Foreign Currency Transactions and Hedging

History of Currency
- 1945-1973: US dollar was pegged to gold and other currencies were pegged to the dollar
- 1960’s: US had a balance of payments deficit
  - Other nations bought gold
  - US gold reserves were depleted
- 1971: US suspended convertibility of dollar to gold
- 1973: Most currencies were floating

Current currency arrangements
- Independent float: currency fluctuates according to market forces with no central bank intervention
- Pegged: currency is fixed in terms of another; central bank intervenes
- European Monetary System: 1998 was when the Euro was adopted along with the European Central Bank (1/1/2002- local currencies disappeared)

Foreign Exchange Rates
- Newspaper rates are quoted in NY at 4:00pm Eastern
  - Rate is for trades between banks in amounts > $ 1 million
  - This is the inter-bank or wholesale rate
- Selling or retail rates less the wholesale rate = spread (profit)
  - Indirect quote: how much foreign currency for $1
  - Direct quote: how many $ to buy one unit of foreign currency

Foreign Currency Transactions
- Trade: parties must determine which currency to use
- Payment gap: currency may depreciate (risk exposure)

Currency value, interest rates and the Economy
- When dollar value rises
  - Imports are less expensive, domestic manufacturing and sales decline with domestic jobs
  - Exports are more expensive to foreigners
    - More domestic manufacturing to export
- When dollar value falls ➔ Inflationary
  - Imports are more expensive and people buy domestic
    - This stimulates the economy ➔ more jobs and income
- When interest rates rise ➔ Deflationary
  - Costlier to obtain capital (corporation) or take out a loan (private)
    - Borrowing goes down ➔ money pursuing real estate and capital property goes down
      - Less production & consumer demand falls
      - Property values fall
- When interest rates fall ➔ Inflationary (prices rise)
  - Money is more available and capital is cheaper
    - More production, more jobs, more income
      - More money chasing goods ➔ consumer stimulus
Types of Currency Rates

- **Spot rate**
  - Price at which foreign currency can be purchased or sold today

- **Forward rate**
  - Price at which currency can be purchased or sold sometime in the future
  - No up-front costs to enter into a forward contract
  - If forward rate > spot rate, there is a premium
  - If forward rate < spot rate, there is a discount
  - Discount or premium is due to differing interest rates in respective countries

- **Options contracts**
  - A forward contract is an obligation, an option is a right/privilege
  - Put: right to sell
  - Call: right to purchase
  - Strike price: price to buy or sell if option is exercised
  - Option premium is made up of:
    - Intrinsic value: the gain to be realized if exercised today
    - Time value: the spot rate can change over time
  - Black-Scholes: value of an option is a function of:
    - Current spot \( \leftrightarrow \) Strike price
    - Domestic and foreign interest rates
    - Length of time to expiration
    - Potential volatility

Accounting Issues for Exports and Imports

- Due to change in $ value of Sales/Receivables & Purchases/Payables
- GAAP according to FASB 52 sees two separate transaction decisions:
  - The decision to make the sale
  - The decision to extend credit in foreign currency
- Books must keep separate receivables/payables for each foreign currency
- A foreign currency transaction exposes assets/liabilities to unrealized gains or losses because a currency can fluctuate between transaction and payment or collection

<table>
<thead>
<tr>
<th>Transaction</th>
<th>Exposure</th>
<th>For. Currency Up</th>
<th>For. Currency Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export sale</td>
<td>Asset</td>
<td>Gain</td>
<td>Loss</td>
</tr>
<tr>
<td>Import purchase</td>
<td>Liability</td>
<td>Loss</td>
<td>Gain</td>
</tr>
</tbody>
</table>

- Receivable and payable should be revalued at the balance sheet date
- FASB 52: for recognizing unrealized gains or losses
  - Payables (loans payable to foreign lenders & lease payments)
  - Dividend receivables
    - Accrual approach: unrealized gain/loss is included in other income
      - This is only one of two situations in US GAAP where it is acceptable to recognize unrealized gain in income (other is mkt. securities)

The Need to Use Hedging to Maintain Value

- For currency denominated assets and liabilities
- For unrecognized foreign currency firm commitments
- For forecasted foreign currency denominated transactions
- For net investments in foreign operations
Hedging types and documentation

- **Cash flow hedges** guard against the possibility that cash flows subject to currency fluctuations would be diminished when settled
  - Gains/losses on cash flow hedges → other comprehensive income
- **Fair value hedges** guard against the possibility that asset values would decline or liability values would rise due to currency changes
  - Gains/losses on these hedges recognized immediately in income
- **Proper documentation** of a hedge
  1. Identification of the hedged item and nature of instrument
  2. Nature of risk
     a. Changes in exchange rates can affect fair value of asset or liability
     b. Gains and losses on fair value hedge → immediately in net income
     c. Risk must have potential to affect net income
     d. When changes will affect cash flow: cash flow exposure
     e. Gains and losses → other comprehensive income
  3. How it is assessed
  4. Risk objective and strategy

