

2018

Fundamentals for Investors

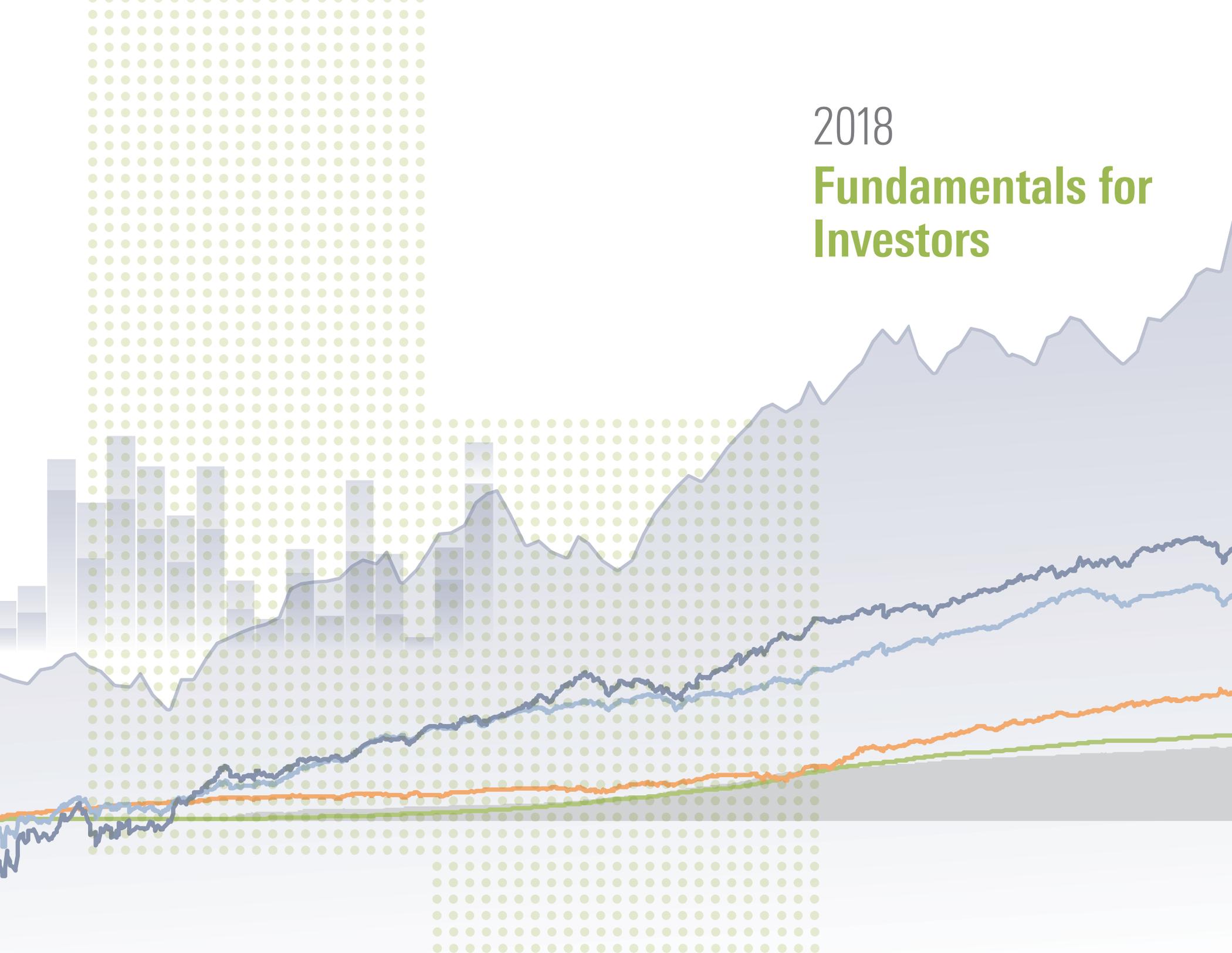


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Understanding Diversification

Benefits of Diversification

“Don’t put all your eggs in one basket” is a common expression that most people have heard in their lifetime. It means don’t risk losing everything by putting all your hard work or money into any one place.

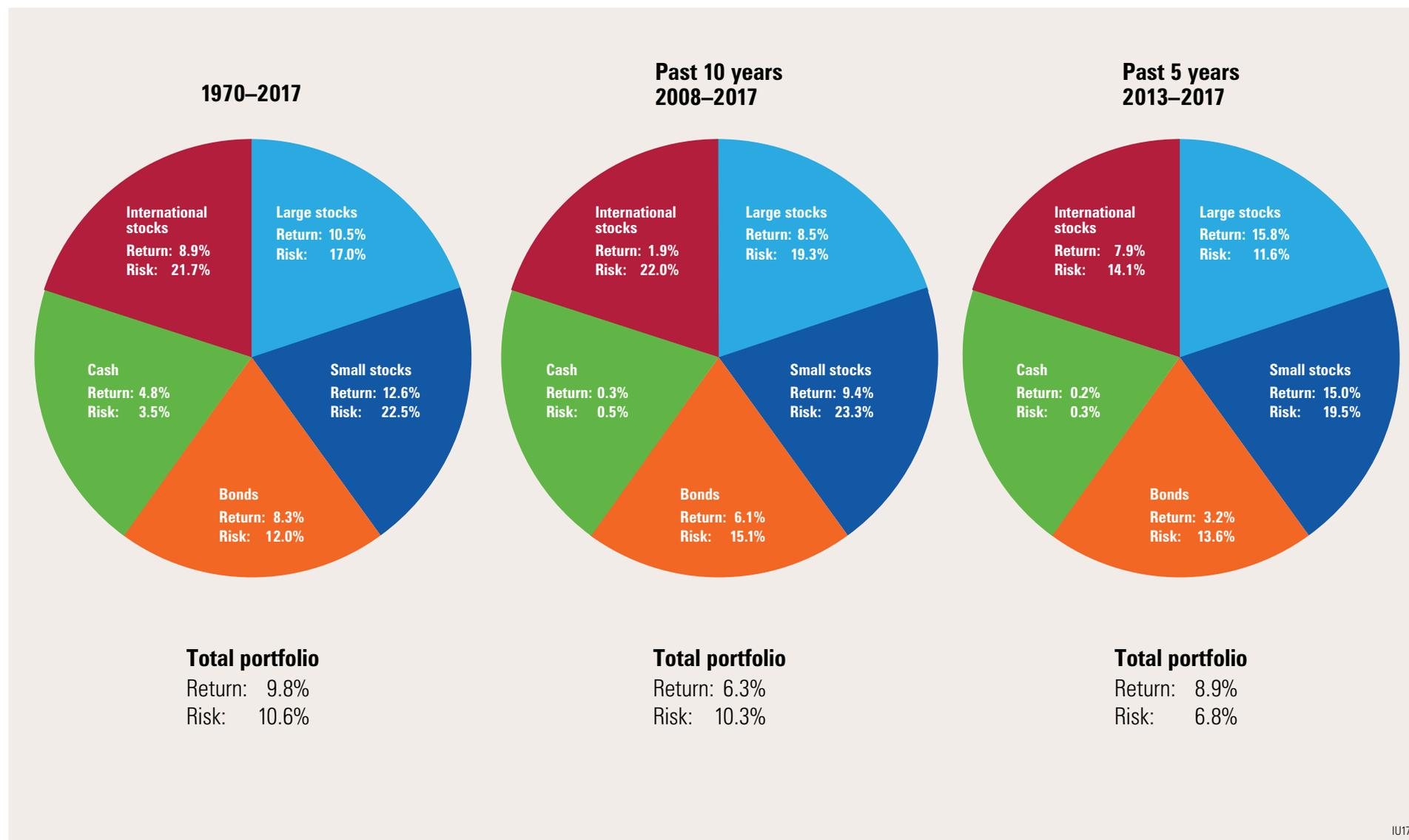
To practice this in the context of investing means diversification—the strategy of holding more than one type of investment, such as stocks, bonds, or cash, in a portfolio to reduce the risk. In addition, an investor can diversify among their stock holdings by buying a combination of large, small, or international stocks, and among their bond holdings by buying short-term and long-term bonds, government bonds, or high-and low-quality bonds.

A diversification strategy reduces risk because stocks, bonds, and cash generally do not react identically in changing economic or market conditions. Diversification does not eliminate the risk of experiencing investment losses; however, by investing in a mix of these investments, investors may be able to insulate their portfolios from major downswings in any one investment.

Over the long run, it is common for a more risky investment (such as stocks) to outperform a less risky diversified portfolio of stocks, bonds, and cash. However, one of the main advantages of diversification is reducing risk, not necessarily increasing return. The benefits of diversification become more apparent over a shorter time period, such as the 2007–2009 banking and credit crisis. Investors who had portfolios composed only of stocks suffered large losses, while those who had bonds or cash in their portfolios experienced less severe fluctuations in value.

A Diversified Portfolio: Sum of the Parts

Risk and return characteristics



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The Asset Allocation Puzzle

Possessing a considerable amount of knowledge about stocks, bonds, and cash is only a small part of the investment planning process. Many investors are under the false notion that the greatest determinant of portfolio performance is the specific investment choices they make. Actually, the biggest decision you will make is how much to allocate to different investment categories.

Asset allocation is all about finding the mix of investments that is right for your situation. Goals, time horizon, and risk tolerance are some of the key factors that should be considered when allocating assets.

► Goals

Determining what asset allocation is appropriate depends largely on the goals you seek to achieve. Are you saving for retirement, college education for your children, or a vacation home? Each goal must be considered in creating the appropriate asset mix.

