

For Long-Term Investors, the Focus Should Be on Risk

By Zvi Bodie and Paula H. Hogan

There is a common notion that stocks, at least if held for a long-time, usually outperform other assets, so that stocks should be the cornerstone of any long-term portfolio.

If, when this idea is presented, you protest: "Wait a minute. Stocks are also risky!" the reply is either, "Stocks have done well in the past and so they will probably also do well in the future," or "If you have a long time horizon, you'll do well in stocks."

However, the thoughtful investor must also wonder: "But what if stocks don't do well? What happens then to my retirement?"

And in this self query, the more appropriate approach becomes clear: It makes more sense to think first about what risk you are able and willing to bear, and then to think about what potential investment returns you might be able to capture.

So, let's take a step back and before thinking about potential portfolio return, think through the factors that determine a person's ability and willingness to take investment risk.

Time Horizon and Risk

The big fallacy abroad in the land at the moment is that time horizon is a reliable and sole proxy for risk preference. In this paradigm, the longer you intend money to be invested, the higher is the appropriate risk level (i.e., stock allocation) of the portfolio.

Typically, the data used to support the purported link between one's time horizon and optimal stock allocation shows that for successive holding periods starting in 1926 and ending in 2003, the annualized rate of return in the domestic stock market has on average been positive, and the range of annualized returns gets smaller as the holding periods rise, implying less risk as time lengthens.

But this does not tell the whole story. Stocks can be risky, even in the long run.

The fact is, lower than expected returns could happen—even for many years in a row—which is exactly what makes stock ownership a risky investment, not a certainty. Lower-than-expected returns that last for a long time and/or that are severe in nature would have the impact of dramatically lowering the ending value of your portfolio, and thus could significantly threaten your ability to meet financial goals. While the probability of such an event is low, the consequences are potentially devastating and so are worthy of careful consideration. What the current reasoning omits is the fact that as the investor's time horizon lengthens, the range of possible ending values for the portfolio also increases, and that these widening ranges include the low, but still positive possibility of a whoppingly low actual versus expected portfolio ending value.

For the mathematically inclined, proof positive of how stocks are risky even in the long run is that if you try to insure a portfolio against a shortfall, you will find that the premium rises as the time horizon lengthens, exactly as would the price for a put option on the termination value of the portfolio.

Uncertain Returns

In sum, the uncertainty of returns is an often-underestimated risk factor for investors.

This risk is particularly daunting for investors who are moving money into or out of their portfolio. In that case, the order of the returns also becomes critically important, as Table 1 illustrates.

The order of returns—whether high returns appear early or late—makes a big difference in determining a portfolio's termination value when money is going into or out of the portfolio during the investment period.

Table 1 shows that, regardless of the order of your returns, a particular sum (one with no additional deposits or withdrawals during the investment period) will grow to the same amount: The ending values for the No Deposits or Withdrawals columns are identical no matter the order of returns.

But look what happens if an additional \$10 per year is saved (deposited). In this case, Table 1 shows how getting high returns late in the period creates a much higher portfolio termination value, in this case \$328 versus \$198.

Not surprisingly, the order of returns also impacts the portfolio termination value when regular withdrawals are being taken—Table 1 shows that termination value is higher when high returns come early.

Thus, one reality of investing is that when moving funds into or out of the portfolio, the actual order of returns that you experience during your time period will greatly impact how well you will meet your investment goals.

For investors then, risk considerations include not just expected return and time horizon, but also one's ability to withstand the risk of loss created by the uncertainty of returns, and by the order of returns when cash is moving into and out of the portfolio.

| Year | Annual Returns | High Returns Late | | | High Returns Early | | | |
|------|----------------|----------------------------|--------------------|--------------------|--------------------|----------------------------|--------------------|--------------------|
| | | No Deposits or Withdrawals | Deposit \$10/ Year | Withdraw \$5/ Year | Annual Returns | No Deposits or Withdrawals | Deposit \$10/ Year | Withdraw \$5/ Year |
| 0 | — | \$100 | \$100 | \$100 | — | \$100 | \$100 | \$100 |
| 1 | -10% | \$90 | \$99 | \$86 | 10% | \$110 | \$121 | \$105 |
| 2 | -10% | \$81 | \$98 | \$72 | 10% | \$121 | \$144 | \$109 |
| 3 | -10% | \$73 | \$97 | \$61 | 10% | \$133 | \$170 | \$115 |
| 4 | -10% | \$66 | \$97 | \$50 | 10% | \$146 | \$197 | \$121 |
| 5 | -10% | \$59 | \$96 | \$41 | 10% | \$161 | \$228 | \$127 |
| 6 | -10% | \$53 | \$95 | \$32 | 10% | \$177 | \$262 | \$135 |
| 7 | -10% | \$48 | \$95 | \$24 | 10% | \$195 | \$299 | \$143 |
| 8 | -10% | \$43 | \$94 | \$17 | 10% | \$214 | \$340 | \$151 |
| 9 | 10% | \$47 | \$115 | \$14 | -10% | \$193 | \$315 | \$132 |
| 10 | 10% | \$52 | \$137 | \$10 | -10% | \$174 | \$293 | \$114 |
| 11 | 10% | \$57 | \$162 | \$5 | -10% | \$156 | \$272 | \$98 |
| 12 | 10% | \$63 | \$189 | \$0 | -10% | \$141 | \$254 | \$84 |
| 13 | 10% | \$69 | \$219 | -\$6 | -10% | \$127 | \$238 | \$71 |
| 14 | 10% | \$76 | \$252 | -\$12 | -10% | \$114 | \$223 | \$59 |
| 15 | 10% | \$84 | \$288 | -\$18 | -10% | \$103 | \$210 | \$49 |
| 16 | 10% | \$92 | \$328 | -\$26 | -10% | \$92 | \$198 | \$40 |

Risk Tolerance

There are several factors that influence one's ability, need, and willingness to take investment risk.

