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1. S&P 500

§See also **Standard & Poor's 500 composite index (S&P 500)**]

2. Safe Deposit Box

Privacy boxes for storage in a bank vault under lock and key.

3. Safe Harbor Lease

A lease to transfer tax benefits to ownership (depreciation and debt tax shield) from the lessee, if the lessee can not use them, to a lessor that can.

4. SAIF

Savings Association Insurance Fund which insures deposits at savings and loans. This is one of the two insurance funds under FDIC. §See also **BIF**]

5. Sale And Lease-Back Agreement

In a sale and lease-back agreement, the owner of an asset sells it and then leases it back. This method allows cash-strapped firms to sell valuable assets, but still retain their use.

6. Sales Forecast

A key input to the firm's financial planning process. External sales forecasts are based on historical experience, statistical analysis, and consideration of various macroeconomic factors; internal sales forecasts are obtained from internal sources.

7. Sales Terms and Collections

The fastest way to collect receivables is to ask for the money regularly. However, a company also can change its sales terms in an attempt to collect cash more quickly. Such a policy can take several forms, including (i) introduce discounts; (ii) reduce credit terms; (iii) emphasize cash sales; (iv) accept credit cards; and (v) impose penalties for late payment.

8. Sales-Type Lease

An arrangement whereby a firm leases its own equipment, such as IBM leasing its own computers, thereby competing with an independent leasing company.

9. Sallie Mae

Student Loan Marketing Association which guarantees student loans. The asset structure of Sallie Mae is heavily dominated by floating-rate standard loans and advances. Investors supplying funds to Sallie Mae preferred to lock in the high rate prevailing at that time. Therefore, Sallie Mae, pioneered swap program in the US in 1982.

10. Sample-Function Analysis

Sample-function analysis regards a time series as an observed sample function representing a realization of an underlying stochastic process. Complicated parametric statistical-estimation procedures are used to determine the properties of time-series data.

11. Scalper

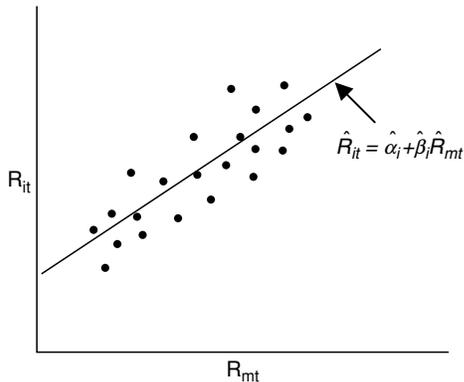
Speculators are often distinguished by the time they hold their position. They can either be scalper or day trader. Scalper is a trader who holds positions for a very short period of time.

12. Scatter Diagram of a Regression

For example, to estimate beta coefficient, we regress rate of return of company i in period t (R_{it}) on market rate of return in period t (R_{mt}), then the regression model can be defined as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \quad (1)$$

The estimated slope is the beta coefficient (systematic risk). In the regression analysis of equation (1) involving one independent variable (R_{mt}) and one dependent variable (R_{it}), the individual value of R_{it} and R_{mt} are plotted on a two-dimensional graph. In this two-dimensional graph, we can plot the different points in accordance with the pairwise observations of R_{it} and R_{mt} to obtain the scatter diagram as presented in the figure below.



13. Scenario Analysis

Scenario analysis provides a means to evaluate the potential variability in a capital budgeting project's NPV. Scenario analysis computes several net present values for the project based on different scenarios. The initial capital budgeting analysis using the analyst's estimates of expected cash flows is called the *base-case scenario*. From this base case, typically at least two other scenarios are developed – a worst-case scenario and a best-case scenario – and NPVs are computed for each. The worst case NPV and the best case NPV give managers a likely

range in which the project's NPV will fall. The purpose of scenario analysis is to examine the joint impact on NPV of simultaneous changes in many different factors.

The worst-case scenario should reflect project results under Murphy's law: "If anything can go wrong, it will." Compared to the base case, the worst-case scenario will have lower sales volume, lower prices, higher costs, shorter product life, lower salvage value, and so on. Rather than being an exercise in disaster forecasting, however, the worst-case scenario should reflect the circumstances that could reasonably be expected should the project be plagued with bad luck or bad analysis. Some of the firm's past failures can be used as models for developing the worst-case scenario. The resulting estimates of cash flows and NPV will reflect this pessimistic perspective.

The best-case scenario should illustrate how the project will turn out if everything works better than expected. The sales figures, prices, costs, and so on should incorporate the upper boundary of *reasonable* optimism. An unrealistic pie-in-the-sky scenario, however, will add little to the analysis. Spreadsheet packages can facilitate the analysis of different scenarios.

The analyst then presents decision makers with three sets of conditions, cash flows, and NPVs. The base-case represents an estimate of the most likely outcome; the worst-case and best-case scenarios illustrate the project's possible extremes. The NPVs of the worst-case and best-case scenarios represent the potential range of the project's impact on shareholder wealth. If the worst-case scenario has a large, negative NPV, management may call for more analysis to see if the project can be modified to reduce its potential for severely decreasing shareholder wealth.

Another possibility is that management may decide that the project's best-case scenario is so attractive that it overcomes the project's downside risk. This may be the case for a project with encouraging engineering or market test results or a project that may propel the firm into a position of industry leadership.

14. Season Dating

Arrangements for credit transactions include special terms for recurrent purchases and seasonal accounts. When a company routinely buys many items, the supplier commonly accounts for all sales during the month as occurring at the end of the month, eliminating the inconvenience of a separate payment for each delivery. These terms are stated as 5/10, EOM, net 60; that is, by paying the bill within 10 days of the end of the month (EOM), the customer will receive a 5-percent discount. Otherwise, full payment is due within 60 days of the invoice date. Manufacturers who produce seasonal goods often encourage customers to take early delivery by allowing them to delay payment until the normal ordering season, a type of credit arrangement known as season dating.

15. Seasonal Liquidity Needs

Cash flow needs that arise from predictable seasonal loan demands and deposit outflows.

16. Seasonal Swap

Notional principal may vary up or down over the life of the swap. Also known as roller coaster swap.

17. Seasoned New Issue

A new issue of stock after the company's securities has previously been issued. A seasoned new issue of common stock can be made by using a cash offer or a rights offer. [See also **Seasoned offering**]

18. Seasoned Offering

Not every public sale of stock by a corporation is an IPO. Corporate growth and/or high debt ratios require some public firms to return to the equity markets to raise funds. A new stock offering by an already public company is called a seasoned offering. Such offerings are easier for the investment

bank and investors to price. Rather than estimating fair market value from accounting data, as in an IPO, investors can refer to daily listings of the market value of the company's shares.

A public company that needs an equity capital infusion faces several choices. It can increase its equity base by selling shares of common or preferred stock, and it can raise money in the US market or issue securities overseas.

Only the US has a public financial market for preferred equity issues; other countries have not developed primary and secondary markets for preferred stock trading. As preferred equity increases a firm's equity base without diluting control, more and more foreign firms are issuing both fixed-rate and adjustable-rate preferred stock in the US markets.

Overseas tax and regulatory environments may make fund-raising cheaper for large US firms. Analysis of the Euroequity and Eurobond markets provides evidence of such cost advantages.

After a firm decides upon the form in which it will raise equity, it can market the new issue in several ways. It can sell the new shares to the public or to current shareholders or place them privately.

19. Seat

Another term for an exchange membership is a seat. A prospective member may buy a full seat, allowing him or her to trade any of the offered futures contracts. To encourage volume on newer or less liquid contracts, most exchanges usually also offer a partial seat. Permitting its owner to trade only a designated number of contracts. Usually, to get onto an exchange to trade, an investor needs to buy or lease a seat from a current owner. The value of an exchange seat can vary substantially.

20. SEC

Securities and Exchange Commission, which was established under the authority of the Securities

Act of 1933 and the Securities Exchange Act of 1934. The SEC regulate security firm such as Merrill Lynch and investment banking firm, such as Salomon Smith Barney and Goldman Sachs. [See also **Securities and Exchange Commission**]

21. Second Mortgage Bond

A second mortgage bond has a secondary, or junior, claim on assets. [See also **First mortgage bond**]

22. Secondary Capital

Limited life preferred stock, subordinated debt, and mandatory convertible securities not included as primary capital. Secondary capital is the Tier 2 capital, and primary capital is the Tier 1 capital.

23. Secondary Market

The secondary market is the resale market for securities. The issuing entity (corporation or government) is usually not involved in such transactions. In the secondary market, investors buy and sell securities among themselves. Without the liquidity that the secondary market provides, the primary market would be much less attractive because investors could not easily sell their securities.

The secondary market includes two forums for security trades: **organized exchanges** and an **over-the-counter market**. [See also **Organized exchanges** and **Over-the-counter market**] The New York Stock Exchange (NYSE) is an example of an organized exchange.

24. Second-Pass Regression

A cross-sectional regression of portfolio returns on betas. The estimated slope is the measurement of the reward for bearing systematic risk during the period. This technique was proposed by Fama and Macbeth (1973).

25. Sector Influences

In addition to an overall market factor, various factors related to industry-type indexes are significant in explaining the returns generating process for a particular security. Other potential additional indexes could be related to interest-rate movements and firm capitalization size. Shape (1984) finds quite a wide array of these additional factors, which he classifies as either systematic influences or sector influences. Sector influences includes eight factors: 1. basic industries; 2. capital goods; 3. construction; 4. consumer goods; 5. energy; 6. finance; 7. transportation; 8. utilities.

