CALIFORNIA INSTITUTE OF TECHNOLOGY
STUDENT INVESTMENT FUND HANDBOOK
TABLE OF CONTENTS

CALIFORNIA INSTITUTE OF TECHNOLOGY
STUDENT INVESTMENT FUND HANDBOOK

Introduction

This handbook has been prepared as a general information source for members of the Caltech Student Investment Fund. The objective is to present some of the basic concepts of investing to SIF members, assuming they have little or no previous academic or hands-on investment experience. For those who have experience as investors, it is hoped that some of the investment techniques and suggestions drawn from (sometimes painful) experience, and not often found in textbooks, will be helpful.

The handbook is limited to major forms of investments authorized by the bylaws of the SIF: cash and cash equivalents, common and preferred stocks, and bonds. It should be recognized that the SIF is a tax exempt investing entity because assets of the Fund are owned by the Institute. Investment concepts in the handbook do not consider income tax implications. Freedom from federal and state income taxes is a potent advantage in compounding wealth− a luxury that most SIF members will not enjoy in their personal investing.

Hopefully, this brief handbook will be supported by SIF members and passed on to future members of the Fund.

CASH, STOCKS, AND BONDS− THE BASICS

Cash and Cash Equivalents

Nearly all investment funds carry some balance in cash and cash equivalents, either as a buying reserve or, in times of pessimism for both the stock and bond markets, as a defensive investment. Cash and cash equivalents (hereinafter called cash) include bank and savings & loan passbook accounts paying a minimum rate of interest; certificates of deposit (CDs) and money market funds; one-month to one-year term accounts with banks and savings & loans; short-term commercial paper; and U. S. Treasury Bills with maturities up to one year.

A major consideration in investing cash is *safety of principal* as well as yield. Remember that if the yield on a proposed cash investment is substantially higher than the market rate, invariably the risk is many times greater than that of market-rate investments. For example, if the 90-day treasury bill rate is 9%, a 90-day investment offering 14% is highly suspect. Most bank and savings & loan passbook accounts are guaranteed by governmental agencies (currently to $100,000). U. S. Treasury obligations, of course, are backed by the full faith and credit of the United States government without limit. Most money market funds and commercial paper are not guaranteed by the federal government; thus the investor must be comfortable with the underlying investments in the money market fund and with the solvency of the corporation issuing commercial paper. In the early 1970s the Penn Central Corporation issued commercial paper of the highest rating. When they abruptly declared bankruptcy, the value of their outstanding commercial paper dropped to a fraction of its face value, resulting in serious losses for many sophisticated investors.

Cash in the SIF is automatically invested in one of Schwab's money market funds. The money market fund is not guaranteed by the Federal government (nor Charles Schwab), but is considered quite safe because of high quality underlying investments which include U. S. Treasuries, bank certificates of deposit, and highest-rated commercial paper. Most money market accounts, including our money market fund, keep the average maturity of the portfolio quite short − 30 to 60 days is common − to enhance safety and reduce the probability of decline of principal in case interest rates rise. A cardinal rule: on a fixed-rate investment, as interest rates rise, principal value declines. The opposite is true as rates decline.

Specific investments in longer term Treasuries and other cash equivalents should be considered by the SIF in lieu of automatic investment in the money market fund. This decision should be based on the forecast for near-term interest rates and the degree of risk the SIF is willing to accept. If, however, the main focus is to keep rather fully invested in stocks then there might not be much time left to deal in great depth with the employment of the remaining cash.

Common Stocks

Common stocks, also known as equities (the words mean the same), are the major holding in most institutional portfolios. When a business is incorporated, its capitalization (total investment of those owning the business) is represented by a given number of shares of common stock. Thus, shareholders are in fact owners of the business. This differs from bond holders who have lent money to the business but are not usually in an ownership position. Shareholders vote annually to elect directors who set the basic course of the enterprise. In the event of dissolution of a company, the shareholders are entitled to what is left of the assets after payment to all creditors. In instances of bankruptcy, this may be a few cents on the dollar or nothing. In rare cases, where a company wishes to go out of business, while still financially healthy, the shareholders may receive more than the pre-dissolution market value of their shares. This also occurs in "takeovers" where the acquiring company may pay shareholders of the acquired company a premium over market value.

