

CHAPTER I: Basic Concepts

▲ WHAT DOES IT MEAN TO INVEST?

Although many would define investing as “risking money to make money,” there is a better answer. Investing means taking money you do not wish to spend NOW and sending it into the FUTURE so it is available for you to spend at a later date. Borrowers use financial instruments like mortgages to move money from the future to the present; investors (buyers of financial assets) move money from the present into the future.¹ Investing is like stepping into a time machine so that you can meet yourself – and your money – in the future.

A Certificate of Deposit provides the (very strong) expectation of future interest earnings, a stock provides the expectation of future dividends, commercial real estate provides the expectation of future lease income, and so forth. When investors sell such assets, they bring these future income streams back into the present – they redeem the money previously moved forward in time. *Investing is the prudent movement of money through time.*

Let’s say you want to send your money across a *distance* – perhaps New York to Los Angeles – instead of across *time*. You have a variety of shipping options:

- Truck
- Railroad
- Airplane

Both costs and risks confront you as you make

your choice. Shipping by truck is slow, but cheap, and presents little risk, because if there is a truck accident, your package will probably survive intact. At the other extreme, shipping by air is fast but expensive and, if a crash occurs, your package will be obliterated. Maybe you decide to divide your money into three packages and ship each one differently. It’s up to you.

You confront a similar set of options regarding how to send your money across time. Here are some choices:

- Bank Account (Certificate of Deposit)
- Bonds
- Stocks

Bank accounts produce small returns, but are relatively safe. Stocks gain or lose money relatively quickly but, in the long run, they offer better return expectations. Bonds are the railroads of the financial industry – they are generally riskier than insured CDs, but not as volatile as stocks. Before making investment decisions, it is beneficial to be aware of both your options and the consequences of choosing one alternative over another.

Certain basic concepts are incorporated into any investment decision, whether or not the investor is aware of their significance:

- Risk;
- Prudence – the need for care skill and caution;
- Market Efficiency;
- Investment Objectives and Investment Policy.

¹ Harris, Larry, *Trading & Exchanges: Market Microstructure for Practitioners* (Oxford University Press, 2003), p. 178.

This chapter examines each of these concepts in greater detail.

▲ RISK

General Observations

Risk and uncertainty are both important aspects of investing. In the most general terms, investment risk is the probability that an investment will fail to produce its statistically expected return. Because we can never know for sure how things will turn out, life is always more or less risky, and so therefore is investing. There's no avoiding risk, then. The best we can do is try to manage it: to understand and choose wisely what risks we shall bear, and how. Such is prudence.

Uncertainty is a state of ignorance about one or another aspect of the risks inherent in a given situation. It cannot be eliminated altogether.² Not being themselves professionals in the field, most investors bear the emotional brunt of a great deal of uncertainty. It drives them to protect themselves by avoiding situations with which they are unfamiliar or uncomfortable. Investing often involves a struggle between fear of the unknown and hope for success.

Lack of familiarity with financial concepts and technical jargon can make investing seem much more risky than need be. The less we know, the easier it is to imagine bad outcomes, and the more attractive a safe alternative like a bank account may appear. Equally worrisome, the less we know about finance and economics, the more we must trust our fortunes to advisors. But this, too, is a source of uncertainty: can we trust a financial advisor not to recommend self-serving investments?

If you are risk-averse, you might be tempted to think that the ideal strategy is to minimize the

probability of encountering events that can cause you maximum harm. But this is like trying to eliminate the horrific risks inherent in automobile travel by avoiding cars altogether: it greatly limits mobility, and could ruin your ability to maintain your desired lifestyle. And it can't eliminate the possibility that you'll be the victim of an automobile accident!

Avoiding a given type of risk is always somehow costly, and imposes tighter limits on what we can achieve. What's more, eliminating one sort of risk altogether can exacerbate other sorts. Thus the overall cost of avoiding a risk altogether is generally too great to make such a course palatable. So, to live the sort of life we like, we all end up deciding to bear risk. Assuming risk is the cost of a life style – any life style.

Investing, then, is about managing risk rather than avoiding it. Risk is therefore a good place for us to begin our discussion of investing.

