

Client Attitudes Toward Risk

Learning Objectives

An understanding of the material in this chapter should enable the student to

- 4-1. Distinguish between people who are risk seekers, risk averters, and risk indifferent, and compare people's subjective perceptions of risk with the objective definition of financial risk.
- 4-2. Describe several tendencies or characteristics of people that limit their ability to rationally assess risk.
- 4-3. Compare the four major categories of life situations that involve risk taking.
- 4-4. Summarize the differences in the characteristics of risk takers versus risk averters.
- 4-5. Describe and evaluate several techniques for assessing the risk tolerance of clients.
- 4-6. Identify some guidelines that a financial advisor should follow when assessing the risk tolerance of clients.

Investments are characterized by different levels of risk and potential return. Both ethical and regulatory principles require that the financial advisor recommend only those products and investment strategies that are suitable given the client's investment objectives, financial capacity to absorb a loss, and psychological propensity for risk taking. The goal is to deliver the most return for the amount of tolerable risk. Proper asset allocation requires a determination of the client's risk tolerance.

Financial advisors of all types need to understand risk tolerance and convey to their clients its significance in reaching proper investment decisions. Determining a client's level of risk tolerance, while extremely important, is also one of the most difficult tasks facing the financial advisor. Done properly, however, it will improve relationships with clients and lessen the possibility of litigation by those who have invested beyond their comfort level.

Although it may appear to be a rather simple topic, risk tolerance is an extremely complex phenomenon. Many academic disciplines—notably economics, psychology, finance, and management science—study risk management. Each field has a different tradition and approaches risk tolerance from a different perspective. This chapter integrates the relevant research from all these disciplines and thereby reveals areas of professional disagreement.

Specifically, this chapter examines how people view risk and how they process information about risk factors. It explores the reasons people either minimize or maximize the objective level of risk in a situation. It also identifies demographic and personality characteristics that have been linked to risk

tolerance. Finally, it considers various approaches to assessing a client's risk-taking propensity and notes their relative merits and drawbacks.

After reading this chapter, financial advisors should better understand why clients accept or refuse risk, and they will be able to use this understanding to serve their clients more effectively.

RISK AVERSION, RISK SEEKING, AND RISK INDIFFERENCE

Individuals react differently to risk. Some are always willing to accept it; others are always ready to reject it. Think of reactions to risk as a continuum, with *risk seekers* (or *risk-tolerant individuals*), at one end and *risk averters* (or *risk rejecters*) at the opposite end. People in the middle are referred to as *risk indifferent*. Risk indifferent individuals are willing to take on risk when they expect that it will make them better off, or at least no worse off, than if they did not assume that risk in the first place. Frequently, the terms aggressive and conservative are used to describe investors who are, respectively, risk seeking and risk averse. According to conventional wisdom, investment decisions involve a trade-off between risk and expected return. Risk-averse investors prefer low risks and are, therefore, willing to sacrifice some expected return in order to reduce the variation in possible outcomes.

risk seekers (risk-tolerant individuals)
risk averters (risk rejecters)
risk indifferent

The majority of the population is thought to be closer to the risk-avorter end of the continuum. Consumers tend to be risk averse (afraid of loss) rather than risk seeking. The generally negative view people hold about exposing themselves to the risk of a loss is, in fact, the basis for many consumer warranties. Is it any wonder that advertisements allowing for a "risk-free examination period" are so appealing for all products, including many life insurance (for 10 days) and long-term care insurance (for 30 days) policies?

Why are some people more willing than others to take risks? Various factors contribute to the attitude of risk acceptance. They include biological makeup, upbringing, and other life experiences.

People's unwillingness to accept losses is a fundamental part of their attitude toward risk. Although it is typically stated that most people are risk averse, it is really more appropriate to say that they are loss averse.

loss aversion

In finance and related disciplines, risk aversion means the preference for certain outcomes over uncertain outcomes. Conversely, risk seeking refers to a preference for uncertain outcomes over certain outcomes. Studies have demonstrated conclusively that people are indeed cautious when faced with a choice between certain and uncertain gains. That is, they most often select the certain gain, even if it is smaller. However, when the two alternatives are a choice between a relatively small but certain loss and a relatively larger but only probable loss, most people are risk takers. In other words, they are willing to risk a large loss rather than accept a smaller but certain loss. These choices indicate *loss aversion* rather than risk aversion.

FORMAL CONCEPT OF RISK AND PEOPLE'S INTUITIVE PERCEPTION

The term risk has many definitions. Psychologists and other scientists have compared these definitions to people's intuitive understanding of the concept of risk. There are some striking differences.

In the field of finance, the conventional measures of investment risk are statistical concepts of variability such as standard deviation. This approach holds that any potential deviation from the expected return, whether positive or negative, contributes to the investment's riskiness. High variability in past, and expected future, returns is equated with risk.

To the average person who is unsophisticated about investment matters, however, the most important factor in evaluating the riskiness of an investment is the historical trend line in the return generated by the investment. If the trend is upward, the investment is perceived as less risky than if the trend is downward. Fluctuations in the return are only a secondary consideration. Evaluating investment risk using solely a historical perspective can lead to irrational decisions.

Intuitively, then, people do accept variability of investment returns as a measure of risk, but the evidence shows that many do not treat uncertainty about positive outcomes as an aspect of risk. Rather, most people focus on the probability of negative returns in defining a risk. Generally, people regard the word risk to mean danger or possible loss.

With respect to investments, the danger lies in either getting less than the expected return or sustaining a loss of the principal. Surveys have demonstrated that portfolio managers and professionals who must routinely deal with capital budgeting tend to incorporate the probability of not achieving an expected, or target, return on an investment into their personal definition of a risky investment. However, in most other people's minds, the loss of principal is closest to their intuitive understanding of the word risk.

Any investment product promising no loss of principal will appear safe to most consumers. Some individuals tend to draw a distinction between investing and speculating. According to this view, investments assure the safety of principal whereas speculations do not. It is no accident that mutual funds guaranteeing the return of the principal appeared after the October 1987 stock market crash.

Risk and Uncertainty

Another difference between people's intuitive understanding of the word risk and some formal definitions of this term involves the distinction between risk and uncertainty. Many people associate risk with the word uncertainty. However, in the decision sciences, risk and uncertainty are not considered the same. *Risk* in decision sciences refers to situations in which (1) the various consequences of each alternative are known and (2) their exact probabilities can be specified. *Uncertainty* in decision sciences, in contrast, is said to exist

risk

uncertainty

when the possible alternatives and their associated probabilities of occurrence are unknown.

Example:

There are only two possible outcomes that students face when they take a pass-fail examination—pass or fail. Assume for a moment that someone is asked to estimate his or her chances of passing the course. If he or she can assign a probability to this event (for example, 60 percent chance of passing/40 percent chance of failing), then the exam represents a risk. If, however, the person has no way of assigning probabilities (being unfamiliar with the instructor's grading policies), then the exam represents an uncertainty.

Perceived Versus Objective Risk

In essence, there are four dimensions to a choice involving risk: (1) the potential gain, (2) the probability of achieving this gain, (3) the amount of potential loss, and (4) the probability of this loss occurring. Whether a person accepts or rejects a risk depends on his or her analysis of these four elements. In analyzing the risk, people tend to focus more on some of these dimensions than on others. Some people look most closely at the probability of winning, while others focus on the probability of losing. Still others are mainly concerned with the amounts involved.

perceived risk

Objective riskiness of a situation and one's interpretation of it, called *perceived risk*, are not necessarily the same. Different people exposed to the same information interpret it differently. The objective odds are either lowered or heightened depending on the person's experiences, inclinations toward risk taking, and the particular circumstances surrounding a given situation.

LIMITATIONS IN RATIONAL THINKING

bounded rationality

Debates abound regarding the extent of rationality shown in individual financial behavior. While some continue to view financial actions as always totally rational, recent evidence suggests less than totally rational behavior. At best, human beings act within what the Nobel prize-winning economist and psychologist Herbert Simon calls *bounded rationality*. That is, there are bounds or limits to how rational people can be. Their choices in financial matters are shaped not only by knowledge and rational thinking but also by their values and emotions.

Challenges to rationality are often reported in the behavior of the stock market. Certain research suggests that volatility in the stock market is due to fads and mass psychology (that is, people doing something because others are doing it) as well as changes in the economy and the fundamental soundness of the companies issuing the stocks. Attitudes about the economy change faster than the economy itself. Some have likened the spread of enthusiasm and disenchantment about a given stock to the spread of an epidemic. The technology boom of the late 1990s, and economic bubble through 2007 are examples of the spread of enthusiasm for a particular market segment.

Psychologists have conducted studies on how people perceive and process information about uncertain events. Most studies have found that people tend to violate rationality to some degree. Flaws in judgment are due in part to people's limited abilities to process information and in part to the interference of their emotions.

With respect to risky decisions, many people do not understand the laws of probability, and their ability to combine two or more probabilities is especially flawed. For example, in one study many people preferred a lottery in which they were allowed one draw out of 10 tickets to another lottery in which they were allowed 20 draws out of 100 tickets. (The 20-draw lottery is, of course, a better deal.) Individuals tend to process information about probability in an intuitive, rather than mathematical, manner. Few people know how to make optimal decisions using mathematical decision rules.

Overconfidence in Intuitive Judgments

Most people, laymen and professionals alike, tend to be overconfident in their judgment, as shown in studies that ask people to make a choice and then estimate their probability of being right. These research findings indicate that if a person believes he or she has an 80 percent chance of being right, in reality this probability is only 70 percent. In other words, people are right in their judgment 7 out of 10 times rather than 8 out of 10. Errors are frequent even when one is totally certain about something. In one study, when people said something always happened, it actually occurred only 80 percent of the time. Likewise, when these individuals indicated that something never happened, it occurred about 20 percent of the time.

Typically, people use fewer clues to make a decision than they claim. The importance of minor clues is overestimated in most instances. Presenting people with more facts seems to make people feel more confident about their decisions, but generally the accuracy of their decisions is not greatly enhanced.

Nonrepresentative Quality of Short-Run Trends

Most people disregard "the Law of Large Numbers." They are willing to make their risk assessments on the basis of very small samples, not realizing that long-run performance may not occur in the short run. Most analysts believe

that investors overvalue short-run economic developments. Recent events get undue emphasis in people's decision making.

Example:

In an experiment designed to illustrate people's failure to appreciate the significance of small versus large samples, people were asked to indicate which of the following is more likely to be an honest coin—coin A or coin B. Remember, in a single flip of an honest coin there is a 50-50 chance of the coin falling on its head or tail.

Coin A: 8 heads in 10 flips

Coin B: 70 heads in 100 flips

The honest coin is more likely to be A, but many people say B because the distribution of heads and tails is closer to 50-50 for coin B. These individuals are in error, however, because they fail to appreciate the small number of flips that took place with coin A. In the short run, an outcome that defies what one would expect in the long run is quite possible.

Likewise, people tend to perceive patterns in totally random events. Which of the following sequences is more likely to occur by chance on six tosses of an honest coin?