► Time Horizon

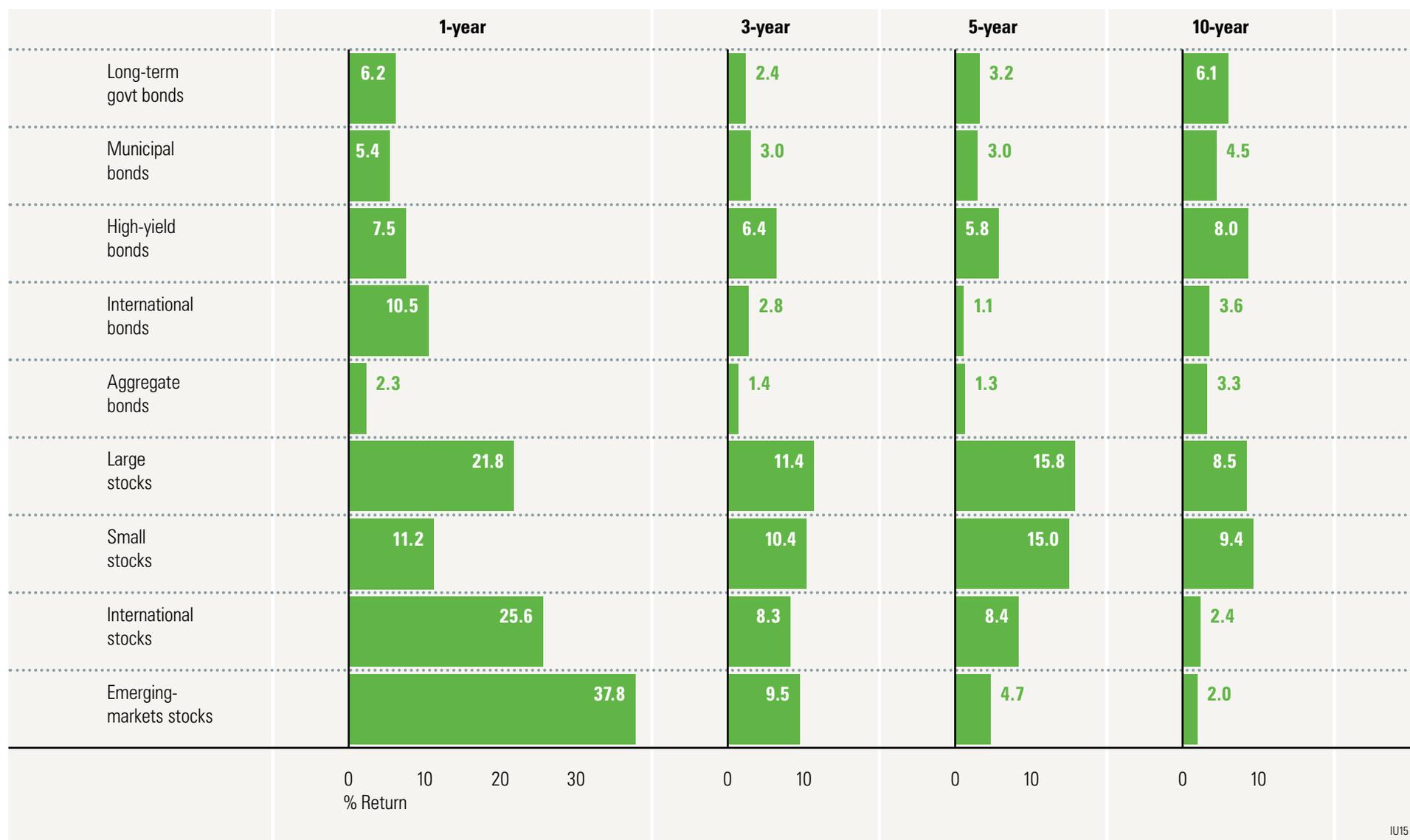
Time horizon is the length of time a portfolio will remain invested before withdrawals are made. If your investment horizon is fairly short, you'd likely want a more conservative portfolio—one with returns that do not fluctuate much. If your investment horizon is longer, you could invest more aggressively.

► Risk Tolerance

Everyone has a different emotional reaction to sudden changes in their portfolio value. Some people have trouble sleeping at night, while others are unfazed by fluctuations in the market and can endure

