Foreign Exchange Risk and Risk Hedging Strategies

Introduction

The risk arising out of trading in the foreign exchange market is known as foreign exchange risk. These risks are associated to unpredicted fluctuations in the values of currencies. Foreign exchange risk results from the fluctuations in the exchange rate. Currency rate fluctuation affects the value of revenues, cost cashflows, assets and liabilities of a firm. These risks arise due to the volatility of rates and frequent changes in exchange rates of countries. Any firms which are involved in collecting or paying in foreign currency is exposed to foreign exchange risk.

What is Foreign Exchange Risk?

Foreign exchange risk, also known as exchange rate risk, is the risk of financial impact due to exchange rate fluctuations. In simpler terms, foreign exchange risk is the risk that a business' financial performance or financial position will be impacted by changes in the exchange rates between currencies.

Understanding Foreign Exchange Risk

The risk occurs when a company engages in financial transactions or maintains financial statements in a currency other than where it is headquartered.

For example, a company based in Canada that does business in Japan – i.e., receives financial transactions in Japanese Yen – reports of its financial statements in Canadian dollars, is exposed to foreign exchange risk. The financial transactions, which are received in Japanese Yen, must be converted to Canadian dollars to be reported on the company's financial statements. Changes in the exchange rate between the Japanese Yen (foreign currency) and Canadian dollar (domestic currency) would be the risk; hence the term foreignexchange risk is used.

Foreign exchange risk can be caused by appreciation/depreciation of the base currency, appreciation/depreciation of the foreign currency, or a combination of the two. It is a major risk to considerfor exporters/importers and businesses that trade in international markets.

Types of Foreign Exchange Risk

The three types of foreign exchange risk include:

1. Transaction Risk
2. Translation Risk
3. Economic Risk

Foreign Exchange Exposure		
Transaction Exposure	**Economic Exposure**	**Translation Exposure**
It is a financial risk that is associated with the already signed contracts.	It is the change in the present position of a Company in the market due to the fluctuations in the foreign exchange rates.	This exposure can be found out when the process of consolidation of global accounts of all the operating units is done.

1. **Transaction risk:** Transaction risk is the risk faced by a company when making financial

transactions between jurisdictions.The risk is the change in the exchange rate before transaction settlement. Essentially, the time delay between transaction and settlement is the source of transaction risk. Transaction risk can be mitigated using forwardcontracts and options.

Transaction exposure is the level of uncertainty businesses involved in international trade face. Specifically, it is the risk that currency exchange rates will fluctuate after a firm has already undertaken a financial obligation. A high level of vulnerability to shifting exchange rates can lead to major capital lossesfor these international businesses.

How to manage Transaction Exposure? (or) Management of Transaction Risk

The most common methods for managing transaction exposures are −

- **Forward Contracts** − If a firm has to pay (receive) some fixed amount of foreign currency in the future(a date), it can obtain a contract now that denotes a price by which it can buy (sell) the foreign currency in the future (the date). This removes the uncertainty of future home currency value of the liability (asset) into a certain value.
- **Futures Contracts** − these are similar to forward contracts in function. Futures contracts are usually exchange traded and they have standardized and limited contract sizes, maturity dates, initial collateral, and several other features. In general, it is not possible to exactly offset the position to fully eliminate the exposure.
- **Money Market Hedge** − Also called as synthetic forward contract, this method uses the fact that the forward price must be equal to the current spot exchange rate multiplied by the ratio of the given currencies' riskless returns. It is also a form of financing the foreign currency transaction. It converts the obligation to a domestic-currency payable and removes all exchange risks.
- **Options** − A foreign currency option is a contract that has an upfront fee, and offers the owner the right, but not an obligation, to trade currencies in a specified quantity, price, and time period.

2. **Economic risk:** Economic risk, also known as forecast risk, is the risk that a company's market value is impacted by unavoidable exposure to exchange rate fluctuations. Such a type of risk is usually created by macroeconomic conditions such as geopolitical instability and/or government regulations.

Economic exposure/risk is a type of foreign exchange exposure caused by the effect of unexpected currency fluctuations on a company's future cash flows, foreign investments, and earnings. Economic exposure, also known as operating exposure, can have a substantial impact on a company's market value since it has far-reaching effects and is long-term in nature. Companies can hedge against unexpected currency fluctuations by investing in foreign exchange (FX) trading.

How to manage Economic Exposure? (or) Management of Economic Risk

The main purpose of economic exposure management is to reduce the impact that changes in exchange rates have on the cash flows of a company. Economic exposure management seeks to help companies preserve as much foreign profit as they can when profits in foreign currencies are converted to the domesticcurrency.

