CHAPTER 13: CAPITAL STRUCTURE AND LEVERAGE

I. CAPITAL STRUCTURE

Capital structure examines the right hand side (RHS) of the balance sheet. The entire RHS is called the financial structure of the firm; it includes funds obtained in the money markets (short term) and funds obtained in the capital markets (long term). We are mainly concerned with long term funds (capital structure) obtained through sales of debt and equity.

A. Optimal Capital Structure

The existence of an optimal capital structure has been the subject of substantial debate. We will not resolve that issue here. The general assumption made in the following material is that firms are observed to maintain approximately the same capital structure over time; e.g. the same debt-to-equity ratio. The value of the firm is the appropriately discounted present value of future streams. The lower the discount rate the greater the present value and the greater the value of the firm. The possibility exists that there is no precise optimal mix of debt and equity.

1. A perfect mix of debt and equity minimizes the cost of capital and maximizes the value of the firm.

2. Value of the firm is the appropriately discounted future cash flows.

3. The greater the discount rate, the lower the PV of future cash flows, and vice-versa.

Investors and creditors require compensation for undertaking risk (as providers of capital to the firm). This compensation is a cost to the firm that must be met when the firm makes investment decisions. In addition, these costs must be adjusted for taxes and flotation costs. The financial manager must know these costs in order to make investment decisions. The return on an investment must exceed the cost of capital in order to increase the value of the firm.

B. Managing Risk

The way in which a firm finances its asset structure is determined by several factors in its operating environment. All firms are generally subject to the effects of business and economic cycles. They are also affected by their labor-capital intensity (or the degree to which they are automated, also called operating risk) and the extent to which they use debt (financial risk). The dynamic interaction of these factors may in large part determine how firms finance assets over time.

1. Business risk; changes in revenues caused by business cycles

2. Operating risk (operating leverage characteristic)

3. Financial risk (financial leverage characteristic)
II. BUSINESS RISK
   A. Business Risk: changes in revenues caused by business cycles
   B. Leads to uncertainty about future operating income (EBIT)
   C. The more sensitive the firm’s sales to economic cycles, the more volatile the firm’s EBIT.
   D. Excessive volatility can lead to financial distress; e.g. insolvency or bankruptcy

III. OPERATING LEVERAGE (Operating Risk)
   A. Degree of Operating Leverage (DOL);
      1. Extent to which fixed costs are utilized in production
      2. Most manufacturing firms have been increasing their DOL.
         a. Streamlining production due to foreign competition.
         b. Increased use of factory automation is the main strategy.
         c. Increased DOLs means increased capital intensities (fixed costs).
      3. Labor versus capital intensity;
         a. Labor intensive is usually associated with low DOL.
         b. Capital intensive with high DOL.
      4. DOL = Gross Profit / Operating Income.
         b. EBIT = gross profit - SGA expenses.
      5. DOL = % change in operating income / % change in sales.
   B. High DOLs Are Associated With High Break-even Points.
      1. Variable costs; high costs lead to low gross profits.
      2. Fixed costs; high costs lead to low operating income.

         Important note: We do not include depreciation expense in the SGA expense totals when computing cash flow break-even point. The reason should be obvious; depreciation is a non-cash expense.

   C. DOL; Unit Prices, Unit Costs, and Overhead Fixed Expenses Known
      \[ \text{DOL} = \frac{Q (P - VC)}{[Q (P - VC) - FC]} \]

      Where: Q = Quantity.
      \[ P = \text{Price}. \]
      \[ VC = \text{Variable Cost (COGS)}. \]
      \[ FC = \text{Fixed Costs. (SGA)} \]  (Note: SGA excludes depreciation expense)
IV. FINANCIAL LEVERAGE (Debt Financing Risk)

A. Degree of Financial Leverage (DFL);
   1. Extent to which borrowed capital used to finance assets
   2. The greater the debt ratio, the greater the DFL
   3. DFL = EBIT / EBT.
   4. DFL = % Change in EPS / % Change In EBIT.