Coin 1: HHHTTT

Coin 2: HTHTTH

Most people erroneously believe that the coin 2 sequence is more likely because it appears random, whereas the sequence of coin 1 seems less likely because it looks more systematic. In reality, the sequences are equally likely to occur by chance (that is, $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$). This tendency to see a pattern where none exists is sometimes called the "hot hand" fallacy because of the almost universal belief among both players and fans that basketball players have "hot" and "cold" shooting streaks, despite statistical evidence that fails to show any marked deviations from a player's long-term shooting percentage.

Daniel Kahneman and Mark Riepe (1998) contended that the "hot hand" fallacy could be observed in the "unfounded credibility" achieved by some fund

managers who were able to beat the market for only a few short years.²³ Their skill could simply be chance.

Failure to Correctly Evaluate Exposure Time

Most people have a particularly hard time evaluating the true magnitude of a risk that is not constant. In one study, the participants were asked to estimate the magnitude of risks that varied by both the extent of exposure time and the potential harm.

- long-duration high risk
- long-duration low risk
- short-duration high risk
- short-duration low risk

The study found that individuals fail to factor exposure time correctly into their estimates of risk. Clients tend to overestimate the impact of short-duration high-risk events. Being in danger for a very short time is seen as much more dangerous than it really is.

Denial of Risk

denial of risk

High risk taking could be due to either a failure to assess the level of danger or simply a willingness or desire to engage in the activity regardless of the level of danger. The evidence suggests that people engaging in risky behaviors on a voluntary basis often fail to appreciate the true level of danger in the situation. They may know the statistical odds but they refuse to believe that these odds apply to them personally. This concept is called *denial of risk*.

Example:

In a study sponsored by the Insurance Information Institute, it was discovered that only 58 percent of people who smoke in bed consider it to be a very risky activity, whereas 92 percent of those who do not smoke in bed find it to be so. Similar patterns were identified for activities such as gambling (35 versus 63 percent), driving a car (27 versus 39 percent), skiing (13 versus 33 percent), and investing in the stock market (26 versus 39 percent).

People frequently claim that there is less risk in their own personal case because their skills reduce the risky aspects of the situation. For instance, many skydivers deny that their sport is risky. To them, it is risky only if one "does

23. Daniel Kahneman and Mark W. Riepe, "Aspects of Investor Psychology," *The Journal of Portfolio Management*, Summer 1998, pp. 52–65.

not know what he or she is doing." Similar attitudes exist among people who speculate in the stock market and real estate. A sharp distinction is drawn by such individuals between taking risks and being foolhardy. In almost all cases, people have unwarranted confidence in their skill levels.

Other people deny the risk because they feel especially lucky. They believe they can beat the odds. Even if the odds of success are only 10 in 100, these individuals are apt to think, "Somebody has to be in that 10 percent, so why shouldn't it be me?" When the objective probability of an event is unknown, people tend to overestimate the probability of a desired outcome and underestimate the probability of an undesired outcome. Many an individual who felt that the odds could be beaten has traveled to Las Vegas in a \$15,000 car and, indeed, has come home in a \$100,000 vehicle. Unfortunately, in a majority of such cases the \$100,000 vehicle was not a new car but a bus.

People's reluctance to buy insurance stems in part from this type of unrealistic optimism. Some agents present actuarial data to their prospects regarding the probability of death, disability, and hospitalization, but most prospects believe that these statistics do not really apply to them personally. Most people believe that they are less likely than average to die prematurely, be hospitalized, or become disabled. In a recent study, people were presented with the statistic that during a given year approximately 19 out of every 1,000 persons would sustain a disability lasting over 3 months. (In other words, the odds of disability were 19 in 1,000.) The group was then asked to estimate their personal odds of sustaining a disability. On average, the subjects felt their personal odds to be much lower—only 6 in 1,000.

Findings indicate that people tend to discount very small negative probabilities, treating them as if they were nonexistent. Due to this bias in the processing of risk information, many people are reluctant to insure against low-probability events even if a catastrophic loss potential exists and the insurance is underpriced (in relation to the actuarial risk). For example, flood insurance, despite being federally subsidized, is not easy to sell. Sales do increase after a flood occurs, but only for a few months. Psychologists have examined the style of thinking that supports this undue optimism. It has been found that people tend to overgeneralize from their previous experiences. The person's thinking is, "It hasn't happened to me yet, so it probably never will."

Two techniques might encourage the purchase of insurance coverage for underestimated perils. One, the insurance should be sold as part of a comprehensive package rather than as a separate policy. Two, a partial refund can be offered to the policyholder during years in which no claims occur.

Complete Elimination Versus Reduction in Risk

Research comparing how people react to a reduction in risk relative to its complete elimination suggests that most people place a disproportionately high value on the latter.

Example:

You are facing a chance for a gain of \$20,000. You do not know the exact probability. Consider these three pairs of outcomes (as cited in Kahneman and Riepe, 1998):²⁴

1. The probability is either 0% or 1%
2. The probability is either 41% or 42%
3. The probability is either 99% or 100%

How much are you willing to pay to increase your probability from 0 percent to one percent, from 41 percent to 42 percent, and from 99 percent to 100 percent? Research shows that people will pay more to raise the probability of a desirable event from 0 percent to one percent or from 99 percent to 100 percent than from 41 percent to 42 percent, even though the increase amounts to one percent in all three cases.

A risk reduction mindset has implications in marketing investment and insurance products. The high value placed on the elimination of risk may explain why many people select low deductibles on property and casualty coverages, despite the relatively high premiums. Furthermore, this bias implies that the way a particular coverage's degree of protection is described to a client is very important. For instance, an insurance policy guarding against a particular peril, like fire, may be viewed as either full protection against the specific risk or a reduction in the overall probability of property loss. Based on the observed preference for the elimination of a risk compared with its reduction, there is a distinct marketing advantage in focusing on the coverage's full protection aspect. Telling a prospective client that buying the policy will lower his or her chances of suffering property damage will have a lower inducement value than will stressing to the client that he or she has full protection against fire.

Availability Bias

availability bias

Availability bias alters individuals' estimates of risk when events that are easy to imagine or recall are judged as more probable than they actually are. Events that are dramatic and vivid or that receive heavy media attention are easily available to one's mind and are, therefore, overestimated. In contrast, events that are dull or abstract are underestimated. A few examples should help explain this particular bias.

24. *Ibid.*, pp. 52–65.

- After the September 11, 2001 airline hijackings, many people were especially reluctant to fly, even though the probability of dying in an airliner is significantly lower than the probability of dying in an automobile accident.
- People overestimate the probability of dying from accidents in comparison to dying from illnesses. Again, this is because the media devotes more coverage to deaths resulting from events like airplane crashes than to deaths resulting from heart attacks.
- Which is more frequent, homicide or suicide? Most people believe that homicide is five times more frequent. Yet suicides are 30 percent more common. People tend to believe that the opposite is true because homicides are reported in the news, while suicides generally go unreported, unless the suicide involves a well-known personality.
- People tend to be more influenced by personal experiences because they are more vivid. Thus, research shows that people overestimate the probability of death from diseases that have killed people they knew personally. Individuals also tend to be influenced more by anecdotal evidence from their friends than by more representative and trustworthy information in statistical reports. Consequently, many individuals who normally did not wear a seat belt, despite repeated warnings from various governmental agencies, start to wear one after a friend's or neighbor's failure to use a seat belt results in injury or death.

Familiarity Bias

familiarity bias

Most people dread the unknown. Risks that are familiar are feared less than risks that are unfamiliar. This tendency is called *familiarity bias*. For example, investors see greater risk in foreign equities than warranted based on historical returns. This fear occurs because they know less about other countries than their own country. In other words, people tend to perceive less risk in things they know. The more a person knows about a country, company, product, or situation, the lower will be his or her perception of risk. For instance, sophisticated investors tend to be more risk tolerant than naive investors. Educating clients about unfamiliar investments may lower their inherent fears.

Typically, people overreact to unexpected news. Studies show that both securities analysts and the lay public overreact to recent information, giving the new (that is, unfamiliar) information more importance than it really deserves.

Illusion of Control Bias

illusion of control bias

Illusion of control bias refers to the tendency of people to underestimate the risk involved in activities under their control, like driving a car, relative to activities in which the control is given over to someone else, like being a passenger in an airplane. Ironically, the chance of being involved in a car

accident driving to the airport to catch a flight is greater than the chance of the airplane crashing.

Time Horizon

For most decisions involving an element of risk, the length of the time elapsing between making the decision and the knowledge of the eventual outcome is very crucial. If the time span between these two events is long, the person is more likely to accept the risk than if the time span is relatively short. In other words, if something is imminent, there is an increased sense of danger.

People tend to psychologically overemphasize short-term risks. Some authorities have suggested that people start smoking because the threat of cancer is so far in the future. The long-term risk, although quite threatening, does not seem real to them. (This refusal to consider future risks seriously can be seen in Mark Twain's reaction to being told that, by giving up smoking and drinking, he could add another 5 years to his life. Twain's reaction was that without smoking and drinking another 5 years of living would not be worth it.)

Fortunately, there may be some synergy between people's willingness to bear risk under a broad time horizon and the performance of the riskier investment products. Analysis of historical data has shown that, although these products show great volatility in the short run, they are less volatile in the long run. In other words, they are safer when viewed in a broad investment time horizon. Unfortunately for their financial well-being, people typically have a short-range rather than long-range planning horizon.

Example:

The tendency to be myopic about one's investment planning horizon is well illustrated in a study conducted by psychologist R. J. Herrnstein.²⁵ Herrnstein presented participants with the following situation: Let's suppose that you win a lottery that gives you two alternative ways, A and B, of collecting your winnings.

Situation 1

Choice A: You can collect \$100 tomorrow.

Choice B: You can collect \$115 a week from tomorrow.

Most of the group selected option A, even though by waiting only one more week they would have earned 15 percent. (There are few investments that would pay 15 percent interest per week.)

25. R.J. Herrnstein, "Rational Choice Theory: Necessary but Not Sufficient," *American Psychologist*, 1990, vol. 45, pp. 356–367.

Next, the people who selected choice A were presented with another hypothetical lottery in which the two payment schedules were C and D.

Situation 2

Choice C: You can collect \$100 52 weeks from today.

Choice D: You can collect \$115 53 weeks from today.

Almost all of those who selected payment schedule A now selected payment schedule D. If they were consistent in their behavior, they would have chosen C. There was the same one-week difference between A and B as between C and D. However, the one-week difference meant much more in the present than it did in the future.

Research shows that 10 to 15 years is the longest time horizon that most people consider practical for planning purposes. Surveys of the general public continue to find that people do recognize that upon retirement they may not have enough income to live in their present style, yet they fail to do anything to remedy the situation. The reason typically offered as justification is that they have a more pressing immediate crisis or concern. Many people who purchase term insurance instead of permanent insurance intend to invest the premium difference in securities, but do not because more immediate concerns arise.