Economic exposure is managed through two predominant strategies: operational strategies and

currency risk-mitigation strategies. Operational strategies include diversification in production facilities and the markets the products are sold, flexibility in sourcing raw materials, and diversifying financing sources. Currency risk-mitigation strategies include matching currency flows, currency swaps, risk-sharing agreements, and back-to-back loans.

The economic risk is managed by selecting low-cost production location, adoption of flexible sourcing policy, making R & D efforts for product differentiation and hedging through financial products.

3. **Translation risk:** Translation risk, also known as translation exposure, refers to the risk faced by a company headquartered domestically but conducting business in a foreign jurisdiction, and of which the company's financial performance is denoted in its domestic currency. Translation risk is higher when a company holds a greater portion of its assets, liabilities, or equities in a foreign currency.

Translation exposure (also known as translation risk) is the risk that a company's equities, assets, liabilities, or income will change in value as a result of exchange rate changes. This occurs when a firm denominates a portion of its equities, assets, liabilities, or income in a foreign currency. It is also knownas "accounting exposure."

Accountants use various methods to insulate firms from these types of risks, such as consolidation techniques for the firm's financial statements and using the most effective cost accounting evaluation procedures. In many cases, translation exposure is recorded in financial statements as an exchange rate gain (or loss).

How to manage Translation Exposure? (or) Management of Translation Risk

A variety of mechanisms are in place that allows a company to use hedging to lower the risk created by translation exposure. Companies can attempt to minimize translation risk by purchasing currency swaps orhedging through futures contracts.

In addition, a company can request that clients pay for goods and services in the currency of the company'scountry of domicile. This way, the risk associated with local currency fluctuation is not borne by the company but instead by the client who is responsible for making the currency exchange prior to conductingbusiness with the company.

Risk Hedging Strategies

A hedge is an investment status, which aims at decreasing the possible losses suffered by an associated investment. Hedging is used by those investors investing in market-linked instruments. To hedge, an investor should technically invest in two different instruments with adverse correlation.

What is Hedging?

Hedging is recognizing the dangers that come with every investment and choosing to be protected from anyuntoward event that can impact one's finances. Hedging in finance refers to protecting investments.

Hedging is covering the loss. It ultimately involves no gain or loss. It involves the making of two equal andopposite transactions by the hedger and if the price moves either, way the hedger loses on one transaction and gains on the other.

Hedging is a financial strategy that should be understood and used by investors because of the

advantagesit offers. As an investment, it protects an individual's finances from being exposed to a risky situation thatmay lead to loss of value. However, hedging doesn't necessarily mean that the investments won't lose valueat all. Rather, in the event that happens, the losses will be mitigated by gains in another investment. *For example:* Getting car insurance. In the event of a car accident, the insurance policy will shoulder at least part of the repair costs

Risk Hedging Strategies

1. **Internal Risk hedging strategies**
    - Netting
    - Leads
    - Lags
2. **External Risk Hedging Strategies**
    - Forwards
    - Futures
    - Options
    - Money-markets
    - Hedging
    - Currency Swaps

Internal Risk Hedging Strategies

1. Netting

Definition: Intercompany netting is the process of reconciling and netting intercompany invoices between two parties,resulting in a final payment and netted cash flow. In regard to financial markets, the purpose is essentially to minimize transactions and distinguish remuneration in multiparty agreements.

Multinational corporations are familiar with the downsides when involved with intercompany commerce. Growing transaction fees, currency exchange risk, and lack of transparency are common facets that make it difficult for such organizations. Corporations can implement netting to mitigate those downsides and free up valuable time for treasury and accounting departments.

- Netting is a method of reducing risks in financial contracts by combining or aggregating multiple financial obligations to arrive at a net obligation amount. Netting is used to reduce settlement, credit, and other financial risks between two or more parties.
- Netting or Intercompany Netting is the process of reducing the risk of financial contracts by combining two or more swaps (swap is a derivative contract through which two parties exchange cash flows based on an estimated principal amount) resulting in final payment between the parties. Netting supports companies in making their cash management more efficient and less costly by boosting cash flow efficiency, consolidating invoices and enabling faster cash allocation and allowing companies to better calculate their foreign exchange exposure and hedge it strategically.
- Netting is the process of reconciling and netting intercompany involves between two parties, resultingin a final payment and netted cash flow. In regard to financial markets, the purpose is essentially to minimize transactions and distinguish remuneration in multiparty

agreements.

