
EDITORIAL COMMENTARY

Do Investors Expect Higher Returns From Safer Stocks Than From Riskier Stocks?

The relationship between risk and return lies at the heart of modern finance. This relationship is embodied within such core concepts as the *capital market line* and the *security market line*.¹ Both of these graphs feature a positive slope, meaning that the higher the risk the higher the expected return. I propose that even though investors may state that in principle, risk and expected return are positively related, in practice they form judgments in which the two are negatively related.

I have organized my remarks around the following questions: (1) What evidence is there that investors judge risk and return to be negatively related? (2) What psychological forces would lead investors to form such judgments about risk and return? (3) What implications do such judgments hold for the broad debate between proponents of market efficiency and proponents of behavioral finance? (4) How robust are judgments about risk and return to judgments about the expected equity premium? (5) To what extent are investors consciously aware of the manner in which they form judgments about risk and return? (6) How reliable is the evidence on risk and return presented here?

Evidence About Judgments of Risk and Return

In 1997, I began to elicit judgments about one-year return expectations and perceived risk. For reasons I shall explain below, I also included questions that make up Fortune magazine's annual survey on corporate reputation. Since 1999, I have administered my survey to financial professionals, mainly portfolio managers and analysts. Before 1999, I only administered the survey to advanced MBA students.

In my survey, I use a group of eight technology companies: Dell, Novell, Hewlett-Packard, Unisys, Microsoft, Oracle, Intel, and Sun Microsystems.² The instructions in my survey ask respondents to specify the return they expect for each of the eight stocks over the next twelve months, expressed as a percentage. The survey also asks respondents to rate their perception of the riskiness of each stock on a scale of 0-to-10, with 0

being risk-free and 10 being extremely speculative. As to the Fortune reputation questions, the response to each is a rating on a 0-to-10 scale, exactly as in the actual survey.

In Shefrin [1999], I report that the return expectations of survey respondents are consistently negatively correlated with their risk perceptions. That is, respondents appear to expect that riskier stocks will produce *lower* returns than safer stocks. This finding is robust, and has also been found by Ganzach [2000]. The responses of portfolio managers, analysts, and MBA students all feature a negative correlation between expected return and perceived risk.

For sake of illustration, Figure 1 below depicts the risk-return scatter plot from a 1999 survey I administered to a group of hedge fund managers.

Because perceived risk is measured on a scale of 0-to-10, rather than in terms of a well-defined variable such as beta or return standard deviation, some readers may be skeptical of Figure 1.³ Therefore, consider the security market line (Figure 2 below) that depicts the same hedge fund managers' expected returns plotted against beta.

The general result is the same with beta that it is with perceived risk. Investors form judgments as if they believe that risk and expected return are negatively related.⁴

Psychology Underlying a Negative Relationship Between Risk and Return

A cornerstone principle in traditional finance is that expected return is positively related to risk, not negatively related.⁵ Why then do investors judge the relationship to be negative? I suggest that investors form a negative association between risk and return because they rely on the behavioral heuristic *representativeness* (Tversky and Kahneman, 1974).

Representativeness involves over-reliance on stereotypes. Consider the behavioral hypothesis that investors rely on the representativeness-based heuristic "stocks of good companies are representative of good stocks." In order to test this hypothesis, Shefrin and

