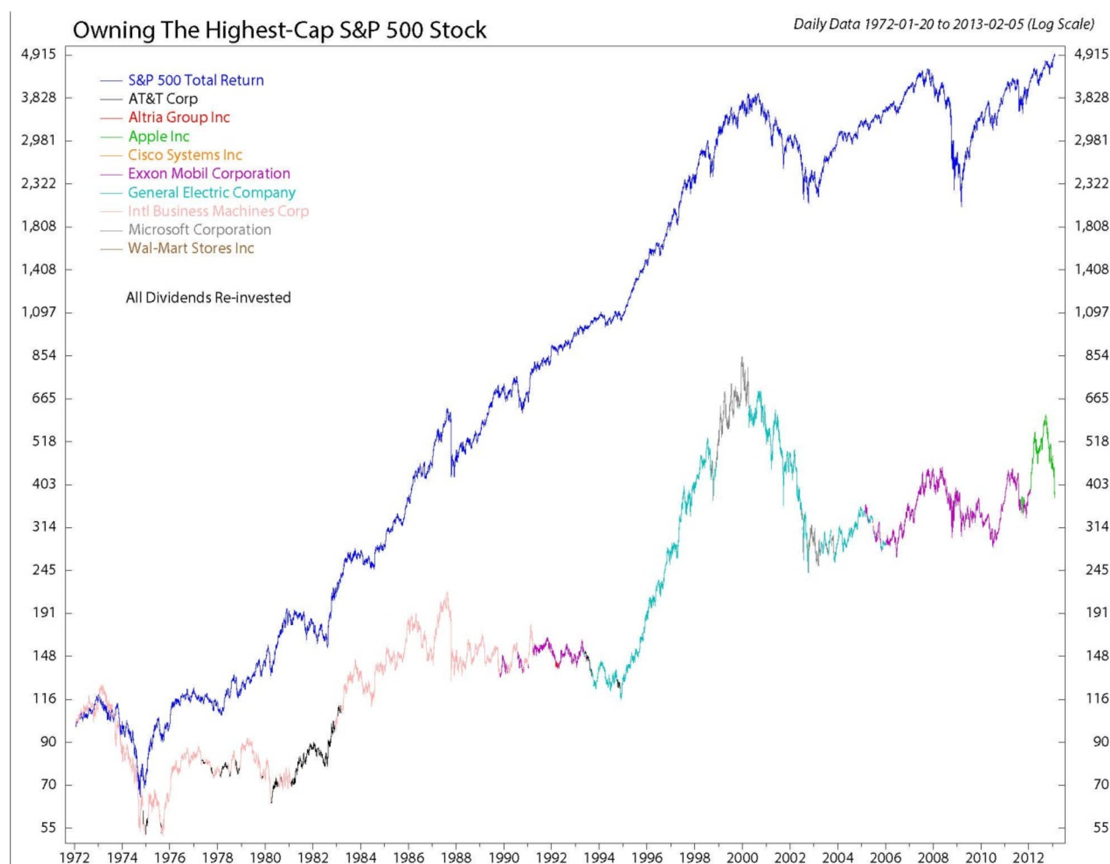
The Trillion Dollar Mistake: Why the allocation in portfolios to the S&P 500 is sub-optimal and what to do about it

By John Del Vecchio

Among my conversations with asset allocators, the anecdotal evidence suggests that the largest allocation in equity portfolios is the S&P 500, which has become a proxy for "the market."

However, traditional indexes such as the S&P 500 have major flaws in their construction. First, the indexes are market capitalization weighted. By the time companies become large constituents of the index, they're often past their innovative and high-growth phases, and more often that not act as a significant drag on performance.

Consider the chart below. According to Ned Davis Research, "popularity kills." Since 1972, the S&P 500 increased nearly 5,000%. Yet, owning the top stock in the S&P 500 by market capitalization increased in value approximately 400%.



