F

1. Face Value

The value of a bond that appears on its face. Also referred to as par value or principal.

2. Facility

A generic term which includes loans, commitments, lines, letter, etc: Any arrangement by which a bank accepts credit exposure to an obligor.

3. Facility Fee

Fee imposed for making a line of credit available.

4. Factor

A financial institution that buys a firm's accounts receivables and collects the debt. [See also **Factoring**]

5. Factor Analysis

An analysis aimed at finding a small number of factors that describe most of the variation in a large number of correlated variables. (Similar to a principal components analysis.) [See also **Arbitrage pricing theory**]

6. Factor Model

A model in which each stock's return is generated by common factors, called the systematic sources of risk. [See also **Arbitrage pricing theory**]

7. Factor Portfolio

A well-diversified portfolio constructed to have a beta of 1.0 on one factor and a beta of zero on any other factor. Factor portfolios will serve as the benchmark portfolios for a multifactor security market line.

8. Factoring

Firms can convert accounts receivable to cash by a method called factoring. Factoring essentially involves an outright sale of accounts receivable to a finance company or factoring department of a commercial bank. Factoring differs from **pledging** since it gives the finance company no recourse to the borrower in the case of bad debts. [See also **pledging**] The customer receives notice that the invoice has been sold and is asked to make payment directly to the finance company.

This arrangement clearly increases the lender's risk, as compared to pledging. To reduce this risk, the finance company virtually takes over the work of the borrower's credit department. All new customer orders pass through the finance company, which does a credit appraisal. If the finance company rejects the customer as an unacceptable credit risk, the borrower either must turn down the order or fill it for cash.

Factoring, like pledging, is a fairly costly source of credit. This overall cost has a number of distinct components. The factor charges the borrower a fee between about 1 to 3 percent of the face value of the invoices for credit appraisal. The interest charge depends upon whether the finance company has agreed to forward the funds as soon as the goods are shipped or only on the receivable's due date at the end of the credit period. For payment at shipment, the interest rate may well rise as high as 15 to 25 percent.

The advantages of factoring resemble those of pledging; it is a relatively easy and flexible source of funds once the initial negotiations have been completed, and it provides additional funds as the borrower's scale of operations, and therefore its needs, grow. Factoring always has been widely used by small companies in specific industries, such as textiles, garments, or furniture, which may lack access to bank loans. Factoring allows

the smaller company to avoid the cost and trouble of setting up its own credit department; this gives factoring one advantage over pledging. Against this, however, must be set the possible damage to the borrower's reputation when customers learn that their accounts have been sold to a finance company.

Credit-card transactions share some common traits with factoring. In effect, the merchant that accepts a credit card payment is factoring its accounts receivable to the issuer of the card, and the credit-card holder pays the issuer directly.

In sum, factoring is a sale of a firm's accounts receivable to a financial institution known as a factor.

9. Fair Game

Under the fair game, the expected value of a gamble is exactly equal to the cost. Under this situation, there is no way to use "information" available at a point in time (t) to earn return above normal.

10. Fair Game Model

Bases on average returns across a large number of observations, the expected return on an asset equals its actual return that is

$$z_{j,\,t+1} = r_{j,\,t+1} - E(r_{j,\,t+1}|\Phi_t)$$

and $E(z_{j,\,t+1}) = E(r_{j,\,t+1} - E(r_{j,\,t+1}|\Phi_t)) = 0,$

where $z_{j,\,t+1}$ is the error term between the jth stock's actual return $r_{j,\,t+1}$ at time $t+1$ and its expected return $E(r_{j,\,t+1}|\Phi_t)$. The fair-game model is an expected return efficient-market model. In search of a fair game, investors can invest in securities at their current prices and can be confident that these prices fully reflect all available information and are consistent with the risks involved.

11. Fair Market Value

Amount at which common stock would change hands between a willing buyer and a willing seller, both having knowledge of the relevant facts; also called market price.

12. Fair Value

Another name for the theoretical forward price; spot price plus interest less the future value of dividends.

13. Fallen Angels

Obligors having both relatively high percentage risk and relatively large exposure, whose large exposures were created when their credit ratings were better, but who now have much higher percentage risk due to recent downgrades.

14. Fannie Mae

Name referring to the Federal National Mortgage Association (FNMA).

Originally created in 1983, the Federal National Mortgage Association (FNMA), or "Fannie Mae," is the oldest of the three mortgage-backed security sponsoring agencies. While it is now a private corporation owned by shareholders with stock traded on major exchanges, in the minds of many investors it still has implicit government backing that makes it equivalent to a government-sponsored agency. Indeed, supporting this view is the fact that FNMA has a secured line of credit available from the US Treasury should it need funds in an emergency. FNMA is a more active agency than Government National Mortgage Association (GNMA) in creating pass-through securities. GNMA merely sponsors such programs. FNMA actually helps create pass-throughs by buying and holding mortgages on its balance sheet; it also issues bonds directly to finance those purchases.

