

Foreign exchange practices and hedging tools in the software industry assignment

[Business](#)



“ FOREIGN EXCHANGE PRACTICES AND HEDGING TOOLS USED BY THE SOFTWARE INDUSTRY” This report is submitted as a part of the requirements of the MBA Program of Bangalore University. This research has been undertaken by RAJEEV SAMUEL JAYAMANO HAR Reg. No: 04VWCM6068 With the guidance and support of Prof. RATHNAKAR ACHARYA Faculty, ABA [pic] ALLIANCE BUSINESS ACADEMY BANGALORE ??? 560 076 Batch: 2004-2006
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RAJEEV SAMUEL CERTIFICATE BY THE GUIDE This is to certify that the dissertation entitled “ Foreign Exchange Practices And Hedging Tools Used By Software Industry” by Rajeev Samuel bearing Reg. No 04VWCM6068 has been prepared under my guidance and supervision. The work has been satisfactory and is recommended for consideration towards partial fulfillment of requirement for the M. B. A degree of Bangalore University. Date: Place:

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This is to state that the dissertation titled “ Foreign Exchange Practices And Hedging Tools By Software Industry” is based on the original work carried out by me under the supervision of Prof. Ratnakar Acharya towards the partial fulfillment of requirements for the degree of Master of Business Administration of Bangalore University during the IV semester. This has not been submitted in part or full towards any other degree or diploma. Register No: 04VWCM6068 Date: Place: Bangalore. Signature (Rajeev Samuel)

EXECUTIVE SUMMARY

The subject title for the study was ” Foreign Exchange Practices and Hedging Tools used by Software Industry” Like any other business organisation, software companies too face risks inherent to the company and the industry in which they exist. In what way companies face foreign exchange risks? What can companies do when they face Forex risk? Which are the best hedging tools to adopt? On the same lines we can come up with so many other questions for which managers have to take a decision. Since , no formal study has been done to understand all this, the author took the opportunity to conduct this study.

The methodology adopted for the study is based on the simplest research methods ??? descriptive research, which is a fact ??? finding investigation with adequate interpretation. It is focused and aimed on Foreign Exchange practices prevailing in the Indian software industry. The research methodology used for the study was the survey method. Around 10 companies from Bangalore were taken for the survey. An interview with the finance managers of these companies was taken to collect the primary data.

Foreign exchange transactions include a substantial amount of risk due to fluctuations in the exchange rates.

Hence, corporates are continuously striving to minimize this risk exposure by the use of various hedging tools like Forward contracts, Options, Swaps, Netting etc. Foreign exchange risk may also be linked to other types of market risks, such as interest rate risk. Interest rates and exchange rates often move simultaneously. So, a bank's interest rate position indirectly affects overall foreign exchange exposure. It is essential for the corporates to study the Forex market, its market potential and the benefit one gets in dealing in Forex trading. It is true that Forex trading is expensive.

It is basically because of few traders who trade in large volumes, which affects the small traders. That's why the market has become so big.

Nowadays, corporates take the help of consultants like Thomas Cook, for their Forex trading. Today, the forex market has grown to more than \$ 1. 5 trillion per day. 51% is in spot forex transactions, followed by 32% in currency swap transactions, and forward outright forex transactions represents another 5% of this daily turnover. The general public market is an enormous potential of customers who want to speculate in the largest and most efficient market in the world.

Three years ago it totaled 15 billion USD daily turn over. The surveyed software companies show that 25% of them perceive that they do not face foreign exchange risk. But, in actual practice, they do face cash balance risk by keeping their balances in their foreign accounts. It has also been found that 45% of the software companies face Exchange rate risk. Companies

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have rated the Transaction and Operating Exposures as high. Thus, this all shows that software companies do face risk. But, most of the companies don't adopt any hedging strategy.

They maintain foreign accounts and only 35% of the companies use Forward contracts of 3-6 months. Thus, corporates play a major role in the Forex market. They should know the various risks to which they are directly or indirectly exposed. They should also analyse the best strategy which suits best their organisation. Since, the organization is not found to be using any trading software's which the author has recommended. The most reliable trading system was found to be Live Voice Dealing(LVD). Thus, the companies can be benefited by using these softwares.

It will take time for the companies to change their trading system.

Companies have become dependent on their Banks and Consultants for their forex trading. So, any organisation whether large or small needs some sort of change in their trading system. Some of the companies are facing some risk but since they are not aware of these practices are not using them. The corporates should identify the exposure, quantify the exposure, and then monitor the performance. Some of the corporates do have their own philosophy for exposure management and they follow it.

Thus, the author has suggested improving the Forex risk management into their organisation.

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1. FOREX-AN OVERVIEW
Since the demise of fixed foreign currency exchange rates in the early 1970's, the world economy has undergone sweeping changes. The collapse of the Breton Woods Agreement in 1971 signaled an increase in currency market volatility and trading opportunities. What is the lure of the Foreign Exchange markets? What is its power? How does it grow to be the most important market in the World?

