THE INVESTMENT IMPLICATIONS OF LOWER STOCK RETURN PROSPECTS

By William Reichenstein

There remains a strong consensus among academic and professional scholars that long-run U.S. stock prospects are below average. A key to these forecasts are the market multiples—price-to-earnings, price-to-book, price-to-sales, and price-to-dividends—which even with the market decline are well above average, suggesting below-average future return prospects.

In the past two years, several academic and professional scholars have concluded that long-run real stock returns will be below historical levels and that the equity risk premium—the additional return on stocks compared to Treasury bonds—will be either well below historical levels or negative.

This article summarizes these predictions, and discusses their implications for individual investors.

A SUMMARY OF PREDICTIONS

Table 1 summarizes five studies published since 1999 that predict long-run real (after-inflation) U.S. stock returns. These studies include those of University of Chicago stalwarts Eugene Fama and Kenneth French and leading professionals such as Robert Arnott and Ronald Ryan. The predictions for long-term real returns range from 2.9% to 5.2%, which would equate to before-inflation nominal average returns of roughly 6% to 8%, assuming a 3% average rate of inflation.

In his 1998 book "Stocks for the Long Run," Jeremy Siegel concluded that, since 1802, U.S. stocks have provided a consistent 7% real return over long horizons. Consequently, it is significant that in August 1999 he predicted that long-run real stock returns would be 3.3%. Since real yields on Treasury Inflation Protection Securities (TIPS) were above 3.3% at that time, Siegel was predicting that bonds would beat stocks. [TIPS are designed so that the nominal yields are adjusted for current inflation every six months; thus, the yields on TIPS imply a real, after-inflation return.]

Stock prices have fallen since August 1999. Nevertheless, there remains a strong consensus among academic and professional scholars that long-run U.S. stock prospects are below average. A key to these forecasts are the market multiples—price-to-earnings, price-to-book, price-to-sales, and price-to-dividends. Historically, long-run returns have been negatively related to the beginning level of multiples. For example, much of the 1982-1999 bull market was attributable to the increase in the price-earnings multiple from about eight to above 30. Today, even with the market decline, U.S. stock market's multiples are well above average, which suggests below-average future return prospects.

The average real return prediction in Table 1 is about 4%. Today's (late August 2001) yield on government-guaranteed 10-year TIPS is about 3%. This suggests that stocks are expected to beat bonds by about 1% over the next 10 years.

The studies used different models and assumptions to make their predictions, each of which could be critiqued. In fact, the Fama and French study used two models—one based on the well-known dividend model, which many academicians criticize for being currently out-of-date, and the other based on an earnings model.

However, in this article, I do not want to quibble about the minor differences in return forecasts. Instead, I focus on the investment implications of

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these predictions, which agree on two very important points:

- Prospects for real stock returns are below their historical 7% average, and
- The equity risk premium that stocks enjoy over bonds is well below its historical average.

Separately, it should be noted that current yields on long-term TIPS imply that real returns on Treasury bonds are above their historical 2% average.

How should individual investors adjust to these market forecasts?

INVESTMENT IMPLICATIONS

It is better to be prepared for historically low returns than to be unprepared, since it is much easier to make later adjustments to stronger-than-expected stock returns and larger-than-expected wealth. In addition, there is nothing you can do to influence market returns. That means that you must either change your expectations or change your behavior.

Adjusting Expectations: The first key is to try to change return expectations, since market returns cannot be adjusted to our needs.

Historically, one way to increase rewards has been to take on more market (or non-diversifiable) risk—that is, to increase the portfolio's stock allocation. That "solution" does not look promising for two reasons. First, it will increase the level of portfolio risk but it will not increase your tolerance for risk. Second, since the forward-looking equity risk premium is low, the reward for taking on more market risk will probably be low.

Save More: A second implication is that individuals who have not retired should save more. They can (1) save a larger fraction of their same income, (2) work overtime or take a second job to raise their current income, or (3) delay retirement. In the first case, they defer consumption. In the last two, they substitute work for leisure and save the additional income.

I have written extensively about time diversification and the concept that more stock risk can be accepted over longer time periods. In my opinion, individuals can invest more in stocks when they have the ability to substitute work for leisure. People who are willing and able to continue working—which includes some elderly—can afford to accept more market risk because they can make up for poor returns by saving a larger fraction of current income, working overtime, or delaying retirement.

What about retirees? Obviously, they often have less flexibility. But many retirees can substitute work for leisure. Some retirees may be able to pick up consulting fees. Virtually anyone can cut coupons, and this "work" generates "earnings" in the form of reduced costs. Others may have to take a job—like it or not. If they cannot substitute labor for leisure and cannot, or will not, reduce planned bequeaths, they will have to cut back on current consumption.

