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Investment Newsletter – December 2017

This newsletter starts with an update of the performance of the Long Term Income strategy as of September 2017 which was deferred because of the length of part 2 of the retirement planning series published in September. We'll conclude with an update on the performance for the Quantitative Equity Investment strategy.

Long Term Income Portfolio Strategy and Performance

The year ended 9/30/2017 produced a continuation of higher than average returns in the Long Term Income strategy. In September 2015, at the 6th anniversary of the Long Term Income strategy, this newsletter reported the 3rd year in a row of dismal returns for the strategy. At that time, the portfolio value was so depressed by a market mood swing towards pessimism that I estimated future returns would exceed 10% annually over the following 2-3 years. In fact we earned 32.8% over the 2 years since that prediction. Of course two years is not how we should evaluate this long term strategy so let's take a deeper look.

Berkeley Investment Advisors uses several different strategy portfolios to manage client assets. The Long Term Income portfolio focuses on intermediate to long term maturity bonds. Longer maturity bonds provide higher interest rates (yields) than shorter maturity bonds and are more sensitive to changes in interest rates. A bond's interest rate sensitivity risk, known as its duration, tells us how big a change in price we can expect when interest rates change. The duration of the portfolio is currently at 4.1. If we hold a bond with duration of 5 when rates went up 1% we would expect the bond's price to decline by 5%.

Besides interest rate risk, there is also default risk in this portfolio. Bonds with a higher probability of default (relative to other corporate bonds) compensate investors with higher interest payments – hence they are called high yield bonds. High yield bond default risk is like stock market risk - it is correlated with the performance of the economy. At the portfolio level we diversify away individual company default risk by diversifying across a large number of issuers. This insures that the extra premiums earned won't be lost due to a few companies defaulting. Our strategy is to accept market correlated credit risks to earn those extra returns.

The extra return on high yield bonds over the interest rate paid by the U.S. treasury is called a credit spread – it is the compensation that investors demand for taking credit risks. These spreads change according to investors' risk preferences – i.e. how much they need to get paid for taking credit risk changes according to

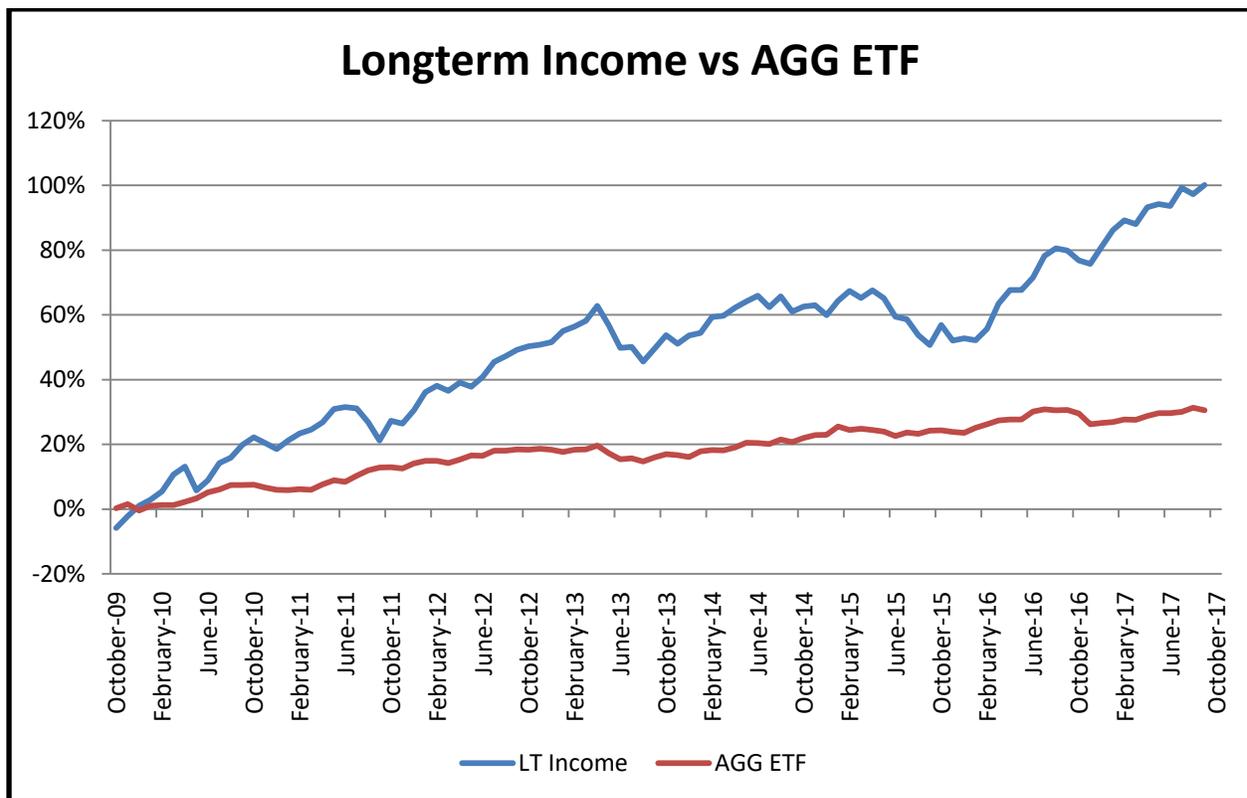
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market mood just like stocks. Therefore by accepting default risk we also accept credit spread “pricing risk” and we must endure fluctuations in our portfolio value the correspond to changes in the market mood - risk seeking or risk aversion- but at roughly half the level of stock market moves.