How can you benefit from it? The foreign exchange market dwarfs the combined operations of the New York, London, Tokyo futures and stock exchanges, the daily turnover is approximately 1. 5 Trillion (U. S) dollars per day. The fascination of this market lies in its sheer size, its complexity and almost limitless reach. During the past decade, the foreign exchange market has been the invisible hand guiding the purchase and sale of goods, services and raw materials in every corner of the globe. The foreign exchange market directly affects every country's bonds, equities, private property, manufacturing and all assets that are accessible to foreign investors.

Foreign exchange rates play a major role in determining who finances government deficits, who buys equity in companies, who owns real-estate, who hires and fires employees and who owns the bank at which to maintain your corporate or personal account(s). There is little doubt that this market

affects every aspect of our daily personal and corporate financial lives and influences the economic and political destiny of every nation. The foreign exchange market, then, is the one stabilizing factor in the world's system of monetary exchange. This market was created not by design but necessity. Traders, bankers, investors, importers and exporters recognized the benefits of hedging risk, or speculating for profit. The currency in your pocket is literally your stock in your country, like stock, its value fluctuates on the international market providing substantial opportunities for profit or loss.

The market has its own momentum; it follows its own imperatives, and arrives at its own conclusions. Since the conclusions of value, fortunately or unfortunately affect the value of all assets it is crucial that every individual or institutional investor have an understanding of the foreign exchange markets and the forces behind this ultimate free-market system. There is approximately one and half trillion-dollar worth of average daily 24-hour turnover in the global foreign exchange market. 51% is in spot forex transactions, followed by 32% in currency swap transactions, and forward outright forex transactions represent another 5% of this daily turnover.

Spot transactions and forward outright Forex transaction all take place in the inter-bank market with options on inter-bank Forex Transactions making up another 8%, the inter-bank market accounts for 96% of the global foreign exchange market, the remaining 4% is divided among all the global futures exchanges. Inter-bank currency contracts and options, unlike futures contracts, are not traded on exchanges and are not standardized: rather banks and dealers act principles in these markets, negotiating each

transaction on an individual basis. Forward “ cash” or “ spot” trading in currencies is substantially unregulated; there are no limitations on daily price movements and speculative positions limits are not applicable.

During problems of liquidity dealers can place trades through a larger number of market participants for better execution. Cash markets are the primary markets and futures are the secondary markets. The cash currency market represents 24 times the volume of currency futures. Cash trading deals in “ Real” instruments with volume exceeding one trillion U. S. dollars worldwide daily. Cash markets provide better liquidity, execution and trading hours. 1. 2 DEFINITION OF FOREIGN EXCHANGE: “ The means and methods by which rights to wealth expressed in terms of currency of one country are converted into rights to wealth in terms of currency of another country are known as ‘ Foreign Exchange.

The term cover the method by which the currency of one country is exchanged for that of another, the causes, which render such exchanges necessary, the forms in which such changes are conducted and the ratio or equivalent values at which they are reflected. ” A foreign exchange transaction is still a shift of funds, or short-term financial claims, from one country and currency to another. ” Foreign exchange refers to money denominated in the currency of another nation or group of nations. Any person who exchanges money denominated in his own nation’s currency for money denominated in another nation’s currency acquires foreign exchange. ” —Federal Reserve

Foreign Exchange Regulations Act, 1973 (FERA) defines Foreign Exchange as “ Foreign currency and any drafts, travelers cheques, letter of credit and bill of exchange, expressed and drawn in Indian currency but payable in any foreign currency. ” “ Foreign exchange” refers to money denominated in the currency of another nation or group of nations. Any person who exchanges money denominated in his own nation’s currency for money denominated in another nation’s currency acquires foreign exchange. That holds true whether the person involved is a tourist cashing a traveler’s check in a restaurant abroad or an investor exchanging hundreds of millions of dollars for the acquisition of a foreign company; and whether the form of money being acquired is foreign currency notes, foreign currency-denominated bank deposits, or other short-term claims denominated in foreign currency.

A foreign exchange transaction is still a shift of funds, or short-term financial claims, from one country and currency to another. There are three main types of foreign exchange system: a) The gold standard in its various forms; b) Freely fluctuating exchange rates; and c) The several varieties of exchange control. The fact that each country has its own monetary system is one of the principle complications of international trade and balances of payments. 1. 3 WHY WE NEED FOREIGN EXCHANGE Almost every nation has its own national currency or monetary unit-its dollar, its peso, its rupee-used for making and receiving payments within its own borders.

But foreign currencies are usually needed for payments across national borders. Thus, in any nation whose residents conduct business abroad or engage in financial transaction with person in other countries, there must be

a mechanism for providing access to foreign currencies, so that payments can be made in a form acceptable to foreigners. In other words, there is a need for “foreign exchange” transactions-exchanges of one currency for another.