26. Sector Loadings

For correlation analysis, a firm or industry group is said to be dependent upon underlying economic factors or “sectors” such as: (i) the market as a whole, (ii) interest rates, (iii) oil prices, etc.. As two industries “load” are influenced by common factors, they will have a higher correlation between them. This kind of loading is called sector loading.

27. Securities and Exchange Commission

Public firms must submit to regulation by the Securities and Exchange Commission (SEC) and the exchange on which their shares are traded. Regulation means more paperwork to file and more attorneys’ fees to ensure that laws are not unintentionally broken. In the US, public firms must file annual and quarterly reports with the SEC, and corporate insiders who buy and sell the firm’s stock must report their transactions to the SEC. The firm must register most public offerings of securities (including the initial public offering) with the SEC and receive SEC approval before selling the securities to the public.

Experts on public policy have known for some time that most employment growth in the US comes from small businesses. To foster future growth, in 1992 the SEC adopted a series of rules to make it easier for small firms to raise public equity finan-

cing. The new regulations allow a firm to evaluate the potential market for its shares before committing to the time and expense of preparing a formal offering document.

Firms are allowed to raise up to \$1 million without registering the sale with the SEC. They can register securities worth up to \$5 million through the simpler and less costly Regulation A process rather than undergoing a full SEC review. The SEC estimates that the new regulations will reduce the cost of raising public equity by smaller firms by up to one-third. In addition, small public firms (by SEC definition, whose with sales less than \$25 million and market values of equity below \$25 million) will be able to file shorter, less comprehensive quarterly and annual SEC reports, thus reducing management's paperwork time and costs.

28. Securitization

Pooling loans for various purposes into standardized securities backed by those loans, which can then be traded like any other security. In sum, the process of converting assets into marketable securities is called securitization.

29. Security

Collateral which a borrower pledges against a loan or secondary source of repayment in case of default.

30. Security Analysis

Security analysis is used to determine correct value of a security in the marketplace. It is one of the three steps of forming portfolios of securities.

The selection of a portfolio of securities can be thought of as a multi-step process. The first step consists of studying the economic and social environment and the characteristics of individual companies in order to produce a set of forecasts of individual company variables. The second step consists of turning these forecasts of fundamental

data about the corporation and its environment into a set of forecasts of security prices and/or returns and risk measures. This step is often called the valuation process. The third and last step consists of forming portfolios of securities based on the forecast of security returns.

31. Security Characteristic Line

A plot of the excess return on a security over the risk-free rate as a function of the excess return on the market. [See also **Market model**]

32. Security Interest

The legal claim on property that secures a debt or the performance of an obligation.

33. Security Market Line (SML)

A straight line that shows the equilibrium relationship between systematic risk and expected rates of return for individual securities. According to the SML, the excess return on a risky asset is equal to the excess return on the market portfolio multiplied by the beta coefficient. [See also **Capital asset pricing model**]

34. Security Market Plane (SMP)

A plane that shows the equilibrium relationship between expected return and the beta coefficients of more than one factor.

35. Security Selection Decision

Choosing the particular securities to include in a portfolio. In general, the fundamental instead of technical analysis is used to select the particular stock to be in the portfolio.

36. Seesaw Effect

When bonds are originally issued, most sell at prices close to par and offer coupon rates close to

the market rates on bonds of similar maturity and risk. Over the life of a bond, its price will vary inversely to, or in the opposite direction of interest rate fluctuations in the economy. As interest rates rise in the economy, bond prices fall; as interest rates fall, bond prices rise. Since one rises as the other falls, we call this relationship between bond prices and interest rates the “seesaw effect.”

37. Selection Phase

Because managers want to maximize the firm’s value for the shareholders, they need some guidance as to the potential value of the investment projects. The selection phase involves measuring the value, or the return, of the project as well as estimating the risk and weighting the costs and benefits of each alternative to be able to select the project or projects that will increase the firm’s value given a risk target.

38. Self-Financing Portfolio

A hedge portfolio that retains specified characteristics (e.g., it is zero-investment and risk-free) without the need for additional investments in the portfolio.

39. Self-Liquidating Loans

In view of high exposure to risk for a comparatively low return, commercial banks have understandably tried to find ways to protect themselves. Until very recently, this effort led them to lend only short-term funds and only in the form of self-liquidating loans – that is, they loaned money only for specific purposes and operations that would produce adequate cash flows to retire the debt quickly. The perfect example of such a self-liquidating situation is a working-capital loan made to a manufacturer or retailer that has a marked seasonal sales pattern.

For example, retail sales of a toy manufacturer’s product peak just before Christmas each year. The manufacturer’s own sales peak probably comes in

August; however, when retailers and toy distributors are building up their inventories for the buying season, to meet this demand, the manufacturer must schedule a high level of production from May through July. In May of each year, therefore, the company takes out a loan from its bank to provide added working capital to finance the build up in inventory. By September, heavy sales draw down the inventory to normal levels. Most of these sales, however, are made on terms of net 30 days, giving the company a large accounts receivable balance, but little cash. Finally, by early November, the customers pay their accounts, and collections of accounts receivable provide enough cash flow to retire the bank loan. Thus, the loan is self-liquidating in six months.

This is a classic bank lending situation. The bank knows before it makes the loan exactly how long the funds will be needed. The relatively short life of the loan increases the bank’s liquidity. By making a fairly large number of predictable, short-term loans, a bank feels comfortable lending the highest proportion of its funds that regulations permit. In other words, it will want to lend up to its loan limit, or be fully loaned. If a bank finds little demand for self-liquidating, seasonal loans, it may be forced to lend in longer term, less predictable situations. Caution would probably lead this bank to keep a higher proportion of its funds in marketable securities to preserve its overall liquidity.

This traditional scenario has been transformed by important changes in bank practices during recent years. Commercial banks no longer stress the self-liquidating requirement as strongly as they once did. As the suppliers of short-term financing have become more competitive, banks have become more willing to provide longer term funds in the form of term loans. These new practices are creating an increasingly flexible source of short-term and intermediate-term funds for business organizations.

40. Sell Offs

[See also **Voluntary restructuring**]

41. Semistrong-Form Efficient Market

Different assumptions about information availability give rise to different types of market efficiency. [See also **Efficient market**]

In a semistrong-form efficient market, all *public* information, both past and current, is reflected in asset prices. The US stock market appears to be a fairly good example of a semistrong-form efficient market. For the most part, news about the economy or individual companies appears to produce quick stock price changes without subsequent trends or price reversals.

42. Seniority

The order of repayment; in the event of bankruptcy, senior debt must be repaid before subordinated debt receives any payment.

43. Sensitivity Analysis

Scenario analysis simultaneously modifies many variables that affect cash flows and net present value (NPV) to build different scenarios. [See also **Scenario analysis**] Sensitivity analysis changes one variable at a time from its base-case value; this isolates the effects on NPV of changes in individual variables. If large changes in NPV occur when the product price assumption or exchange rate assumption changes by, for example, 10 percent, then additional research may be warranted to better determine the likely market price or exchange rate. On the other hand, if NPV is relatively stable as the assumed salvage value changes, then great effort should not be expended in order to determine a more accurate estimate of salvage value.

One method for doing sensitivity analysis is to change each individual variable from its base-case value by some amount, say 5 percent or 10 percent, while holding all other variables constant at their base-case values. The resulting NPVs are computed and then recorded or graphed. A steep NPV graph indicates a variable that has a major

impact on project success, especially as the NPV of the project is negative for some reasonable values of the variable. A more gently sloped NPV graph shows that a variable does not have a major influence on NPV, so additional research on likely values of this variable probably is not warranted. Spreadsheet packages allow sensitivity analysis to be done with ease.

Rather than arbitrarily changing each variable by some fixed percentage, the analyst might take a cue from scenario analysis and determine best-case and worst-case values for each variable. NPVs can be computed as each variable is adjusted to its best- and worst-case estimates while all other variables are held at their base-case amounts. This combination of sensitivity analysis can pinpoint which worst-case and best-case values affect NPV by the greatest amount.

44. Separation Property

The property that portfolio choice can be separated into two independent tasks: (1) determination of the optimal risky portfolio, which is a purely technical problem, and (2) the personal choice of the best mix of the risky portfolio and the risk-free asset.

45. Serial Bond Issue

An issue of bonds with staggered maturity dates that spreads out the principal repayment burden over time.

46. Serial Bonds

A series of bonds offered by the same issuer with principal payments that are due at different maturities. Serial bonds are common for municipal bond issuers.

47. Serial Correlation

[See also **Autocorrelation**]

48. Serial Covariance

The covariance between a variable and the lagged value of the variable; the same as autocovariance.

49. Series of Options

A series is a subset of a class and consists of all contracts of the same class (same asset) having the same expiration date and exercise price.

50. Service Charges

Fees imposed for bank services. They are a small portion of operating income for all banks, but they are more important for small banks.

51. Service Corporation

A corporation formed by Saving and Loan Association to conduct diversified line of business.

52. Set of Contracts Perspective

View of corporation as a set of contracting relationships among individuals who have conflicting objectives, such as shareholders or managers. The corporation is a legal contrivance that serves as the nexus for the contracting relationships.

53. Settlement

The time in a transaction at which all obligations of both the buyer and the seller are fulfilled.