FIGURE 1
Expected Return vs. Perceived Risk

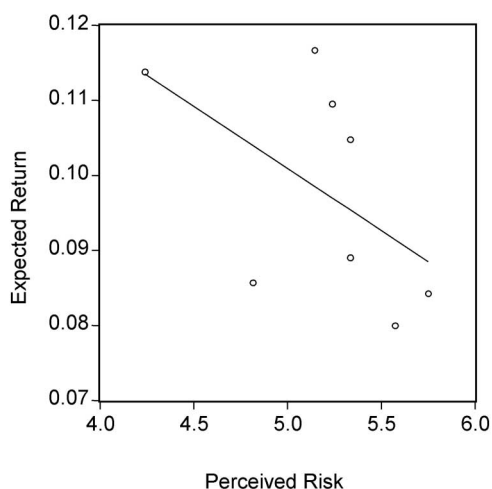
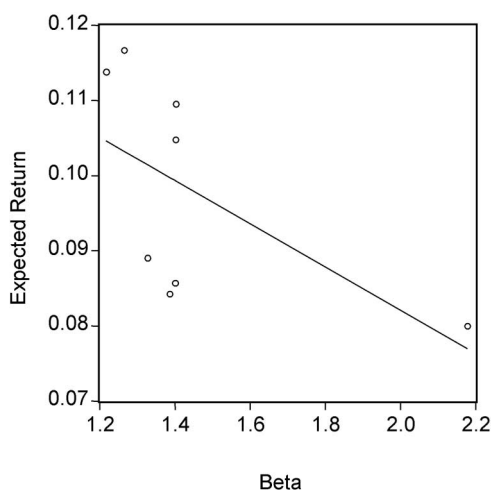


FIGURE 2
Expected Return vs. Beta



Statman [1995] use data from the annual reputation survey conducted by Fortune magazine. Notably, the eight-question Fortune survey contains two questions that relate to the key variables of interest, (1) the goodness of a company and (2) the goodness of the company's stock. Most of the survey questions pertain to the quality of the company, asking about quality of management, quality of products, financial soundness and so on. However, one question asks survey respondents to rate the company's stock in terms of long-term value.⁶

Statman and I suggested that value as a long-term investment (VLTi) seemed to be a decent proxy for the quality of the company's stock, and that quality of management seemed to be a decent proxy for the quality of the company. Therefore we tested the hypothesis that investors judge that good stocks are stocks of good companies by comparing the responses

to these two questions. The correlation coefficient is 90 percent, which we interpret as evidence in support of the hypothesis.

Consider next why investors who rely on representativeness might expect the returns to safer stocks to be higher than the returns to riskier stocks. In this respect, I note that one of the questions in the Fortune reputation survey asks respondents to rate each company for "soundness of financial position." We find that in the Fortune survey, the correlation coefficient between quality of management and financial soundness is 85 percent. In other words, investors judge that good companies are safe companies. As for the company's stock, the correlation coefficient between VLTi and financial soundness is 91 percent, suggesting that investors also judge good stocks to be the stocks of financially sound companies.⁷

There is one more part to the argument that is needed to explain why investors judge that risk and return are negatively related. This last part involves the relationship between a company's financial soundness and the perceived risk of its stock. In my surveys, these turn out to be negatively correlated. For the hedge fund managers discussed above, the correlation coefficient between financial soundness and perceived risk is -85 percent. Therefore, investors appear to identify good stocks with companies that are both well run and financially sound. Representativeness leads investors to associate high-expected returns to the stocks of companies that are well run, and low risk to companies that are financially sound. Because investors judge well run companies to be financially sound, representativeness leads them to expect high returns from safe stocks.

Implications for the Broad Debate

The broad debate between proponents of market efficiency and proponents of behavioral finance is centered on the cross-sectional structure of realized returns. There is general agreement that realized returns have a cross-sectional structure involving characteristics such as size, book-to-market equity, past three-year returns, and past sales growth. However, there is disagreement about the forces that give rise to this cross-sectional structure. Proponents of market efficiency argue that these characteristics are proxies for risk. In contrast, proponents of behavioral finance argue that the characteristics reflect mispricing stemming from investor bias, particularly overreaction.

Because my survey data records true expected returns, the survey holds implications for the above-mentioned debate. I note that in setting out the efficient market position, Fama and French [1992, 1996] implicitly speak of mean realized returns *as if they are* expected returns. In the efficient market view, the nega-

tive relationship between realized returns and book-to-market equity proxies for the relationship between expected returns and true risk. According to this line of thought, mean realized returns coincide with expected returns, and book-to-market equity proxies for the risk associated with financial distress.