Investments in common stocks, unlike bonds and preferred stocks, do not guarantee to pay dividends to shareholders. Dividends are declared (usually quarterly) by the board of directors depending upon the fortunes of the company. Some companies, however, have paid dividends for many years (AT&T since 1881) and any interruption in the dividend pattern is immediately reflected in the price of the stock.

Stock prices can be very volatile; often price changes have no apparent relationship to the prospects for the company. Investor emotion plays an important part in day-to-day stock movements. Dramatic news events often cause a sudden 3 or 4% move in the Dow Jones Industrial Average.

Longer term trends affecting the stock market (and, therefore, most individual stocks) include the direction of interest rates, changes in income tax regulations, and the perceived business climate over the next several months. It is not unusual for the stock market to anticipate economic news even a year in advance. For example, analysts who foresee a decline in interest rates one year hence may rationalize that they should buy stocks now rather than wait until their prophecy is fulfilled and known by the general public. Thus, increased buying now causes stocks to rise in advance of an economic upturn.

In the long term, common stock prices should increase in value with the prosperity of individual companies and the nation's economy, but there may be substantial leads and lags. As an old Wall Street adage describes it, the relationship between the stock market and the economy is similar to that of a dog being walked through the park on a 50-foot leash.

Prices of equities in the same industry often move together − the drug and oil industries are notable examples. Therefore, diversification of common stock portfolios is prudent unless one is willing to take the substantial risk of having all eggs in one basket. A portfolio of emerging

computer manufacturers, for example, would be more thrilling than any ride at Disneyland, but it is a rare investor who knows the top or bottom limits of the roller coaster.

Statisticians show that it takes 10 stockholdings or more in unrelated industries to replicate the performance of the market as a whole. Fewer than this number is likely to result in substantial fluctuations about the market trend line. This is not to say that overweighting in industries where one has special insight is to be avoided. The stock market is generally believed to be "efficient" and theoreticians continue to examine this hypothesis. The overwhelming weight of evidence indicates that it is next to impossible to *consistently* anticipate the price of commonly-traded stocks based upon public information about the company. As soon as news is published, it is reflected in the price of the stock (often within an hour or two) and inefficiencies are pounced upon by hundreds of tape-watching professionals. Trading on inside information may give one an edge, but it should be emphasized that trading on true inside information is illegal.

Paradoxically, individual investors and small portfolios, such as the SIF, can benefit from this market inefficiency by seeking out smaller, lesser known companies with promise that are not as yet followed by major research firms nor written up in Barrons, Business Week, or The Wall Street Journal. General Motors, IBM, Exxon and hundreds of major corporations are followed by scores of security analysts, who regularly publish their findings to investors, and thereby help establish a consensus market value. Because of their giant size, pension funds and endowment and foundation portfolios rarely invest in small companies. A 2% investment by a $300 million pension fund in a $10 million company is not possible without own in a controlling interest. Furthermore, relatively small investments by big funds are likely to contribute little incremental value to the total. Thus, these emerging companies may provide greater opportunity for the SIF but, of course, with a greater uncertainty of ultimate success.

Preferred Stocks

Preferred stocks differ from common stocks in that they pay a fixed dividend. As the earnings of a business grow, common stockholders can expect ever-increasing dividends; the straight preferred stockholder can only expect to receive the fixed dividend amount. Market values of straight preferred stock rise and fall with interest rates. Straight preferred stock are held mostly by insurance companies and corporations who receive special tax breaks on the dividends.

