

How To Optimize Warren Buffett's Asset Allocation Advice

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In Berkshire Hathaway's 2013 annual letter to shareholders, Warren Buffett gave some retirement savings advice to investors. The Oracle of Omaha wrote in his letter to shareholders that he had given the trustee designated to manage the bequest his wife will receive, the following advice:

“What I advise here is essentially identical to certain instructions I've laid out in my will. One bequest provides that cash will be delivered to a trustee for my wife's benefit ... My advice to the trustee could not be more simple: Put 10% of the cash in short-term government bonds and 90% in a very low-cost S&P 500 index fund. (I suggest Vanguard's.) I believe the trust's long-term results from this policy will be superior to those attained by most investors – whether pension funds, institutions or individuals – who employ high-fee managers.”

Buffett's advice sparked a debate in the financial community. Many market commentators asked if this really was the most sensible asset allocation approach for retirees, or indeed any investors at all.

Javier Estrada at the IESE Business School, Department of Finance, Barcelona, Spain set out to answer this question in a paper titled, *"Buffett's Asset Allocation Advice: Take It ... With a Twist"*. In particular, the paper set out to answer the following question: *"Is the asset allocation Buffett advised for his wife appropriate for other investors? If yes, why? If not, why not?"*

The study considers several different variations of Buffett's recommendation. Eight static asset allocations with varying stock/bond proportions are evaluated, with particular attention to the 90/10 split suggested by Buffett. A further two minor dynamic strategies are also considered with valuation based twists. What's more, the study is designed around the needs and skills of the average retiree. For example, the dynamic strategies are trivial to implement, and the person managing the portfolio will only need information about the performance of stocks, or that of stocks and bonds, over the previous year, which is publicly and widely available.

Asset allocation: Data

The data used for the study is based on the two asset classes suggest by Buffett, stocks, and short-term US Treasury bills. Returns are annual, adjusted for inflation and account for capital gains/losses and cash flows. Over the 114 year period considered, from 1900 to 2014, stocks and US T-bills had mean annual compound real returns of 6.5% and 0.9%, with annual volatility of 20.0% and 4.6%. The test portfolio was rebalanced once a year and the study assumes an annual withdrawal is made proportional to the asset allocation.

The analysis is based on an initial capital balance of \$1,000, an initial withdrawal of 4% of the capital and subsequent withdrawals annually adjusted for inflation over a 30-year period.

Asset allocation: Results

The chart below shows the results of the eight static portfolios over the period studied.

Exhibit 1: Static Strategies

This exhibit shows summary statistics for eight static strategies evaluated over 86 rolling 30-year retirement periods, beginning with 1900-1929 and ending with 1985-2014. All strategies consider a starting capital of \$1,000, annual withdrawals of \$40 in real terms, and annual rebalancing to the stock/bond allocations indicated in the first row. The failure rate (Failure) is the proportion of the 86 retirement periods in which the portfolio was depleted before 30 years. The statistics that describe the distribution of terminal wealth across the 86 retirement periods include the mean; median; standard deviation (SD); average bequest in the lower 1% (P1), 5% (P5), and 10% (P10) tail; and average bequest in the upper 1% (P99), 5% (P95), and 10% (P90) tail. Returns over the 1900-2014 period are annual, real, and account for capital gains/losses and cash flows. All figures in dollars except for failure rates (in %).

Stocks/Bonds	100/0	90/10	80/20	70/30	60/40	50/50	40/60	30/70
Failure	3.5	2.3	2.3	1.2	0.0	1.2	3.5	12.8
Mean	3,232	2,638	2,116	1,661	1,267	930	647	423
Median	2,881	2,485	2,005	1,494	1,129	746	557	282
P99	12,064	8,625	5,990	4,011	3,208	2,493	1,875	1,355
P95	10,882	7,820	5,529	3,943	2,837	2,161	1,613	1,196
P90	8,997	6,695	4,930	3,620	2,647	2,007	1,507	1,104
SD	2,747	2,022	1,476	1,073	786	589	456	352
P1	0	0	0	0	2	0	0	0
P5	20	42	58	86	93	38	1	0
P10	182	219	236	241	204	152	36	0

Asset allocation results

Figures indicated that strategies with equity holdings between 100% and 40% have similar failure rates, but when the allocation of stocks rises above 30% failure rates increase considerably; to above 10% in most cases. Although there are varied opinions regarding what is an acceptable failure rate, most practitioners seem to agree that failure rates below 5% should be viewed as acceptable by most retirees. Upside potential is measured by the mean, median, P90, P95, and P99. Downside protection is measured by both P5 and P10. The author concludes with test with the observation that:

"...although the 60/40 strategy never failed, the 100/0 and 40/60 failed 3.5% of the time, and Buffett's 90/10 failed 2.3% of the time, there does not seem to be a substantial difference in the failure rates of portfolios holding at least 40% in stocks."

