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Editors' Pick

Portfolio Strategy

# Why Buffett's 90/10 Allocation Drubs The 60-40 Portfolio - Especially With Rising Inflation

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## Summary

- The 60-40 portfolio no longer works, and in reality, never worked as advertised. Except briefly in the 1930s bonds were neither uncorrelated nor safe.
- Volatility may not be a good way to define risk. Buffett has always defined risk as permanent loss of capital. Inflation creates heavy pressure to define risk the right way.
- While the basic principle of diversification works, bonds are flawed diversifiers; the best bond returns align with very good years for stocks because the underlying driver is the same.
- Stocks incorporate inflation in their returns and benefit from internal compounding, while bonds offer only regular cash payments and are highly vulnerable to inflation.
- Buffett prefers 90% stocks and zero bonds, especially at the present moment; his cash is either necessary to Berkshire's insurance businesses or belongs to its equity "bucket."



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"Stocks are probably still the best of all the poor alternatives in an era of inflation - at least they are if you buy in at appropriate prices." Warren Buffett, 1977

For several decades academic research has touted the 60/40 portfolio and most other portfolios with a significant bond allocation. For quite a while this approach worked, or seemed to, though not exactly because of the premise on which it was based. Meanwhile, since 2013 and by implication much earlier, Warren Buffett has revealed an opposing view through his actions. His implicit premise would be pretty close to All Stocks All The Time. So it's academia and Vanguard versus Buffett and street smarts. Borrowing the name of a once popular TV show, Who Do You Trust? (Or was it Whom?)

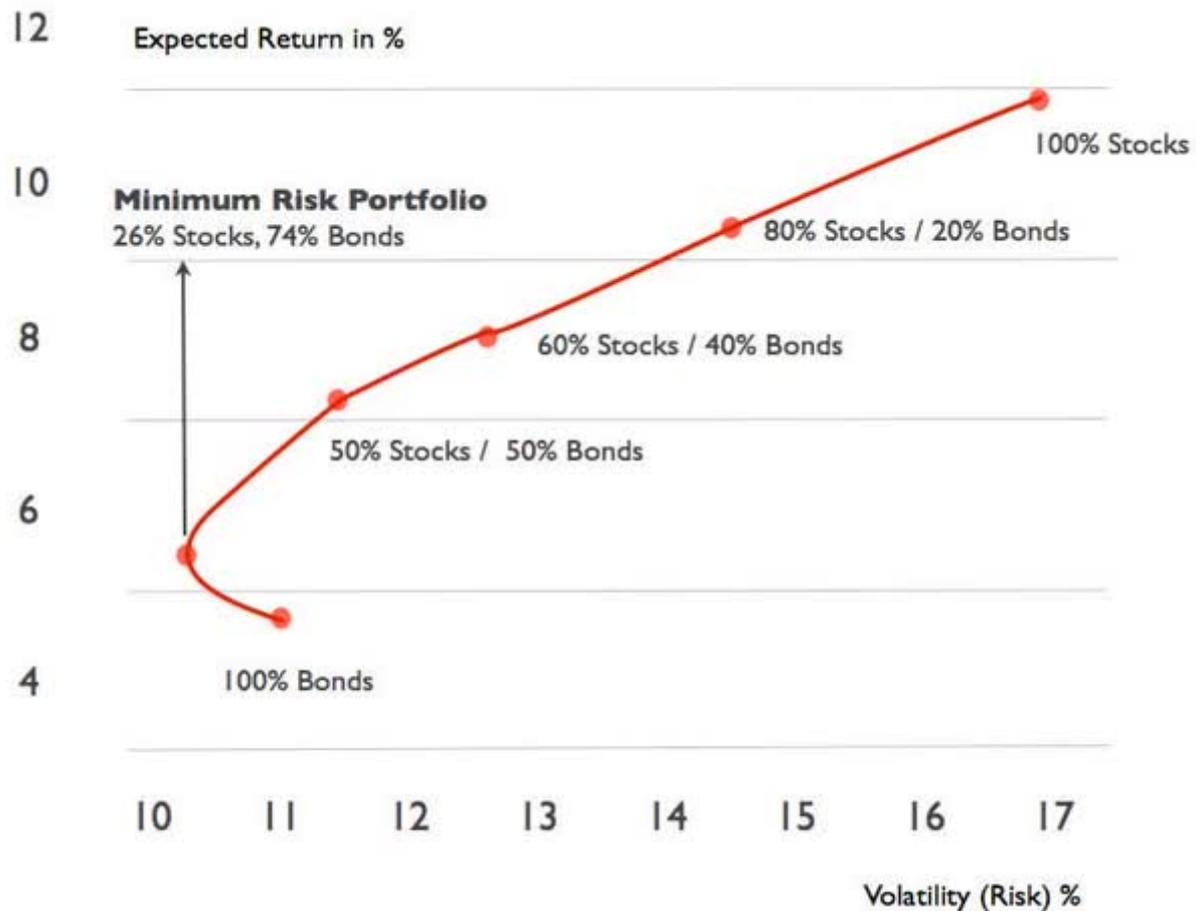
Our two goals as investors are safety and return. It's that simple. You can make it as complicated as you want, but in the end, it comes back to those two factors - risk and return. That's why the broad strategy we call the 60-40 portfolio succeeded as well as it did for as long as it did. Its great innovation was introducing risk as an important factor - or seeming to. Before the famous Harry Markowitz paper ("Portfolio Selection," *The Journal of Finance*, March 1952) the now obvious fact that risk is a part of investing had never really occurred to anybody. It took a quantitative thinker to figure that out. He got a belated, but well-deserved Nobel Prize for it in 1990.