Risks of Financial Assets

The financial markets can perform well despite the struggles of any firm; conversely, they can be depressed despite a single company's prosperity. This distinction picks out two distinct types of risk posed by securities – i.e., tradable assets like stocks and bonds:

- Systematic risk (sometimes called market risk), "... due to common factors facing all firms in the economy and/or industry: the business cycle, interest rates, inflation, and so on."³
- Unsystematic risk (also known as unique risk), the risk unique to each firm, such as the possibility of labor strife, litigation, product obsolescence, raw material scarcity, or management ineptitude.

The global capital market, comprising all the

² Technically, risk is generally measured by probability – "there is only a 5% chance of bad weather." Uncertainty exists when the probability itself remains unknown. A "black swan" is an event that is neither foreseeable nor subject to a probability measure.

³ White, Gerald, Sondhi, Ashwinpaul, and Fried, Dov, *The Analysis and Use of Financial Statements*, John Wiley & Sons New York (1994), p. 294.

world's capital allocated among all available investments, and considered as a single aggregate portfolio, is devoid of unsystematic risk. A portfolio has no unique risk if the investor owns all available investments, weighing each against all the others. In contrast, a portfolio consisting exclusively of U.S. stocks and bonds carries the economic risks of unwise domestic fiscal and monetary policies. A global portfolio, however, mitigates the unique risks that flow from owning only one or a few companies, as well as the unique risks that flow from owning only securities from a specific nation.

Investors expect to be compensated for bearing risk. That compensation takes the form of investment return. But, considered as a single investment, the global capital market has diversified away all unsystematic (unique) risk. It does not compensate investors for unique risks, but rather only for the systematic risk of the markets in general. Investors cannot therefore expect to be compensated for unique risks. Tomorrow's price for, e.g., GM stock may reward an investor who owns nothing else, or those who own none (i.e., everything but GM). However, the risk of owning nothing but GM is borne completely by the owner. Unsystematic risk is, therefore, ultimately defined as "uncompensated risk." The more effectively a portfolio is diversified, the less uncompensated risk it bears.

Without taking risk, the investor can expect to earn only the risk-free rate of return, defined as the return on short-term default-free securities, such as an FDIC-insured certificate of deposit or a U.S. T-Bill. Unfortunately, the risk-free return usually does not keep pace with inflation after taxes. The real, after-tax risk-free rate of return has historically been close to 0%.

Thus prudent portfolio management is neither a matter of avoiding risk altogether (this would entail

avoiding real after-tax return), nor ignoring risk (as is required for strategies designed only to maximize return). Prudence requires that risk be measured and managed. Thus, another definition of investing is: **investing is a prudent exchange of risk.**

Two conclusions flow from these observations, both of which are embedded in the Prudent Investor Rule⁴:

- The riskiness of any investment cannot be judged in isolation, but only in terms of its effect on the portfolio (there are no "safe" investments because even short-term U.S. Treasury securities involve certain types of risk); and,
- "Failure to diversify on a reasonable basis in order to reduce uncompensated risk is ordinarily a violation of both the duty of caution and the duties of care and skill.... Diversification is fundamental to the management of risk and is therefore a pervasive consideration in prudent investment management. So far as is practical, the duty to diversify ordinarily applies even within a portion of a trust portfolio..."⁵

This brief discussion of risk hints at the importance – and complexity – of risk control within the investment process. Risk control asks the investor to consider diversification, risk measurement, and, perhaps most importantly, how investments might interact within the portfolio context. It suggests that constructing a suitable portfolio demands something more than gathering a collection of investments each promising above average returns. Ultimately, as this book later demonstrates, a key to effective risk control is to develop the skill of thinking about probabilities rather than solely about expected return forecasts.⁶

⁴ The section in this Chapter entitled 'Investment Prudence' discusses the Prudent Investor Rule in greater detail.

⁵ *Restatement of the Law, Third, of Trusts (Prudent Investor Rule)*, Chapter 7, pp. 18, 23 and 25.

⁶ Expected return is a point estimate: "I think stocks will return 7% this year." Probability is the distribution of possible results: "I think stock returns may range from -8% to +20% this year." Thinking probabilistically means that you consider both pleasant and unpleasant outcomes.