In treating mean realized returns as expected returns, Fama and French are making an implicit assumption. One way of testing the validity of this assumption is to analyze the cross-sectional structure of expected returns, and compare the results with the cross-section of realized returns. In doing so, I find that the same characteristics that Fama and French identify as being related to realized returns are also related to the expected returns in my survey data. Yet, there is one major difference between realized returns and expected returns, namely the signs in the two cross-sectional relationships are opposite. For example, book-to-market equity is positively related to realized returns, but negatively related to expected returns. By the same token, size is negatively related to realized returns, but positively related to expected returns.⁸

The opposite sign pattern described above leads me to conclude that investors form erroneous judgments about future returns. Is the same true for risk? In this respect, I note that in my survey data, perceived risk is positively correlated with both book-to-market equity and with beta, and is negatively correlated with size.⁹ These sign patterns are indeed consistent with the efficient market position.¹⁰ Hence, the key error in investors' judgments has less to do with the nature of risk and more to do with the perception that risk and expected return are negatively related.

Time Varying Equity Premium

In this section, I suggest that the cross-sectional structure of return expectations remains stable in the face of volatile expectations about the return to the overall market. I last ran my survey in July 2001. Although the cross-sectional patterns were the same as those obtained in earlier years, there was a notable difference in the *levels* of return expectations. In late July 1999, those surveyed indicated that they expected the eight stocks in my survey to return 9.7 percent over the next year. In July 2001, respondents expected the same stocks to return 1.6 percent.

Wall Street strategists' beliefs about the magnitude of overall returns to the market are also volatile. In December 2000 and January 2001, articles appearing in the *Wall Street Journal* describe the return expectations for the S&P 500 by eleven Wall Street strategists. During 1999, the S&P 500 returned 18.4 percent and strategists expected it to return 9.6 percent in 2000. At the end of 2000, after the S&P returned -7 percent, the strategists were expecting it to return 17 percent in

2001.¹¹ In Shefrin [1999], I point out that Wall Street strategists succumb to "gambler's fallacy," while individual investors succumb to extrapolation bias. Strategists predict reversals too readily, while individual investors project recent trends too readily.¹²

Even academic economists hold volatile beliefs about the equity premium; the amount stocks are expected to return over and above the risk-free rate. Welch [2000] reports on a survey of financial economists he conducted in 1997–1998. He found that in 1997–98, the consensus expected equity premium was 5.8 percent. By way of contrast, in August 2001, the consensus expectation for the same group had fallen to 3.75 percent.

Is such volatility in the expected equity premium consistent with rational expectations? Fama and French [2001] analyze the changing nature of the equity premium relative to underlying fundamentals. They point out that realized returns in the period 1951–2000 were much higher than realized returns were in the period 1872–1950. What makes this finding especially interesting is that the underlying fundamentals, dividend and earnings growth, appear to be consistent with realized returns in the early period, but not in the later period.¹³

How Consciously Aware Are Investors When Forming Judgments?

Over the five years that I have administered my survey, I have found that characteristics like past returns, book-to-market equity, and past sales growth are consistently correlated with return expectations. Yet, in post-survey debriefing sessions, respondents have consistently indicated that they did not consciously take any of these characteristics into account when formulating their return expectations, even though the data were readily available. All are amazed by the cross-sectional structure of their expectations. Professional investors, all educated in the tradition of risk and return being positively related, are astonished to see scatter plots (like Figures 1 and 2) showing that they implicitly expect higher returns from safer stocks. In principle, they accept that the relationship between risk and return is positive, but in practice form judgments in which the relationship is negative.

If investors do not consciously use characteristics to form their judgments about risk and return, then what do they use? What is representative of a good company, if not its characteristics? Work on these questions has only begun, but a promising route involves the role of the affect heuristic in explaining the finding that in general people perceive a negative relationship between risks and benefits (Finucane, Alhakami, Slovic, and Johnson, 2000), as well as the

influence of imagery (MacGregor, Slovic, Dreman, and Berry, 2000).

How Reliable Is the Evidence on Expected Returns?