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The stocks that have been among those carrying the highest weight in the index include AT&T, Altria (formerly Philip Morris), Apple, Cisco Systems, Exxon Mobil, General Electric, IBM, Microsoft, and Wal-Mart. Most people would consider these to be “good” if not “great” companies. But, great companies do not necessarily make for great stocks.

Another study (source: Daniel Solin) measured the performance of the S&P 500 from 1957-1997. During that time period, the index was up over 8,500% with dividends reinvested. However, of the 74 stocks in the index during the entire time period, only 12 stocks outperformed the index itself.

In our own research, we extended a portfolio of holdings to include the top 10 companies in the S&P 500 by market capitalization. Typically, these stocks comprise approximately 20% of the index by weight. These too are household names and include Exxon, Apple, IBM, Chevron, Microsoft, GE, Proctor & Gamble, AT&T, Johnson & Johnson, and Pfizer. In our tests from 1983-2012, the S&P 500 increased over 2,600% while the top 10 stocks in the index rose in value just 800%.

The Market Cap Weighting Problem

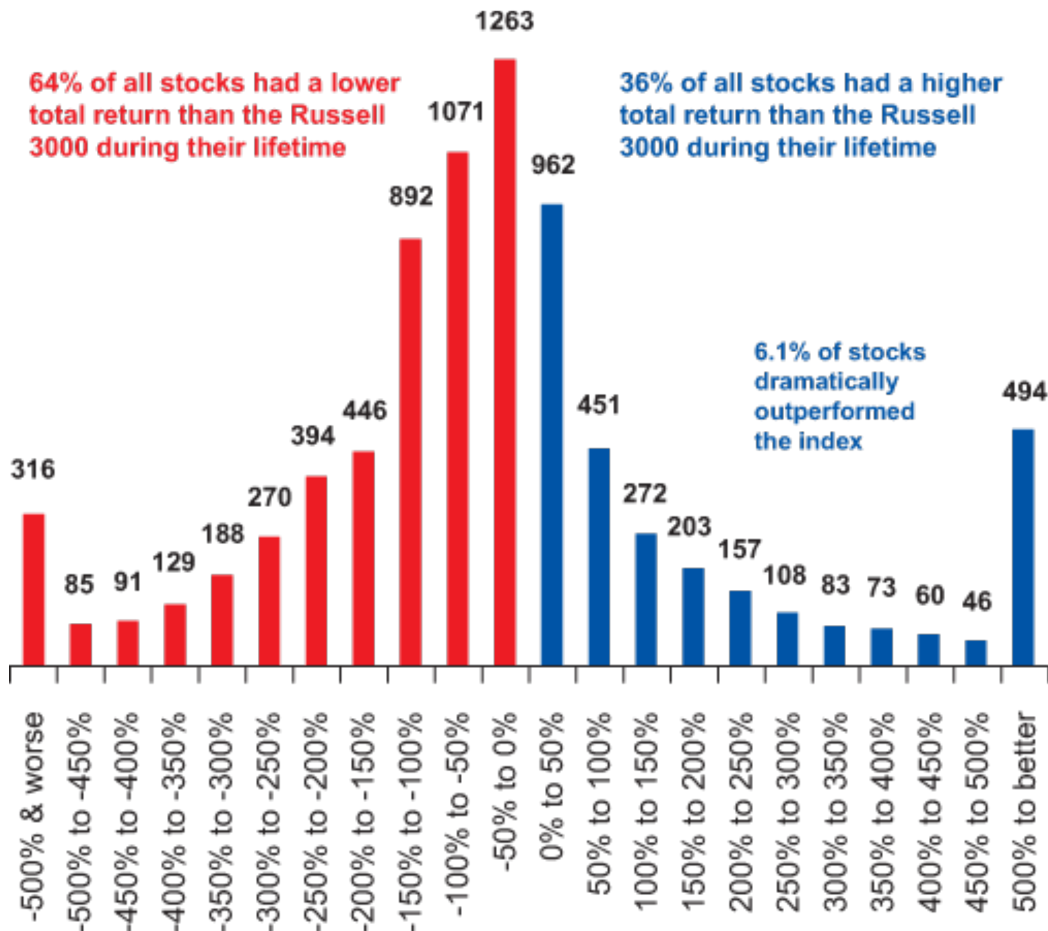
Removing the market capitalization bias is one step toward enhancing returns for the S&P 500. Since 1989, the equal-weighted S&P 500 has outperformed its more popular market cap weighted version by 1.89% annually (source: Bloomberg). This one stock, one vote, approach dramatically underweights the largest, most popular companies, and reallocates the index toward middle capitalization companies that *may* become the future leaders of the market.

