HAMLIN
CAPITAL MANAGEMENT, LLC

Empirical Results of the High-Income Investment Strategy

Vivian Pan, Ph.D., CFA, CIC and Harrison Wheeler[1]

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Introduction

The 2013 Economic Sciences Nobel Memorial Prize was awarded to three finance scholars, Eugene Fama, Lars Peter Hansen and Robert Schiller for their work on asset-prices in financial markets. For most investors, ascertaining proper asset prices is paramount to achieving targeted returns. The four decades long contributions from these three economists paved the way for modern finance and investor attitudes. But what makes the 2013 Nobel award most interesting is that work of the latter two laureates, Schiller and Hansen, who subscribe to irrational investor behavior[2], could not be more incompatible with Fama who is an advocate of the efficient market hypothesis[3]. The Nobel awards to these two diametrically opposite theories suggest that in this field of modern economic theory, the jury is still out.

We denote the above because as value investors, we do not support the efficient market hypothesis – we subscribe to the inefficient market idea – that investors are not always rational and values in the markets can be mispriced and exploited to another investor's benefit. This is the basis in pursuing active investment management. Furthermore, we at Hamlin aim to apply high levels of income (internal liquidity) to compound the mis-pricings to maximum benefit. In this paper we explore the rolling 3-year and 5-year risk and return composite portfolio combinations of our two Hamlin strategies, high dividend equities and high yield tax-exempt bonds, relative to general market indices. We aim to show that Hamlin's high income active management style achieved an enhanced risk-adjusted return profile versus composite portfolios of passive strategies. Our results in general support the inefficient market thesis.

Background

In constructing a portfolio, investors choose between asset classes, individual assets, and asset allocation to meet their return and risk preferences. Given a desired level of return, the rational investor allocates assets to minimize risk. This intuition was formalized in Harry Markowitz's seminal 1952 paper "Portfolio Selection" as a constrained optimization problem (for which he later won the Nobel Memorial Prize). Here, the investor considers combinations of assets in portfolios that have the lowest possible variance (volatility) for a given level of expected return -- getting the least risk for return, or the most 'bang for your buck.' The portfolios' returns and variance are calculated on a weighted basis according to asset allocation. From this set of portfolios known as the 'Minimum Variance Frontier' (MVF), the investor can maximize his or her risk-adjusted returns in the form of the oft-used Sharpe Ratio. The

[1] Harrison Wheeler was a 2013 Hamlin Summer Intern. He is a mathematics undergraduate at Columbia University in the Class of 2015.
[2] Investors can be irrational and cause asset bubbles to form. Mispriced investments can be found and exploited.
[3] Market prices reflect all known information. This theory led to the development of passive or index investing.

Sharpe Ratio measures return per unit risk, calculated as excess return over a risk-free rate such as a T-bill, divided by the investment's standard deviation.

Investors embraced Markowitz's Modern Portfolio Theory (MPT) and MVF, extending and refining his original work to the point of deterministic investing. But after the dot-com bubble followed by the housing bubble left many investors in ruins, serious doubt on the validity of MPT emerged. We at Hamlin are not advocating MPT or that past asset-performance as a presage of future asset-performance, we do think that Markowitz's MPT, specifically the MVF, provides a useful analytical framework to evaluate Hamlin's investment return performance relative to other benchmarks.

In this article, we discuss the construction of Hamlin Capital's own MVF using our 2002 thru 2012 composite returns with different weightings of portfolio combinations of bonds and equities. This frontier and the Sharpe Ratio associated with each portfolio along it can then be compared to portfolio composites in varying proportion weightings of the Barclays Municipal Index and the S&P 500; as well as portfolio composites of the Barclays Municipal Index and the Russell 2000. We will then use the MPT framework (by analogy) to understand the power behind Hamlin's high-income oriented active investment philosophy.