Note: Formulas 3 and 4 will not yield the same answer. Formula 4 requires 2 years of data. Formula 3 is a point estimate for one year while formula 4 measures the effects of a change in debt (or the cost of same) or a change in sales revenue.

B. Debt and Equity Ratios

When firms change the mix of debt and equity, they are also changing the DFL of the firm. Typically, firms may sell bonds and use the proceeds to retire common stock if they want to increase financial leverage. This also results in an increase in return on equity, ceteris paribus. Generally speaking, the greater the DFL, the more the risky the common stock is perceived by investors. This tends to drive the price of the stock down.

V. TOTAL LEVERAGE

A. Degree of Total Leverage (DTL)
   1. DTL = DOL * DFL.
   2. DTL = GP / EBT (gross profit / earn before taxes).

B. Total Leverage and Risk Characteristics.

Firms will adjust DOL or DFL or both to adjust the risk characteristics of the firm. How the adjustments are made is largely a function of managerial objectives and the volatility of the markets in which they operate. Firms in highly volatile markets (i.e., ski resorts) will tend to use lower levels of total risk. Firms in low volatility markets (i.e., power companies) tend to use higher levels of total leverage.

VI. BREAK-EVEN POINT ANALYSIS (BEP)

A. Importance of BEP Analysis;

Firms must have an idea of what level of sales they must achieve in order to meet expenses. Beyond that point they begin to show profits. The important idea is to control costs. Two companies with the same level of sales may have radically different BEP depending on their levels of DOL.

B. Computing the BEP: Income Statement Approach;

1. BEP = SGA / (GPM).
2. GPM = Gross Profit Margin.
3. BEP = Fixed Costs / Contribution Margin.
C. The Cash Break-Even Point (BEP);
   1. Firms on the brink need to know this information.
   2. \( \text{BEP}_c = \frac{\text{SGA}}{\text{gross profit margin}} \)

VII. HOMEWORK ASSIGNMENT
   A. Self-Test: ST-1, a, b, c
   B. Questions: 13-1, 13-2 (all parts), 13-5, 13-8
   C. Problems: 13-6 a, b, c, 13-10
I. Federal Bankruptcy Code - Title 11 of the U.S. Code
   A. Title 11 is currently subdivided into nine chapters
      2. Chapter 3. Case Administration
      3. Chapter 5. Creditors, the Debtor, and the Estate
      4. Chapter 7. Liquidation
      6. Chapter 11. Reorganization
      9. Chapter 15. Ancillary and other Cross-Border cases
   B. General Comments On Title 11 US Code

   Bankruptcy law is federal statutory law contained in Title 11 of the United States Code. Congress passed the Bankruptcy Code under its Constitutional grant of authority to "establish... uniform laws on the subject of Bankruptcy throughout the United States." See U.S. Constitution Article I, Section 8.

   States may not regulate bankruptcy though they may pass laws that govern other aspects of the debtor-creditor relationship. See Debtor-Creditor A number of sections of Title 11 incorporate the debtor-creditor law of the individual states.

II. DEFINITIONS OF FAILURE
   A. Economic Failure; revenues do not cover expenses.
   B. Business Failure; termination resulting in loss to creditors,
   C. Technical Insolvency: firm cannot meet maturing obligations,
   D. Technical Bankruptcy: Value of assets < value of liabilities,
   E. Legal Bankruptcy: acts of bankruptcy
      1. Firm admits inability to pay (voluntary).
      2. Composition of creditors petitions court (involuntary).
      3. Concealment or improper transfer of assets to avoid attachment or repossession.
   F. Out-of-Court Remedies;
1. Extension; postpone due date.
2. Composition; creditors agree to take less.
3. Necessary conditions;
   a. Debtor is good moral risk.
   b. Debtor must show ability to make a recovery.
   c. General business conditions must be favorable.
4. Creditor committees; lenders assume management.
5. Assignment; Requires agreement as to liquidation values, and priority.