We earn incremental yield by buying closed-end funds (CEF). These securities can be bought at a discount to the underlying bond values (and occasionally sold at a premium). These funds also enhance returns through embedded leverage. Using these securities means we must endure more price volatility in down markets because most retail investors want to sell more at lows. Current market conditions are providing about 1.2% higher yield on our portfolio than if we held the underlying bonds directly. Now that I’ve described the strategy and its sources of risk, we’ll go over the returns for it and a comparison index.

The Long Term Income portfolio is diversified across virtually all sectors of the fixed income market, including government bonds and mortgage backed securities. A good comparison index is the Barclays U.S. Aggregate Bond Index as represented by the iShares Core Total U.S. Bond Market exchange traded fund (ticker AGG). This is meant to represent the total overall U.S. bond market.

Although we first created this portfolio in February 2008, it was not continuously invested until September 2009. Therefore we cannot calculate performance further back than the last 8 years. The graph and table below show total returns including price and interest payments in comparison to the bond index mentioned above as implemented in the exchange traded fund (ticker AGG).



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Our portfolio returns calculated here are based on a particular client's account and have been reduced by annual fees of 1.25% which would apply to new accounts above \$500,000 but below \$1 million.

Year Ended	Returns by Year		Difference
	Long Term Income	AGG Bond Index	
9/30/2010	19.8%	7.4%	12.4%
9/30/2011	1.2%	5.0%	-3.8%
9/30/2012	23.1%	5.0%	18.1%
9/30/2013	0.2%	-2.0%	2.3%
9/30/2014	7.6%	4.1%	3.5%
9/30/2015	-6.4%	2.9%	-9.3%
9/30/2016	19.4%	5.2%	14.2%
9/30/2017	11.3%	-0.1%	11.4%
Compounded Total	100.2%	30.5%	69.6%