Before taking the 60-40 portfolio apart it should be pointed out it was never really a simple 60-40. The 60-40 allocation was just one of the points at which risk and return coincided as a point on the Markowitz curve for Efficient Frontier. What it provided was a comfortable middle ground among all possible asset mixes. What made it popular was the fact that it appeared to work perfectly for investors with a moderate willingness to accept risk. They could feel comfortable at times of stock volatility. The 60-40 version reflected a modest bias toward stocks - shifting 10% to the right side of the graph from 50-50. That makes intuitive sense because stock return is higher than bond return.

In an often-cited Jason Zweig interview (*Money Magazine*, January 1998) Markowitz alluded to his own personal asset allocation as being 50-50, saying the following:

I should have computed the historical co-variances of the asset classes and drawn an efficient frontier. Instead, I visualized my grief if the stock market went way up and I wasn't in it-or if it went way down and I was completely in it. My intention was to minimize my future regret. So I split my contributions 50/50 between bonds and equities."

The Markowitz quote has become legendary. Zweig later explained that it was taken out of context. Markowitz explained years after the fact that the 50-50 allocation was what he *had* been using *before* doing the calculations required by his thesis. What stuck, however, was the behavioral element - investing to minimize "grief" when on the wrong side of the market. Let's accept that Markowitz knew better, but his explanation contains a deep underlying truth. I suspect that a very large number of investors settle on an allocation which makes them *feel* safe. We should perhaps give Markowitz credit where it's due. What makes us *feel* good may be the most underrated of life principles. Most people live their lives to minimize regret. Here's a popular representation of the "efficient frontier" using the two major factors - stocks and bonds:



Data Source - JJ Abodeely - Sitka Pacific Capital

Two important questions sneak in under the radar:

1. Bonds are in theory your safe asset with which you sacrifice a bit of return for greatly reduced risk. But look at the vertical line defining the Minimum Risk Portfolio as 26% stocks and 74% bonds. Additionally, and perhaps more important, you can increase return by 30-40% by ramping up the stock allocation by a similar amount with little or no increase in risk.
2. And what is "risk" anyway? From an academic perspective "risk" is volatility, which is not surprising because volatility is easy to quantify. You can attach very specific numbers to the probability of various levels of volatility. But is volatility really a satisfactory proxy for "risk"? Unless your portfolio is vulnerable to sequence-of-return risk, as in retirement withdrawals or a fund which may be needed for hard-to-predict emergencies, volatility really has much less weight than the academic approach attaches to it. If you are down big for a year you can address that problem by posting a large note on the wall **STOCKS WIN IN THE LONG RUN**. Buffett's approach focuses on the correct temperament for investors

and his view of risk if grounded in street smarts: **ACTUAL RISK IS PERMANENT LOSS OF CAPITAL.**

## Was The Underlying Academic Premise Sound?

Markowitz was clearly right about one thing. Owning two different and uncorrelated assets - for example, a farm or a cellar of fine wines versus a portfolio of financial assets - reduces the level of risk for either asset taken separately. They may correlate slightly because of sharing some sensitivity to economic conditions, but over long periods they probably rise and fall in value at different times. The main point of the Markowitz argument, however, had to do with bonds versus stocks, sometimes sliced into smaller elements such as large caps and small caps or growth and value. For practical purposes, however, it's stocks versus bonds, period. That's the basic juxtaposition used for decades by Vanguard in its list of possible portfolio allocations which were frequently represented by colorful pie charts. It's also the underlying principle of Vanguard Target Retirement portfolios and similar Life Cycle offerings by other investment firms. All begin stock heavy and end up bond heavy at retirement.

The numbers for return and volatility reflect long-term averages starting in 1926. The reason is that earlier data wasn't collected as rigorously as it was beginning in 1926 so that an effort to begin at an earlier time would be misleading. It's the same reason that the famous and widely accepted Roger Ibbotson/Peng Chen study ("Stock Market Returns In The Long Run," March 2002), begins with that date. Ibbotson and Peng studied risk premium and the composition of stock returns from 1926 through 2000, and their study was later extended in stages to 2020, by which year it covered 95 years of data.