Stock and Bond Snapshots

Returns over various time periods as of December 2017

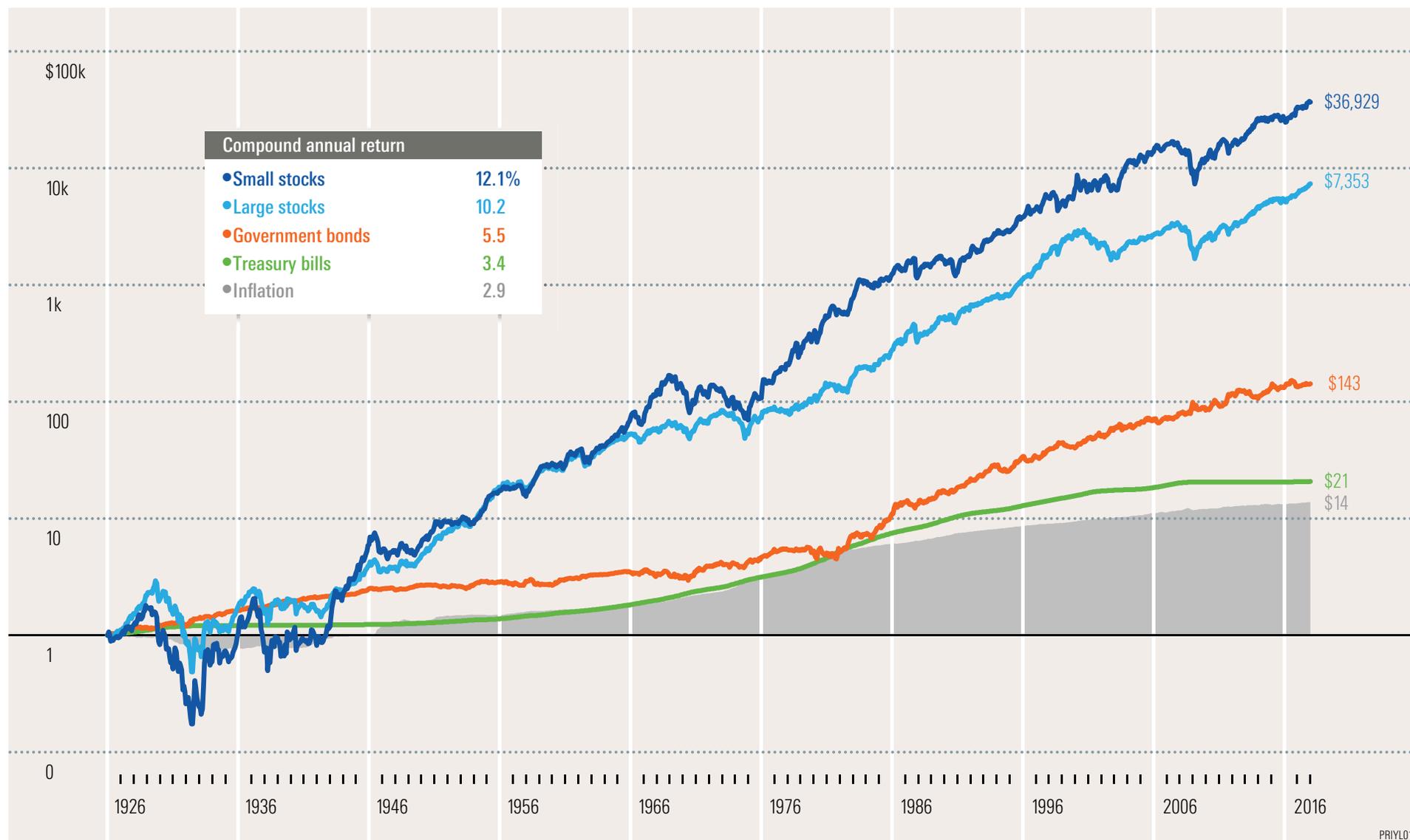


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Ibbotson® SBBI®

Stocks, Bonds, Bills, and Inflation 1926–2017

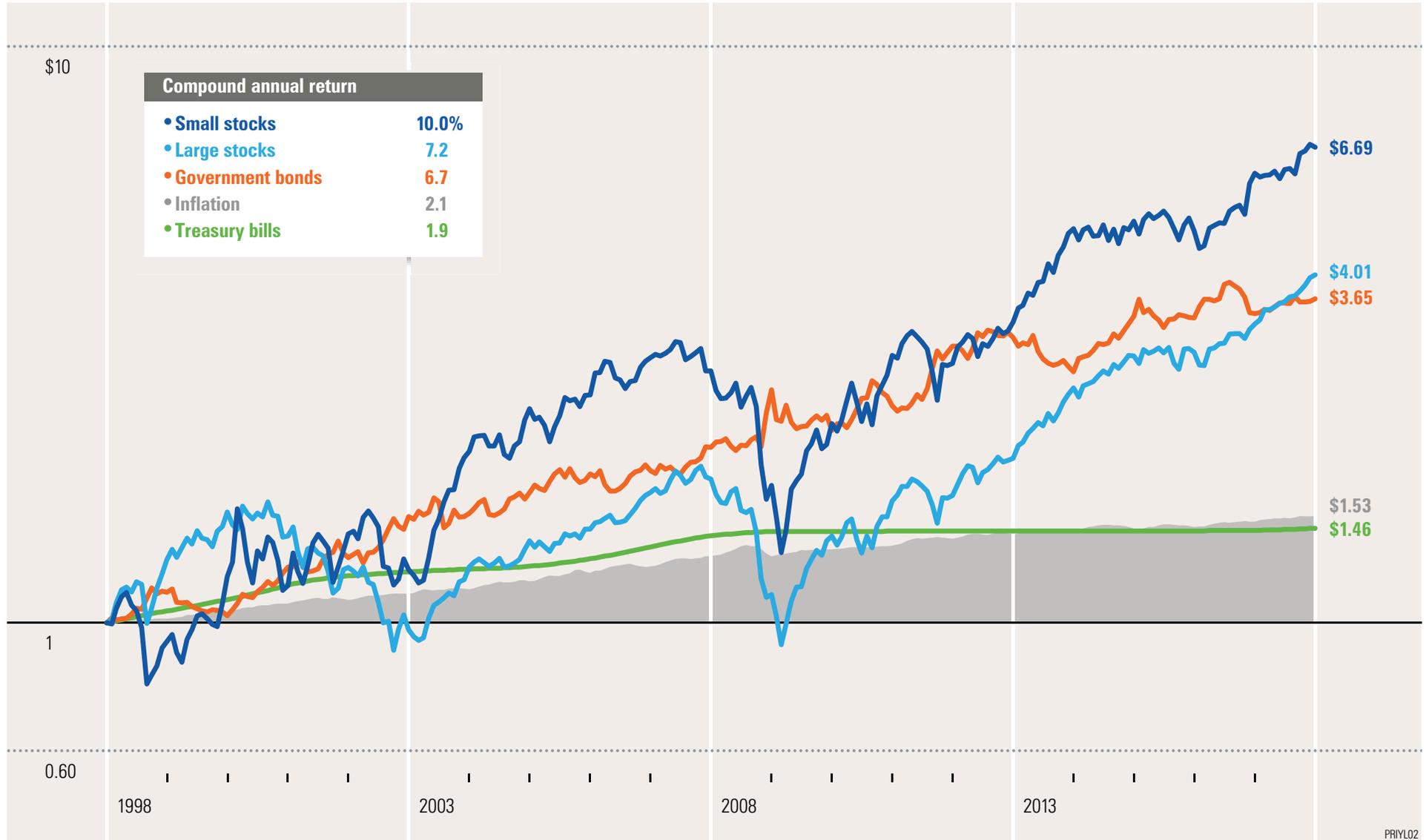


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Past performance is no guarantee of future results. Hypothetical value of \$1 invested at the beginning of 1926. Assumes reinvestment of income and no transaction costs or taxes. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index. ©2018 Morningstar, Inc. All Rights Reserved.

Ibbotson® SBBI®

Stocks, Bonds, Bills, and Inflation 1998–2017



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Staying the Course

Understanding Risk Tolerance and Risk Capacity

Risk Strategy Matrix

		Risk Capacity	
		High	Low
Risk Tolerance	High	No Action Required	Consider reallocating more conservatively
	Low	Consider reallocating more aggressively	No Action Required

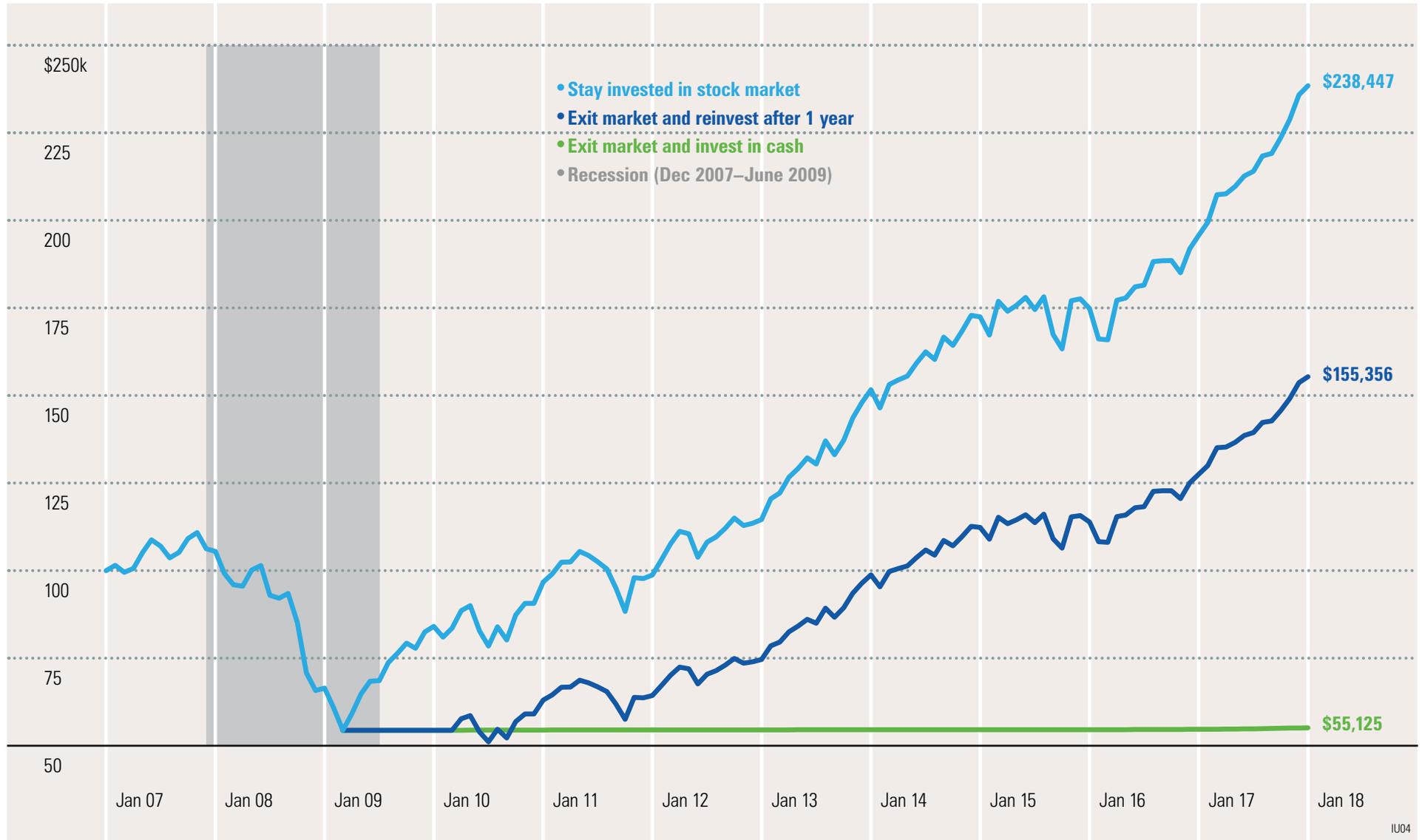
When determining an appropriate asset allocation mix, it is important to consider not only one's risk tolerance, but also one's risk capacity.

An investor's risk tolerance refers to his or her aversion to risk, while an investor's risk capacity relates to his or her ability to assume risk. Sometimes, an investor's risk capacity and risk tolerance do not match up. If an investor's capacity to take risk is low but the risk tolerance is high, then the portfolio should be reallocated more conservatively to prevent taking unnecessary risk. On the other hand, if an investor's risk capacity is high but the risk tolerance is low, reallocating the portfolio more aggressively may be necessary to meet future return goals. In either case, speaking with a financial advisor may help to determine if your risk tolerance and risk capacity are in sync.

There is no guarantee that diversification or asset allocation will protect against market risk. These investment strategies do not ensure a profit or protect against loss in a declining market. Holding a portfolio of securities for the long term does not ensure a profitable outcome and investing in securities always involves risk of loss. It is highly recommended that you consult with a financial professional for advice specific to your situation.

