Chapter Ten

The Foreign Exchange Market
Volkswagen’s Hedging Strategy

• Volkswagen, Europe’s largest carmaker, reported a 95% drop in 2003 fourth-quarter profits
• The cause for the slump had many reasons but two causes stood out:
  - The unprecedented rise in the value of the Euro against the dollar
  - Volkswagen’s decision to only hedge 30% of its foreign currency exposure as opposed to the 70% it had traditionally hedged
Introduction

- **Foreign exchange market:** a market for converting the currency of one country into the currency of another.
- **Exchange rate:** the rate at which one currency is converted into another.
- **Foreign exchange risk:** the risk that arises from changes in exchange rates.
The Functions of the Foreign Exchange Market

- The foreign exchange market serves two main functions:
  - Convert the currency of one country into the currency of another
  - Provide some insurance against foreign exchange risk
    - Foreign exchange risk: the adverse consequences of unpredictable changes in the exchange rates
Currency Conversion

- Consumers can compare the relative prices of goods and services in different countries using exchange rates.
- International business have four main uses of foreign exchange markets:
  - To exchange currency received in the course of doing business abroad back into the currency of its home country.
  - To pay a foreign company for its products or services in its country’s currency.
  - To invest excess cash for short terms in foreign markets.
  - To profit from the short-term movement of funds from one currency to another in the hopes of profiting from shifts in exchange rates, also called currency speculation.
Insuring against Foreign Exchange Risk

- A spot exchange occurs when two parties agree to exchange currency and execute the deal immediately.
- The spot exchange rate is the rate at which a foreign exchange dealer converts one currency into another currency on a particular day.
  - Reported daily
  - Change continually

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<th>Currency</th>
<th>Foreign Currency per 1 USD</th>
<th>Dollars per Unit of Foreign Currency</th>
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Insuring against Foreign Exchange Risk

• Forward exchanges occur when two parties agree to exchange currency and execute the deal at some specific date in the future
  - Exchange rates governing such future transactions are referred to as forward exchange rates
  - For most major currencies, forward exchange rates are quoted for 30 days, 90 days, and 180 days into the future

• When a firm enters into a forward exchange contract, it is taking out insurance against the possibility that future exchange rate movements will make a transaction unprofitable by the time that transaction has been executed
Insuring against Foreign Exchange Risk

- **Currency swap**: the simultaneous purchase and sale of a given amount of foreign exchange for two different value dates
- Swaps are transacted between international businesses and their banks, between banks, and between governments when it is desirable to move out of one currency into another for a limited period without incurring foreign exchange risk
The Nature of the Foreign Exchange Market

- The foreign exchange market is a global network of banks, brokers and foreign exchange dealers connected by electronic communications systems.
- The most important trading centers include: London, New York, Tokyo, and Singapore.
- London’s dominance is explained by:
  - History (capital of the first major industrialized nation)
  - Geography (between Tokyo/Singapore and New York)
- Two major features of the foreign exchange market:
  - The market never sleeps
  - Market is highly integrated
Economic Theories of Exchange Rate Determination

- Exchange rates are determined by the demand and supply of one currency relative to the demand and supply of another
- Price and exchange rates:
  - Law of One Price
  - Purchasing Power Parity (PPP)
  - Money supply and price inflation
- Interest rates and exchange rates
- Investor psychology and “Bandwagon” effects
Law of One Price

- In competitive markets free of transportation costs and trade barriers, identical products sold in different countries must sell for the same price when their price is expressed in terms of the same currency.

- Example: US/French exchange rate: $1 = 0.78Eur
  A jacket selling for $50 in New York should retail for 39.24Eur in Paris (50x0.78)
Purchasing Power Parity

• By comparing the prices of identical products in different currencies, it should be possible to determine the ‘real’ or PPP exchange rate - if markets were efficient

• In relatively efficient markets (few impediments to trade and investment) then a ‘basket of goods’ should be roughly equivalent in each country
# Big Mac Index

**December 2004**

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<th>Dollar Value of Big Mac</th>
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Money Supply and Inflation

- PPP theory predicts that changes in relative prices will result in a change in exchange rates
  - A country with high inflation should expect its currency to depreciate against the currency of a country with a lower inflation rate
  - Inflation occurs when the money supply increases faster than output increases
- Purchasing Power Parity puzzle
Interest Rates and Exchange Rates