Mood

Psychologists have studied the impact of a person's mood on his or her willingness to undertake risk. The relationship between mood and risk tolerance is quite complex, given the results of various studies. The research shows that a good mood leads to more positive expectations and lower perceived risk. Conversely, a bad mood leads to increased estimates of risk. However, when it comes to actual behavior, a good mood does not necessarily effect greater risk taking. While it does increase willingness to take relatively low risks, it decreases the person's willingness to accept high risks. Perhaps this is because the person does not want to jeopardize his or her good mood.

Some theoreticians attribute the generally lower stock prices on Monday as compared with Friday (known as the weekend effect) to differences in people's moods on Mondays as opposed to Fridays. Monday is said to be an unpleasant day for most people because it is the start of a workweek. On Friday, though, most people are in a pleasant mood because they are anticipating the weekend. These differences in mood are believed to be reflected in stock prices. The same explanation can be extended to the observation that stock returns are generally high in January (the January effect). Because January marks the beginning of

a new year, people are generally optimistic, which again shows up in higher prices. However, there are other competing explanations for both the weekend and January effects.

Effects of Alcohol on Risk Taking

Studies have shown that alcohol consumption causes people to become reckless and take greater risks than they would ordinarily. In some cases people thought they were drinking alcoholic beverages when in reality they were not. An intriguing result is that even these people increased their risk-taking behaviors.

Parties Bearing the Consequences of a Decision

The answer to the question, Who will be affected by the consequences of my actions? is a strong determinant of whether a risk will be acceptable or unacceptable. Individuals tend to be more risk averse if the decision's outcome will have consequences for both the individual making the decision and those the individual cares about. Decision makers are somewhat less risk averse if only the individual decision maker is affected. The most risk-prone decisions are made if only others will bear the consequences of the decision.

Example:

Managers take more risks when they invest their company's money than when they invest their own personal funds. Studies of stock market trading reveal a similar pattern. If the money invested is his or her own, the investor requires more information before making a transaction and makes significantly fewer trades.

Group Dynamics of Risk Taking

choice shift

A phenomenon studied for about 30 years concerns the difference between individual and group reactions to risk. This phenomenon, known as the *choice shift*, refers to the finding that a group decision is usually more extreme than a decision favored by most members of the group when polled individually (before the discussion). Generally, the shift is toward more risky action, although in some instances the shift is toward a more cautious attitude.

Several studies on the choice shift phenomenon bear directly on financial planning. In one study, people were asked to identify the investment products they would be willing to buy. The investments available ranged from low risk with no variability in their historical return patterns, to very variable high risk with low returns in certain years and high returns in other years. First, each

person made his or her selection individually. Next, participants met in a group to reach a consensus regarding their choices. While on an individual basis most members of the group wanted the less risky products, the group decision was in favor of the riskier products. There were similar results in another study where the group's task was the selection of automobile physical damage coverage. When polled individually, the participants were willing to pay, on average, about another \$48 in premiums in order to get collision coverage. As a result of the group discussion, however, the consensus was that they would be willing to pay less—only \$31—for this particular coverage. In other words, the group was willing to bear more risk.

Possible explanations for the shift in the risky direction include:

- The responsibility for a decision is shared by the group, so no one person feels totally responsible if it turns out to be the wrong one.
- The risk-tolerant members in the group are influential.
- As a result of the group discussion, the members become more familiar with the situation, and this lessens their inherent fears.

Mental Accounts

Various psychological experiments have been conducted to illustrate how mental accounts operate in people's evaluation of monetary gains and losses. One such study shows that the opportunity to save a given amount of money will be viewed quite differently, depending on what mental account a person uses to evaluate the psychological value of this money.

Example:

Psychologists Daniel Kahneman and Amos Tversky asked people what they would do if they went out to buy a \$125 jacket and a \$15 calculator and, upon arrival at the main store, the sales clerk informed them that the calculator was on sale for \$10 at a branch store 20 minutes away.²⁶ Under these circumstances, 68 percent of people were willing to drive 20 minutes to save \$5.

In a second version of this same story, the \$5 in savings was on the jacket rather than the calculator. (That is, the price of the jacket was \$120 at the branch store and \$125 at the main store. The price of the calculator was \$15 at both stores.) The percentage of people willing to drive 20 minutes to save \$5 under the second set of circumstances was only 29 percent.

Five dollars would be saved either way, yet the number of people willing to save this amount of money

26. Daniel Kahneman and Amos Tversky, "Choices, Values and Frames," *American Psychologist*, 1984, vol. 39, pp. 341–350.

was substantially different. Why? The simple reason is that people maintain different mental accounts for the prices of jackets and calculators. Money to be gained or lost is not evaluated in a vacuum. Rather, there is always some subjective standard employed as a yardstick to gauge the value.

The concept of mental accounts has many implications for financial advisors. The amount of pleasure or displeasure that the appreciation or depreciation in the value of a certain asset will bring to a client is not necessarily determined by the simple dollar amounts gained or lost. Other factors will influence the client's assessment of the event. For example, did the client's neighbor (or family member) do better or worse? How did a different security that the client considered purchasing fare?

Financial advisors must recognize that because of mental accounts their clients may have different risk-tolerance levels for different funds, depending on how they acquired the money and what they intend to do with it. Inherited versus earned money is one factor that may account for different risk-tolerance levels. Some people who inherit hard-earned money from a loved relative may refuse to risk losing the principal. With money they earned personally, however, they may have less fear of potential loss. For others, the reverse may be true.

People's mental accounting for posting gains and losses does not treat money earned and money lost as equal units. Money lost carries a much heavier psychological value. For instance, making \$5,000 on an investment, provided that this return is equal to what was expected, will make a client happy. Conversely, losing \$5,000 on an investment will make a client unhappy. Research shows, however, that the unhappiness experienced at losing the \$5,000 is greater than the happiness felt at earning \$5,000. Therefore, clients are apt to be more upset about a given loss than pleased about an equivalent gain. Similarly, most investors feel worse if they sell a security that shortly thereafter increases in value than if they failed to buy the security in the first place.

Mental accounting may also be the underlying cause for the finding that most investors prefer cash dividends over capital gains. Dividends and capital gains are placed into separate mental accounts according to some theorists.

RISK TAKING: SITUATION-SPECIFIC OR GENERAL PERSONALITY TRAIT?

Some financial advisors tend to describe people as risk takers or risk averters, without considering the type of behaviors on which they base such classifications. It is as if they expect people to act in a similar manner in all aspects of life. Yet psychologists are still debating whether most people have a consistent pattern of risk taking in all realms of their lives or whether

the degree of risk they are willing to assume depends on the nature of the situation. Although some evidence suggests that there is a slight predisposition to act in either a risk-taking or risk-averse manner in different situations, this predisposition is weak for most persons. Only those with the personality type that psychologists call the "thrill seeker" (also known as the "sensation" or "arousal" seeker) seem to be relatively consistent.

In general, the more similar any two situations are, the greater is the consistency in risk-taking behavior in these two situations. Research has shown that essentially four major types of life situations involve risk taking:

- Monetary situations: They involve such risks as investments, gambling, or job changes.
- Physical situations: They involve risks that could result in bodily harm, such as mountain climbing or skydiving.
- Social situations: They involve risks that could lead to loss of self-esteem or another person's respect.
- Ethical situations: They involve risks in which one is faced with the prospect of compromising one's moral or religious standards or society's legal standards. (For example, trading on insider information involves an ethical risk.)

Example:

Cases in which the level of risk taking is quite different across different contexts are not hard to find, as many people change their behavior from situation to situation. One such case involved a Navy pilot who had been decorated for heroism during the Vietnam War. After his discharge from the service, this individual was encouraged to begin a career in life insurance sales. His new career proved to be both financially and emotionally unrewarding, however, because he was uncomfortable with prospecting. This came as a surprise to the person's manager because there was clear-cut evidence of fearlessness and risk taking in the person's war record. The former pilot and his manager had a discussion about his fear of prospecting. During the course of the conversation, it became evident to the manager that it was actually a low level of social risk tolerance that accounted for this person's high physical risk tolerance during the war. The individual related that what kept him flying was the fear of disapproval by others. As he put it, whenever he got jittery about a mission and thought of turning back, all he had to do was picture the look of disapproval from his commander and fellow pilots. In this case, low tolerance for social risk was, in part, responsible for high physical risk tolerance.

Four Major Types of Life Situations That Involve Risk Taking

<u>Risk Contexts</u>	<u>Perceived Consequences</u>
monetary risk	potential loss of capital
physical risk	potential loss of life or well being
social risk	potential loss of "face" or reputation
ethical risk	potential loss of freedom

Financial planners should be careful in using a client's attitude toward risk in nonfinancial matters to infer a level of risk tolerance for investments. Knowing that someone is a risk taker in a certain physical activity provides clues about how the individual will react in other situations that involve potential bodily harm. However, this information provides little insight as to whether this person will be willing to invest in a financially risky venture. The latter information is best determined from a knowledge of the person's typical behavior in monetary risk-taking situations. Therefore, a financial advisor who promotes an "aggressive" mutual fund to a skydiving club should not be surprised if the responses to the ad are not dramatically greater than responses from the general public. The best predictor of an investor's risk tolerance in a financial matter is his or her risk preference in other financial matters, rather than how the person reacts to risk in sports, social situations, and so on.

The client's risk tolerance in financial matters should be of primary concern to the financial advisor, since this is the aspect of the client's situation that is within the advisor's purview. However, there may be some value in looking at the client's total risk-taking disposition. First, the client could learn that he or she may not necessarily have the same propensity for risk in money matters as in physical activities or social activities. Often clients assume (falsely) that they have a general predisposition to take on the same level of risk in all spheres of life. Second, consistency across different contexts may alert the financial advisor to whether the individual is someone who is a thrill seeker.

Physical risk taking could be a relevant issue when determining a client's insurance needs. It has been shown that risk taking in the physical realm is a major factor in various types of accidents. Therefore, people who have high levels of physical risk tolerance are more apt to die from accidental causes or to suffer disabling injuries from an accident. According to the *Statistical Bulletin* published by the Metropolitan Life Insurance Company, accidents are the leading cause of death among children and young adults. When the U.S. population is considered as a whole, accidental death is third in line after death due to cardiovascular diseases or cancer. Deaths from motor vehicle accidents account for approximately half of the accidental deaths reported in this country. Accidental death riders and disability income insurance may be of interest to the physical risk taker, especially if the individual has, at the same time, a low level of monetary risk tolerance.

Physical risk taking is also a contributing factor in death from nonaccidental causes. Consequently risk taking in health-related matters increasingly concerns

insurance companies. It is now standard for insurance carriers to charge lower premiums for nonsmokers, and an emergent trend may be to extend similar premium reductions to people who avoid other health risks as well. Because of the AIDS epidemic, a growing area of research—some sponsored by the insurance industry—is concerned with risk taking in sexual behaviors (a form of physical risk taking).

LIFESTYLE OF THE RISK TAKER

Most of the early studies on the personality of the typical risk taker assumed that risk taking was a general personality trait rather than being specific to a particular context. Therefore, the measures of risk taking used in these studies did not differentiate between attitudes toward physical, social, ethical, and monetary risk taking. Consequently one needs to exercise caution in utilizing these findings in financial planning because they may apply more to one of the other categories of risk taking than to monetary risk taking in particular.

