

## Chapter 13

International Financial  
Markets  
Econ 136

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## The Foreign Exchange Market

- International transactions require foreign currencies
- Commercial banks are the most common source of currency and are the core of the foreign exchange market
- Foreign exchange includes currency, bank deposits, or any other liquid financial claim
  - Liquid assets - does not necessarily refer to the 'physical state' (liquid, solid, gas)

## Question:

If you were a car thief, what car would you steal?

## Which cars are stolen the most?

(Source: National Insurance Crime Bureau - 2007)

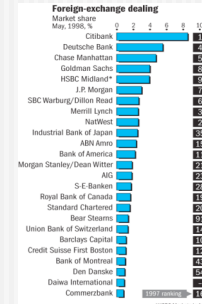
1. 1995 Honda Civic
2. 1991 Honda Accord
3. 1989 Toyota Camry
4. 1997 Ford F150 Series
5. 1994 Chevrolet C/K 1500 Pickup
6. 1994 Acura Integra
7. 2004 Dodge Ram Pickup
8. 1994 Nissan Sentra
9. 1988 Toyota Pickup
10. 2007 Toyota Corolla

## The Foreign Exchange Market

- U.S. Foreign-Exchange Market contains 3 sub-markets:
  - Retail foreign-exchange market
  - Inter-bank (wholesale) foreign-exchange market
  - Market for foreign-exchange derivatives such as futures
- They do not necessarily have physical trading centers

## Foreign Exchange Dealing

- These 25 companies handle 75% of the world's foreign exchange!
- Approximately \$1.2 trillion changes hands every day.
- The market never closes due to its international nature.



## Why do we need the foreign exchange markets?

- Face to face payment often precluded by size of purchase and distance...instead wire transfers of money are conducted between banks
- Some credit is involved since there is transportation time required to move the goods from one seller to buyer...buyer must have credit, then may pay upon receipt of goods.

## Spot and Forward Exchange Rates

- The Spot Market rate - this is the "right now" rate
  - Agreed upon at the time of the exchange
- The Forward Market Rate - The rate agreed to at time of contract, but paid in the future on a specified date.
  - Pros: you can lock in a price...good for planning
  - Cons: If the exchange rate changes, you could lose (or gain)

## Derivatives

- A financial instrument which derives its value from the asset upon which it is based.
- Types of Derivatives:
  - Futures
  - Options
  - Swaps
  - Swaptions...and many others

## Derivatives

- **Futures Contract:**
  - A commitment to purchase or deliver a specified quantity of foreign currency on a designated future date.
- **Option:**
  - A contract that gives the holder the option to buy or sell foreign exchange in the future.
- **Currency Swap:**
  - Agreement to exchange different currencies over a specified time

## Forwards vs. Futures - Example: Orange Juice

- |   |   |
|---|---|
| ■ Forward Contract  | ■ Futures Contract  |
| ■ Contract is for OJ  | ■ Contract is for financial instrument based on price of OJ   |
| ■ Actual delivery of OJ is expected                           | ■ Actual Delivery of OJ is NOT expected                       |
| ■ Parties to contract have agreed to payment at a future date | ■ Parties to contract have agreed to payment at a future date |
| ■ Negotiated by individuals working directly with each other  | ■ Purchased through an exchange (CME)                         |
| ■ Usually a purchase for resale as part of a business         | ■ Purchased as a hedge against risk                           |

## Options

- **Call Option** - A contract giving the purchaser the right (not the obligation) to buy an asset for a stated price in the future
- **Put Option** - A contract giving the purchaser the right (not the obligation) to sell an asset for a stated price in the future

## Option Example

- You think...but you're not sure...that Microsoft Stock will go up from \$16 to \$21 a share over the next 3 months.
- You buy (for a \$50) a Call Option giving you the right to buy 10,000 shares of Microsoft Stock at \$18 at any point during the next 3 months
  - In 2.5 months, you notice the stock price has dropped to \$14. You do not exercise your option. You have lost \$50. ( but the value of the stock portfolio fell by \$20K!!)
  - In 2.5 months, you notice the stock price has risen to \$24. You exercise your option and have a gain of \$60K - \$50 (what you paid for the option).

## The Dot-Com Boom and Options

- Call options only benefit the employee if the value of a company's stock increases!
- Gives employee a vested interest in the business, as he will directly benefit.
- Allows the company to get needed cash (as employee purchases options) and to save on payroll expenses (many worked for options alone...no pay...while companies got off the ground).