The Vanguard presentation of particular points on the Efficient Frontier curve were presented with colorful pie charts and was labelled in clusters of ascending stock allocation for Income, Balanced, and Growth investors. Those categories are highly artificial and designed to assuage fears and help all investors feel good. For the sake of space and easy comparison I am presenting the same information in the form of the table below. It covers the years 1926 through 2020, using updated Ibbotson/Chen data. The numbers for best and worst annual returns are rounded to fit space limitations for the table:

Allo- cation	100% Bonds	20/80	30/70	40/60	50/50	60/40	80/20	90/10	100% Stocks
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Avg Return	6.1%	7.2%	7.7%	8.2%	8.7%	9.1%	9.8%	10.0%	10.3%%
Best Year	46% (1982)	41% (1982)	38% (1982)	36% (1926)	34% (1982)	37% (1933)	45% (1933)	51% (1933)	54% (1933)
Worst Year	-8% (1969)	-10% (1931)	-14% (1931)	-18% (2020)	-22.5% (1931)	-27% (1931)	-31% (1931)	-39% (1931)	-43% (1931)
Years Loss	19 of 95	18 of 95	18 of 95	19 of 95	20 of 95	22 of 95	24 of 95	24 of 95	25 of 95

The above table was designed to convey the idea that an investor could reduce risk with relatively small reductions in average return. This is accomplished by turning the dial backward to increase the percentage of allocation to bonds. After all, bonds are the "risk-free" asset. They are supposedly uncorrelated to stocks. Adding bonds therefore produces a combined portfolio with reduced risk. It obviously works best in IRAs or other tax-advantaged accounts for which selling to rebalance has no tax cost. Subtracting the lower bond return from the annualized stock return gives you the magic number referred to as the "risk premium."

The risk premium is the amount of surplus return investors require for stocks in order to justify their greater risk. It is important to remember that it is a number backed into after the fact and explained to account for other numbers. In the above table you calculate it simply by subtracting the long-term average bond return (6.1%) from the long-term average stock return (10.3%). The difference is the long-term risk premium of 4.2%. That is the amount of return sacrificed in order to avoid grief in the event of catastrophe or, by the alternative view, to enable you to sleep well at night. If that sounds a little like the later recanted explanation of Harry Markowitz for his 50-50 portfolio, well, it is.

What a bond allocation actually does is more or less assure lower returns. The one exception is in a severe deflationary period like the 1930s when owning bonds served to pay you about 3.5%. From 1930 to 1932, while stocks were being killed, the prices of most goods were also going down. The CPI fell at an annual average rate of roughly 10%. For those three years bonds were a great asset. Cash buried under a mattress was also a great asset, bank accounts not so much. Many banks failed. The collapse in prices meant that anything that held its value went up phenomenally - but briefly, and only that once. The extreme outperformance by bonds and cash waned by 1933 when stocks started to bounce back. That fact is visible in the prominence of 1933 on the line containing "Best Years" in the table above going all the way forward to the present day. Otherwise, bonds have been a loser and a drag on returns.

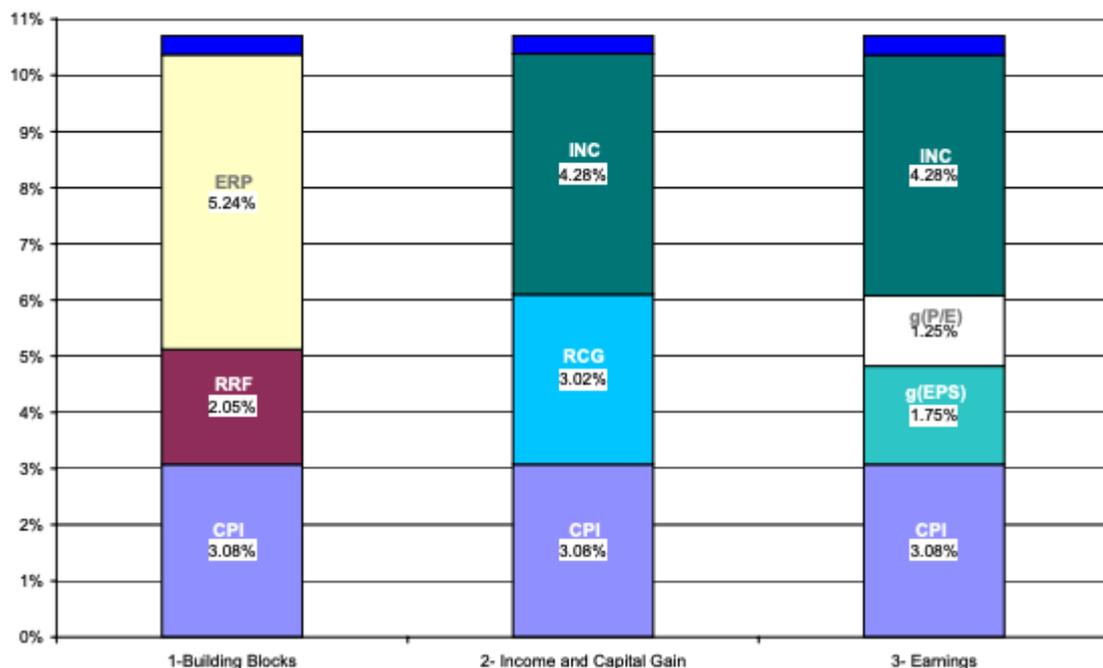
The major positive impact bonds have had on risk has been to provide negative leverage. This dampens "risk" defined as volatility - the nail-biter risk that Markowitz used his own case to define so accurately. It does not reduce risk for the long-term buy-and-hold stock investor who rarely looks at her portfolio. The pronoun used here is more than a nod toward being politically correct. Many studies show that women beat men as investors in part by not looking at their portfolios frequently and trading infrequently.

