codes, London code of conduct, exchange contract specifications and International OTC market terms and conditions. Today's corporate treasurers and other financial executives will be able to use foreign exchange options to manage currency risk exposures by understanding and exploiting the foreign exchange options market. The book truly serves as the basic work to fall back upon.