Chapter 8: The Foreign Exchange and International Financial Markets

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3) Arbitrage and the Currency Market
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3) The International Bond Market
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5) Offshore Financial Centers
Learning Objectives

1. Describe how demand and supply determine the price of foreign exchange
2. Discuss the role of international banks in the foreign-exchange market
3. Assess the different ways firms can use the spot and forward markets to settle international transactions
4. Summarize the role of arbitrage in the foreign-exchange market
5. Discuss the important aspects of the international capital market
Opening Case: *The Loonie Takes Flight*

- The increasing value of the Canadian dollar in relation to the U.S. dollar, and the effect that increase has on U.S. trade and investment with Canada.
- The loonie: the nickname given for the Canadian one-dollar coin
  - Was sold at a discount from the US dollar.
- 2007
  - The Canadian dollar increased 24 percent against the U.S. dollar.
  - The increasing value of the Canadian dollar resulted from concerns about the U.S. economy.
  - Canadian consumers are now paying lower prices for U.S.-made goods and enjoying lower costs when vacationing in the U.S.
- Since Canada’s economy is export oriented, the strengthening Canadian dollar has made their products more expensive to U.S. consumers.
  - With the decline of export, Canadian economists are predicting a significant loss in jobs.
  - Canadian retailers are also suffering as Canadians head south to the U.S. to take advantage of cheaper American goods.
- With the global recession of 2008-2009, commodity prices softened and the loonie fell in value against the US Dollar.
  - This then brought about an increase in Canadian exports to the United States, and made Canadian retailers happy again, as Canadian customers stayed home, and American thought about heading north to take advantage of cheaper Canadian goods with the increasing value of the US Dollar.
The Foreign Exchange and International Financial Markets

- The difference between international business and domestic business
  - The use of more than one currency in commercial transactions

- The foreign-exchange market exists;
  - To facilitate conversion of currencies
    - Allowing firms to conduct trade more efficiently across nations
  - To facilitate international investment and capital flows
    - Firms can shop for low-cost financing in capital markets around the world and then use the foreign exchange market to convert the foreign funds they obtained

- Changes in exchange rates affect
  - The prices that consumers pay
  - The markets in which consumers shop
  - The profits of firms
I. The Economics of Foreign Exchange

- **Foreign exchange**
  - A commodity that consists of currencies issued by countries other than one’s own

- **The prices of foreign exchange (under floating exchange rate)**
  - Set by demand and supply in the marketplace
The Economics of Foreign Exchange

- **Direct Quote**
  - The price of the foreign currency in terms of home country
    - E.g. Say, US is our home country,
    - Fig 8.4 (p.234) Jap Yen: $0.012978/ ¥1
    - If South Korea is the home country? What would be our direct quote for US$?
      - KRW 1059.45 / $1

- **Indirect Quote**
  - The price of home currency in terms of the foreign currency
    - E.g. Say, US is our home country,
    - Fig 8.4 (p.234) Jap Yen: ¥77.06 / 1$
    - If South Korea is the home country? What would be our direct quote for US$?
      - $0.0009439/ 1 KRW
II. The Structure of the Foreign-Exchange Market

- Anyone who owns money denominated in one currency and wants to convert that money to a second currency
  - Participating in the foreign exchange market
    - E.g. Pakistani tourists exchanging rupees for British pounds at London’s Heathrow Airport
    - When Toyota exports automobiles to Canada

- The worldwide volume of foreign exchange trading
  - $4.0 trillion per day

- The largest foreign-exchange market
  - London, New York, Tokyo, and Singapore

- **Primary Transaction Currency** for the foreign exchange market
  - US Dollar
  - Approximately 85% of the transactions involve the US dollar
  - The dollar is used to facilitate most currency exchange
II. The Structure of the Foreign-Exchange Market

- The Role of Banks
- Spot and Forward Markets
- Arbitrage and the Currency Market
  - Arbitrage of Goods-Purchasing Power Parity
  - Arbitrage of Money
1) The Role of Banks

- Large international banks play a dominant role in the foreign-exchange market
  - E.g. JPMorgan Chase, Barclays, and Deutsche Bank
  - Stand ready to buy or sell the major traded currencies

How do these banks make profits?