15. FASB Statement 13

Complicated accounting rules must guide a presentation of the effects of a financial lease on the

lessee's balance sheet and income statement. FASB Statement 13 requires the firm to capitalize lease payments and list the leased property as an asset (''leased property under capital lease'') and as a liability (''obligations under capital lease''). The rationale for this accounting treatment is straightforward. Since the financing lease is a long-term, fixed obligation to the firm, it should be treated like similar liabilities. The firm's long-term access to the leased asset and liability accounts are amortized to zero over time under the FASB 13 treatment. The income statement deduction includes both the amortization of the liability and an imputed interest expense on the remaining lease liability.

16. Feasible Set

Opportunity set in a portfolio analysis.

17. Fed Wire

The Federal Reserve System operates by Fed Wire to process US-dollar-denominated transactions initiated and received in the US. Since Fed Wire transfers are guaranteed by the US government, the system minimizes users' liquidity and credit risks.

18. Federal Agency Securities

Securities issued by corporations and agencies created by the US government, such as the Federal Home Loan Bank Board and Government National Mortgage Association. [See also **Ginnie Mae**]

19. Federal Deposit Insurance Corporation (FDIC)

The FDIC was created in the Glass-Steagull Act (1933). Fed member bank must be insured by the FDIC. If a bank purchases deposit insurance, it must comply with rules set by FDIC.

20. Federal Financing Bank (FEB)

FEB is a federal agency that borrows from the US Treasury and lends funds to various federal agencies. FEB can require the treasury to purchase up to $5 billion of its obligations. The treasury secretary is authorized to purchase any amount of FEB obligations at his or her discretion.

21. Federal Funds

Unsecured short-term loans that are settled in immediately available funds. Federal funds are excess reserves lent by one institution to another institution to meet Fed reserve requirements.

22. Federal Reserve Bank

One of the 12 district federal reserve banks that make up the Federal Reserve System. Typically, regional Federal reserves banks serve as clearing locations where institutions accounts are debited or credited as necessary, and checks are sorted, bundled, and returned to participating depositories.

23. Federal Reserve Board

The Federal Reserve Board (or the Fed) acts as the central bank, or ''banker's bank,'' in the US economy.

The Federal Reserve Board has three basic instruments with which it can affect the money supply to administer its **monetary policy**. [See also **Monetary policy**]

1. **Open market operations** (repurchases or sales of government securities);
2. **Discount rate** changes (adjustment in the interest rate paid by banks when they borrow from the Fed); and,
3. **Reserve requirement** changes (adjustments in the amount of reserves banks must hold either as cash or on deposit at the Fed).

The only interest rate the Fed directly controls is the discount rate. As with any price, demand and supply influences affect all other interest rates. [See also **Open market operations**, **Discount rate**, **Reserve requirement**]

24. FHA

Federal Housing Administration – a federal agency that insures mortgages which target groups that might otherwise be disadvantaged in the housing market, such as low income family.

25. FHLMC

Federal Home Loan Mortgage Corporation (Freddie Mac); a private corporation operating with an implicit federal guarantee; buys mortgages financed largely by mortgage–backed securities. The implicit Federal guarantee can reduce the borrowing cost.

26. Fidelity Bond

A contract that covers losses associated with employee dishonesty, typically embezzlement and forgery at banks.

27. Fiduciary

An individual or trust department responsible for acting in the best interests of a designated third party.

28. Field Warehouse Financing

A form of inventory loan in which a public warehouse company acts as a control agent to supervise the inventory for the lender.

29. Field Warehousing

In field warehousing, the finance company (usually a specialized warehousing organization) takes over the use of a certain part of the borrower's premises. This floor space must be segregated from the borrower's other operations so that it can be kept locked, restricting access only to the warehousing company. The inventory to serve as collateral is transferred to this segregated area, and the warehousing company advances the discounted cash value of the inventory to the borrower. In return, the warehousing company receives a warehouse receipt, which gives its title to the inventory.

This inventory cannot be sold or used without the warehouse company's permission, and this permission is given only when the borrower repays a corresponding portion of the funds advanced. Thus, the lender can ensure that the collateral always is adequate to secure the loan. The warehousing company locates a member of its own staff, the custodian, on the borrower's premises to ensure that its rights are respected.

30. FIFO

The first-in-first-out accounting method of inventory valuation. In an inflation period, the cost of inventory is lower than that calculated by the last-in-first-out accounting method.

31. Filter Rule

A technical analysis technique stated as a rule for buying or selling stock according to past price movements. The filter rule is usually stated in the following way: Purchase the stock when it rises by X percent from the previous low and hold it until it declines by Y percent from the subsequent high. At this point, sell the stock short or hold cash.

Filter rules are a timing strategy. They show investors when they should be long in a security and when they should sell it short. The alternative to timing is to buy and hold the security. Thus, filter rules are analyzed by comparing them to buy and hold strategy. One further assumption is necessary for the buy and hold strategy to be relevant; namely, the expected return is positive. If the expected return is negative, then the relevant alternative is to hold cash.

32. Finance

Finance is the study of how to manage assets and obtain funds in order to maximize the wealth of the owner. Thus, the broad field of finance deals with such varied topics as designing a personal retirement plan, managing inventory, investing excess

cash, borrowing money, or attracting bank depositors. Business operations generate profits when the firm can raise funds at a lower cost than the return generated by the investment of the funds.