"...as far as static strategies is concerned, Buffett's suggested allocation has a very low (although not the lowest) failure rate; a very high (although not the highest) upside potential; and provides very good (but not the best) downside protection when tail risks strike. Put differently, Buffett's suggested allocation seems to provide a middle ground between the best performing strategy (100/0) in terms of upside potential and the best performing strategies (60/40 and 70/30) in terms of downside protection."

Adapting Buffet's advice

Javier Estrada goes on to look at two different dynamic asset allocation strategies, which are based on the static strategy recommended by Buffett, but with a few changes.

The first change [T1] relates to the annual withdrawal to the behavior of the stock market in the previous year. If stocks have gone up, the retiree takes the annual withdrawal from stocks and then rebalances the portfolio back to the 90/10 allocation. Conversely, if stocks have gone down, the retiree takes the annual withdrawal from bonds and does not rebalance the portfolio.

The second change [T2] relates the annual withdrawal to the relative behavior of the stock and bond markets in the previous year. Just like adoption above, if stocks have gone up in the previous year, (more so than bonds) this change calls for the retiree to take the annual withdrawal from stocks and then rebalances. However, if the returns from bonds have exceeded those from stocks over the previous twelve months, the retiree takes the annual withdrawal from bonds but does not rebalance.

Exhibit 2: Tweaking the 90/10 Allocation

This exhibit shows summary statistics for four strategies evaluated over 86 rolling 30-year retirement periods, beginning with 1900-1929 and ending with 1985-2014. All strategies consider a starting capital of \$1,000, annual withdrawals of \$40 in real terms, and annual rebalancing. The two dynamic strategies consider the behavior of stocks (T1) and the relative behavior of stocks and bonds (T2) in the way stated in the text. The failure rate (Failure) is the proportion of the 86 retirement periods in which the portfolio was depleted before 30 years. The statistics that describe the distribution of terminal wealth across the 86 retirement periods include the mean; median; standard deviation (SD); average bequest in the lower 1% (P1), 5% (P5), and 10% (P10) tail; and average bequest in the upper 1% (P99), 5% (P95), and 10% (P90) tail. Returns over the 1900-2014 period are annual, real, and account for capital gains/losses and cash flows. All figures in dollars except for failure rates (in %).

	90/10	T1	T2	60/40
Failure	2.3	2.3	2.3	0.0
Mean	2,638	2,726	2,711	1,267
Median	2,485	2,605	2,534	1,129
P99	8,625	8,683	8,770	3,208
P95	7,820	7,919	7,881	2,837
P90	6,695	6,817	6,751	2,647
SD	2,022	2,037	2,011	786
P1	0	0	0	2
P5	42	110	110	93
P10	219	284	300	204

Asset allocation results

As the author observes, results of the two twists considered are very similar. T1 has a slightly higher overall upside potential, and T2 provides a slightly better overall downside protection. Both T1 and T2 outperform the 90/10 allocation. Although, the three strategies have the same failure rate (2.3%). T1 and T2 provide retirees with both a higher upside potential (as measured by the mean, median, P90, P95, and P99) and better downside protection (as measured by both P5 and P10) than the 90/10 allocation.

Conclusion

Overall then, Buffett's asset allocation advice is sound and simple. However, for those retirees that are concerned about holding such an aggressive portfolio, the two aggressive strategies may offer better returns. The author of the paper concludes:

"...the two simple twists considered here improve both the upside potential and the downside protection of the 90/10 allocation. These two twists require retirees neither to collect vast amounts of information nor to make any valuation judgments but only to observe the performance of the stock market, or the relative performance of the stock and bond markets."

"Either way, retirees can, with little effort, improve upon the results of the 90/10 allocation. In fact, because the performance of the two twists considered is so similar, retirees may want to lean towards the first one (T1) and simply adjust their asset allocation according to the observed performance of stocks."

"...those retirees that find a 90/10 portfolio acceptable are likely to find that with an insignificant additional effort, observing the performance of stocks and implementing the first twist discussed, they are likely to improve the performance of their portfolios."

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