- Spread between the bid and ask prices for foreign exchange
  - E.g. JPMorgan buys 10 million Swiss francs at SwFr 1.649/$1
  - And sells Swiss franc at SwFr 1.648/$1
  - Buy at $6,064,281.38 and sell at $6,067,961.16  $3,679.78 profit for JPMorgan

- Act as speculators
  - A person or an institution who trades derivatives, commodities, bonds, equities or currencies with a higher-than-average risk in return for a higher-than-average profit potential
  - betting that they can guess in which direction exchange rates are headed

- Act as arbitrageurs
  - the simultaneous buying and selling of securities, currency, or commodities in different markets or in derivative forms in order to take advantage of differing prices for the same asset.
1) The Role of Banks

- **Key players in the wholesale market for foreign exchange**
  - Dealing for their own accounts or on behalf of large commercial customers
  - Interbank transactions account for a majority of foreign-exchange transactions
  - Other key players in the foreign exchange market
    - Corporate treasurers, pension funds, hedge funds, and insurance companies
    - Online currency trading

- **Key players in the retail market for foreign exchange**
  - Dealing with individual customers who want to buy or sell foreign currencies in large or small amounts
  - The price paid by retail customers for foreign exchange
    - The prevailing wholesale exchange rate + a *premium*
    - The size of the premium: a function of the size of the transaction & the importance of the customer to the bank
    - e.g. GM converting to pay its investors < A Danish music store chain to buy new released CD < traveler's check
1) The Role of Banks

- The clients of the foreign exchange departments of banks
  - Commercial customers
    - Engage in foreign-exchange transactions as part of their normal commercial activities
      - E.g. exporting or importing goods and services, paying or receiving dividends and interest payments etc.
  - Hedgers
    - Reduce their risks due to potential unfavorable changes in foreign-exchange rates for moneys to be paid or received in the future
  - Speculators
    - Deliberately assume exchange rate risks by acquiring positions in a currency, hoping that they can correctly predict changes in the currency’s market value
  - Arbitrageurs
    - Attempt to exploit small differences in the price of a currency between markets
    - Seek to obtain riskless profit
    - Simultaneously buying the currency in the lower-priced market and selling it in the higher-priced market
1) The Role of Banks

- The role of countries’ central banks and treasury departments
  - Required to intervene in the foreign-exchange market to ensure that the market value of the country’s currency approximated the currency’s par value (if they are under the fixed-exchange rate system)
  - Free to intervene the foreign-exchange market to influence the market values of their currencies if they desire (if they are under floating-exchange rate system)
- Domestic laws may constrain the ability to trade a currency in the foreign-exchange market
  - Convertible currencies (Hard currencies)
    - Currencies that are free tradable
      - E.g. the US dollar, the British pond, the Euro, the Japanese yen, the Swiss franc, the Canadian dollar,
  - Inconvertible currencies (Soft currencies)
    - Currencies that are not freely tradable because of domestic laws or the unwillingness of foreigners to hold them
2) Spot and Forward Markets

- International business transactions with payments to be made in the future
  - E.g. lending, buying on credit etc.
  - Risky: changes in currency value are common

- Time dimensions of the foreign-exchange market
  - Currencies can be bought and sold
    - for immediate delivery (Spot) or
    - for delivery at some point on the future (Forward)

- Foreign Exchange Market
  - Spot Market
    - Consists of foreign-exchange transactions that are to be consummated immediately
    - Immediately: often means *TWO days* after the trade date
    - Due to time historically needed for payment to clear the international banking system
  - Forward Market
    - Consists of foreign-exchange transactions that are to occur *sometime in the future*
    - Prices are often published for foreign exchange that will be delivered *one month, three months, and six months* in the future
    - E.g. Table from p. 239
2) Spot and Forward Markets

- **Swap transaction**
  - A transaction in which the same currency is bought and sold simultaneously.
  - But delivery is made at two different points in time.
    - E.g. “spot against forward” swap
    - A US manufacturer borrowing £10 million a British bank for one month.