Businesses purchase assets with the hope that they will generate future cash flows. The cash flows may be in the form of income, future cost savings, and/or changes in company value. To finance asset purchases, firms sell liability and equity securities, including bonds, stocks, mortgages, and loans. Investors are willing to buy the securities in order to receive future cash flows, which help the investors meet their own future needs. The value of an asset depends on three cash flow characteristics: (1) amount; (2) pattern over time, and; (3) risk.

Investors will pay more for an asset that promises larger cash flows after shorter time periods with lower risks. Values are lower for assets that generate smaller, later, and/or more uncertain cash flows.

33. Finance Charge

As defined by truth-in-lending Regulation Z the finance charge refers to "all charges payable directly or indirectly by the borrower and imposed directly or indirectly by the lender as an incident to or as an extension of credit."

34. Finance Company

A firm that borrows from the money and capital markets to make loans to individuals and commercial enterprises. The services provided by finance companies include consumer lending, business lending and mortgage lending. Finance companies do not accept deposits but instead rely on short and long term debt as a source of funds. Additionally, finance companies often lend money to customers who commercial banks find too risky.

35. Financial Accounting Standards Board (FASB)

The governing body in accounting. FASB issues generally accepted accounting principles (GAAP) as a guide for financial statement reporting in the US.

36. Financial Analyst

The position of the financial analyst in the corporate structure and the scope of his or her work are interdependent. The financial analyst is a staff member who diagnoses the effects of management proposals and/or decisions on the financial health of the firm. Acting as an internal consultant, the financial analyst examines profitability, cash flows, and operations; conducts studies; interprets information; and designs financial controls. Although some of this analysis is focused entirely within the firm, the analyst also must examine the dynamic economic, social, political, and competitive environments that are external to the firm, in an attempt to gauge their impact on the firm's well-being. This information is used to assist in the process of financial planning and forecasting. The analyst provides this information as input for upper-level management's decisions; generally, he or she does not set policy or make decisions. Major decisions are made by top management, which may include the CFO and treasurer of the firm.

In addition, the financial analyst must perform many tasks on a periodic basis. These activities include analyzing the company's liquidity and profitability and supervising its day-to-day financial operations, including accounts receivable, accounts payable, and cash balances. The analyst must also contribute to longer term projects by analyzing the firm's capital structure and major investment alternatives.

The analyst also completes specific projects that are either self-initiated or, more commonly, requested by others. For example, if the analyst notices a market variation from a normal financial ratio, he or she may try to determine the underlying cause of the variation and report it to management as part of the control function. Also, the analyst may examine the effect of a current economic force on the company, such as how a tax policy change might affect the firm's cash flows

and stock value. The financial analyst may assist operations management in determining whether to lease or purchase a specific asset. Some problem analyses are critical to the success of the entire company, such as the decision whether to expand or sell off one of the operating division; others are as commonplace as deciding whether to purchase Treasury bills or certificates of deposit (CDs) with surplus cash.

Within the company's organization structure, the position of financial analyst may be centralized or decentralized or have elements of both. Centralizing the analyst function places it at corporate headquarters, separate from the operational units for which it performs most of its analyses. Decentralizing the position places analysts in each of the firm's divisions to do division-specific work. Centralization allows the firm to pool expertise, promote interaction among the analysts, and maintain objectivity, as the analysis views a divisional issue from a companywide point of view consistent with the firm's overall strategy.

However, certain circumstances create advantages for a decentralized financial analyst function. A decentralized organization is useful: (1) when the analyst's role is to advise the operating manager, who has some independence to make division-level decisions; (2) when the operations of the division are complex and the analyst must possess specialized expertise to make useful recommendations; and (3) when the larger firm is really a holding company for different, independent organization (e.g., one corporation may operate a banking division, another may run an insurance division, and so on).

37. Financial Assets

Financial assets such as stocks and bonds are claims to the income generated by real assets or claims on income from the government.

38. Financial Break-Even

Financial break-even occurs when the project breaks even on a financial basis, that is, when it has a net present value of zero. To determine a project's financial break-even point, we must first determine the annual operating cash flow, OCF^*, that gives it a zero NPV. The formula for the financial break-even quantity is:

$$Q^*_{financial} = \frac{FC + OCF^*}{p - vc} = Q^*_{cash} + \frac{OCF^*}{p - vc},$$

where FC = fixed costs; VC = variable cost per unit; P = price per unit; OCF^* = annual operating cash flow; and Q^*_{cash} = cash break-even point.

Without any calculations, we know intuitively that this break-even quantity should exceed the cash and accounting break-even quantities. OCF^* must be sufficiently large to both cover depreciation expense (Dep) and allow the project to earn its minimum required return. Intuition also tells us that accounting income under financial break-even should exceed that of the accounting break-even point. As OCF^* must exceed the depreciation expense, the firm's net income (NI) will be positive (ignoring working capital effects, $OCF = NI + Dep$). Thus, some positive taxable income occurs under financial break-even.

As expected the financial break-even quantity and operating cash flow exceed those of the **cash** and **accounting break-even** analyses. [See also **Cash break-even** and **Accounting break-even**] Note a major difference between financial break-even as compared to cash and accounting break-even: Financial break-even analysis encompasses cash flows from the *entire life* of the project.