Derivatives used for hedging

- Report all derivatives at FMV with gains and losses
- Report use of hedging instruments in notes to financials
- Derivative is used to hedge fair value exposure or cash flow exposure to foreign exchange risk
- Forward contracts are used for non-cancellable sales or purchase order
  - Highly effective if matches the terms of the underlying transaction
  - Critical terms: currency type/amount and settlement date

Valuation of Derivatives

- SFAS 133 requires all derivatives to be carried at fair value
  - If derivative has a positive value, it is an asset
  - If derivative has a negative value, it is a liability
- Determining fair value for a:
  - **Forward contract**: difference in rate when contract entered into vs. current forward rate on date when contract matures is discounted at the incremental borrowing rate
  - **Foreign currency options** have market quotes
- Changes in FMV of Derivatives
  - Changes included in comprehensive income (changes in equity from non-owner sources such as unrealized gains/losses in marketable securities)
    - Accumulated and reported in stockholder’s equity
  - Speculative derivatives: changes are reflected in net income
- Hedging derivatives: gain or loss from hedge is recognized in same period as the risk being hedged
  - **Fair Value Hedge** (At balance sheet date)
    - Asset and liability → fair value based on spot rate
    - Derivative- FMV with counterpart as gain/loss in net income

Forward Hedging a Foreign Currency-Denominated Asset or Liability

- A **forward contract** is an executory contract (no cash changes hands)
- Account for transaction and forward contract simultaneously but separate
- **Cash flow hedge**
  - Asset or liability → fair value based on spot rate changes
    - Foreign exchange gain or loss → net income
  - A hedging derivative has a counterpart (the thing being hedged)
  - When currency rates change:
    - Hedging instrument is adjusted to fair value
    - Counterpart value change → AOCI
• Foreign exchange g/l on counterpart is transferred from AOCI to net income → offsets gain or loss on hedge
  o Original discount/premium (forward contract) or change in time value (option) is amortized over contract life using effective method → Amount moved from AOCI to net income
• Fair value hedge
  o Gain or loss is taken directly to net income and not allocated using the effective interest method
  o The forward contract discount is recognized in income
    • Discount is the difference between the foreign exchange g/l on the receivable or payable and the g/l on forward contract

Foreign Currency Options to Hedge a Foreign Currency Denom. Asset
• SFAS 133 requires options to be valued at fair value on balance sheet date
• For cash flow hedge, option’s time value change is recognized in net income over life of option using the effective interest rate method
• For fair value hedge, gain or loss on the option → net income

Hedges of Unrecognized Foreign Currency Firm Commitment
• Gain or loss on hedging instrument is recognized currently in income
• Gain or loss (change in FMV) on commitment → net income (offset)
• Requires
  o Measuring FMV of firm commitment
  o Recognized change in FMV in net income
  o Report commitment on balance sheet as asset or liability
• Forward contracts offset with underlying commitment

Hedge of forecasted foreign currency denominated transaction
• Can’t use fair value hedging
• SFAS 133- for hedge accounting to apply
  o Forecasted transaction must be probable
  o Effective in offsetting
  o Relationship documented
• No recognition of forecasted transactions or gains
• Changes in fair value- not in income, but in comprehensive income
  o On date of transaction → transfer cumulative change → income

Currency borrowing
• Record rate at spot rate
• Record interest at spot rate
• Revalue note and record loss/gain at each statement date
• If there is an interest payable at statement date- record gain/loss

Translation of Foreign Currency Financials
• Foreign GAAP to US GAAP
• Foreign currency to US currency
  o Historical exchange rate used when transaction occurred
  o Current exchange rate used at balance sheet date
• Balance Sheet
  o Items at historical rate: no exposure to rate changes
  o Items at current rate: exposure to translation adjustment
  o Issue: is gain or loss a part of net income or direct to equity
• Methods
  o Current rate method
    ▪ Net investment in foreign operation is exposed to risk
    ▪ All assets and liabilities are translated at current rate
• Translation adjustment not necessarily related to cash flows
  • Income statement items - incurred evenly
    • Weighted average for the period
  o Temporal method
    • Assets and liabilities on foreign operations balance sheet at historical cost and translated at historical exchange rates
    • Assets and liabilities at current or future value - current rate
    • Pretend parent carries foreign operations on their records
• Translating Retained Earnings
  o Equity items at historical exchange rates
  o Retained Earnings is a problem
    • Net income translated for income items
    • Dividends at historical rate when declared
• Temporal method - complicating aspects
  o Must keep a record of exchange rates (not necessarily for current)
  o Cost of Goods Sold
    • Current rate average for period
    • Each component translated at historical rate (temporal)
  o Lower of Cost or Market
    • Current rate method at current rate, regardless of cost or market
    • Temporal method - translate cost and market at rates and report lower or consolidated balance sheet
  o Fixed Assets and Depreciation
    • Temporal - different rates applied to different assets
    • Current: cost at current rate; depreciation expense: average rate
  o Gains or losses on sales of assets
    • Current: at rate at date of sale
    • Temporal: translate cash received and cost of land separately
      • Cash at date of sale
      • Land at historical rate