II. CAUSES OF FAILURE

The most frequently cited cause of failure is managerial incompetence. This definition covers a wide assortment of management blunders; poor investments, poor controls, inadequate planning, unresponsiveness to market requirements, etc.

III. 1978 FEDERAL BANKRUPTCY REFORM ACT

A. Chapter 7; Liquidation;

When a determination has been made that the company in question cannot reasonably be expected to be made a going concern again, the court generally orders a liquidating of assets with the proceeds being used to pay off the creditors according to the Rule of Absolute Priority. We may hear the expression "worth more dead than alive" used in connection with forced bankruptcies.

1. Provide safeguards against fraud during liquidation.
2. Provide equitable distribution of assets to creditors.
3. Discharge all obligations: debtors can restart without burden of former debt.

B. Chapter 11; Reorganization

The new chapter 11 combines the old chapters 10 and 11 into one streamlined chapter. The firm's debt is restructured in order to allow the orderly payment of creditors while the company regains its financial health. The existing management team is usually permitted to stay in power. However, the court-appointed trustee can replace management while the firm operates under the provisions of Chapter 11.

1. Reorganization of repayment schedules; lengthen maturities
2. Some debt may be permanently dismissed.
3. Debt frequently has interest rates lowered.
4. Evaluates current management.
5. Determining if merger with healthy firm is best.
C. The Rule of Absolute Priority; Chapter 5, Section 507 (2006)

Satisfaction of Creditor Claims

1. Secured creditors; mortgage bondholders.
2. Administrative expenses allowed under section 503 (b).
3. Third, unsecured claims allowed under section 502 (f) of this title.
4. Allowed unsecured claims, but only to the extent of $10,000 earned within 180 days of filing.
5. Allowed unsecured claims for contributions to an employee benefit plan...services rendered with 180 days of filing.
6. Allowed unsecured claims of persons but only to the extent of $4,925 for each such individual.
7. Allowed unsecured claims of individuals, to the extent of $2,225 for each such individual, arising from the deposit.
8. Allowed unsecured claims of governmental units, only to the extent that such claims are for taxes for a taxable year on or before the date of filing the petition.
9. Allowed unsecured claims based upon any commitment by the debtor to a Federal depository institutions regulatory agency.
10. Allowed claims for death or personal injury resulting from the operation of a motor vehicle or vessel if such operation was unlawful because the debtor was intoxicated from using alcohol, a drug, or another substance.

B. Satisfaction of Creditor Claims

1. Assignment of assets
2. Cash payments
CHAPTER 14: DIVIDENDS & SHARE REPURCHASES

I. DIVIDEND POLICY

A. Dividend Theories

An important assumption in the Theory of Dividends is that investment policy is unaffected by dividend policy. We note that many investors believe that the ability of a firm to grow is related to how much of its earnings are reinvested in the firm. We can argue that only a portion of earnings need be retained. The remainder of the capital required to finance growth (new investment) is provided by additional sales of debt (bonds). This has the effect of maintaining a reasonably stable debt-to-equity ratio over time.

1. Investors Indifferent to Dividend Policy in No-Tax Environment
2. However, when Taxes are considered;
   a. If personal tax rates on income > tax rate on gains investors prefer gains.
   b. If personal tax rates on income < tax rate on gains investors prefer dividends.
   c. If personal tax rates on income = tax rate on gains investors indifferent to dividends vs. capital gains, but may prefer dividends (current income).

   *The bias will be to which policy results in greater value.

B. Dividend Payments Important Signals of Corporate Financial Health and Growth

II. DIVIDEND PAYMENTS

A. Declaration Date; by Board of Directors
B. Holders-Of-Record Date: ownership on corporate books
C. Ex-Dividend Date; typically 5 days prior to record date
D. Payment Date; date checks are mailed to holders of record

III. FACTORS INFLUENCING DIVIDEND POLICY

A. Legal Rules - State Laws Governing Corporations
   1. Net Profits Rule; Dividends must be paid from earnings.
   2. Capital Impairment Rule; protect creditors.