Risk Measurement

Risk measurement and management remain a difficult task. Most investors conceptualize risk in terms of fuzzy labels: “low risk tolerance,” “safe,” “average risk tolerance,” “moderate,” “aggressive.” These ambiguous characterizations, however, must be converted operationally to explicit and readily understandable quantitative measures. Often, risk measures may be expressed in terms of volatility: “the annual standard deviation of the portfolio must not be greater than x;” in terms of probabilities: “the probability of a loss over a specified period should not exceed y%;” in dollar terms: “the likelihood of a decline in value equal or greater than y dollars should not be more than z%;” in terms of failure rates or confidence intervals: “the portfolio has an x% confidence interval with respect to achieving this economic goal;” or, in terms of the probability that ending wealth cannot fund critical goals: “shortfall risk.” Other quantitative measures (range, tracking error v. comparable benchmark, etc.) may also have useful applications.⁷ No matter how you express the concept of investment risk, however, the fundamental point remains: “If portfolio managers are not managing portfolio risk, they are not managing portfolios.”⁸

Shortfall Risk

Higher rates of return entail greater risk; and, the greater the risk, the greater the uncertainty regarding future dollar wealth. Another way of understanding investment risk, therefore, treats it as the level of uncertainty that critical goals will not be reached.

This risk is also known as “shortfall risk.” Good decision making is possible only when the investor knows that the portfolio’s expected return is sufficient to the task and that the shortfall risk is within an acceptable range. Although it may pose a significant threat to the feasibility of their investment programs,⁹ investors often lack the tools to quantify shortfall risk.

Variance Drain

Investors are sometimes attracted to the notion that strategies designed to earn high returns are optimal. The faster the portfolio builds up wealth, the greater the cushion available to withstand investment downturns. However, it is important to understand that a high rate of return may not translate into a large amount of spendable dollars. A cautious investor may wish to consider two questions:

1. What is the likelihood that a portfolio with a high expected return will produce less ending dollar wealth than a portfolio with lower expected return?
2. What is the relationship between period-by-period returns and ending dollar wealth?

If an investor begins with \$1,000 and loses 20%, the end-of-period wealth is \$800. To recover the investment loss – i.e., get back to even – requires a 25% return in the second period [$\$800 \times 1.25 = \$1,000$]. Over the two period investment horizon, the *average* return is +2.5% [$(-20\% + 25\%) \div 2 = +2.5\%$]. Despite a positive rate of investment return, the investor’s dollar wealth grew at a 0.00% rate. What happened?

⁷ Investors may be faced with many risk variables including inflation risk, longevity risk, tax and regulatory risk, labor income interruption/termination risk, etc.

⁸ Sykes Wilford, D., “Risk Measurement versus Risk Management,” *Improving the Investment Process through Risk Management*, (Association for Investment Management and Research, 2003), p. 17.

⁹ Shortfall risk also is a key metric for implementing a meaningful portfolio monitoring and performance assessment policy. Simply determining if a portfolio beat a comparative market benchmark provides little information regarding the likelihood that it can provide the cash required to fund investor goals. Collins, Patrick J., Fast, Steven M., and Schuyler, Laura A., “Well-Performing Portfolios and Well-Disguised Insolvency,” *Representing Estate and Trust Beneficiaries and Fiduciaries* (2014), pp. 499-522 provides a more in-depth discussion of these topics within the context of monitoring the sufficiency of irrevocable trust portfolios. This is available on the Schultz Collins website.

The answer lies, in part, in a simple mathematical equation. The equation is critical for investment decision making because it illustrates how the elements of both risk and return interact, over time, to determine a portfolio's ending dollar value. Assuming no cash flows into or out of the portfolio, ending dollar wealth is determined by *compound* return. Compound return is approximated by the following equation:¹⁰

$$\text{Compound return} = \text{average return} - \frac{1}{2} (\text{variance of return}).$$

This equation says dollar wealth *increases* with a higher average rate of return, but *decreases* with a higher variance in the return. It is not enough to forecast an investment's average (expected) return. The savvy investor must also forecast risk over the planning horizon – how much the actual period-by-period returns will differ from the overall average. **Investors spend dollars, not rates of return. It is possible to construct a portfolio with a high expected rate of return that produces a paltry amount of spendable dollars.** This result is an investment paradox; and, is a reason for establishing sound investment policy¹¹ prior to buying or selling securities.

An investor can often generate more long-term spendable wealth by employing risk control strategies designed to mitigate variance than by chasing higher expected returns. Variance is therefore a concept that is well worth unpacking. It derives from the standard deviation statistic, which tells you how tightly all realized results are clustered around the arithmetic average (mean). The standard deviation of a series of asset returns is a common measure of the volatility, or risk, of the asset. When the data are tightly bunched together, and the bell-shaped curve is steep, the

standard deviation is small. When the examples are spread apart, and the bell curve is relatively flat, that indicates a relatively large standard deviation. All else equal, a large standard deviation means greater uncertainty regarding the final outcome.