1. 4 FOREX CHARACTERISTICS ??? Size of the global Forex market: 1500 Billion \$ per day. For comparison: Bond/Treasury US Market: 300 Billion \$ per day. Stock Exchanges Markets: 30 Billion \$ per day (estimated). The market does not have a precise location, and the transactions are done via telephone, facsimile, and recently via Internet, this situation facilitates the activity of the traders. ??? The prices of the market are established electronically by more than 500 international banks, which carry out exchanges between the market companies and governments. These banks constantly issue their prices, and the last quotation issued is considered as the price of the market. ??? Forex is opened 24/24, five days a week, therefore, the players have the possibility of an immediate reaction. ??? Leverage on deposit is possible due to the small consecutive change in price. ??? Forex is characterized by the fact that it cannot be high or low.

The potential of profit exists in one direction as in the other. Table 1: The daily net Foreign Exchange Market turnover in various countries | AVERAGE DAILY NET FOREIGN | | EXCHANGE MARKET TURNOVER IN THE MAIN CENTRES (In US\$ billions) | | United Kingdom | 4645 | | United States | 2444 | | Japan | 1613 | | Singapore | 1054 | Hong Kong | 902 | | Switzerland | 865 | | Germany | 762 | | France | 58 | | Australia | 395 | | Denmark | 305 | | Canada | 298 | | Sweden | 281 | 5.

FOREIGN EXCHANGE MARKET AND ITS TYPES The foreign exchange market is the market in which currencies are bought and sold against each other.

Today, it is the largest market in the world with a turnover of about \$1.5 trillion approximately every day. The reason is the organizations like International banks, multi-national corporations, and large brokerage houses trade in huge volumes of currencies. The major currencies traded in this market are the US dollar, Deutschemark (DM), yen, Pound Sterling, Swiss franc, Canadian dollar, Dutch guilder, Italian Lira and the Belgian franc. The foreign exchange market is a cash inter-bank or inter-dealer market.

It is called as 'over the counter market'. This means that there is no single market place or an organized exchange (like a stock exchange) where traders meet and exchange currencies. The traders sit in the offices (Foreign exchange dealing rooms) of major commercial banks around the world and communicate over the telephone and through computer terminals at thousand of locations worldwide. Geographically, the markets span all the times zones from New Zealand to the west coast of the United States. The time New York is starting to wind down at 3.00 p.m., it is noon in Los Angeles. By the time it is 3.00 p.m., in Los Angeles it is 9.00 a.m. or the next day in Sydney.

Thus the market functions virtually 24-hours enabling a trader to offset a position created in one market using another market. Five widely used international markets are:

1. Foreign Exchange market The foreign exchange market allows currencies to be exchanged in order to buy the products or invest in securities denominated in foreign currency.
2. Eurocurrency Market

The Eurodollar market, which is now referred as Eurocurrency market was created as corporations in the U. S deposited U. S dollar in European banks. These European banks were willing to accept dollar deposit, since they could then lend dollars to corporate customers based in Europe. Because the U. S dollar deposited is placed in banks located in Europe and other continents became know a Eurodollars. 3. Euro credit Market Loans of one year or longer extended by Euro banks are commonly called Euro credits or Euro credit loans. Such loans in the Euro credit Market have become popular since corporations and government agencies often desire to borrow for a term exceeding one year, and a common maturity for Euro credit loans in five years. 4. Eurobond market While the Euro currency and Euro credit loans help to accommodate short and medium-term borrowers, they do not accommodate the long-term borrower. To fill this gap, the Euro bond market was created.

This market facilitates the transfer of long-term funds form surplus units to deficit units around the world. 5. International Stock Market When MNC's issue stock, they often consider placing some in foreign stock markets to increase the probability that investors will absorb the entire issue. MNC's with access to foreign stock markets may be able to issue stock at a higher price, which reflect a lower cost of capital. 1. 6 ROLE OF THE EXCHANGE RATE The exchange rate is price-the number of units of one nation's currency that must be surrendered in order to acquire one unit of another nation's currency. There are also various " trade-weighted" or" effective"

rates designed to show a currency's movements against an average of various other currencies.

Quite apart from the spot rates, there are additional exchange rates for other delivery dates, in the forward markets. A market price is determined by the inter-action of buyers and sellers in that market and a market exchange rate between two currencies are determined by the interaction of the official and private participants in the foreign exchange rate market. For a currency with an exchange rate that is fixed, or set by the monetary authorities, the central bank or another official body is a key participant in the market, standing ready to buy or sell the currency as necessary to maintain the authorized pegged rate or range. The participants in the foreign exchange market are thus a heterogeneous group.

