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Swedroe: Predictive Nature Of Valuations

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As we approach the end of 2016, the Shiller CAPE 10 stands at about 28, a level rarely exceeded (with the exception of in the late-1990s technology-driven bull market). Such heights cause many investors to worry about what current valuations may mean for future expected returns.

I'll try to provide some insights by reviewing the literature, which demonstrates a link between current valuations and expected returns. We'll also examine a new paper that takes a different look at the subject.

In the 2013 edition of his paper "[Equity Risk Premiums \(ERP\): Determinants, Estimation and Implications](#)," Aswath Damodaran explored three approaches for estimating equity returns: the historical approach, a survey approach and a current valuation approach.

Historical Vs. Survey Approaches

Damodaran, a professor of finance at New York University's Stern School of Business, explained the problem with the historical approach: "When stock prices enter an extended phase of upward (downward) movement, the historical risk premium will climb (drop) to reflect past returns. Implied premiums will tend to move in the opposite direction, since higher (lower) stock prices generally translate into lower (higher) premiums. In 1999, for instance, after the technology-induced stock price boom of the 1990s, the implied premium was 2% but the historical risk premium was almost 6%."

He then explained the problem with using the survey approach: "Survey premiums reflect historical data more than expectations. When stocks are going up, investors tend to become more optimistic about future returns and survey premiums reflect this optimism. In fact, the evidence that human beings overweight recent history (when making judgments) and overreact to information can lead to survey premiums overshooting

historical premiums in both good and bad times. In good times, survey premiums are even higher than historical premiums, which, in turn, are higher than implied premiums; in bad times, the reverse occurs.”

Finally, he provided the following insight about the valuation approach: “When the fundamentals of a market change, either because the economy becomes more volatile or investors get more risk averse, historical risk premiums will not change but implied premiums will. Shocks to the market are likely to cause the two numbers to deviate. After the terrorist attack on the World Trade Center in September 2001, for instance, implied equity risk premiums jumped almost 0.50% but historical premiums were unchanged (at least until the next update).”

To determine the “right” approach, Damodaran studied the predictive powers of each, looking at their returns during the following 10-year period. His study covered the period 1960 through 2012. He found the correlation of the current implied premium with returns over the next 10 years was +0.43. On the other hand, the correlation of the historical premium with the returns over the next 10 years was in the wrong direction—negative 0.48.

He writes: “The implied equity risk premium at the end of the prior period was the best predictor of the implied equity risk premium in the next period, whereas historical risk premiums did worst.”

Thus, Damodaran concluded: “If you believe that markets are efficient in the aggregate, or at least that you cannot forecast the direction of overall market movements, the current implied equity premium is the most logical choice, since it is estimated from the current level of the index.... Historical risk premiums are very poor predictors of both short-term movements in implied premiums or long-term returns on stocks.”

Further Evidence

The 2014 paper “[A History of the Equity Risk Premium and its Estimation](#),” by Basil Copeland of Chesapeake Regulatory Consultants, studied this issue and came to the same conclusions as Damodaran.

Copeland writes: “There has been general acceptance, a consensus if you will, that historical equity return premia overstate what was anticipated or expected and that a large component of the historical equity return premium constitutes unanticipated capital gains.”

He too concludes that current valuations are the best predictor of future returns. This was also the same conclusion that Eugene Fama and Kenneth French reached in their 2002 paper, “[The Equity Premium](#),” which appeared in *The Journal of Finance*.

Vanguard’s research team studied the issue of expected returns in their October 2012 paper “[Forecasting Stock Returns: What Signals Matter, and What Do They Say Now?](#)” The firm’s researchers found that “many commonly cited signals have had very weak and erratic correlations with actual subsequent returns, even at long investment horizons.”

These poor predictors include trailing values for dividend yields and economic growth, the difference between the stock market’s earnings yield and Treasury bond yields (the so-called Fed Model), profit margins, and past stock returns. Consistent with the other research cited, they found that P/E ratios explain about 40% of the time-variation in net-of-inflation returns.

Asness Weights In

And finally, we’ll review Clifford Asness’ November 2012 paper, “[An Old Friend: The Stock Market’s Shiller PE](#).” Asness found that 10-year forward average real returns fall nearly monotonically as starting CAPE 10 P/E ratios increase.