FIGURE 1-1 explains how standard deviation measures the dispersion in returns away from the central point of expected return – the mean. Each return, in the jargon of statistics, is called a “sample return.” The entire history of returns is called “the sample set.”

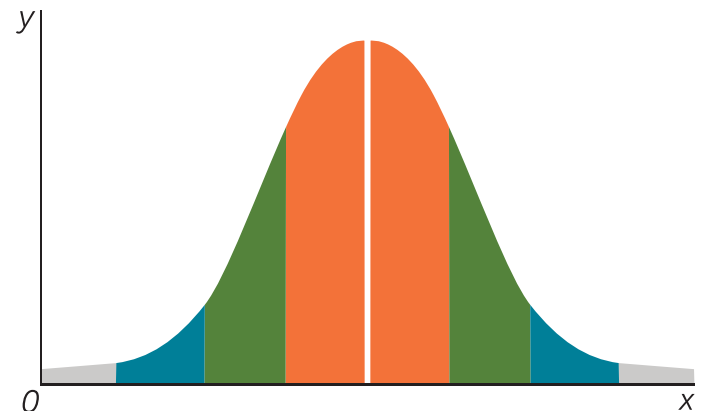


FIGURE 1-1

One standard deviation away from the mean in either direction on the horizontal axis (the orange area on Figure 1-1) accounts for roughly 68 percent of the samples in the set. Two standard deviations away from the mean (the orange and green areas) account for roughly 95 percent of the total sample set. Three standard deviations (the orange, green and blue areas) account for about 99 percent of the data points.

The statistical definition of ‘variance’ is the

¹⁰ We assume a lognormal return distribution. This is a bell-shaped distribution. For readers familiar with calculus, the equation is an approximation derived from the first two terms of a Taylor Series expansion of the compound growth function.

¹¹ Investment policy is considered later in this chapter.

dispersion of the return-generating density function¹² about its mean. Standard deviation is the square root of variance.

The returns of the S&P 500 Index from 1970 through 1998 present an interesting example of variance drain in action. The average annual return for the index during this period is 15.2%, the variance drain is 4.1%, and the compound annual return is 11.1%. However, if the index is subdivided into a low volatility group of stocks (stocks averaging an annual volatility of 25% or lower) and a high volatility group of stocks (stocks averaging an annual volatility of 35% or higher) a different picture develops. (See **FIGURE 1-2**)

The math of variance drain has important implications. Often, the “glamour” stocks are those with the greatest return variance. Concentrating portfolios in stocks with large standard deviations of returns may make it especially difficult to achieve long-term wealth accumulation objectives.¹³

Stock Group	Average Yearly Return	Variance Drain	Compound Annual Return
Low Volatility	15.6%	2.3%	13.3%
High Volatility	14.6%	9.0%	5.6%

FIGURE 1-2

▲ INVESTMENT PRUDENCE

Investors enhance their chances for achieving a successful outcome if they adopt a prudent investment approach. But what, exactly, constitutes prudence?

Trustees and fiduciaries¹⁴ had long been legally required “to make such investments and only such investments as a prudent man would make of his own property.”¹⁵ For fiduciary investors, state statutes or federal pension law govern the approaches that are acceptable and defensible. Fiduciary law is dynamic, as courts interpret legal requirements, and legislatures define and refine the trust investment process. Increasingly, trust law relies on developments in the academic community to ensure that individuals responsible for investing funds for others follow a sound decision making process.

Prior law restricted trustees’ investment flexibility through imposing “legal lists” of approved investments, or through implicit endorsement of investments used by most other trustees (“safety in numbers”). This approach meant that trustees could find safety from liability primarily in low risk, low return investments. Too often, however, the perverse result was that, after inflation and taxes, trust portfolios depreciated in value. To correct this problem, trust law was restated in the 1990s. Many state legislatures have enacted statutes based on new Prudent Investor Standards promulgated by the Third Restatement of the Law (Trusts).¹⁶

For example, the California Uniform Prudent Investor Act, which became effective on January 1, 1996, represents the state’s explicit endorsement of many of the concepts underlying Modern Portfolio Theory. Although the investment principles embodied in the Act have legal force primarily for trustees, they make sense for any investor concerned with prudent

¹² I.e., the bell curve. Using simple arithmetic, negative distances from the mean are offset by positive distances from the mean. Thus, it may appear that risk has disappeared! To remedy this, all distances are squared; and the sum of all squared distances is called ‘variance.’