39. Financial Distress

Financial distress means that a firm's short-run operating and financial cash inflows are less than its outflows.

Financial distress occurs when the firm's internal rate of return on its investments is less than its cost of capital, either at the present time or in the near future. In terms of sources and uses of funds, financial distress occurs when the inflow of funds from operations is not sufficient to meet required outflows.

In sum, financial distress is the events preceding and including bankruptcy, such as violation of loan contracts.

40. Financial Distress Costs

Legal and administrative costs of liquidation or reorganization (direct costs); an impaired ability to do business and an incentive toward selfish strategies such as taking large risks, underinvesting, and milking the property (indirect costs).

41. Financial Engineering

Creating new financial instruments by combining other derivatives or more generally, by using derivatives pricing techniques.

42. Financial Futures Contract

A commitment between two parties to exchange a standardized financial asset through an organized exchange at a specified price of futures contracts changes prior to delivery, and participants must settle daily changes in contract value.

43. Financial Innovation

The continuous development of new financial products, services and technology to deliver products and services.

44. Financial Intermediaries

An area of finance that deals with financial institutions, such as banks and insurance companies, which collect funds from savers and lend them to or invest them in businesses or people that need cash. Institutions that provide the market function of matching borrowers and lenders or traders. Financial institutions may be categorized as depository, contractual savings, and investment-type. Alternatively, they can be classified into depository institutions, insurance companies securities firms and investment banks, mutual funds and finance companies.

45. Financial Lease

A long-term noncancelable capital lease, generally requiring the lessee to pay all maintenance fees. Tax law identifies lessor as the owner of the leased asset, so the lessor can deduct the depreciation over the life of the lease. [See also **Capital lease**]

46. Financial Leverage

Just as operating leverage arises from fixed operating costs, financial leverage arises from fixed financing costs. Financial leverage magnifies any change in EBIT to produce a percentage change in earnings per share larger than the change in EBIT. Financial leverage defines extent to which a firm relies on debt. Financial leverage is measured by the ratio of long-term debt to long-term plus equity.

47. Financial Management Analysis

Financial management analysis is a field in finance that studies how an organization should manage its assets, liabilities, and equity to produce a good or service.

48. Financial Markets

Markets that deal with cash flows over time, where the savings of lenders are allocated to the financing needs of borrowers. Financial markets are composed of money markets and capital market. [See also **Money and capital markets**]

49. Financial Planning

Financial planning is the process of analyzing alternative investment, financing, and dividend strategies in the context of various potential economic environments. Planning involves forecasting both

the outcomes of different strategies and their risks. Thus, financial planning models are tools to help managers improve their forecasts of important accounts of financial statements and better understand the interactions of investment, financing, and dividend decisions.

Planning involves using different economic and sales scenarios and reacting to them with different strategies. Playing what-if games helps managers select an optimal course of action, given managers' risk preferences and beliefs about the most likely scenarios.

In developing a long-term financial plan, these three decisions (policies) can be described more explicitly as follows:

1. *The firm's investment decision*. This refers to the amount of cash needed for the firm's investment in a new asset (it is also called the *capital budgeting decision*). In addition, it also refers to the amount of working capital needed on an ongoing basis (also referred to as the *working capital decision*).
2. *The firm's financing decision*. This refers to new borrowing or new equity issued for financing the firm's investment in new assets. This decision is influenced by the degree of financial leverage the firm chooses to employ and how it plans to raise the necessary new funds.
3. *The firm's dividend decision*. This refers to the amount of cash the firm thinks is necessary and appropriate to pay equity holders as cash dividends.

At the most basic level, a planning model is a tool that uses inputs supplied by managers in the form of economic, accounting, market, and policy information.

50. Financial Requirements

In the financial plan, financing arrangements that are necessary to meet the overall corporate objective. The plan will include a section on financing arrangements. This part of the plan should discuss dividend policy and debt policy. Sometimes firms will expect to raise equity by selling new shares of stock. In this case the plan must consider what kinds of securities must be sold and what methods of issuance are most appropriate.

51. Financial Risk

Financial risk measure the additional risk that the firm's stockholders bear when the firm is financed with debt as well as equity.

Financial risk is determined by how the firm decides to finance its assets. Financial risk occurs as a result of fixed costs in a firm's financial structure. A firm's financial structure is the combination of debt and equity that it uses to finance assets. Equity dividends, including preferred stock dividends, are considered to be a variable financing cost, as the firm can reduce the dollar amount of dividends or eliminate them entirely if its cash flow is poor. Shareholders may be unhappy, but even preferred shareholders can do little to force the firm to pay dividends. In sum, financial risk refers to potential variation in income before interest and taxes associated with fixed interest payments on debt and lease payments.

52. Financial Services Holding Company

A parent company that owns a bank holding company plus other subsidiaries, such as a thrift holding company and insurance subsidiary.

53. Financial Z Score

[See also **Credit scoring model**]

54. Finite Difference Method

A method for solving a differential equation. It can be classified into implicit, explicit, or other finite difference method.

55. Firm

A firm is a collection of assets, and the value of those assets depends upon the size, timing, and risk of their cash flows. Of all the possible goals of a firm, only shareholder wealth maximization fully considers the size, timing, and risk of the cash flow generated by the firm's activities.

