All retirees want to make sure they don’t run out of money in retirement. Creating a drawdown strategy to achieve that goal can seem complicated, but through our conversations with plan sponsors, we have developed a simple way to approach this issue.

By focusing on the common goal that retirees share—minimizing the risk of running out of money—we have devised a standard framework that can be applied to help maximize the amount of sustainable income that can be generated in a wide range of situations, from small to large sums of savings and through a spectrum of risk appetite.

AN INTEGRATED FRAMEWORK
Our simple drawdown framework is structured around three dynamics that influence the risk of running out of money: portfolio construction, drawdown rate and shortfall rate.

First, we start with the key components of a drawdown strategy:

• The **investment portfolio**, including the portfolio’s strategy, construction and level of risk

• The **drawdown rate**—the fixed percentage of initial savings at retirement that will be withdrawn each year

• The **shortfall rate**—the fixed percentage of initial savings at retirement that will be withdrawn each year
When creating a drawdown strategy, people often become confused trying to determine the best combination of investment portfolio makeup and drawdown rate. This is where the shortfall rate—the probability that participants will deplete their assets before the end of their lifetime—comes into play. A high shortfall rate is the alarm bell that sounds when the combination of portfolio and drawdown increases the chance of retirees outliving their savings.

**THE IMPORTANCE OF SHORTFALL RATES**

Interactions between portfolio design and drawdown rate can affect the shortfall rate in many ways. For example:

- Higher drawdown rates generally lead to higher shortfall rates. But accepting greater investment risk by holding a larger equity stake can reduce the impact of a higher drawdown rate on shortfall rate.

- Holding less in equities—which reduces investment risk—also can lead to higher shortfall rates, because it increases the odds that the portfolio will not grow enough to support withdrawals throughout retirement.

Figure 1 illustrates the influence of portfolio construction on shortfall rates for a hypothetical 65-year-old male participant at drawdown rates of 5%, 6%, and 7%.

Note that for each drawdown rate scenario there is a specific level of portfolio risk, measured by standard deviation, that provides the lowest possible shortfall rate. In Figure 1, a portfolio with a standard deviation of 4.2% provides the lowest shortfall rate when choosing a 5% drawdown rate. A portfolio with a high level of risk produces a higher shortfall rate, but so does a portfolio with too little risk. For example, for someone with a 5% drawdown rate, the lowest-risk portfolio (with a 2.5% standard deviation) presents more than twice the shortfall rate of the portfolio with a standard deviation of 4.2%.

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**THE RISK AND SHORTFALL RATE RELATIONSHIP**

(Figure 1)

All portfolios assumed to be on the efficient frontier. Shortfall rate is based on the full range of mortality, not a target age. Standard deviation is a historical measure of the volatility of returns. If a portfolio has a high standard deviation, its returns have been volatile; a low standard deviation indicates returns have been less volatile.

**SOURCE:** State Street Global Advisors. The information contained above is for illustrative purposes only. Past performance is not a guarantee of future results. The information contained above is hypothetical and is based upon estimates and reflects subjective judgments and assumptions. These results were achieved by means of a mathematical formula and do not reflect the effect of unforeseen economic and market factors on decision-making. The hypothetical returns are not necessarily indicative of future performance, which could differ substantially.
Once we understand this relationship, we see that reducing the shortfall rate in a drawdown strategy doesn’t automatically mean accepting a lower drawdown rate. Instead, we can combine a desired drawdown rate with the right portfolio. The process is similar to the way we can reduce risk in an investment strategy without sacrificing potential return by moving portfolios to the efficient frontier through optimal diversification.

An efficient drawdown strategy, therefore, combines a drawdown rate with a portfolio that has the lowest shortfall rate for that drawdown rate. For example, Figure 2 (above) shows the shortfall rates that optimal portfolios can produce at given drawdown rates.

By exploring a range of efficient drawdown strategy options, we can have a more informed discussion about the trade-offs between different drawdown rates and their potential shortfall rates.

APPLYING THE FRAMEWORK

Granted, drawdown strategies can be more nuanced than those illustrated above. For example, retirement income products or other investment solutions may allow for the adjustment of drawdown rates in response to changes in market conditions, personal circumstances or inflation. In those situations, though, the same basic framework applies: An adjustment can strike a balance between portfolio risk level and drawdown rate to provide the highest possible income at an acceptable shortfall rate.

This framework also can help answer questions about retirement readiness. For example, a 55-year-old with $400,000 saved could perform this type of analysis to see how close he is to his goal of withdrawing $30,000 per year in retirement.

If the participant is willing to accept the risk of a 10% shortfall rate, he can draw down 5.5% of his savings at retirement each year (as shown in Figure 2). To achieve his goal, the participant will need approximately $550,000 at retirement—or $150,000 more than he has currently saved. (See Figure 3.)

The simplicity of this framework allows us to explain drawdown strategies to participants in clear terms: If you want to draw down X% of your savings, you have to accept a Y% risk of running out of money. While the precise calculations behind this framework are beyond most participants’ capabilities, the framework provides a way to manage expectations and guide participants toward better decisions.

This framework also affirms the need for us to continue to develop retirement products that deliver efficient drawdown strategies—just as we have created investment products that help participants achieve their accumulation needs by balancing risk and return over a specific time horizon.

State Street Global Advisors is looking closely at efficient drawdown strategies, and we expect to continue this discussion in future issues of The Participant. In the meantime, we’d be happy to continue the conversation with plan sponsors as they seek to answer participants’ most pressing question: How do I live in retirement and not run out of money?

To learn more about drawdown strategies, watch Matt Ketchum discuss tackling participant drawdown risks.
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State Street Global Advisors One Lincoln Street, Boston, MA 02111-2900. T: +1 617 664 7727.

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