Damping down volatility is very different from actually reducing risk in the more down to earth sense. That's true only during the rare phenomenon of intense and somewhat sustained deflation. The event during which bonds clearly stand out - in a very negative sense - is the flip side of deflation - sustained and intense inflation. Note that the only Worst Year in the above chart other than 1931 (when stocks were falling steeply and relentlessly), was the 100% bond allocation in 1969. Stocks weren't having a particularly good year (down roughly 10%), but bonds - 100% bonds - were being crushed. The disaster had such a deep impact on the markets that people in the industry began to say that what bonds provided for your portfolio was not risk-free return, but "return-free risk." They were sometimes called "certificates of confiscation."

## **Why Stocks Are The Winners: Buffett's View**

The Ibbotson/Chen study which had so much impact on our way of looking at risk and return had a tremendous amount to say about stocks, but very little to say about bonds. What drove bonds was all too obvious, interest rates, which are themselves driven by inflation rates. Interest rates and inflation rates move from low to high and back again. Stocks trend upward in the long run with ups and downs around the trend. Stocks are negatively impacted by inflation rates, but they have other qualities that bear upon their returns. Those "other qualities" are the essence which makes stocks what Buffett called "equity bonds." Stocks are in effect bonds which are perpetual and offer a rising coupon, while the main virtue of bonds is that Treasuries are totally safe and corporates are higher than stocks on the capital structure and thus less likely to fail to make payments or go to zero when times are tough. The bar chart below was the simplest of several by which Ibbotson and Chen laid out the drivers of long-term stock return. It deserves close attention.

**Figure 1: Decomposition of Historical Equity Returns 1926-2000**  
 Geometric Mean = 10.70%



The three bars represent three ways of looking at the composition of stock returns. The first thing to note is that all three have the same base, inflation as represented by the CPI (Consumer Price Index). Stock returns are sometimes represented as *real* (inflation subtracted out) and sometimes as nominal (inflation included). Whether inflation hurts, helps, or is neutral to stock returns is controversial, even Warren Buffett himself is not perfectly clear and consistent on the subject, but the consensus tilts toward it helping at least to some degree. Historian Frederick Taylor's book on hyperinflation in Germany in the early 1920s ([The Downfall of Money](#)) describes the way creditors and savers were absolutely killed while owners of farms, factories, and stocks kept up with rising prices and even profited. The Ibbotson/Chen bar charts take as an assumption that stocks in the aggregate have nominal returns incorporating the long term 3% average for inflation.

Stacked above inflation in the first bar is the real risk-free rate (RRG) which is average bond return less CPI, and the Equity Risk Premium (ERP), a number which is more or less backed into by subtracting CPI and RRG from Equity Return. The second bar looks directly at stock returns, stacking Real Capital Gains and Dividend Income above CPI. The third bar replaces Real Capital Gains with the element which generates them, growth in earnings per share and growth in P/E ratio per share. The small top line in all three cases supposedly represents "reinvestment" but actually seems mainly a corrective to rounding error in order to get to 100%.

The Vanguard table of the range of stock/bond allocations presents both stock and bond returns in nominal terms. To get real returns you would subtract 3% from both the 6.1% for bonds and the 10.3% for stocks. The bar charts above point up an important difference between stocks and bonds which should always be remembered. The nominal bond return is simply cash (including any capital gains/losses from selling before maturity). The inflation rate is simply the bondholder's problem, something that must be endured in the lower purchasing power of cash returns. Stocks on the other hand contain internally a reflection of inflation rates - it's right there at the bottom of the totem pole on all three bar charts. Stocks, to a far greater degree than bonds, have some control over their own destiny in terms of purchasing power provided. Only deflation catches them flat-footed with no good immediate answer as in the 1930s.

In his famous May 1977 [Fortune article](#) on this subject (*How Inflation Swindles The Equity Investor*), Buffett produces the greatest analysis of the internal workings of an American corporation that I personally know of. He chronicles the slow recognition of the power of internal compounding investors came to recognize in the 1950s, something I myself noticed as a boy in the gradually rising price earnings multiples. The fact that companies could do so well by reinvesting retained earnings led investors to triple the price-earnings (P/E) ratio of stocks in the aggregate between 1946 and 1966 and raise the price-to-book-value (P/B) from 1.33 to 2.20.