The Importance of Staying Invested

Ending wealth values after a market decline

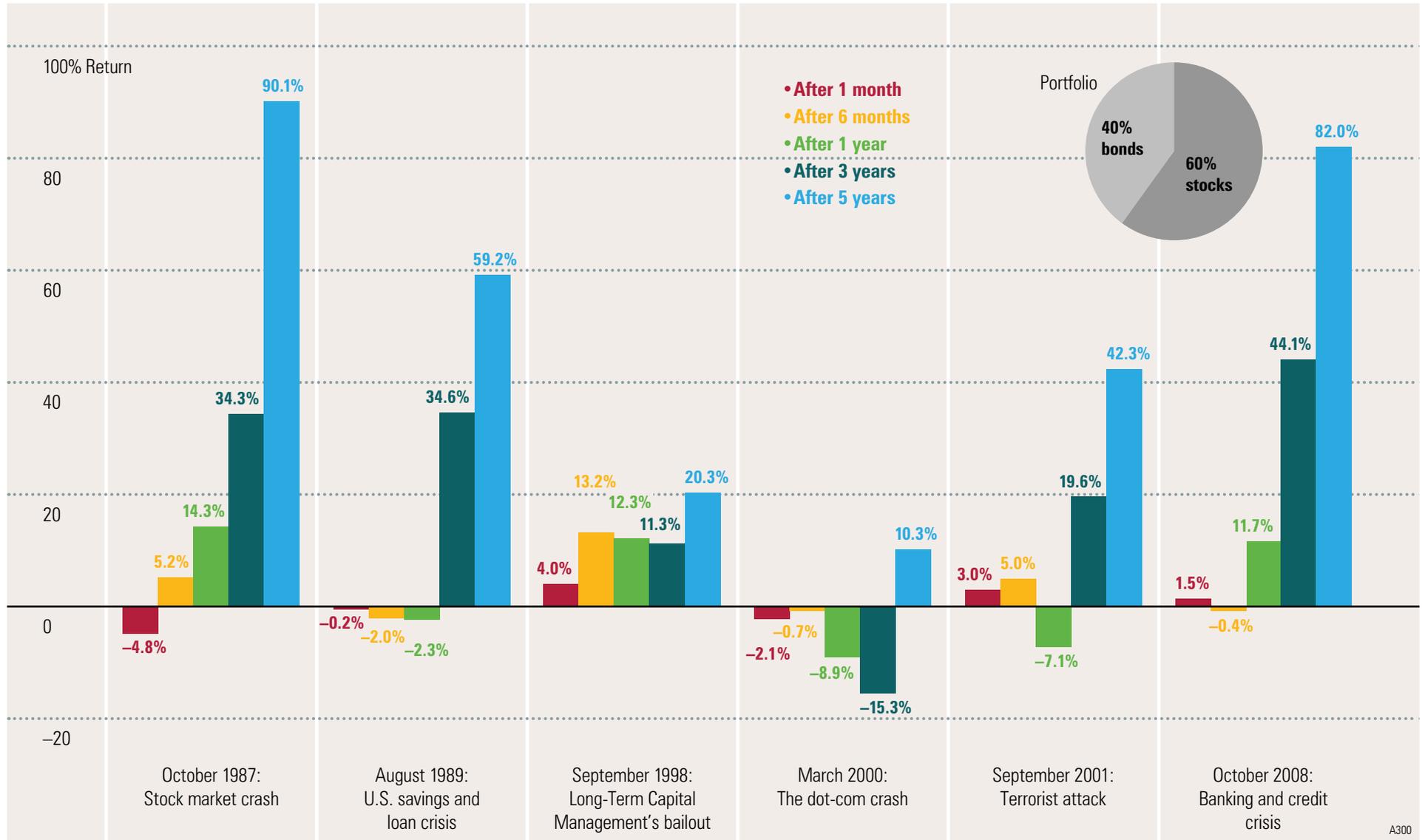


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U.S. Market Recovery After Financial Crises

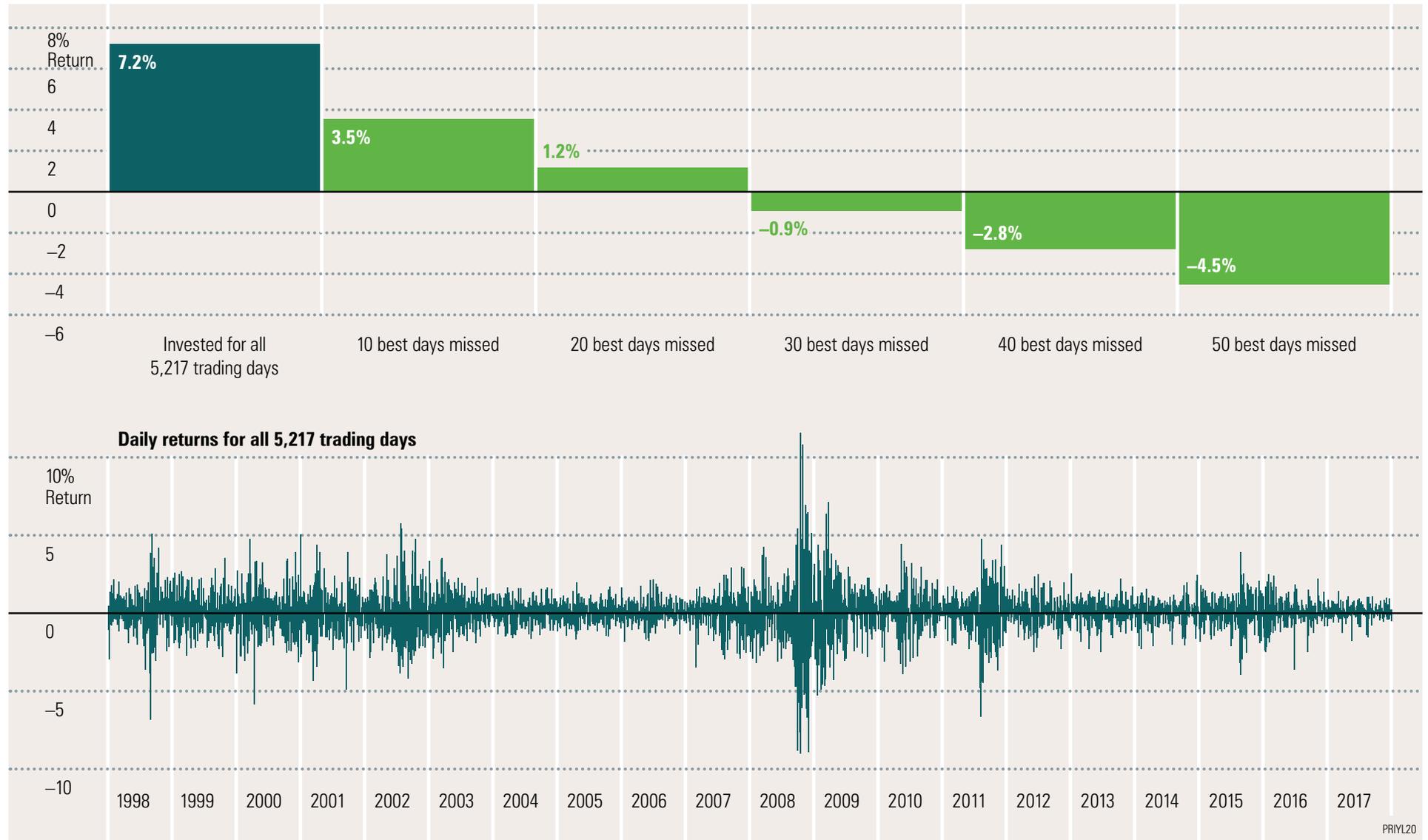
Cumulative return of a balanced portfolio after various events



Past performance is no guarantee of future results. Returns reflect the percentage change in the index level from the end of the month in which the event occurred to one month, six months, one year, three years and five years after. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index. ©2018 Morningstar, Inc. All Rights Reserved.

The Cost of Market Timing

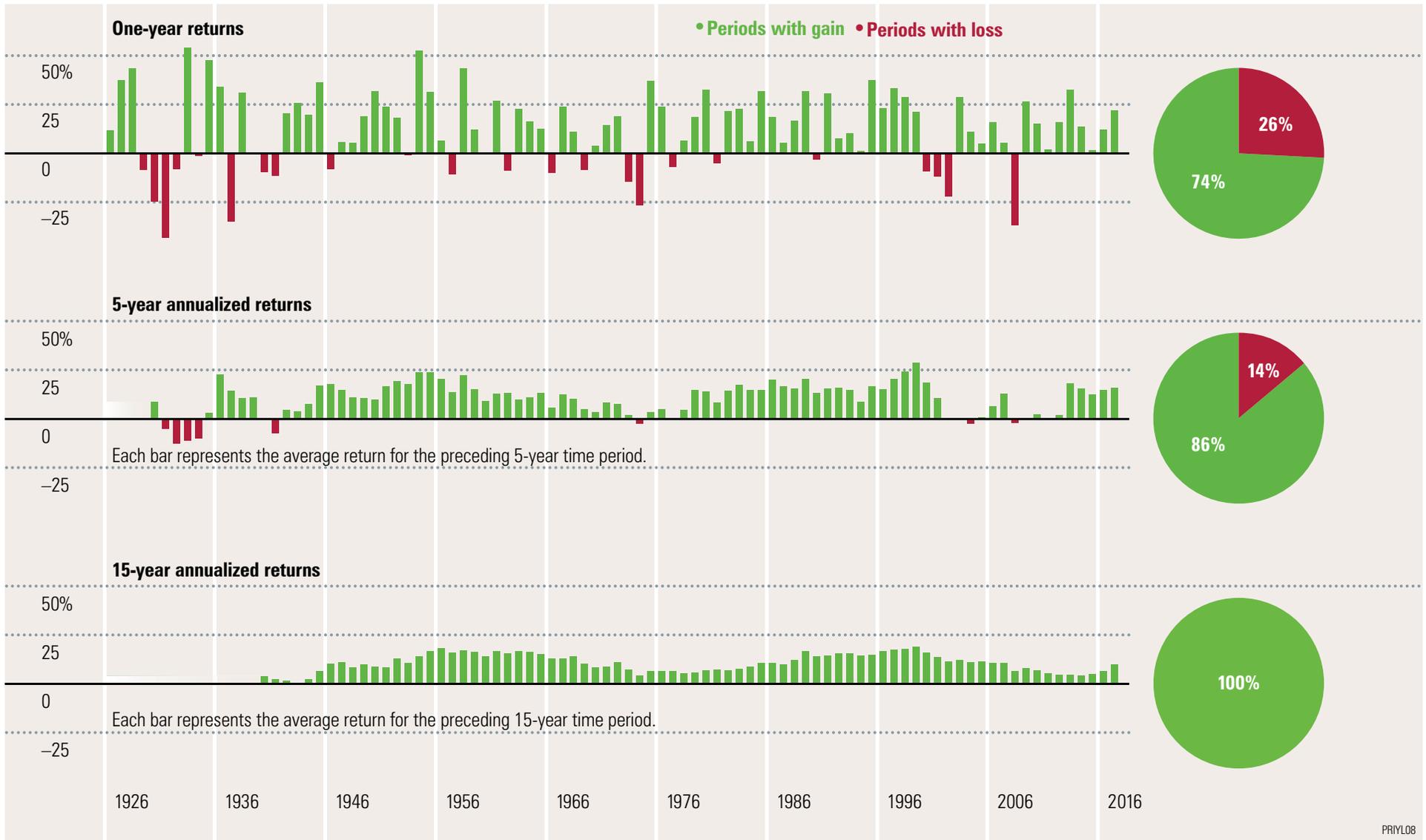
Risk of missing the best days in the market 1997–2017



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Risk of Stock Market Loss Over Time