- **International Business**
  - International Businesses (including MNCs) wants to buy or sell foreign exchange on spot or forward basis.
  - Contract with International Banks
  - Prevailing wholesale rate for the currency + a small premium for its services.
2) Spot and Forward Markets

- Two other mechanisms of foreign-exchange market
  - To allow firms to obtain foreign exchange in the future
  - Currency future
  - Currency option

- Currency future
  - A contract that resembles a forward contract
  - For a standard amount on a standard delivery date
  - A firm must complete the transaction by buying or selling the specified amount of foreign currency at the specified price and time
  - Firms can make an offsetting transaction

- The difference between future and forward contracts

<table>
<thead>
<tr>
<th>Forward</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Privately negotiated</td>
<td>- Highly standardized</td>
</tr>
<tr>
<td>- Traded over-the-counter</td>
<td>- Traded on an exchange</td>
</tr>
</tbody>
</table>
2) Spot and Forward Markets

- **Currency option**
  - **Allows, but not require**, a firm to buy or sell a specified amount of a foreign currency at a specified price at any time up to a specified date
  - Grants the right
  - Publicly traded on organized exchanges worldwide
    - But international banks often are willing to write currency options customized as to amount and time for their commercial clients due to the inflexibility of publicly traded options

- **Options**
  - **Call Option**
    - Grants **the right to buy** the foreign currency in question
  - **Put Option**
    - Grants **the right to sell** the foreign currency in question
2) Spot and Forward Markets

- Instruments that facilitate international trade & investments and allow firms to hedge or reduce the foreign-exchange risks
  - The forward market, currency options and currency futures
  - E.g. Best Buy purchases Sony PlayStation 3 game consoles for ¥ 800 million for delivery three months in the future
  - Best Buy can go to its bank and contract to buy the ¥ 800 million in three months
    - Buy the yen based on the yen’s current price in the three-month forward wholesale market
    - The firm is able to protect itself from increases in the yen’s price

- The forward and spot price
  - Forward price < the spot price
    - The currency is selling at a **forward discount**
  - Forward price > the spot price
    - The currency is selling at a **forward premium**
2) Spot and Forward Markets

- Annualized forward premium or discount

\[
\text{Annualized forward premium or discount} = \left( \frac{P_f - P_s}{P_s} \right) \times n
\]

Where,

\( P_f = \) three-month forward price ($1.6411)

\( P_s = \) spot price ($1.6426)

\( n = \) the number of periods in a year (4 periods)

\[
\text{Annualized forward premium or discount} = \left( \frac{1.6411 - 1.6426}{1.6426} \right) \times 4
\]

\[= -0.0037 = -0.37\% \text{ (forward discount)}\]
2) Spot and Forward Markets

- **Forward price**
  - Represents *the marketplace’s aggregate prediction* of the spot price of the exchange rate in the future
  - *Helps* international businesspeople *forecast future changes* in exchange rates
  - These changes can affect
    - The price of imported components
    - The competitiveness and profitability of the firm’s exports
  - If, Forward discount (forward price < spot price)
    - The foreign exchange market believes that the currency will depreciate over time
      - Firms may want to:
        - **Reduce** their holdings of *assets*
        - **Increase** their *liabilities* denominated in the currency
    - Often with the countries experiencing:
      - Balance of payment deficits
      - High inflation rate

Signals the market’s expectations regarding that country’s economic policies and prospects
3) Arbitrage and the Currency Market

- **Arbitrage**
  - The riskless purchase of a product in one market for immediate resale in a second market
  - In order to profit from a price discrepancy

- **Two types of Arbitrage**
  - Arbitrage of Goods-Purchasing Power Parity
  - Arbitrage of Money
a) Arbitrage of Goods—Purchasing Power Parity

- **The arbitrage of goods**
  - If the price of a good differs between two markets
    - Buy the good in the “cheap” market (that offers the lower price)
    - Resell it in the “expensive” market (that offers the higher price)

- **The law of one price**
  - The arbitrage activities will continue until the price of good is identical in both markets

- **The theory of purchasing power parity (PPP)**
  - The prices of tradable goods will tend to equalize across countries as a result of exchange rate changes
  - PPP occurs because the process of buying goods in the cheap market and reselling them in the expensive market affects the demand for, and the price of, the foreign currency & the market price of the good itself
a) Arbitrage of Goods-Purchasing Power Parity

The theory of purchasing power parity (PPP)

E.g. Assume the exchange rate between US & Canadian dollars  \( \text{US$ 0.80} = \text{Can $1} \)

