SIGNATURE RESOURCES
CAPITAL MANAGEMENT

Commentary: January 2020

HYPOTHESIZING RETIREMENT, PART 2

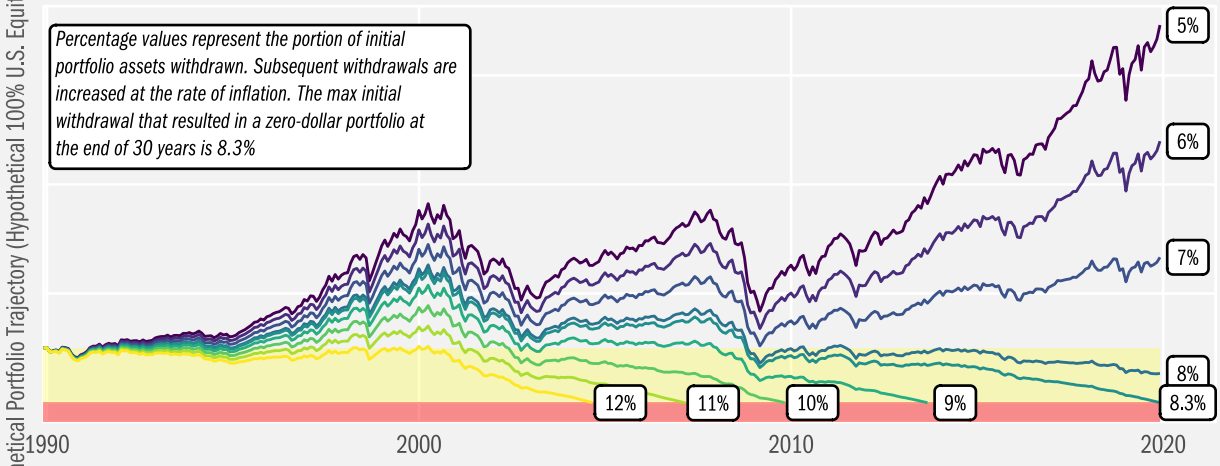
Last month, we discussed the highly variable magnitude of investment outcomes over longer periods of time. The focus was on the accumulation phase of our investment lifetimes, or those years when we tend to be saving much more than we are spending. Markets may prove just as variable when we begin to spend our invested savings, while the fact that we have begun to subtract from invested monies adds a further complication to the math. This month, we want to focus on that math, hoping to provide a bit more perspective for discussions related to the longevity of investment portfolios.

Adding in Subtraction

When accumulating invested monies for use later in life, we can think of our eventual result as being a series of multiplications: our initial funds multiplied by investment total return (price change plus income) over time. Even as we begin to spend more than we save, that multiplication still applies, though we complicate the math by subtracting our net withdrawals. Figure 1 hypothetically shows how a range of withdrawals over the past 30 years—calculated as a percentage of the initial portfolio and then adjusted for inflation over time—would have seen the value of the invested portfolio evolve over time. At lower withdrawal rates, the portfolio continued to grow; at higher levels, the portfolio falls to zero before the 30-year window closes.

Figure 1: Sustainability of Withdrawal Rates

Depending on the level of withdrawals as a percentage of the portfolio, one might have seen a retirement portfolio continue to grow, or wither to zero before the 30-year window closed. The same math applies regardless of the initial value of the portfolio.



From 11.30.89 to 11.30.19. Methodology applies an annual percentage of initial portfolio assets invested in the U.S. equity market, as defined by Professors Eugene Fama and Kenneth French, that may be withdrawn from a portfolio on a monthly basis, adjusted for inflation over time using monthly Consumer Price Index data, such that portfolio assets approximate $0 at the end of 30 years (360 months). Past performance is not indicative of future results. Investing in securities involves risk, including risk of losing some or all the invested capital. There is no guarantee that any investment or investment strategy will achieve its objective. Indexes are unmanaged. One cannot directly invest in an index. Index performance reflects the reinvestment of dividends, but does not reflect the expenses associated with the management of an actual portfolio. Please see additional important information regarding indexes at the end of this report. SOURCE: SRCM using data from Bloomberg

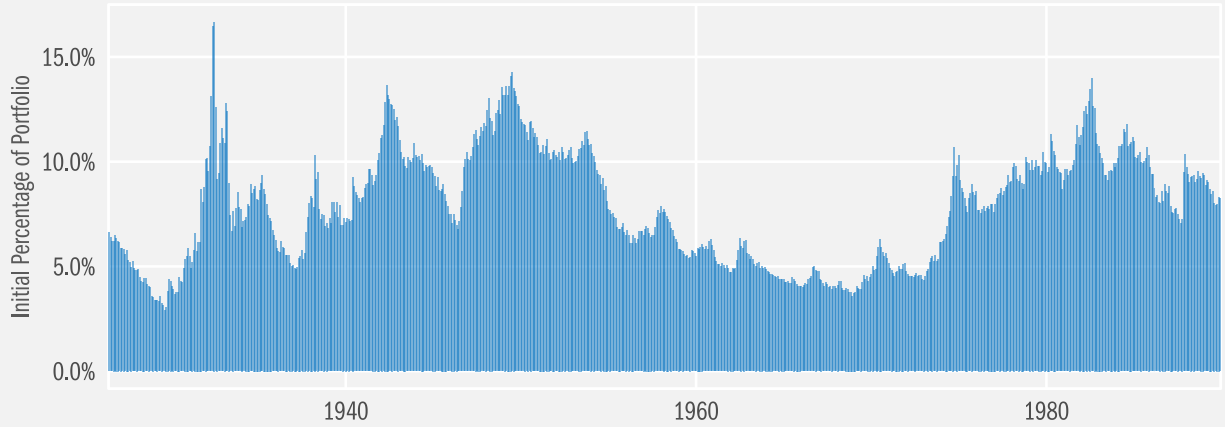
Your Results May Vary...Likely Will Vary