¹³ For further discussion on these concepts – including alerting investors to some potential dangers of leaping into the fad of buying high-tech stocks at the end of the twentieth century – see “Diversification vs. New Paradigm Investing: Variance Drain”. This is available on the Schultz Collins website.

¹⁴ An informal definition of a fiduciary is someone charged with the duty to invest funds for the benefit of others.

¹⁵ Restatement of the Law, Second, of Trusts, §227 (1959).

¹⁶ Restatement of the Law, Third, of Trusts – Prudent Investor Rule (1992); *Uniform Prudent Investor Act* National Conference of Commissioners on Uniform State Laws Chicago October 1994. Adopted by the State of California July 5, 1995.

wealth management:

- In evaluating the prudence of any individual investment, the investment must be considered as a component of the overall trust portfolio, rather than in isolation;
- The tradeoff between risk and return should be the fiduciary's principal consideration;
- No investment is deemed imprudent per se; the trustee may invest in any instrument that would play a role in achieving the trust's objectives, provided that it meets the requirements of prudent investing;
- Fiduciaries must diversify the trust's investments unless it is prudent not to do so;
- Trustees may delegate responsibilities for investment management to appropriately selected qualified third parties;
- The fiduciary must balance the need for current income with protection of purchasing power;
- A prudently managed portfolio avoids unjustified expenses.

The updated and revised Prudent Investor Rule frees trustees from the straitjacket of low risk/low return investments, and gives them broad latitude to invest in any asset. The price they pay for this liberty is adherence to standards of prudence that require use of care, skill and caution in the design, implementation and management of portfolios. A prudent asset management process considers diversification, asset allocation, risk management and cost control to be critical components of investment success. Prudence is more than looking for a good investment opportunity, or for the investment manager with the best track record.

There is a strong link between the concepts of prudence and diversification.¹⁷ A fully diversified individual investor choosing to invest globally has an

unconditional expectation of reward as measured by the expected return ("price of risk") offered by risky investments multiplied by the risk taken by the investor [expected reward = (price of risk)x(amount of risk)]. A fully diversified portfolio bears only systematic – i.e., market-related – risk. This observation motivates an investment approach utilizing broad-scope diversification. By contrast, investors who own only a few securities have only a *conditional* expectation of reward. The prudence of maintaining a focused portfolio holding only a few financial securities depends on an investor's forecasting skills. If an investor cannot articulate the prudence of a focused investment strategy, it is probably imprudent.¹⁸

Likewise, prudence encompasses something more than trying to fit a portfolio into a category conforming to a specific label. Mere labels and slogans [e.g., "growth," "double-digit return," "safety," "low risk," "balanced," "all-weather portfolio," "disciplined investing process"] are too subjective and ill-defined for prudent portfolio design. It is imprudent to implement the portfolio process without understanding both the compound return required for savings and consumption objectives, and the likelihood of falling short of portfolio objectives. In a nutshell, a prudent portfolio's expected return must align with the required return at a risk level that allows for a good night's sleep. The prudent investor seeks not just expected return, but overall welfare. The prudent investor monitors progress towards the goal (and makes adaptations as the future unfolds) rather than trusting in blind luck.

▲ MARKET EFFICIENCY

In a seminal work published in 1970, Nobel Prize winner Eugene Fama argues that the U.S. stock market is efficient, in the sense that the current price of every security fully reflects all available information that

¹⁷ Diversification is a topic covered in greater detail in Chapter Two.