For example, the following life experiences that some researchers identify as typical of the risk taker probably apply more to physical risk takers than monetary risk takers:

- took dares as a child
- drank and smoked at an early age
- was sexually active at a young age
- enjoys dangerous leisure activities, such as mountain climbing, surfing, hang gliding, scuba diving, racing a car, motorcycling, or skydiving
- is likely to hold a job with physical risk requirements such as a pilot, soldier, firefighter, or police officer

Likewise, the following characteristics of risk takers may be related mostly to social risk taking:

- social presence
- self-accepting
- self-confident
- aggressive
- independent
- irresponsible
- status-seeking
- strong leadership abilities
- not governed by other people's opinions

Similarly, the finding that risk takers feel low levels of guilt for wrongdoing probably applies more to the ethical risk taker than to the physical, monetary, or social risk taker.

Other characteristics identified in this type of research may, however, also apply to monetary risk takers. Among these are the following:

- emphasizes merit rather than seniority in job promotions
- enjoys work that involves decision making
- requires little time to make a major decision
- completes tests that have a time limit very quickly, attempting to compensate for more mistakes by answering more questions
- takes a chance and guesses on tests that impose a penalty for guessing (such as the Scholastic Aptitude Test)
- is optimistic, seeing mistakes as setbacks, not personal failures
- has a low need for an ordered environment
- is able to handle stress
- is persistent

Some studies have focused on the biographical and psychological characteristics of monetary risk takers per se. Psychologist Frank Farley found that monetary risk takers are good money managers who spend considerable time reading about investments and related financial matters and express confidence in their money making abilities. In contrast to the monetary risk averters, who stated that their long-term goal was happiness, the monetary risk takers listed success as their primary goal. Farley also found that monetary risk takers tend to possess leadership skills and good sales skills. For many monetary risk takers, money is the center of their lives.

Distinguishing Characteristics Between Monetary Risk Averters and Risk Takers in Life Outlook

<u>Risk Averter</u>	<u>Risk Taker</u>
<ul style="list-style-type: none"> • sees risk as danger • overestimates risk • prefers low variability • adopts the worst-case scenario (emphasizes the probability of a loss) • is pessimistic • likes structure • dislikes change • prefers certainty to uncertainty 	<ul style="list-style-type: none"> • sees risk as challenge opportunity • underestimates risk • prefers high variability • adopts the best-case scenario (emphasizes the probability of a win) • is optimistic • likes ambiguity • enjoys change • prefers uncertainty to certainty

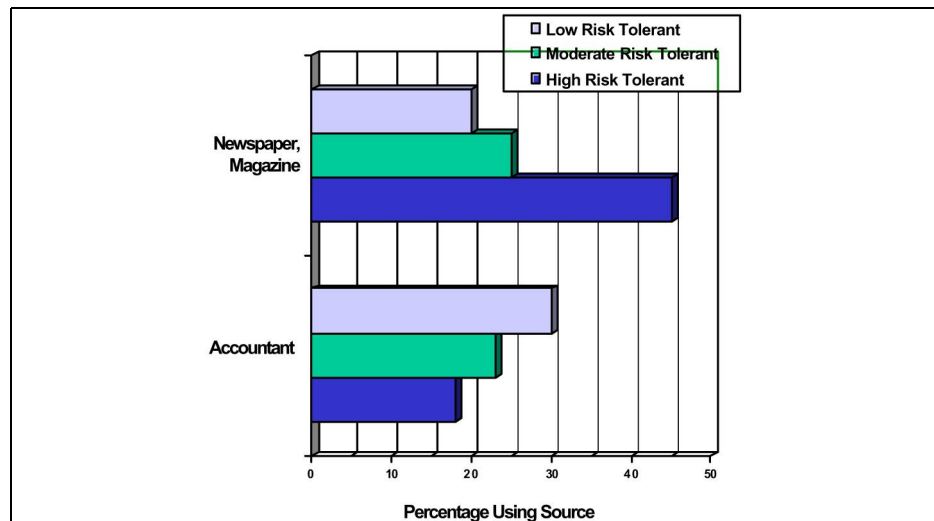
A study of mutual fund shareholders sponsored by the mutual fund industry trade association²⁷ indicates that investors with high-risk tolerance have clear financial goals. They were also more likely to be raised in homes that had an interest in investing, discussed such matters, and actually invested. In describing the outcomes of their families' investments, the high risk takers were more likely to indicate that it was successful. High-risk-tolerant mutual fund owners

27. Investment Company Institute, "Piecing Together Shareholder Perceptions of Investment Risk," Spring 1993.

made their own first investment at an earlier age than their low-risk-tolerant counterparts, and their first investment was more likely to be an individual stock. The first investment for low-risk-tolerant mutual fund owners was more likely to be real estate.

Compared with low and moderate risk takers, high-risk-tolerant shareholders in this study were more apt to have confidence in their ability to make their own investment decisions, rather than relying on the advice of professionals. They used magazines and newspapers as their primary source of investment information to make these decisions. High-risk-tolerant shareholders were also more likely to read the mutual funds prospectus for investing information (that is, 38 percent of the high risk takers versus 25 percent of the moderate risk takers and 13 percent of the low risk takers). The same pattern was found in the readership of investment newsletters (26 percent, 19 percent, and 15 percent for high, moderate, and low risk takers, respectively). Low risk takers, in contrast, indicated that they were confused by the multitude of investment choices, and therefore relied on others for advice; their most frequent sources of information were friends, family, and business associates. The high-risk-tolerant investors were more likely to actually adapt a long-term view of their investments even though the low and moderate risk takers agree just as strongly that a long-term strategy leads to the best results. Low risk takers seem overly concerned about short-term fluctuations. (See *Figure 4-1, Sources of Financial Information by Level of Risk Tolerance.*)

Figure 4–1 Sources of Financial Information by Level of Risk Tolerance



Source: *Piecing Together Shareholder Perceptions of Investment Risk*, copyright © 1993, Investment Company Institute (ici.org). Reprinted with permission.

The groups were also compared on their knowledge of investment principles, and as one might expect, the high-risk-tolerant group showed the best understanding of the subject.

Another significant survey comparing the investment attitudes of risk-tolerant and risk-intolerant investors concerns their satisfaction with the returns they previously received on their investments. Whereas risk-averse investors are generally satisfied, those who are risk tolerant tend to feel that they were not adequately compensated.

Research has found differences in the type of regret experienced by risk-taking and risk-averting investors. Wealthy investors were asked to think of a bad financial decision that they now regretted, and to indicate if the regret was over one investment they made (regret of commission) or over an investment that they failed to make (regret of omission). Most of these investors reported regrets of commission, that is, about investments that they actually made. A minority, however, reported their greatest regret was about missed opportunities to make an investment. This minority constituted the risk takers in this group.

The risk takers also had another characteristic in common. Asked whether they attributed investment outcomes to luck or skill, the risk takers attributed skill to all outcomes, even the ones they regretted.

THE THRILL SEEKER

thrill seeker

The *thrill seeker* is the personality type most likely to be consistently risk seeking across all dimensions of life including financial matters. Sometimes a distinction is made between physical thrill seekers and mental thrill seekers. However, all thrill seekers abhor routine, be it mental or physical. These individuals are always on the lookout for experiences that offer novelty, ambiguity, complexity, and intensity. If a thrill seeker cannot find excitement, he or she will create it. "In-and-out" trading in the stock market, for instance, provides many such quick thrills. For the thrill seeker, the uncertainty of an investment decision may hold as much enticement, perhaps even more, than the anticipated payoff. To the thrill seeker, money made from a safe investment does not hold as much value as the same amount of money made from a risky one. There is some research showing that thrill seekers have a biologically based need for greater than normal levels of arousal.

Thrill seeking can have either very constructive or very destructive outlets. For example, constructive mental outlets are available in the arts or sciences, fields that reward the creative thinking characteristic of the thrill seeker.

Not everyone who takes many risks is necessarily a thrill seeker, although by definition, every thrill seeker must be considered a risk taker. How can a financial advisor spot the thrill seeker? To a certain extent, the thrill seeker is a caricature of a risk taker, showing many of the same basic characteristics but in a markedly exaggerated form. In addition to the characteristics already mentioned

in defining the thrill-seeking personality, the financial advisor should be alert to those that follow.

Thrill seeking is more common among men than women. Thrill seekers enjoy loud parties. They tend to be outgoing, spontaneous, and fast decision makers. In looking for a history of sensation seeking, the advisor needs to check to see if the person participates in risky sports and likes to gamble, especially at blackjack. A history of traffic violations is common. Thrill seekers may associate with unconventional persons and have an intense dislike for people they perceive as boring. The thrill seeker looks for variety in his or her sex life. If the thrill seeker may be open to recreational drugs.

Thrill seekers may appear to be perfect candidates for risky investments, given their obviously high tolerance for risk. But this very desire for novel, intense, and varied experiences may lead the thrill seeker to pursue legal action against the advisor for suggesting an overly risky product if the investment does not produce the expected returns. With this type of client, the advisor must take particular care in documenting due diligence.

DEMOGRAPHIC CHARACTERISTICS

Numerous studies have been conducted over the years in which risk tolerance was related to such factors as wealth, education, age, gender, birth order, marital status, and occupation. The results of this research are discussed below.

Wealth

absolute risk tolerance

relative risk tolerance

Do wealthy individuals take more risks with their money? First, a distinction must be drawn between absolute and relative risk tolerance. *Absolute risk tolerance* is gauged by the amount of wealth one allocates to risky assets. *Relative risk tolerance*, in contrast, is measured by the proportion of one's wealth allocated to risky assets. It is generally accepted that absolute risk tolerance increases with wealth since the wealthy have more money to spend on everything. There is some disagreement, though, about whether relative risk tolerance increases with wealth. Several studies have addressed this question by examining people's investment portfolios.

Some researchers have been unable to find such relationships. One reason for the discrepancy is attributable to differences in the type of assets considered and how these assets were classified (safe versus risky). The way the primary residence is treated seems to be especially critical. Relative risk tolerance goes up with increasing wealth if housing is either excluded from the definition of wealth or classified as a riskless asset.

Example:

A study conducted by R. A. Cohn and his colleagues found that relative risk tolerance increases with

wealth—the wealthier a participant was, the greater the proportion of total wealth that person put in risky assets.²⁸ For instance, if the individual's assets were above \$175,000, on average 62 percent of his or her investments were risky. If the total value of assets was below \$175,000, only 42 percent of the investments were of the risky type. This pattern held even after sex, age, and marital status were taken into account. However, this relationship between wealth and risk tolerance was strongest among male investors and married investors.

There is further support for a positive relationship between relative risk tolerance and wealth in studies using questionnaires as the basis for determining the degree of risk tolerance. In the survey sponsored by the Insurance Information Institute, the wealthy were more likely to associate the word risk with the word opportunity than the other respondents. Similarly, a study of the upper affluent sponsored by the CIGNA Corporation found that the risk takers in this group were more likely to have higher incomes and were much more likely to be millionaires. The "chicken and egg" question still remains: Did the wealthy become so because of their greater willingness to assume risk, or is it that they are more risk taking now that they are wealthy? That is, does having money make one more risk seeking?