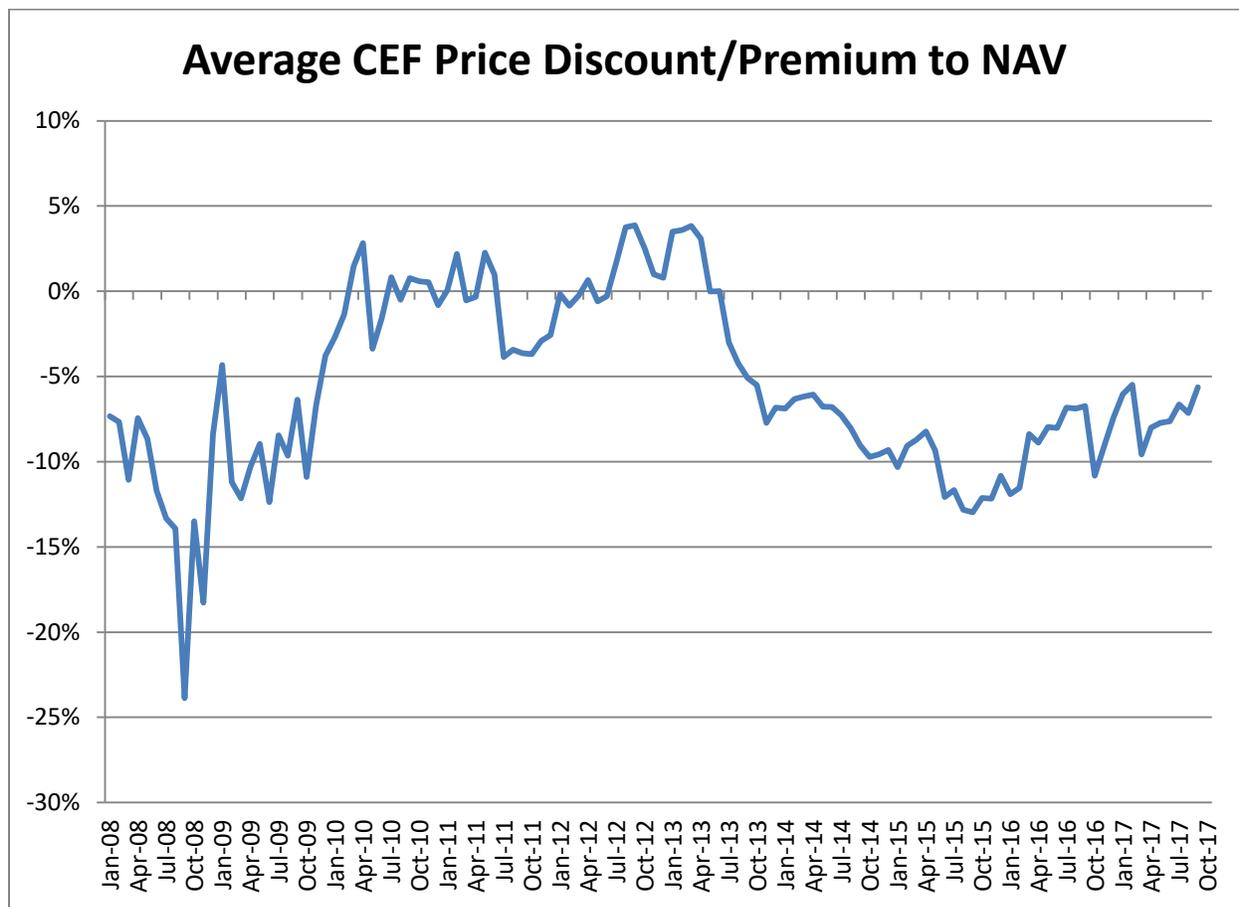
Total return over 8 years is 100.2% - an annualized compound rate of return of 9.06%. The table above makes it clear that the strategy exhibits significant volatility in returns but over the long run the results are quite good.

Now, let's go a bit deeper to look at a significant source of this volatility. The portfolio's price returns (i.e. not counting interest payments) are impacted by changes in CEF prices relative to the underlying bonds. To determine the impact we can look at monthly prices and net asset values (NAVs) for some representative CEF holdings. NAV represents the value of underlying bonds inside the closed end funds and the difference between price and NAV is the discount that funds trade at relative to value.

To get an idea of how much CEF discounts can vary, I pulled data on a group of 7 CEFs with data available back to the beginning of 2008. These CEFs are included in both the Long Term Income portfolio and the Short Term Income Portfolio. The chart on the next page shows the average discount for these 7 CEFs at the end of each month. The chart shows that discounts bottomed at 13% in September 2015 and then climbed back to 5.8% as of 9/30/2017.

The chart shows that discounts greater than 10% are unusual. Over time these discounts tend to revert towards the mean, which is what has happened over the past 2 years. We are now at a more typical discount level and therefore we should not expect further reductions in the discounts.

Likewise credit risk spreads have also dropped about 3%, from above average levels to somewhat compressed levels currently, pushing the underlying bond prices (fund NAVs) up. If we think of bond returns as a spring that tends to returns to a neutral state then we are very close to neutral here. The market goes through cycles of risk seeking and risk aversion whose timing is unpredictable. These cycles drive shorter term returns in stocks and bonds. But in the longer term, returns are fairly predictable and thus we can use this fact to ignore short term volatility in pursuing our long term strategy.



As of the date of this newsletter, the yield on the Long Term Income Portfolio is 7.7% (before fees). This seems to be adequate return for the risks.

Quantitative Investment Strategy Results

Four years ago, we implemented a quantitative strategy on a test basis. The goal for this strategy is to outperform passive strategies across various market environments. This is not a risk managed strategy, so it would likely underperform our existing Long Term Value strategy in a down market. Assuming we allocate some portion of equity exposure to this strategy, it could serve to reduce the variation in our returns relative to the market in up-markets.