An interesting hybrid is the convertible preferred stock. Convertibles give the buyer the income protection of a straight preferred plus an opportunity for appreciation if the common shares of the company increase in value. This is done by making the preferred stock convertible into (exchangeable for) a specific number of common shares at a fixed conversion rate. The SIF is not precluded from investing in convertibles and study of this intriguing form of investment is recommended.

Bonds

Bonds are often referred to as "fixed income investments." They are a debt instrument; that is, the person buying a $1,000 bond (the usual minimum face value) is lending the money to the issuing corporation for a specified number of years at a specified interest rate. Bond prices fluctuate after issue depending upon prevailing interest rates, but as long as the bonds are not in default, interest payments to bond holders do not change with prevailing interest rates or business success of the issuer.

Bonds issued by the U. S. Treasury (commonly called "Notes", if their maturity is from 1 to 7 years, and "Bonds" if longer) are considered to be free of risk of principal and interest payment. The risk is one of inflation. A 20-year Treasury Bond purchased today for $10,000 with a 10% coupon (interest rate) will pay $500 every 6 months plus $10,000 in 20 years. The investment question is: − are the interest payments high enough to offset expected inflation which will reduce the utility of the $10,000 principal paid 20 years in the future? For example, at 4% inflation the $10,000 received in 20 years would be worth $4,564 in today's dollars.

Federal agency bonds, such as the Federal National Mortgage Association (FNMA or "Fannie Mae") and Government National Mortgage Association (GNMA or "Ginnie Mae") are considered to be almost as risk free as Treasury issues. Agencies will yield a few basis points more than Treasuries. (A basis point is 1/100th of 1 %.) Corporate bonds, including− utilities and industrial bonds, are rated by Standard & Poor's and Moody's for their safety of principal and interest. IBM's 9 3/8 % due 2004 are rated AAA for example, the rating next below that of U. S. Treasuries and Agencies. Standard & Poor's has 10 ratings ranging from AAA to D (in default) with the first 5 ratings (down to BB) being considered investment grade, and bonds rated B and lower as speculations. In bonds, risk definitely follows reward. You can be certain that when the market rate for 20-year AAA bonds is 12%, bonds with the same maturity offering 18% are risky and have some probability of default. That is not to say that investment in so-called “junk” (high risk of default) bonds is not appropriate for the sophisticated specialist. Those that invested in Penn Central or Chrysler bonds when things looked gloomiest have multiplied their investment several fold. Investment in lower-rated bonds (“junk”) should only be undertaken after careful review of the prospects of the issuing corporation.

Convertible bonds are similar to convertible stocks in that they may be exchanged for a fixed number of common shares when it is advantageous for the investor to do so. A conservative investor may use the following strategy:

- He likes the underlying fundamentals of XYZ corporation selling for $30 share, but the stock presently pays no dividends. He can therefore buy a $1,000 convertible bond at par (i.e. $1,000) paying 10%. The bond is convertible at his discretion over the next 10 years into 25 shares of XYZ common stock. In this example, the investor gets current income

while waiting for the underlying stock to (hopefully) appreciate, but he pays a "premium over conversion value" of 33% for this perceived advantage.

The Student Investment Fund is encouraged to study bond investing. It is a fascinating investment medium, subject to rational mathematical analysis. Study of concepts such as yield-to-maturity (the total return when bonds are sold at other than par) and yield-curve analysis can be challenging and financially rewarding.

SUGGESTIONS ON COMMON STOCK INVESTING

The following are some broad generalizations. They are by no means infallible but suggest a means for the SIF to focus on a systematic and thoughtful approach to investing.

1. It is not necessary to have a lot of turnover to manage a successful portfolio. Turnover of 100% per year or more is considered very active; 25% or less is relatively low.

2. One can invest with either a short-term or long-term approach. Either way, it should always be clear what is intended with respect to any stock. The Fund might decide to invest in some stocks in each category.

3. For long-term holdings, the most important thing is to select good stocks with above average growth potential. Keep in mind that almost any stock is a buy at some price and a sell at some, price. The P/E ratio is always important.

