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Annual Rebalancing Reduces Portfolio Life

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The common wisdom in the financial planning practice is to rebalance portfolios annually. This is done supposedly to reduce portfolio volatility. Many investors and advisors associate erroneously the decrease in volatility with an increase in portfolio life. Does annual rebalancing really increase portfolio longevity? Let's investigate this question with respect to historic market behavior.

Markets have two distinct modes of volatility. The first mode is random fluctuations. Every second, every minute, every day, some event happens somewhere in the world that influences investor psychology. As investors make trading decisions, markets move up or down.

Over the long term, the economy grows at a certain pace in line with GDP (gross national product). The markets respond to the collective expectation of the changes in the economy and a trend develops. This is the fuel that moves the share prices in the direction of the trend. The investor psychology provides the lubrication for these trends and occasionally they create market extremes.

My first observation is that no matter how often you rebalance your portfolio, you cannot lower its volatility below the volatility of the random movements. Otherwise, your portfolio would have less volatility if you rebalanced it every hour instead of every day, or every month instead of every year. This is not the case. This then leads to my second observation—if your objective in rebalancing is to reduce portfolio volatility, then the only effective way of doing so is after an observable trend.

The next question: When does a portfolio experience an observable trend? There are several known market cycles: the 54-year Kondratieff cycle, 10-year decennial cycle, and the 4-year U.S. presidential election cycle, to name a few. The shortest practical trend cycle is the presidential election cycle. We will use it as the basis of our rebalancing activities. Doing so, we expect to observe no perceivable increase in portfolio volatility if we rebalanced our portfolio at every presidential election year instead of every year.

The presidential cycle does not occur in isolation; it may be piggybacked onto larger cycles, which we call a megacycle. If a megacycle is an uptrend, then it is called a mega-bull market. If it is a downtrend, it is called a mega-bear market. The following megatrends occurred during the last century:

Since a picture is worth a thousand words, let's work through an example. Say you are just retiring. You need an income of $50,000 annually, adjusted for inflation, and have retirement savings of one million dollars. I use these round numbers for the convenience of calculation. If you have, say $500,000 in your retirement savings and withdrawing $25,000 annually, the outcome will be the same. Your initial asset mix is 60% cash/fixed income and 40% equity. Figures 1 through 4 depict the outcome if you retired at the beginning of mega-bull markets, mega-bear markets and sideways markets. Each chart shows the portfolio value over a 30-year time period. The solid line shows the portfolio value if it is rebalanced every four years at the end of the presidential election year. The dashed line shows the portfolio value if rebalanced annually.

Figure 1 shows retiring in 1921, the beginning of a bull market that was followed by the 1929-1932 market crash. We observe that at the market peak of 1929, the portfolio value was slightly higher when rebalanced every four years on the presidential election year compared to rebalancing annually. More importantly, less money was lost during the market crash that occurred during the 11th year of retirement. When this difference was compounded, we ended up with one million dollars more in the 30th year of our retirement than if we rebalanced annually. The volatility was about the same.

Figure 1: Retiring at the start of a bull market, 1921

Figure 2 shows retiring at the beginning of 1980, the longest bull market of the last century. It demonstrates that there was a slight increase in the portfolio value when rebalanced every four years on the presidential election year as opposed to rebalancing annually. (The difference is barely visible on this figure.) The portfolio volatility was essentially identical.

Figure 2: Retiring at the start of a bull market, 1980

Figure 3 shows retiring at the beginning of 1929, which was followed by a 90% decline (peak to trough) in equity markets. The portfolio lost about $76,000 less when rebalanced on the presidential election year as opposed to rebalancing annually at the market bottom during the fourth year of retirement. This seemingly small difference, when compounded over time, provided our retiree with 30 years of income. On the other hand, if rebalanced annually, the portfolio ran out of money after only 21.5 years. Rebalancing every 4 years on the presidential election year increased the portfolio life by a respectable 40%.

Figure 3: Retiring at the start of a bear market, 1929

Figure 4 shows retiring at the beginning of 1966, which was the start of a sideways market that lasted until 1982. We observe that there was no difference in the portfolio longevity and/or volatility whether you rebalanced each year or every four years.

Figure 4: Retiring at the start of a sideways market, 1966

These observations, and others not shown here, demonstrate the following:

- The volatility was about the same whether you rebalanced once every four years on the U.S. presidential election year or annually in all cases.

- If one retired at the beginning of a bull market and rebalanced his portfolio on the presidential election year, the portfolio value was marginally higher over time compared with rebalancing annually.

- If one retired in a sideways market, the portfolio life can be longer, shorter or the same, whether one rebalanced annually or on the election year. The outcome was just random.

- The real benefit was during mega-bear markets. Capital was preserved better when rebalancing was based on the presidential election year cycle as opposed to rebalancing annually. This made a significant difference in portfolio longevity.

Is there any circumstance where rebalancing annually is better than rebalancing only on the presidential election year? The answer is "yes". If your initial withdrawal rate is 8% or larger, this in itself creates an observable downtrend in time periods shorter than four years. In this case, rebalancing annually resulted in increased portfolio longevity.

Now you know that interfering less can be better for your portfolio when it comes to rebalancing. Don't be fooled by monthly or quarterly automatic rebalancing programs that will soon be available by some mutual funds. These schemes will shorten your portfolio life if you are withdrawing an income. Be aware these conclusions apply only to retirement portfolios where income is withdrawn. The math is different for accumulation portfolios, such as RRSPs.

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