Reduce Expenses, Including Taxes: Even though individuals cannot influence gross returns, they have substantial influence over the amount of those returns they get to keep. If they buy individual securities, they can minimize trading costs. If they buy mutual funds, they can avoid loads and reduce expenses.

Table 2 illustrates the importance of low expenses in a low-return environment. Suppose gross real stock returns are 4%. A 1.5% expense ratio eats up more than a third of the return, while a 0.5% expense ratio takes 12.5%. Considering what the investor keeps, reducing expenses from 1.5% to 0.5% increases net real returns before taxes from 2.5% to 3.5%, a 40% increase.

Taxes are often the largest investment expense, and they are an expense that can often be dramatically reduced or eliminated. Before retirement, be sure to maximize savings in tax-favored accounts such as 401(k) plans, Keoghs, and Roth IRAs. For assets held in taxable accounts, tax efficiency means, when possible, not realizing capital gains and realizing losses. Table 3 illustrates the importance of minimizing investment expenses including taxes. Suppose nominal stock returns are 6%—the 4% real return plus 2% inflation—and the returns are all capital

TABLE 1. SUMMARY OF PREDICTIONS OF LONG-TERM STOCK RETURNS

Study*	Study Date	Horizon (Years)	Dividend Yield (%)	Nominal Stock Return (%)	Real Stock Return (%)
Jagannathan, et. al.	1999	N/S	1.36	6.5	4.8**a**
Siegel	Aug 1999	N/S	1.20	na	3.3**b**
Fama & French (Dividend Model)	Dec 1999	N/S	1.32	na	2.9
Fama & French (Earnings Model)	Dec 1999	N/S	1.32	na	4.4
Arnott & Ryan	Jan 2000	10-20	1.20	na	3.2
Brown	Jan 2000	20	1.20	7.7	5.2**c**

N/S: not stated.
***a** = They predicted 6.5% nominal returns; for 1999, the yield on 10-year Treasury Inflation Protection Securities averaged about 3.9%. Ten-year nominal Treasuries averaged 5.65%. So, expected inflation averaged about 1.7%.*
***b** = Using another model, Siegel projects real stock returns at 3.1% to 3.7%.*
***c** = He predicted 7.7% nominal returns and 2.5% inflation.*

**For a list of the studies and where they appeared, see page 7.*

TABLE 2. NET RETURNS AND EXPENSES

	High-Cost Fund	Low-Cost Fund
Gross Real Return (%)	4.0	4.0
Expense Ratio (%)	1.5	0.5
Net Return (%)	2.5	3.5

Lowering expenses from 1.5% to 0.5% increases net return from 2.5% to 3.5%, a 40% increase.

gains. An active stock fund has a 1.5% expense ratio and realizes gains quickly (technically, in one year and one day). It earns a nominal return of 4.5% before taxes—6% less the 1.5% expense ratio. After paying 20% taxes on the 4.5% capital gain, the individual earns a 3.6% aftertax nominal return or a 1.6% aftertax real return. A passive stock fund with a 0.5% expense ratio that is held in a Roth IRA earns a 5.5% nominal return or a 3.5% aftertax real return. By minimizing expenses, including taxes, the individual more than doubles the aftertax real return.

YOUR PORTFOLIO

What about changes to your investment portfolio?

Diversify: Do not try to make up for reduced market rewards by taking on more non-market (or diversifiable) risk:

- Do not make large sector bets;
- Do not make large bets on individual securities.

The Nasdaq crash should have reinforced this timeless lesson for victims and non-victims alike, but it bears repeating again and again.

Consider Increasing Bond Allocations: Real bond returns are above their historical average, and real stock returns are below average, which implies that individuals should consider higher-than-usual bond allocations. One mitigating factor is that bonds' risk (as measured by standard deviation of monthly bond returns) is above its historical level. Although the optimal asset mix depends upon precise estimates of expected returns, standard deviations, and the correlation between bond and stock returns, most optimization models would suggest bond allocations that are 10% to 20% larger than usual.

OTHER ASSET CLASSES

Investors should also consider expanding the asset classes beyond stocks and traditional bonds. There are several alternative asset classes available that are not outside the risk tolerances of the average individual investor, including:

Inflation-linked bonds: Many financial scholars consider these bonds to be a separate asset class from traditional bonds. Although these bonds are new in the U.S., historical inflation rates allow us to estimate what their historical returns would have been. The upshot is that the correlation between inflation-linked bond returns and stock returns is lower than the correlation between traditional bonds and stocks. (Correlation models measure the tendency for returns to move together; the lower the correlation, the better the diversification benefits from combining the two asset classes in a portfolio.) This lower correlation reflects the fact that, when inflation increases, prices of stocks and traditional bonds usually fall, while inflation-linked bond prices should be unaffected. Therefore, a portfolio of 60% stocks and 40% inflation-linked bonds has less risk than a portfolio of 60% stocks and 40% traditional bonds.