4. For short-term or cyclical holdings, timing is crucial and most difficult. The investor who plans to "time the market" must identify the direction of the market as well as individual stocks selected. A stock portfolio rarely appreciates in a declining market.

5. Current yield (dividends), while important to many investors, is only one of many indications of total return (yield plus market value change) performance. If one is willing to accept a low yield, the total return results of rapidly growing companies may be better than that of companies which pay out a substantial portion of earnings to shareholders in the form of dividends, rather than reinvest the earnings in the business.

6. Buying on hunches is strictly gambling, and is a sure recipe for unhappy results. Buying on news items is little better. Buying on tips seldom works out as anticipated. Buying on "Insider information" can be extremely disappointing and may be unlawful.

All of the above, in addition to producing results that are generally poor, do not constitute thoughtful investing. Therefore, there is little useful learning experience in them.

7. Purchases should always be made in accordance with some predetermined rational and well understood strategy. Ideally, the strategy can be improved overtime.

8. All holdings should be reviewed periodically, using consistent criteria. If a holding ceases to be a “buy”, is it bad enough to be a “sell”? It is not necessary to buy or sell in order to feel that something is being done. Sometimes just reviewing and deciding to hold can be the most fruitful.

9. Written records (a research report or formal evaluation sheet, which give the original rationale for purchase of the stock) should be kept. These records should be updated regularly as the stock is reviewed, and should indicate why the stock is sold when that decision is made.

The written records for stocks in the portfolio should be passed along from one Board to the next.

10. When the board reviews a holding, the focus should be only minimally on how the stock did last week, and then only in relationship to the "market". The question should be whether or not the stock remains a hold, and why.

11. The idea of setting a sell limit when a stock is purchased is of questionable merit, unless the stock is a cyclical play or was for some other reason purchased as a short-term holding. Good growth stocks can advantageously be held for years as long as suitable criteria are met. This, of course, is even more appropriate for investors subject to capital gains taxes.

12. Information available to provide a basis for decisions is always very incomplete. Nevertheless, only stocks about which some reasonable amount of information is readily and regularly available should be seriously considered. A listing of readily accessible sources of current investment information is contained in Exhibit 4.

INVESTMENT STRATEGIES

In formulating investment strategies, answers to a number of key questions are helpful. Personal investment strategies may differ from those of the SIF.

1 . What is the time frame? Is it to accumulate funds to buy a home, start a business, or provide for retirement? For the SIF is it one year or perpetuity?

2. Is the objective to capitalize on short-term swings by "trading" or to seek growth by investment over a period of time?

3. What is the tolerance for risk? Investments in start-up companies might not be appropriate for "widows and orphans".

4. Is a steady constant income flow desired or necessary? Will income earned be expended or reinvested?

5. What are the income tax consequences? (None for the SIF)

6. What special knowledge do members of the SIF have which may give them an advantage over the general public?

7. And, for the SIF, what is the educational value of hands-on investment experience?

Most professional investors, those responsible for the performance of multi-million dollar pension and endowment portfolios, take a so-called "tops down" approach. First, they update their prognosis of the economy and the investment climate for stocks or bonds over the near term (6 to 12 months).

· If the outlook is pessimistic for the near term, a high percentage in cash is called for. A known interest rate can be earned on cash, with minimal probability of loss of principal, except, of course, to inflation.

· If the outlook is very optimistic for the economy and business prospects, a high percentage in common stocks, perhaps 80 to 90%, would be justified. (More about selecting common stocks later.)

· Over long time periods, professionally-managed portfolios, on average, have carried 60% in common stocks, 25% in bonds, and 15% in cash. When the typical portfolio manager is pessimistic, he might hold 40% in cash. If very optimistic, he would increase the common stock holdings to 80% or more depending on his sponsor's tolerance for risk.

It should be noted that while most portfolio managers do a satisfactory job of preserving value of the portfolio, few are able to achieve performance results better than the market itself. Caltech students might have a better chance than most large funds.