- MNC's are familiar with the downsides when involved with intercompany commerce. Growing transaction fees, currency exchange risk and lack of transparency are common facets that make it difficult for such organisations. Corporations can implement netting to mitigate those downsides and free up their risk.

Example:

Investor A is due to receive $100,000 from Investor B

Investor B is due to receive $25,000 from Investor A

Instead of Investor B paying Investor A $100,000 and Investor A giving Investor B $25,000, thepayments would be netted

Investor A would give Investor B $0, while Investor B would give Investor A $75,000

Advantages of Netting System

- It reduces the number of cross-border transactions between subsidiaries, results in to savings in theoverall administrative costs of such cash transfers;
- It reduces the necessity for foreign exchange conversion, results into decreases in transaction costsassociated with foreign exchange conversion.
- It supports to improve cash flow forecasting because only net cash transfers are made at the end of eachperiod
- It provides to the management an accurate report about cash position in future, and settles accountsthrough co-ordinated efforts among all subsidiaries.

Disadvantages of Netting System

Despite the advantages of netting, it comes with some notable drawbacks which are:

- Netting doesn't alter foreign currency rates. It merely aids in their management.
- Netting doesn't reduce tax liabilities that businesses may face for their transactions
- Risk is distributed across an entire netting transaction; the risk of a single invoice may be overlooked.
- Some bilateral netting payment systems may come into conflict with local law.
- Netting could require a large outflow of cash at the end of the month.

2. Leads & Lags

Leads and lags in international business usually refer to the deliberate acceleration or delaying of payments due in a foreign currency in order to take advantage of an expected change in currency exchange rates.

Corporations and governments may take time in payments due, for a foreign currency if they anticipate a change in currency values that is in their favour.

In international finance, leads and lags are referred to alteration of normal payment or receipts in a foreignexchange transaction because of an expected change in exchange rates. A change in exchange rates can be a cause of loss in international trade, thus the settlement of debts is expedited or delayed in an attempt to minimize the loss or to maximize the gain. In the leads and lags, the premature payment for goods purchased is called a "lead," while the delayed payment is called a "lag."

Leads will result when firms or individuals making payments expect an increase in the

foreign-exchange rate, while lags arise when the exchange rate is expected to fall. Leads and lags are used in an attempt to improve profits. An expected increase in exchange rates is likely to speed up payments, while an expected decrease in exchange rates will probably slow them down.

While practicing leading and lagging the management must realize that the performance measurement of those subsidiaries which were asked to 'lead' payments may suffer as they incur losses on interest receivableand incurs interest charges on the funds 'led'. At times, lead and lag techniques may also be constrained by local exchange control regulations. Practicing of leading and lagging techniques indeed goes beyond the realm of risk minimization. It amounts to taking aggressive stances on financing viz-a-viz anticipated movements in exchange rates.

For instance, an expected devaluation of host country's currency may make an international company borrow locally and repay the foreign currency denominated borrowings.

Understanding Leads and Lags:

A corporation or government can control the schedule of payments received or made, within reasonable limits. When a payment to a foreign entity is involved, the organization may opt to pay earlier or later than scheduled. These changes would be made in anticipation of capturing the benefit from a change in currencyexchange rates.

This consideration can affect the smallest or the largest transactions. If a company in one country were about to acquire a company in another country, and the target company's country currency was expected to decrease in value relative to the acquiring company's country, delaying the purchase would be in the interest of the acquiring company.

A strengthening of the currency being paid out would lead to a smaller pay-out for the entity, while a weakening of the currency would lead to increased costs the longer the payment was delayed.

Advantages of Leading and Lagging Strategies

- The biggest advantage with the leading and lagging strategies is that it is simple to execute.
- This strategy is most often implemented within the organization and the company does not have to consider a third party.
- Leading and lagging can also be used in group tax-planning as of shifting intra- company funds, and hence profitability.
- Compared to direct intercompany loans, there is no need for a formal note of indebtedness with leading and lagging since the amount of credit is just adjusted up and down by shortening and lengthening the terms on the accounts. Thus, makes it much less time consuming and simpler to utilize.

Disadvantages of Leading and Lagging Strategies

- There are some disadvantages in using leading and lagging strategies.
- These strategies are difficult to implement.
- The company must be in the position to exercise some control over payment terms.
- Leading and lagging is a win-lose game, thus while one party benefits, the counterparty loses. The benefit gained from taking advantage of exchange rate movements may be outweighed by the cost of losing business due to the zero-sum nature of this method.