¹⁸ For an in depth discussion of this topic see: Collins, Patrick J., "Prudence," *The Banking Law Journal* (January, 2007), pp. 29-96. This is available on the Schultz Collins website.

could have possible bearing on its market valuation.¹⁹ Information includes all knowledge of past price movements and all publicly available information, such as is found in corporate financial statements, government and industry reports, management announcements, etc. Because each security's current price already incorporates all such information as is yet known, it cannot help to develop a trading strategy that (after accounting for research and transaction costs) offers the expectation of generating abnormal profits. The rate of such incorporation has accelerated in recent years due to widespread use of computer and communications technologies.²⁰

David Friedman²¹ draws a useful analogy between the investor confronting an efficient market and a commuter deciding whether to change lanes:

When traffic gets heavy, your lane is always the slow one. You switch. A few minutes later, the battered blue pickup just behind you in the lane you left is in front of you. To understand why it is so difficult to follow a successful strategy of lane changing, consider that other people are also looking for a faster lane – and cars moving into a fast lane slow it down, just as people moving into a short line in the supermarket lengthen it. In equilibrium, all lanes are equally slow.

Similarly, as new information becomes known to the markets, the first few traders to obtain it, correctly

gauge its impact on prices, and execute trades accordingly can hope to earn economic profits on those trades. In the traffic analogy, they gain a slight advantage in speed over other commuters by being the first few drivers to move into the faster lane. As the new information spreads – almost instantaneously – through the population of traders, the advantage of trading on that information diminishes rapidly. It disappears altogether when prices fully reflect the new information. By that point, however, trades based on that (no longer novel) information are still working their way through broker/dealer back offices, en route to the trading floor. When these later trades are executed, they generate small or negative returns, just as the last cohort of drivers to change lanes find their former lane outpacing them.²²

For individual investors, the same phenomenon plays out time and time again. When a fund manager accumulates a good track record, a hoard of investors rushing to chase returns rapidly dilutes his future success. Cash flows into the fund rise dramatically, and the manager must work harder to apply market insights over a broader range of buys and sells. If the manager truly possesses skill, he or she will raise fees to reflect the fact that skillful managers are both highly valued and in low supply. The manager captures the economic benefit associated with investment skill. The market-beating investor must discover the skillful manager before there is enough data to confirm the existence of his skill. Given that it may be harder to pick a good manager than a good stock, this is a neat trick. There are now more mutual funds than stocks on the New York Stock Exchange!

¹⁹ Fama, Eugene, "Efficient Capital Markets: A Review of Theory and Empirical Work," *Journal of Finance* (May, 1970), pp. 383-417.

²⁰ Froot, Kenneth A. and Perold, Andre F., "New Trading Practices and Short-Run Market Efficiency," *The Journal of Futures Markets* (October, 1995), pp. 731-765. Note that Fama's thesis does not rule out the possibility that a trading strategy will beat the market. By chance, some strategies will outperform over the period of evaluation. However, such winning strategies cannot be known ahead of time. Another way to define an efficient market is to characterize it as a market in which profit-maximizing investors will pursue security research until the point where the marginal benefit of an additional piece of information equals the marginal cost of acquiring and exploiting it within a trading strategy. Ball, Ray, "The Global Financial Crisis and the Efficient Market Hypothesis: What Have We Learned?" *Journal of Applied Corporate Finance* (Fall, 2009), pp. 8-16.

²¹ Friedman, David, *Hidden Order*, Harper Collins Business, 1996, NY, NY.

²² The role of speed in trading on modern securities exchanges is more fully explored in Bodek, Haim, *The Problem of HFT: Collected Writings on High Frequency Trading & Stock Market Structure Reform*, Decimus Capital Markets LLC (2013).

The implications of Fama's argument are profound. The decision to buy just one stock is also a decision to forgo the investment opportunities of all other stocks. But, the price of each security implicitly reflects the prices of all other securities, and of all available information about them. Each security's price includes information about:

- Its own expected return;
- The expected returns available from all other securities; and,
- The uncertainty (risk) surrounding each security's return forecast.

Each security's price discounts for the unique risk/return factors of all securities. Securities prices are net of risks unique to any investment, and are discounted for differential expected returns to different securities.

In an efficient market, all assets have the same expected risk-adjusted returns. Although a risky asset may offer a high expected return, the discount rate for the investment must also be higher than the discount rate for less risky investments.²³ According to the theory, if a security offered a risk/reward tradeoff that was more attractive than that offered by the market, then profit seeking investors would sell their current positions into the market (lowering their market prices) so as to buy positions in the more attractive security (bidding up its price). This adjustment continues until the risk/reward equilibrium among all securities is restored.

The upshot is that, on average, the current market price of any security should be close to its economically justified price. The key phrase is "on average." Although the market price of some stocks may be far

from their justified or intrinsic value, it is difficult to beat the market because it is difficult to identify these mispriced securities and to formulate and execute on a profitable trading strategy before any other traders do so.