   Firms may pay dividends even when they lose money. In those situations when companies lose money (net losses), they effectively pay dividends from capital. When payments are made from capital (retained earnings), the result is an impairment of the creditors' positions (reduced assets and net worth).

   3. Insolvency Rule; no payments while company is insolvent.

B. Liquidity Position; some is cash, balance is invested
C. Requirement to Repay Debt
D. Dividend Payment Restrictions
E. Stability of Earnings; key factor in changing dividend rate
F. Access to Capital Markets; small companies must retain earnings.
G. Taxes on Improperly Accumulated Earnings; IRS must prove.

IV. DIVIDEND HISTORY IN THE US ECONOMY
A. Dividends Rose during 1980's to mid-50%'s Payout Ratios
   1. Reacting to effects of inflation?
   2. Lack of profitable investment opportunities?
B. Dividend Growth has not kept pace with inflation
   1. Evidence of maturing market sectors?
   2. Reduced profitability due to foreign competition?
C. Changes in tax law (2003) lowered max tax rate on dividends to 15%.
   1. Earlier tax laws gave preferential treatment to capital gains – now extended to dividends.
   2. Important to remember that dividend income tax immediately, capital gains can be deferred.

V. PAYOUT STRATEGIES
A. Stable Dollar Amount per Share; dominant strategy
B. Constant Payout Ratio; results in volatile dividend rates.
C. Low Regular plus Extras; favored by GM, others
D. Small, Steady Increases as Corporate Profits Increase

VI. STOCK DIVIDENDS, SPLITS, REPURCHASES
A. Stock Dividends
   1. Dividend payment made in shares.
   2. Retained earnings transferred to capital stock account.
   3. Common stock account increases by par value times number of shares issued.
   4. Paid-in-capital changes by the market value - par times number of shares issued.
   5. New York Stock Exchange (NYSE); change in number of shares.
      a. Stock dividend is when increase < 25% of outstanding shares.
      b. Stock split is when increase in => 25% of outstanding shares.
B. Stock Split: no changes in balance sheet equity accounts.
   1. Common stock and paid-in-capital accounts remain the same.
   2. Par values (if applicable) are reduced by inverse of split; a two-for-one split results in
      a halving of par value.
C. Stock Repurchases

   When management has no profitable projects to invest in, they may decide that the
   best use of those profits is to repurchase the company's stock on the open market.
   Repurchases result in, ceteris paribus, an increase in EPS and Po.
   
   1. Repurchase on the open market.
   2. Tender offer to stockholders.

   The most important outcome of stock repurchases is the signal that firm has
   exhausted profitable opportunities. It is also a way to increase financial leverage. From
   a tax point of view, there is an increase in wealth for those stockholders retaining the
   company's stock while avoiding the tax liability of an extra dividend. Alternatively,
   repurchase of stock reduces the firm's liquidity and equity position. This could be
   considered an expropriation of bondholder wealth. At the very least, repurchasing
   creates wealth transfers among shareholders. The strategy that corporations pursue is a
   function of investment opportunity sets and stockholder wealth objectives.

VII. HOMEWORK ASSIGNMENT

A. Self-Test: ST-1, parts a, c, f, g, i
B. Questions: 14-3, 14-8, 14-10
B. Questions: 14-2, 14-3
I. RATIONALES FOR MERGERS / ACQUISITIONS
   A. Several possibilities.
      1. Increase market power
      2. Acquire financial strength,
      3. Tax loss carry forwards
      4. Acquire specific product lines
      5. Achieve synergies
      6. Gain economies of scale

   M&A strategies are subject to debate: Prevalent belief is that M&A result in increases in profits, competitiveness, & stockholder wealth. Evidence reveals this is not necessarily so…