Methodology

To build Hamlin's MVF, we first compiled data on the firm's historical composite performance based on rolling 3-year and 5-year quarterly returns, annualized[4]. Given Hamlin's long-term income-oriented approach and recommended time horizon for investors, the data for rolling one-year and two-years were too noisy; moreover, longer than 5 years would be too few data points. Under the realistic assumption of 5% in cash reserves, we calculated the allocation between bonds and equities necessary to determine the expected return[5]. From these weights, in conjunction with observed asset variance and covariance, we were able to calculate the portfolio variance and standard deviation (proxies for risk) associated with each asset allocation weightings between bond and stocks[6]. After annualizing the numbers, we graphed the desired relationship between portfolio return and standard deviation – the MVF. This process was then repeated for market portfolios allocated between the Barclays Muni and Russell 2000 index composite; and the Barclays Muni and S&P 500 index composite to generate the following results:

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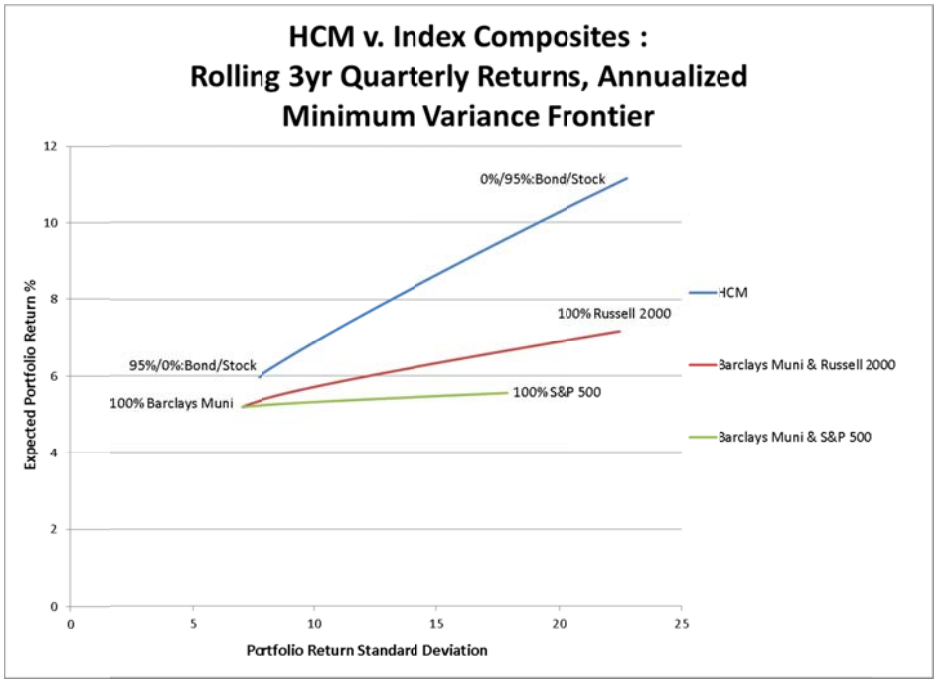
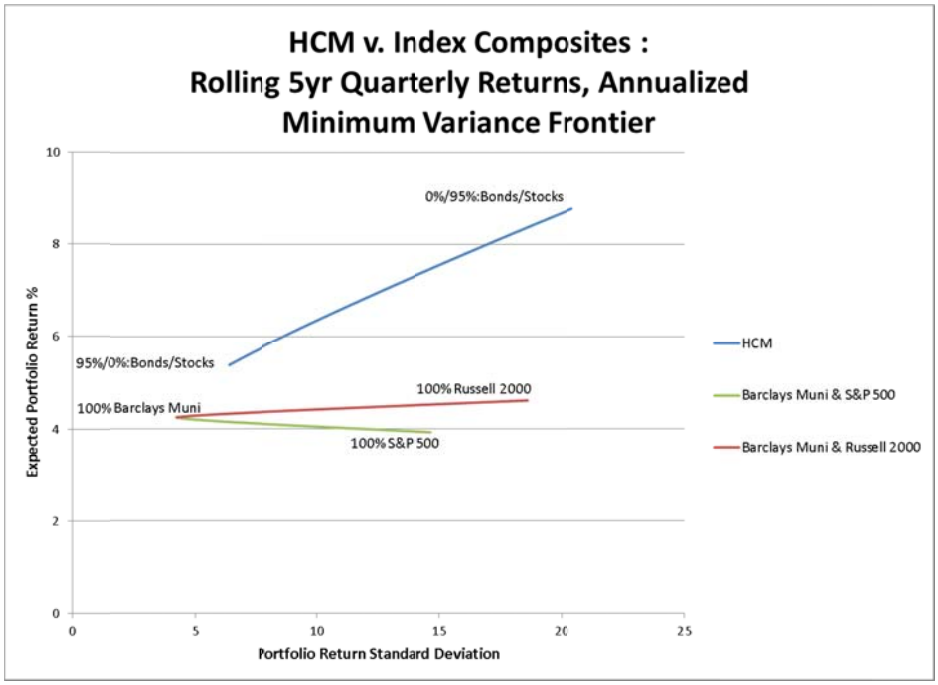
[4] For n years, annualizing a multi-year return r% follows the usual formula $100((1+.01r)^{\frac{1}{n}}-1)$. Annualizing a multi-year standard deviation σ_n follows the formula $\sigma_n/\sqrt{n}$.