Although elegant and mathematically compelling, the Efficient Market Hypothesis remains controversial. Many portfolio managers claim they have the skill to form portfolios with expected excess profit – i.e., returns higher than commensurate with the risks they take. The problem is that, while in any period some managers beat the market, their ranks are not at all stable. Professional managers may be correct in thinking they can beat the market today, but this claim is difficult to prove; and, is it difficult to identify which managers will outperform during future periods. However, earning a high return by assuming great risk is no more a sign of skill than earning a low return by investing in conservative investments signifies a lack thereof.²⁴ A prudent choice requires a careful statistical analysis encompassing much more than a naïve examination of a manager's track record.²⁵ If the realized returns are the product of mere luck, placing wealth in the hands of such a manager is not prudent, and may lead to unpleasant consequences.

If investors have no special insights or trading skills, or cannot find profitable opportunities to exploit, then they will use investment strategies that generate market-based returns. If investors have private information or unique skills that lead to a credible expectation that they can earn a higher-than-market return, they will forgo purchasing diversified, market-based financial instruments in favor of establishing more concentrated investment positions. A dire caveat is

²³ Risk requires that the market offer dollars that are, "on sale." An investor is willing to pay more for a fully guaranteed \$1.00-per-month income than for an equivalent income that is not guaranteed and may decrease over time. Risk requires a discount for projected investment returns; and, the amount of the discount is reflected in the "discount rate."

²⁴ Collins, Patrick J., "Without More': Trust Investment Manager Selection and Retention," *The Banking Law Journal* (May, 2008), pp. 391-456. This is available on the Schultz Collins website.

²⁵ Bailey, Jeffery V., Richards, Thomas M, & Tierney, David E., "Evaluating Portfolio Performance," Chapter 12 in *Managing Investment Portfolios: A Dynamic Process*, eds. John L. Maginn, David L. Tuttle, Dennis W. McLeavey & Jerald E. Pinto (John Wiley & Sons, Inc.), 2007, pp. 717-782.

called for, however: to beat the market, an investor must be more skilled than the average investor, to be sure; but – what is far less likely – he must also be more skilled than most investment professionals.²⁶

The decision to employ an active management investment strategy²⁷ is warranted when the investor is confident either that he or she has a skill set sufficient to identify and profitably exploit investment opportunities; or, has identified managers with these skills. The Prudent Investor Rule for trustees provides guidelines appropriate for individual investor portfolios:

Active strategies, however, entail investigation and analysis expenses and increase general transaction costs, including capital gains taxation. Additional risks also may result from the difficult judgments that may be involved and from the possible acceptance of a relatively high degree of diversifiable risk. These considerations relate to the trustee initially in deciding whether, to what extent, and in what manner to undertake an active investment strategy....

If the extra costs and risks of an investment program are substantial, these added costs and risks must be justified by realistically evaluated return expectations. A decision

to proceed with such a program involves judgments by the trustee that: (a) gains from the course of action in question can reasonably be expected to compensate for its additional costs and risks; (b) the course of action to be undertaken is reasonable in terms of its economic rationale and its role within the trust portfolio; and (c) there is a credible basis for concluding that the trustee – or the manager of a particular activity – possesses or has access to the competence to carry out the program.²⁸

Given the academic presumption of market efficiency, hiring a manager intending to beat the market is prudent only if careful analysis documents consistent and persistent investment skill. Credible analysis, however, requires a sophisticated set of statistical tools to evaluate an historical track record.

There is a risk/return tradeoff implicit in choosing any investment management strategy. Active investment management may provide additional funds at the cost of assuming a higher risk of failing to achieve the portfolio's *required* return.²⁹ On the other hand, passive management secures market-based returns in broadly diversified portfolios (avoiding risky bets), but limits the investor's ability to earn excess returns. It therefore behooves investors to develop a considered opinion about market efficiency.

²⁶ Harris, op. cit., pp. 475-476.

²⁷ A passive investment management strategy consists of tracking the market without attempting to anticipate its evolution; active management, by contrast, is the attempt to perform better than the market primarily through security selection or market timing. Chapter Six continues the discussion on this topic.

²⁸ Restatement of the Law, Third, of Trusts- Prudent Investor Rule (1990), Comment h (Prudent investment: theories and strategies).

