

Fiduciary Focus: Diversifying Risk vs. Stock-Picking

W. Scott Simon | 04-06-06 |

The ideal conditions for achieving investment success are created by disciplined application of three major themes found in modern prudent fiduciary investing: broad diversification of risk, low costs, and (for taxable investors) low taxes. These factors, upon which the Uniform Prudent Investor Act and the Restatement 3rd of Trusts (Prudent Investor Rule) place such great emphasis, help give investors the best chance of building the long-term wealth of their portfolios while reducing risk.

It's not hard to understand (although too little acknowledged) that every dollar saved in investment costs and taxes goes straight to the bottom line to increase return. However, not many investors (including fiduciaries that are responsible for managing other people's money) understand that broad diversification of risk can also increase return.

In fact, an investor has much better odds of building portfolio wealth through broad diversification of risk than trying to pick stocks or time markets. To better grasp this, it's necessary to first understand a few simple yet fundamental rules of basic arithmetic that govern investment gain and loss.

Keeping Portfolio Volatility Low to Reduce Loss

The constant (increasing and decreasing) changes in the values of the investments held in a portfolio through time generate portfolio "volatility." In the following examples, basic rules of arithmetic show how reducing volatility (or risk) can reduce loss. (We will also see how reducing volatility risk can enhance gain. By the way, I equate "volatility" with "risk," which I define as standard deviation in this article. While using standard deviation as a measure of risk is not ideal (e.g., it encompasses both bad "uncompensated" risk and good compensated" risk), nonetheless it can help illustrate a basic concept: the reduction of a portfolio's volatility reduces loss and can also enhance gain.

Suppose that you have \$100 in your portfolio and achieve a 50% gain. You then incur a 50% loss on your portfolio. Most people would say that you broke even: A 50% gain followed by a 50% loss is "a wash." Most people would be wrong.

What actually happened is that the 50% gain on the \$100 gave you \$150 and the 50% loss on that \$150 gave you \$75. So you did not break even but, in fact, suffered a net loss of \$25. Reversing this sequence to incur a 50% loss first and then a 50% gain results in the same amount of net loss: \$25.

This example helps show how the arithmetic of gain and loss can have such an impact--often negative--on portfolio wealth. This example also introduces the first simple rule governing investment gain and loss: *Any given percentage loss hurts a portfolio more dollar-wise than a percentage gain of the same magnitude.*

Another simple rule: *A percentage gain must always be larger than the percentage loss preceding it to get back to a portfolio's original dollar value.*

In fact, the bigger the loss the (much) bigger the gain must be to make up for that loss. This was brought home to me in a case where I appeared as an expert witness. The investor in question was not very happy that the weighted average of the stock prices in his portfolio had dropped from \$63 to

\$9 during the meltdown in the high technology sector in 2000 and 2001. For those of you without a handy H-P 12c, that is an 86% loss. But guess the gain needed to get back to the original weighted price of \$63? Not 86%, but 600%.

The two preceding examples show how losses can have a much greater negative impact on portfolio wealth than the positive impact registered by gains. Now let's look at some examples to see how differences in percentage losses and gains among portfolios can result in much larger differences in dollar wealth for them.

Suppose that Investor A invested \$10,000 in its portfolio for 2004 and earned a 10% gain for that year. In the next year, though, the investor incurred a 10% loss on its portfolio. We now know that the 10% gain followed by a 10% loss is not a wash. What actually happened is that the 10% gain on the \$10,000 left Investor A with \$11,000 at the end of 2004 and the 10% loss on that \$11,000 in 2005 left the investor with \$9,900 at the end of 2005. So Investor A suffered a net loss of \$100.

Now suppose that Investor B invested \$10,000 in its portfolio for 2004 and earned a 20% gain for that year. In the next year, though, the investor incurred a 20% loss on its portfolio. We know, again, that the 20% gain followed by a 20% loss is not a wash. The 20% gain on the \$10,000 left Investor B with \$12,000 at the end of 2004 and the 20% loss on that \$12,000 in 2005 left the investor with \$9,600 at the end of 2005. So Investor B suffered a net loss of \$400.