The data that I have presented about expected returns and perceived risk come from a survey involving eight stocks, administered over five years. I regard these data as suggestive; however eight is a small number of stocks. At the same time, there are good reasons to treat these data seriously. Shefrin and Statman [2001] analyze the cross-sectional structure of the actual Fortune variable VLTI (value as a long-term investment), and find that the relationship between VLTI and firms' characteristics parallels the relationship between expected returns and characteristics. Notably, the actual Fortune reputation survey covers many more than eight stocks, and has been administered for many more than five years.¹⁴

Additional support for the reliability of the data comes from comparing the VLTI responses in my survey with two variables: (1) judgments of expected returns in my survey; and (2) the VLTI responses in the actual Fortune survey.

In the five years I have been conducting my surveys I have found that expected returns are always positively correlated with VLTI. I have also found that the responses to the Fortune reputation questions in my survey replication are quite close to the responses in the actual survey. For example, in my 1999 survey of hedge fund managers, the correlation coefficient between the hedge fund managers' VLTI-responses and the actual Fortune VLTI-responses was 81 percent.¹⁵ The correlation coefficient between the hedge fund managers' VLTI-responses and their expected returns was 70 percent. These responses are typical of my surveys.¹⁶

Fortune magazine bases its reputation ranking on an overall score of eight questions. The overall score is what Fortune publishes. It does not publish the results of the individual questions, although these data can be purchased. An interesting feature of the actual Fortune data is that the mean VLTI-rating assigned by respondents differs from the mean overall rating. In 1999, the mean value of VLTI for the eight stocks was 6.88, whereas the mean overall score was 7.06. Notably, this same pattern emerged in my replication with hedge fund managers. The hedge fund managers' mean-VLTI score was 6.80, and their mean overall score was 7.16.

Because Fortune does not publish the results involving individual questions, I suggest that the proximity of my replicated results and the actual results gives credibility to the responses involving risk and return. Nevertheless, I hasten to argue that we are in

need of more data about both true expected returns and perceived risk, and I hope to inspire studies that generate such data.¹⁷

Conclusion

Do investors expect higher returns from safer stocks than from riskier stocks? Although a central tenet of modern finance is that the relationship between risk and return is positive, many investors appear to form judgments to the contrary.

I suggest that investors' reliance on the representativeness heuristic is the key reason why they expect high returns from safe stocks. Investors who judge that good stocks are stocks of good companies will associate *good* stocks with both *safe* stocks and high future returns.

What implications do representativeness-based phenomena have for the broad debate between proponents of market efficiency and proponents of behavioral finance? The answer involves the connection between beta and characteristics. If the financial world conformed to the capital asset pricing model, then beta alone would explain the difference in expected returns across securities. This means that characteristics such as size, book-to-market equity and past returns would offer no additional power in explaining why different securities have different expected returns. There is now general agreement that these characteristics do offer additional explanatory power, but there is disagreement as to the reason. Proponents of market efficiency argue that characteristics proxy for unobserved risk. Proponents of behavioral finance argue that characteristics proxy for investors' errors.

If the proponents of market efficiency were correct, then mean realized returns (after the fact) would coincide with expected returns (before the fact). In this case characteristics would affect realized returns and expected returns in exactly the same way. For example, book-to-market equity would be *positively* related to both realized returns *and* expected returns. However, the opposite is true. Book-to-market equity is *negatively* related to expected returns. An analogous statement applies to size, past returns, and past sales growth. The relationship between expected returns and each of these characteristics has the opposite sign from the relationship between realized returns and that characteristic.

Why do characteristics like book-to-market equity provide additional information over and above the information conveyed by beta? I suggest that the answer to this question involves the representativeness-based heuristic "good stocks are stocks of good companies." Because good companies are associated with characteristics such as low book-to-market equity, representativeness will induce investors to expect higher re-

turns from the stocks of good companies. In particular, representativeness will lead investors to associate higher long-run returns with low book-to-market equity. However, because the sign of the relationship between expected returns and each characteristic is opposite to that between realized returns and the characteristic, investors' perceptions are erroneous.

