



### HYPOTHESIZING RETIREMENT, PART 3

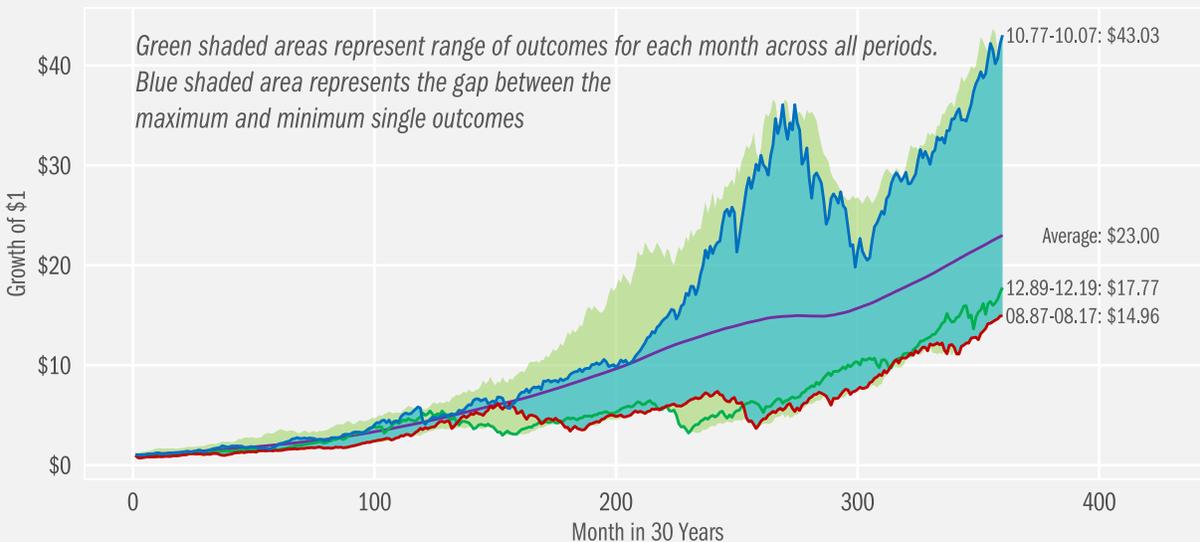
We closed January's commentary with the thought that the vagaries of market returns we see in history are likely to persist in the future. While we cannot foresee what shall become of the market over the longer-term future, we can plan to be adaptable to circumstances in the interim. In particular as we begin to withdraw more than we save in our investment portfolios, we may need to balance the longevity of our savings against levels of spending. One also may wish to de-risk portfolios through time as sensitivity to market volatility rises. An advisor can help clients establish and implement plans that take into consideration such details and, over time, assist in digesting new information, altering existing plans where necessary.

### Incorporating Flexibility

In the prior two commentaries in this series, we focused on outcomes based on 100% investment in U.S. stocks. Those results show wide variability in the range of potential rates of withdrawals from portfolios. This variability stems directly from the vast range of volatility and long-term return in the stock market that we have experienced in the past. Reprising Figure 1 from the first commentary in this series, we can see just how varied long-term outcomes have been over the past near-century of market history. The green-shaded area shows the maximum and minimum interim results at each month.

**Figure 1: Range of 30-Year Outcomes of Growth of \$1 Invested in the U.S. Equity Market**

Looking forward 30-years from each month since 12.31.76 (there have been 157 30-year periods through the last one beginning 12.31.89), the range of 30-Year returns for the U.S. equity market has been wide