How money was acquired may also be a factor in the risk-taking propensity characteristic of the wealthy. Differences in risk tolerance have been reported between those who made their fortune themselves over time and those who did not make it themselves and acquired it relatively quickly. For instance, people who acquired their wealth through a windfall (such as winning a lottery) are more apt to expose it to risk than those who acquired their money through hard labor. Yet, people who earned their own wealth tend to be more risk tolerant than those who inherited their wealth from beloved relatives.

Education

Numerous studies have found that financial risk tolerance increases with the degree of formal education. Riley and Chow, for instance, looked at the percentage of total wealth held in risky assets by individuals with differing levels of education and made the observations as reflected below in *Table 4-1, Risk Tolerance and Degree of Formal Education*.²⁹

28. R.A. Cohn, W.G. Lewellen, R.C. Lease, and G.G. Schlarbaum, "Individual Investor Risk Aversion and Investment Portfolio Composition," *Journal of Finance*, 1975, vol. 30, pp. 605–620.

29. W.B. Riley and K.V. Chow, "Asset Allocation and Individual Risk Aversion," *Financial Analysts Journal*, Nov./Dec. 1992, pp. 32–37.

Table 4-1
Risk Tolerance and Degree of Formal Education

Education	Percentage of Wealth in Risky Assets
Less than high school	2.0%
High school diploma	3.4%
Some college	5.2%
College degree	7.9%
Post graduate	8.0%

Among the mutual fund shareholders studied by the Investment Company Institute, the percentage of investors with at least a 4-year college degree increases with risk tolerance (39 percent among the low risk tolerant, 57 percent among the moderate risk tolerant, and 66 percent among the high risk tolerant).³⁰ The reason for this relationship is not entirely clear, however. Because education is correlated with income and wealth, it could be that it is the latter two variables that account for the greater risk tolerance among the better educated, rather than education per se. It is also possible that people with higher levels of education become familiar with the range of investment options available to them.

Age

In general, financial risk tolerance is negatively correlated with age. One study of mutual fund investors asked whether they agreed or disagreed with the statement, The older people get, the less willing they are to take investment risk. Ratings were on a scale from 0 to 10, with 0 indicating no agreement and 10 indicating strong agreement. In general respondents agreed with this statement, since the average rating was 7.6. Low-risk-tolerant, moderate-risk-tolerant, and high-risk-tolerant shareholders were compared on their opinions about this issue, and surprising differences were noted. The low-risk-tolerant investors were most likely to agree with this statement (average rating = 8.6), while the high-risk-tolerant investors were least likely to agree with it (average rating = 6.7). The moderate risk takers fell in the middle (average rating = 7.5).

A substantial body of research exists on the relationship between age and risk taking in all sorts of activities, financial as well as nonfinancial. The bulk of this research points to an inverse relationship between age and willingness to take risks. That is, as one gets older, one becomes more cautious. For instance, the Investment Company Institute Study of Risk Tolerance (cited previously)

30. Investment Company Institute, "Piecing Together Shareholder Perceptions of Investment Risk," Spring 1993.

found that the average ages of their low-, moderate-, and high-risk tolerant investors were 60, 51, and 42 years, respectively.³¹

Some qualifiers are in order, however. This relationship between more advanced age and increased caution may not be as strong for monetary risks as it is for physical risks. Moreover, the relationship between monetary risk tolerance and age may be weaker among the wealthy, according to some studies. When looking at the impact of age on risk taking, the advisor also should consider the client's particular circumstances. For instance, some financial advisors report that they have encountered middle-aged couples who were previously very conservative investors but who now take an interest in aggressive investing because their obligations to raise and educate their children are at an end.

Gender

The study of psychological differences between men and women has a long history. Almost all research prior to the women's movement indicates that men were more risk tolerant than women in most aspects of life. Both biologically based and psychologically based explanations have been offered. One psychological explanation is that women had been socialized to be more dependent and risk averse.

The results of more recent studies are mixed. Some newer studies encourage consideration of age and income when looking at sex differences in monetary risk taking. While older married women are less likely to accept financial risks than their husbands, the differences in financial risk taking between younger men and women with comparable incomes are either small or nonexistent.

Birth Order

Although there is only limited research on the topic, it appears that birth order is related to risk taking. Namely, the firstborn child tends to be less willing to take risks than the later-born children in the same family. The favored explanation is that parents exert greater control over the early life of the firstborn child and instill in him or her the need to be dependable and act responsibly. To the child, this means not taking unnecessary chances.

Marital Status

Single individuals appear more risk tolerant than married individuals in some studies, and more risk averse in other studies. The reason for the conflicting results is a failure to consider whether both spouses are employed. The key is the presence of dependents, rather than marital status per se. If the individual feels that his or her actions might have negative consequences for dependents, then he or she is likely to be more cautious. In dual-income

31. *Ibid.*

families, the spouse's level of risk tolerance may be no less than that of a single person, because neither party is the dependent under these circumstances. In fact, a dual income may increase the level of risk tolerance.

Example: A study of mutual fund shareholders found that among married low-risk-tolerant investors, 61 percent of the spouses worked, compared with 73 percent of the high-risk-tolerant married households.

Other research indicates that widowed and separated people are more risk averse than either never-married persons or persons who are currently married.

Occupation

Most people spend much of their adult life working. Certainly the types of jobs they hold in some way relate to risk tolerance. Several aspects related to occupation and risk tolerance have been studied and are discussed below.

Public-Sector Versus Private-Sector Employment

One important manifestation of financial risk-taking propensity is the need for job security—the greater the probability of becoming unemployed, the greater the financial riskiness in that occupation. Thus, one would expect monetarily risk-averse individuals to gravitate toward jobs that offer security, even if the pay is lower. It is generally accepted that the public sector offers greater job security. A number of studies have compared the monetary risk-taking propensities of private-sector and public-sector employees. This research points to greater risk aversion among public-sector employees.

Professionals Versus Nonprofessionals

According to the results of some studies, professionals (physicians, lawyers, managers, and so on) tend to take on more risk in investment decisions than nonprofessionals (farmers, unskilled and skilled laborers, clerical workers, and so on). This disparity is perhaps due to differences in the level of sophistication about investment matters. As mentioned earlier, risk tolerance tends to increase with increased knowledge and familiarity.

Risk tolerance differences within a given profession cannot be explained in these terms, however. Certain reports indicate that professionals in private practice or professionals working for small firms are more risk tolerant than individuals in the same profession who are employed by large firms. Among physicians, differences have also been observed between surgeons and

physicians in other specialties (internists, for example). Specifically, surgeons reportedly are more likely to be risk tolerant than other physicians.

Length of Job Tenure

Chances of advancement decrease the longer a person remains in one position with the same company. Again, many financially risk-averse people remain in positions that offer few possibilities for upward mobility because of financial security needs. Financial risk takers, in contrast, change jobs quite frequently (that is, they are job hoppers).

Management Level

Studies comparing the risk-tolerance levels of managers at different levels within an organization usually find that risk takers hold more senior level positions, earn higher incomes, and have greater authority. Risk takers are also more likely to work as managers in small rather than large firms.

Salary Versus Commission

Monetary risk takers are well represented in occupations in which all or a substantial portion of the earnings depends on commissions. Moreover, the more successful performers in such jobs generally take higher risks.

Example 1 :

It has been found that the risk-taking individual is more likely to pursue one or two large accounts instead of a large number of small accounts.

Example 2 :

A recent study examined the personality characteristics of job seekers and how these characteristics related to the compensation system preferred by the job seeker. It was determined that risk-averse individuals were more attracted to positions and organizations that offered a fixed rather than a contingent (upon performance) pay system. Moreover, risk-averse individuals did not consider pay level to be as important a criterion in the job they were seeking.

Entrepreneurship

According to the Small Business Administration, about 75 percent of new business ventures fail within 5 years. Given the financial risks involved, one would naturally expect people who are successful entrepreneurs to be high-risk

takers. Surprisingly, however, research points to only a moderate propensity for taking risks among entrepreneurs. In other words, risk taking is not the characteristic that differentiates entrepreneurs from nonentrepreneurs. Rather, it seems to be the need for independence—to be one's own boss—and a need to achieve. This pattern of motivation may explain the preference for moderate levels of risk over low and high levels of risk. People with a strong need to achieve prefer moderate levels of risk where skill can have a marked influence on the outcome. In low-risk situations, everyone can achieve the desired outcome, whereas in high-risk situations, it becomes more a matter of luck than skill.

Risk Applied

Understanding client risk tolerance is a critical component to making investment and insurance recommendations. While demographics and personality traits are factors in determining individual risk tolerance every client has a different background and life experience. These experiences help clients form risk tolerance and aversion preferences. Risk preferences change for clients as they experience life changes. Young couples may be more risk tolerant than new parents, and a 55 year old man who is working is most likely more risk tolerant than a retired counterpart.

COMMUNICATING PROBABILITY STATEMENTS VERBALLY

Poor communication between client and advisor is responsible for many of the allegations of investment unsuitability filed against financial advisors. Typically, the client claims that the risks of the investment were not conveyed adequately. This brings us to the issue of communicating probabilities of success and failure to one's clients.

Research indicates that people prefer to obtain information about the probability of an event in numerical form. However, they are generally more comfortable describing the probability of an event to others in words rather than in numbers. Perhaps it is because in everyday situations it is not always possible to assign an exact probability to outcomes. But what does it mean to clients if their financial advisor tells them that a certain investment will probably double their money in 6 years, while another investment offers only a low chance of producing this rate of appreciation?

At least 282 words and phrases can be used to report the likelihood of something happening. Researchers have attempted to quantify these expressions by asking people questions like: If you were told that an outcome was _____ [the blank being filled in by a word or phrase such as "very improbable" or "likely"], what percentage would best represent the probability of that outcome occurring? The intent is to provide the financial advisor with a basis for determining how these terms would be understood by clients if he or she were to use them in communicating estimates of the probabilities of various investment opportunities.

Example: On average, "almost impossible" is understood as having a 2 percent (2/100) chance of occurring. "Medium chance" and "even chance" are understood to represent about a 50 percent chance of occurring.

Research conducted by the Investment Company Institute dealt with how much risk certain investment terms connoted for mutual fund shareholders.³² Participants in this study were asked to indicate, on a scale of 0 (no risk) to 10 (great risk), how much risk they associated with an investment described by the particular term. The mean ratings for the terms can be found in *Figure 4-2, Degree of Risk Connoted by Selected Investment Terms*. These ratings ranged from 7.2 to 3.2, with "high yield" conveying the greatest risk and "guaranteed investment" connoting the lowest risk. Other terms suggesting high risk were "emerging growth" (6.9), "maximum return" (6.7), and "international" (6.6). Other terms suggesting low risk were "fixed-rate" (3.5) and "tax-free" (3.7).