²⁹ In the 2004 Chairman's letter to shareholders of Berkshire Hathaway, Warren Buffett observes: "Over the last 35 years, American business has delivered terrific results. It should therefore have been easy for investors to earn juicy returns: All they had to do was piggy-back Corporate America in a diversified, low-expense way. An index fund that they never touched would have done the job. Instead, many investors have had experiences ranging from mediocre to disastrous." The head of the Yale endowment seems to agree with this assessment. Bloomberg News (January 31, 2012) quotes David Swensen cautioning investors that unless they have access to "incredibly high-qualified professionals, they should be 100 percent passive – that includes almost all individual investors and most institutional investors."

Buffett reiterated his investment viewpoint in the 2014 letter to Berkshire Hathaway shareholders: "The goal of the non-professional should not be to pick winners – neither he nor his "helpers" can do that – but should rather be to own a cross-section of businesses that in aggregate are bound to do well. A low-cost S&P 500 index fund will achieve this goal."

Although the attempt to beat the market involves a speculative dimension that may be justified in the underlying investment objectives, it is inappropriate to then conclude such a strategy is prudent. If the returns of a benchmark index such as the S&P 500 bear little relation to the investor's personal economic objectives, then a passive investment in such an index may be every bit as imprudent as hiring an active manager based primarily on the manager's historical track record.

▲ INVESTMENT OBJECTIVES AND THE INVESTMENT POLICY STATEMENT

Every investor has objectives, however loosely defined. When objectives are not clearly defined and consciously articulated, investors may inadvertently make investment decisions that actively frustrate their attainment. It is therefore wise to clarify investment objectives to gain a clear understanding of what the portfolio should accomplish. ***Is your investment objective to solve an "intertemporal cash flow problem" – i.e., to move money through time so that you will have sufficient funds to pay for future expenses – or, an attempt to "beat the market"?***

Investors should document investment objectives in a written Investment Policy Statement [IPS]. An IPS is a document that avoids ill-defined and subjective investment labels by operationalizing the key aspects of portfolio design and implementation. The IPS takes verbal expressions of economic objectives ("safe," "aggressive," etc.), translates them into quantifiable measures, and outlines the strategies that will promote their successful attainment. An IPS separates the "amateur" investor from the "professional"

investor. It expresses the investment objectives unique to each investor, defines the strategy through which important economic goals will be attained, and sets forth a system through which progress may be monitored and measured. In this sense, investment policy comprises the set of guidelines and procedures that direct the long-term management of portfolio assets.³⁰

An IPS can ensure that a portfolio does not seek contradictory objectives from the outset. More important however, and with a greater beneficial effect on long-term returns, adherence to the procedures in a Policy Statement deters hasty, ill-considered reactions to current market volatility.³¹

The principal reason for articulating long-term investment policy explicitly and in writing is to ... protect the portfolio from ad hoc revisions of sound long-term policy, and to ... hold to long-term policy when short-term exigencies are most distressing and the policy is most in doubt. History teaches that both investment managers and clients need help if they are to hold successfully to the discipline of long-term commitments. This means restraining themselves from reacting inappropriately to disconcerting short-term data and keeping themselves from taking those unwise actions that seem so "obvious" and urgent to optimists at market highs and to pessimists at market lows. The best shield for long-term policies against the outrageous attacks of acute short-term data and distress are knowledge and understanding committed to writing. All too often, investment policy is both vague

³⁰ Bailey, Jeffrey V., "Investment Policy: The Missing Link," *Pension Fund Investment Management*, ed. Frank J. Fabozzi (Probus Publishing Co., 1990), p.13. A useful guide to Investment Policy is "Elements of an Investment Policy Statement for Individual Investors," CFA Institute (2010).

³¹ See, for example, the summary of the research study by Marsh, Terry & Pfleiderer, Paul, "Flight to Quality and Asset Allocation in a Financial Crisis," *Financial Analysts Journal* (July/August, 2013), pp.43-57 under the heading "Chicken Little and the Financial Crisis." This is available on the Schultz Collins website.

and implicit, left to be “resolved” only in haste, when unusually distressing market conditions are putting the pressure on and when it is all too easy to make the wrong decision at the wrong time for the wrong reasons.”³²

³² Ellis, Charles D., Investment Policy, Business One Irwin Homewood, Illinois (1985), pp. 53-54.