But, whether official or private, or the motive being investing, hedging, speculating, arbitraging, paying for imports, or seeking to influence the trade, they are all part of the aggregate demand for and supply of the currencies involved, and they all play a role in determining the market exchange rate at that instant. Given the diverse views, interests, and time frames of the participants, predicting the future course of exchange rates is a particularly complex and uncertain business. At the same time, since the exchange rate influences such a vast array of participants and business decisions, it is a pervasive and singularly important price in an open economy, influencing consumer prices, investment decisions, interest rates, economic growth, the location of industry, and must else.

The role of the foreign exchange market in the determination of that price is critically important. 1. 7 FOREX AND THE STOCK MARKET ? Forex works 24 hours a day. The stock market in India works only from 12 to 3 p. m. ? There are always the same 5 major currencies traded on the Forex market, whereas in the stock market there are thousands of securities to trade, and it is hard to understand why each particular stock will go up or down today. Choosing the right stocks from thousands to make a portfolio is not an easy thing either. ? The minimum amount needed in order to open a trading account on the Forex market-\$1000-2000. This relatively small amount of money gives you an opportunity to ear \$300-800 per day or even greater. To have an opportunity to ear \$300-800 per day on the stock market, you have to put up \$15000-20000 for your account. Certainly you can lose on both markets, but on forex you can win using a much smaller amount of trading capital. ? It is more difficult to predict the stock market because of the millions of inexperienced investors making the movements chaotic ? There is no “ bull” or “ bear” market on Forex. On the other hand in the stock market, you can earn money mostly during a period of booming economy. But economy development is cyclical-and periods of growth will eventually be replaced by periods of recession. And in this case, when the stock market is going down, you cannot win as a day trader. On the forex market you have a unique feature- a so-called” demo account” or simulated account, which allows you to participate in trading using real-time prices on the deal station with the same interface and functions as on real trading, using the same news and technical analysis tools to predict market, movements, from the comfort of your home and via the internet. Now you can understand why <https://assignbuster.com/foreign-exchange-practices-and-hedging-tools-in-the-software-industry-assignment/>

more and more people go for forex trading. It is convenient and inexpensive. It gives you the opportunity and the time to develop your personal trading system. The most important participants in the market are banks. Foreign Exchange is traded “over the counter” via telephone and computer communications among banks, and not in organized exchanges such as stock exchanges.

8. FOREIGN EXCHANGE RESERVES IN INDIA

Table 2:

Foreign Exchange Reserves in India	YEAR	US \$ MN.
	1995	17000
	1996	19500
	1997	25300
	1998	25300
	1999	32000
	2000	42500
	2001	48500
	2002	53400

Source: International Financial Statistics, IMF.

Graph 1: Foreign Exchange Reserves in India . FOREIGN EXCHANGE RISK

Michael Adler and Bernard Dumas define foreign exchange risk in terms of the variance of unanticipated change in exchange rates. That is, they define exchange rate risk in terms of the unpredictability of exchange rates as reflected by the variance. From this, it is clear that unpredictability is paramount in the measurement of exchange-rate risk. Thus, the author defines foreign exchange risk as follows: “ Foreign Exchange risk is measured by the variance of the domestic-currency value of an asset, liability income that is attributable to unanticipated changes in exchange rates.”

1. 10 SOURCES OF FOREIGN EXCHANGE RISK

Foreign exchange rate fluctuation affect banks both directly and indirectly. The direct effect comes from banks’ holdings of assets (or liabilities) with net payment streams denominated in a foreign currency. Foreign exchange rate fluctuations alter the domestic currency of such assets. This explicit source of foreign exchange risk is the easiest to identify, and it is the most easily hedged. The indirect sources of risk are subtler but just as important. A bank

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without foreign assets or liabilities can be currency risk because the exchange rate can be affecting the profitability of its domestic banking operations. For example consider the value of a banks' loan to an U. S. exporter.

An appreciation of the dollar might make it more difficult for the U. S. exporter to compete against foreign firms. If the appreciation thereby diminishes the exporter's profitability, it also diminishes the probability of timely loan repayment and, correspondingly, the profitability of the bank, in this case, the bank is exposed to foreign exchange risk; a stronger dollar decreases its profitability. In essence, the bank is "short" dollars against foreign currency. Any time the value of the exchange rate is linked to foreign competition, to the demand for loans, or to other aspects of banking conditions, it will affect even "domestic" banks.

Foreign exchange risk also may be linked to other types of market risk, such as interest rate risk. Interest rates and exchange rates often move simultaneously. So, a bank's interest relates position indirectly affects its overall foreign exchange exposure. The foreign exchange rate sensitivity of a bank with an open interest rate position typically will differ from that of a bank with no interest rate exposure, even if the two banks have the same actual holding of assets denominated in foreign currencies. Against, the vulnerability of the bank as a whole to foreign exchange fluctuations depends on more than just is its holdings of foreign exchange.