54. Settlement Date

The actual exchange of one currency for another occurs on the settlement date. Settlement is handled by an association of 12 New York banks called CHIPS (Clearing House Interbank Payments System).

55. Settlement Price

A figure determined by the closing-price range that is used to calculate daily gains and losses in futures-market accounts (and thus margin calls) and invoice prices for deliveries.

56. Share-Equivalent

The position in shares that has equivalent dollar risk to a derivative. [See also **Delta**]

57. Shareholder

Holder of equity shares. The terms *shareholders* and *stockholders* usually refer to owners of common stock in a corporation.

58. Shareholder Wealth

Shareholder wealth is measurable and observable daily in the financial sections of newspapers (at least for publicly traded firms). Shareholder wealth is nothing more than the market value of a firm's common stock. This market value of the shareholders' claim on a firm is equal to:

$$\text{Shareholder wealth} = (\text{Common stock price}) \\ \times (\text{Number of common shares outstanding}).$$

This relationship allows analysts to keep track of changes in shareholder wealth for competing firms in an industry on a regular basis to see which is most successful at returning value to its shareholders. As long as the number of common stock shares outstanding does not change appreciably, the market's perception of the firm and its management's actions will be reflected in the firm's stock price.

Many possible criteria can be used to evaluate firm performance. Total sales, the growth rate of the firm, market share, management's strategy, or earnings per share frequently are suggested as bases for evaluating and analyzing firms. We argue, however, that shareholder wealth is the

best measure of firm performance for several reasons.

First, shareholder wealth is an objective, market-determined measure. It is not subject to manipulation (except in violation of securities laws) or limited to subjective evaluation. The value of a firm's stock is based on the joint decision of many investors, who generally are forward-looking and trade in markets that determine unbiased prices.

Second, any accounting performance measure (such as sales, earnings, or firm growth) is vulnerable to distortion by accounting principles, whose application may be somewhat "subjective (such as when to recognize revenue or how quickly to depreciate assets). Rather than present an unbiased view of firm performance, accounting statements may be oriented toward the perspective that management wants to present. Additionally, accounting-based performance measures are always *historical*. They tell us where the firm has been. In contrast, shareholder wealth is a forward-looking measure) incorporating the market's objective assessment of the firm's prospects for the future.

Third, growth for the sake of growth or merely to increase market share may have dangerous long-run implications. It would be folly to invest scarce capital in plant, equipment, and workers with no plan for how these investments will pay for themselves and return capital (plus interest) to the financial markets. The firm may win the short-term market-share battle but lose the long-term war as poor returns on investments hurt its ability to raise capital, repay loans, and pay bills and workers. The firm may find it difficult to maintain its short-sighted market-share gains as leaner and more financially responsible rivals counterattack at the firm's weak points to reclaim their lost customers. Thus, sacrificing financial value for market share does not lead to successful, long-term business. Maximizing shareholder value does.

Fourth, a shareholder wealth orientation ensures adequate consideration of risk in a firm's decisions. A basic principle of finance is the risk/return tradeoff. Higher risk investments must offer

higher expected returns; otherwise, investors will purchase assets that offer the same return with less risk, or a higher return for the same risks. Projects that attempt to increase a firm's earnings or cash flow may favorably affect the *size* and *timing* of cash flows, but they may ignore the *risk* component. Increases in a firm's exposure to risk, even in the face of rising earnings, may lead to a *lower* firm and shareholder value. Attempts to maximize returns without considering risk may harm the firm's long-run viability and value to shareholders, creditors, and employees.

Fifth, shareholder value is the best performance measure because it represents the firm's performance from the perspective of those who have their capital most at risk, namely, its owners. Bondholders or bankers are not owners, but creditors; they receive their interest and principal payments before shareholders receive any cash from the firm. Although a very important component of any successful firm, employees resemble creditors; in exchange for their labor, they receive income from the firm's owners. Overemphasizing customer quality, satisfaction, or service may lead to happy customers, but uncontrolled cost increases to meet these needs without sufficient revenues may ultimately lead to the firm's demise. Lenders, fearing nonpayment, may cut off lines of credit; employees, fearing cutbacks, may leave to take other jobs; and the financial market, upset with the firm's poor use of capital, may downgrade its value, harming its owners.

Focusing on shareholder value rectifies all of these potential problems. Smart managers make decisions to service customers in a cost-efficient manner. They treat and pay employees fairly; otherwise, unmotivated and unhappy employees become unproductive, cost-increasing employees who prevent the firm from satisfying its goals. By focusing on firm value, managers work to maintain stable relationships with financing sources so funds will be available to finance future growth or re-trenchment needs.

Some may wonder whether focusing on shareholder wealth may be detrimental to the nonfinancial

aspects of the firm. Quite the opposite, focusing on shareholder wealth is the best means of helping the long-term survival of the firm in a dynamic, global economy. Shareholder value simultaneously considers all of the influences on the firm; decisions that are made to maximize shareholder wealth reflect the best interests of all of the firm's constituents or stakeholders.

In particular, decisions to maximize shareholder wealth may benefit employees. Managers realize that a happy, stable work force both increases productivity and reduces costs. Human resource departments of firms often conduct studies to compare the benefits and costs of offering programs to meet workers' needs. For example, an on-site day care center for workers' preschool-aged children can benefit both the employees and shareholders by reducing employee absenteeism and job turnover. Similarly, innovations in flexible worker scheduling and career planning can add value to the firm by reducing employee turnover and the subsequent costs of hiring and training new workers. Wellness programs encourage healthy eating and exercise habits among employees and can reduce both absenteeism costs and health insurance premiums. Workers for some firms periodically leave the factory and visit customers to learn more about customers' needs. This results in better motivated workers who can appreciate the importance of their job to the customer.

Shareholder wealth as a measure of firm performance is objective and forward-looking, and it incorporates all influences on the firm and its stakeholders. No other measure of firm performance is as inclusive and practical as a means for evaluating a firm's strategies.

59. Shark Repellent

Shark repellents are anti-takeover amendments that firms add to their corporate charters to protect themselves from unfavorable takeovers. One such strategy is a supermajority rule that requires 95 percent of a firm's shareholders to approve a **tender offer**. [See also **Tender offer**] Another technique is a fair price amendment, which requires a

suitor to acquire stock at essentially one price. To a certain extent, this protects the shareholders of the firm against two-tier acquisitions, in which the acquiring firm acquires one block of stock at a high price and then the remaining shares at a substantially lower price.

60. Sharpe Ratio

For an asset, the ratio of the risk premium to the return standard deviation (i.e., $\bar{R}_i - R_f / \sigma_i$), where \bar{R}_i is average rate of return for *i*th security or portfolio; R_f is the risk-free rate, and σ_i is the standard deviation of rates of return for *i*th security or portfolio.

61. Sharpe's Measure

Reward-to-volatility ratio; ratio of portfolio excess return to standard deviation. [See also **Sharpe ratio**]

62. Shelf Life

Number of days it takes to get goods purchased and sold, or days in inventory.

63. Shelf Registration

The shelf registration process saves issuers both time and money. There is no cost or penalty for registering shelf securities and then not issuing them. Filing fees are relatively low, and the firm can take some securities from the shelf and sell them immediately through one underwriter and then sell more later with another underwriter. This technique allows the issuer to determine which investment bank offers the best service.

Not every firm can use shelf registration. Firms must meet several size, credit quality, and ethics requirements:

1. The market value of the firm's common stock must be at least \$150 million.
2. The firm must have made no defaults on its debt in the previous three years.

3. The firm's debt must be investment grade (rated **BBB** or better).
4. The firm must not have been found guilty of violation of the Securities Exchange Act of 1934 in the previous three years.

Despite its attractiveness and lower cost, few firms have chosen to sell seasoned equity through shelf registration; one study found that only 5.6 percent of seasoned equity offerings were shelf registered. As this suggests, shelf registration does have several drawbacks for equity issues. The first is that the securities are sold with no prior due diligence and analysis by an investment bank. An investment bank may assist in selling shelf-registered securities; but its role is limited to marketing the shares, rather than serving as an independent, analytical third party. Consequently, the investment bank can provide little or no certification effect. In fact, the issuer can entirely bypass investment banks when selling shelf-registered stock; it can sell the shares directly to dealers and investors on a stock exchange.

Investors may see a second drawback since the firm can decide when to sell shelf-registered securities. A firm commitment underwriting may take several months. During that time, the firm is at risk of an adverse price move. A shelf offering imposes essentially no delay between submitting the short registration form and selling the shares. This gives the issuer the opportunity to wait for a run-up in the stock price before issuing shares, but smart investors may suspect a shelf sale of equity as a sign that the shares are overpriced.

For a third disadvantage, a shelf registration of common shares leads to uncertainty, which investors do not like. Investors view the shares sitting on the shelf as overhanging the market, ready to be sold at any moment. This potential supply of shares depresses prices and raises investors' concerns about opportunistic stock sales.

64. Short

A position is short with respect to a price if the position profits from a decrease in that price.

A short-seller of a stock profits from a decrease in the stock price and, hence, is short the stock. A seller of an option profits from a decrease in volatility and, hence, is short volatility.

65. Short Call

Selling a call (writing it) has risk-reward characteristics which are the inverse of the long call. However, one major distinction arises when writing calls (or puts) rather than buying them. That is, the writer can either own the underlying asset upon which he or she is selling the option (a **covered write**), or simply sell the option without owning the asset (**naked write**). [See also **Covered write** and **Naked write**]

66. Short Forward

The party to a forward contract who has an obligation to sell the underlying asset.

