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SERVO

FACTORS IN FOCUS

Predictions or Probabilities?

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After a successful 2016, you might be wondering what we're predicting will happen to your portfolio this year. Long-time clients (and hopefully newer ones as well) know that we don't make such forecasts.

As much as you would find our crystal-ball gazing interesting and you're curious to know what our predictions would be, the sensible side of our investing brain knows that no one is able to consistently forecast what will come next for the stock market, interest rates, the trajectory of the economy or the relative results of individual asset classes.

Predictions

This reality doesn't prevent most of the rest of the financial industry from pontificating on the future. Last year provided us with several memorable examples of how difficult forecasting can be. No one anticipated the stock market starting off the year with the worst six-week decline in 120 years. Very few thought the United Kingdom would vote to leave the European Union in June, and even in the days leading up to the November presidential election, polls all predicted that Donald Trump would lose by a wide margin.

Couple these unexpected events with the fact that stocks in the US generated above-average returns last year and small cap value stocks returned over 15% *more* than the overall market, and you quickly realize that basing your investment plan on near-term forecasts is foolish. Sometimes, we don't know events have occurred even though we actually lived through them, so imagine trying to predict them beforehand!

For example, try to guess what the single best month of relative returns for the DFA US Small Value Fund (DFSVX) has been compared to the S&P 500 Index since the fund's inception in 1993 (over 23 years ago)? Would you believe it happened in November? Probably not, but in fact small cap value's +14.9% return was 11.2% better than the S&P 500 (+3.7%). Its return was above average *for a year* and it happened *in just 30 days*.

Expectations

Servo's reluctance to forecast the short-term direction of the market or the economy doesn't mean that we have no thoughts on the future. Of course, your portfolio is simply part of an overall investment plan that addresses how we are attempting to achieve your long-term goals. In order to address this effort, we have to apply some expectations to our portfolios. There are three pillars on which our asset allocations are designed.

The **first** is that we expect traditional active management (security selection/market timing) to underperform markets net of costs, taxes and after adjusting for risk. Standard & Poor's conducts rigorous analysis of active manager returns relative to indexes and publishes bi-annual reports. Their last one, from June of 2016, found the following: "over the 10-year investment horizon, 85.36% of large-cap managers, 91.27% of mid-cap managers, and 90.75% of small-cap managers failed to outperform (their index) on a relative basis." You don't need to be a mathematician to understand that those aren't very good odds.

The **second** is that we expect to earn a higher return over time for holding *stocks* instead of *bonds*. It's not that every portfolio we manage is invested 100% in equities, but that almost every one of our clients has a bias towards stocks, with bonds used only sparingly as a tool to moderate portfolio volatility and provide a liquid and accessible part of the allocation for withdrawals (typically for retirees).

The **third** is that we expect to earn a higher return on smaller and more value-oriented stocks compared to the large cap and growth companies that dominate traditional index funds. We don't invest100% of our portfolios in small value stocks; however they are an important component of diversified asset allocations.

Our first pillar has recently grown in popularity as a significant share of new investment dollars has flowed into index funds instead of (as well as out of) actively managed funds. What used to be a hotly-contested point of view from

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us is now mainstream. Our second and third pillars, on the other hand, still seem to be controversial. But even a casual glance at the data confirms our beliefs.

Consider that the original research documenting not only a stock market "premium" but also a small cap "premium" and a value "premium" in the stock market was published in 1992 by Eugene Fama and Ken French (Fama, E.F. and French, K.R. (1992), "The Cross-Section of Expected Stock Returns." The Journal of Finance, 47: 427-465.)