One thing that Buffett does not mention in the article, but which is very much consistent with his view of the 1950s, is that the dawning discovery of internal compounding literally reversed a major relationship between stocks and bonds. From the beginning of good records (1926) stocks had always had a higher cash yield than bonds. Stocks were thus both speculative vehicles, as they were depicted in Jesse Livermore's *Reminiscences of a Stock Operator*, and income investments, also represented in Livermore's frequent discussion of the importance of dividend increases or decreases.

All that ended in 1958 as the power of reinvested earnings became apparent and growth investing was popularized that same year by Phil Fisher's *Common Stocks And Uncommon Profits*. The year 1958 is one of the least recognized major turning points in financial history. Stocks reduced or even eliminated dividend payouts in order to reinvest more of their cash flow. Stock dividend yields sank below bond yields for the first time ever. Many savants called it a fluke and predicted that it would quickly reverse itself. That reversal didn't take place for 50 years, in the depths of the 2008 financial crisis when the Fed pushed interest rates down to zero. It has gone back and forth since. Here's a chart of the reversal in 2008:



This power of internally generated growth is what led Buffett to his description of stocks as "equity bonds." The "equity" part of it is represented by the several parts of the above bar charts which bonds do not possess. Writing in 1977, in the final stages of the huge inflation run-up of the 1970s, Buffett appears at times to underestimate or not fully recognize the adjustment many companies were able to make (unlike such industries as utilities which were caught flat-footed by heavy debt within a capital-intensive structure). His overall conclusion clearly supports the case that equities possess virtues which credit instruments (bonds) do not. Here's the final paragraph of the Buffett bio provided at the end of the article, the last line of which speaks with clarity and force as we move toward a situation analogous in some ways to the later 1970s:

And why does a man who is gloomy about stocks own so much stock? "Partly, it's habit," he admits. "Partly, it's just that stocks mean business, and owning businesses is much more interesting than owning gold or farmland. Besides, stocks are probably still the best of all the poor alternatives in an era of inflation - at least they are if you buy in at appropriate prices."

What inflation does to harm stocks is mainly in the area of price-to-earnings (P/E) and price-to-book-value (P/B) compression. It is external - how stocks are priced - more than internal. During the 1970s the major elements of the 1950s ran in reverse, with P/E and P/B ratios declining sharply. By the end of the 1970s, stocks were almost as cheap as they had been in the early 1930s. Buffett chronicles this in the 1977 article but stops before attempting to provide a formal thesis. His actual answer was simple common sense - not so common, I suppose, because nobody else seemed to possess it. The late 1970s were a great time to load up on stocks and you had several years to do it.

## **Bonds And Stocks From 1982 To Now**

The late summer of 1982 was another major turning point in financial market history. Henry Kaufman's recent book, *The Day The Markets Roared*, documents the date (August 13, 1982), when Fed Chair Paul Volcker declared victory in the war on inflation, cut rates, and set off a huge bull market in both bonds and stocks which has continued to this day. The hero of Kaufman's book was, not surprisingly, Henry Kaufman, but with a nod to Volcker. The bond bull market that followed, it should be said, was slightly less vigorous but smoother than the stock bull. Returns of the two asset class have been within a percentage point or two for almost 40 years. The leadership has switched back and forth as stocks have periodically experienced temporary catastrophes (1987, 2000, 2008) from which they recovered within reasonable periods. Taking the long view this does not look like non-correlation.

The prominence of the year 1982 as the top year for heavily bond weighted portfolios may be the single most important number on the Vanguard/Ibbotson table. Beginning that year, the performance of bonds supported a similar move in stocks. They were, in short, highly correlated. This runs counter to the usual view of their relationship. Stocks and bonds have both been great in the 40-year perspective, but as usual stocks have had much greater volatility. Dedicated buy-and-hold investors did extremely well with stocks and had no need for bonds.

Put another way, 1982 was the flip side of 1932. Looking back at economic and market history you can divide the experience of the past 90 years into two eras - the long rise of rates and inflation for 50 years starting in the 1930s and the long fall of rates and inflation from 1982 to the present. Bonds were terrible in the first era, excellent in the second. Taking the long view stocks did well in both eras. The key fact about 1982 is that stocks and bonds blasted off at the same time and continued to do so, more or less, for almost 40 years up to this moment.

The close correlation of stocks and bonds since 1982 makes bonds appear to have very substantial returns compared to stocks, despite impressive stability. It also suggests strongly that the primary force driving stocks and bonds was the same - persistently falling inflation and interest rates. Falling rates are a pure and simple matter of arithmetic for bonds, a simple positive which is not just the main thing but the *whole* thing. For stocks it's a bit more complicated. A number of factors tied in with disinflationary forces aren't positive for stocks, poor demographics and falling population growth being among them. Some factors, like advancing technology, combine elements of growth with a disinflationary drag.