A firm purchases its assets with funds obtained from sources listed on the right-hand side of the balance sheet – liabilities and owners' equity. Thus, the value of a firm belongs to its creditors and owners. Creditors have a fixed claim on the firm that does not change with variations in the value of the firm's assets over time. As the shareholders have a residual claim on the firm's assets, variations in a firm's value are reflected mainly in the fluctuating value of the owners' or shareholders' wealth in a firm. Alternatives that increase shareholders' wealth should be chosen; alternatives that harm shareholders' wealth should be rejected.

Fluctuations in the value of a firm are most easily seen in fluctuations in the market value of the shareholders' claim on the firm. All else being constant, increases in shareholder value lead to a larger cushion for those with fixed claims on the firm, such as creditors, bondholders, employees, and pensioners.

Economics teaches that the goal of a firm is to maximize its economic profit, which is a function of the difference between the return earned on its assets and the opportunity cost of buying those assets. The workings of the financial markets will ensure that the cost to a firm of raising capital is equal to the capital's opportunity cost; otherwise, available funds will flow to other firms that can offer investors higher expected returns at lower risk. Should returns earned by the firm exceed this cost, the profit belongs to the firm's owners. Thus, the financial goal of maximizing shareholder wealth is similar to the concept of maximizing economic profit.

56. Firm Commitment Offerings

Investment banks distribute most IPOs in firm commitment offerings. With a firm commitment offering, the investment bank commits its capital to purchase IPO shares. Once the offering price is set, the bank purchases the shares at the offer price less a spread, or discount. The bank then sells the securities to investors. In practice, the investment bank lines up a number of investors to purchase the shares before the offering date. The spread represents the investment bank's profit from reselling each share at the offering price.

The issuer has virtually zero price risk in a firm commitment offering once the offer price is set. The issuer receives the proceeds from the sale immediately, which it can then spend as outlined in the prospectus. The investment bank carries, or underwrites, the risk of fluctuating stock prices. Should the market's perception of the issuer change or a macroeconomic event result in a stock market decline, the investment bank carries the risk of loss, or at least the possibility of a smaller than expected spread.

For most firm commitment underwritings, the managing investment bank arranges investment banking **syndicates** to help distribute shares of the newly public firm. The managing investment bank makes a smaller spread, or profit, from selling shares to syndicate members. [See also **Syndicates**]

57. Firm Commitment Underwriting

An underwriting in which an investment banking firm commits to buy the entire issue and assumes all financial responsibility for any unsold shares. [See also **Firm commitment offerings**]

58. Firm-Specific Risk

[See **Diversifiable risk**]

59. First Mortgage Bond

A first mortgage bond has a primary, or senior, claim on assets. In theory, a first mortgage claim means that the underlying asset can be sold and the proceeds distributed to the first mortgage bondholders to satisfy their claims against the firm; any remaining funds from the sale are distributed

to satisfy the **second mortgage** holders' claims. [See also **Second mortgage bond**]

60. First-Pass Regression

A time series regression to estimate the betas of securities or portfolios.

61. Fiscal Policy

Fiscal policy involves planning government spending and taxing to influence economic conditions. Both tax laws and government expenditures affect the disposable income of consumers and corporations and, therefore, the level of aggregate demand in the economy. For example, taxes affect the incentives that people have to save and invest, and thus affect future economic growth. Tax laws affect firms' after-tax returns on their investments and thus help determine how a firm will invest today in order to generate future cash flows.

62. Fisher Effect

[See **Nominal risk-free interest rate**]

63. Fisherian Relation

The nominal interest rate in every contract will be equal to the real rate of interest plus the expected future inflation rate is called Fisherian relation:

$$(1 + R_j^t) = (1 + r_j^t)(1 + I_j^t),$$

where r_j^t = the real rate of interest in country j at time t; R_j^t = the nominal rate of interest at time t; and I_j^t = the inflation rate at time t.

The implication of this relationship is that if the real rate of interest is equal everywhere, then the inflation differential between countries is fully reflected in their nominal interest rate.

64. Fixed Annuities

Annuity contracts in which the insurance company pays a fixed dollar amount of money per period.

65. Fixed Asset

Long-lived property owned by a firm that is used by a firm in the production of its income. Tangible fixed assets include real estate, plant, and equipment. Intangible fixed assets include patents, trademarks, and consumer recognition.

66. Fixed Asset Turnover Ratio

[See **Asset management ratios**]

67. Fixed-Charge Coverage Ratio

Ratio of earnings to all fixed cash obligations, including lease payments and sinking fund payments. [See also **Capital structure ratios**]

68. Fixed Costs

Fixed cost is a cost that is fixed in total for a given period of time and for given volume levels. It is not dependent on the amount of goods or services produced during the period.

A factor affecting business risk is the firm's fixed costs. Fixed costs, such as rent, lease payments, and depreciation, remain the same whether the firm's sales, production, or profitability levels rise or fall. The effect of fixed costs on the firm's operating structure is to magnify, or leverage, the impact of a change in sales on EBIT. [See also **Business risk**]

69. Fixed Rate

An interest rate that does not change during a specified period of time. Fixed rate mortgage is a good example for this case.