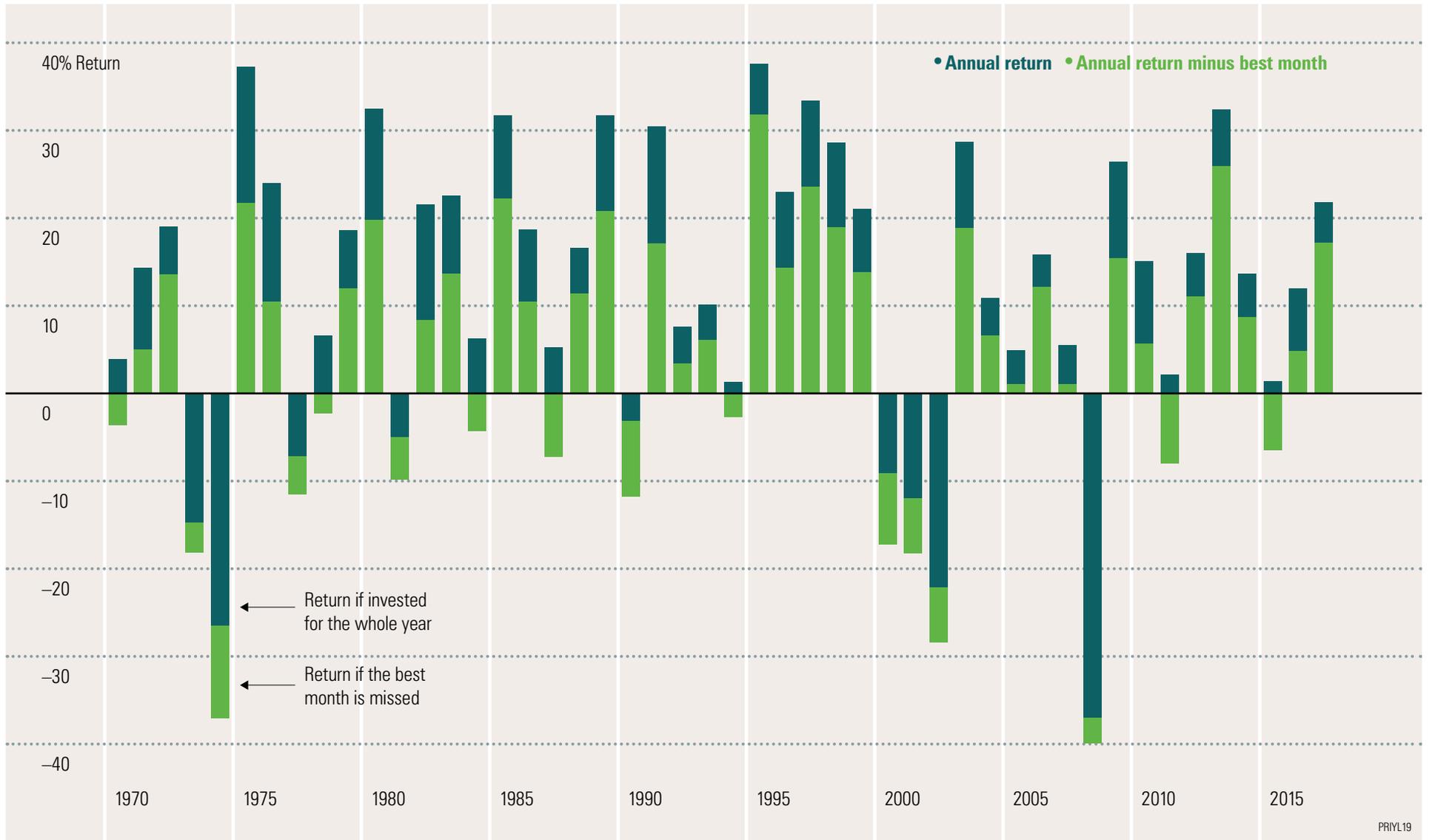
1926–2017



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Market-Timing Risk

The effects of missing the best month of annual returns 1970–2017



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Tune Out the Noise

There's a reason that investors tend to only hear about "looming" market doom or "imminent" market growth. While many news outlets have incentive to draw viewer attention with wildly bullish or bearish predictions, these sensationalized views may be a distraction to a sound investment approach. When tempted to make a radical change to your investment portfolio based on these headlines, it is important to recall some basic fundamentals to keep your plan on track.

▶ **Drown out the noise.**

Market movements are notoriously difficult to predict. The media outlets that scream the loudest are not always the most accurate. The fallout from attempting to time the market in response to one of these predictions can be dangerous to your portfolio.

▶ **Look, but don't stare.**

While it's important for investors to know the performance of their accounts, short-term market fluctuations can be quite volatile. While the probability of realizing a loss within any given day is high, the likelihood of realizing a loss historically has decreased over longer holding periods. Periodic review of an investment portfolio is necessary, but investors shouldn't let short-term swings affect their view of the future.

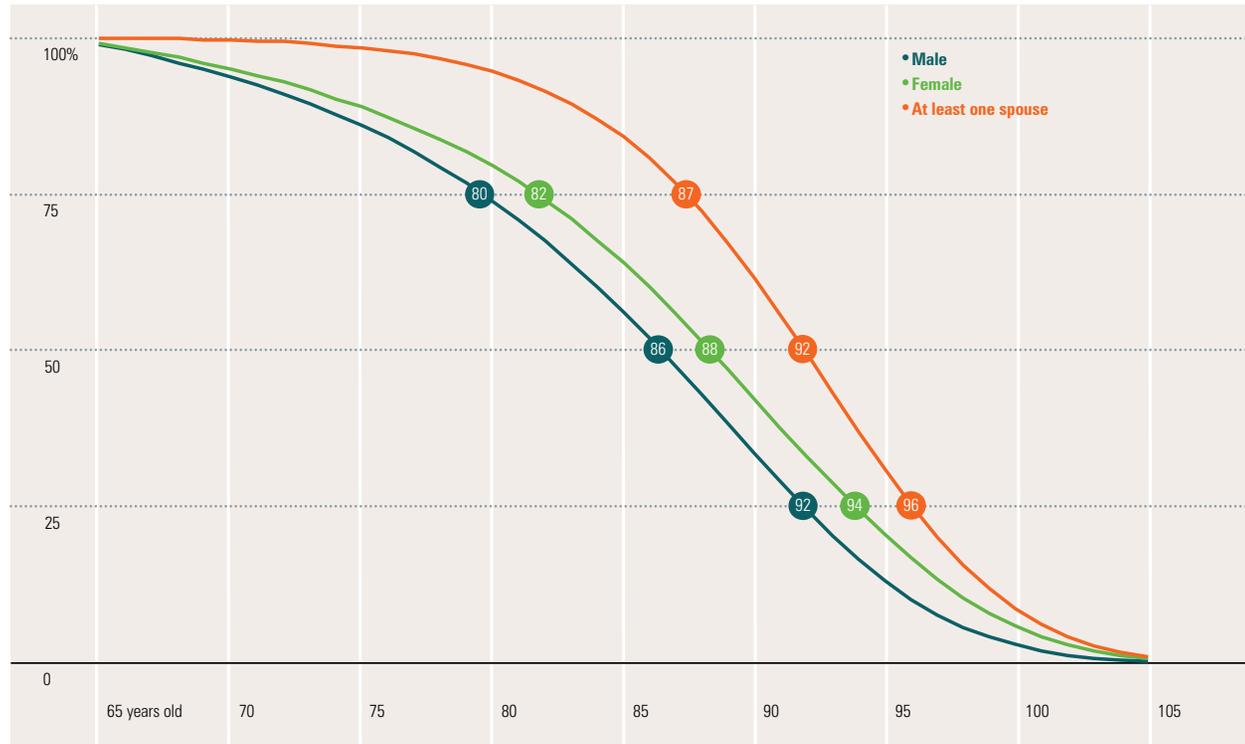
▶ **Stay focused on the long term.**

Investors who have taken the time to determine a sound investment plan based on specific goals and risk tolerances are best advised to stick to that plan. While it may not always grab headlines, a sensible, tailored investment plan may be the best solution to meeting long-term goals.