It was reported that low, moderate, and high risk-taking shareholders did not vary much in their assessment, other than for the term "maximum return" and "international." "Maximum return" implied less risk for low risk-tolerant investors than for moderate or high risk-tolerant investors, whereas "international" connoted more risk for the low risk-tolerant investors relative to the other two groups.

When communicating with clients, advisors need to be aware of differences in linguistic style between men and women. In the *Harvard Business Review*, Deborah Tannen reported that women tend to downplay their certainty about situations whereas men tend to minimize their doubts.³³

ASSESSMENT OF THE CLIENT'S RISK TOLERANCE

Purpose of Assessment

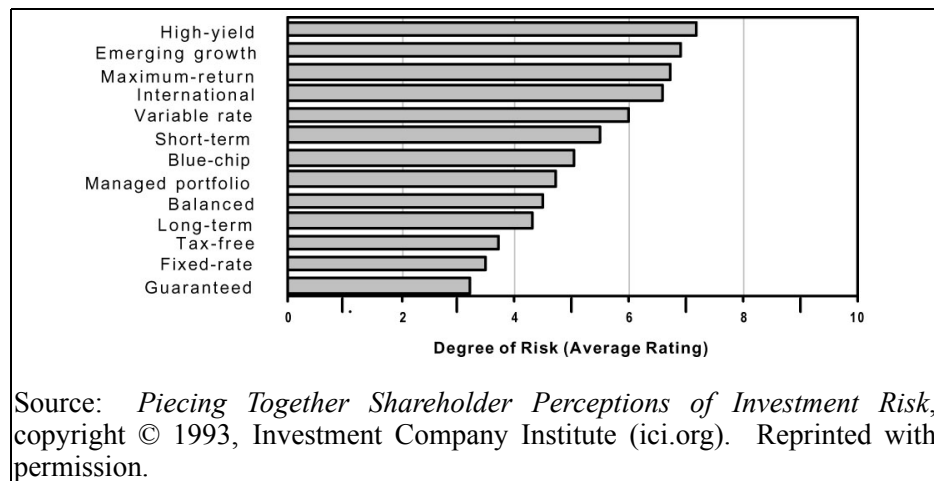
So far, some of the factors that exert an influence of one sort or another on a person's willingness to undertake a risky course of action have been examined. Now comes the issue of assessment. How does one measure a client's typical level of risk tolerance? By typical, we mean the level at which the aforementioned distortions do not cause the client to make decisions that are either riskier or safer than would generally be characteristic of that individual.

32. Investment Company Institute, "Piecing Together Shareholder Perceptions of Investment Risk," Spring 1993.

33. Deborah Tannen, "The Power of Talk: Who Gets Heard and Why," *Harvard Business Review*, September-October 1995, pp. 138-148."

One way would be to observe the client repeatedly over an extended time period in situations that are likely to reveal his or her characteristic risk-tolerance level. Of course, this approach is not really feasible since it would be unreasonably time-consuming for the financial advisor and would constitute an unwarranted intrusion for the client. Some observations may even be misleading since the individual may not even be aware of the risks he or she is incurring. Consequently, there is a need to estimate the client's risk tolerance within a relatively short time period.

Figure 4-2 Degree of Risk Connoted by Selected Investment Terms



The sections that follow review some of the available options for estimating the client's risk tolerance within a relatively short time period. All of these options call for sensitivity to appropriate cues and an ability to integrate them into a total impression of the client.

Whatever method is used, the assessment process is meant to help clients understand their own level of risk tolerance. Quite frequently, clients are not aware of how risk-tolerant or risk-averse they are. To them risk tolerance is a vague concept that requires both explanation and exploration. The purpose of assessment is not to enable the advisor to impose his or her perceptions on the client. For example, it is inappropriate to advise the client that the choice is between "eating" (risky investments) and "sleeping" (nonrisky investments). In the end, it is the client who must decide what constitutes an acceptable level of risk. The advisor's role is to help the client learn enough about himself or herself to be able to make an informed decision.

Assessment Methods

Many financial advisors fail to appreciate the complexity of the task facing them in trying to determine a client's risk tolerance accurately. Considerable time and effort are required to do it correctly. The primary problem is that frequently the various techniques do not give the same picture of a particular

person's level of risk tolerance. All too often the individual may appear to be a risk taker when assessed with one technique and a risk averter when assessed with another.

Example:

In one study employing 16 different assessment procedures, the percentage of people who could be classified as risk takers ranged from 0 percent to 94 percent, depending on the technique used. Practically, this means that more than one approach should be employed for an accurate assessment of a client's risk-taking propensity.

Contrasts Between Qualitative and Quantitative Assessment

The assessment process can be qualitative, quantitative or a combination approach in its orientation. When an advisor relies on a qualitative approach, one typically collects the necessary information primarily through conversations with the client, without assigning numbers to the information gathered. The information is collected in an unstructured format and is evaluated on an intuitive or impressionistic basis, based on the advisor's training and experience. A quantitative approach, in contrast, relies on the use of a structured format—questionnaires, for example—that allows one to translate observations into some type of numerical score. These scores are then used to interpret the client's risk-taking propensities.

Most advisors do not rely on one approach to the exclusion of the other. For example, few quantitatively oriented advisors are willing to surrender their professional judgment to the results of a questionnaire. It is really a matter of degree of how qualitative or quantitative one advisor is compared with another. One can use a primarily qualitative approach and still not forfeit some of the advantages of quantifiable information. Questionnaires and other quantitative devices can be valuable tools in the hands of any skilled financial advisor.

Often a questionnaire or similar device used to assess a client's risk tolerance can facilitate the beginning of a dialogue between the advisor and the client. The content of the questionnaire highlights issues that the client may not have thought about. Another advantage is that a quantitative approach allows one to standardize the assessment process.

A number of limitations are inherent in a strictly qualitative approach—one in which the financial advisor relies solely on the verbal comments made by a client and interprets their significance on an intuitive basis. One study found that financial advisors (like all people) are overconfident about their ability to make intuitive judgments. The advisors, presented with various statements that clients could make, were asked to evaluate the level of risk tolerance these

statements implied on a 10-point scale, where one indicated low risk tolerance and 10 indicated high risk tolerance.

It is understandable that an ambiguous statement such as "Taking calculated risks is different from being rash" would receive ratings as low as 4 and as high as 8. (The average was 6.7.) However, even on more straightforward statements there was also a lack of consensus. The statement, I like to speculate on my investments, if made by a client was interpreted on average as an 8.5. However, again there was diversity of opinion about its meaning. Some financial advisors saw the statement as meriting only a rating of 5 whereas others assigned it a rating of 10. "Rubber yardsticks" of this type can be minimized in a quantitative-assessment approach.

When using a qualitative orientation to the assessment of risk tolerance, the advisor should be familiar with good interviewing skills. There are standards for quantitative assessment procedures as well, most of which are beyond the scope of this chapter. Suffice it to say that a quantitative measurement device, such as a test or even a questionnaire, needs to be constructed very carefully. The questions should be written in such a way that they do not lead or bias the individual to answer them in a certain way. Moreover, evidence must be provided to demonstrate that the test or questionnaire does, in fact, assess the attributes it is meant to measure and that it measures them accurately on a consistent basis.

norms

Provided that they are accurate, the best quantitative measurement devices have *norms*, standards of measurement such as averages that allow the advisor to compare the standing of a particular individual with a representative group. Through the use of such norms, one can compare the individual to the public at large or to some subgroup. For instance, using a normalized measure of risk tolerance, it is possible to see whether the client is more or less risk tolerant than people in general or to compare the client with other people of the same age and sex.

Unfortunately, most assessment devices now employed by financial advisors to measure client risk tolerance have not been developed under such strict standards. A majority was created for in-house use by individual advisors, brokerage houses, or mutual funds. Many of the developers of these devices are probably unaware of such requirements. There is a critical need for well-constructed questionnaires that provide some evidence to support their use as measures of risk tolerance. Advisors may be forced to use quantitative measures developed by their broker dealer or their Registered Investment Advisor (RIA), but they are generally able to add qualitative questions to existing risk measures. The qualitative measures can give substance and framing to a quantitative chassis.

Most of the available assessment devices suffer from the same problems. In some, the wrong questions are asked or they are presented in an incorrect format. Many devices are too short, thereby failing to contain an adequate representation of questions. It has been demonstrated repeatedly that answers to similar questions about risk tolerance may not concur. In order to avoid being misled by the answer to any one question, the financial advisor needs to ask a

series of questions. Some answers may underestimate the client's true level of risk tolerance, whereas others may overestimate it. Other things being equal, the more questions that are used to measure a psychological characteristic, the more precise are the results.

Some questionnaires do not separate the different contexts of risk taking, so a high score on such a questionnaire is probably better at identifying tendencies toward thrill seeking rather than high risk tolerance for investment or financial matters. For all these reasons, one must exercise caution. It is strongly recommended that the financial advisor examine the content of the questionnaire. A questionnaire or checklist or inventory purporting to assess risk tolerance may, in fact, be measuring some other attribute.

Many techniques can be used to assess a client's risk tolerance. Some lend themselves more to a qualitative approach, whereas others call for a more quantitative approach. In the section that follows, a brief overview of the most common approaches is provided.

Aspects Considered in the Most Common Approaches Used to Measure Client Risk Tolerance

- investment objectives
 - preferences for various investment vehicles
 - real-life choices involving risk
 - attitudes toward risk
 - preferences for different probabilities and payoff levels
-

Examination of Client Investment Objectives

Frequently, clients are asked to identify their financial objectives. For example, the client may be asked to indicate how important the following are to him or her: liquidity, safety of principal, appreciation, protection from inflation, current income, and tax reduction.

The client's level of risk tolerance is inferred from the answers. If the client's primary concerns are safety of principal and/or liquidity, then risk aversion is assumed. If, however, the main objectives are protection from inflation or tax relief, then the inference is that the client is risk tolerant.

Prioritizing objectives, however, must not be confused with measuring risk tolerance. There are many individuals who desire tax relief yet are quite risk averse. One's stated objectives may, in fact, be quite incompatible with one's level of risk tolerance. In many cases, the client may be unaware of this incongruity. In a sense, the client's level of risk tolerance should be the basis for evaluating how reasonable the client's objectives are. However, using objectives for the purpose of gauging risk tolerance, without any further attempts to assess actual risk tolerance, is a mistake. To do so is to have "the tail wag the dog."

Example:**Examination of Client Investment Objectives:**

Rank the following investment objectives from 1-6, with 1 being the most important.

- _____ liquidity
 - _____ safety of principal
 - _____ protection from inflation
 - _____ growth
 - _____ current income
 - _____ reduced taxation
-

Preferences for Various Investment Products

This is the most direct approach to measuring a client's risk tolerance. With this method, the client indicates the products that he or she prefers as investments. Several variations of this procedure exist. In its simplest form, the client is presented with the available alternatives and is then asked how he or she wishes to distribute available assets among these options. The products are usually presented in some rank order, ranging from very safe investments to very risky investments. Either actual (real) or imaginary funds can be used.