70. Fixed-Dollar Obligations

Conventional bonds for which the coupon rate is set as a fixed percentage of the par value.

71. Fixed-Income Security

A security such as a bond that pays a specified cash flow over a specified period.

72. Flat Benefit Formula

Method used to determine a participant's benefits in a defined benefit pension plan by multiplying months of service by a flat monthly benefit. [See also **Defined benefit plans**]

73. Flat Volatility

The name given to volatility used to price an interest rate cap when the same volatility is used for each caplet. If different volatility is used for each caplet, then it is called spot volatility.

74. Flex Option

An option traded on an exchange with terms that are different from the standard options trades by the exchange.

75. Flight to Quality

Describes the tendency of investors to require larger default premiums on investments under uncertain economic conditions.

76. Float

Bankers define float as cash obligations that are in the process of collection. Another way to think of float is the difference between the balance shown in a firm's (or an individual's) checkbook and the balance on the bank's books. For instance, suppose that, on average, a firm writes $10,000 worth of checks each day. If it takes five days for these checks to clear and be deducted from the firm's bank account, then the firm's own checking records will show a daily balance of $50,000 lower than the bank's records. Conversely, if the firm, on average, receives $10,000 worth of checks each day but deposits and clears these checks in only three days, the firm's books will show a balance $30,000 higher than the balance on the bank's records. The difference between the $50,000 negative float and the $30,000 positive float, −$20,000, is called the firm's *net float*. This suggests the possibility that a firm could consistently maintain a negative cash balance on its books, as long as it could accurately forecast its positive and negative clearings.

Float management is an integral component of the cash management system. To understand how to analyze and forecast float, we need to look at the five different types of float:

1. **Invoicing float** is the time it takes for a firm to bill receivables. The efficiency of the company's internal accounting and billing procedures affect this type of float.
2. **Mail float** is the time the firm's bill spends in the mail on its way to the customer and the time the customer's check spends in the mail on its way to the firm.
3. **Processing float** is the time between a firm's receipt of a payment and its deposit of the check for collection.
4. **Collection float** is the time from when the bank accepts a check for deposit to when it makes the funds available in the firm's checking account.
5. **Disbursing float** is the time between when a firm writes a check on available bank account funds and when the bank deducts the corresponding dollar amount from the firm's bank balance.

The first four components of float hinder the firm's ability to turn collection items into cash; these are examples of negative float. The fifth component, disbursing float, is positive float because it increases the amount of cash the firm has to use. High interest rates increase the benefits of reducing negative float or increasing net float.

Mail float generally is hard to control, but it can be controlled to some degree through the use of different collection sites. Processing and invoicing float result from internal company operations, so

they can certainly be monitored and fine-tuned for increased efficiency. Collection and disbursement float can be reduced through cash collection and disbursement services provided primarily by the banking system.

In sum, float is the difference between bank cash and book cash. Float represents the net effect of checks in the process of collection, or clearing. *Positive float* means the firm's bank cash is greater than its book cash until the check's presentation. Checks written by the firm generate *disbursement float*, causing an immediate decrease in book cash but no change in bank cash. In *neutral float position*, bank cash equals book cash. Checks written by the firm represent *collection float*, which increases book cash immediately but does not immediately change bank cash. The sum of disbursement float and collection float is *net float*.

77. Floater

Floating-rate bond.

78. Floating Lien

A floating lien gives the lender a claim against all the borrower's inventory without listing or specifying individual items. Such an arrangement makes it difficult, however, for the lender to prevent the borrower from running down inventories to a level that gives no real security for the loan; finance companies, therefore, are usually willing to advance only a small fraction of the estimated market value of the inventory against a floating lien.

79. Floating Rate

An interest rate tied to a base rate that changes over time as market conditions dictate.

80. Floating-Rate Bond

A debt obligation with an adjustable coupon payment.

81. Floating-Rate Note (FRN)

A short-term note whose interest payment varies with a short-term interest rate.

82. Floor

An option position that guarantees a minimum price.

83. Floor Broker

A licensed member of the exchange who is paid a fee for executing orders for clearing members of their customers.

84. Floor Plan Loans

Floor plan loans finance equipment purchases in an arrangement similar to a revolving credit agreement. Many manufacturers or distributors of machine tools, tractors, and similar heavy equipment supply these items to retailers under a floor plan system, which allows the retailer to pay for the merchandise only after actually selling it. The retailer's inventory therefore is financed by the supplier, either a manufacturer or a distributor. The manufacturer or distributor in turn finances this inventory by setting up a credit arrangement with a bank. Under such an arrangement, the bank pays the manufacturer for the equipment as soon as it is shipped. The bank then becomes the official owner of the equipment. When the equipment is sold, the retailer pays the wholesale price plus an interest charge directly to the bank. Alternatively, the retailer many give the manufacturer or distributor a note for the wholesale price of the equipment, which the manufacturer or distributor may then sell to the bank at a discount. This agreement compensates the bank, not by interest payments, but by the difference between the discounted sum it pays to the manufacturer and the full wholesale price it eventually will recover from the retailer.

85. Floor Rate

The rate in an interest rate floor agreement.