- Theory says that interest rates reflect expectations about future exchange rates.
  - Fisher Effect ($I = r + l$).
  - International Fisher Effect:
    - For any two countries, the spot exchange rate should change in an equal amount, but in the opposite direction, to the difference in nominal interest rates between the two countries.
Investor Psychology and Bandwagon Effects

- Evidence suggests that neither PPP nor the International Fisher Effect are good at explaining short term movements in exchange rates
- Explanation may be investor psychology and the bandwagon effect
  - Studies suggest they play a major role in short term movements
  - Hard to predict
Exchange Rate Forecasting

• Individuals that believe in the efficient market theory believe that prices reflect all available public information
  - Forward rates should be unbiased predictors of future spot rates
• Individuals that feel there is an inefficient market believe that prices do not reflect all available information
  - Forward exchange rates will not be the best possible predictor of future spot exchange rates
  - If this is true, it may be worthwhile for international businesses to invest in forecasting services
Approaches to Forecasting

- **Fundamental analysis**
  - Draws on economic theory to construct sophisticated econometric models for predicting exchange rate movements

- **Technical analysis**
  - Uses price and volume data to determine trends
Currency Convertibility

• Governments can place restrictions on the convertibility of currency
  - A country’s currency is said to be **freely convertible** when the country’s government allows both residents and nonresidents to purchase unlimited amounts of a foreign currency with it
  - A currency is said to be **externally convertible** when only nonresidents may convert it into a foreign currency without any limitations
  - A currency is **nonconvertible** when neither residents nor nonresidents are allowed to convert it into a foreign currency
Currency Convertibility

- Government restrictions can include
  - A restriction on residents’ ability to convert the domestic currency into a foreign currency
  - Restricting domestic businesses’ ability to take foreign currency out of the country

- Governments will limit or restrict convertibility for a number of reasons that include:
  - Preserving foreign exchange reserves
  - A fear that free convertibility will lead to a run on their foreign exchange reserves – known as capital flight
Implications for Managers

- It is critical that international businesses understand the influence of exchange rates on the profitability of trade and investment deals
  - Adverse changes in exchange rates can make apparently profitable deals unprofitable.
- The risk introduced into international business transactions by changes in exchange rates is referred to as foreign exchange risk
  - Foreign exchange risk is usually divided into three main categories: transaction exposure, translation exposure, and economic exposure.
Implications for Managers

• **Transaction exposure**: the extent to which the income from individual transactions is affected by fluctuations in foreign exchange values

• **Translation exposure**: the impact of currency exchange rate changes on the reported financial statements of a company

• **Economic exposure**: the extent to which a firm’s future international earning power is affected by changes in exchange rates
Reducing Translation and Transaction Exposure

• These tactics are primarily designed to protect short-term cash flows from adverse changes in exchange rates
• Companies should use forward exchange rate contracts and buy swaps
• Firms can also use a lead strategy
  - An attempt to collect foreign currency receivables when a foreign currency is expected to depreciate
  - Paying foreign currency payables before they are due when a currency is expected to appreciate
• Firms can also use a lag strategy
  - An attempt to delay the collection of foreign currency receivables if that currency is expected to appreciate
  - Delay paying foreign currency payables if the currency is expected to depreciate
Reducing Economic Exposure

- Reducing economic exposure requires strategic choices that go beyond the realm of financial management.
- The key to reducing economic exposure is to distribute the firm’s productive assets to various locations so the firm’s long-term financial well-being is not severely affected by adverse changes in exchange rates.
Other Steps

- Central control of exposure is needed to protect resources efficiently and ensure that each subunit adopts the correct mix of tactics and strategies.
- Firms must distinguish between transaction/translation exposure and economic exposure.
- Forecasts of future exchange rate movements cannot be overstated.
- Firms need to establish good reporting systems so the central finance function can regularly monitor the firm’s exposure positions.
- The firm should produce monthly foreign exchange exposure reports.
Looking Ahead to Chapter 11

- The International Monetary System
  - The Gold Standard
  - The Bretton Woods System
  - The Collapse of the fixed exchange rate system
  - Fixed versus Floating Exchange Rates
  - Exchange Rate Regimes in Practice
  - Pegged Exchange Rates and Currency Boards
  - Crisis Management by the IMF
  - Implications for Business