67. Short Hedge

Sale of a futures contract to protect against a price decline.

68. Short Position or Hedge

The sale of a futures contract in anticipation of a fall in the price of the underlying asset. Also obligates delivery of the commodity of financial instrument (and payment) if the position is left open to maturity.

69. Short Put

A put that has been sold (write a put) can be covered or uncovered.

70. Short Rate

The interest rate applying for a very short period of time.

71. Short Rebate

The rate of return paid on collateral when shares are borrowed.

72. Short Run

That period of time in which certain equipment, resources, and commitments of them are fixed. [See also **Long run**]

73. Short Squeeze

[See also **Squeeze**]

74. Short-Against-the-Box

The short-sale of a stock that the short-seller owns. The result of a short-against-the-box is that the short-seller has both a long and short position and, hence, bears no risk from the stock yet receives the value of the share from the short sale.

75. Short-Run Operating Activities

Events and decisions concerning the short-term finance of a firm, such as how much inventory to order and whether to offer cash terms or credit terms to customers.

76. Short-Sale

A transaction in which an investor borrows a security, sells it, and then returns it at a later date to the lender. If the security makes payments, the short-seller must make the same payments to the lender.

77. Short-Term Debt

An obligation having a maturity of one year or less from the date it was issued. Also called unfunded debt. It includes accounts payable, notes payable etc.

78. Short-Term Risk-Free Rate

T-bill ratio is the short-term risk free rate and T-bond rate is the long-term risk-free rate.

79. Short-Term Securities

Securities that mature in one year or less. These securities include T-bill, commercial paper and other.

80. Short-Term Tax Exempts

Short-term securities issued by states, municipalities, local housing agencies, and urban renewal agencies.

81. Shortage Costs

Costs that fall with increases in the level of investment in current assets.

82. Shout Option

A shout call option expiring at time T has the payoff $\max(0, S_{\hat{t}} - K, S_T - K)$, where \hat{t} is the time; and $S_{\hat{t}}$ is the price at which the option holder "shouted," thereby guaranteeing an expiration payoff at least as great as $S_{\hat{t}} - K$ [See also **Deferred-strike option**]

83. Side Effects

Effects of a proposed project on other parts of the firm. These effects can either be positive or negative.

84. Sight Draft

A sight draft is payable on presentation to the importer and the exporter usually receives the proceeds within one to two weeks. Normally, the exporter's bank (or its correspondent bank in the buyer's country) does not present the draft for payment by the importer until the merchandise

has been delivered (usually by ship). When the importer (the buyer) has verified that all the paperwork is in order and that the goods have arrived, it pays the bank and receives title to the merchandise.

85. Sigma

[See also **Vega**]

86. Signaling Approach

Approach to the determination of optimal capital structure asserting that insiders in a firm have information that the market does not; therefore the choice of capital structure by insiders can signal information to outsiders and change the value of the firm. This theory is also called the asymmetric information approach.

87. Simple Interest

Simple interest, unlike compound interest, pays a return only on the principal (the money originally invested) over successive periods. To calculate simple interest, multiply the principal by the interest rate, and multiply again by time. Simple interest does not include any compounding.

88. Simple Linear Regression

Simple linear regression is a statistical technique that fits a straight line to a set of data points, thus providing an expression for a relationship between two variables. One of the more widely used regression techniques is the method of least squares. If x_i is the independent variable and y_i is the dependent variable, the linear equation as:

$$y_i = \alpha + \beta x_i + e_i,$$

can be solved, where α = intercept; β = slope of the least-squares line; e_i = error term.

The values α and β for n observations of x and y can be estimated as:

$$\hat{\alpha} = \frac{(\sum y)(\sum x^2) - (\sum x)(\sum xy)}{n(\sum x^2) - (\sum x)^2} = \bar{y} - \hat{\beta}\bar{x},$$

$$\hat{\beta} = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2} = \frac{\text{Cov}(x,y)}{\text{Var}(x)}$$

in which $\text{Cov}(x,y)$ stands for the covariance that is

$$\sum_{i=1}^n \frac{(y_i - \bar{y})(x_i - \bar{x})}{n},$$

and $\text{Var}(x)$ stands for the variance:

$$\sum_{i=1}^n \frac{(x_i - \bar{x})^2}{n}.$$

89. Simple Prospect

An investment opportunity where a certain initial wealth is placed at risk and only two outcomes are possible.

90. Simulation

[See also **Monte Carlo simulation**]

91. Simulation Analysis

In reality, every variable relevant to the capital budgeting decision can be viewed as a random variable. **Scenario analysis** and **sensitivity analysis** limit the randomness aspects of each item by examining only a few values of each variable. [See also **Scenario analysis** and **Sensitivity analysis**] Simulation analysis attempts to realistically portray the relevant inputs to the capital budgeting project as random variables. Each variable, whether it be price, variable cost, project life, or some other item, is assumed to have a probability distribution with a known mean and variance.

In each simulation trial, computer analysis uses a random number generator to select values from each variable's probability distribution as the basis for net present value (NPV) calculation. This process is repeated many times; each time, numbers are randomly drawn from each probability

distribution. After replicating the trials several thousand times, the statistical distribution of the computed NPVs is plotted, and the average NPV and its variance are computed. Unlike the NPV point estimates derived from scenario or sensitivity analysis, simulation analysis gives an estimated distribution of potential NPVs.

Of course, the simulation output is only as accurate as the inputs. It is likely that an inaccurate NPV distribution will result if inappropriate probability distributions, means, and variances are used as inputs.

92. Single Index Model

A model of stock returns that decomposes influences on returns into a systematic factor, as measured by the return on a broad market index, and firm-specific factors. This method can be used to simplify the portfolio selection process. [See also **Market model**]

93. Single-Country Funds

Mutual funds that invest in securities of only one country. It is a closed-end fund.

94. Single-Factor Model

A model of security returns that acknowledges only one common factor. [See also **Factor model**]

95. Single-Price Auction (Dutch Auction)

In an important experiment begun in 1992, the Fed instituted a single-price, or Dutch, auction system for selected 2-year and 5-year Treasury notes. In a traditional Treasury auction, securities are allocated to the highest bidders, in descending order of the prices they bid, until all securities to be issued are awarded. Thus, winning bidders for the same security pay different amounts, and the highest bidder pay the same price. Many experts believe that the traditional bidding system encourages primary

dealers, who must bid at every auction, to collude in their efforts to minimize the winner's curse. The traditional system may also encourage cornering: Winning bidders may attempt to compensate for the winner's curse by earning excess profits as they resell securities they have won at the auction.

96. Sinking Fund

It is a procedure that allows for the repayment of principal at maturity by calling for the bond issuer to repurchase some position of the outstanding bonds. An indenture may require the firm to retire specified portions of the bond issue over time through payments to a sinking fund. This provides for an orderly and steady retirement of debt over time. Sinking funds are more common in bonds issued by firm with lower credit ratings; a higher quality issuer may have only a small annual sinking fund obligation due to a perceived ability to repay investors' principal at maturity.

A sinking fund affects the maturity of a bond issue since it allows the firm to retire the issue in bits and pieces over time. After a deferral period following the primary market offering, the sinking fund requirement usually can be satisfied in one of two ways. First, the issuer can select specific bonds for retirement by randomly drawing serial numbers. Investors whose numbers are drawn must return their bonds to the firm in exchange for repayment of principal. The issuer effectively calls in portions of the issue over time.

The second way to meet the sinking fund requirement is to purchase bonds from willing investors in the secondary market. Secondary market purchases become attractive if the bond's market price is less than par.

97. Size Effect

The portfolios of the firm with the smallest market value experienced return that were, both economically and statistically, significantly greater than the portfolios of the firm with large market value.

98. Skewness

A statistical measure which characterizes the asymmetry of a distribution around its mean. Positive skewness indicates asymmetric tail extending toward positive values (right-hand side). Negative skewness implies asymmetry toward negative values (left-hand side). It is the third moment of a distribution. To calculate the sample skewness of random variable X as:

$$S_x = \frac{N}{(N-1)(N-2)} \sum_{i=1}^N \left(\frac{X_i - \bar{x}}{\sigma_X} \right)^3,$$

where N is the number of observations; and \bar{x} is the sample mean.

The distribution of losses across a credit portfolio will be positively skewed if there is positive correlation between obligors or the size/number of exposures is coarsely granular. This means that the confidence interval out on the downside tail will be further away from the mean than would be expected given the portfolio's standard deviation alone.

99. Skip-Day Settlement

A convention for calculating yield that assumes a T-bill sale is not settled until two days after quotation of the T-bill price.

100. Small Company Offering Registration

Several states offer programs to ease the process of public equity financing for firms within their borders. A firm in a state that has enacted a SCOR (Small Company Offering Registration) law can raise \$1 million by publicly selling shares worth at least \$5. This law creates a fairly standardized, fill-in-the-blank registration document to reduce a firm's time and cost in preparing an offering. A firm can sell shares from a SCOR offering in other states with minimal notice to the SEC. According to estimates, a SCOR offering can reduce issuing costs by up to one-half for small firms.

101. Small Issues Exemption

Issues of less than \$50 million are governed by Regulation A. Under the Regulation A, only a brief offering statement instead of a lengthy regular statement is needed. Securities issues that involve less than \$1.5 million are not required to file a registration statement with the Securities and Exchange Commission. For Regulation A to be operative, no more than \$1.5 million may be sold by insiders.