86. Floor Trader

An exchange member of the exchange who is paid a fee for executing orders for clearing members or their customers.

87. Floor-Ceiling Agreement

[See **Collar**]

88. Floorlet

One component of a floor.

89. Flotation Costs

The firm cannot costlessly arrange to borrow money, either from a bank or by selling bonds or shares of stock. It costs money to raise money. The costs of issuing securities, flotation costs, include bank application fees; "points" paid on loans; the accounting, legal, and printing costs of offering securities to the public; and any commissions earned by the investment bankers who market the new securities to investors. As a result of these costs, if the firm raises $100 of funds, it actually receives less than $100 to apply to the capital budgeting project. Thus, it must evaluate the cost of financing the project, net of issuing or flotation costs.

90. Flower Bond

Special Treasury bond (no longer issued) that may be used to settle federal estate taxes at par value under certain conditions.

91. FNMA

Federal National Mortgage Association (Fannie Mae); a private corporation operating with an implicit federal guarantee; buys mortgages financed by mortgage-backed securities. [See also **Fannie Mae**]

92. Forced Conversion

If the conversion value of a convertible is greater than the call price, the call can be used to force conversion.

93. Foreclosure

Selling property in order to apply the proceeds in payment of a debt.

94. Foreign Bonds

An international bond issued by foreign borrowers in another nation's capital market and traditionally denominated in that nation's currency.

95. Foreign Currency Futures

A foreign-currency futures contract is similar to other commodity-futures contracts. It promises future delivery of a standard amount of a foreign currency at a specified times, place, and price.

96. Foreign Currency Option

An option on a foreign exchange rate. The valuation model for the European type of currency call option can be defined as:

$$C = Se^{-r_f T}N(d_1) - Xe^{-rT}N(d_2),$$

where S = spot exchange rate; r = domestic risk-free rate; r_f = foreign risk free rate; X= exercise price; σ = standard deviation of spot exchange rate;

$$d_1 = \frac{\left[Ln\left(\frac{S}{X}\right) + \left(r - r_f + \frac{\sigma^2}{2}\right)T\right]}{\sigma\sqrt{T}};$$

$$d_2 = d_1 - \sigma\sqrt{T}.$$

97. Foreign Exchange

Currency of a foreign country acceptable as a medium exchange.

98. Foreign Exchange Market

The foreign exchange market is not a geographic place; it consists of a communications network through which many participants throughout the world agree to buy or sell currencies. The foreign exchange market includes a wide variety of smaller markets for immediate exchanges (spot trading), agreements for later exchanges (forward trading), and contracts based on exchange rates (futures and options trading).

Given the worldwide dispersion of the foreign exchange market, exchange trading never opens or closes. Markets around the world are interconnected by communication links so that it is possible to trade in the foreign exchange market somewhere in the world 24 hours a day, 7 days a week. This interconnection of diverse market segments also provides very competitive prices, which usually are within one-hundredth of a cent of each other.

99. Foreign Exchange Risk

The risk that the value of a position dominated in a foreign currency may decline due to a change in exchange rate. For a financial institution (FI), it refers the risk that foreign exchange rate changes can affect the value of an FI's assets and liabilities located abroad.

100. Foreign Exchange Swap

An agreement to exchange stipulated amounts of one currency for another at one or more future dates.

101. Foreign Tax Credit

Income taxes paid to a foreign country that can be claimed as a tax credit against a domestic tax liability.

102. Forward Contract

A forward contract is an agreement between a commercial bank and a corporate customer to exchange a specific amount of one currency for another on a specific future date at a specific price or exchange rate. At the initiation of the agreement, no money changes hands; the actual exchange of funds takes place on the future date specified in the forward contract. Forward contracts are very useful because they can be tailored to fit any situation, but they are very expensive.

103. Forward Curve

The set of forward or futures prices with different expiration dates on a given date for a given asset.

104. Forward Exchange Rate

The forward price of one unit of a foreign currency. Forward exchange rates can be used to control the risk of fluctuating spot rates over a specified time period. Forward rates allow a participant to "lock in" an exchange rate today for a transaction that will occur sometime in the future. In other words, forward exchange rate is a future day's exchange rate between two major currencies. [See also **Spot exchange rate**]

105. Forward Interest Rate

Rate of interest for a future period that would equate the total return of a long-term bond with that of a strategy of rolling over shorter-term bonds. The forward rate is inferred from the term structure.

106. Forward Parity

The relationship that forward exchange rate (F_{ij}^{t}) must be equal to the spot exchange rate at some point in time (S_{ij}^{t+1}):

$$S_{ij}^{t+1} = F_{ij}^{t}.$$

Forward parity must be true given the three relationships (Interest-rate parity, purchasing-power parity, and Fisherian relation).

107. Forward Premium

The annualized percentage difference between the forward price and the spot price.

108. Forward Price

The delivery price in a forward contract that causes the contract to be worth zero.

109. Forward Rate

A forward rate is a rate quoted today on a forward loan that originates at some future period.

110. Forward Rate Agreement (FRA)

Agreement that a certain interest rate will apply to a certain principal amount for a certain time period of the future.

111. Forward Risk-Neutral World

A world is forward risk-neutral with respect to a certain asset when the market price of risk equals the volatility of that asset.