Retirement Challenges

Bittersweet

Probability of a 65-Year-Old Living to Various Ages



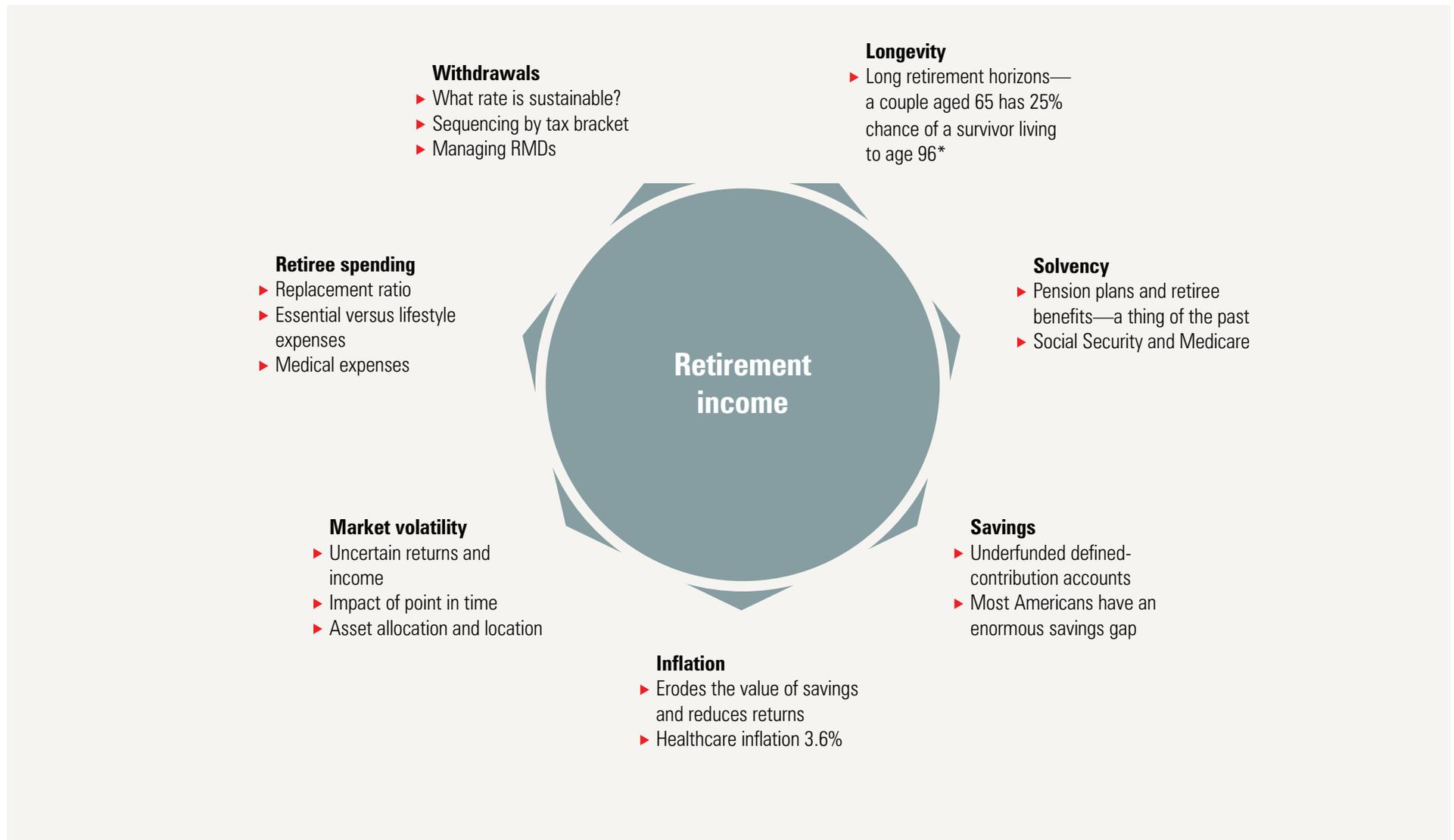
The Merriam-Webster Dictionary defines bittersweet as something that is pleasant alloyed with pain. This could also be associated with retirement. The sweet part is that people are living longer thanks to innovations in healthcare. The bitter reality is that when people live longer they risk outliving their assets.

Longevity risk is the possibility of outliving one's retirement savings. While longevity is generally a good thing, the risks associated with it are becoming a major concern for individuals entering retirement.

Luckily, longevity risk can be managed through proper planning and products. To plan properly, consider when you would like to retire, the number of years you anticipate in retirement, and your desired income level.

Source: Annuity 2000 Mortality Tables—Transactions, Society of Actuaries, 1995–1996 Reports.

Retirees Face Numerous Risks



For illustrative purposes only. *Source: 2012 Individual Annuity Mortality Basic Tables - Society of Actuaries, 2000-2004 Reports.

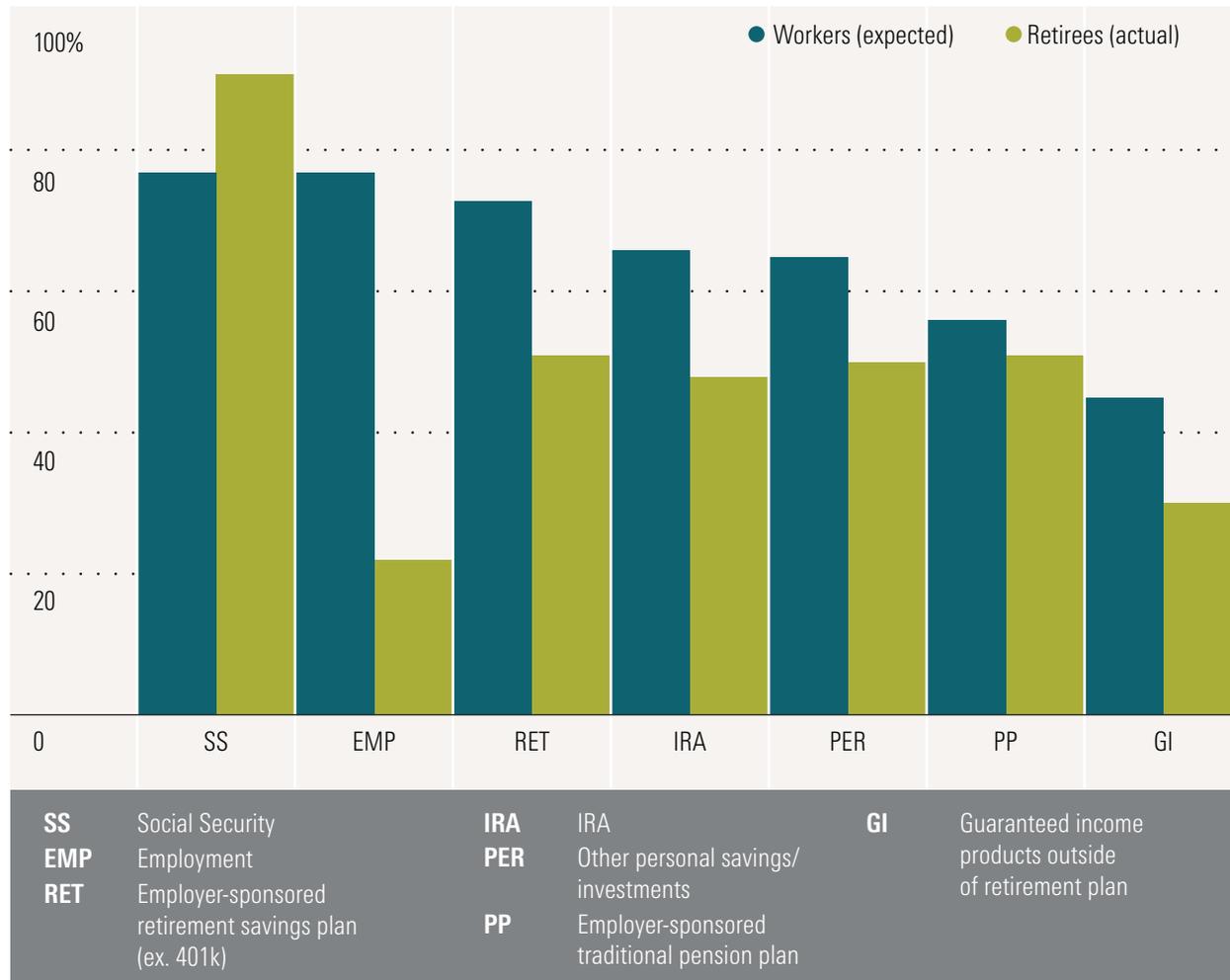
Quick Facts: Retirement

- ▶ According to Aon Hewitt's "The Real Deal" 2012 study, an average full-career contributing employee needs **11.0 times pay** at age 65, after Social Security, to expect to have sufficient assets to last through retirement. For example, if your salary is \$80,000, you will need to have accumulated \$880,000 by the time you're 65 and ready to retire.
- ▶ In reality, the same employee is expected to have only **8.8 times pay** in resources at retirement, which translates into a **2.2 times pay** shortfall. To reuse the example above, this means you'd be \$176,000 short.
- ▶ The 2013 Transamerica Retirement Survey found that the percentage of participants who have taken a loan from their 401(k) plan has increased from 16% in 2008/2009 to 21% in 2012, then slightly decreased to 17% in 2013.
- ▶ Wells Fargo conducted a survey of 1,000 middle-class Americans. The study shows that across middle class members of all generations, only 24% are confident in the stock market as a place to invest for retirement. The apprehension about the market is stronger for those age 25 to 29, with 56% expressing fear of losing their nest egg. When asked if given \$5,000 for retirement where they would invest, 58% of those age 25 to 29 said they would invest in a savings account/CD.
- ▶ Only 18% of workers are very confident they will have enough money to live comfortably in retirement (according to the EBRI 2014 Retirement Confidence Survey).

Sources: Aon Hewitt's "The Real Deal: 2012 Retirement Income Adequacy at Large Companies." "14th Annual Transamerica Retirement Survey of American Workers," Transamerica Center for Retirement Studies, July 2013. Wells Fargo news release, "Middle Class Americans Face a Retirement Shutdown," October 2013.

Retirement Income Sources

Times are Changing: Sources of Retirement Income are Shifting



Concerns about shortfalls in traditional retirement income sources like Social Security and pension plans have caused people to expect to rely more heavily on personal savings to fund their retirement.

