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Does Valuation Work?

The Short Answer: Yes

However, some measures work better than others. The keys to making valuation work are to:

1. **Develop a valuation framework**
2. **Apply it within an effective portfolio management process**
3. **Stay disciplined**

None are easy. Of the three, ***maintaining discipline tends to be most difficult***, given the nature of investor behavior. Let's take an example.

On Saturday, August 6th, *after* the S&P 500 fell by almost 11% in two weeks, the Wall Street Journal published an article titled, *Stocks Are Cheaper, but They Aren't Cheap*, by Jason Zweig. Of course, this kind of headline does not make owners of stocks feel better, nor does it encourage those that tend to buy on dips to actually buy. Add a few more negative headlines to S&P's downgrading of U.S. Treasury debt after the Friday August 5th market close, and we had a witch's brew for a brutal Monday. The market fell by another 6.5% or so on that Monday, August 8th.

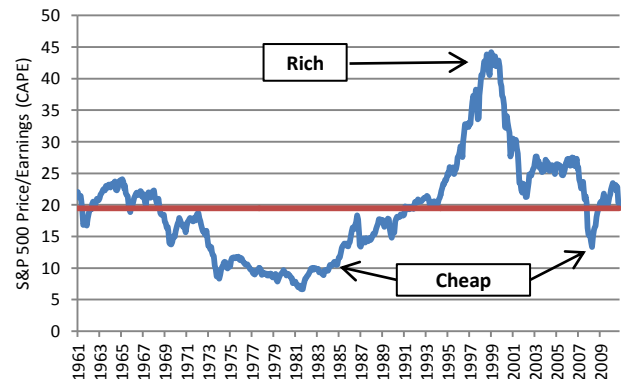
Mr. Zweig's article did provide a service in pointing out that stocks were not cheap on the valuation measure he selected to discuss (more on that later), but it would have been a better service to investors to declare stocks rich *before* the market fell by the initial 11%. This point offers a lesson to investors.

Journalists, in the aggregate, do not moderate market extremes, they magnify them, in both bear markets and bull. Investors live in a social world. What we read and hear affects our emotions, thinking and behavior. It is a self-reinforcing dynamic that exacerbates market moves and causes investors to make mistakes. ***It takes a great deal of confidence and discipline to act rationally in the face of the social onslaught.*** Thus far, we have used the Zweig article as one example. To see aggregated journalist behavior, go to <http://www.economist.com/node/12332693> (you may have to copy and paste it in). There you will find a one page article on *The Economist's D-Word Index*. It tracks economy-related articles that mention the word "depression" and shows how it spikes near crisis associated market bottoms. They end the article by saying, ***"...perhaps the only thing we have to fear are the fears of journalists themselves."***

So, we are left with the prospect of responding to social-emotional cues and making investment mistakes, or crafting ways to systematically exploit market opportunities created by the emotions of others.

Now, let's take a look at the valuation measure referenced by Mr. Zweig, the Cyclically Adjusted Price Earnings Ratio (CAPE) as published by Yale economist Robert Shiller:

Robert Shiller's "Cyclically-Adjusted" Price-Earnings Ratio (CAPE)



Interpreting the chart: The horizontal line is the long-term average. When the CAPE is above average, the market is rich and vice versa. When the CAPE is close to its long-term average, the market is considered fairly valued.

CAPE is calculated as the ratio of price divided by 10-year average earnings, inflation adjusted. From our perspective, the 10-year averaging is more of a smoothing technique than a cyclical adjustment. Economic and market cycles are typically shorter than 10 years. For more information see: <http://www.econ.yale.edu/~shiller/data.htm>

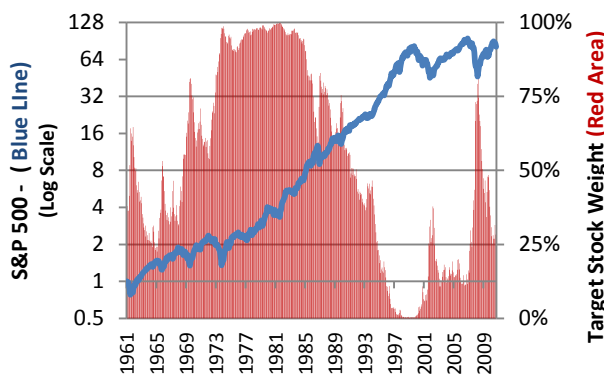
Please note that the Shiller data goes back to 1871, but we are focusing on last 50 years.