For the latter variation of this task, the client is asked something like, What would you do if you got a windfall? Naturally, people tend to be more daring with imaginary money than with actual money. A third variation of this approach is to ask the client to rank the products from most preferred to least preferred or to assign to each product some rating that represents the client's level of preference (for example, low, medium, or high).

The accuracy of this procedure (in all its variants) rests on the client's knowledge of the actual risk-return potential of the various investments. Preferably these differences are explained and specified to the client, since many clients may lack even basic knowledge. One should never assume that clients are highly knowledgeable about financial matters. Surveys of the general public, including the wealthy, reveal a startling level of financial ignorance.

Example:**Preferences for Various Investment Products:**

If you received a large windfall, how would you allocate it among the following? (Percentages must sum to 100.)

-
- _____ % Certificates of deposit
 - _____ % U.S. government securities
 - _____ % Corporate bonds and bond mutual funds
 - _____ % Stock and stock mutual funds
 - _____ % Options
 - _____ % Futures contracts
-

FOCUS ON ETHICS: When Risk Attitude and Risk Capacity Collide

Consider the case of client John Doe who views himself to be highly risk tolerant in monetary matters. His existing portfolio consists of common stock investments in small, highly risky companies. A third-party evaluation of this client's risk tolerance confirms that he is among the top 5 percent in terms of his attitude toward risk. The client asks about specific, aggressive stocks. Should the advisor feel free to recommend or sell high-risk investments to this client?

Now consider some additional information. The client is a 30-year-old widower with three small children. He is an aeronautical engineer employed by a defense contractor that relies entirely on the government for revenues. His total savings including his investment portfolio are less than one month's earnings, and he is not vested in his pension plan. He has no life or disability insurance. Both his father and grandfather died of heart attacks in their mid-forties.

Ask the question again: Should the advisor feel free to recommend or sell high-risk investments to this client?

Clearly this client has an attitude toward risk tolerance that is at odds with his economic and family situation. Selling the client what he wants will generate a commission—but is it ethical?

Real-Life Choices Involving Risks

As with investment products, a person's past performance is no guarantee of future performance. But it has been observed that the best predictor of future behavior is typically past behavior. This notion underlies the real-life choices approach to risk-tolerance assessment. That is, factual information about the client's life is gathered and evaluated. The following lifestyle characteristics can be used to gauge a client's disposition toward monetary risk:

- composition of present investment portfolio. How risky is it? What percentage of total assets are in passbook savings accounts, Treasury notes, mutual funds, stocks, options and commodities, and so on? If stocks are owned, does the person use short selling and margin buying? If an annuity is owned, is it of the fixed or variable type?

How satisfied or dissatisfied is the client with this type of portfolio? If changes were made to a previous portfolio, were these changes in a more conservative or more aggressive direction?

- debt ratio. The ratio of the client's liabilities to his or her gross assets has been used as a measure of risk tolerance. It has been suggested by some that a debt ratio over 23 percent reflects risk taking, under 8 percent reflects risk aversion, and 8 percent to 23 percent reflects a risk-neutral attitude.
- ratio of life insurance to annual salary. The assumption is that the larger the resulting ratio, the higher the client's level of risk aversion.
- size of deductibles on property-liability coverage. It has been observed that as the amount of wealth allocated to risky securities rises, so does the size of the deductible on the client's insurance coverages. Risk-tolerant individuals elect larger deductibles.
- percentage of net wealth used for recreational gambling. The larger the ratio, the more risk-seeking the individual is considered to be.
- job tenure. The willingness to make a voluntary job change is considered an indicator of a willingness to take financial risks. Therefore, clients can be asked how many job changes they have made during the last 15 years. Over three changes is considered by some as a sign of a risk-taking attitude. Quitting a job before one has found a replacement is particularly significant. Job changes at middle age may also be especially noteworthy.
- variations in income. Risk-taking individuals may show greater variations in their annual income from year to year, and not always in an upward direction. The financial advisor should also look at the duration of unemployment if the client was ever unemployed. Did the individual take the first job offer he or she received during this period of unemployment or did he or she wait until a job to his or her liking was found? What was the salary of the new job the client took after the period of unemployment? If it was lower than that of the previous job, it could indicate risk aversion.
- type of mortgage. A willingness to undertake a variable rather than a fixed mortgage could be a sign of monetary risk taking. If the client has chosen a fixed mortgage, did he or she lock in on a guaranteed rate before settlement? Locking in is a sign of risk aversion.
- previous investment experience. Ask the client what their best investment experience has been and what their worst experience has been. Their unique perspective is colored by past returns and performance.

Attitudes Toward Risk

A method frequently used to obtain information about a client's degree of risk tolerance involves eliciting his or her attitude toward risk. Attitudes toward risk can be ascertained by using either a quantitative or a qualitative approach.

Questions can take many different forms. First, clients can be asked global questions such as whether they view themselves as risk averters or risk takers. For example, On a 10-point scale, where one is an ultimate risk averter and 10 is an ultimate risk taker, where would you place yourself?

Second, clients can be asked about their specific reactions to risk. For example, does the client experience the following:

- is unable to sleep after making a risky investment
- has persisting second thoughts about the investment
- views risk as an opportunity rather than a danger
- gets more pleasure from making \$3,000 on a risky investment than \$3,000 on a safe investment
- is afraid of losing what he or she has
- is willing to borrow money to make a good investment
- believes that it is impossible to get ahead without taking chances
- agrees with the saying, "Better safe than sorry"

Example:

Do you experience anxiety or thrill when awaiting the outcome of an important investment decision?

- ___ always experience anxiety
 - ___ most frequently experience anxiety
 - ___ experience neither anxiety nor thrill
 - ___ most frequently experience thrill
 - ___ always experience thrill
-

Earlier it was noted that many questions must be asked in order to assess risk tolerance accurately. This is especially true in the case of the attitude approach to measurement. It has been found that the reason why many attitudes, as measured by questionnaires or other scales of that type, fail to predict actual behavior is because not enough questions were asked. When the number of questions was increased, there was a much clearer connection between attitude and behavior.

A major problem with the attitude approach to risk-tolerance assessment is that people want to present themselves to others in the best possible light. Any characteristic that is valued is likely to be overstated. In America it is considered more desirable to be risk taking than risk averting. Clients are, therefore, likely to exaggerate their willingness to take risks. Consequently, discrepancies between verbally expressed attitudes and actual behavior are frequent, even if numerous questions are asked. When using this approach, one needs to ascertain how well the expressed attitudes agree with other evidence, such as factual information about the person's risk-taking proclivities.

Probability and Payoff Preferences

A variety of assessment techniques fall under this classification. Three types will be considered:

- preferences for certain versus probable gambles
- minimum required probability of success
- minimum required return

All of these methods rely on a manipulation of at least one of the four elements found in any gamble: probability of loss, probability of gain, amount to be lost, and amount to be gained. Consequently, the techniques falling under this classification are best used in a quantitative approach to assessment.

framing

Anyone using the probability and payoff-preferences approach to measuring a client's risk tolerance needs to be aware of how framing a question affects the answer, lest he or she be misled by the results. *Framing* refers to the way in which a question is structured with regard to the issue being evaluated. For example, the same objective facts can be described either in terms of the probability of gaining or the probability of losing. Although it may not seem that—to use an analogy—describing a bottle as half empty or half full should have any marked consequences on one's choices in a risky situation, the evidence shows otherwise. To illustrate, consider research in which one group of people is informed that there is a 50 percent chance of success in a particular venture. Another group is told that this same venture has a 50 percent chance of failure. Logically, the same proportion of people in each group should be willing to take this risk. Yet this was not the case. When the risk was described (framed) in terms of the probability of success, more people were willing to take it than when this same risk was described in terms of the chances of failure. Other related research has shown that describing ground meat in terms of how lean versus how fat the product was made a big difference. To shoppers, ground meat described as 90 percent lean was seen as a better buy than the same ground meat described as 10 percent fat.

unpacking effect

Another consideration is the *unpacking effect*. This principle refers to the finding that the perceived likelihood of an event is influenced by how specifically it is described. The more specific the description becomes, the more the situation is judged as likely to occur.

Example:

Stanford University undergraduate students were asked to estimate the probability of different causes of death. When asked to estimate the probability of death from a natural cause, on average, the answer was 58 percent. However, when they were requested to estimate the probability of death from a list of three possible natural causes—cancer, heart disease, and other natural causes—the probabilities assigned to these respective events were 22 percent, 18 percent, and 33 percent. Together, they sum up to 73 percent (22% + 18% + 33%),

which is higher than the first estimate, 58 percent. In other words, the sum of the components was greater than the whole. This type of effect has been observed among both novices and experts and in different professions including professional options traders estimating the closing price of Microsoft stock.

Preferences for Certain Versus Probable Gambles

Gambles are abstract representations of real-life situations. One very common technique is to present the client with two alternatives. One choice is a certain win, whereas the other choice offers only some probability of winning.

Example 1 :

A person is asked to indicate whether he or she would choose

A: a sure gain of \$1,000

B: a 50 percent chance of gaining \$2,000

Persons who are risk averse chose options similar to A, whereas risk-taking individuals chose options similar to B.

Example 2 :

On some questionnaires, these choices are woven around a story line. An item of this type may be to imagine you are a winning contestant on a game show. Which of the following actions would you take?

A: Stop playing with a certain cash prize of \$8,000.

B: Go another round with a 50 percent chance of winning \$16,000 and a 50 percent chance of winning nothing

Minimum Probability of Success Required Before Undertaking a Risky Action. A good example of a procedure relying on this approach is the "choice dilemma" questionnaire, often used to study the risky shift phenomenon discussed earlier. This questionnaire presents 12 situations. For each situation, two alternatives are described. One choice is risky and the other is safe. In every case, the risky course of action offers a larger potential payoff. Five

odds are given for the chance of success for the risky course of action, namely 1 in 10, 3 in 10, 5 in 10, 7 in 10, and 9 in 10. The person answering the questionnaire is asked to select the odds that would make it worthwhile to take the risky alternative instead of the safe one. The situations involve a broad range of dilemmas, such as job change, heart operation, football game, marriage decision, and so on. One such question involves a business investment decision.

Example:

Mr. E is president of a light metals corporation in the United States. The corporation is quite prosperous and has strongly considered the possibilities of business expansion by building an additional plant in a new location. The choice is between building another plant in the United States, where there would be a moderate return on the initial investment, or building a plant in a foreign country. Lower labor costs and easy access to raw materials in that country would mean a much higher return on the initial investment. On the other hand, there is a history of political instability and revolution in the foreign country under consideration. In fact, the leader of a small minority party is committed to nationalizing, that is, taking over all foreign investments.

Imagine that you are advising Mr. E. Listed below are several probabilities or odds of continued political stability in the foreign country under consideration. Please check the lowest probability that you would consider acceptable for Mr. E's corporation to build a plant in that country.

The chances that the country will remain politically stable are

1 in 10

3 in 10

5 in 10

7 in 10

9 in 10

Place a check here if you think Mr. E's corporation should not build a plant in the foreign country no matter what the probabilities.