The all-important denominator when summing the present value of all future stock returns is the main factor shared with bonds, taken directly from simple bond math. It's the reason long-term growth stocks tend to do best followed by dividend and dividend growth stocks. It's also the key to the fact that sooner or later the extremely powerful combined bond/stock mega-bull is going to run in reverse. Buffett clearly keeps a careful watch on this phenomenon. Here's what he told Becky Quick in the course of the annual CNBC interview following the release of his 2017 Shareholder Letter:

*Buffett: Well... I've been talking this way for quite a while, ever since the fall of 2008. I was a little early on that actually. But I don't think you could time it. And we are not in a bubble territory or anything of the sort. Now, if interest rates were 7 or 8 percent, then these prices would look exceptionally high. But you have to measure, you know, you measure everything against - interest rates, basically, and interest rates act like gravity on valuation. So when interest rates were 15 percent in 1982 they'd pull down the value of any asset. So, what's the sense of buying a farm on a 4 percent yield basis if you can get 15 percent in governments? But measured against interest rates, stocks actually are on the cheap side compared to historic valuations. But the risk always is, is that - that interest rates go up a lot, and that brings stocks down. But I would say this, if the ten-year stays at 230, and they would stay there for ten years, you would regret very much not having bought stocks now."*

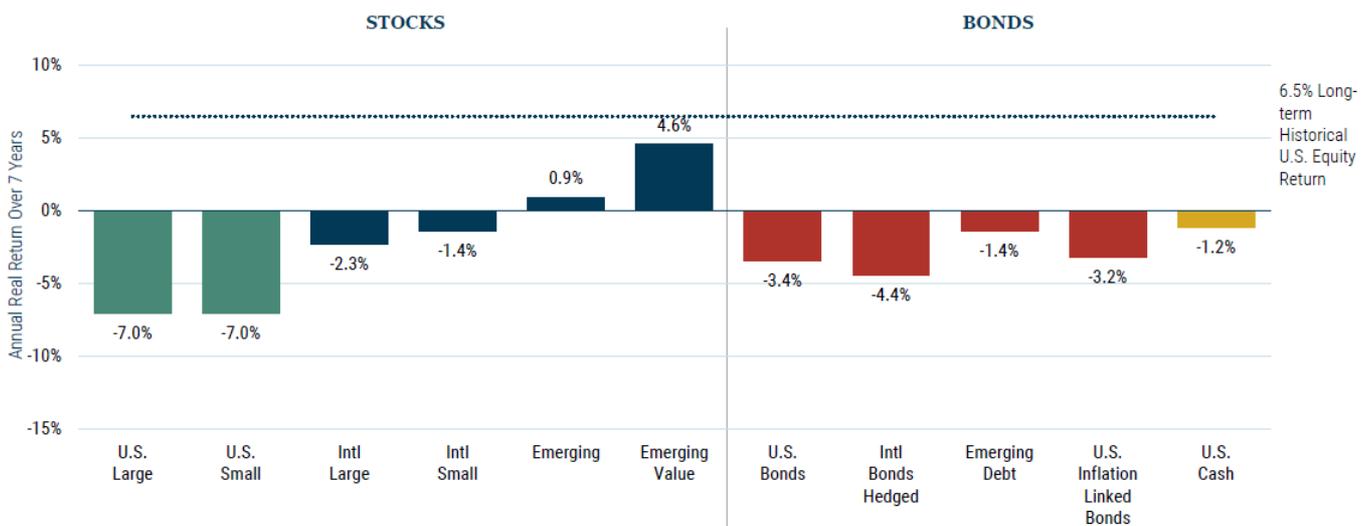
What Buffett is saying, in a very common sense way, is that a dual mega-bull in stocks and bonds is a great thing as long as you are confident that it will continue for a while, but when it comes to an end, look out below. What do you want to be holding then? The only answer is the same one he gave in 1977: "stocks are probably still the best of all the poor alternatives in an era of inflation - at least they are if you buy in at appropriate prices."

If you read carefully and read a bit more between the lines, you will have full understanding of Buffett's actions and sometime inaction over recent years.

## **60/40 Is Clearly Broken, So Now What?**

We live our lives forward rather than backward. The one true description of what back studies like the Ibbotson/Vanguard tables could do for you is if you could travel ninety-five years backward in time you would know exactly how to invest your money conservatively with decent return. At the present moment, however, there is a big problem with the basic premise of the 60/40 portfolio. The problem is in three parts: the 60 part, the 40 part, and the way the two parts are supposed to interact.

Return prospects from the present moment are miserable for both bonds and stocks at every allocation level. They may not remain miserable forever, but they are miserable right now. Just for the sake of argument I'm going to present the most recent 7-year projections by GMO for the return of various asset classes. They may seem draconic and extremely negative. GMO has a popular reputation for being either very early or very wrong, although its major market calls have been right often enough and soon enough to be worth paying attention to. In the present case, they are not as far removed from very mainstream opinions as they sometimes are. Bank of America brokerage, about as mainstream as it gets, recently came out with the view that ten-year returns could well be zero while Jeremy Siegel, author of *Stocks For The Long Run* and almost always a bull, recently forecasted a major market crack-up as a result of rapidly rising rates. Have a look at the September 30, 2021, seven-year real return estimates of GMO for several asset classes. Remember that inflation, which the numbers do not include, is expected by GMO to return to 2.2% within 15 years - somewhat longer than GMO has previously used. Which asset classes do you wish to own and in what proportion?