He also found that, as the starting Shiller CAPE 10 increased, worst cases get worse and best cases get weaker—the entire distribution of returns shifted to the left. Additionally, it’s important to note that Asness found that while the metric provided valuable insights, there were still very wide dispersions of returns. For example:

- When the CAPE 10 P/E ratio was below 9.6, 10-year forward real returns averaged 10.3%. In relative terms, that is more than 50% above the historical average of 6.8% (9.8% nominal return less 3.0% inflation). The best 10-year real return was 17.5%. The worst was still a pretty good 4.8% real return, just 2.0 percentage points below the average, and 29% below it in relative terms. The dispersion between the best and worst outcomes was a 12.7 percentage point difference in real returns.
- When the CAPE 10 PE ratio was between 15.7 and 17.3 (about its average of 16.5), the 10-year forward real return averaged 5.6%. The best and worst 10-year forward returns were 15.1% and 2.3%, respectively. The dispersion between the best and worst outcomes was a 12.8 percentage point difference in real returns.
- When the CAPE 10 P/E ratio was between 21.1 and 25.1, the 10-year forward real return averaged just 0.9%. The best 10-year forward real return was still 8.3%, above the historical average of 6.8%. However, the worst 10-year forward real return was now -4.4%. The dispersion between the best and worst outcomes was a difference of 12.7 percentage points in real terms.
- When the CAPE 10 P/E ratio was above 25.1, the real return over the following 10 years averaged just 0.5%—virtually the same as the long-term real return on the risk-free benchmark, one-month Treasury bills. The best 10-year real return was 6.3%, just 0.5 percentage points below the historical average. But, the worst 10-year real return was now -6.1%. The dispersion between the best and worst outcomes was a difference of 12.4 percentage points in real terms.

Such wide dispersions explain why the Shiller CAPE 10, while providing information on future returns, should not be used as a tool to time the markets. **Javier Estrada** came to that same conclusion in his study, “[Multiples, Forecasting, and Asset Allocation](#),” which was published in the Summer 2015 issue of the *Journal of Applied Corporate Finance*.

He examined the benefits of using valuations as a tactical asset allocation tool and found that “the evidence does not support the superiority of valuation-based strategies; if anything, it points moderately in the opposite direction.”

Mean Expected Return Isn't All That Matters

Paolo Giordani and Michael Halling contribute to the literature with their December 2016 study, “[Up the Stairs, Down the Elevator: Valuation Ratios and Shape Predictability in the Distribution of Stock Returns](#).” Their study covered the period 1881 through 2014. Like other research, they documented the link between valuations and expected returns.

For example, in the lowest quartile of valuations, the return over the succeeding 12 months averaged 16.2%, but just 3.9% for the highest quartile. For the succeeding 24 months, the total returns were 31.7% and 7.3%, respectively.

The authors also found that valuations provided important information on the asymmetry of returns. The distribution of returns over the following 12- and 24-month periods became more asymmetric and more negatively skewed when valuations were high, and standard deviation was also higher. For example, for the lowest quartile of valuations, the standard deviations were 16.9 and 18.7, respectively, but 19.4 and 32.9 for the highest-valuation quartile, respectively.

In addition, for the lowest quartile of valuations, skewness was 0.3 and 0.1 over the next 12 and 24 months, respectively. For the highest-valuation quartile, skewness was -0.95 and -1.4, respectively. It's well known that investors dislike negative skewness, as it creates the potential for large losses. In contrast, the authors found that when valuations are low, the distribution is roughly symmetric.

There was another important finding from the study related to the distribution of returns. In the low-valuation quartile, 49% of the returns were to the left of the mean. However, in the highest-valuation quartile, 83% of the returns were to the left of the mean.

Giordani and Halling's results were robust to the pre- and post-1945 subperiods they examined. They were also robust using book-to-market as a valuation metric instead of the Shiller CAPE 10.

It's also important to note that even when valuations were in the top quartile, the authors found that future returns were still positive on average, showing once again how difficult it is to use valuations as a timing tool.

Summary

What can we learn from the above data? Because there's so much variation over time in the equity risk premium, there isn't any methodology that will produce highly accurate forecasts of stock returns—stocks are risky investments no matter the horizon. However, we do know that starting valuations clearly matter—and they matter a lot, not just in terms of expected returns, but also in the dispersion of potential outcomes.

We also know they are a far more accurate predictor of returns over the next decade than historical returns—in fact, the correlation between historical returns and the next 10-year returns even has the wrong (negative) sign. We know higher starting values mean that future expected returns are lower, and vice versa. However, we know as well that there's still a wide dispersion of potential outcomes for which we must prepare when developing an investment plan.

And, finally, for those interested, my [March 2016 webinar](#) addressed the question of whether the Shiller CAPE 10 was signaling the market was overvalued, as many gurus had been warning for years.

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