FX Exposure Management

Customer Presentation

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Med aps

Types of FX Exposure

- Transaction
  - Contractual cashflows
  - Usually 3-12 month horizon
- Economic
  - Dictated by policy and competition
  - Strategic choice
- Accounting
  - Affects accounting profits and owner's equity
    - E..g. Loans to foreign subsidiaries
  - Does not affect cashflows
    - Should be hedged??

Transaction Exposure

- What is usually hedged
  - e.g. European exporter to the US has receivables denominated in USD, but payables are in EUR
  - Also foreign ccy denominated debt/investments
  - Booked + expected cashflows
- Quantity to hedge depends on projected sales
- Liquidity of hedge instruments tails off beyond 1y
- Fully hedged vs selectively hedged

Economic Exposure

- How does change in exchange rates affect firm value
  - and hence share price
- Extremely difficult to estimate
  - Flexibility of production
  - Competitors' strategy
  - Elasticity of demand (input and output markets)
- Requires senior management buy-in
- Hardly monitored in most firms
  - though measured periodically

Accounting Exposure

- Only hedged if accounting ratios need to be met
- Measured and monitored by most firms
  - More so than Economic Exposure
- Hedged by a surprisingly large number of firms
  - Creates transaction exposure !

Hedging Strategy

- Importance of the “natural hedge”
  - Hedge the NET of receivables and payables in the foreign currency
- Rules vs Views
  - Rules: Hedge a pre-determined percentage in a pre-determined mix (forwards, options and exotics)
  - Views: Hedge based on forecasts
  - Treasurers seem to prefer Views to Rules!
- Exchange Rate forecasts are available from:
  - Your bank/consultant
  - Technical analysts
  - Fundamental analysts (economists)

Hedging Instruments I - Forwards

- Fixes a rate to buy/sell foreign currency in the future
- Is NOT a prediction of the future exchange rate.
- Determined by the current exchange rate (Spot Rate), the interest rates in the two currencies and time to maturity

  Forward Rate = Spot Rate * exp ([rd – rf]*T)

  where rd = domestic currency interest rate

  rf = foreign currency interest rate

  T = time to maturity (expressed in years)

- Quoted upto 5 years for the liquid currency pairs
  - E.g. Euro vs US Dollar
  - Liquid upto 2 years

Hedging Instruments II - Options

- Gives the buyer the RIGHT but not the obligation to buy/sell foreign currency in the future at a fixed rate ("Strike")
  - The cost of the right is the option premium
  - One can simultaneously buy and sell rights to get zero cost
- The seller is OBLIGED to honor the buyer's right
- The premium is determined by the same factors as the forward rate + Volatility of the spot rate
  - $Premium = \exp(-rd*T) * [F*N(d) - K*N(d - Vol*\sqrt{T})]$

    where
    - F = forward rate for the period
    - Vol = Volatility of the spot rate
    - K = Strike
    - $d = [\ln(F/K) + 0.5*Vol*\sqrt{T}] / Vol*\sqrt{T}$
    - all other symbols as before
- Quoted upto 5 years for the liquid currency pairs
  - Liquid upto 1 year

Hedging Instruments III - Packages

- Forwards and options are the building blocks of a derivative strategy
- They can be packaged to attain any desired hedging profile
  - Monthly purchases of fixed/variable amounts of the foreign ccy
  - Attainment of a given budget rate
    - ✓ E.g. An average rate of 1.20 for FY2004 on €/$ for an European exporter
  - Attainment of a cumulative exchange cost
    - ✓ E.g. A cumulative revenue >= €50m irrespective of €/$ moves
  - ...and many others....call us for more details

Conclusions

- Almost all companies hedge exchange risk, if they have transaction exposure
- The exposure needs to measured and monitored
  - Frequency depends on size of exposure
- The exposure needs to be hedged
  - Need to balance between minimising cashflow variance (“fully hedged”) and hedge costs (”unhedged”)
  - Should be articulated in firm’s risk management policy

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