It is well established that over long investment horizons (greater than 10 years), common stocks substantially outperform bonds, and both stocks and bonds outperform cash equivalents. Therefore, there is a bias to invest in equities, if one's investment horizon is long term. It would be better still, of course, to be able to "time" the cycles of the market by selling stocks at the peak, investing the proceeds in cash, and repurchasing stocks at the bottom of the cycle. Market timers who can successfully make major decisions based upon their perception of where one is in the cycle are few − most are out of work. The factors that cover the equities market are imponderable. If the probability of the market rising and falling is equal, what is the probability of n correct guesses in a row?

Having decided the portfolio mix by this tops-down approach, most portfolio managers then choose component securities with great care. It is generally agreed that a common stock portfolio should be diversified to cushion a down-turn in one or two specific industries. One would not want all stocks to be in the insurance industry, for example, unless one is willing to take the risk that the market has incorrectly valued this industry. (Remember, the market is saying that stocks are, in general, fairly priced, given their risk.) Therefore, diversification into a few or several industries (examples: energy, finance, transportation, consumer services, etc.) would be appropriate. Common stocks offering the best values in industries selected should be chosen for investment.

It is usually more difficult to arrive at a sell decision than a decision to buy. An acid test question is − "If I didn't own it, would I buy it at this price?" If the answer is "no," is there a reason to hold? Exhibit 3 outlines key criteria used in determining to add, reduce, keep or sell stocks currently owned.

Useful criteria for selecting common stocks are outlined in Exhibit 1. A written research report on proposed stock purchases by SIF members is recommended. An example which one may strive to emulate is marked Exhibit 2.

SUMMARY

The Board of Directors of the Student Investment Fund must first answer strategic questions relative to the time frame of the proposed investment acceptable level of risk or period of time, the degree of volatility that can be tolerated, and the need for dividends. It should consider whether the Caltech students have special knowledge that could be helpful with regards to certain companies or areas of the market. The educational value should also be considered.

The Board should decide whether it is to be fully invested or only partially so. It should also decide whether it is going to pursue short term gains on stocks that are cyclical in nature or that are special situations, or whether it is going to seek gain through long-term growth. If the choice is for the short-term, the reasons for expecting appreciation of any given stock should be clear. If the choice is for long-term growth, there should be a good idea of what the growth rate is likely to be. In both cases, the P/E ratio of the stock is very important.

In the case of a growth stock, an appropriate P/E ratio must relate to the anticipated growth rate of earnings, and to the yield (the sum of these two is the total return), the P/E ratio for the market as a whole, and the P/E ratio that seems to be characteristic of that particular stock.

SIF members should develop a form of analytical report that is systematic and thoughtful but that is compatible with available sources of information and the somewhat limited time that they have for this endeavor. Research reports which result in the purchase of an issue may be retained in this Handbook and updated from time to time to justify continuing to hold a security or to suggest increasing or decreasing the position.

EXHIBIT I
USEFUL CRITERIA FOR STOCK SELECTION

Management

Management “quality” is usually considered the single most important ingredient for a successful enterprise. It is admittedly difficult to evaluate management per se; the results are often easier to identify.

1. Clear growth plan. A concentration of corporate resources in one's area of expertise may be more effective than trying to become a "conglomerate."

2. Depth of management. Can be a problem if a founding entrepreneur has not provided for succession.

3. Good financial controls. Quick reaction time.

4. Policy toward outside shareholders when the business is controlled by management.

Earnings/Profitability

1. High unit growth rate. Predictable growth.

2. High and stable margins.

3. Low cost producer.

4. Stable, controllable or predictable cost structure.

5. High ROE/ROA (return on equity, return on assets).

6. High R & D spending. in forefront of technology.

7. Record of sustained earnings growth.

8. Prospect of earnings accelerating or at least continued forward momentum.

Balance Sheet -Cash Flow - Accounting

1 Degree of leverage. A high debt to equity ratio should be avoided for a start-up enterprise, but may be acceptable for established companies in some industries (public utilities, for example).