- Levi’s jeans  \( \text{US$ 48} \) in the US; \( \text{Can$60} \) in Canada

\[
\frac{\text{US$0.80}}{\text{Can$1}} \times \text{Can$60} = \text{US$48}
\]

the Levi’s jeans are the same price in both markets

- Canadian firms decide to increase their investments in Mexico
  - Canadians sell their currency (to buy Mexican pesos)  \( \text{↑↑ Supply of Canadian dollar in foreign exchange} \)
    \( \text{↓↓ Value of Canadian dollar} \)

- New exchange rate between US & Canadian dollars  \( \text{US$ 0.60} = \text{Can $1} \)

**PPP no longer exists**

- US residents could cross the border, exchange US$ 36 for Can $60  buy Levi’s in Canada
  Saving US $12
a) Arbitrage of Goods-Purchasing Power Parity

- The arbitrage process affects three markets
  - The foreign-exchange market (Forex) between US and Canadian dollars
    - US residents increase the supply of US dollars in the Forex
    - Rising the value of the Canadian dollar relative to the US dollar
  - The market for Levi’s in the US
    - The behavior of the US residents reduces the demand for Levi’s in the US lowering the price in the US
  - The market for Levi’s in Canada
    - The behavior of the US residents increase the demand for Levi’s in Canada lowering the price in Canada

- The PPP theory
  - Prices of tradable goods will tend to equalize
  - If PPP does not exist in the two countries for jeans, people will buy the good in the cheap market and transport it to the expensive market
    - Affect prices in the two product markets & supply and demand in the Forex
a) Arbitrage of Goods-Purchasing Power Parity

- International economists use PPP to help them compare standard of living across countries
  - E.g. Comparing France and Canada

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>Canada</th>
</tr>
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<tbody>
<tr>
<td>Per Capita Income in</td>
<td>US$ 42,680</td>
<td>US$ 42,170</td>
</tr>
<tr>
<td>2009</td>
<td>(Originally measured in €, but</td>
<td>(Originally measured in</td>
</tr>
<tr>
<td></td>
<td>when converted into US$ with</td>
<td>€, but when converted</td>
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<td></td>
<td>average foreign exchange rate</td>
<td>into US$ with average</td>
</tr>
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<td></td>
<td>between € and US$ in 2009)</td>
<td>foreign exchange rate</td>
</tr>
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<td></td>
<td></td>
<td>between € and US$ in 2009</td>
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</table>

- Seems that average French enjoys higher income level
- BUT fails to take into account “differences in price levels between the two countries”

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<tr>
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<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Capita Income in</td>
<td>US$ 33,980</td>
<td>US$ 37,590</td>
</tr>
<tr>
<td>2009 after adjusting</td>
<td>(Originally measured in €, but</td>
<td></td>
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<tr>
<td>for purchasing power</td>
<td>when converted into US$ with</td>
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<td></td>
<td>average foreign exchange rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>between € and US$ in 2009)</td>
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</tr>
</tbody>
</table>

MUST consider whether the report on International income data are reported with or without PPP adjustments
a) Arbitrage of Goods-Purchasing Power Parity

- International economists use the PPP theory to forecast long-term changes in exchange rates.
- Purchasing power imbalances between countries signal possible changes in exchange rates.
- E.g. McDonald’s Big Mac Index (published in The Economist) – p.242
- Provides helpful signals showing whether a currency is overvalued or undervalued in the foreign-exchange market.

NOTE: Big Mac Index is not the perfect indicator because the price of a Big Mac is affected by taxes and nontraded inputs like local rents.
b) Arbitrage of Money

- Arbitrage of money short-term gaining
  - Much of the $4.0 trillion in daily trading of Forex stems from financial arbitrage
  - Whenever the Forex is not in equilibrium, professional traders can profit through arbitraging money

- Three common forms of foreign-exchange arbitrage
  - Two-point arbitrage (geographic arbitrage)
  - Three-point arbitrage
  - Covered interest arbitrage
Two-point arbitrage (geographic arbitrage)

- **Two-point arbitrage**
  - Profiting from price differences in two geographically distinct markets
  - E.g. currency price differences

<table>
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<tbody>
<tr>
<td>1 £ = US$ 2.00</td>
<td>1 £ = US$ 1.80</td>
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</tbody>
</table>

- [JP Morgan Chase](#)
  - Take US$ 1.80 and buy 1 £ in London Forex, and resell it in New York Forex
  - No Risk!