112. Forward Start Option

An option designed so that it will be at-the-money at some time in the future when the option starts.

113. Forward Strip

Another name for the forward curve.

114. Forward Swap

Used when new debt is to be issued at a future date; allows issuer to hedge against an undesirable increase in rates before the securities are issued. [See also **Deferred swap**]

115. Forward Trade

An agreement to buy or sell based on exchange rates established today for settlement in the future. [See also **Spot trade**]

116. Fourth Market

Direct trading in exchange-listed securities between one investor and another without the benefit of a broker.

117. Free Cash Flow

Cash flow available after payment of all taxes and after all positive NPV projects have been provided for.

118. Frequency Distribution

The organization of data to show how often certain values or ranges of values occur. For example, a frequency distribution for either binomial or normal distribution.

119. Full-Service Broker

A brokerage that provides a full range of services to customers including advice in which securities to buy and/or sell.

120. Fully Diluted Earnings Per Share

Earnings per share expressed as if all outstanding convertible securities and warrants have been exercised. [See also **Dilution**]

121. Fundamental Analysis

Research to predict stock value that focuses on such determinants as earnings and dividends prospects, expectations for future interest rates, and risk evaluation of the firm.

122. Fundamental Betas

Fundamental betas are estimates of future betas, based upon both industry-specific and firm-specific balance sheet and income statement data. Researchers have found that the average betas of different industries vary as a result of differences in their business risk. In addition, researchers have discovered that financial statement relationships are useful in predicting a firm's future beta. Betas change over time as a firm's growth, dividend-payout ratio, earnings variability, financial leverage, and size change. Studies have found that increased financial leverage and increased variability in sales and EBIT lead to larger betas, while higher dividend-payout ratios lead to lower betas.

123. Funds Flows

Funds flows reflect changes in various financial statement accounts and transfers of funds from one account to another.

124. Future Value

The future value represents the dollar amount that the current cash flow will come to be worth in the future if it earns interest (or grows) at a given rate over time.

Future Value After One Period

It is very straightforward to calculate the value of, for instance a \$100 investment after one year at a 10 percent annual rate of interest. The future value (FV) will be \$100 plus 10 percent of \$100, or \$110.

$$FV_1 = 100 + (0.10)(100) = (100)(1 + 0.10) = 110.$$

Future Value After Two or More Periods

If the money is to be invested for two years, the value of the CD after that time will equal its value after one year plus an additional 10 percent:

$$FV_2 = 110 + (0.10)(110) = (110)(1 + 0.10) = 121$$

$$\text{or, } FV_2 = (110)(1 + 0.10) = (100)(1 + 0.10)(1 + 0.10)$$

$$= (100)(1 + 0.10)^2 = 121.$$

During the second year, the \$100 principal plus the first periods' interest of \$10 *both* earn interest. The \$10 of interest earned during the first year earns \$1 of interest (10 percent of \$10) during the second year. This growth illustrates the effect of compounding. For this reason, future value calculations are often called compound value calculations.

What if our CD can be rolled into a third year? That means the \$121 we have at the end of the second year will earn another 10 percent. At the end of the third year the CD will be worth:

$$FV_3 = (121)(1 + 0.10) = (100)(1 + 0.10)^2(1 + 0.10)$$

$$= (100)(1 + 0.10)^3 = 133.10$$

Over three years, the \$100 in principal has earned \$33.10 in interest.

These equations suggest a general formula for finding the future value (FV) in year n of a sum of money (PV):

$$FV_n = PV(1 + r)^n.$$

The future value of PV is PV multiplied by a future value interest factor, $(1 + r)^n$. The future value interest factor, or FVIF, $(1 + r)^n$, will increase in size as either the interest rate or the number of years increases. It will increase exponentially as n increases, due to the effects of compounding interest. Higher interest rates will have a larger compounding effect.

Future Value of Several Cash Flows

The future values of several amounts are additive *if the amounts are paid at the same future point in time*. If a problem has several present cash flows or investments, we can easily find their total future value simply by adding the individual future values at the same future time.

125. Futures Contract

Unlike a **forward contract**, a futures contract is a standardized financial instrument with a stated amount and specific maturity that is traded on an organized exchange and is resalable up to the close of trading or settlement date. Futures contracts tend to be smaller than forward contracts and are not as flexible in meeting hedging needs. [See also **Forward contract**]

126. Futures Exchange

A futures exchange is the arena for the actual daily trading of futures contracts. The exchange is a nonprofit organization whose members include those allowed to trade on its floor. Members include individual traders, brokerage firms, and other types of institutions.

127. Futures Market

The underlying purpose for futures market is to allow investors to display their uncertainties about the future. Futures markets allow for the transfer of risk from hedgers (risk-averse individuals) to speculators (risk seeking individuals), a key element necessary for the existence of futures market is the balance between the number of hedgers and speculators who are willing to transfer and accept risk.

128. Futures Options

An option on a futures contract.

129. Futures Overlay

Converting an investment in asset A into the economic equivalent of an investment in asset B by entering into a short futures position on asset A and a long futures position on asset B.

130. Futures Price

The delivery price currently applicable to a futures contract.