1. 11 TYPES OF FOREIGN EXCHANGE TRANSACTION RISKS

Foreign exchange transactions include substantial amount of risk due to fluctuations in exchange rates. Hence corporates are continuously striving to minimize their risk exposure by the use of various hedging tools like forward contract, options, swaps, Off Balance Sheet netting etc. The various risks of Foreign Exchange Transactions are: 1. Open Position or Exchange Rate Risk (Risk from market movement) It is the risk of change in exchange rates, which affects imports/ exports; this risk prevails from the date of order till the date of payment. 2. Cash Balance Risk The balances maintained in the foreign accounts (EEFC) at the end of each day are referred to as cash balances. The balances in the EEFC account do not earn any interest. 3.

Maturity Mismatch/Liquidity/Gap/Interest Rate Risk (Risk due to improper transaction) The risk arises out of the fact that maturity period of purchase and sale of foreign currency in case of imports and exports don't match.

Liquidity risk is the risk that bank will be unable to meet its funding requirements or execute a transaction at a reasonable price. Market liquidity risk is the risk that bank not being able to exit or offset positions quickly at a reasonable price. 4. Credit or counter party Risk (Risk from customers) This is a risk due to inability or unwillingness of the counterpart to meet its obligations. Over this kind of risk bank has got proper control but bank tries to avoid or minimize the risk by taking following actions: . By fixing counterpart limits . By appropriate measurements of exposure Credit evaluation and monitoring . By following sound operating procedure This risk can be classified into two ways: a) Pre-Settlement Risk Pre settlement risk is the risk of loss due to counter party defaulting on a contract during the life of a transaction. This exposure is also referred to as the replacement cost. A

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key tool for effective management of this risk is the fixation of exposure limits on counter parties. b) Settlement Risk Settlement risk is the risk arising when a bank performs its obligation under a contract prior to the counter party doing so. This risk frequently arises in international transactions because of the time zone differences.

The credit risk can also be classified in to: a) Contract Risk If before the performance of the contract, the counter party fails the contract has to be canceled. In the mean time if rate has moved against it, then the loss is to be born by the bank as the contract is to be closed at the on going market rates. b) Clean risk In an exchange contract the currencies are to be exchanged on the value dates. The time zone difference between various center sometimes results in situations when one bank has already paid the amount of currency to be given before receiving the amount the currency to be received the counter party fails, it may result in total loss. c) Sovereign risk

If the counter party bank is situated in different country then there is a possibility of having sovereign risk. Also because of the political and economic factors in that country. If a country suspends the foreign currency payments the bank may stand to lose, although the counter party have performed its part of the contract in local currency. The bank while fixing counter party limits for the overseas bank has to give due weight age to the political stability, health of the economy, availability of financial infrastructure, and expected state interference in financial transactions, particularly foreign exchange transactions. d) Country Risk

This risk related to the ability and willingness of a country to service its external liabilities. It is also known as 'sovereign risk' or 'transfer risk'. e) Overtrading Risk Risk of Overtrading arises when the volume of transactions by the dealer or the bank is beyond its administrative and financial facility. In the anxiety to earn huge profits, the dealer or the bank may take up large deals, which a normal prudent bank would have avoided. f) Fraud Risk Dealers or operational staff may indulge in frauds for personal gains or to conceal a genuine mistake committed earlier. g) Legal risk In addition to the foregoing risk there is a legal risk, which exists in all kinds of financial markets.

It is probably more so in foreign exchange and interest rates given that inherent volatility. It is therefore extremely important the banks as also the corporate dealing in such products take such steps as would sufficiently protect them from the legal standpoint. 1. 12 MEASURES OF FOREIGN EXCHANGE RISK The direct source of foreign exchange risk can be gauged by tallying the net positions on a bank's assets and liabilities that are denominated in foreign currencies. The example of the bank's loan to the exporter shows the limitations of the narrow, standardized method most clearly. While the exporter's loan by itself leaves the bank short in dollars, the standardized method captures none of this indirect exposure.

Further, if the bank were to use the foreign currency market to hedge the short dollar position, then the standardized method, having messed the original exposure, would mistakenly treat the hedge as if it added to exposure. In general, if a bank chooses its foreign exchange holdings as

though they contribute to risk as the standardized approach does it inappropriate. Use of the latter option, known as the “internal models” approach, is subject to several requirements for prudence, transparency and consistency. When used appropriately, it can provide a significant improvement over the standardized method. The internal model approach enables banks to take a broader view of their foreign exchange risk than does the standardized method. This year, the internal model approach focuses on evaluating the risks arising from banks’ trading activities.