Table 1: The *Periodic Returns* of Investment Factors

Asset Class Index	Original Period (1928-1989)	Recent Period (1990-2016)
Five-Year Bonds	+4.9%	+5.7%
US Large Cap Stocks	+9.5%	+9.5%
US "Total" Stock Market	+9.7%	+9.7%
US Large Value Stocks	+11.3%	+11.3%
US Small Value Stocks	+13.1%	+14.5%

Five-Year Bonds = Ibbotson Int'd Treasury Index, US Large Cap Stocks = DFA US Large Cap Index, US "Total" Stock Market = DFA US Market Index, US Large Value Stocks = DFA US Large Value Index, US Small Value Stocks = DFA US Small Value Index. Source of data: DFA Returns Web

Table 1 applies the findings from Fama and French's "Three-Factor Model" through the original research period (1928-1990) and compares the historical returns with the subsequent results through 2016. In doing so, we find very similar results. Large cap stocks beat bonds by about 4% per year, and large and small value stocks outperformed the large cap index by about 2% to 5% per year.

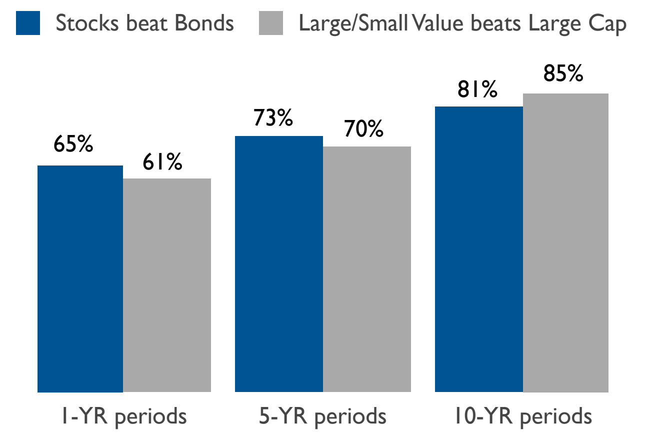
In both periods, investors who were cajoled by John Bogle and Vanguard to invest only in a "Total" Market Index believing they were adequately diversified failed to capture a meaningful share of the smaller and more value-oriented stock returns since the "total market" and large cap indexes were virtually identical.

Probabilities

These are both fairly long periods of time and say very little about what we can expect over the next few years. What we do know is that stocks don't beat bonds every year, or even over every few years, nor do small cap and value stocks beat a traditional large cap index in every period. Historically, the longer we wait, the more likely it is that our expectations become a reality.

Consider the perspective in Chart 1, which looks at various "rolling" periods since 1928 and compares the returns on stocks to bonds, as well as a small/value-tilted stock index to large cap stocks.

Chart 1: The *Persistence* of Investment Factors (1928-2016)



Stocks = DFA US Large Cap Index, Bonds = Five-Year Bond Index, Small/ Value = 60% DFA US Large Value Index, 40% DFA US Small Value Index, rebalanced annually. Source of data: DFA Returns 2.0

Examining one-year periods (January 1928 to December 1928, February 1928 to January 1929, etc.), reveals that stocks have beaten bonds 65% of the time, and we've seen about the same probability of outperformance for a large/ small value index relative to large caps—61%. Over all five-year periods, the probabilities of "success" are 73% for stocks relative to bonds and 70% for large/small value stocks compared to large caps. Finally, looking at all 10-year periods, the probability that stocks don't beat bonds or large/ small value stocks don't beat large cap stocks are both less than 20%. Surprisingly, the odds that large/small value stocks outperform large cap stocks is slightly greater (85% vs. 81%) than the likelihood that stocks beat bonds!

Persistence

This perspective helps explain why our primary ongoing value to you isn't adjusting your asset allocation or changing its holdings, but instead keeping you confident in your plan and disciplined so that you stick with it. Staying the course significantly increases the odds that your results will converge with history and our expectations, making it far more likely that you'll be successful financially.

Obviously, nothing could be more detrimental to our efforts to instill discipline than to distract you with short-term forecasts about your portfolio. We'll continue to let other advisors and financial commentators try to predict the near-term future—our process will stay rooted in **probabilities**, **patience** and **realistic expectations**.

Contact Eric Nelson, CFA at eric@servowealth.com with any questions, comments, thoughts, or to discuss your own personal financial situation.