Notice the relationship between the percentage volatility of the two portfolios and the impact that had on the actual dollar wealth of the portfolios: While the percentage volatility of Portfolio B is two times that of Portfolio A (+/-20% vs. +/-10%), Portfolio B generates a dollar loss four times as great as Portfolio A (\$400 vs. \$100).

When the volatility of Portfolio B is increased to three times that of Portfolio A (+/-30% vs. +/-10%), Portfolio B generates a dollar loss nine times as great as Portfolio A (\$900 vs. \$100). And when the volatility of Portfolio B is increased to five times that of Portfolio A (+/-50% vs. +/-10%), Portfolio B generates a dollar loss 25 times as great as Portfolio A (\$2,500 vs. \$100)!

This brings us to a third simple rule governing investment gain and loss: *Linear differences between the percentage gains and losses of portfolios can generate exponential differences in resulting dollar losses for the portfolios.*

In the preceding example, differences between the percentage gains and losses (i.e., +/-20% vs. +/-10%; +/-30% vs. +/-10%; and +/-50% vs. +/-10%) of two portfolios grew linearly from two-fold to three-fold to five-fold, but the differences in resulting dollar losses grew exponentially from four-fold to nine-fold to 25-fold.

All the preceding examples demonstrate vividly one reason why it's prudent to keep portfolio volatility low: to reduce percentage losses that (surprisingly) can have such a harmful impact on portfolio dollar wealth. Not to belabor the obvious, but it's useful to remember that when investors need to spend they do so with dollars not percentages.

Keeping Portfolio Volatility Low to Enhance Gain

In the following examples, basic rules of arithmetic governing investment gain and loss demonstrate how reducing the volatility of a series of portfolio returns through broad diversification of risk can

actually enhance portfolio gain, not just reduce loss. Table 1 compares eight years of annual returns for two different portfolios, Portfolio 1 and Portfolio 2:

Year	Portfolio 1 Annual Return %	Portfolio 2 Annual Return %
1998	8.04	28.58
1999	10.50	21.03
2000	1.32	-9.09
2001	0.62	-11.88
2002	-6.33	-22.10
2003	27.56	28.69
2004	13.97	10.87
2005	7.77	4.90

Here are some things worth noting about Table 1.

First, about Portfolio 1:

1. The portfolio had three years of double-digit gains, but in two of those years, the gains were close to just 10% (1999: 10.5% and 2004: 13.97%). In only one year out of eight could the gains for this portfolio be termed "spectacular" (2003: 27.56%).
2. The portfolio had two years of virtually flat performance (2000: 1.32% and 2001: 0.62%).
3. The portfolio had two years of modest to comfortable performance (1998: 8.04% and 2005: 7.77%).
4. The portfolio had one year of negative performance (2002: -6.33%).

Now about Portfolio 2:

1. The portfolio had four years of double digit gains with one year of just over 10% (2004: 10.87%). The other three years of double digit gains, however, could be termed "spectacular" (1998: 28.58%, 1999: 21.03%, and 2003: 28.69%).
2. The portfolio had one year of modest to comfortable performance (2005: 4.9%).
3. The portfolio had three years of negative performance, but in two of those years, the performance was around only a negative 10% (2000: -9.09% and 2001: -11.88%). In only one year, could the negative performance be termed "terrible" (2002: -22.1%).