[5] For those who enjoy math, this was done as follows. Let w_1,w_2 denote the fraction of Hamlin's portfolio devoted to bonds and equities respectively. Thus, $w_1 + w_2 = .95$. Similarly, let $E[R_p], E[R_1], E[R_2], E[R_3]$ denote the expected portfolio returns, average bond returns, average equity returns, and average cash returns respectively (return on cash was conservatively measured by the FF rate). We thus want for a given expected portfolio return $E[R_p]$: $w_1\,E[R_1] + w_2 E[R_2] + .05E[R_3] = E[R_p]$ (the weighted average return should equal the portfolio return). Since $E[R_1].E[R_2], E[R_3]$ were all statistically inferred, a solution to the above 2x2 system of equations could easily be found to be: $w_2 = \frac{(E[R_p]-E[R_1]-.05(E[R_3]-E[R_1])}{E[R_2]-E[R_1]}$, $w_1 = .95 - w_2$

[6] For those who enjoy math, let $\sigma_p, \sigma_1, \sigma_2, \sigma_3$ denote the standard deviation of returns from the portfolio, bonds, equities, and cash respectively, while $Cov(R_i, R_j)$ denotes the covariance between asset type i and j:

$$\sigma_p = \sqrt{w_1^2\,\sigma_1^2 + w_2^2\sigma_2^2 + w_3^2\sigma_3^2 + 2\,w_1w_2Cov(R_1,R_2) + 2w_1w_3Cov(R_1,R_3) + 2w_2w_3Cov(R_2,R_3)}$$





Graphs based on HCM Quarterly data between 12/31/02 and 6/30/12. Note**:** The MVF for the Barclays and S&P 500 composite is downward sloping in the 5-year graph because the Barclays Muni had both higher return and lower risk.