External Risk Hedging Strategies

1. **Forward:** A forward contract is a contract between two parties who agree to buy/sell a specified quantity of a financial instrument/commodity at a certain price at a certain date in future. A forward contract amounts to setting price today for a trade that will occur in the future. Forward contract is a non-standardized contract between two parties to buy or sell an asset at a specified time at an agreed price.

Features of Forward

The salient features of forward contracts are:

- Counter party risk: The parties to contract bear counter party risk/default risk. For Example: Trade takes place between party A (buyer) and party B (seller). The pre-specified delivery price is Rs. 100 per kg and the maturity is one month. After one month, the commodity is traded at Rs. 120 per kg. A would gain Rs. 20 and B would suffer a loss of Rs. 20. In case B defaults (refuses to sell at Rs. 100 per kg as promised), party A is exposed to counter party risk i.e., risk of foregoing the deserving gain of Rs. 20 per kg.
- Underlying assets: The underlying assets could be stock, bonds, foreign exchange, commodities.
- Flexibility: Forwards contracts offer flexibility to parties to design the contract in terms of price,quantity, quality, delivery time and place.
- Settlement: A contract has to be settled in delivery or cash on expiry date.
- Contract price: The contract price is generally not available in public domain.

Advantages of Forward Contract

- **Hedge risk:** Forward contracts can be used to hedge or lock in the price of purchase or sale of commodityor financial asset on the future commitment date.
- **No margin required:** Forward contracts does not require any margin (collateral).
- **No initial cost:** In forward contracts generally, margins are not paid. So, it does not involve initial cost.
- **Negotiability:** The terms and conditions of the forward contract are negotiable. Forwards are tailor madeand can be written for any amount and term.

Disadvantages of Forward Contract

- **Counter party risk:** Counter party risk is very much present in a forward contract since there is no performance guarantee.
- **Not traded in stock exchange:** Since forward contract are not traded in stock exchange, they have readyliquidity
- **Transparency of prices:** The contract price is generally not available in public domain there by there is no transparency in prices. It requires tying up capital. There are no intermediate cash flows before settlement. Contracts may be difficult to cancel.

2. **Future:** A futures contract is an agreement between two parties - a buyer and a seller - to buy or sell something at a future date at a certain price. Futures contracts are more standardized exchange traded contracts and are subject to a daily settlement procedure. Futures contracts, unlike forwards are traded on organizedexchanges. They are traded in three primary areas:

- Agricultural commodities.

- Metals and petroleum.
- Financial assets such as shares, currency, interest rate etc.

Characteristics of Futures Contract

- The salient features of futures contracts are:
- Highly standardized: Futures are highly standardized contracts that provide for performance of contractsthrough either deferred delivery of asset or final cash settlement.
- Futures exchanges: These contracts trade on organized futures exchanges with a clearing association thatacts as a middleman between contracting parties.
- Margin: Contract seller is called 'short' and purchaser 'long'. Both parties pay margin to the clearingassociation. This is used as performance bond by contracting parties.
- Fluctuations in the prices: Price of the contract changes every day.
- Mark to market: Margins paid are generally marked to market price every day.
- No counter party risk: There is no question of counter party risk.
- Transaction cost: Transaction cost includes brokerage fees for buying and selling orders.
- Number of contracts: The number of contracts in a year is fixed.

Advantages of Futures Contract

- Helps in risk management.
- Facilitates lengthy and complex production and manufacturing activities.
- Guarantees performance of the contract as there is requirement of margin amount.
- Limits on price fluctuation prevent speculation.
- There is no counter party risk.

Disadvantages of Futures Contract

- Leverage can make trading in futures contracts highly risky for a particular strategy.
- Futures contract is standardized product and written for fixed amounts and terms.
- Lower commission costs can encourage a trader to take additional trades and lead to over-trading.
- It offers only a partial hedge
- It is subject to basis risk which is associated with imperfect hedging using futures

Differences between Forwards and Futures

Future Contract	Forward Contract
Standardized contracts.	Customized or tailor-made contracts
Publicly traded.	Traded privately.
Daily settlement of profit and loss, which is known as mark to market.	The profit or loss is accumulated till the expiry of contract.
Trades at future exchange.	Trades at over-the-counter exchange
No default risk.	Rare default risk exists.
Clearing house takes the responsibility of defaults and pay to the other party	No clearing house is present Clearing to between the parties in forward contract.
Future contracts are open to general public as they are traded on future exchanges.	Financially sound and creditworthy parties only can enter into forward contracts.