Let's sum up our observations about these two portfolios so far:

Portfolio 1

- One year of negative performance
- Two years of virtually flat performance
- Four years of modest to comfortable performance
- Only one year of spectacular performance

Portfolio 2

- Three years of spectacular performance
- Two years of modest to comfortable performance
- Two years of negative performance
- Only one year of terribly negative performance

Now about both Portfolio 1 and Portfolio 2:

1. Suppose you were at a cocktail party at the end of 1998. You held Portfolio 1 and were pleased to find out that you had earned a respectable 8.04% for the year. But that insufferable braggart, Melba Leach, tells you that she held Portfolio 2, which earned 28.58% for the year. Melba isn't shy pointing out to you that her portfolio outgained yours by 3½ times! How do you feel (like a chump) and what are you going to do about it (uh, nothing)?

2. Suppose you were at a cocktail party at the end of 1999. You held Portfolio 1 and were even more pleased to find out that you earned 10.5% for the year. Unfortunately, Melba just happens to be at this party, too. She makes a beeline for you and tells you that she holds Portfolio 2, which earned 21.03% for the year. Melba, again, isn't shy pointing out to you that her portfolio outgained yours-- this time by two times. How do you feel (like a two-time-losing chump) and what are you going to do about it (jettison your "dog" portfolio and invest in whatever sectors are currently "hot," so that Melba won't be able to annoy you at next year's cocktail party)?

3. Now concentrate on the returns of both Portfolio 1 and Portfolio 2. Which portfolio would you rather have been invested in? *Virtually no one who has gone through this exercise with me would choose to invest in Portfolio 1.* After all, the annual performances of Portfolio 1 just weren't all that great: there was only one year of spectacular return. An overwhelming number of investors would have chosen to invest in Portfolio 2 because it had three years of spectacular returns (two of which--1998 and 2003-- were more spectacular than the one year of spectacular return of Portfolio 1).

As we will see, though, *looks can be deceiving.* Now let's duplicate Table 1 in its entirety and add cumulative returns to create Table 2:

Year	Portfolio 1 Return %		Portfolio 2 Return %	
	Annual	Cumulative	Annual	Cumulative
1998	8.04	8.04	28.58	28.58
1999	10.50	19.38	21.03	55.62
2000	1.32	20.95	-9.09	41.48
2001	0.62	21.70	-11.88	24.67
2002	-6.33	13.99	-22.1	-2.88
2003	27.56	45.40	28.69	24.98
2004	13.97	65.71	10.87	38.57
2005	7.77	78.59	4.90	45.37
Return (simple avg.)		7.93		6.38
Return (compound)		7.52		4.79
Risk (standard deviation)		9.32		15.90

Here are some things worth noting about Table 2.

First, about Portfolio 1:

1. The cumulative return of this portfolio at the end of 2005 was 78.59%.

2. Portfolio 1 is a real live, broadly diversified portfolio composed of 60% stock asset class funds and 40% fixed-income asset class funds in use for nearly a decade at my registered **investment advisory firm**.

(I swear on a stack of Morningstar reports that my firm's portfolio was not used to show that we can achieve superior returns for this--or any--given period of time. Indeed, in the context of modern prudent fiduciary investing a fiduciary that focuses solely on return is being imprudent since the "central consideration" of a fiduciary under the Uniform Prudent Investor Act is to determine the tradeoff between return and risk. Rather, I have used our firm's portfolio simply because I know that its risk and return numbers are accurate and to help illustrate a point.)

By the way, the returns of Portfolio 1 are net of all costs and fees.

Now about Portfolio 2:

1. The cumulative return of this portfolio at the end of 2005 was 45.37%.
2. Portfolio 2 is simply composed of the stocks that make up the S&P 500 index.