II. HISTORY OF MERGERS/ACQUISITIONS

   Period   Name        Facet
   1889–1904 First Wave Horizontal mergers
   1916–1929 Second Wave Vertical mergers
   1965–1989 Third Wave Diversified conglomerate mergers
   1992–1998 Fourth Wave Congeneric; Hostile takeovers; Corp Raiding
   2000 - Fifth Wave Cross-border mergers

A. First Wave Survivors: GE, US Steel, DuPont
   1. 1900: Acquired firms generated 20% of GDP
   2. 1990: Acquired firms generated 10-11% of GDP
   3. Third Wave: Conglomerates (diverse products/markets)
       ITT (Auto Rental, Nabisco, Satellite, Telephones,…)

III. BASIC DEFINITIONS

   An important question in M&A is why firms merge or acquire other firms. There are several possibilities. Some firms may find that the best or quickest way to increase market power (share) is by merger or acquisition. Firms may also simply be taking advantage of acquiring the financial strength, tax loss carry forwards, or specific product lines of other firms.

   Traditional [economic] explanations are that firms attempt to achieve synergy, and/or economies of scale. The success of these strategies is subject to debate. The most prevalent belief is that M&A does not, in the main, result in increased profits, competitiveness, or increased stockholder wealth.

A.
A. Merger; the combination of two firms into one firm.
B. Acquisition; the absorption of one business into another.
   1. Purchase: smaller (typical) absorbed into the larger.
      a. Cash
      b. Securities
      c. Combination of cash and securities
   2. Pooling of interests
      a. Companies maintain separate identities.
      b. One set of books for both corporations (pooling).
C. General Process; Acquisitions
   1. Initial contacts between management teams.
   2. Tender offer by acquirer to target company stockholders.
   3. Stockholders typically required to vote approval.
   4. Acquirer purchases majority interest or complete interest.
D. General Process; Merger
   1. Initial contacts between management teams.
   2. Negotiations as to new name, management team.
   4. Merger proposal goes to stockholders for vote.
   5. If yes, deal consummated when stock changes hands.
IV. TERMINOLOGY of M&A
   A. "BEAR HUG";
      1. Acquirer mails letter to directors of target firm announcing intentions and requiring a quick decision on bid.
      2. If this strategy fails, it is usually followed by “B” below.
   B. "SATURDAY NIGHT SPECIAL";
      1. Offer made to stockholders just before the market’s close on Friday.
      2. Takes maximum advantage of stockholder greed
   C. "HOSTILE TAKEOVER";
      1. When the target firm's management does not want to be taken over and fights the tender offer.
      2. Acquiring firm must carry offer to stockholders of target firm.
      3. This strategy is generally nasty and expensive - an effort frequently carried out to a questionable conclusion.
         a. Good deal for stockholders of target firm.
         b. Bad deal for stockholders of acquiring firm.
D. "WHITE NIGHT";
   1. When target firm cannot defend itself against the hostile acquirer, it will seek another firm to
      firm to acquire it (one more acceptable to management).
   2. This was a favorite strategy early in the M&A game.
E. "GREENMAIL";
   1. Occasionally, the acquirer may run into unforeseen difficulties.
   2. To make some money out of the attempt, the would-be acquirer promises to terminate the
      takeover attempt if management buys the shares the acquirer owns;
   3. Management usually pays a premium and not without some financial damage to the target
      firm.
F. "PAC-MAN";
   4. A form of defense in which the target tenders for shares of acquirer:
      e.g., Martin-Marietta - Bendix.
   5. The standoff is usually resolved when one of the parties finds a "white knight" to help.
      In the case of Martin-Marietta, it was Allied Corp
G. "POISON PILL“ (Shark Repellant);
   1. Another anti-takeover defense;
      a. target company threatens to load the balance sheet with debt
      b. the acquirer effectively gets more debt than the business can handle.
   2. Effectiveness is not always guaranteed.
V. RESTRUCTURING ACTIVITY
   A. Expansion; adventures began with...
      1. Mergers.
      2. Acquisitions.
   B. Sell-Off:
      1. Creating A New Legal Entity,
      2. Separate corporate control
   C. Spin-Off:
      1. New stock/New companies to old shareholders.
   D. Divestitures;
      1. Sale of corporate assets.
      2. Equity carve-outs (new stock to shareholders).
E. Maintaining Corporate Control  
   1. Premium buy-backs; effective "greenmail".
   2. Standstill agreements; would-be acquirer stops
   3. Anti takeover amendments; changes to corporate charter.
   4. Proxy Contests; getting list of stockholders is problem.