## What does this have to do with the international market?

- A Stock Option is a financial instrument whose value is based on the underlying stock - The value of a Currency Option is based on the underlying currency
- Currency Options give you the right to buy or sell currency at a specified price
- A Currency Option is a financial instrument whose value is based on the underlying currency

## Currency Option Example

- A Mexican company agrees to buy an American Machine for its factory for US\$3M, payable in 6 months. To do so, must exchange pesos for dollars.
- Spot rate is 9 pesos per 1 dollar. (So cost to Mexican company is \$27M pesos.)
- The concern? If the exchange rate changes, the machine could cost more pesos!
- The solution? Currency options!

## Currency Option Example

- Mexican company buys call options...the right to buy dollars at an exchange rate of 10 pesos to the dollar.
- At time of payment, exchange rate is 9 pesos/dollar...don't exercise option. Machine costs planned 27M pesos...all is good.
- At time of payment, exchange rate is 20 pesos/dollar...exercise option. Machine costs 30M pesos (instead of planned 27M) but company avoids having to pay a devastating 60M pesos!
- Risk posed by changing exchange rates has been greatly reduced!

## Currency Swaps

- This involves exchanging principle and interest payments in one currency for principal and interest payments in another currency.
- Why do it?
  - To take advantage of lower interest rates elsewhere.
  - To work around exchange rate fluctuations

## Credit Default Swap

- A contract based on a Package of 'dodgy debt'
- Buyer of contract pays seller a series of payments
- If there is a default, Seller pay Buyer
- Similar to an insurance policy

## The Financial Crisis



## Financial Intermediation

- Putting two different market participants together to conduct an economic transaction
- Function: move money from one country to another
  - Higher rate of return
  - Lower transactions costs
- Capital flows from the developed to developing countries could make both countries better off
  - Investors in developed countries can earn a higher rate of return.
  - Developing countries get much needed capital increasing the rate of economic growth.

## Why do interest rates vary between countries?

- Scarcity or abundance of capital vs. labor
- Differing cultural attitudes toward saving
- Smaller financial markets
- Risk!



## Risk Diversification

- Holding financial assets with varying degrees of risk tends to be less risky than holding just one financial asset
- Helps to explain two-way capital flow
- Return on one country's securities is inversely correlated with return on another's securities, two-way capital flows will occur

## Short-run movements of Portfolio Capital

- Period of time less than one year
- Much of the flow is a search for a higher real rate of return.
- If cost of moving capital from one currency to another is close to zero, a firm will move capital from one country to another to take advantage of an interest rate differential.

## Money Market Instruments

- A Market for financial assets with maturities of a year or less
- Money market assets include:
  - Short-term government debt
  - 1-year notes
  - Business commercial paper
  - Short-term certificates of deposit

## Long-Run Movements of Portfolio Capital

- Capital flowing from one country to another for the purpose of purchasing financial instruments that have long maturities.
- Investors have different time horizons and seek a relatively high rate of return over long period of time.

## Capital Market

- A market for financial assets with a maturity of more than a year.
- Capital market assets include:
  - Equities
  - Corporate bonds
  - Government bonds

## Question:

CD rates at the bank vary. 3-month CD's pay less than 6-month, which pay less than 1-year? Why?

## Who are the players?

- Commercial Banks (primary traders)
  - Place for firms to exchange currencies
  - Inventories of foreign exchange
  - Also trade domestic currency for foreign currency
- Corporations
  - Large volume of receipts or payments buy or sell directly in foreign-exchange market
- Nonbank Financial Institutions
  - Multinational insurance companies
  - Investment companies

## Speculators vs. Hedgers

- Speculators are individual traders, financial institutions buying and selling foreign exchange in order to gain short-run profits.
  - High returns and high risks
- Hedgers are in the market attempting to reduce their companies' exposure to different types of risk. These are 'insurance' moves designed to reduce potential losses

## Eurocurrency Markets

- **Eurodollar:**
  - Dollar-denominated account that exists outside the U.S.
  - One segment of the larger Eurocurrency Market
- **Eurocurrency:**
  - An account denominated in a major currency that is located outside that country. (Not necessarily European currency)

## Reasons for the Eurocurrency Market

- To continuously exchange the money as needed would be very high cost
- Banks that take these types of deposits for their customers, also serve the loan market in these currencies
- Some countries have unstable currency...using a foreign currency makes them more attractive to outside customers and investors