Now about both Portfolio 1 and Portfolio 2:

1. The simple average annual return (i.e., adding up the eight years of returns and dividing that total by eight) of Portfolio 1 over the eight years was 7.93%, while that of Portfolio 2 was 6.38%.
2. The compound annual return of Portfolio 1 over the eight years was 7.52% while that of Portfolio 2 was 4.79%.
3. The 7.93% simple average return of Portfolio 1 was reduced to a 7.52% compound return, or a 0.41 percentage point drop-off. The 6.38% simple average return of Portfolio 2 was reduced to a 4.79% compound return, or a 1.59 percentage point drop-off.
4. Portfolio 2's 1.59 percentage point drop-off from simple return to compound return was nearly four times greater than Portfolio 2's 0.41 percentage point drop-off.
5. This much greater drop-off--resulting in a lot more loss of compound return--was caused by the fact that Portfolio 2's volatility risk (15.9% annual standard deviation) was 71% greater than Portfolio 1's volatility risk (9.32%). This brings us to our last rule of basic arithmetic that governs investment gain and loss: *The greater the volatility risk of a portfolio the more that volatility "snuffs out" compound return.* (Compound return measures the rate at which actual dollar wealth accumulates in a portfolio.)
6. That's why it's no accident that at the end of 2005, Portfolio 2 with 15.9% risk ended up with a cumulative return of 45.37%, but Portfolio 1 with 9.32% risk ended up with 78.59%.
7. The bottom line: Portfolio 1 generated nearly 57% greater compound return than Portfolio 2 (7.52% vs. 4.79%), which resulted in nearly 73% more dollar wealth (78.59% vs. 45.37%) with 41% less risk (9.32% vs. 15.9%). That's the power of prudent diversification of risk. And to get this two-fold benefit of more return and less risk, you don't even have to pick the next Peter Lynch from a mob of 100,000 Peter Lynch wannabes who are all jumping up and down and waving their hands at you, shouting: "Pick me, pick me!"

Achieving Investment Nirvana: Diversify Risk Broadly and Keep Costs and Taxes Low

Nobel laureate Harry Markowitz, the father of modern portfolio theory, identifies the fundamental problem all investors face: *Decisions about portfolio selections are made under uncertainty*. This uncertainty results from the fact that when an investor surveys the universe of available investments that can be selected for its portfolio, the investor really has no way of knowing today going forward which investments will be superior performers and which ones will be inferior performers.

When an investor then actually makes (or hires someone to make) portfolio selections, it is faced further with the inherent uncertainty through time of the constantly changing up and down volatility in the values of its portfolio selections. This volatility is not surprising since it merely reflects the fact that changes in the values of investments are random. Because random occurrences are (by definition) unpredictable, attempts to find investment "winners" based on readings of the past (i.e., track record investing) or forecasts of the future (i.e., stock picking and market timing) seem rather silly--and even reckless. It goes without saying that fiduciaries entrusted with the assets of real flesh-and-blood people with real dreams for those assets cannot act silly or be reckless.

Because losses have a bigger impact in the process of accumulating wealth than gains, lowering portfolio volatility risk through broad diversification is a better way of building long-term wealth than attempting to score big in the random game of trying to identify investment winners. Simple yet fundamental rules of basic arithmetic that govern investment gain and loss show how greater wealth can be achieved more dependably through broad diversification of risk than through attempts to pick stocks or time markets successfully.

The Nirvana of Investment Nirvana

The Restatement suggests that the best way for investors to lower portfolio volatility is through "passive investing." This involves investing in broadly diversified, low-cost, and low-tax asset-class mutual funds and index mutual funds that effectively and efficiently capture the returns offered by financial markets while incurring market-level risk. Passive investing is not the only way to invest prudently (in fact, standards of modern prudent fiduciary investing allow both passive and active investing), it's just the best way to invest prudently--particularly for fiduciaries that carry the solemn obligation to invest and manage money for other people.

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Simon provides services as a consultant and expert witness on fiduciary issues in litigation and arbitrations. He is a member of the State Bar of California, a Certified Financial Planner[®]; and an Accredited Investment Fiduciary Auditor[®]. Simon's certification as an AIFA[®]; qualifies him to conduct independent fiduciary reviews for those concerned about their responsibilities investing the assets of endowments and foundations, ERISA retirement plans, private family trusts, public employee retirement plans as well as high net worth individuals.

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