- Other banks will also note for the opportunity for quick profits
  - US$ value in London will fall; £ value in New York will rise until there will be no opportunity to arbitrage
  - The same price for both markets and the Forex will be in equilibrium

- **Arbitrage transaction costs**
  - Cost of arbitrage ↑↑ the differences in exchange rates in the two markets
Three-point arbitrage

- The buying and selling of the three different currencies to make a riskless profit
- E.g. New York, Tokyo, and London Forex market (same exchange rates for all market)

  £ 1 = US$ 2.00; US$ 1 = ¥ 120; £ 1 = ¥ 200

  No opportunity of two-point arbitrage (all the markets sell at the same price)
  Opportunity for three-point arbitrage
  Riskless profit of £ 0.20
Three-point arbitrage

- Able to make profits through three-point arbitrage
  - whenever the cost of buying a currency directly differs from the cross rate of exchange

Cross rate

- An exchange rate between two currencies calculated through the use of a third currency
  - Usually the US $ is the primary third currency used in calculating cross rates
  - E.g. Direct quote between ponds and yen = \( \frac{£1}{¥200} \)
  - Cross rate between ponds and yen = \( \frac{£1}{US$2} \times \frac{US$1}{¥120} = \frac{£1}{¥240} \)
  - The difference between the exchange rate & cross rate = Opportunity for arbitrage
  - The market for the three currencies will be in equilibrium = No arbitrage profit

Links together individual foreign exchange markets

- Changes in direct quote of one currency market affects the other
Covered interest arbitrage

- **Covered interest arbitrage**
  - Arbitrage that occurs when the *difference between two countries’ interest rates* is not equal to the *forward discount/premium* on their currencies
    - The most important form of arbitrage in Forex
  - Occurs because international bankers, insurance companies, and corporate treasurers are continually scanning money markets worldwide to obtain
    - the best returns on their short-term excess cash balances & the lowest rates on short-term loans
    - They are trying to cover themselves from exchange rate risks
New York investors would want to earn higher returns available in London

- They must convert their dollars to pound to invest in London
- They will get the return on investment in three-month BUT exchange rate risk
  
  What if the pound’s value were to fall during that three-month period?
  
  Possibility of wiping out the gains earned by higher interest rate

NY investors can avoid exchange rate risk by using the forward market

If an investor has;

- Investment money = $1,000,000
- Spot exchange rate of 1 pound = US$ 2
- Three-month forward rate of 1 pound = US$ 1.99
Covered interest arbitrage example

- Choices that NY investor has:
  1. Invest their money in NY @ 8% p.a. interest rate (2% for three months)
      $1,000,000 \times 1.02 = $1,020,000 \quad \$20,000 \text{ return}
  2. Exchange their currency to pound, invest in London @ 12% interest today, & in three months liquidate their London investment & convert it back to dollars
     - Convert $1 million to British pounds @ spot rate of $2.00/£1 \quad £500,000
     - Invest the money- @ 12% p.a. interest rate (3% for three months) in three month period
       £500,000 \times 1.03 = £515,000
     - [To avoid currency risk] Sell the £515,000 today in the three-month forward market at the current three-month forward rate of $1.99/£1
       £515,000 \times $1.99/£1 = $1,024,850 \quad \$24,850 \text{ return}

- The NY investor can earn more money by investing in London
  Covered-interest arbitrage allows to capture higher interest rate in London while covering exchange rate risk by using the forward market
  \therefore Short-term investment money will flow from NY \quad \text{London (seeking higher covered return)}
Covered interest arbitrage example

- What happens in the two lending markets (NY & London) and the Forex when such arbitrage occurs?
  - Funds are transferred from NY to London
  - The supply of lendable money in NY decreases, interest rates in NY increase
  - The supply of lendable money in London increases, interest rates in London decrease
  - [The spot market] the demand for pounds increases, spot price of pounds increases
  - [The three-month forward market] the supply of pounds increases, forward price of pounds decreases
  - Lendable funds will continue to flow from NY to London until the return on the covered investment is the same in London and NY
  - The short-term interest rate differential between two countries determines the forward discount or premium on their currencies - IMPORTANT to Forex