Personal Circumstances

There are times when the receipt of an extra \$100 feels like a life-changing event. At other times, an extra \$100 is not even noticeable in the flow of daily financial life. The same pattern occurs with millions of dollars. The first \$1 million changes your life. So arguably does the second million. But at some point even an extra \$1 million doesn't change the way you think and feel about your financial goals. Once you already have sufficient wealth for your lifetime, it is often true that your interest and willingness in taking investment risk declines. It is not unusual for the very wealthy to store a large fraction of personal wealth in conservative portfolios of tax-exempt bonds.

But the converse is not necessarily appropriate. For the not-yet-wealthy, ramping up risk (i.e., the stock allocation) in order to address a compelling lifetime need for more wealth is a slippery concept when evaluated from the point of view of protecting the ending value of the portfolio. (In some sense, the same circumstances that lead to a need to build portfolio wealth are the same circumstances that lead to an inability to withstand a downturn in the markets.) But ramping up risk commensurate with one's ability to handle losses is a reasonable way to try for an increased standard of living.

For example, a worker who can work more hours, and so earn more money, has more financial resiliency than does, for instance, an older person living on a fixed income who has little or no ability to increase income. Similarly, a family that maintains a spending level far below its regular, reliable income stream is better able to withstand portfolio losses than its more free-spending neighbors.

On the other side of the coin, workers whose income is highly correlated to the stock market, or that is highly uncertain in some other way, are not as well positioned to take investment risk as are their peers in jobs with more predictable compensation.

This interaction between one's labor income, spending patterns, and investment wealth is of fundamental importance. But there are also other factors determining a person's ability and willingness to take investment risk.

Investment Knowledge

Experienced financial advisers know that individuals sometimes present themselves as being highly risk-averse, but as the conversation unfolds it becomes clear that really they are simply averse to taking risk in areas in which they are not familiar. As their knowledge of investments increases, so does their willingness to take investment risk. The converse is also true. Individuals who present themselves as being highly risk-tolerant sometimes become less risk-tolerant as their understanding of investments grows.

Personal Background

Investors whose families went through the Depression or some other extremely challenging financial event tend to shy away from investment risk. In contrast, investors whose first experience in investing includes the recent extraordinary bull market are at risk for thinking that stocks aren't in fact very risky.

Personal Preferences

Psychologists will tell you that people differ in the pleasure they take from investment gains versus the pain they feel from investment losses. But most people are asymmetric: Losses tend to hurt a lot more than gains give pleasure.

Risk vs. Return Considerations

This cursory review of the factors behind a person's risk preference as reflected in the allocation of his or her investment portfolio highlights the fact that when managing personal investments, it's not just about return management. It's also crucially about risk tolerance.

And once risk tolerance is taken into account, there are instances in which even long-term investors will not choose to put a substantial portion of their portfolio into stock investments.

In sum, rather than reaching for a high stock return because it might come true, the goal of investing is better expressed as having enough cash on the day a bill comes due—for example, for college tuition for your children, and/or enough cash to maintain or improve your standard of living throughout retirement with minimal chance of having to go backward in your daily standard of living. These are the typical actual concerns of individual investors.

Against this standard, beating one's peers or surpassing the market averages, or achieving a particular targeted rate of return all pale in comparative appeal. As the investment saying goes: "You can't eat relative returns."

These considerations may lead certain investors away from using stocks as the foundation layer for their portfolio toward using more stable investments—in particular, inflation-indexed bonds—as the foundation layer.

Inflation-indexed securities are increasingly and readily available to the individual investor. They include the U.S. Treasury Series I Savings Bonds (www.treasurydirect.gov/indiv/research/indepth/ibonds/res_ibonds.htm) and U.S. Treasury Inflation-Protected Securities (TIPS) (www.publicdebt.treas.gov/sec/seciis.htm). The advantage of inflation-indexed securities is that they allow the investor to protect purchasing power reliably, with minimal transaction costs and also (if purchased appropriately) with high tax efficiency. With inflation-indexed securities as the foundation layer of a portfolio, it is much safer to then take investment risk with more volatile securities such as stocks. Inflation-indexed investment products will likely become more popular as individual investors become more aware that they can protect purchasing power with investments that are less volatile and more certain than are stock investments.

In the meantime, as you continue to be inundated with information about how much you can earn in the investment markets, remember that when determining the optimal allocation for your portfolio, it's best to focus first on how much you are able and willing to lose.

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