One thing I'm pretty sure of is that you don't want to own a 60/40 allocation of stocks and bonds. If GMO should prove to be right, that would give you, let's see, 0.6 times -7% (-4.2%) plus 0.4 times -4.4% (-1.76%) summing to -5.96%. Annualized. Before further subtracting. Cash actually looks better. In terms of cash returns, dividends and interest, there's not a lot of difference between average S&P 500 stock dividends and the yield of the 10-Year T-Note.

## Buffett's Surprising Bequest

Buffett's actions are often more powerful than his words. The following paragraph in Buffett's 2013 Annual Shareholder [Letter](#) caused quite a stir:

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. (I have to use cash for individual bequests, because all of my Berkshire shares will be fully distributed to certain philanthropic organizations over the ten years following the closing of my estate.) 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.

The above paragraph was presented in context of simple advice to ordinary Joe investors as a way to put aside and forget a diversified long-term investment. As I observed in an [earlier article](#), the immediate response was surprise that Buffett chose the S&P 500 index rather than finding a way to leave the 90% for his wife in shares of his own Berkshire Hathaway ([BRK.A](#)) ([BRK.B](#)). The single sentence concerning his philanthropic commitments actually serves to explain that. The powerful statement contained in Buffett's bequest is not the particular vehicle, but the choice of a diversified portfolio of proven large cap stocks over all other options. A 90% commitment to stocks is sometimes presented to young people just starting, but it is much less common as a suggestion for retirees who will presumably need to draw down their portfolios at a substantial and increasing rate. That raises the question of sequence-of-returns risk, having to withdraw a fixed amount when stock prices are down. That would be a real thing for Harry Markowitz to lose sleep over.

Buffett and his wife are different, of course. I won't speculate about absolute numbers, but I am confident that she will not have to worry as to whether a 5% drawdown might be okay for a year or two. What I do have is an amusing mental image of Buffett with the attorney setting up his will jotting on the back of an envelope for about twenty seconds and saying, and oh, for my wife, let's say 90% in the S&P 500 and 10% in T-Bills and maybe an annual rebalance. That may not be quite accurate but my guess is that it captures the spirit of it.

The amazing fact is that the 90/10 allocation strategy which Buffett chose for a bequest to his wife actually seems to work for retirees in more ordinary circumstances. **Javier Estrada**, a Professor at the prestigious IESE Business School at the University of Navarra, Spain (locations in Madrid and Barcelona), published a paper ("Buffett's Asset Allocation Advice: Take It...With A Twist," October 26, 2015) based on the series of 30-year periods from 1900 to 2014. It presumed a withdrawal rate of 4%. Failure is defined as running out of money within a 30-year period. Here's a table showing the results:

### 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

Surprisingly the failure rate of Buffett's 90/10 portfolio was only 2.3%. Even more surprisingly the 90/10 portfolio had a far lower failure rate than 40/60 and 30/70 portfolios. These are the equity allocations almost universally recommended for individuals nearing retirement or already retired. The allocation of Vanguard's Target Retirement fund for those age 65 in 2015 is 40% equity/60% bonds.

Dropping the equity allocation to 80%, the equity level of Vanguard's most aggressive Target Retirement fund, might appear to provide a bit more defense against "variance" than Buffett's model. It doesn't improve the statistical failure rate, however, and drops the mean return by 20%. In fact, only the 70/30 (1.2%), 60/40 (0.0%) and 50/50 (1.2%) portfolios had lower failure rates, and both mean and median returns fall off a cliff. A couple of simple rules for structuring withdrawals, Estrada's "twists" - simply rebalance by drawing funds from stocks or bonds when one is the clear winner. Doing that improves the numbers significantly. With the "twist" elements added, the chance of running out of funds at a 4% withdrawal rate drops to zero.\*(See footnote).

Under Estrada's realistic assumptions, the Buffett 90-10 portfolio is therefore a better guide for retirees than any of the popular alternatives. At least that was the case in 2013. The small catch is that stocks are much more expensive today than they were in 2013. Forward PE of the S&P 500 was under 13 then and is roughly 75% higher now. Would Buffett's recommendation continue to apply today?

## **Berkshire: 77% Equity, 23% Cash, Zero Bonds**

The bequest to his wife is neither the first nor the most important evidence of Buffett's preference for stock-heavy allocation. Berkshire Hathaway is itself about 77% equity, lumping publicly traded stocks and wholly owned companies into the equity category. About two-thirds of that 77% is the present market price of publicly traded companies without deducting future tax liability. What's left is 23% cash.