VI. WHY DO SO MANY DEALS FAIL?  
A. Excessive Payment Premiums for Business  
B. Lack of Human Integration  
C. Mismanagement of cultural differences  
D. Failure to communicate new culture to employees of acquired businesses
CHAPTER 2: FINANCIAL MARKETS & INSTITUTIONS

I. FINANCIAL INTERMEDIARIES

Financial Intermediaries help move money-capital from savers to investors. F.I.’s help to increase the efficiency of the capital allocation process by providing information relative to risk and return. Thus financial markets allocate capital to its most efficient use: Earn the best returns consistent with risk.

A. Stock Brokers

Securities are purchased through brokers. Securities may be delivered or left with the broker to be registered in "street name." Purchases may be for cash or a combination of cash and borrowed funds. Buying securities on margin magnifies the possible return but increases the risk of loss.

1. Agents executing trades for investor-clients.
2. Principals trading for own account with investor-clients.

B. Investment Bankers

1. Provide sales/distribution services to corporate clients.
2. Advise on timing and pricing for new securities.
3. Important players in the merger and acquisition game.

C. Depository Institutions

1. Commercial banks; providing short-term financing and check services.
2. Savings & Loans; providing long-term financing.
3. Credit Unions; providing a broad mix of services to affinity groups.
4. Non-Depository Institutions
   c. Insurance Companies; life, property, specialized.
   d. Investment Companies; mutual funds.

II. SECURITY MARKETS: ORGANIZED EXCHANGES

A. Market Makers (Specialists and Dealers);

Specialists are market makers for stocks listed on an exchange. They provide an orderly market by standing ready to buy and sell securities at specified bid and ask prices. Markets in securities traded over-the-counter are made by security dealers. Specialists and market maker/dealers establish the spread between the bid and ask prices, but the interaction of buyers and sellers sets the general level of security prices.

1. New York Stock Exchange (NYSE) Specialist System; (AMEX also)
2. Over-The-Counter Market Maker/Dealer System (NASDAQ system);
3. Bid-Ask spread; cost of liquidity services.
4. The "Market" = highest offer to buy (bid), lowest offer to sell (ask).

B. Security exchanges;

Security markets take one of two forms: the organized exchanges (e.g., the New York Stock Exchange) and the informal market commonly called the over-the-counter market. Listing securities on an organized exchange means that the firm has met certain specified requirements and possibly is more worthy of investment consideration than unlisted stocks.

1. Owned by its members, regulated by the SEC.
2. Trade as principals or as agents.
3. Floor dominated by stock transactions.
4. Bonds traded over-the-counter (OTC) by dealers.

C. Reporting of transactions;

1. Reported on the ticker tape; Ticker Symbol, price, volume.
2. Summary of trading activity in the WSJ, Barrons, other periodicals.

D. Types of Markets

1. Primary; where new issues are sold.
2. Secondary; where seasoned issues are sold.
3. Money markets; where short-term debt instruments are bought and sold.
4. Capital markets; where long-term debt instruments are bought and sold.
5. Futures market; where secondary or derived claims are bought and sold on physical goods.
6. Options market; where secondary or derived claims are bought and sold on financial claims

E. Foreign Securities; must be registered to trade in US markets.

ADR (American Depository Receipts for foreign securities), facilitate the purchase and sale of foreign stocks and bonds. Bonds denominated in dollars and sold abroad are called Eurobonds.