According to S&P’s own survey results, by 2010, approximately $1.3 trillion was indexed to the S&P 500. Given the poor performance of market capitalization weighting across multiple time periods, we view this as a serious trillion-dollar misallocation. Finally, market capitalization is not often the way one invests. Ask yourself if you size the securities in your portfolio by market capitalization.

Most Stocks Under-perform

The second problem with traditional indexing, in our view, is that most stocks are under-performers over time. In a capitalistic system, this makes sense. For every Wal-Mart, there are dozens of regional retailers that no longer exist due to lack of scale, distribution, and technology. In the 1970’s Eastman Kodak and Polaroid reigned supreme, only to be bankrupt years later. The “horseman” of the Internet bubble such as Microsoft, Cisco, Dell, and Intel have lagged sharply since their peak. Today, Apple and Google are all the rage. But, where will they be in 10 years?

The chart below illustrates a study by Blackstar Funds. From 1983-2007, the Russell 3000 Index was up nearly 900%. Yet, 64% of the stocks under-performed. Nearly 40% were *down* in absolute terms while 19% declined in value by 75% or more. Most strikingly, ***just 25% of the stocks accounted for all of the markets gains.***



Thus, our second area of contention with traditional indexes is that while they include all of the best stocks, they also include all of the worst. Yet, here we see just one of several presentations of empirical data suggesting that most stocks fail to keep pace with the indexes.