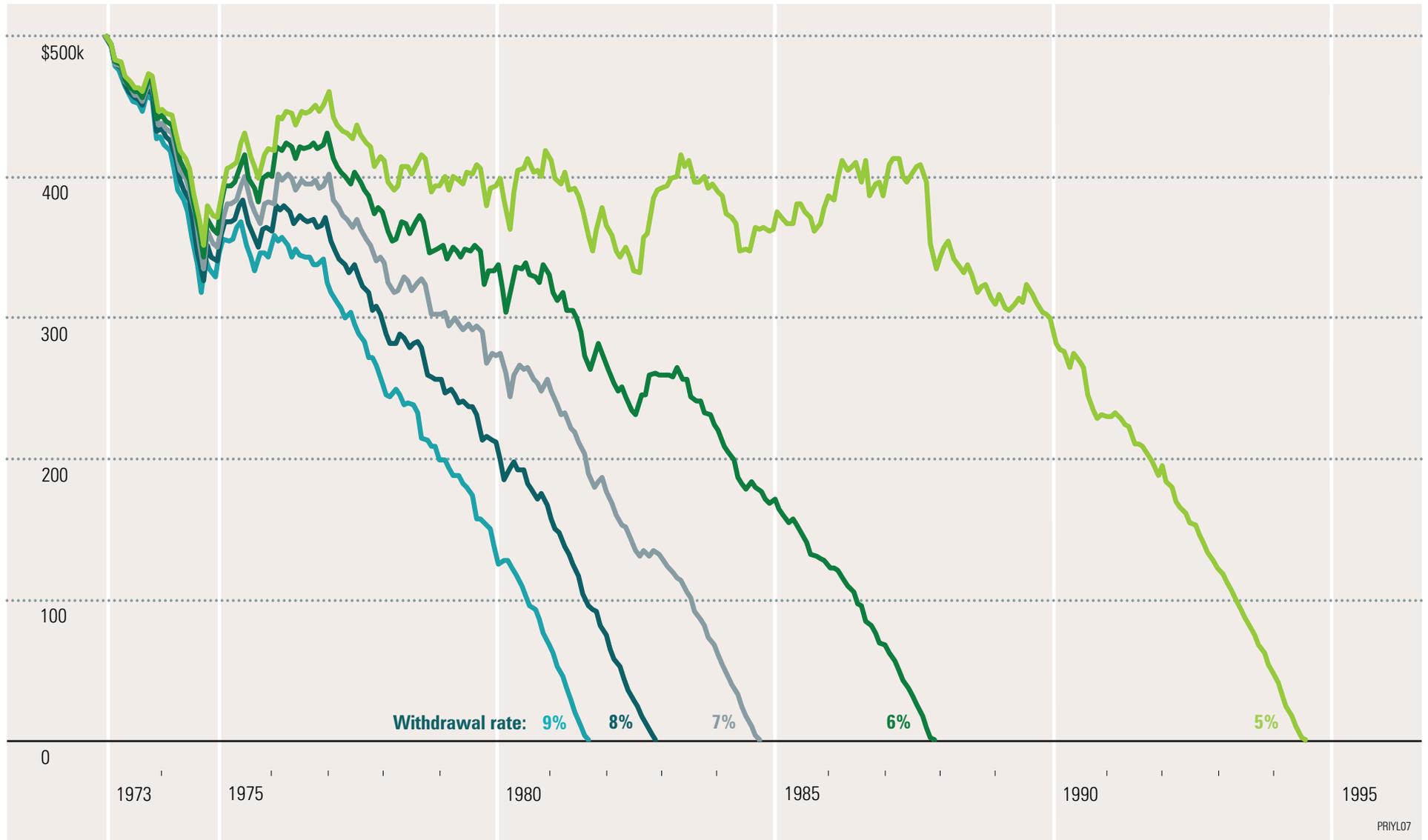
The graph illustrates that while only 50% of current retirees utilize their personal savings for retirement income, 65% of current workers anticipate personal savings to play a role during retirement. Further, 73% of workers expect to receive retirement income from an employer-sponsored retirement savings plan, while only 51% of those already retired actually receive income from such a source.

It may be a good idea to plan for a diminished reliance on Social Security or a pension plan. Whatever extra funds you save by taking this more conservative view will make retirement all the more enjoyable.

Source: Employee Benefit Research Institute, 2011 Retirement Confidence Survey.

Potential Shortfall: The Risk of High Withdrawal Rates

Annual inflation-adjusted withdrawal as a % of initial portfolio wealth



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Past performance is no guarantee of future results. Hypothetical value of \$500,000 invested at the beginning of 1973. Portfolio: 50% large stocks/50% intermediate-term bonds. Assumes reinvestment of income and no transaction costs or taxes. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index. ©2018 Morningstar, Inc. All Rights Reserved.



Concerned About Longevity? Three Mistakes to Avoid

Longevity is often cheered as an achievement, but the downside of living well beyond one's average life expectancy is that it can strain (or worse, completely deplete) an individual's financial resources. The first step in addressing longevity risk is to evaluate just how great the odds are that either you or your spouse will have a much longer-than-average life span. Health considerations, family longevity history, employment choices, and income level may all be factors. If you've assessed these considerations and are concerned about longevity risk—or if you've determined that you'd simply rather be safe than sorry—here are three key mistakes to avoid.

► **Mistake 1: Holding a Too-Conservative Portfolio.**

When investors think about reducing risk in their portfolios, they often set their sights on curtailing short-term volatility—the risk that their portfolios will lose 10% or even 20% in a given year. But a too-conservative portfolio (one that emphasizes cash and bonds at the expense of stocks) can actually enhance shortfall risk while keeping a lid on short-term volatility. But, right

now, interest rates have much more room to move up than they do down, which may reduce the opportunity for bond-price appreciation during the next decade. With such low returns, retirees with too-safe portfolios may not even outearn the inflation rate over time.

► **Mistake 2: Not Delaying Social Security Filing.***

Because it provides an inflation-adjusted income stream for the rest of your life, Social Security is designed to provide you with at least some money coming in the door even if your investment portfolio runs low (or out) during your later years. If you file early (you're eligible to do so as early as age 62), you permanently reduce your annual benefit from the program.

Delayed filing, on the other hand, has the opposite effect, amping up the value of your hedge. Not only will your benefits last as long as you do, but they'll be higher, perhaps even substantially so, as well. Those who delay filing until age 70 may receive an annual benefit that's more than 30% higher than what they would have received had they filed at full retirement age (currently 66) and more than 50% higher than their benefit had they filed at age 62.

► **Mistake 3: Not Adjusting Withdrawal-Rate Assumptions.**

Just as savings rates are the main determinant of success during the accumulation years (much more than investment selection, in fact), spending rate is one of the central determinants of retirement plans' viability.

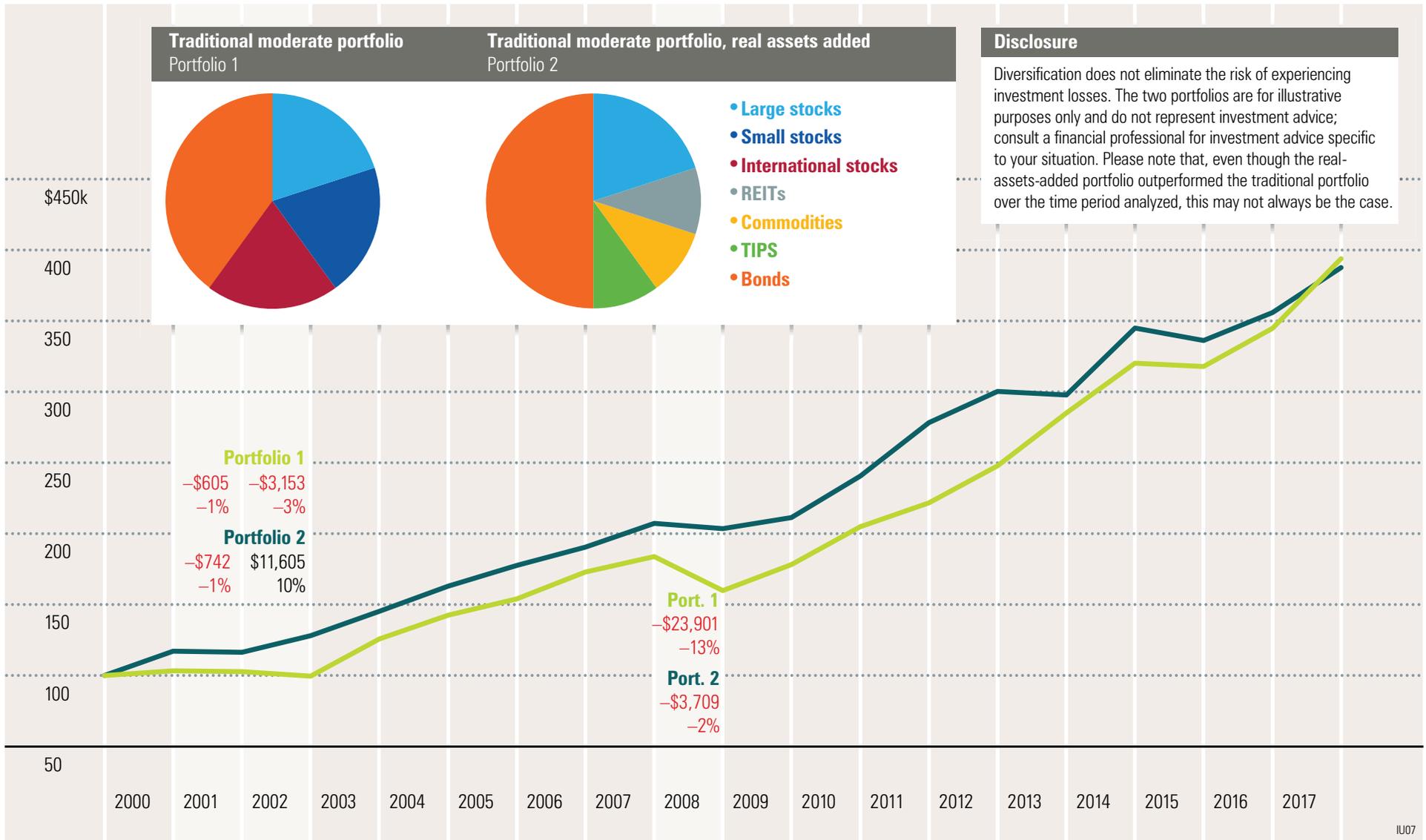
The 4% rule, which indicates that you can withdraw 4% of your total portfolio balance in year 1 of retirement, then annually inflation-adjust that dollar amount to determine each subsequent year's portfolio payout, is a decent starting point in the sustainable withdrawal-rate discussion. But it's important to tweak your withdrawal rate based on your own situation. If you have a sparkling health record and it looks likely that you'll be retired longer than the 30-year withdrawal period that underpins the 4% rule, you may be better off starting a bit lower.