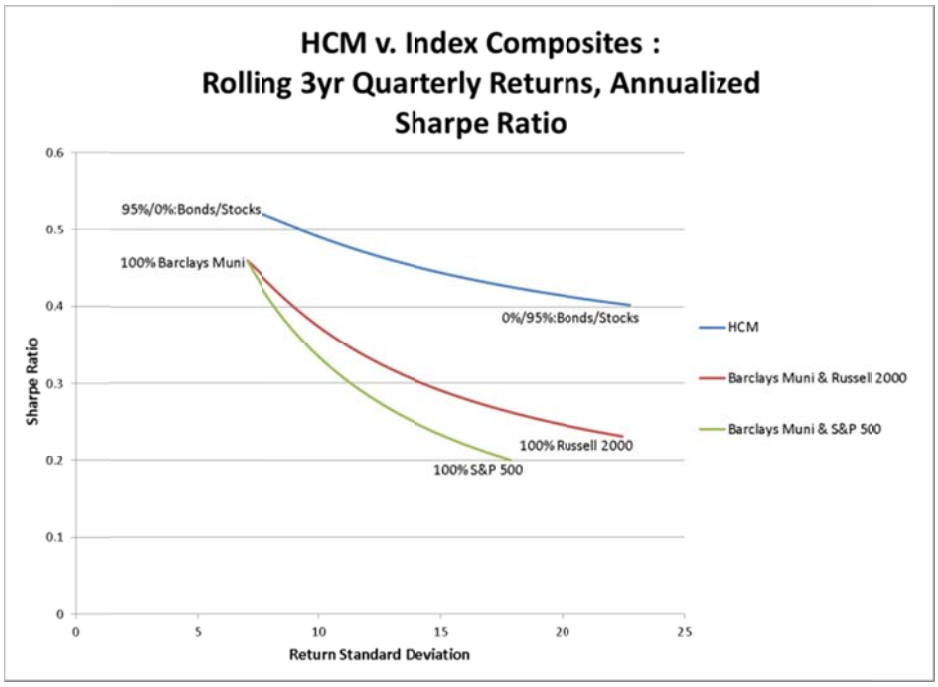
Discussion

As identified, the starting and ending points of each MVF correspond to complete concentration in one asset class (this corresponds to 95% for the Hamlin MVF given 5% cash reserves). Each interior point

along the MVF corresponds to a varying weighted allocation. The upward sloping nature in almost all of the MVFs demonstrates the trade-off between risk and return. The slight bow inwards -- an MVF's concavity – exhibits the benefits of asset class diversification[7].

A few, quick observations can be made. First, Hamlin's composite portfolio percentage returns is greater than the two market portfolios at every level of portfolio risk. Second, the slope of the Hamlin composite portfolio is steeper than the other two market portfolios[8]. As the allocation to stocks is increased in the Hamlin composite portfolio, the incremental unit of return is greater per unit level of risk compared to the market portfolios. In other words, Hamlin's historical return data show an increasing risk premium for risk seeking investors. These results are confirmed by both the rolling 3-year and 5-year data.

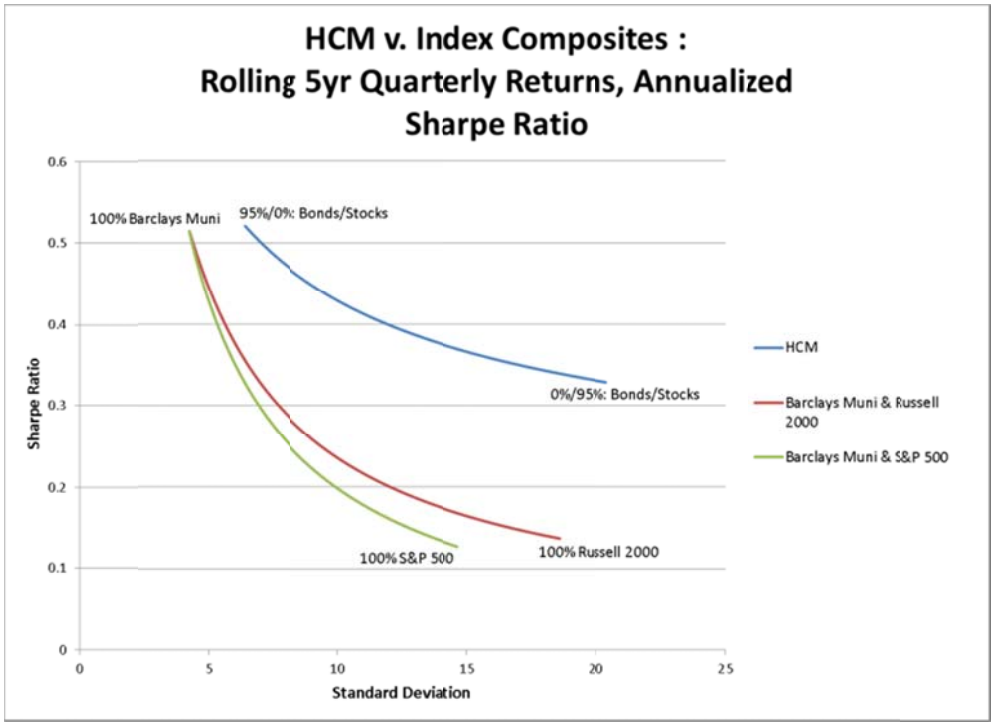
Perhaps another representation of the strength in Hamlin's returns can be found in the Sharpe Ratio. Using the 1 year T-bill (rolling and annualized) as the risk-free rate, we calculated the Sharpe Ratios for each asset weighted allocation along the MVF[9]. Graphing against the standard deviation of the weighted allocation gives the following graphs:



[7] A famous result from Markowitz's "Portfolio Selection," (1952).