From 12.31.76 to 12.31.19. 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

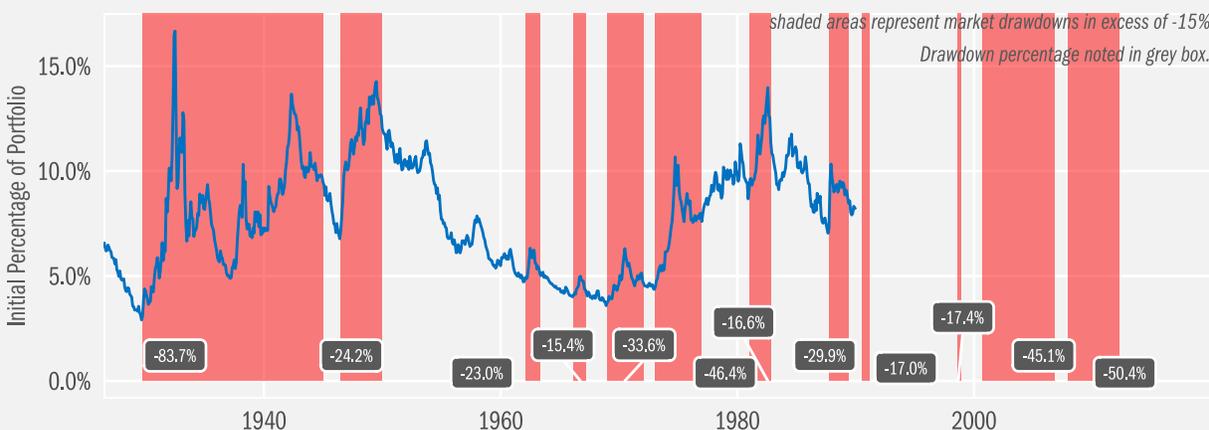
Though the maximum-value hypothetical ending portfolio is many times more than that of the minimum, there were many points along the way at which that 30-year period had not seen the best returns compared to other 30-year periods (the line does not sit at the top of the green area). In fact, the 30-year outcome that ended up being the best (October 1977 through October 2007) had seen weaker interim returns than the eventual worst outcome (blue line fell below the red line).

## Volatility Is Unavoidable

Even more, it's not like that best outcome was smooth sailing. Looking at the top of the blue area in Figure 1, we can see the substantial decline in U.S. stocks that occurred during the Technology Meltdown of 2000-01. In fact, there isn't a period in the dataset that had not seen one or several substantial declines in the equity market over its tenure. Seems every decade comes with a major downturn or two. In Figure 2, we take a longer look at U.S. market history, using the same data we used in Figure 1 (courtesy of Professors Eugene Fama and Kenneth French, who use historical data from the Center for Research in Securities Prices). The chart overlays the maximum sustainable withdrawal rate from the second commentary in this series against the interim drawdowns (or declines from a prior peak before returning to that peak) in the U.S. market. What we find is that drawdowns in the early years of the decumulation phase (e.g., in retirement) seem to have a particularly detrimental effect on the relative level of sustainable withdrawals. That seems intuitive: declines in total funds available at the start create a weaker foundation for any longer-term growth in assets to offset required withdrawals, even before we consider the effects of inflation.

**Figure 2: Maximum Sustainable Withdrawal Rate over the Following 30 Years**

*Circumstances early on in the withdrawal phase may have an outsized impact on the sustainable withdrawal rate. We tend to see large drops in the sustainable rate at the beginning of drawdowns, while much larger rates often are seen after the drawdown troughs*



From 06.30.26 to 12.31.19. 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. 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 Professor Kenneth R. French

## Confidence in Sustainability

Drawdowns at any point during the decumulation phase are almost certainly to cause concerns about the sustainability of withdrawals. There are many methods to prepare for, potentially moderate the effects of, and acknowledge the ongoing implications of market volatility in the context of our financial plans. As we discussed earlier, we can model existing plans against a range of market scenarios we have experienced in history to determine how defensible are our assumptions with regard to longevity of our assets. We can alter our exposure to market risk not only to match our investment preferences, but also to potentially foster greater surety with regard to our estimations. And we can choose how we react to the many ways that interim market activity affects the clarity and durability of our plans.

No estimations should be considered given when developing financial plans. Market history has shown that averages are far less relevant than details regarding range of outcomes. We hope that this series has offered readers additional confidence that, to the extent they've acknowledged the potential effects of market instability on financial plans, they ultimately may be more successful in their pursuits of financial goals.

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The U.S. Equity Market Index, as it is defined in this report, represents the value-weight return of all firms tracked by the Center for Research in Security Prices that are incorporated in the U.S. and with ordinary shares listed on the NYSE, AMEX, or NASDAQ at the beginning of each month, good shares and price data at the beginning of each month. Data are sourced from the Web site of Professor Kenneth R. French ([http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data\\_library.html](http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html)).

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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