2. Strong financial ratios.

3. Strong cash flow.

4. Understated assets. Low price to true book value.

5 . Conservative accounting, i.e., accelerated depreciation, rapid cost write-off, etc.

Dividend/Yield

1. Dividend yield (if any).

2. Payout ratio. Is an appropriate amount of earnings reinvested in the business?

3. if dividends are paid, is there a sustained record of increases?

EXHIBIT 2
MODEL RESEARCH REPORT

By Charles T. Hill, Kidder, Peabody & Co.

Added To Current Recommendations: Sanders Associates (SAA)

52-Week Range:	51 - 31	*P/E Ratio:*	
Recent Price:	38 1/4	*1985E*	14.7
Earnings Per Share:		*1986E*	11.3
1984	$2.55	*Dividend Rate:*	$0.56
1985E	$2.60	*Current Yield:*	1.5%
1986E	$3.40		

Note: Fiscal year ends July.

The Company

Two-thirds of SAA's business is in defense electronics − specifically, the electronic warfare (EW) sector − which has the fastest and most stable growth prospects within the defense area. From our perspective, EW programs are not vulnerable to spending cuts, regardless of what happens to the overall Defense Department budget. The remaining third of the business is computer graphics of all sorts. Of this third, roughly 40% represents OEM display business for IBM. This is a longstanding symbiotic relationship that appears likely to continue with future products under development. The remaining 60% is a broad range of plotters.

FY85 − Prospect of Flat Results

SAA's defense and plotters businesses have been undergoing product-line transitions. F1Q results were down ($0.38 vs. $0.42), primarily because each of four new products introduced by the plotters operation experienced unanticipated start-up problems. (All of these problems have been solved, and all four are now in full production.) F2Q operations were below-trend because the EW business did not have any major new programs in the production stage, although three should be moving from development to production modes in the near future.

The Future

Our analyst's rating on the stock has shifted between “1” and “2” as a reflection of the earnings performance in the 1H85 was anticipated and as the odds of the military's adopting SAA's new replacement EW jamming system for the F-111 and the FB-l11 have shifted from 50/50 to more positive levels and back. These odds appear to have improved recently as the most recent study from the Pentagon came down in favor of SAA's product. We anticipate final resolution of this question within the next month or so. The impact of a “win” or “loss” in this competition is more psychological than real from our perspective − while the project represents hundreds of

millions of dollars in revenues, this would be spread out over many years; Sanders's total FY85 revenues are projected at $945 million. The improved odds coupled with the prospects of a near term earnings recovery from currently depressed levels because of the absence of the start-up costs and the new programs entering production in the EW side, our analyst's rating has been raised to “1”. Longer-term, we are forecasting average EPS growth of 20% over the next five years.

Financials and Valuation

The stock falls in the highest quintile of expected return and in the second-highest risk category in our quantitative analysis work. Its volatility tends to be more pronounced than that of the market. Return on capital is 15%. Debt accounts for only 7% of the balance sheet. Down from a 52-week high of 51, the stock has already been “torpedoed”. If the stock were to sell at the same valuation of FY86 EPS that the market now accords the stock on the basis of prospective 1985 results, the stock would be selling at 15X $3.40 for a target in nine to twelve months of 51. Taking a P/E-to-Growth-Rate approach on our FY85 estimate of $2.60, our target would be 52. For further information, see our Company Follow-Up dated 1/25/85. (Conference Call - 2/11/85)

Stock Selection Committee
Charles T. Hill, analyst (617) 654-6715
February 15, 1985

EXHIBIT 3
USEFUL CRITERIA FOR EVALUATING STOCK PRESENTLY OWNED

1. "If I didn't own it now, would I buy at this price?" If " no," is there a reason to hold?

2. Is there a better investment that can be made with the proceeds?

3. Review Exhibit 1 − Useful Criteria for Stock Selection.

4. Is this stock suitable for long-term holding and, if so, should it be passed on to the next Board together with the rationale for holding it?