The higher the odds of success the person requires, the greater the level of risk aversion. The choice dilemma questionnaire is a research instrument with well-known measurement properties. However, its appropriateness for assessing monetary risk taking is questionable because it looks at risk taking in all contexts (for example, it looks at risk taking as if it were an invariable trait—which it is not, as noted in the earlier discussion of the subject). Only a few of the 12 situations are concerned with financial risk taking. Furthermore,

some of the items are quite dated. Nonetheless, some researchers have found this questionnaire useful in differentiating investors who are risk taking from those who are risk averting.

Minimum Return Required Before Undertaking a Risky Action. An example of a question that requires an answer in terms of amount to be gained rather than in terms of probability (as was the case in the choice dilemma task) is: You are faced with an investment opportunity in which you stand a 50 percent chance of losing half of your personal net wealth and a 50 percent chance of making a certain amount of money. How much of a return would you require in order to take this risk? (The answers are evaluated in relation to the person's net wealth.)

Figure 4-3, Sample Questions for Estimating Risk Tolerance provides a sample question for each of the risk-tolerance estimation approaches discussed above. (Appendix D presents The American College's Survey of Financial Risk Tolerance, which is a 40-item questionnaire that also utilizes each of the risk-tolerance estimation approaches discussed above.)

Guidelines on Assessment

The following guidelines are based on the preceding discussion of assessment, taking into consideration the information presented about risk and situational influences on risk-taking propensity:

- Focus on monetary risk taking.
- Assume the client is risk averse, unless evidence to the contrary can be obtained.
- Remember that people are more likely to overstate than understate their risk-taking propensity.
- Keep in mind that even risk-averse individuals may be risk seeking in situations where the choices are between losses. People are reluctant to cut their losses.
- Start your assessment by looking at the client's demographic characteristics and personality makeup. However, remember you are dealing with an individual rather than a group. Just because a person belongs to a group that is more risk tolerant or risk averse than average, it does not mean that the client facing you today will necessarily follow the group pattern. The differences in risk tolerance between demographic groups are usually small, so there will be many people who do not fit the stereotype. Do not judge the individual merely by the group to which he or she belongs. Group differences simply provide you with some hunches that can be explored through the assessment process; you still need to assess the individual client.

Figure 4–3 Sample Questions for Estimating Risk Tolerance

1. Examination of Client Investment Objectives
Rank the following investment objectives from 1 to 6, with 1 being the most important.

<input type="checkbox"/> liquidity	<input type="checkbox"/> growth
<input type="checkbox"/> safety of principal	<input type="checkbox"/> current income
<input type="checkbox"/> protection from inflation	<input type="checkbox"/> reduced taxation

2. Preferences for Various Investment Products
If you received a large windfall, how would you allocate it among the following (percentages must sum to 100)?

<input type="checkbox"/> % Certificates of deposit	<input type="checkbox"/> % Stock and stock mutual funds
<input type="checkbox"/> % U.S. government securities	<input type="checkbox"/> % Options
<input type="checkbox"/> % Corporate bonds and bond mutual funds	<input type="checkbox"/> % Futures contracts
Total	<u>100%</u>

3. Real-Life Choices Involving Risks
How often have you used “short selling” or “margin buying” in stock market investments?

Never Seldom Frequently Very Frequently

4. Attitudes toward Risk
Do you experience anxiety or thrill when awaiting the outcome of an important investment decision?

Always experience anxiety

Most frequently experience anxiety

Experience neither anxiety nor thrill

Most frequently experience thrill

Always experience thrill

5. Probability/Payoff Preferences: Certain versus Probable Gambles
In some instances you are faced with a choice between (a) earning a certain amount of money for sure and (b) taking a risk and earning either a larger amount of money or nothing at all.
For example, consider an investment choice between a certain gain of \$50 and an 80 percent chance of earning \$100. If you take the certain choice, you will get \$50 for sure (no more, no less). On the other hand, if you take the 80 percent probability of earning \$100, you also stand a 20 percent chance of earning nothing at all.
For the choices shown below, please indicate whether you would take the sure gain or some probability of earning twice as much (or nothing at all). Be sure to select one option for each pair, A through F.

Pair A: 1. A certain gain of \$10,000
2. 80 percent probability of gaining \$20,000 (with a corresponding 20 percent chance of earning nothing)

Pair B: 1. A certain gain of \$10,000
2. 50 percent probability of gaining \$20,000 (with a corresponding 50 percent chance of earning nothing)

Pair C: 1. A certain gain of \$30,000
2. 80 percent probability of gaining \$60,000 (with a corresponding 20 percent chance of earning nothing)

Pair D: 1. A certain gain of \$30,000
2. 50 percent probability of gaining \$60,000 (with a corresponding 50 percent chance of earning nothing)

Pair E: 1. A certain gain of \$50,000
2. 80 percent probability of gaining \$100,000 (with a corresponding 50 percent chance of earning nothing)

- Pair F:
1. A certain gain of \$50,000
 2. 50 percent probability of gaining \$100,000 (with a corresponding 50 percent chance of earning nothing)

6. Probability/Payoff Preferences: Required Probability of Success

Assume you are a contestant on a TV game show. After winning a prize that is equivalent to one year's salary, you are offered the option of walking away with this prize money or taking a chance on either doubling it or losing it all. What are the odds of success that you would require before agreeing to accept this gamble?

1. Would not take the bet no matter what the odds
2. 9 in 10
3. 8 in 10
4. 7 in 10
5. 6 in 10
6. 5 in 10
7. 4 in 10
8. 3 in 10
9. 2 in 10
10. 1 in 10

7. Probability/Payoff Preferences: Minimum Required Return

You are faced with an investment opportunity in which you have a 50 percent chance of losing half of your personal net worth and a 50 percent chance of making a certain amount of money. What percentage of expected return would you require in order to take this risk? _____%

- Look for quantitative-assessment devices that are accurate and allow you to compare the client's performance with a norm group.
- Consider the results from a questionnaire or other measurement device as only an approximation of the client's actual risk tolerance. No assessment procedure is perfect; they are all susceptible to some error.
- Diversify your methods of assessment. This will allow you to draw on the strengths of the various techniques.
- Use the information you collect to start a dialogue with the client about risk tolerance. Be sure to remember that assessing the client's risk tolerance is a cooperative venture. When an agreement is reached, ask the client to provide a written confirmation of the results of this assessment.
- Realize that biases may be operating on the client's risk perceptions (for example, familiarity, availability, and so on), which may be inflating or deflating the client's true level of risk tolerance.
- Remember that a client's propensity for risk taking does not necessarily remain constant throughout his or her lifetime. As noted throughout this chapter, changes in personal circumstances such as age, wealth, and number of dependents can produce shifts. Likewise, world events can either increase or decrease a person's level of risk tolerance. Therefore, it is prudent to periodically reassess the client's risk tolerance.

EPILOGUE: RISK TOLERANCE

To manage risk in the client's portfolio and in his or her daily life, the advisor needs to understand the client's risk tolerance. Risk tolerance is still an evolving field. However, what is known is that developing a relationship with the client gives the advisor a starting point in handling manageable risks. It is also important to monitor client attitudes toward risk as these attitudes can change over time. The field of behavioral finance has taken on the challenge of trying to explain why investors act the way they do.

Loren Dunton, one of the early leaders in the development of the financial planning profession, wrote that the media frequently asked him to describe the difference between the approach used by financial planning advisors and the one used by other financial services practitioners. In his reply, Dunton made the following comment about financial planning advisors: "Most of them, and all the good ones, will first find out the risk tolerance of the individual or couple they might be going to counsel."

CHAPTER FOUR REVIEW

Key Terms and Concepts

risk seekers (risk-tolerant individuals)	availability bias
risk averters (risk rejecters)	familiarity bias
risk indifferent	illusion of control bias
loss aversion	choice shift
risk	thrill seeker
uncertainty	absolute risk tolerance
perceived risk	relative risk tolerance
bounded rationality	norms
denial of risk	framing
	unpacking effect

Review Questions

The answers to the review questions are in the supplement. Self-test questions and the answers to them are also in the supplement and on The American College Online.

- 4-1. Compare the conventional measure of the riskiness of an investment in the field of finance with most people's intuitive evaluation of the riskiness of the same investment. [4-1]

-
- 4-2. Explain briefly how each of the following tendencies of individuals may limit how rationally they can act in financial matters:
 - a. placing too much confidence in intuitive judgments [4-2]
 - b. making risk assessments on the basis of small samples [4-2]
 - c. failing to correctly evaluate exposure time [4-2]
 - d. denying risk [4-2]
 - 4-3. Explain how each of the following factors can influence people's estimates of risk:
 - a. availability bias [4-2]
 - b. familiarity bias [4-2]
 - c. illusion of control bias [4-2]
 - 4-4. Explain how the time horizon associated with decisions involving an element of risk may affect people's willingness to accept the risk. [4-2]
 - 4-5. Summarize the relationships that research suggests exist between a person's mood and his or her willingness to take on risk. [4-2]
 - 4-6. How does the answer to the question, "Who will be affected by the consequences of this decision?" tend to influence whether a risk is acceptable or unacceptable to the decision maker? [4-2]
 - 4-7. For what reasons may group dynamics lead to more risky decisions than if the members of the group were to make entirely individual decisions? [4-2]
 - 4-8. Identify the four major types of life situations that involve risk taking. [4-3] To what extent can the financial advisor assume that a person who is a risk taker in one of these life situations will also be a risk taker in his or her investment decisions? [4-3]
 - 4-9. Identify several characteristics that differentiate risk averters from risk takers. [4-4]
 - 4-10. Explain how high risk-tolerant mutual fund investors differ from moderate and low risk-tolerant investors in the type of investment advice they use. [4-4]
 - 4-11. Summarize the results of the research on the relationship between people's risk-taking propensities and each of the following characteristics:
 - a. wealth [4-4]
 - b. education [4-4]
 - c. age [4-4]
 - d. gender [4-4]
 - e. birth order [4-4]
 - f. marital status [4-4]

- 4-12. Describe the relationship that research suggests exists between a person's risk tolerance and each of the following occupational characteristics:
- whether the person works in the public sector [4-4]
 - whether the person works in a professional occupation [4-4]
 - whether the person has been in a given job for a long time [4-4]
 - whether the person works in a position of upper management [4-4]
 - whether the person works in a commission-based job [4-4]
 - whether the person is an entrepreneur [4-4]
- 4-13.
- Describe the characteristics of the typical thrill seeker. [4-5]
 - Why might thrill seekers pose a serious potential threat to a financial advisor? [4-5]
- 4-14. Identify some investment terms that suggest "high risk" to clients. [4-5]
- 4-15. Identify the major problems associated with quantitative approaches to the assessment of clients' risk tolerances. [4-5]
- 4-16. Briefly describe each of the following techniques for assessing a client's risk tolerance:
- examining investment objectives [4-5]
 - identifying preferences for different investment products [4-5]
 - reviewing past real-life choices involving risk [4-5]
 - eliciting attitudes toward risk [4-5]
 - assessing preferences for different probabilities and payoffs [4-5]
- 4-17. Describe several guidelines that the financial advisor should observe when attempting to assess the risk tolerance of clients. [4-6]

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