Professor Shiller made this measure famous with his book *Irrational Exuberance*, first published in 2000 near the tech bubble top – his timing was impeccable - the market had never been so overvalued or rich on this measure, as shown on the chart.

To make the measure useful we need to capture it within a portfolio management process. For illustrative purposes, we will use an approach that assumes an investor will normally hold 50% stocks and 50% cash when the market is fairly valued, and increase or decrease the stock weight according to the degree of undervaluation or overvaluation. This is shown in the following chart.

Does Valuation Work?

Target Stock Weight vs Stock Performance
Based on Shiller Cyclically-Adjusted Price-Earnings Ratio



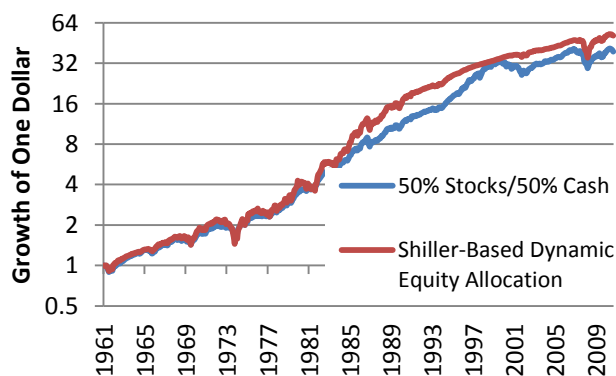
Data from December 1961 through August 2011
Source: Bloomberg, Shiller, S&P, SightLine

Notice that to implement the above target stock weights you would have had to load up on stocks during the 2008/2009 financial crisis – no small act of courage. Also, you would have had to have been underweight stocks from 1992 through the entire 90’s bull market while your friends and colleagues were happily discussing the latest and greatest tech stock they owned. The feeling of being left out or left behind can be intense.

Let’s assume we had the personal fortitude and wisdom to overcome the social and emotional pressure associated with market dynamics and we were able to implement the target equity weights as shown in the above chart. How would we have done?

Comparative Results

Constant 50% Stocks vs Valuation-Based Dynamic Weight



Data from December 1961 through August 2011
Source: Bloomberg, Shiller, S&P, SightLine

As shown in the previous graph and the table below, **the dynamic allocation approach using Shiller’s CAPE produces higher returns and a smoother ride.**

Description	Return	Chance of		Worst Loss
		Loss	Loss >10%	
Cash	5.5%	-	-	-
Stocks	9.3%	23.2%	12.3%	(50.9%)
Benchmark: 50% Stocks/50% Cash	7.7%	15.4%	3.6%	(28.5%)
Strategy: Dynamic - Shiller CAPE	8.2%	11.9%	3.5%	(34.6%)

Data: 12/61 through 08/11, monthly. Annualized returns. Source: Bloomberg, Shiller, SightLine
Loss Frequencies based on rolling 12 month returns. Worst Loss is the largest peak to trough.

The benchmark corresponds to standard advice, which is to set a target allocation and periodically rebalance back to it. The dynamic Shiller CAPE-based strategy has a 0.5% higher return. In terms of loss experience, it has lower frequency of loss, a similar frequency of large losses (greater than 10%), and a greater worst-loss experience as compared to the benchmark. On balance, the dynamic Shiller CAPE-based strategy offers a better risk-reward experience.

Can we do better with alternative valuation measures? Let’s start with the straightforward price/earnings ratio using trailing earnings, and apply the same framework. Here are the results:

Description	Return	Chance of		Worst Loss
		Loss	Loss >10%	
Benchmark: 50% Stocks/50% Cash	7.7%	15.4%	3.6%	(28.5%)
Strategy 1: Dynamic - Shiller CAPE	8.2%	11.9%	3.5%	(34.6%)
Strategy 2: Dynamic - Trailing P/E	8.4%	12.5%	4.0%	(36.0%)

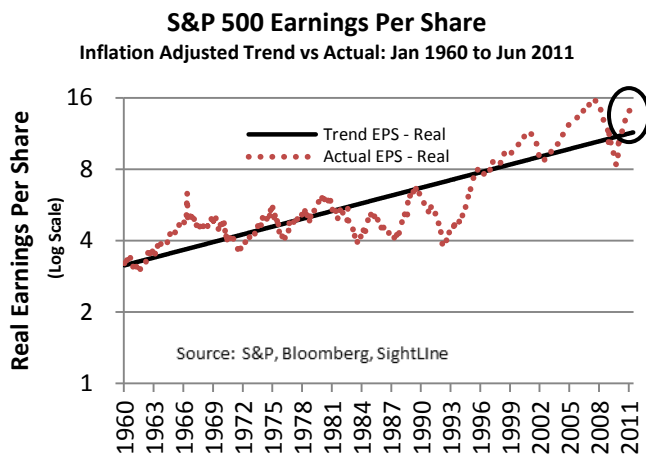
Data: 12/61 through 08/11, monthly. Annualized returns. Source: Bloomberg, Shiller, SightLine
Loss Frequencies based on rolling 12 month returns. Worst Loss is the largest peak to trough.