5. Is it a speculative stock purchased with the thought of realizing an early gain through cyclical factors? If so, are these well documented for the next board?

6. If a stock is cyclical, is there also a long-term growth trend that would warrant holding it for some time, or is it necessary that the stock be sold at just the right time in order to attain one's objective? What is this target?

7. What sources of information have been used? What analyses have been made?

8. How often has the stock been reviewed using the same criteria that were used for its purchase?

EXHIBIT 4
SOURCES OF CURRENT INVESTMENT INFORMATION

Daily	
Wall Street Journal	5th Floor Millikan Library
New York Times Financial Section	5th Floor Millikan Library
Los Angeles Times Financial Section	5th Floor Millikan Library
S&P Corporate Records	Treasurer's Office
Weekly	
Business Week	5th Floor Millikan Library
Barron's National Business and Financial Weekly	5th Floor Millikan Library
Daily Graphics - American Stock Exchange	4th Floor Millikan Library
Long Term Values	4th Floor Millikan Library
Value Line Investment Surveys	4th Floor Millikan Library
Morgan Stanley Investment Research	4th Floor Millikan Library
S&P Outlook	4th Floor Millikan Library
S&P Credit Week	Treasurer's Office
S&P Corporate Records	Treasurer's Office
Semi-Monthly	
Forbes	5th Floor Millikan Library
Fortune	5th Floor Millikan Library
Moody's Investors Service Bulletins	4th Floor Millikan Library
Monthly	
Business Conditions Digest	5th Floor Millikan Library
Federal Reserve Bank Reviews	5th Floor Millikan Library
Dun's Business Month	Management Library
Business Report (Manufacturers Hanover Trust)	Management Library
Shearson Lehman American Express Fixed Income Survey	Treasurer's Office
Various statistical tracking services	Treasurer's Office
Miscellaneous	
S&P stock market Encyclopedia	4th Floor Millikan Library
Various Economic Journals (U. S. and International)	5th Floor Millikan Library
Various financial texts	Treasurer's Office

GLOSSARY OF SELECTED INVESTMENT TERMS

Basis Point
1/100 of 1%, i.e. an increase to 9.73% from 9.51% is 22 basis points.

Beta or Market Beta
A measure of sensitivity of a stock (or portfolio of stocks) to the stock market as a whole. The "market" is usually assumed to be the S&P 500. A Beta of 1.0 suggests that a stock will rise and fall in the same proportion as the S&P 500. A Beta of 1.5 predicts a stock will increase or decrease 50% more than the market. Volatile stocks have Betas substantially in excess of 2.0.

Book Value
The assets of a company less its liabilities. Often expressed as "book value per share," in which case the book value is divided by the number of shares of common stock outstanding. The relationship between the book value per share and the market value that shares are selling at may be meaningful.

Cash Flow or Cash Flow per Share
Net profit after taxes plus non-cash expenses such as depreciation. Negative cash flow can signal liquidity problems even if earnings reflect a profit.

Current Ratio
Current assets of the company divided by its current liabilities. This gives an idea of the company's liquidity and ability to meet working capital requirements. Low current ratio (less than 1) usually indicates that the company will have problems financing current operations.

Debenture
An unsecured corporate bond backed by the general credit of the corporation.

Debt/Equity Ratio
The long-term debt of a company divided by total equity (shareholders' equity + retained earnings). A high ratio (high debt, low total equity) indicates high leverage and accompanying risk. Some debt is normal. A great deal of debt is normal in many industries such as utilities. A startup company should be as free of debt as possible.

Depreciation
The decline in useful economic life of an asset due to use and obsolescence. A building might be depreciated equally over 40 years, for example, and recorded as a business expense although no cash is expended.

Dividend Yield
A percentage determined by dividing the annual dividend by the market price of the stock. For example, the dividend yield on a $50 stock paying $2 annually is 4%.