The approach is well suited to incorporating the correlation between, say, the value of interest rate instruments and the value of foreign exchange. In principle, the internal model approach allows each bank to gauge its exposure carefully enough to incorporate the relationships among even its non-trading operations. However, even at its best, the internal models approach is limited in its range of coverage. An even broader approach to assessing banks’ foreign exchange risks can be obtained from an analysis of a bank’s equity returns. Equity returns reflect changes in the value of the firm as a whole. So, if the value of a bank as a whole is sensitive to changes in the exchange rate, the bank’s equity returns will mirror that sensitivity.

Whether from direct or indirect sources, foreign exchange exposure will be reflected in the behavior of returns. Thus, the exchange rate sensitivity of a bank’s equity return provides a comprehensive measure of its foreign exchange exposure. One drawback of this equity approach is that it is not useful for evaluating the risk level of a particular action. The approach is not linked to an explicit model of the determinants of foreign exchange

exposure, so it cannot be used to trace out the implications of specific decision. However, the approach is useful for bankers and regulators as a tool to evaluate the success of past management of foreign exchange risk. It is especially suitable for comparing the exposure of an assortment of a bank because it can be applied consistently across banks and because it does not require access to their detailed internal models. Moreover, its comprehensiveness makes it a good benchmark for evaluating other gauges of exposure.

1. 13 WHY SHOULD FIRMS MANAGE FOREIGN EXCHANGE RISK?
Many firms refrain from active management of their foreign exchange exposure, even though they understand the exchange rate fluctuations can affect their earnings and value. They make this decision for a number of reasons. First, management does not understand it. They consider any use of risk management tools, such as forwards, futures and options, as speculative. Or they argue that such financial manipulations lie outside the firm's field of expertise. We are in the business of manufacturing slot machines, and we should not be gambling on currencies. " Perhaps they are right to fear the use of hedging techniques, but refusing to use forwards and other instruments may expose the firm to substantial speculative risks. Second, they claim that exposure cannot be measured. They are right currency exposure is complex and can seldom be gauged with precision. But as in many business situations, imprecision should not be taken as an excuse for indecision. Third, they say that the firm is hedged. All transactions such as imports or exports are covered, and foreign subsidiaries finance in local currencies.

This ignores the fact that the bulk of the firm's value comes from transactions not yet completed, so that transaction hedging is a very incomplete strategy. Fourth, they say that the firm does not have any exchange risk because it does all its business in dollars (or yen, or whatever the home currency is). But a moment's thought will make it evident that even if you invoice German customers in dollars, when the mark drops your prices will have to adjust or you'll be undercut by local competitors. So revenues are influenced by currency change. Finally, they say that the balance sheet is hedged on an accounting basis??? especially when the "functional currency" is held to be the dollar. The misleading signals that balance sheet exposure measure can give are documented in later sections.

Modern principles of the theory of finance suggest prima facie that the management of corporate foreign exchange exposure may neither be an important nor a legitimate concern. It has been argued, in the tradition of the Modigliani-Miller Theorem, that the firm can not improve shareholder value by financial manipulations: specifically, investors themselves can hedge corporate exchange exposure by taking out forward contracts in accordance with their ownership in a firm. Managers do not serve them by second-guessing what risk shareholders want to hedge. One counter-argument is that transaction costs are typically greater for individual investors than firms. Yet there are deeper reasons why foreign exchange risk should be managed at the firm level.

Operating managers can make such estimates with much more precision than shareholders who typically lack the detailed knowledge of competition,

markets, and the relevant technologies. Furthermore, in all but the most perfect financial markets, the firm has considerable advantages over investors in obtaining relatively inexpensive debt at home and abroad, taking maximum advantage of interest subsidies and minimizing the effect of taxes and political risk. Another line of reasoning suggests that foreign exchange risk management does not matter because of certain equilibrium conditions in international markets for both financial and real assets.

These conditions include the relationship between price of goods in different markets, better known as Purchasing Power Parity (PPP), and between interest rates and exchange rates, usually referred to as the International Fisher Effect.

1. 14 FOREIGN EXCHANGE EXPOSURE

Foreign exchange exposure is the sensitivity of changes in the real domestic currency value of assets, liabilities, of operating incomes to unanticipated changes in exchange rates. Several features of this definition are: First, it is exposure of the sensitivity of domestic currency values i. e. , it is a description of the extent or degree to which the home currency value of something is changed by exchange rate changes. Second, it is concerned with real domestic-currency values,.

By this we mean that this adjusts inflation to changes in exchange rates. Third, it has existed on assets and liabilities or on operating incomes of firms. Since the values of operating income are so much per period of time, we see that exposure exists on stocks and flows. Fourth, it has not been qualified in the list of exposed items by describing them as being foreign assets, and so on. This is because, unanticipated changes in exchange rates can affect

domestic as well as foreign assets, liabilities, and operating incomes. Finally, it has been noticed that the definition refers only to unanticipated changes in exchange rates. This is because markets compensate for changes in exchange rates that are anticipated.