[8] The range of offered portfolio risks may be in itself significant, given the misconception that long maturity, unrated revenue-bonds are inherently risky investments. Hamlin's credit analysis and market research reduces portfolio risk to a range that not only provides portfolios for the high-risk investor but also covers a risk-range comparable to those offered by index composites.

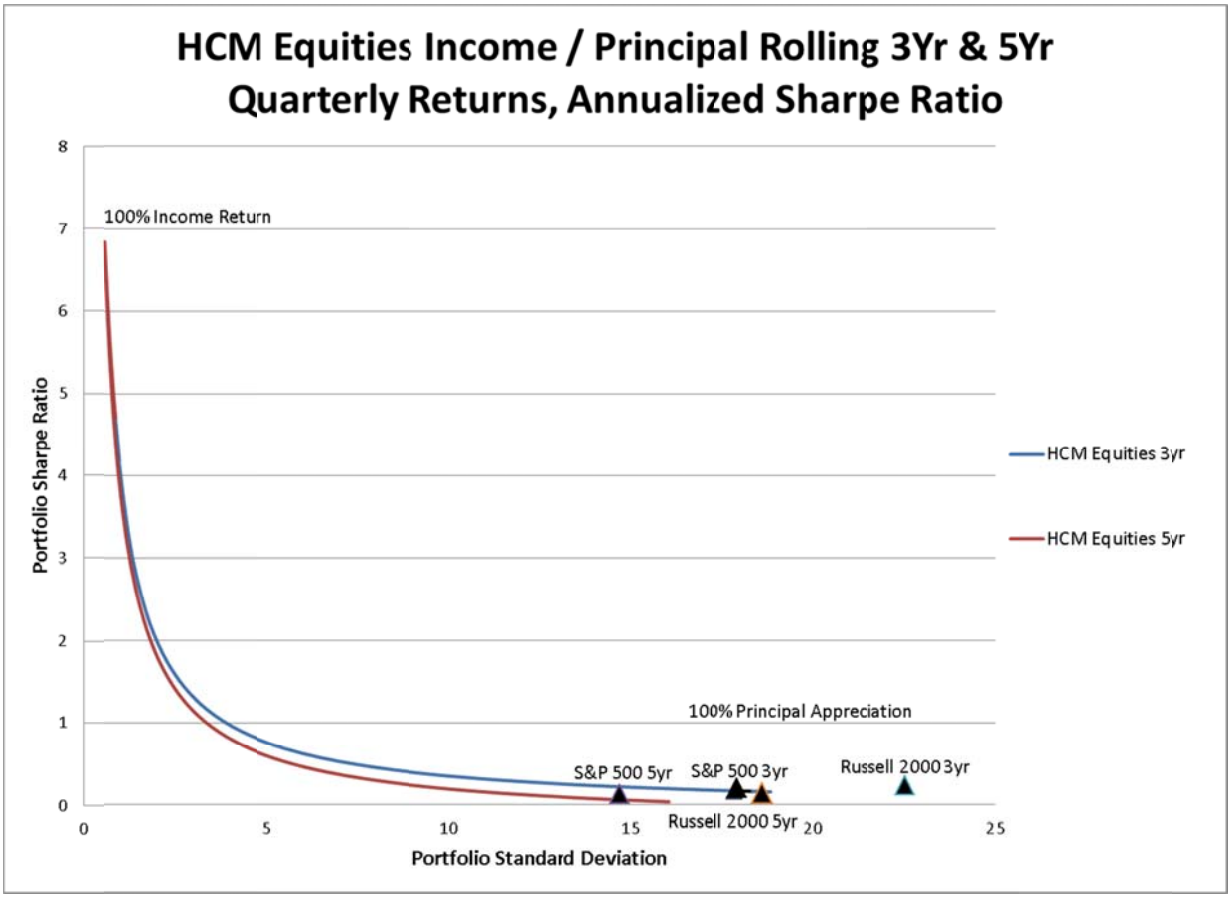
[9] Letting $E[R_i], E[R_f], \sigma_i$ denote the expected (average) return from an investment i, the expected (average) return from the risk-free investment, and standard deviation of the investment i: $Sharpe\ Ratio = \frac{E[R_i]-E[R_f]}{\sigma_i}$