1. ADR; shares of foreign companies trading like those of American companies.
2. US. Subsidiaries of foreign corporations that have stock outstanding.
III. GAUGING THE HEALTH OF THE STOCK MARKET

A. Indexes Utilized to Gauge Health of Market
   1. Dow Jones Industrial Average (DJIA); 30 blue-chip industrial stocks.
   2. S&P 500 (composite index); S&P 400 (industrials), 20 Trans., 40 Utils., 40 Fin.
   3. NASDAQ Series; Composite (4219), Industrials (2932), etc.

B. Information on Market Action
   2. Wall Street Week; informed analysis, trading strategies, etc.

Before Playing the Market Yourself; Investigate Before You Invest

IV. Efficient Markets Hypothesis (EMH – Eugene Fama)

Security markets are very competitive. Security prices adjust very rapidly to new information. The efficient market hypothesis suggests that investors cannot expect to consistently outperform the market.

A. Prices reflect all known information.

B. Three Levels of Market Efficiency;
   4. Weak form efficiency; using historical data to beat the market.
   5. Semi-Strong form efficiency; use of new data.

C. Principal implication of EMH; you cannot consistently outperform the market.

V. Questions You Should Be Able To Answer; Learning Objectives

A. How do market makers provide liquidity to security markets?

B. What is the principal implication of the efficient markets hypothesis?

C. When a broker acts as a principal in a transaction, what is she/he doing?

VI. Homework Assignments: Learning Objectives; Chapter 2

A. Self-Test-1: a, b, c, f

B. Questions: 2-2, 2-4, 2-5, 2-10
CHAPTER 17: MULTINATIONAL FINANCIAL MANAGEMENT

I. THE DEMAND FOR FOREIGN GOODS AND THE RATE OF EXCHANGE

Demand for foreign goods is a demand for foreign currency. Foreign currencies (called foreign exchange) are traded in the foreign exchange market. Under a system of freely fluctuating exchange rates, the prices of foreign currencies change daily in accordance with the demand for and the supply of each currency.

A. Demand for Foreign Goods & Services creates Demand for Foreign Currency.

1. The price of foreign currency is a function of the balance of trade.

Consider the systematic trade imbalances over the last two decades between the US and Japan. The value of the Dollar has eroded steadily against the Yen as increased demand for Japanese goods is unmatched by a demand for US goods by Japan. This is the important lesson contained in the Wealth of Nations by Adam Smith. Free trade is beneficial when it stems from comparative advantage and when a portion of their industry is purchased with an [equal] portion of your own. The presence of a continuous imbalance of trade results in the exportation of a nation’s wealth and with it its standard of living.

2. Other Factors Influencing Exchange Rates.
   a. Size and strength of the economic base.
   b. Differences in interest rates (and the rate of inflation).
   c. Effects of government policy and social costs of economic activity.

B. Foreign exchange markets.

1. Dominated by large multi-national banks; banks with overseas branches.

   There’s also a large commodities market (i.e., the IMM on the CME).

2. Many countries have active currency dealers (especially in Europe).

3. There is a SPOT market and a FORWARD market for currencies.

   The spot market is for immediate delivery, the forward market for deferred (future) delivery (i.e. the IMM on the CME). The two are tied together by the time value of money and economic expectations.

4. Forward exchange rates can higher or lower than the spot rate.
   a. higher rates are termed premiums: $(n = \text{number of months forward})$

      \[
      \text{Premium} = \left( \frac{\text{Forward} - \text{Spot}}{\text{Spot}} \right) \left( \frac{12}{n} \right) 100\%
      \]

   b. lower rates are termed discounts.
5. Effects of Interest rate Differentials; *Theory of Interest Rate Parity.*
   a. The Annual Percentage Forward Premium = Approximate Difference in Domestic (dom.) and Foreign prevailing interest rates.
   \[
   \left( \frac{\text{Forward} - \text{Spot}}{\text{Spot}} \right) \left( \frac{12}{n} \right) = \frac{i_{\text{dom}} - i_{\text{forn}}}{1 + i_{\text{forn}}}
   \]

C. Exchange rates, Devaluation, and Revaluation

If the value of a currency rises relative to other currencies, it is revalued ("appreciates"). The currency buys more units of other currencies making foreign goods and services cheaper. If the value of a currency declines ("devalued" or "depreciated"), the currency buys fewer units of other currencies making foreign goods more expensive.