Consequently, it is only to the extent that exchange rates change by more or less than had been expected that there will be gain or loss on assets, liabilities or operating incomes. 1. 15 TYPES OF EXPOSURE Whether the exposure is accounting-based or economic, the evidence indicates very clearly that changes in foreign exchange rates can change the real cash flows of the firm and thus can have a significant negative impact on a firm's ability to compete. There are three types of foreign exchange exposure that impact the operation and performance of multinational companies; translation and transaction that are accounting based, and economic which is operational or real exposure. Foreign exchange exposure can be classified into three broad categories. ? Transaction exposure ? Translation exposure ? Economic exposure

First and the third together are known as ' cash flow exposures' while the second is referred to as ' accounting exposure' or ' balance sheet exposure'. ??? Transaction exposure: A transaction exposure exists when a change in one of the financial prices will change the amount of a receipt or expense. The amount of a transaction (a receipt or expense) would be determined by the price per unit and the number of units sold or purchased. Transaction exposures typically focus on only the direct effect of a price change-the impact of price changes on quantity is ignored. A transaction

exposure will often lead to trouble when there is a mismatch in receipts and expenses. Eg.

If an Indian exporter has a receivable of \$200, 000 due three months, hence and if in the meanwhile the dollar depreciates relative to the rupee a cash loss occurs, conversely if the dollar appreciates relative to the rupee cash gain occurs. Conversely reverse will take place in case of imports. ???

Translation exposure: A parallel exposure-one that also focuses only on the direct effects of a price change-that would be reflected in the firm's balance sheet is referred to as a translation exposure. A translation exposure reflects the change in the value of the firm as foreign assets are converted to home currency. Most of the firms make a point of noting that they do not manage translation exposures. Economic exposure: Moving beyond the strike accounting-based exposures, firms have begun to consider their firm's economic, or real, exposure-also referred to as competitive exposures.

Changes in foreign exchange rates will change the firm's receipts or expenditures not only because of the direct price change but also because the price change will change the amount that the firm buys or sells. This view of financial price risk recognizes changes in foreign exchange rates on the firm's sales and market share and then on the firm's net profits (net cash flows). 16. METHODS OF HEDGING Methods of hedging can be classified as a. Internal methods b. External methods a.

Internal methods: Internal methods include: i. Invoicing: In invoicing the corporate shifts the entire exchange risk to the other party by insisting that all its imports and exports be invoiced in its home currency. ii.

Netting/matching of cash flows: In this method of hedging if a firm has receivables and payables corresponding to the same periods then even if no other action is taken it will be able to match these exposures and make payments out of the payments received, since it will not have to buy or sell currencies in respect of these matched receipts and payments, there is no forex exposure risk involved. This is also called as 'natural hedging'. iii.

Leading and Lagging: The expression leading means paying before the due date and lagging means postponing the receipt of funds beyond the date on which they are due. The general rule is to lead i. e. advance payables and lag i. e. postpone receivables in strong currencies and conversely lead receivables and lag payables in weak currencies. b. External methods:

External method includes: i. Forward contract: Forward contract is a firm and binding contract entered into by the bank and its customer for the purchase of specified amount of foreign currency at an agreed rate of exchange for delivery and payment at a future date or period agree upon at the time of entering into foreword deal.

The bank on its part will cover itself in the inter-bank market or by matching a contract to sell with a contract to buy. ii. Option contracts: These are contracts in which the rate of exchange between the two currencies is fixed at the time the contract is entered into as in a standard forward, but the delivery date is not a fixed date. The corporate (customer) can at its option, take or make delivery on any day between the fixed dates. The internal between the two dates is the option period. Options are financial instruments that confer upon the holder the right to do something without the obligation

to do so. More specifically, the option is an asset on or up on a specified date if he chooses to do so.

The option buyer can simply let his right lapse by not exercising his option on the other hand; the seller of the option has an obligation to take the other side of the transaction if the buyer wishes to exercise his option. For this privilege the option buyer has to pay the seller a fee. iii. Financial Swaps: Swaps is an arrangement whereby a firm borrows in the currency in which it has advantage and exchanges the liability with another firm for an equivalent liability in another currency. Under the same currency, the relative strengths of the firms may be with regard to the payment of interest. One firm may have advantage in borrowing at fixed rate of interest while the other in floating rate.

Therefore, the swap many involve borrowing at floating rate and exchanging the liability for payment of interest with another firm borrowing at fixed interest rate. It is also possible that both currency and interest factors affect the choice for going for a swap. iv. Futures: Currency futures are standardized contracts that trade like conventional commodity futures on the floor of a futures exchange. A standardized forward contract is a future contract (quantity, date and delivery conditions are standardized). They are traded on organized exchanges. In future contract a margin is required, future contracts are 'marketed to market' on a daily basis i. e. profits and losses arising on future contracts are settled daily. 2. 1 INTRODUCTION TO THE INDIAN SOFTWARE INDUSTRY India accounted for about 0. 4% of the global software industry with a turnover of approximately Rs. 120 bn, during

1998-99. Of the total turnover, about Rs. 63 bn. is derived from the global markets, while the remaining is from domestic market. India's global software revenues are from the US (56.3%) and Europe (24%) which together contributes about 80% of the export revenues. The Indian software industry is fragmented with over 600 players. However, the major 11 companies accounted for approximately 32% of the total exports during 1998-99.