In both data sets, Hamlin's composite portfolios have the absolutely highest Sharpe Ratios along the spectrum of bond/stock allocations (however modest the difference is for the 5-year annualized). However, the more significant result of the above analysis is the difference between Hamlin's Sharpe Ratios and the composite market indices' Sharpe Ratios for each risk level. This difference increases as investors take on riskier allocations – a risk premium for taking on more risk. The smaller range of possible Sharpe Ratios displays the consistency of Hamlin's risk-adjusted returns across all allocations and risk-levels.

We can extend this MVF analysis to demonstrate the robustness of Hamlin's income-oriented investment strategy relative to market portfolio strategies. Recall that total return is the sum of the income return and principal return. Just as Markowitz's MPT is used to decide allocations between two assets of different risk-return profiles, we can extend this framework to understanding a conceptual choice between return and risk from income capture and principal appreciation. Instead of breaking up a portfolio into its constituent assets, we break it up into its constituent return-generating components. Though an investor in reality cannot choose between allocations of income return and principal appreciation return, he or she can choose between high-income and low-income investment strategies. This choice justifies using the MPT framework. For Hamlin's Equity Portfolio, yield from the preceding quarter was used as a proxy for income returns while the remaining unexplained total portfolio return was a proxy for principal appreciation. This data gave the desired MVF.

This concept is solidified in graphing the risk of every portfolio along the MVF against that portfolio's Sharpe Ratio:



Note: Triangles denote historical Sharpe Ratios for the given benchmarks over the same time period as HCM Equities data.

Here, portfolios with lower risk correspond to a higher allocation of income; similarly, those with higher risk correspond to a higher allocation of principal appreciation. At all income allocations between 0% and 96%, the Sharpe Ratios increase as the portfolio fraction of income rises[10]. The dramatic increase in Sharpe Ratio as one allocates more return to income highlights the gravitational pull of income in reducing risk, confirming the adage – income smooth returns. Although there are realistic structural limitations on how much income versus principal appreciation an investor can 'choose,' the point is still relevant – historically, the more income, the better risk-adjusted returns. This follows from Hamlin's goal to seek a stable stream of cash income to compound at rates that is at least twice that found in the S&P500 index. Furthermore, the lack of correlation between Hamlin's Equity Portfolio quarterly yield (our proxy for income) and interest rates further exemplifies the lower volatility and higher Sharpe Ratio[11].

[10] The slight dip (though difficult to see in the graph above) in the 96%-100% range is explained by the strong negative covariance between income and principal appreciation. The dip suggests that a small amount of diversification may lower total portfolio risk.

[11] The correlation between Hamlin's Equity Portfolio yield and the 10-year Treasury yield was .066 for the time period 12/31/00 – 3/31/13. This correlation is statistically insignificant at p=.05 (and higher significance levels as well).

Summary

We illustrated within the Minimum Variance Frontiers that Hamlin's high income active management style achieved enhanced risk-adjusted return profiles versus the composite market portfolios. The rolling 3-year and 5-year weighted allocation composites between Hamlin's two strategies, high dividend equities and high yield tax-exempt bonds, showed that investors were compensated with higher risk premiums relative to market portfolios. Furthermore, although Hamlin's bond strategy offers higher risk-adjusted returns, Hamlin's equity strategy compensates investors with higher total returns for taking on more volatility. Our data show that Hamlin's active management strategies outperformed the market portfolios on a rolling 3-year and 5-year horizon and support the thesis that markets are not necessarily efficient.

We believe that the trends above stand as a testament to the power of high-income oriented investment strategies. Hamlin's emphasis on dividend-paying stocks and longer-term high yield tax-exempt bonds demonstrates our commitment to this investment philosophy.

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