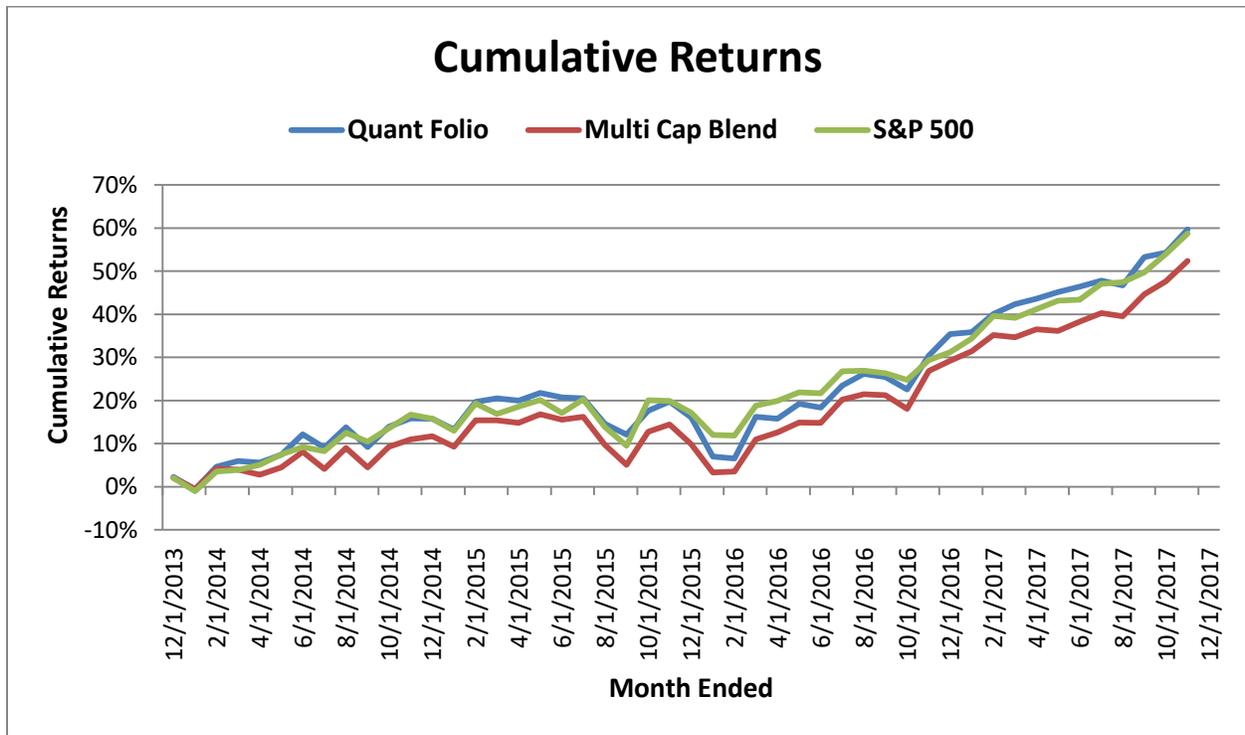
Because our goal with this strategy is to reduce volatility of our return variance versus the market, the portfolio is designed so that industry weightings are approximately in line with the overall market's industry weightings. We did not, however, put any constraint on the size of the companies chosen for the portfolio. Given that larger capitalization stocks are more efficiently priced in the market, we expected the portfolio to be weighted more towards small and mid-cap stocks. In fact the portfolio varied in composition widely from month to month, but on average it has been 39% large capitalization, 24% mid-cap, and 37% small capitalization.

Over the long run smaller capitalization companies tend to outperform larger companies in generating returns for investors. The last 4 years has been unusual

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in that this has been reversed: larger capitalization companies have done much better relative to smaller ones than we should expect going forward. Therefore, we would like to isolate this effect in evaluating the Quant Portfolio. This is important because we are really interested in how it would perform over the long run, not just in the late years of a bull market. If the strategy can outperform a blended benchmark with similar capitalization composition, that is likely to be a good indicator of long-run relative performance. The chart below plots the cumulative returns of the Quantitative Investment Strategy compared to the S&P 500 and a “Multi-Cap Blend” benchmark. The Multi-Cap Blend is a weighted average of large, medium, and small capitalization market indices¹ where the weights are equal to the average capitalization weightings of the Quantitative strategy over the four years. The returns in this chart are from a “watch portfolio” rather than an actual account but they have been adjusted assuming a fee of 1.25% which would apply for accounts between \$500,000 and \$1 million.

The chart shows that the return (after fees) for the Quantitative Strategy outperformed the annual return on the S&P 500 by 0.17% and it outperformed the Multi-Cap Blend benchmark by 1.31% annually. Its total return over the first four years was 59.7%. This is a very good result. The tracking error is within a small range and the strategy produced a nice spread over the comparable blended index return. This strategy is appropriate for retirement accounts - especially at the early and mid stages of a bull market. By allocating some portion of our portfolio to the current methodology we can reduce overall tracking error and increase returns in bull markets.



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¹ Large was S&P 500, mid-cap was S&P Midcap 400, small was Russell 2000