



The Devil is in the Details

No single statistic completes the portfolio risk picture

Statistics are funny things. We turn to them for the truth, but they are also excellent liars. In ads, poll results, scientific findings and other instances far too numerous to list, the numbers can lead us to flawed conclusions. And it is omission — the essential data that we don't see — that is almost always to blame.

Assessing portfolio risk is no exception, which is why it demands a closer look. Most especially now, as the recent recession has left investors gun-shy about equities, reluctant to get off the sidelines, and in need of prudent guidance.

The consequences of misperceiving risk are clear. First, the investor may feel a false sense of confidence in a portfolio they already own or intend to buy. Second, they may reject a superior investment choice based on bad assumptions.

Risk myth #1: More holdings means more diversification.

One of the most common misconceptions about risk breaks down like this:

- A. Risk stems from volatility
- B. Volatility is reduced by diversification
- C. Diversification is achieved through more holdings
- D. Having more holdings mitigates risk

This doesn't tell the whole story, because sheer name count doesn't necessarily equal meaningful diversification. So, how is this number lying? The most glaring and common omission here is portfolio concentration. Even for portfolios in excess of 100 names, it is not unusual to find more than 40% of assets confined to the top 10 holdings, as in the following table.

	# of Holdings	% in Top Ten	3-year Standard Deviation	5-year Standard Deviation
Forward Large Cap Value	104	40.04	23.23	18.99
Large Cap Value Category Average			21.97	17.8
Federated MDT All Cap Core	166	40.08	23.82	19.44
Large Cap Core Category Average			21.85	17.73

Source: Morningstar, Inc. (as of August 31, 2010)

Doing the math, this leaves less than 60% of the assets spread over the remaining 90+ holdings. In light of this additional statistic, it is easy to see how the level of risk mitigation could be overestimated.

Warren Buffett: Adrenaline Junky?

With Berkshire Hathaway assets around \$300 billion,¹ Warren Buffett could easily afford to spread the money around. However, the portfolio has held only 33 stocks, on average, over the course of his more than 40-year career. It is hard to imagine anyone characterizing the legendary buy-and-hold investor as one who lives on the edge. And yet, in a portfolio absent the trusted Buffett name, how many would find the portfolio's concentration concerning?

In the 44 years between 1965 and 2007, Berkshire Hathaway only lost shareholders money in two years, the recessions of 2001 and 2008. In contrast, the S&P 500 Index finished in negative territory in no less than 11 of those years.² Despite Berkshire Hathaway's concentration, on a calendar-year basis investors only lost money a little over 4% of the time.

¹ Source: Google Finance (as of 12/31/09)

² Source: Berkshire Hathaway, Inc. (as of 12/31/09)

Risk myth #2: Investing across sectors is the strategy for true diversification.

Here's a myth that also contains notes of truth. As a general rule, greater diversification will result from spreading assets across multiple sectors. At the same time, many think of sectors as separate and distinct, as if divided by invisible lines. This is misguided.

It is this thinking that leads to the first common misconception — that stocks in different sectors behave independently. In fact, they are often highly correlated. Knowing this, you might not be surprised that the second common misconception is that stocks in the same sector act in unison. While this is often true, same-sector stocks with low correlations can be found.

Same-Sector Correlation

Technology Sector	
Stock Pairing	Correlation
Research in Motion and Akamai Technologies	0.07
Symantec and Veco Instruments	0.32
EMC and MEMC Electronic Materials	0.39

Health Care Sector	
Stock Pairing	Correlation
Illumina and Medco Health Solutions	-0.17
Celgene and Qiagen	0.13
Gilead Sciences and St. Jude Medical	0.39

Source: Morningstar, Inc. (as of August 31, 2010)

To examine same-sector correlation, let's look at two representative companies, Research in Motion and Akamai Technologies. Both are found in technology; however, the trailing two-year correlation of the companies' stock prices as of August 31, 2010 is only 0.07. Similarly, Illumina and Medco Health Solutions are both in the health care sector, but their correlation over the same two-year time period is -0.17. Why the low correlations? The answer lies in the underlying businesses. All have unique underlying businesses that succeed or fail principally because of their highly differentiated products, not their industry's macro trends.

Cross-Sector Correlation

Sectors	Pairing	Correlation
Technology and Financials	Cisco and T. Rowe Price	0.84
Utilities and Telecommunications	AES and America Movil	0.74
Energy and Materials	Petroleo Brasileiro and Potash	0.74

Source: Morningstar, Inc. (as of August 31, 2010)

For the reverse case — cross-sector correlation — consider Cisco Systems and T. Rowe Price. Cisco is a networking device manager within the technology sector while T. Rowe Price is an asset manager within the financials sector. Yet the correlation is 0.84 as of August 31, 2010. That's quite high (compare it to the same-sector results previously discussed). Upon initial inspection, you'd think that owning both of these names would reduce risk. A closer look reveals that the reverse is true; risk would be increased because their stock prices tend to move in the same direction.

Clearly, the defining characteristics that place stocks in the same sector don't also determine that they'll necessarily share the same fate. Consequently, it is wrong to assume that a portfolio focused in one or several sectors isn't diversified and will be more volatile.