It's rare to find Buffett in the position of having been inconsistent, and the closer you look, the more apparent inconsistencies appear to melt away. Does Buffett's 90-10 allocation apply within Berkshire itself? The more you think about it, the more you understand the right way to see that large cash position.

The most important element of the stock/bond debate revealed within Berkshire is the matter of insurance "float" - cash thrown off by Berkshire Hathaway's insurance and reinsurance businesses. This insurance "float" is set aside to offset estimated future liabilities. It must also contain a margin of safety, a cushion for very large low probability events. For most insurance businesses it's necessary to deploy this float in bonds, which have fixed rates and fixed maturities which can specifically offset estimated future liabilities. The reason is that their balance sheets couldn't survive having to come up with outside payouts during a bad stock market year. That's sequence risk at the corporate level. It used to be relatively easy to offset future liabilities conservatively using bonds, but no more. Current minuscule rates have made the necessary returns hard to find.

This is a problem which Berkshire doesn't share because of the strength of its balance sheet. Berkshire is able to offset future insurance liabilities in large part by owning common stocks and whole companies. It's impossible to overstate the competitive advantage Berkshire enjoys because of this ability to offset future liabilities with equity investments. It does, of course, put quite a bit of pressure on Buffett to deploy cash via acquisitions and/or stock purchases.

Berkshire's recent Q3 earnings report brought forth the usual criticisms of Buffett's failure to make a large acquisition, but in the process missed a few important things. For one thing, the markets as a whole, stocks and bonds, are highly likely on the simple basis of valuation alone to be approaching another turning point. The declining inflation and interest rates of the past 40 years seem to be at the brink of beginning to run in reverse. It's hard to see stocks as anything but extremely expensive while bonds are even more expensive. In the long run growth in earnings will begin to help stocks. Nothing will help bonds. It's simply not a moment to throw cash at assets readily available in the marketplace. Does this mean that Buffett has changed any part of his view on asset allocation?

The answer to this question involves an understanding of cash and share repurchases. Cash can be many things. It can be walking around money. It can be immediately available emergency money. It can also be funds in a pipeline waiting for the opportunity to invest. The cash set aside in the bequest for Buffett's wife is probably the first use, walking around money, and maybe a bit of the second. Cash at Berkshire Hathaway serves the second and third purposes - money set aside for sudden insurance events and money held in a pipeline for buying equity assets. The amount set aside for insurance events is best understood as a cost of doing business in the insurance industry. It's there because a large need for cash could appear at any time including times when it would be very inconvenient to sell stocks. It probably amounts to about a third of the current \$150 billion of cash, possibly a little more.

The other \$100 billion of Berkshire cash should be allocated to the ready-to-deploy "equity bucket". In the last three years that cash has been deployed in part to repurchase a substantial number of Berkshire shares, over 5% of total shares last year (2020) and an amount on the way to being over 4% this year. That's close to a regularly scheduled amount, something like a dollar-cost-averaging program for buying back stock. An action which reduces the denominator (total shares outstanding) is the same thing in effect as an increase in the numerator (adding publicly owned stocks and wholly owned subsidiaries). A cash cushion remains for opportunistic use in the event of a large decline in the market as a whole, a cheaper buyback price for Berkshire itself, or an unexpected opportunity to purchase a large asset. In any event, including cash intended for deployment in this fashion as part of the equity bucket raises the equity proportion of Berkshire Hathaway to 90% or more.

## Conclusion

The notions that an allocation to bonds reduces risk is dubious at best. It is applicable only in cases where sequence-of-return risk make a stock-heavy portfolio susceptible to having to sell when the equity market is at a low. This is the only occasion which supports the idea that true risk derives from volatility.

At an extraordinary moment like the present, when both stocks and bonds are exceptionally expensive, bonds are much more vulnerable as market valuations of both revert to mean because their decline is driven by simple arithmetic. Stocks have in the long run the benefits that come from internal reinvestment and compounding. Being an owner always beats being a creditor in the long run. It is still prudent to keep a large stash of cash as part of one's equity bucket. That's Buffett's practical advice, repeated here for the third time: "Partly, it's just that stocks mean business, and owning businesses is much more interesting (Ed. Note: "profitable") than owning gold or farmland. *Besides, stocks are probably still the best of all the poor alternatives in an era of inflation - at least they are if you buy in at appropriate prices.*"

## Footnote:

\*While rebalancing is of particular importance to retirees taking regular withdrawals, Estrada's "twists" are also of interest simply from the standpoint of total expected returns. The first Estrada twist (T1) involves taking the annual withdrawal from stocks from stocks in years when equities have gone up and then rebalancing and taking the withdrawal from bonds when stocks have gone down and not rebalancing. The second twist (T2) uses relative performance of stocks and bonds. The table below shows the results.

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. Note that both twist versions have a zero-failure rate for retirees making regular withdrawals. In terms of total return, T1 slightly outperforms T2, both twists outperform the simple 90-10, and all crush the performance of the 60-40 portfolio

**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

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