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International Fisher Effect

- Why should interest rates vary among countries in the first place?
  - The question was answered by Yale economist, Irving Fisher in 1930
    
    Country’s nominal interest rate = the real interest rate + expected inflation in that country
    
    ∴ National differences in expected inflation rates yield differences in nominal interest rates among countries

  - International Fisher Effect

- International Fisher effect & covered-interest arbitrage
  - A country’s expected inflation rate ↑
    - higher ↑ interest rate in the country
    - A shrinking ↓ of the forward premium / a widening ↑ of the forward discount of a country’s currency in the Forex
  - IBers carefully monitor countries’ inflation trends

- Influence on international monetary system
  - E.g. a fixed exchange rate system functions poorly if inflation rates vary widely among countries
Importance of arbitrage activities

1. Constitutes a major portion of the $4.0 trillion in currencies traded globally each working day
2. Affects the supply and demand for each of the major trading currencies
3. Ties together the foreign exchange markets
   ▶ Overcoming differences in geography (two-point arbitrage)
   ▶ Overcoming currency type (three-point arbitrage)
   ▶ Time (covered-interest arbitrage)
Carry Trade

- **Carry Trade**
  - Tries to exploit differences in the interest rates between countries
  - Japan: lowest interest rates among the major trading nations
    - Japanese Yen: A favorite currency of the carry trade
  - Borrow yen at a low interest rate and use the borrowed yen to buy bonds, notes, or certificates of deposit denominated in currencies that are paying higher interest rates (e.g., NZ$ or AU$)

- **Risky**
  - If the yen raises in value relative to the second currency, the carry trader will lose a lot
  - E.g. 2007 – Japanese private investors (non-professionals) carry trade; subprime crisis in 2007 increased volatility of currency market. Japanese yen rose 4% against US$, 9% against AU$, 11% against NZ$
  - A lot of carry trader lost
III. The International Capital Market

- **Important role of International Banks**
  - The functioning of the foreign-exchange market (Forex) & arbitrage transactions
  - Play a critical role in financing the operations of international businesses
    - Acting as commercial bankers & investment bankers
    - As commercial bankers,
      - Finance exports & imports, accept deposits, provide working capital loans, and offer sophisticated cash management services for their clients
    - As investment bankers,
      - Underwrite or syndicate local, foreign or multinational loans and broker
      - Facilitate or finance mergers and JV between foreign and domestic firms
III. The International Capital Market

- **Major International Banks**
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- **The Eurocurrency Market**
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- **Offshore Financial Centers**
1) Major International Banks

- **International Banking**
  - **Correspondent relationship**
    - An agent relationship whereby one bank act as a correspondent or agent for another bank in the first bank’s home country
    - E.g. US bank could be the correspondent for a Danish bank in the US (vice versa)
      - Paying or collecting foreign funds, providing credit information, honoring letters to credit
    - Each bank maintains accounts at the other bank denominated in the local currency
  - **Internationalization of its own operations (owning its foreign operations)**
    - Larger international banks increasingly provides their own overseas operations
    - To improve their ability to compete internationally
    - Better access to new sources of deposits and profitable lending opportunities
    - Banks can better meet its clients’ international banking needs
    - Retains the international business of its domestic clients and reduces the risk that some other international bank has
1) Major International Banks

International Banks’ overseas banking operations

- Subsidiary bank:
  - if it is *separately incorporated* from the parent

- Branch bank:
  - if it is *not separately incorporated* from the parent

- Affiliated bank:
  - an overseas operation in which it *takes part ownership in conjunction with* a local or foreign partner

Types of international banking services

- Commercial Banking Services
  - The physical exchange of one country’s paper currency for another’s
  - Financing and facilitating everyday commercial transactions
    - Short-term financing of the purchase; international electronic funds transfer; forward purchase of currency; advice about paper documentation for importing and paying for the goods

- Investment Banking Services
  - Corporate clients higher investment bankers;-
    - To package and locate long-term debt and equity funding
    - To arrange mergers and acquisitions of domestic and foreign firms
2) The Eurocurrency Market

- Originated in the early 1950s (called the Eurodollar market)
  - When the communist-controlled governments of Central Europe and Eastern Europe needed dollars to finance their international trade
    - Feared that the US government would confiscate or block their holdings of dollars in US banks for political reasons
  - The communist governments solved the problem by
    - using European banks that were willing to maintain dollar accounts for them
- Eurodollars
  - US dollars deposited in European bank accounts
  - Other banks worldwide began offering dollar-denominated deposit accounts
    - **US dollars deposited in any bank account outside the US**
  - Other currencies became stronger in the post-WWII era the term included other currencies like Euroyen, Europounds etc.