The Dow Jones Industrial Average (DJIA)
An index composed of 30 major industrial stocks. Each has the same weighting in the average. The market value of each of the 30 components is summed up and divided by a suitable divisor to maintain continuity of the average and to allow for stock splits, stock dividends and replacement of issues in the average when necessary.

Earnings per Share (EPS)
Annual earnings of the company, either actual or future estimates, divided by the number of shares outstanding.

Growth Rate
The annual percentage growth of earnings per share. A growth rate near annual inflation is considered "flat".

Index
A portfolio composed of a collection of securities such as the S&P 500, stocks followed by Value Line, or all of the stocks listed on the New York Stock Exchange are examples. The S&P 500 is the most frequently used index. An index fund is a portfolio composed of all or enough of the stocks in the index to closely replicate the performance of the index.

Leverage
This is a measure of how much of a company's operations (assets) are being financed by borrowed money. Debt to equity (long-term liabilities divided by shareholders' equity) is often used to measure leverage.

Liquidity
Cash or assets readily convertible into cash to meet current obligations.

Margin
The percent of cash payment for a security purchase where the remainder is borrowed from the broker.

Odd Lot
The normal trading unit on stock exchanges is 100 shares. Usually, anything less is an "odd lot".

Over-the-Counter Market (OTC)
Securities not listed on the New York, American or regional exchanges are said to trade "over the counter". In reality, this is an organized network of dealers where transactions are recorded by phone or computer network without going to the "floor" of an exchange.

Pay-out Ratio
Dividends paid divided by total earnings. This shows how much of earnings shareholders have received. Also important, it shows how much of the earnings are reinvested in the business. (See Reinvestment Rate). A company earning $10 per share paying $4 in dividends has a pay-out ratio of 40% and a reinvestment rate of 60%.

Price Earnings Ratio (P/E)
The market price of a stock divided by its annual earnings per share. If a stock sells for $50 and earns $5 per share, its P/E ratio is 10x earnings.

Rate of Return
Expressed in many ways, such as ROA (rate of return on assets), and ROE (rate of return on equity). Rate of return refers to the annual percentage growth of the characteristic being measured. A company with $5 million in assets with annual net profit of $500,000 earns a 10% ROA.

Reinvestment Rate
Retained earnings divided by total earnings. This shows how much of the earnings are reinvested in the business as opposed to being paid out as dividends. (See Pay-out Ratio)

S&P 500
The 500 largest stocks maintained in an index by Standard & Poor's. Most but not all of the 500 largest publicly-traded stocks are included in the S&P 500. The index is weighted by market capitalization (i.e. the number of shares outstanding multiplied by the current market). Thus, price changes of the largest companies (IBM, Exxon, General Motors, etc.) move the index more than that of smaller companies in the S&P 500. The S&P 500 average at January 29, 1999 was 1279.64.

Short Selling
The selling of a stock which one doesn't own in anticipation of a market decline. If this occurs, the speculator will profit; if the stock rises in value, the loss can be unlimited.

Stock Dividends
Dividends paid in stock rather than cash. Usually expressed as a percentage. A 5% stock dividend entitles all shareholders to receive an additional 5 shares of stock for every 100 they hold.

Stock Splits
Stock splits are used by companies to create greater liquidity in their shares without diluting the holdings of present shareholders. If one owns 100 shares of XYZ stock trading at 90 and the company declares a 3-for-1 stock split, immediately after the split one owns 300 shares and the market price usually drops to about $30 per share. In this example, there are three times more shares outstanding, but the total market value is the same as before the split.

Stop Order
An order to the broker to buy or sell a stock at a designated price. A Stop-Sell Order would be to sell stock owned at a price somewhat below the current market price (sometimes incorrectly known as a Stop-Loss Order).

Total Return
Market value change plus dividend yield. If XYZ sells for $50 per share, pays a $2.00 dividend for the year and sells for $55 per share one year later, the total return is 14 %.