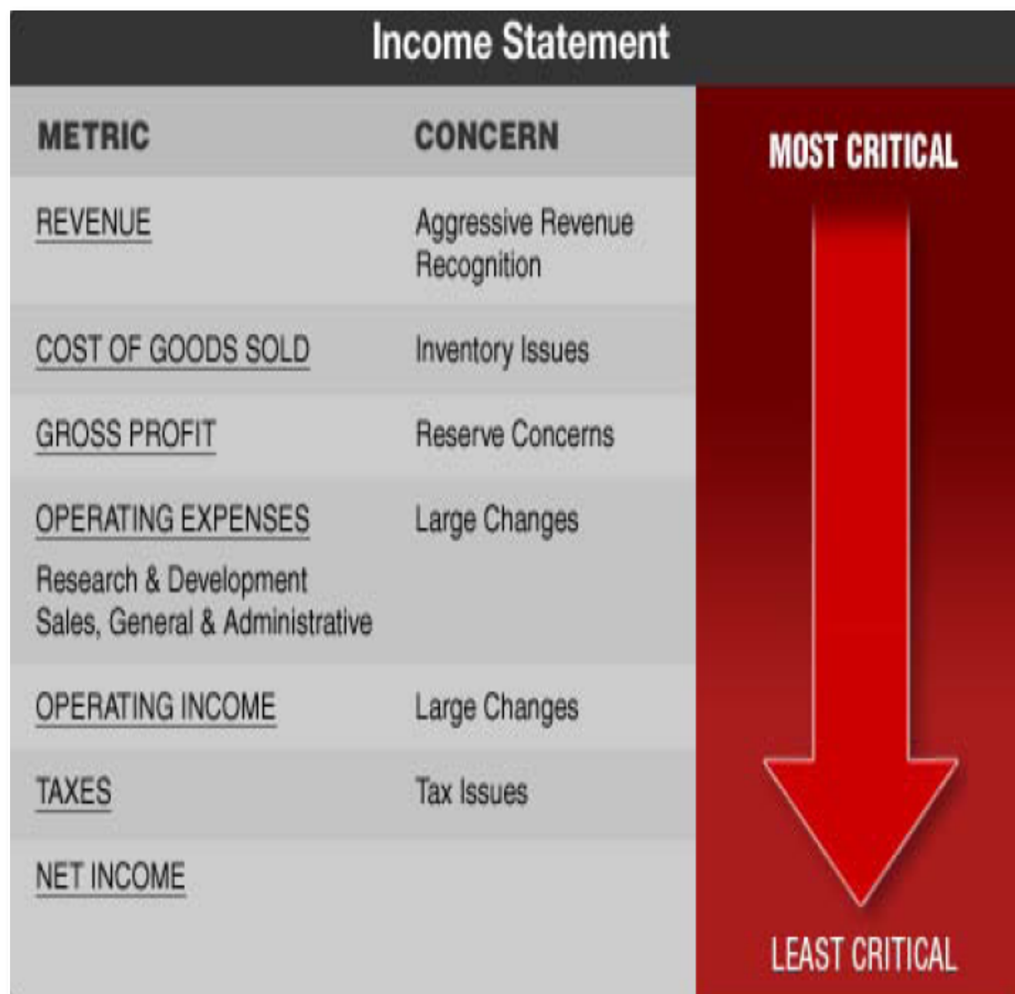
A Different Way to Invest

We've developed our own index, the Del Vecchio Earnings Quality Index, which is designed to overcome what we believe to be the two main flaws of traditional index construction. First, the index is weighted by earnings quality as opposed to market capitalization.

This starts with a five-step process highlighted below.

- **Define:** Universe consists of a customized index of 500 U.S. domiciled large-cap stocks
- **Analyze:** Perform forensic accounting analysis on each stock
- **Grade:** Each stock receives an overall grade of "A-F"
- **Avoid:** Avoid stocks graded "F" due to financial red flags
- **Invest:** Remaining stocks comprise index with a tilt toward A-graded stocks

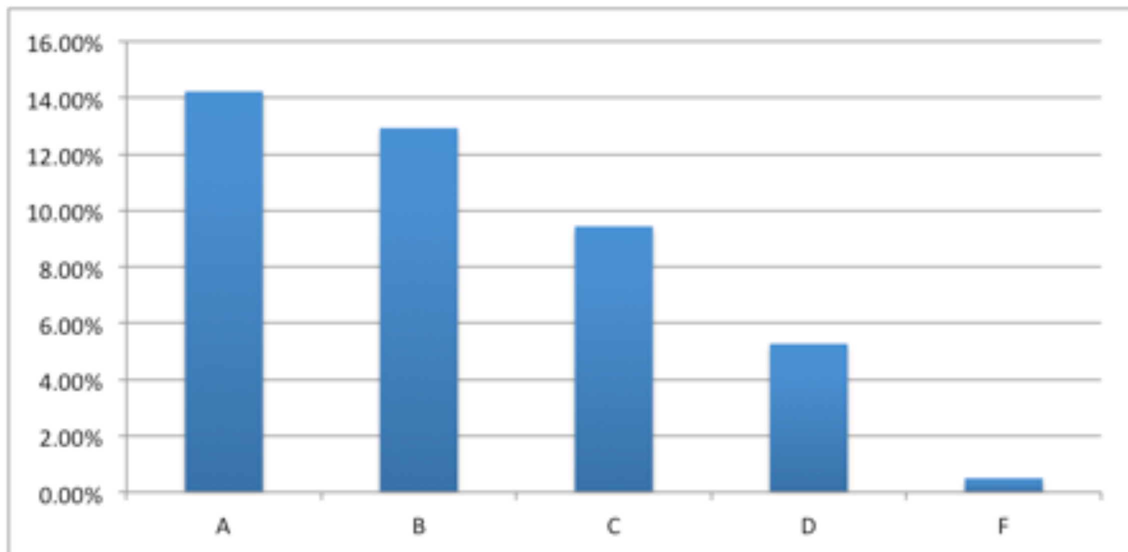
The earnings quality (EQ) scores are derived from the quality and sustainability of cash flows, the propensity for management to have overstated revenue, or understated expenses as well as a host of “shenanigans” management by utilize to overstate reported profits on a sustainable basis. These concerns are categorized by where they reside on the income statement and the degree to which they are likely to impact reported results.