Risk myth #3: Portfolios aligned closely with their benchmark (i.e., low tracking error) are less risky.

Since indices like the S&P 500 Index are accepted as the bedrock standard for their respective asset classes, it comes as no surprise that many investors view portfolios that closely mirror their benchmark as less risky (and, conversely, ones that don't as more risky). The measure of this alignment is known as tracking error, the standard deviation of a portfolio's excess returns from its benchmark. A low value indicates a tight alignment between the two, while a high value indicates a greater deviation.

Maintaining a low tracking error might seem like the strategic equivalent of a cub never straying far from its mother, but in practice this may merely give investors a false sense of security at the expense of hamstringing the portfolio. Not being leashed to the benchmark gives the manager free rein to concentrate on high-quality and/or outstanding value opportunities. Meanwhile, committing to a low tracking error (think enhanced index funds) typically demands exposure to a number of the larger names in the index. This may force the manager into lower quality and/or overpriced companies. While pursuing a low tracking error may keep a portfolio's volatility statistics (e.g., standard deviation) close to its benchmark, this approach is unlikely to significantly reduce downside risk or absolute volatility.

When less is more — The case for concentration

The myths presented here are largely to blame for the impression that concentrated portfolios are, categorically, more volatile and higher risk. And myths are, by definition, untrue. So, this would seriously call into question this impression that concentrated portfolios are more risky as well.

But first, why concentrate a portfolio at all? As discussed here, more holdings, cross-sector allocation and tracking closely with the benchmark don't necessarily equal lower risk, but that's not to say that, employed deliberately and effectively, they can't. By itself, this isn't an argument in favor of concentration.

Combine this knowledge with the following: The thesis that not all the companies in an index are going to be worth investing in; that, in a basket of stocks as large as, for example, the S&P 500 Index, the portfolio will invariably be exposed to a large number of companies that are of low quality and poor fundamentals. This makes a strong case for concentrated portfolios.

Still, the perception that a relatively small number of mistakes in a concentrated portfolio could lead to significant downside risk is understandable. There is less room for error in a concentrated portfolio. And, generally, concentrated portfolios do have higher standard deviations and downside capture ratios than their benchmarks and non-concentrated peers. But this certainly isn't true in all cases, as proved by savvy, risk-averse investors like Warren Buffett.

This is because proven risk management techniques can be brought to bear in concentrated portfolios.

One such technique is consistent cross-correlation analysis, which, as its name suggests, consists of routine scans of daily data from the past 12, 24 and 36 months to ensure that the portfolio is not populated by highly correlated names. This can be part of the screening process for prospective stocks as well.

Analyzing Stock Correlations Helps Reveal True Portfolio Risk

Overweight	Underweight	Net Home Improvement Retailer Bet vs. Benchmark
Home Depot +3%	Lowe's -3%	0%

This is a hypothetical example for illustrative purposes only.

Another noteworthy technique employs marginal contribution to active risk (MCAR). MCAR analysis reveals the impact on portfolio risk relative to the benchmark when an active weight in an asset is changed. For example, consider a hypothetical instance where the portfolio has a 3% overweight to Home Depot and a 3% underweight to direct competitor Lowe's. In such highly correlated names, these weightings effectively cancel each other out. To make a meaningful home improvement retailer bet, the portfolio manager would have to either add to Home Depot's overweight, reduce Lowe's underweight, or both.

Studies reveal significant diversification with just 20 stocks

In 2001, Campbell, Lettau, Malkiel and Xu performed a study on the volatility of U.S. stocks, covering the years 1962–1997. Their findings were consistent with those of an earlier news-making study, **“A conventional rule of thumb, supported by the results of Bloomfield, Leftwich and Long (a 1977 study), is that a portfolio of 20 stocks attains a large fraction of the total benefits of diversification.”**

The moral of the story: In portfolios, big and small, risk management is about approach

Risk management comes in many forms. Benchmark-aware portfolios may add value over time, but simply upping the name count does not equal risk management. Regardless of portfolio size, management teams that consistently maximize stock picking and simultaneously mitigate risk are invaluable in any environment. While this can be done effectively with a well-built diverse portfolio, don't dismiss a concentrated strategy as risky on the basis of a single statistic like number of holdings. It's not that simple.

Instead, look to investment managers who proactively manage risk and make intentional bets through a combination of quality metrics, valuation and sophisticated portfolio construction techniques. They are the ones who are in an excellent position to provide investors with a compelling risk versus reward proposition. True, this is a rather limited and, arguably, elite universe of managers. But isn't that where we want to be?

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Columbia Select Large Cap Growth

- > The team constructs a concentrated, conviction-weighted portfolio of uncorrelated stocks that have grown earnings greater than 15% and have had a return on equity greater than 15% with market caps above \$3 billion.
- > The manager seeks leading companies gaining market share in growing industries.
- > The team uses cross-correlation analysis to ensure no two positions are highly correlated and could potentially subject the portfolio to unintended risk.

Symbols

A: ELGAX
Z: UMLGX

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- > Applying a disciplined and consistent approach allows the team to take advantage of each investment opportunity without undue risk.

Symbols

A: SLVAX
Z: CSVZX



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