102. Small-Firm Effect

Market anomaly whereby small companies exhibit a propensity to produce rates of return that are larger than those predicted on the basis of the capital asset pricing model.

103. Society for Worldwide Interbank Financial Telecommunications

The Society for Worldwide Interbank Financial Telecommunications (SWIFT) is not a settlement system, but a communications system that facilitates settlement of wire transfers through banks in different countries. Currently, over 1,600 banks maintain membership in the system, most of them located in the US and Europe. The innovative feature of SWIFT is the standardization of messages so that computer software throughout the world can read SWIFT messages. The SWIFT network handles all types of customers and bank transfers.

104. Soft Dollars

The value of research services that brokerage houses supply to investment managers "free of charge" in exchange for the investment managers' business.

105. Sole Proprietorship

A business owned by a single individual. The sole proprietorship pays no corporate income tax but

has unlimited liability for business debts and obligation. [See also **Proprietorship**]

106. Sovereign Risk

[See also **Country risk**]

107. Spark Spread

The difference between the price of electricity and that of the quantity of natural gas required to produce the electricity. Actually the operation cost to produce electricity includes not only gas cost. Therefore, the spark spread is the variable component of the marginal profit.

108. Special Drawing Rights (SDRs)

SDRs are a form of currency related by IMF in the 1970s to increase world liquidity. SDRs are a weighted average of the US dollar, the German mark, the Japanese yen, the French franc, and British pound.

109. Specialist

Individual on the floor of an organized exchange who keeps an inventory of one or more stocks and trades with floor brokers out of that inventory.

110. Speculation

Undertaking a risky investment with the objective of earning a greater profit than an investment in a risk-free alternative (a risk premium). The distinction between hedging and speculation comes not from which side of futures contract one takes but from the motivation for entering into the contract.

111. Speculative-Grade Bond

Bond rate Ba or lower by Moody's, or BB or lower by Standard & Poor's, or an unrated bond.

112. Speculator

A market participant who is willing (for a price) to take on the risk the hedger wishes to eliminate. This trader goes long or short on a contract without having, or intending to take, an opposite position in the cash market. Speculator can be either scalper or day trader. [See also **Scalper**]

113. Spin-Off

In a spin-off, a parent firm distributes all shares in a wholly owned subsidiary to its shareholders, thus creating a new corporate entity (although the same owners have the same percentage of shares in the new firm). A spin-off may involve either the stock of an existing subsidiary or newly created stock representing ownership in the disposed unit.

114. Spontaneous Financing

Short-term financial planning involves much more of the firm's operations than working capital management alone; it extends to management of all of the firm's current assets and current liabilities and their interrelationship. In practice, financial managers make little or no distinction between investment decisions involving current assets and financing decisions involving current liabilities. Current assets and current liabilities often are too closely related for such separate treatment. Both current asset and current liability accounts increase simultaneously, providing financing (at least in the short run) for the investment. For example, when the firm obtains inventory on credit, it generates an account payable. This is called spontaneous financing.

115. Spot Curve

The set of zero-coupon bond prices with different maturities, usually inferred from government bond prices.

116. Spot Exchange Rate

The spot exchange rate represents the exchange rate for an immediate exchange of two currencies. The actual exchange of one currency for another occurs on the settlement date, up to two days later.

117. Spot Interest Rate

Interest rate fixed today on a loan that is made today. In addition, it can also refer to the interest rate on an investment that is made for a period time starting from today and last for n years.

118. Spot Market Transaction

Cash or spot market transaction represent the exchange of any asset between two parties who agree on the asset's characteristic and price, where the buyer tenders payment and take possession of the asset when the price is set. [See also **Forward contract**]

119. Spot Price

The current price of the commodity if purchased in the cash or "spot" market.

120. Spot Rate

The current interest rate appropriate for discounting a cash flow of some given maturity.

121. Spot Trade

There are three types of trade that take place in the foreign exchange market: spot, forward and swap. Spot trade involves an agreement on the exchange rate today for settlement in two days.

122. Spot Volatilities

The volatilities used to price a cap when a different volatility is used for each caplet. [See **Flat volatility**]

123. Spot-Futures Parity Theorem

Describes the theoretically correct relationship between spot and futures prices. Violation of the parity relationship gives rise to arbitrage opportunities.

124. Spread

Refers to the simultaneous purchase and sale of futures contracts for (1) the same commodity or instrument with different maturity months or (2) commodities in different but related markets.

125. Spread (futures)

Taking a long position in a futures contract of one maturity and a short position in a contract of different maturity, both on the same commodity.

126. Spread (options)

A combination of two or more call options or put options on the same stock with different exercise prices or times to expiration. A *money spread* refers to a spread with different exercise price; a *time spread* refers to differing expiration date.

127. Spread Underwriting

Difference between the underwriters's buying price and the offering price. The spread is a fee for the service of the underwriting syndicate.

128. Spreadsheet

A computer program that organizes numerical data into rows and columns on a terminal screen, for calculating and making adjustments based on new data.

129. Squeeze.

The possibility that enough long positions hold their contracts to maturity that supplies of the commodity are not adequate to cover all contracts. A *short squeeze* describes the reverse: short

positions threaten to deliver an expensive-to-store commodity.

130. Stable Distribution

A probability distribution for which sums of random variables have the same distribution as the original random variable. Stable distribution can be classified as normal stable distribution and nonnormal stable distribution. The normal distribution is stable because sums of normally distributed random variables are stably distributed.

Nonnormal stable distribution can be further classified into (a) Symmetric stable distribution and (b) non-symmetric stable distribution. This kind of distribution can be used to describe the distribution of the real return of the stock prices.

131. Stable Dividend Policy

The Lintner (1956) study reinforces the notion that dividend policy conveys information to investors. Many financial managers strive to maintain steady or modestly growing dividends and avoid large fluctuations or changes in dividend policies. Reducing dividend fluctuations helps reduce investor uncertainty about future dividends. Lower risk leads to higher stock prices. Managers resist increasing dividends if they do not expect to maintain the increase in the future. This supports a predominant policy of maintaining historical dividends.

If firms hesitate to raise dividends too quickly, they positively abhor the prospect of reducing dividends, for several reasons. First, many individuals and institutions require large cash flows from their investments. For example, retired people in lower tax brackets generally covet high dividend payments. Tax-exempt institutions, such as endowment funds or pension funds, also need high current income and therefore desire high dividends. Miller and Modigliani argue that these in-

dividuals or institutions should ignore a stock's level of dividends because they always can liquidate some of their holdings in order to generate substantial transaction costs, especially brokerage fees. In addition to the time involved in deciding to sell securities, investors may exhaust all of their principal, leaving none for future income requirements.

Second, managers often resist reducing dividends also because a cut in dividends may be interpreted by the investment community as a signal of trouble with the firm or a result of poor management. Even if the reduction is intended to allow the firm to pursue an attractive opportunity, it may adversely affect stock prices.

A third reason that firms resist reducing dividends involves the legal list. Many large, institutional investors are bound by the prudent man rule, or by legislation, to buy only securities that are included on the legal list. One criterion of the list is a long history of continued dividend payments without dividend reductions. Therefore, a firm that reduces or omits a dividend payment faces the risk of being ineligible for purchase by certain institutional investors.

A stable dividend policy can become a sort of self-fulfilling prophecy. An unexpected rise or reduction in dividends can have an announcement effect on the firm's share price. An increase in dividends may lead investors to perceive a promising future and share price may increase. A drop in dividends may lead investors to fear a less promising future, resulting in a drop in share price. These perceptions may be accurate if managers themselves feel it is important to avoid fluctuations, especially cuts. In such a company, investors would be correct in viewing dividend declarations as sources of information.

132. Stack and Roll

A hedging strategy in which an existing stack hedge with maturing futures contracts is replaced by a new stack hedge with longer dated futures contracts.

133. Stack Hedge

Hedging a stream of obligations by entering future contracts with a *single* maturity, with the number of contracts selected so that changes in the *present value* of the future obligations are offset by changes in the value of this “stack” of futures contracts.

134. Staggered-Maturity Plan

A common practice among bond-portfolio managers is to evenly space the maturity of their securities. Under the staggered-maturity plan bonds are held to maturity, at which time the principal is reinvested in another long-term maturity instrument. Little managerial expertise is required to maintain the portfolio and the maturing bonds and regular interest payments provide some liquidity.

135. Stakeholders

Both stockholders and bondholders are stakeholders of a firm.

136. Stand-Alone Percent Standard Deviation

Stand-alone standard deviation expressed as a percentage of the mean value for the given asset.

137. Stand-Alone Principle

To properly estimate the cash flows of a proposed capital budgeting project, the project must be viewed in isolation from the rest of the firm. This stand-alone principle ensures that analysts focus on the project’s own cash flows, uncontaminated by cash flows from the firm’s other activities.

138. Standard & Poor’s Bond Rating

AAA – bonds of highest quality.

AA – high-quality debt obligations.

A – Bonds that have a strong capacity to pay interest and principal but may be susceptible to adverse effects.

BBB – bonds that have an adequate capacity to pay interest and principal, but are more vulnerable to adverse economic conditions or changing circumstances.

BB, B, CCC – primary speculative bonds with great uncertainties and major risk if exposed to adverse conditions.

C – income bonds on which no interest is being paid.

D – bond is in default.