Parties have indirect contracts between them, as exchange write a contract in between both parties. The exchange collects the as payment from one party and transfer to other party.	Both parties have direct contract between them and payments are also handled by them independently as per their own terms and conditions.
Parties can anytime enter into opposite transactions before expiry.	Forward contracts are generally intended to be in force till maturity, however, it is possible for party to enter into opposite transaction before expiry.
Futures markets offer the parties liquidity, which gives them a means of buying and selling the contracts. Because of this liquidity, a party can enter into a contract and later, before the contract expires, enter into the opposite transaction and offset the position, much the same.	Since forward markets are intended to be in force till maturity, so they don't provide liquidity.

3. **Options:** Option is an agreement that gives the owner the right, but not the obligation, to buy or sell a specific assetat a specified price for a set period of time.

Features of Options

- The buyer has the right to buy or sell the asset.
- To acquire the right of an option, the buyer of the option must pay a price to the seller. This iscalled the option price or the premium.
- The exercise price is also called the fixed price, strike price or just the strike and is determined atthe beginning of the transaction. It is the fixed price at which the holder of the call or put can buyor sell the underlying asset.
- The expiration date is the final date that the option holder has to exercise their right to buy or sellthe underlying asset.
- Time to expiration is the amount of time from the purchase of the option until the expiration date. At expiration, the call holder will pay the exercise price and receive the underlying securities if theoption expires in the money.
- Defaults on options work the same way as they do with forward contracts. Defaults on over-thecounter option transactions are based on counter parties, while exchange-traded options use a clearing house.

Advantages of Options

- An investor can gain leverage in a stock without committing to a trade.
- Option premiums are significantly cheaper on a per-share basis than the full price of the underlying stock.
- Options allow investors to protect their positions against price fluctuations.
- Risk is limited to the option premium.

Disadvantages of Options

- The costs of trading options is significantly higher on a percentage basis than trading the underlying stock, and these costs can drastically eat into any profits.

- Options are very complex and require a great deal of observation and maintenance.
- The time-sensitive nature of options leads to the result that most options expire worthless. Makingmoney by trading options is extremely difficult, and the
- average investor will fail.

4. **Money Market:** Money market refers to the market were money and highly liquid marketable securities are bought and sold having a maturity period of one or less than one year. The money market constitutes a very important segment of the Indian financial system.

According to the Reserve Bank of India, "Money market is the centre for dealing, mainly of short-term character, in money assets; it meets the short-term requirements of borrowings and provides liquidity or cash to the lenders. It is the place where short term surplus investible funds at the disposal of financial and other institutions and individuals are bid by borrowers' agents comprising institutions and individuals and also the government itself."

Money market is concerned with the supply and demand for investible funds. Essentially, it is a reservoir of short-term funds. Money market provides a mechanism by which short-term funds are lent out and borrowed; it is through this market that a large part of the financial transactions of a country are cleared. Itis a place where a 'bid' is made for short-term investible funds at the disposal of financial and other institutions by borrowers comprising institutions, individuals and the Government itself. Thus, moneymarket covers money and financial assets which are close substitutes for money. The money market is generally expected to perform following three broad functions:

- To provide an equilibrating mechanism to even out demand for and supply of short-term funds.
- To provide a focal point for Central bank intervention for influencing liquidity and general level ofinterest rates in the economy.
- To provide reasonable access to providers and users of short-term funds to fulfill their borrowing and investment requirements at an efficient market clearing price.

Money market is a segment of the financial market in which financial instruments with high liquidity and very short maturities are traded. The money market is used by participants as a means for borrowing and lending in the short term, for several days to just under a year. Money market securities consist of negotiable certificates of deposit, bankers acceptances, treasury bills, commercial paper, municipal notes, federal funds and repurchase agreements (repos).

Objectives of Money Market

- To provide a parking place to employ short-term surplus funds.
- To provide room for overcoming short-term deficits.
- To enable the Central Bank to influence and regulate liquidity in the economy through its intervention in this market
- To provide a reasonable access to the users of short-term funds to meet their requirements quickly, adequately and at reasonable costs.
- To provide an equilibrium mechanism for ironing out short-term surplus and
- To provide a focal point for central bank intervention for the influencing liquidity in the economy.

Features of Money Market

- It is a market purely for short-term funds or financial assets called near money.
- It deals with financial assets having a maturity period up to one year only.
- It deals with only those assets which can be converted into cash readily without loss and with minimum transaction cost.
- Generally, transactions take place through phone i.e., oral communication. Relevant documents and written communications can be exchanged subsequently. There is no formal place like stock exchange as in the case of a capital market.
- Transactions have to be conducted without the help of brokers.
- The components of a money market are the Central Bank, Commercial Banks, Non-banking financial companies, discount houses and acceptance house. Commercial banks generally play a dominant role in this market.

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