Individuals can attain an exposure to inflation-linked bonds in at least three ways:

- You can buy TIPS. TIPS can be bought through brokerage houses, or you can buy up to $100,000 in TIPS commission-free at auction through the Treasury Direct program (see the Web site www.publicdebt.treas.gov).
- You can buy I-Series U.S. savings bonds. The I-series bonds offer a fixed real return plus the CPI-U inflation rate. The Treasury changes the fixed interest rate each November and May; it is 3% through October 2001, but the new fixed rate was not available at the time of this writing. For more information, see the Treasury Direct Web site.
- You can buy inflation-linked bond funds. Low-cost leaders include funds offered by Vanguard and TIAA-CREF.

Equity real estate: Another asset class that potentially enhances the risk-return trade-off of a stocks/bonds portfolio is equity real estate. Equity real estate refers to equity investments and not debt or mortgage-backed securities. Individuals can buy individual mortgage-backed securities, such as GNMA pass-thru

TABLE 3. NET RETURNS AND EXPENSES INCLUDING TAXES

	Active Stock Fund	Passive Stock Fund
Nominal Return (%)	6.0	6.0
Expense Ratio (%)	1.5	0.5
Net Return (%)	4.5	5.5
Taxes—20% capital gains (%)	0.9	0.0**a**
Aftertax Nominal Return (%)	3.6	5.5
Inflation (%)	2.0	2.0
Aftertax Real Return (%)	1.6	3.5

a *= The passive stock fund is held in a Roth IRA.*

By minimizing expenses including taxes, the individual can more than double the aftertax real return.

securities, or mutual funds that buy these securities. These are debt securities, and their returns are strongly correlated with returns on other high-grade debt securities.

Historically, returns on equity real estate have been weakly correlated with returns on, respectively, stocks and traditional bonds.

Most individuals own their personal residence but have limited exposure to other real estate investments. Some financial advisors believe individuals should generally ignore the value of personal residence when calculating their portfolio because it does not produce cash flows. If the personal residence does not "count" in individuals' portfolios, the case for adding real estate is even stronger.

Individuals can attain an interest in a portfolio of real estate assets through real estate investment trusts (REITs).

International Stocks: A third asset class that potentially enhances a portfolio's risk-return prospects is international stocks. In the 1990s, U.S. stock returns substantially exceeded returns on European stocks and Asian stocks, especially Japanese stocks.

Recently, some financial commentators have suggested there is no need for international diversification, the argument being that the U.S. is the strongest country going and that, in today's global economy, U.S. and international stocks move closely together. Even if we agree that the U.S. is the best country, it does not follow that U.S. stocks are the best investment. You can pay too much for even the best of assets. Although there is some tendency for U.S. and international stock returns to move together, their co-movements are sufficiently weak to imply that international stocks provide substantial diversification benefits. Finally, after the fact, U.S. stocks proved to be the big winner in the 1990s, but no one knew before the fact they would provide the highest returns. Unfortunately, risk is borne before the fact. Since we do not know whether U.S., European, or Asian stocks will perform best over the next 10 years, we should split our eggs around the world to reduce risk.

One warning: International stock funds frequently have high costs. Individuals should seek out a low-cost international fund. Morningstar Principia Pro for Mutual Funds lists 14 international stock funds with initial purchase constraints of $10,000 or less and expense ratios of 0.5% or less.

Consider a Value Tilt: Individuals may want to consider tilting the stock portion of their portfolios toward value stocks. For several decades through the early 1990s, value stocks produced consistently higher five-year returns than growth stocks without higher risk. Just as academicians and others began touting the almost certain value added through value investing, growth stocks experienced their late-1990s boom.

With the advantage of hindsight, this boom was at least partially a bubble. If growth stocks are still overvalued, then the relative attractiveness of value stocks is especially strong today. Even if growth stocks are not (relatively) overvalued, I believe value stocks are priced to beat growth stocks over the next five years.

CONCLUSIONS

In the past two years, several noted scholars have concluded that long-run real U.S. stock returns will likely be below historical levels. The average prediction was about 4% real returns. Today's yields on Treasury Inflation Protection Securities indicate that the projected 10-year real return on bonds is about 3%. These predictions imply that the equity risk premium is likely to be well below historical levels, possibly negative. What should an investor do?

First and foremost, we cannot influence market returns so we must change. Individuals who have not retired can save a larger fraction of their current income, work additional hours, or postpone retirement. I discourage them from trying to compensate for reduced market rewards by taking on more risk—either market risk or non-market risk such as large sector bets. All investors can strive to reduce transaction costs and taxes. By minimizing trading expenses, including taxes, investors can reap a larger share of reduced market returns.

Investors should consider expanding portfolio assets beyond stocks and traditional bonds. Other promising asset classes include inflation-linked bonds, real estate, and international stocks.

Finally, investors should consider tilting the stock portion of their portfolios toward value stocks. ✦

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