139. Standard and Poor’s 500 Composite Index (S&P 500)

The S&P 500 index comprises industrial firms, utilities, transportation firms, and financial firms. Changes in the index are based on changes in the firm’s total market value with respect to a base year. Currently, the base period (1941–1943 = 10) for the S&P 500 index is stated formally as:

$$\text{S\&P 500 index} = \frac{\sum_{i=1}^{500} P_{ti} Q_{ti}}{\sum_{i=1}^{500} P_{0i} Q_{0i}} \times 10,$$

where P_{0i} = per-share stock price at base year 0; P_{ti} = per-share stock price at index data t ; Q_{0i} = number of shares for firm i at base year 0; Q_{ti} = number of shares for firm i at index year t .

The index is multiplied by an index set equal to 10. The specification of this index is identical to that of the value index indicated in the equation.

140. Standard Deviation

The standard deviation, σ , is simply the square root of the **variance**. [See also **Variance**]

$$\sigma = \sqrt{\sigma^2}.$$

The standard deviation formula gives units of measurement that match those of raw data.

Standard deviation can be given a statistical interpretation to help give the analyst an intuitive

feel for the possible range of returns that can occur. For example, if the underlying distribution of data is approximately normal, we expect 68 percent of the data terms to fall within one standard deviation of the mean, that is, $\bar{X} \pm \sigma$. About 95 percent of observed returns will fall within two standard deviations of the average $\bar{X} \pm 2\sigma$. Actual returns should fall within three standard deviations of the mean, $\bar{X} \pm 3\sigma$, about 99 percent of the time. Thus, if the mean and standard deviations are known, a rough range for future values can be estimated. [See also **Coefficient of variation**]

141. Standardized Normal Distribution

A normal distribution with an expected value of 0 and a standard deviation of 1. [See also **Standard deviation**]

142. Standby Fee

Amount paid to an underwriter who agrees to purchase any stock that is not subscribed to the public investor in a rights offering.

143. Standby Underwriting

An agreement whereby an underwriter agrees to purchase any stock that is not purchased by the public investor.

144. Standstill Agreements

Contracts where the bidding firm in a takeover attempt agrees to limit its holdings of another firm. These agreements usually lead to cessation of takeover attempts and it has had a negative effect on stock prices.

145. State of the World

It is a credit rating migration outcome; a new credit rating arrived at the risk horizon. This can

be either for a single obligor on a stand-alone basis or jointly between two obligors.

146. Stated Annual Interest Rate

The interest rate expressed as a percentage per annum by which interest payment is determined. [See also **Nominal interest rate**]

147. Stated Interest Rate

[See **Annual percentage rate**]

148. Statement of Cash Flows

The statement of cash flows (Financial Accounting Standards Board [FASB] Statement Number 95) can be derived using the balance sheets for two consecutive years and the most recent year's income statement. These inputs give the analyst insight into the firm's cash inflows and outflows; that is, they indicate how the firm raised and spent cash. It shows how income statement items and changes in balance sheet accounts affect the firm's cash position.

The statement of cash flows has three sections: cash flows from operating activities, cash flows from investing activities, and cash flows from financing activities. The sum of the cash flows from these three sections gives the net change in the cash position of the firm. In the language of the accountant, the items in this statement are "reconciled to cash."

The first step in constructing a statement of cash flows is to compute the change in each item between the beginning and ending balance sheets and to classify each as a source or a use of cash. Generally, a source of cash creates a cash inflow: a use of cash generates a cash outflow. A source of cash results when an asset account (except for the cash account) is *decreased* or when a liability or equity account is *increased*. Let's look at this intuitively. A reduction in accounts receivable implies that customers sent cash to the firm to pay their bills;

a reduction in inventory implies that goods have been sold; a decline in fixed assets implies that assets have been sold for cash. Likewise, increases in accounts payable, notes payable, or debt figures imply that the firm has taken on additional financing sources; an increase in a common or preferred stock account implies that the firm has raised funds by a stock issue.

A use of cash leads to a cash outflow; a use of cash occurs when there is an increase in an asset account (except cash) or a reduction in a liability or equity account. Increases in inventory, or fixed assets, for example, imply that the firm used funds to purchase an asset. A reduction in a liability or equity account implies that the firm used cash to pay bills or repurchase securities.

In addition to balance sheet information, we also need the information from the income statement to construct a statement of cash flows. Generally, income is a source of funds and expenses represent a use of funds. However, non-cash expenses, such as depreciation, do not represent a cash outflow and are therefore not a use of funds.

Cash Flows from Operating Activities

This section of the statement of cash flows lists the sources and uses of cash that arise from the normal operations of a firm. In general, the net cash flow from operations is computed as income statement net income plus adjustments for noncash revenues and expenses:

$$\begin{aligned} \text{Cash flow from operating activities} \\ &= \text{Net income} + \text{Depreciation} \\ &\quad - \text{Change in modified net working capital.} \end{aligned}$$

You may recall that net working capital is defined as the difference between current assets and current liabilities:

$$\begin{aligned} \text{Net working capital} &= \text{Current assets} \\ &\quad - \text{Current liabilities.} \end{aligned}$$

Thus, an *increase* in net working capital is a net investment in the firm's current assets; and an

increase in an asset is considered a use of cash. A *decrease* in net working capital is a divestment of assets, that is, a source of cash.

A modified net working capital amount is used to compute cash flow from operating activities, as standard definitions of current assets include cash and marketable securities and standard definitions of current liabilities include notes payable. In the statement of cash flows, changes in notes payable are considered a financing flow and thus appear as a component of the cash flows from financing activities. The change in the cash account appears at the bottom of the statement, as the sum of cash flows from operating, investing, and financing activities

Cash Flows from Investing Activities

This section of the statement of cash flows represents the investments a firm makes in both its own fixed assets and the equity of other firms, including subsidiaries or joint ventures. (These holdings are listed in the investment account of the balance sheet.) Increases and decreases in these accounts are considered investment activities. The cash flow from investment activities is the change in gross plant and equipment plus the change in the investment account. The changes are added if they represent a source of funds; otherwise, they are subtracted. The dollar changes in these accounts are computed from the beginning and ending balance sheets.

Cash Flows from Financing Activities.

This section of the statement of cash flows includes cash flows arising from purchases and sales of notes payable and long-term securities and dividend payments to equity holders (recall that interest payments to bond holders help determine the firm's net income, which is part of cash flows from operating activities). Cash flows from financing activities are computed as financing sources minus financing uses. Sources include increases in

notes payable and new issues of bonds, preferred stock, and common stock, since these actions result in cash inflows. Uses include principal payments or the repurchase of notes payable, bonds, or stock. Dividend payments to equity holders also are considered in financing use.

The sum of the cash flows from operating, investing, and financial activities is the net increase or decrease in the firm's cash. By detailing changes in important financial statement line items, the statement of cash flows reveals information that the balance sheet and income statement cannot provide.

149. Statewide Branching

Allowing banks to establish branches throughout an entire state.

150. Static Hedge

A hedge that does not have to be changed once it is initiated.

151. Static NPV

The net present value (NPV) of a project at a point in time, ignoring the possibility of postponing adoption of the project.

152. Static Option Replication

The use of options to hedge options, with the goal of creating a hedging portfolio that has a delta that naturally moves in tandem with the delta of the option being hedged. [See Ergener and Kani (1995)] [see also **Dynamic Hedging**]

153. Static Theory of Capital Structure

Theory that the firm's capital structure is determined by a trade-off of the value of tax shields against the costs of bankruptcy.

154. Static Tradeoff Hypothesis

According to the static tradeoff hypothesis, a firm balances the marginal benefits (tax shields) of additional debt financing with its marginal costs, namely the increase in the present value of future expected bankruptcy costs. Any increases in debt beyond this optimal level actually reduces firm value, as investors' perceptions of the increased cost of bankruptcy outweigh the tax benefits of additional debt.

155. Statutory Accounting

Statutory accounting is a combination of cash based and accrual accounting; expenses are recognized when paid but revenues are not recognized until earned. In general, it is a more conservative way of reporting final results than GAAP. Both thrifts and insurers use both generally accepted accounting principles and statutory accounting rule.

156. Step-up Swap

A swap where the principal increases over time in a predetermined way.

157. Stochastic Differential Equation

An equation characterizing the change in a variable in which one or more of the differential terms are increments to stochastic process.

158. Stochastic Process

An equation describing the probabilistic behavior of a stochastic variable is called stochastic process. Stochastic processes can be classified as discrete time or continuous time. A discrete-time stochastic process is one where the value of the variable can change only at certain fixed points in time, whereas a continuous-time stochastic process is one where changes can take place at any time. Stochastic processes can also be classified as continuous variable or discrete variable. In a continuous-variable process, the underlying variable can take any value

within a certain range, whereas in a discrete-variable process, only certain discrete values are possible.

159. Stochastic Variable

A variable whose future value is uncertain. A stochastic variable can be classified into either continuous or discrete variable. [See also **Stochastic process**]

160. Stock Dividend

Managers can use stock dividends to change the firm's number of common shares outstanding. A stock dividend is a payout of dividends in the form of stock rather than cash. A stock dividend commonly is expressed as a percentage; for example, a 10-percent stock dividend means that a stockholder receives one new share for every ten shares currently owned.

161. Stock Exchanges

Secondary markets where already-issued securities are bought and sold by members. [See also **Exchanges** and **Secondary market**]

162. Stock Index

An average of the prices of a group of stocks. A stock index can be a simple average of stock prices, in which case it is *equally weighted*, or it can be a weighted average, with the weights proportional to market capitalization, in which case it is *value-weighted*. [See also **Stock market index**]

163. Stock Index Futures

Futures on a stock index. For example, **S&P 500** futures and major index futures.