Both dynamic valuation-based strategies produce higher returns than the static benchmark, with the Trailing P/E being marginally higher. The Trailing P/E is also marginally more risky than the Shiller CAPE based on loss experience. **On balance, when considering both return and risk, there is not a compelling case for one dynamic strategy versus the other.** If we had to choose we would select the Shiller CAPE, as it is a more thoughtfully designed measure.

However, one of the criticisms of the Shiller approach is the method used for “cyclically adjusting” earnings using a 10-year moving average. Cycles are typically shorter, so data from one cycle bleeds into the next, affecting the cyclical adjustment to valuation. **Can we improve the approach to cyclically adjusting earnings and improve the dynamic strategy results?**

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In a previous *SightLine Investment Perspectives*, we illustrated an approach to cyclically adjust earnings that does not impose a time period on the length of a cycle. Instead, it compares earnings to long-term trend rates of growth in real terms. Here is the chart we showed you:



For our purposes today, we will “cyclically-adjust” the Trailing P/E based on deviations from trend as shown in the above chart. **Using this approach, we can test an alternative CAPE, labeled “CAPE-B” below, against the Shiller CAPE and the Trailing P/E measures.** Results are shown below:

Description	Return	Chance of		Worst Loss
		Loss	Loss >10%	
Benchmark: 50% Stocks/50% Cash	7.7%	15.4%	3.6%	(28.5%)
Strategy 1: Dynamic - Shiller CAPE	8.2%	11.9%	3.5%	(34.6%)
Strategy 2: Dynamic - Trailing P/E	8.4%	12.5%	4.0%	(36.0%)
Strategy 3: Dynamic - CAPE-B	8.8%	11.6%	2.8%	(33.0%)

Data: 12/61 through 08/11, monthly. Annualized returns. Source: Bloomberg, Shiller, SightLine
Loss Frequencies based on rolling 12 month returns. Worst Loss is the largest peak to trough.

Relative to the other dynamic strategies, CAPE-B provides both a higher return and a better loss experience. It outperforms the benchmark by more than 1% annually.

Some important caveats: The valuation measures tested above are all based on some form of price-earnings ratio tested historically, not prospectively. They do not consider:

1. The value of stocks relative to other asset classes, e.g. bonds.
2. Changing market volatility
3. Client risk tolerance

The SightLine Dynamic Strategic Allocation (DSA) service does address the above. Our purpose today is not to discuss DSA.

However, below we provide you an example of relative value strategy adjusted for time-varying risk conditions as a final strategy test under our simple illustrative testing framework.

We have labeled our last illustrative strategy “CARV-VA” for *Cyclically Adjusted Relative Value – Volatility Adjusted*. To craft this value measure we take the cyclically adjusted earnings yield (inverse of the CAPE-B measure) relative to the cyclically adjusted 10-year Treasury yield, and adjust it for time varying risk conditions using implied volatility on S&P 500 and S&P 100 index options. We show the results of this test of this value measure in the table below.

Description	Return	Chance of		Worst Loss
		Loss	Loss >10%	
Benchmark: 50% Stocks/50% Cash	7.7%	15.4%	3.6%	(28.5%)
Strategy 1: Dynamic - Shiller CAPE	8.2%	11.9%	3.5%	(34.6%)
Strategy 2: Dynamic - Trailing P/E	8.4%	12.5%	4.0%	(36.0%)
Strategy 3: Dynamic - CAPE-B	8.8%	11.6%	2.8%	(33.0%)
Strategy 4: Dynamic - CARV-VA	9.8%	9.4%	0.2%	(18.6%)

Data: 12/61 through 08/11, monthly. Annualized returns. Source: Bloomberg, Shiller, SightLine
Loss Frequencies based on rolling 12 month returns. Worst Loss is the largest peak to trough.