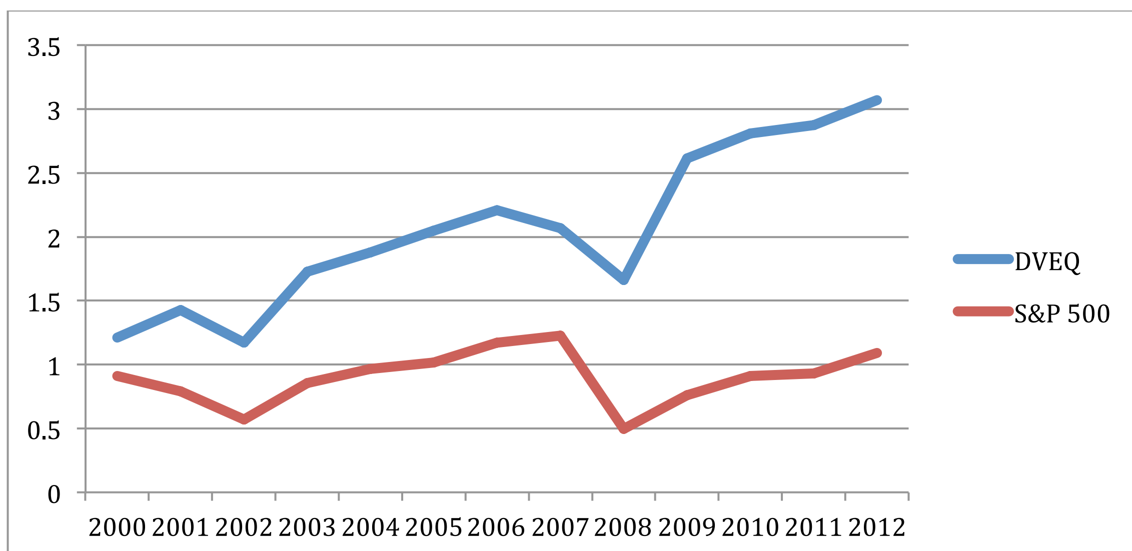
The stocks are scored A, B, C, D, and F much like you'd receive on a report card in high school. The "F" ranked stocks, those deemed to have the worst earnings quality relative to the other 500 stocks in the index are then removed, and then the stocks are weighted to the "A" stocks—those perceived to have a higher degree of earnings quality. The index weights are as follows:

A: 40%
B: 20%
C: 20%
D: 20%
F: 0%

Eighty percent of the Del Vecchio Earnings Quality index is equal weighted, thereby removing the market capitalization bias. They key difference is using earnings quality and the EQ scores to attempt to remove stocks most likely to under-perform. The table below illustrates the performance of stocks by EQ score since 2000 with a quarterly rebalance:



There is a stair-step pattern among the various grades, with the "F" ranked stocks barely even, though the market increased in value over the timeframe. Furthermore, the "A" rated stocks have added excess return. Finally, the annual returns of the index are below: (back-tested through 2009, then live 2010-13)



Annual returns of the Del Vecchio Earnings Quality Index are as follows:

2013	37.19%
2012	19.41%
2011	6.39%
2010	19.44%
2009	95.43%
2008	-40.73%
2007	-13.80%
2006	15.87%
2005	17.20%
2004	14.75%
2003	55.63%
2002	-25.51%
2001	21.80%
2000	20.93%

It is important to note that the index is not optimized. In other words, certain factors are not over-weighted simply because they tested better historically. Rather, the index was based upon years of experience analyzing public equities in real-time that had a high propensity for an earnings driven event such as an expectations shortfall or SEC investigation. Common factors of under-performers were grouped together to create the underlying model.