Eurocurrency
The Euroloan Market

- Euroloan market
  - Extremely competitive, and lenders operate on razor-thin margins
  - Often quoted on the basis of LIBOR
    - London Interbank Offer Rate (LIBOR)
    - The interest rate that London banks charge each other for short-term Eurocurrency loans

- Euroloan market is the low-cost source of loans for large, creditworthy borrowers (such as Governments & large MNEs)
  - Why?
    1. Free of costly government banking regulations
    2. Large transactions
      - The average cost of making the loans is lower
    3. Lower risk premium
      - Only the most creditworthy borrowers use the Euroloan market
International Banking Facility (IBF)

- An entity of a US bank that is legally distinct from the bank’s domestic operations that may offer only international banking services
  - Created in response to complaints of US banks about reserve requirements and regulations imposed by the Federal Reserve Board
    - Which caused suffering from competition with European and Asian banks in issuing dollar-denominated international loans
  - Do not need to observe the numerous US domestic banking regulations
3) The International Bond Market

- The International Bond Market
  - Represents a major source of debt financing for the world’s governments, international organizations and larger firms

- Two types of international bonds
  - Foreign bonds
    - Bonds issued by a resident of country A but sold to residents of country B & denominated in the currency of country B
      - E.g. the Nestle Corporation, a Swiss resident: issue a foreign bond denominated in yen & sold primarily to residents of Japan
  - Eurobond
    - A bond issued in the currency of country A but sold to residents of other countries
      - E.g. American Airlines borrow $500 million to finance new aircraft purchases by selling Eurobonds denominated in dollars to residents of Denmark & Germany

- Dominant currencies in the international bond market
  - The euro & the US dollar
3) The International Bond Market

- **Syndicates**
  - of international banks, securities firms, and commercial banks
  - put together complex packages of international bonds
  - to serve the borrowing needs of large, creditworthy borrowers

- **Global bond**
  - A large, liquid financial asset that can be traded anywhere at any time
  - Pioneered by the World Bank
    - Sold $1.5 billion of US dollar-denominated global bonds in North America, Europe and Japan
    - Succeed in lowering its interest costs on the bond issue by 0.225 percentage point
      - $0.225 \times $1.5 billion = $3,375,000

- **International bond market**
  - Highly competitive
  - Borrowers are often able to obtain funds on very favorable terms
4) Global Equity Markets

- Globalization of equity markets
  - The growing importance of multinational operations
  - Improvements in telecommunications technology
  - Facilitated by the globalization of the financial services industry

- Start-up companies:
  - No longer restricted to raising new equity solely from domestic sources
  - E.g. Swiss pharmaceutical firms – major source of equity capital for new US biotech firms

- Established firms:
  - When expanding into a foreign market, a firm may choose to raise capital for its foreign subsidiary in the foreign market
  - E.g. The Walt Disney Company – initially sold 51% of its Disneyland Paris project to French investors

- Country Funds
  - A mutual fund that specializes in investing in a given country’s firm
5) Offshore Financial Centers

Offshore Financial Centers
- Focus on offering banking and other financial services to nonresident customers
- Its financial centers mostly located on island states
  - E.g. Bahamas, Bahrain, the Cayman Island, Bermuda, the Netherlands Antilles and Singapore
  - Luxembourg & Switzerland not island states but important “offshore” financial centers
- MNEs can obtain low-cost Eurocurrency loans
- Benefits of offshore financial centers
  - Political stability,
  - A regulatory climate that facilitates international capital transactions,
  - Excellent communications links to other major financial centers,
  - Availability of legal, accounting, financial and other expertise needed to package large loans
- Efficiency in attracting deposits & lending these funds to customers worldwide
  - Important factor in the growing globalization of the capital market