1. Most exchange rates are *free-floating,* subject to supply and demand.
2. Some exchange rates are managed or negotiated (a form of economic assistance).
3. Currency board arrangement: The country technically has its own currency but commits to exchange it for a specified foreign currency at a fixed exchange rate.
4. Fixed peg arrangement:
   a. Country "pegs" its currency to another (or a basket of currencies) at a fixed rate.
   b. Slight fluctuations are okay, but the rate must stay within a desired range
5. *Devaluation,* when your currency doesn't buy as many units of a foreign currency.
6. *Appreciation,* when your currency buys more units of a foreign currency.
7. Central banks may step in and buy or sell their own currency in order to maintain a trading range or exchange rate. (The US Treasury did this recently to support the dollar against the Yen; A generally fruitless effort.)

D. Managing Exchange Rate Risk.

1. Two sources of risk.
   a. Transaction; buying foreign goods, deferred payment.
   b. Translation; valuation of foreign assets and liabilities.
2. Hedging the transaction exchange rate risk.
   a. Execute a contract (with a bank) for foreign currency or establish a long hedge. (*A forward market hedge*)
   b. Borrow funds in the US and invest in interest bearing foreign securities.
3. Hedging the translation risk: Dealing with Conversion Values
   a. **FASB #52:**
      Translation losses and gains reflected as adjustments to stockholders equity (in
the Retained Earnings Account). Revenue and expense item gains or losses reflected on Income Statement.

4. Strategies for minimizing Translation risk.
   a. Finance foreign activity with debt denominated in host country currency.
   b. Geographic diversification of foreign investment.

5. Considerations in capital budgeting for foreign direct investment.
   a. Restrictions on repatriation of profits.

II. INTERNATIONAL PAYMENTS, BANK RESERVES AND THE MONEY SUPPLY.

Foreign transactions are cleared through the Federal Reserve. Currency outflows reduce the domestic money supply and the reserves of domestic banks. Currency inflows have the opposite effect; they increase the domestic money supply and the reserves of banks. The Fed is tasked with monitoring these flows; the Fed's control over the money supply is imperfect at best. Foreign inflows of capital expand the domestic monetary base, especially if it is dollars coming back into the US.

A. Many Checks clear through the Federal Reserve.

B. Currency inflows increase banks' reserves while outflows decrease reserves

III. FOREIGN TRADE AND MULTINATIONAL FIRMS

Many firms have made foreign investments and have become multinational firms. Such investments offer the firm an opportunity to expand its markets or to produce its products more cheaply. There are, however, risks associated with foreign investments. Changes in the political climate, fluctuations in exchange rates, and special customs and laws may reduce or eliminate the potential profits a firm anticipates earning through foreign investments.

A. Benefits of foreign investments.
   1. Get inside restrictive trade barriers.
   2. Expand markets beyond those available at "home."

B. Foreign investments in the US.
   1. Taking advantage of labor cost and transportation advantages.
   2. Take advantage of market opportunities.

C. Financing foreign investments

A firm may finance foreign investments through its traditional sources of finance such as retained earnings or may issue securities abroad. There is an active market in Eurobonds, which are bonds sold in foreign countries and may be denominated in dollars instead of the local currency. There are also active secondary markets in foreign
countries for the stocks of many US firms.

1. Eurobonds.
2. Selling securities abroad.

D. Risk and foreign investments.
   1. Nationalization and Expropriation.
   2. Loss from exchange rate fluctuations.

VI. HOMEWORK ASSIGNMENT
   A. Self-Test: ST-1, d, e, h, j, k, m, p
   B. Questions: 17-1, -2, -4, -5
   C. Problems: 17-1, -2, -3, -7