164. Stock Index Options

An option on a stock index. For example, **S&P 500** options.

165. Stock Market Index

A stock market index is a statistical measure that shows how the prices of a group of stocks change over time. A stock market index encompasses either all or only a portion of stocks in its market. Stock market indexes employ different weighting schemes, so we can use this basis to categorize the indexes by type. The three most common types of stock market indexes are market-value-weighted indexes, price-weighted indexes, and equally weighted indexes. [See also **Dow Jones Index**, **Standard and Poor's 500 Composite Index (S&P)** and **Wilshire 5000 Equity Index**]

166. Stock Options

One way to help solve the agency problem – to help managers make decisions that are in shareholders' best interests is to relate the managers' personal wealth to shareholder value. Some firms tie managerial compensation to stock performance, often by awarding managers stock options as part of their compensation. The options allow managers to purchase, at a future time, a stated number of the firm's shares at a specific price. If the firm's stock price rises, the value of the shares, and therefore the managers' wealth, also rises. Decisions that detract from the best interest of shareholders will affect management by making the stock options less valuable. More and more firms are basing the compensation of their top managers on the firm's stock price.

167. Stock Repurchase

A stock repurchase occurs when management spends corporate funds to buy back the stock of the company. A stock repurchase can benefit both management and shareholders. The repurchased shares become treasury stock and are then available for reissue to executives under stock option plans, to employees as part of profit sharing plans, and to other firms as part of mergers or acquisitions.

Management gains some defensive benefits by way of a stock repurchase. If managers of a cash-risk, low-debt firm fear a takeover, they may finance the stock purchase with the firm's excess cash or use debt, reducing the attractiveness of the firm as a takeover target. In addition, the repurchase program invites any dissatisfied stockholders to sell their shares back to the firm at a favorable price before a potential takeover company can make an offer for the stock. Management also benefits from the reduction in mailing and processing costs for annual reports, dividend payments, proxy statements, and other materials. Some repurchases are aimed directly at small shareholders for precisely this reason.

Shareholders may also benefit from a stock repurchase. Stockholders who want to sell their shares can do so at a favorable price. Stockholders who choose to hold onto their shares may benefit from the reduction in the number of shares outstanding. For example, suppose someone owns 1,000 shares of a company that has 25,000 shares outstanding. This stock represents a 4-percent (1,000/25,000) stake in the company. If the company repurchases 5,000 of its shares from other investors, then that stockholder's stake in the company increases to 5 percent (1,000/20,000).

Information related to cash dividends paid, repurchases of common stock, and employee compensation and stock option plans can be found in a firm's (consolidated) statement of common stock, retained earnings, and treasury stock.

168. Stock Selection

An active portfolio management technique that focuses on advantageous selection of particular stocks rather than on broad asset allocation choices.

169. Stock Split

Managers can use stock splits to change the firm's number of common shares outstanding. A stock is

essentially the same thing as a **stock dividend**, except that a split is expressed as a ratio instead of a percentage. [See also **Stock dividend**] Basically a stock dividend and a stock split increase the number of shares of stock outstanding without any cash flow to the firm or increase in firm value.

170. Stockholder

Holder of equity shares in a firm. The terms *stockholder* and *shareholder* usually refer to owners of common stock.

171. Stockholders' Books

Set of books kept by firm management for its annual report that follows Financial Accounting Standard Board rules. The tax books follow the IRS rules.

172. Stockholders' Equity

The residual claims that stockholders have against a firm's assets, calculated by subtracting total liabilities from total assets; also net worth.

173. Stop Payment

Request by a depositor to stop payment on a previously issued check that has not yet cleared.

174. Stop-Loss Order

A sell order to be executed if the price of the stock, which you already own, falls below a stipulated level. Order can also be differentiated on the basis of allowable time for completion.

175. Storage Costs

The costs of storing a commodity.

176. Straddle

A straddle is a simultaneous position in both a call and a put on the same underlying asset. A long

straddle involves purchasing both the call and the put. By combining these two seemingly opposing options an investor can get the best risk-return combination that each offers. A short straddle implies the position risk-return characteristics of the long straddle. A short straddle is a simultaneous position in both a short call and a short put on the same underlying asset. Contrary to the long-straddle position, selling a straddle can be an effective strategy when an investor expects little or no movement in the price of the underlying asset. A similar interpretation of its use would be that the investor expects the future volatility of the underlying asset's price that is currently impounded in the option premiums to decline. Moreover, since the time decay is a positive effect for the value of this position, one appropriate time to set a short straddle might be in the last month before expiration for the combined call and put.

177. Straddle Rules

Tax regulations controlling the circumstances in which a loss on a claim can be realized when a tax payer continues to own related securities or derivatives.

178. Straight Bond

A bond with no option features such as callability or convertibility.

179. Straight Voting

A shareholder may cast all of his or her votes for each candidate for the Board of Directors.

180. Straight-Line Depreciation

A method of depreciation whereby each year the firm depreciates a constant proportion of the initial investment less salvage value. [See also **Double-declining-balance method**]

For example, using the straight-line method, the firm can write off a uniform annual depreci-

ation charge of \$1,080, a year, as shown below, when costs are \$6,000, and the salvage value is \$600:

$$\begin{aligned} \text{Annual depreciation} &= \frac{\text{cost} - \text{salvage}}{\text{years}} \\ &= \frac{\$6,000 - \$600}{5} = \$1,080. \end{aligned}$$

181. Strangle

The purchase of a put and a call with the same time to expiration and different price. A strangle is a similar strategy to a straddle. The investor is betting that there will be a large price move but is uncertain whether it will be an increase or a decrease. [See also **Straddle**]

182. Strap

A long position in two call options and one put option with the same strike price and expiration date. If a long position in one call and two put with same strike price and expiration date is called strip.

183. Strategic Planning

The process through which managers formulate the firm's mission and goals, and identify strengths, weaknesses, opportunities, and threats.

184. Stratified Sampling

A technique used in Monte Carlo valuation in which random numbers are drawn from each percentile (or other regular interval) of the distribution. [See also **Quasi-random sequence**]

185. Street Name

Describes securities held by a broker on behalf of a client but registered in the name of the firm.

186. Stress Testing

Testing of the impact of extreme market moves in the value of a portfolio. In addition to this, stress testing credit risk models imply to “back test” model to ascertain their predictive accuracy.

187. Striking Price

Price at which the put option or call option can be exercised. Also called the exercise price.

188. Strip

A variant of a straddle. A strip is two puts and one call on a stock, both with the same exercise price and expiration date. [See also **Straddle**]

189. Strip Hedge

Hedging a stream of obligations by offsetting each individual obligation with a futures contract matching the maturity and quantity of the obligation.

190. Stripped Bond

A bond in which individual coupon payments and principal payments are separated (stripped) from the bond and sold as distinct zero coupon securities.

191. Stripped of Coupons

Describes the practice of some investment banks that sell “synthetic” zero coupon bonds by marketing the rights to a single payment backed by a coupon-paying Treasury bond.

192. Stripped Securities

Securities that represent just the coupon interest or principal payments on a loan. The interest-only payment is referred to as an IO, while the principal-only payment is referred to as a PO.

193. STRIPS

An acronym for *Separate Trading of Registered Interest and Principal of Securities*. STRIPS are the interest and principal payments from Treasury bonds and notes traded as individual securities. These securities were introduced by Merrill Lynch and Solomon Brothers in 1982.

194. Strong-Form Efficient Market

Different assumptions about information availability give rise to different types of market efficiency. [See also **Efficient market**]

A market in which prices reflect *all* public and privately available knowledge, including past and current information, is a strong-form efficient market. In such an efficient market, even corporate officers and other insiders cannot earn above-average, risk-adjusted profits from buying and selling stock; even their detailed, exclusive information already is reflected in current stock prices. Few markets can ever pass the test of strong-form efficiency. US laws prohibit *insider trading*, or trading based on important, nonpublic information. These laws reflect a public perception that it is unfair for someone with access to private information to use that position for their own profit. Remember that corporate officers should try to maximize shareholder wealth. Using inside information to benefit themselves at the expense of unknowing shareholders is a violation of the trust that should exist in the principal-agent relationship.

195. Structured Note

A bond that makes payments that, at least in part, are contingent on some variable such as a stock price, interest rates, or exchange rates.

196. Subchapter S Corporation

A Subchapter S corporation is one of two special forms of corporate organizations in the US that allow dividends to escape double taxation. A Sub-

chapter S corporation (named for the section of the tax code that discusses this organization) must have fewer than 35 shareholders, none of which is another corporation. Income from a Subchapter S corporation flows untaxed to the shareholders; thus, it is taxed only once, as personal income of the shareholders.

197. Submartingale Model

A submartingale is a fair-game model where prices in the next period are expected to be greater than prices in the current period. A submartingale model is appropriate for an expanding economy. One with real economic growth, or an inflationary economy, one with nominal price increases.

198. Subordinated Debenture

A subordinated debenture is the riskiest type of bond. [See also **Debenture**] The claims of these bondholders are subordinate, or junior, to the claims of debenture holders. Most “junk bonds,” or high-yield bonds, are subordinated debentures.

199. Subordinated Debt

In the case of bankruptcy, the claims of holders of subordinated debt are subordinated to the claims of other debt holders. In banks, insured depositors are paid in full before holders of subordinated debt receive anything.