Finally, the biased judgments that investors make about risk and return appear to be robust, even in the face of a highly volatile time varying equity premium.

Notes

1. The capital market line indicates the maximum expected return associated with any given return standard deviation, while the security market line indicates how the expected return to a security varies with its beta.
2. In the actual Fortune survey, a single respondent typically rates eight to ten companies in a particular industry.
3. There are both advantages and disadvantages to measuring perceived risk on a scale from 0-to-10. The main disadvantage is that such a scale is inherently subjective, and not as well defined as return standard deviation or beta. The main advantage is that because of the debate about whether or not characteristics such as book-to-market equity proxy for unobserved risk variables, the 0-to-10 scale imposes no strict definition of risk.
4. The correlation coefficient between beta and expected return in Figure 2 is -0.59 . This magnitude is typical for the five years I have been conducting the survey. In addition, the negative relationship is not the result of the outlier at the bottom right. When this outlier is excluded, the correlation coefficient is -0.56 .
5. Subsequent realized returns are noisy, and eight stocks offer few degrees of freedom when it comes to testing hypotheses that compare expected returns and realized returns. The correlation coefficient between hedge fund managers' return expectations and realized returns over the subsequent twelve months is -0.03 .
6. The survey began in 1982, when Fortune began asking corporate executives and analysts to rate firms in major industries.
7. In the case of the hedge fund managers' judgments for the eight stocks, the correlation coefficient between VLTI and financial soundness was 61 percent.
8. Past sales growth and past three year returns are negatively related to realized returns but positively related to expected returns. This pattern supports the contention that the characteristic structure of realized returns reflects long-term overreaction rather than risk, as argued by De Bondt and Thaler [1985] and Lakonishok, Shleifer, and Vishny [1994].
9. Perceived risk is also negatively correlated with past sales growth and past three-year returns.
10. In saying that the sign pattern conforms to the market efficiency position, I am not suggesting that risk perceptions are correct. Lakonishok, Shleifer, and Vishny [1994] argue that the superior performance of high book-to-market (value) stocks over low book-to-market (glamour) stocks cannot be explained by risk. They argue that if risk were to explain the relationship, then value stocks should have underperformed glamour stocks in "bad" states like recessions. However, they find that between 1963–1990, value stocks outperformed glamour stocks in three of four recessions, and did somewhat worse in one recession. They also find that value stocks outperformed glamour stocks in the stock market's worst 25 months. Hence, they conclude that risk does not explain why value stocks have outperformed glamour stocks.

11. See especially the article by E.S. Browning, "Is This Really a Bear Market, or Some Other Animal?" that appeared in the January 16, 2001 issue of the *Wall Street Journal*.
12. In Shefrin [1999] I explain why both errors stem from representativeness-based heuristics in conjunction with framing effects. The difference in the direction of the predictions between individual investors and strategists stems from different historical time frames upon which they base their judgments.
13. Fama and French recognize that their results can be interpreted as evidence of investor irrationality. However, they suggest instead that rather than irrationality, investors' required returns fell after 1950, thereby leading to a prolonged period of unanticipated capital gains.
14. In the actual Fortune reputation surveys studied by Shefrin and Statman, the number of publicly traded firms ranges from 156 in 1982 to 335 in 1995.
15. The correlation coefficient was 91 percent for overall reputation.
16. I use the 1999 responses because 1999 was the last year that I was able to obtain data on VLTI responses from Fortune. The firm with whom Fortune subcontracts to manage the data altered its policy that year and no longer offers an academic package.
17. I note that there are other available data related to return expectations. These include the earnings forecasts and stock recommendations of analysts. In this respect, LaPorta [1996] explicitly uses earnings forecasts to proxy for expected returns. Barber, Lehavy, McNichols, and Trueman [2001] show that realized returns are positively related to analysts' stock recommendations. The return expectations that respondents express in my surveys are positively correlated with their earnings forecasts. However, the relationship between return expectations and actual analyst recommendations at the time is weaker. For my 1999 survey with hedge fund managers, the correlation coefficient was not only close to zero, but also of the wrong sign.

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