Kelley vs. Buffett

1997-2012, would the Kelley Criterion outperform Warren Buffets 90-10 rule?

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**1. Motivation and Background**

Financial investment comes in two main flavors: active and passive. Actively managed investment portfolios use financial analysis to “optimize” their portfolios. Passive portfolios spread risk across many companies and allow the market average to dictate their returns. The active “optimized” portfolios will ideally provide returns greater than the market average, or passively managed portfolios. These increased returns will be passed to the investor, minus a management fee.

risk, high return).

This project will analyze an actively vs. passively managed index portfolio for long-term investors. The hypothesis is that actively managed portfolio will outperform the passively managed portfolio during long-term investment.

**2. Tools**

Historical market data will be used to determine all calculations. The stock prices and risk-free rate will be taken from Yahoo Finance. The data will be extracted, compiled, and analyzed using Python.

**3. Methods**

Two strategies will be compared. The Kelley Criterion (active) and Warren Buffet’s 90-10 rule (passive). The Vanguard 500 index (VFINX) will be the benchmark portfolio for both active and passive. Although not entirely passively managed, historically VFINX has a good representation of the S&P500 index returns.

The investment of capital will be weighted 100% in two different markets- stocks/VFINX (risky) and short term bonds (risk-free). The passive portfolio will be based on Warren Buffet’s 90-10 rule- 90% Vanguard, 10% risk-free government bonds. The active portfolio will invest X% into VFINX, and (100-X)% in risk-free bonds. The active portfolio percentages will be based on the Kelley Criterion and will be updated monthly via historical data.

The test will run from January 1st 1997 to December 31 2012.

**4. Resources**

[Kelly, J. L.](https://en.wikipedia.org/wiki/John_Larry_Kelly%2C_Jr.) (1956). ["A New Interpretation of Information Rate"](http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6771227). [*Bell System Technical Journal*](https://en.wikipedia.org/wiki/Bell_System_Technical_Journal)

Pabrai, Mohnish (2007), *The Dhandho Investor: The Low-Risk Value Method to High Returns*

“To the shareholders of Berkshire Hathaway Inc.”

<http://www.berkshirehathaway.com/letters/2013ltr.pdf>

Vanduard 500 index

<http://finance.yahoo.com/q?s=VFINX>