200. Subordination Clause

A provision in a bond indenture that restricts the issuer’s future borrowing by subordinating the new lenders’ claims on the firm to those of the existing bond holders. Claims of subordinated or junior debt holders are not paid until the prior debt is paid.

201. Subscription Price

Price that existing shareholders are allowed to pay for a share of stock in a rights offering. A rational

shareholder will only subscribe to the rights offering if the subscription price is below the market price of the stock on the offer’s expiration date.

202. Substitution Swap

Exchange of one bond for a bond with similar attributes but more attractively priced.

203. Sum-of-the-Year’s-Digits Depreciation

Sum-of-the-year’s-digits method is one of the accelerate depreciation methods. The annual depreciation of this method can be calculated as:

$$dep_t = \frac{N - (t - 1)}{\sum_{t=1}^N t} \times (\text{cost} - \text{salvage value}),$$

where dep_t = depreciation of the t th period, and N = number of years. For example, if the equipment cost is \$6,000, and the salvage value is \$600 then the sum-of-years’ digits for five years are determined as:

Year 1	$\frac{5 - (1-1)}{1 + 2 + 3 + 4 + 5}$	$\times (\$6,000 - \$600)$	=	\$1,800
Year 2	$\frac{5 - (2-1)}{15}$	$\times (\$5,400)$	=	1,440
Year 3	$\frac{5 - (3-1)}{15}$	$\times (\$5,400)$	=	1,080
Year 4	$\frac{5 - (4-1)}{15}$	$\times (\$5,400)$	=	720
Year 5	$\frac{5 - (5-1)}{15}$	$\times (\$5,400)$	=	360
				<hr/> \$5,400

204. Sunk Cost

A sunk cost is a project-related expense that is not dependent upon whether or not the project is undertaken. For example, assume a firm commissioned and paid for a feasibility study for a project last year. The funds for the study have been spent already; they represent a sunk cost. The study’s cost is not an incremental cash flow as its cost is

not affected by the firm's decision to either pursue or abandon the project. Therefore, the cost must be excluded from the project's cash flow estimates.

205. Super-Majority Amendment

A defensive tactic that requires 80 percent of shareholders to approve a merger.

206. Supply Shock

An event that influences production capacity and costs in the economy.

207. Support Level

A price level below that which it is supposedly difficult for a stock or stock index to fall.

208. Support Tranche

A class of mortgage-backed securities where the promised principal and interest payments are made after payments to holders of other classes of securities are made.

209. Surplus Funds

Cash flow available after payment of taxes in the project. [See also **Free cash flow**]

210. Sustainable Growth Rate

The sustainable growth rate measures how quickly the firm can grow when it uses both internal equity and debt financing to keep its capital structure steady over time. It is computed as:

$$\text{Sustainable growth rate} = \frac{(RR)(ROE)}{1 - (RR)(ROE)},$$

where RR is the firm's retention rate, which is multiplied by ROE , its return on equity, divided by one minus this product. [See also **Internal growth rate**]

211. Swap

Exchange between two securities or currencies. One type of swap involves the sale (or purchase) of a foreign currency with a simultaneous agreement to repurchase (or sell) it. [See also **Spot trade**]

212. Swap Contract

In addition to using forward, futures, and option contracts to hedge transactions or transaction exposure, many corporations are engaging in what are called *swap transactions* to accomplish this. A swap contract is a private agreement between two companies to exchange a specific cash flow amount at a specific date in the future. If the specific cash flow amount is interest payments, then the contract is an **interest rate swap**; if the specific amount of cash flows is currency payments, then the contract is a **currency swap**. [See also **Interest rate swap** and **Currency swap**]The first swap contract was negotiated between IBM and the World Bank in the early eighties. Since that time, the swap market has grown to over \$10 trillion.

213. Swap Rate

The difference between the sale (purchase) price and the price to repurchase (resell) it in a swap. [See also **Spot exchange rate** and **Forward exchange rate**]

214. Swap Spread

The difference between the fixed rate on an interest rate swap and yield on a Treasury bond with the same maturity.

215. Swap Tenor

The lifetime of a swap.

216. Swap Term

Another name for *swap tenor*.

217. Swaption

Swaption represents option on swap. For example, an option to enter into an interest rate swap where a specified fixed bond rate is exchanged for floating-rate bond. Since the floating-rate bond is worth its face value at the start of a swap, swaption can be considered as options on the value of fixed-rate bond with strike price equal to the face value.

218. Swing Option

Swing option is also called take-and-pay option. It is an option created by trading the underlying asset. For example, energy option is which the rate of consumption must be between a minimum and maximum level. There is usually a limit on the number of time the option holder can change the rate at which the energy is consumed.

219. SWOT Analysis

SWOT analysis examines a firm's strengths, weaknesses, opportunities, and threats. It can help managers identify capital budgeting projects that will allow the firm to exploit its competitive advantages or prevent others from exploiting its weaknesses. Strengths and weaknesses arise from the firm's internal abilities, or lack thereof. Opportunities and threats represent external conditions that affect the firm, such as competitive forces, new technologies, government regulations, and domestic and international economic trends.

Strengths give the firm a comparative advantage in the marketplace. Perceived strengths can include good customer service, high-quality products, strong brand image, customer loyalty, innovative R&D efforts, market leadership, and strong financial resources. Managers must continue to develop, maintain, and defend these strengths through prudent capital investment policies or else they will diminish and shareholder wealth will decline as new and existing competitors take advantage of the weakening firm.

A firm's weaknesses give its competitors the opportunity to gain advantages over the firm. Once weakness are identified, the firm should select capital investments to mitigate or correct them. For example, a domestic producer in a global market can try to achieve global economies of scale (that is, achieve "global scale") by making investments that will allow it to export or produce its product overseas. Such a move also may make it easier for the firm to raise money in the future, as it may be able to raise funds in several different financial markets instead of just in its home country.

220. Syndicated Loan

A loan provided by a group of financial institutions (FIs) as opposed to a single lender. A syndicated loan is provided structure by the lead FI (or agent) and the borrower once the terms (rates fees and covenants) are set, pieces of the loan are sold to other FIs.

221. Syndicates

For most firm commitment underwritings, the managing investment bank arranges investment banking syndicates to help distribute shares of the newly public firm. Syndicates serve several purposes. First, a syndicate broadens the market base to include clients from other investment banking firms, thus allowing a broader distribution of the new issue. Second, the syndicate allows the managing investment bank to diversify or spread the risk of underwriting the new issue. Rather than purchasing the entire issue, the managing investment bank actually commits capital to purchase and resell only a portion of the issue; the remainder of the funds comes from members of the syndicate.

222. Synthetic Option

Rubinstein and Leland (1981) suggest a strategy that replicates the returns on a call option by continuously adjusting a portfolio consisting of a stock

and a risk-free asset (T-bill, cash). This is called a synthetic call-option strategy; it involves increasing the investment in stock by borrowing when the value of stocks is increasing, and selling stock and paying off borrowing or investing in the risk-free asset when market values are falling.

The key variable in this strategy is the delta value, which measures the change in the price of a call option with respect to the change in the value of the portfolio of risky stocks. For deep-in-the-money options, the delta value will be close to one because a \$1 change in the stock value will result in approximately a \$1 change in the option value. Thus to replicate the option with cash and stock, almost one share must be purchased and the amount borrowed will be approximately equal to the exercise price. For deep out-of-the-money options, the value of the delta will be close to zero, and the replicating portfolio will contain very few shares and little or no borrowing. Hence in its simplest form the delta value largely depends on the relationship between the exercise price and the stock price. As the market moves to new levels, the value of the delta will change; hence the synthetic option portfolio must be rebalanced periodically to maintain the proper mix between equity and borrowing or cash.

In a similar manner, a portfolio manager can create replicated put options through a combination of selling short the asset and lending. The amount of stock sold short is equal to the delta value minus one. As the market decreases in value, more of the equity is sold (the short position increases), with the proceeds invested at the risk-free rate. If the market increases in value, money is borrowed to buy the stock and reduce the short position.

223. Systematic Influences

Systematic influences which affect return generating process for a particular security include:

1. Beta (the slope of the regression of excess return for the security against excess return on the S&P index);
2. Dividend yield;
3. Size;
4. Bond beta;
5. Alpha.

[See also **Sector influences**]

224. Systematic Risk

Diversification cannot eliminate risk that is inherent in the macro-economy; this risk is called systematic or **market risk**. [See also **Market risk**] General financial market trends affect most companies in similar ways. Macroeconomic events, such as changes in GDP, rising optimism or pessimism among investors, tax increases or cuts, or a stronger or weaker dollar have broad effects on product and financial markets. Even a well-diversified portfolio cannot escape these effects.

The only risk that should matter to financial markets is an asset's systematic, or market risk that is, the sensitivity of the asset's returns to macroeconomic events. The **unsystematic**, microeconomic component of an asset's total risk disappears in a well-diversified portfolio. [See also **Unsystematic risk**] When financial markets evaluate the tradeoff between risk and expected return, they really focus on the tradeoff between *systematic risk* and expected return.

Systematic risk (or market risk) is the risk that is inherent in the system. As such, it cannot be diversified away. The only way to escape systematic risk is to invest in a risk-free security. A risk-free asset, by definition, will have no systematic risk. In sum, only the systematic portion of risk matters in large, well-diversified portfolios. Thus, the expected returns must be related only to systematic risk.