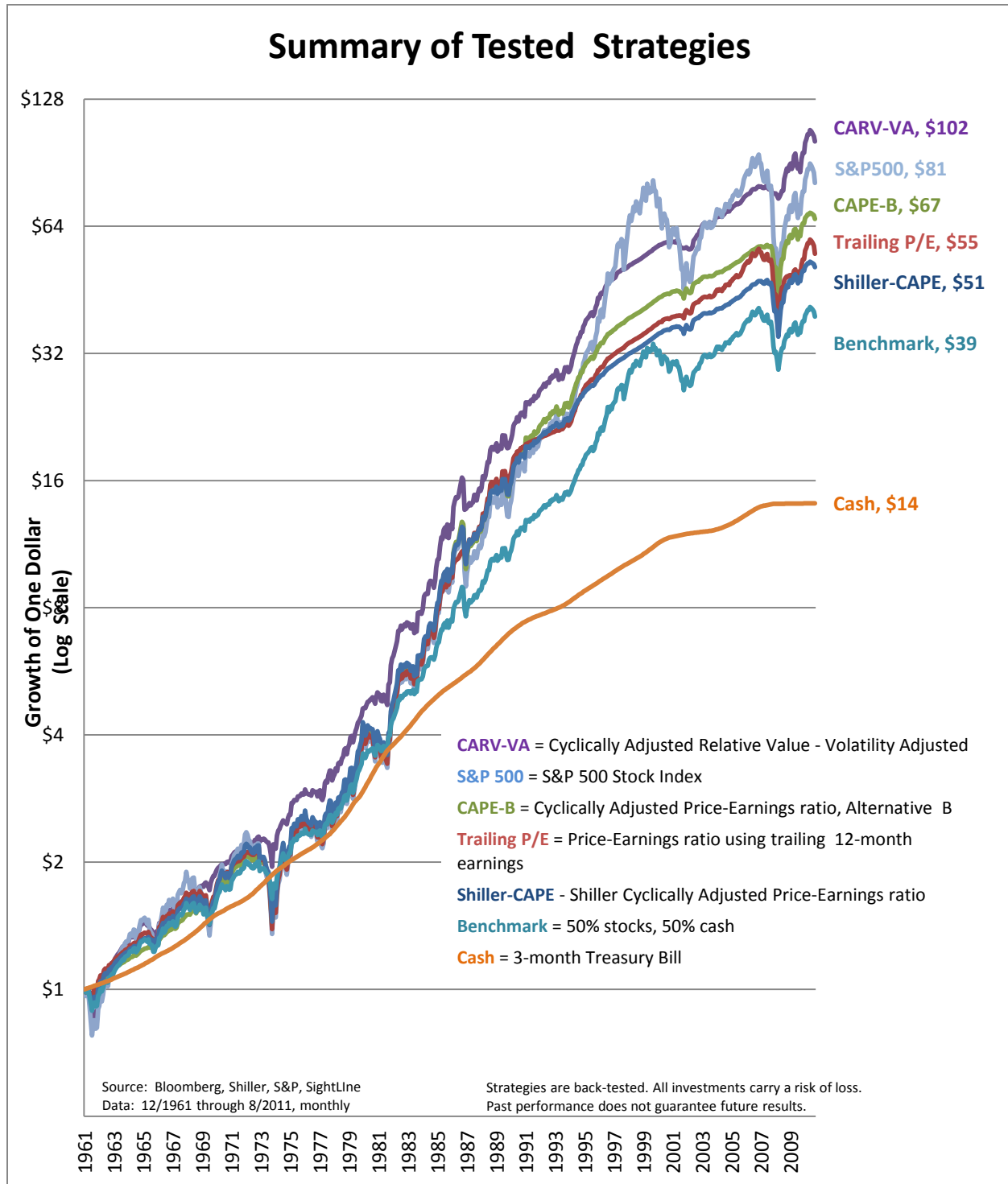
The CARV-VA strategy test results are superior to all other strategies tested. Notably, it returns more than 2% above the benchmark with substantial improvement in downside risk measures. The worst-loss measure is cut by almost half as compared to the Trailing P/E strategy. The source of the improved loss experience is the volatility adjustment. We provide a graphical summary of the strategy tests on the next page.

Our purpose here was to address the question, “Does Valuation Work?” Our test results using four different valuation metrics say “Yes.”

Whether it works for you depends on the valuation metrics you choose, the portfolio framework you apply, and the discipline with which you apply it. Today’s market environment is providing a real test of discipline.

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