Del Vecchio vs. Fundamental Indexes: Earnings Quality is the Key

Fundamental indexes often use revenue, cash flow, dividends or other factors to weight the stocks in the index. The Del Vecchio Earnings Quality Index is not a fundamental index.

- ***Earnings quality matters:*** Our methodology, based on years of real-world experience performs deeper analysis to gauge the **quality** of reported

revenues, cash flows, and other factors and assigns a probability as to the sustainability of the fundamentals rather than take the reported financials at face value.

- **The Del Vecchio Earnings Quality Index is anticipatory.** Certain factors such as price and expectations are important metrics when used in conjunction with financial statement analysis. For example, companies with high expectations have more pressure to perform to meet or exceed investor expectations. When a company experiences a slowdown, management may turn to the financial statements to mask deterioration in the business. The higher the expectations embedded into the stock, the more likely to downside to share prices in the event of an earnings miss.

- The Del Vecchio Index uses “red flags” of aggressive accounting to anticipate earnings shortfalls whereas fundamental indexes often rely solely on historical data to weight a company based on it’s impact on the market today.

- **The Del Vecchio index is not dependent on any particular stock to drive performance.** Rather, it makes a “bet” on the underlying earnings quality spread out over 100 stocks for each letter grade. Weighting the top stock the highest percentage may improve historical results, but is unlikely to provide as much performance in the future.

Capturing the Market Capitalization / Quality Spread

The Del Vecchio Earnings Quality Index was specifically designed to capture the spread created by removing the market capitalization bias and overlaying an earnings quality/value tilt to a portfolio. The table below illustrates the performance of going long the Del Vecchio Earnings Quality Index and shorting the S&P 100 against it. Typically, the S&P 100 represents 45% of the market capitalization of U.S. stocks and nearly 60% of the weighting in the S&P 500.

	S&P 100	DVEQX	Hedged
2013	27.40%	37.19%	9.79%
2012	13.28%	19.41%	6.13%
2011	0.86%	6.39%	5.53%
2010	10.08%	19.44%	9.36%
2009	19.13%	95.43%	76.30%
2008	-37.06%	-40.73%	-3.67%
2007	3.02%	-13.80%	-16.82%
2006	15.86%	15.87%	0.01%
2005	-0.92%	17.20%	18.12%
2004	4.45%	14.75%	10.30%

2003	23.84%	55.63%	31.79%
2002	-23.88%	-25.51%	-1.63%
2001	-14.88%	21.80%	36.68%
2000	-13.42%	20.93%	34.35%

Conclusion

Traditional indexing suffers two major drawbacks. Market cap weighting is an inefficient process for sizing portfolios. And, over time, most stocks fail to keep pace with the market. The Del Vecchio Earnings Quality Index seeks to overcome these deficiencies by removing the market capitalization bias; testing and sizing companies based on quality of earnings issues with an emphasis on overweighing the highest quality companies and deleting the lowest quality from the index.

About the Author:

John Del Vecchio is the creator of the Del Vecchio Earnings Quality Index, and index provider to the Forensic Accounting ETF as well as a former forensic accountant and active short seller for 14 years. He is co-author of *What's Behind the Numbers? A Guide to Exposing Financial Chicanery and Avoiding Huge losses in Your Portfolio* (McGraw-Hill, 2012). The book provides more detail on the Del Vecchio Earnings Quality index components.