All the software companies have to follow the rules and regulations mentioned by the Software Technology Pact. The Indian software industry has grown rapidly at a compounded annual rate of 50% from US\$ million eight years ago to a US\$ 3.9 billion in 1998-99 according to National Association of software and service Companies (NASSCOM); a faster rate than the US grew in the same stage of this life cycle. Fuelled by domestic deregulation, entrepreneurial flair and the soaring global demand for low-cost, high-quality software and services India is becoming one of the world's main centers for offshore software work. Among the Fortune 500 companies, 203 outsource software development to India.

2. 2 INDIAN SOFTWARE INDUSTRY

ADVANTAGES Quality | 131 companies have ISO9000 certificate | | Reliability | Ultimate adherence to delivery schedules | | Customer satisfaction by using state-of-the-art technology | | Cost and time savings | High speed data communications 64 kbps+easing off-shore communications | | 24 hour virtual offices | | Large manpower pool people | 115,000 engineers graduate every year | | Second largest IT professional source in the world | | Year 200 | Fuller range of cost effective solutions |

2. 3 CLASSIFICATION OF SOFTWARE

COMPANIES Software companies can be classified based on numerous

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parameters. The following bases can be there for their classification: 1.

Based on software revenue stream consideration the companies can be classified in the following categories. ??? Core software companies (says revenues from software greater the 50% of the total revenues). ???

Diversified software companies ??? those in the area other than software including the sales and service of computer hardware. 2.

Based on the work platform employed: the companies may be either or some fo all of the available platforms-say RS 600, LAN, SUN, DEC, AS/400, PS/2, IBM/Mainframe, UNIX/Variants, PC, etc. 3. Based on area of work: ? Software products: the company can be dealing in the software products and packages. ? Software services: the companies can provide software services ins the form of maintenance of the system, up gradation of the software packages, data entry, solutions to Y2K problems, internet needs, etc. ? On-site service company: these are the companies that work on the client premises and have minimum capital expenditure at own office. ? Offshore service company: these offshore development centers works on the project with regular interface with the client via data communication lines.

The solutions are development in-house and transmitted/installed in the client premises with the help of data communication. 4. Based on the area of application: the companies can target any of the sectors as their customer and focus to provide products or services for that sector. Generally the big companies undertake software work in-house to cater to their specific needs rather than outsourcing the same. The sector of focus can be agriculture, banking, communication, telecommunication, finance, manufacturing, etc. 5.

On the basis of growth achieved: ? The companies can have an established reputation in the market with solid base and some assurance of business.

They enjoy high growth and are experiencing movement up the value chain. ? The companies can otherwise be startup concerns. These are typically promoted by some technocrats and are vying to making a place for themselves in the market. They are generally at the low level in the value chain. Survival is the main concern. 6. On the basis of ownership: ? The companies can be multinational's subsidiaries that are doing job exclusively for the parent company. The parent MNC typically supports them financially and otherwise. There is assurance of business so the risks are minimal. ? The captive software division or separate company owned by Indian Company for their captive use. The Indian companies that are in the fray to provide solutions on competitive basis as any other vendor in the open market. They do not have captive clients. ? The joint ventures between the foreign company and Indian company to provide in-house support as well as to have commercial operations as any other company in the open market. 2. 4

VALUE CHAIN OF SOFTWARE INDUSTRY The value chain of the software industry is very difficult to conceive. These are rather two sub-segments of the industry having their separate value chains-Software products and software services. While the product is a high-risk strategy as the investment has to be made upfront and the revenue generation is later, the margins are therefore higher to compensate the risk therein.

The services are having a low element of risk in them. The investment and the revenue generation are simultaneous. The margins are therefore low as

compared to the products. The company can adopt either of the strategy depending on its risk profile and preference. While Infosys has been persistently moving in the product direction, the Wipro strategy is of service. The movement up the value chain is usually accompanied with the following effects.

FROM	TO
Manpower multiplication game	An intellectual property business
Suppliers of cheap labor	Providers of value added service
Pay for effort	Pay for solutions
Focus on the lower costs	Focus is more on quality
Slow growth, low margins, and manpower Dependant Company.	Faster growth, higher margins and fewer person-dependants
The value that customer obtains will be measured in terms of man-hours spent.	The value that customer derives shall be measured in term of function points delivered or maintained, and in terms of business leverage that the customer obtains from the product