Starting with monthly withdrawal from the portfolio that equates to 8.3% of the portfolio on an annual basis in the first month (January 1990) and increasing that monthly value over 30 years at the rate of inflation, the hypothetical retiree will have just enough money to last the full 30 years (and not a month longer). We can call that level the hypothetical maximum sustainable initial withdrawal rate. But that rate only hypothetically would have applied to the last 30 years. That is, readers should not take from Figure 1 the idea that anyone should be able to take 8.3% from a portfolio year after year and never run out of money. The caveats to the story told in Figure 1 are many. First, as hinted the figure shows only one 30-year window of time, from December 1989 through December 2019. Step back in time just one month (11.1989 through 11.2019) and one finds a modestly different outcome was hypothetically possible: the maximum sustainable initial withdrawal rate was 8.0%. Back up a month before that and the value drops a bit further to 7.9%. The reasons for the changes are two-fold: both the monthly series of investment returns and the rates of inflation are slightly different over each 30-year window.

Even slight changes may result in a different outcome. The larger the differences in returns and inflation in the interim, the larger the differences in potential outcomes. The upshot is that a wide range of outcomes are possible, with investment returns—particularly those early on in our spending years—seeming most impactful. Repeating that process of stepping back a month and running a new 30-year window all the way back to the 1926 start to the U.S. equity market data, we see that that the hypothetical maximum sustainable initial withdrawal rate ranged from 2.9% for the 30-year window began August 1929 to 16.7% for the 30-year window began June 1932. We plot the values for all 762 30-year windows in Figure 2.

Figure 2: Maximum Sustainable Withdrawal Rate over 30 Years (Hypothetical 100% U.S. Equity Portfolio)

This view assumes a portfolio 100% invested in U.S. equity. Given substantial equity market volatility, the maximum rate of sustainable portfolio withdrawals may change over time



From 06.30.26 to 11.30.89. Methodology determines the maximum annual percentage of initial portfolio assets invested in the U.S. equity market, as defined by Professors Eugene Fama and Kenneth French, that may be withdrawn from a portfolio on a monthly basis, adjusted for inflation over time using monthly Consumer Price Index data, such that portfolio assets approximate $0 at the end of 30 years (360 months). Past performance is not indicative of future results. Investing in securities involves risk, including risk of losing some or all the invested capital. There is no guarantee that any investment or investment strategy will achieve its objective. Indexes are unmanaged. One cannot directly invest in an index. Index performance reflects the reinvestment of dividends, but does not reflect the expenses associated with the management of an actual portfolio. Please see additional important information regarding indexes at the end of this report. SOURCE: SRCM using data from Bloomberg

Lest one think that solely the Great Depression can lead to widely different potential levels of spending, the lowest maximum sustainable rate since 1949 was just 3.6% for the 30 years began November 1968 and ended November 1998. Those three decades were marked by a sharp year-and-a-half decline through June 1970 of more than 30%, a plunge that left the equity index even lower than 1970 levels in 1974. A hypothetical investor also lived through the market crash in 1987 (Black Monday), the Asian and Russian financial crises of 1997 and 1998, respectively, and variously severe declines and euphoric rebounds in between. At the other end of the spectrum, despite both the Technology Bust of 2000-01 and the Financial Crisis of 2008-09, the substantial gains through the 80s and 90s offered a hypothetical 14.0% maximum sustainable initial withdrawal rate from July 1982 through July 2012.

Incorporating Flexibility

These results may seem rather obvious: spend too much and one will run out of money. Still, we often find it necessary to offer hints at what a range of sustainable levels of spending might be. We further like to remind folks that one should not rely on investment returns alone when seeking optimal retirement outcomes. Starting with the level of savings, we may wish to save as much as possible as early as possible in our earlier years in order to take advantage of the power of compounding investment returns over time. We then may wish to choose a manner of investing that seeks to balance a potential desire to maximize our investment returns with the level of investment risk we may be able to assume such that we remain invested. And this all while taking into consideration the total expense to pursuing any such investment approach.

Through time, we may wish to regularly revisit our desired level of investment risk (and our corollary expected investment return) as our perspectives and goals change. These intentions may become particularly critical as we begin to withdraw more from our investment accounts than we save. When in our decumulation phase, we may wish to balance levels of spending to maintain a desired lifestyle with the potential longevity of our savings. We minimally should hope not to run out of money before our time comes, and may even wish to be able to leave some amount to others as we pass on.

Proper Expectations

Again, the data in this commentary reflects hypothetical investment entirely in the U.S. equity market. Critical to the rather optimistic (we think) view of potential outcomes these analyses present is the ability of an investor to remain invested through the various bouts of market instability experienced over the past 90+ years. As we so often remark on these pages, such patience and calm should not be considered a given. For part three of this series, next month we will review the give/take of adjusting the expected return and volatility assumptions that inform such work.

Happy New Year!!!

We offer well wishes to all for a grand beginning to a fresh decade. Thanks to all for your continued trust in our work. The SRCM team very much looks forward to furthering our efforts to assist clients in pursuing long-term financial goals in 2020 and beyond.

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One cannot invest directly in an index. Index performance does not reflect the expenses associated with the management of an actual portfolio.

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