In a similar vein, it's important to not set and forget your retirement-plan variables, such as your spending rate and your asset allocation, because retirement progresses and new information becomes available about your health and potential longevity, market valuations, and so forth.

*Source: Social Security Administration.

Enhancing Diversification Using Real Assets

Annual returns



Past performance is no guarantee of future results. Hypothetical value of \$100,000 invested at the beginning of 2000. Assumes reinvestment of income and no transaction costs or taxes. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index. Highlighted areas represent years when Portfolio 1 experienced losses. ©2018 Morningstar, Inc. All Rights Reserved.

So, You're Ready for Retirement...Or Are You?

In the past, retirement planning used to involve two planning stages: the accumulation of assets, and the distribution of assets. Nowadays, there may be three periods to consider: accumulation, transition, and distribution. "Transition" can be defined as the period between full employment and full retirement when a person is working on a reduced or part-time basis.

► **What are some reasons to consider working a little longer?**

Working gives many people a purpose and a sense of self-worth—two benefits that can be more valuable than money in some cases. Working just a few extra years also prolongs the start of the distribution period and enables you to accumulate more savings. This becomes especially important when you consider that life expectancies are rising and you may need to fund a longer retirement than your grandparents, or even parents, did. Continuing to work in the transition years can also provide one additional advantage—it might enable you to receive medical benefits of higher quality than what you would receive as a retiree from your job or from Medicare. This strategy can go a long way in reducing the impact on your portfolio of unforeseen medical bills in early or mid retirement.

► **Caveat**

While we have explored the positives of continuing to work in the transition years, you also need to consider the negatives. One negative is the impact on Social Security benefits. If you decide to start receiving Social Security benefits at age 62, you will be penalized with a reduction in those benefits for any income you receive from working until you reach full retirement age. In addition, Social Security benefits are taxed if you make more than a certain amount each year from earned and investment sources. It may be best to plan this out with your financial advisor to make sure you maximize your benefits.

A Diversified Portfolio: Sum of the Parts

5

Diversification does not eliminate the risk of experiencing investment losses. Returns represent compound annual returns for the time periods indicated. Risk is measured by annual standard deviation. Standard deviation measures the fluctuation of returns around the arithmetic average return of the investment. The higher the standard deviation, the greater the variability (and thus risk) of the investment returns. Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest, while returns and principal invested in stocks are not guaranteed. International investments involve special risks such as fluctuations in currency, foreign taxation, economic and political risks, liquidity risks, and differences in accounting and financial standards. Furthermore, small stocks are more volatile than large stocks, are subject to significant price fluctuations and business risks, and are thinly traded.

About the data: Small stocks are represented by the Ibbotson® Small Company Stock Index, large stocks by the Ibbotson® Large Company Stock Index, and international stocks by the Morgan Stanley Capital International Europe, Australasia, and Far East (EAFE®) Index. Bonds are represented by the 20-year U.S. government bond and cash by the 30-day U.S. Treasury bill. An investment cannot be made directly in an index.

Asset-Class Winners and Losers

7

Diversification does not eliminate the risk of experiencing investment losses. Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest, while stocks are not guaranteed and have been more volatile than the other asset classes. Furthermore, small stocks are more volatile than large stocks and are subject to significant price fluctuations, business risks, and are thinly traded. International investments involve special risks such as fluctuations in currency, foreign taxation, economic and political risks, liquidity risks, and differences in accounting and financial standards.

About the data: Small stocks are represented by the Ibbotson® Small Company Stock Index. Large stocks are represented by the Ibbotson® Large Company Stock Index, government bonds by the 20-year U.S. government bond, Treasury bills by the 30-day U.S. Treasury bill, and international stocks by the Morgan Stanley Capital International Europe, Australasia, and Far East (EAFE®) Index. An investment cannot be made directly in an index. The data assumes reinvestment of all income and does not account for taxes or transaction costs. The diversified portfolio is equally weighted between small stocks, large stocks, long-term government bonds, Treasury bills, and international stocks (20% each).

Stock and Bond Snapshots

8

Past performance is no guarantee of future results. This is for illustrative purposes only and not indicative of any investment. Diversification does not eliminate the risk of experiencing investment losses. Government bonds are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest. With corporate bonds, an investor is a creditor of the corporation and the bond is subject to default risk. High-yield corporate bonds exhibit significantly more risk of default than investment-grade corporate bonds. Municipal bonds may be subject to the alternative minimum tax (AMT) and state and local taxes, and federal taxes would apply to any capital gains distributions. International bonds are not guaranteed. International investments involve special risks such as fluctuations in currency, foreign taxation, economic and political risks, and differences in accounting and financial standards.

Stocks are not guaranteed and have been more volatile than the other asset classes. Small stocks are more volatile than large stocks, are subject to significant price fluctuations and business risks, and are thinly traded. Emerging-market investments are riskier than developed market investments.

About the data: Long-term government bonds are represented by the 20-year U.S. government bond, municipal bonds by the Barclays municipal bond index, high-yield bonds by the Barclays U.S. corporate high-yield bond index, international bonds by the Citigroup non-U.S. world government bond index, and aggregate bonds by the Barclays aggregate bond treasury index. Large stocks are represented by the Ibbotson® Large Company Stock index. Small stocks are represented by the Ibbotson® Small Company Stock index, international developed stocks by the Morgan Stanley Capital International Europe, Australasia, and Far East (EAFE®) index, and emerging-market stocks by the Morgan Stanley Capital International Emerging Markets index.

Ibbotson® SBBI® 1926–2017 9

Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest, while stocks are not guaranteed and have been more volatile than the other asset classes. Furthermore, small stocks are more volatile than large stocks and are subject to significant price fluctuations, business risks, and are thinly traded.

About the data: Small stocks in this example are represented by the Ibbotson® Small Company Stock Index. Large stocks are represented by the Ibbotson® Large

Company Stock Index. Government bonds are represented by the 20-year U.S. government bond, Treasury bills by the 30-day U.S. Treasury bill, and inflation by the Consumer Price Index. Underlying data is from the *Stocks, Bonds, Bills, and Inflation® (SBBI®) Yearbook*, by Roger G. Ibbotson and Rex Sinquefeld, updated annually. An investment cannot be made directly in an index.

Ibbotson® SBBI® 1998–2017 10

Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest, while stocks are not guaranteed and have been more volatile than the other asset classes. Furthermore, small stocks are more volatile than large stocks and are subject to significant price fluctuations, business risks, and are thinly traded.

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The Importance of Staying Invested 13

Returns and principal invested in stocks are not guaranteed. Stocks have been more volatile than bonds or cash. Holding a portfolio of securities for the long term does not ensure a profitable outcome and investing in securities always involves risk of loss.

About the data: Recession data is from the National Bureau of Economic Research (NBER). The market is represented by the Ibbotson® Large Company Stock Index. Cash is represented by the 30-day U.S. Treasury bill. An investment cannot be made directly in an index. The data assumes reinvestment of income and does not account for taxes or transaction costs.

U.S. Market Recovery After Financial Crises 14

Diversification does not eliminate the risk of experiencing investment losses. Government bonds are guaranteed by the full faith and credit of the U.S. government as to the timely payment of principal and interest, while returns and principal invested in stocks are not guaranteed. Stocks have been more volatile than bonds.

About the data: Stocks are represented by the Ibbotson® Large Company Stock Index. Bonds are represented by the 20-year U.S. government bond. Calculations are based on monthly data. Data assumes reinvestment of all income and does not account for taxes or

transaction costs. For the U.S. savings and loan crisis, August 1989 was chosen because that was the month the Financial Institutions Reform, Recovery and Enforcement Act of 1989 was signed into law. For Long-Term Capital Management, September 1998 was chosen because that was the month the hedge fund was bailed out by various financial institutions. For the banking and credit crisis, October 2008 was chosen because that was the month the Emergency Economic Stabilization Act was signed into law.

The Cost of Market Timing 15

Returns and principal invested in stocks are not guaranteed, and stocks have been more volatile than other asset classes. Holding a portfolio of securities for the long-term does not ensure a profitable outcome and investing in securities always involves risk of loss.

About the data: Stocks in this example are represented by the Ibbotson® Large Company Stock Index. An investment cannot be made directly in an index. The data assumes reinvestment of income and does not account for taxes or transaction costs.

Risk of Stock Market Loss Over Time 16

Holding stocks for the long term does not ensure a profitable outcome and investing in stocks always involves risk, including the possibility of losing the entire investment. Stocks are not guaranteed and are more volatile than other asset classes.

About the data: Large stocks in this example are represented by the Ibbotson® Large Company Stock Index. An investment cannot be made directly in an index. The data assumes reinvestment of all income and does not account for taxes or transaction costs.

Market-Timing Risk 17

Although successful market timing may improve portfolio performance, it is very difficult to time the market consistently. In addition, unsuccessful market timing can lead to a significant opportunity loss. Returns and principal invested in stocks are not guaranteed, and stocks have been more volatile than other asset classes. Holding a portfolio of securities for the long-term does not ensure a profitable outcome and investing in securities always involves risk of loss.

About the data: Stocks are represented by the Ibbotson® Large Company Stock Index. An investment cannot be made directly in an index. The data assumes reinvestment of income and does not account for taxes or transaction costs.

Potential Shortfall: The Risk of High Withdrawal Rates 24

Diversification does not eliminate the risk of investment losses. Government bonds are guaranteed by the full faith and credit of the U.S. government as to the timely payment of principal and interest, while stocks are not guaranteed and have been more volatile than the other asset classes.

About the data: Stocks in this example are represented by the Standard & Poor's 500®, which is an unmanaged group of securities and considered to be representative of the stock market in general. Bonds are represented by the five-year U.S. government bond and inflation by the Consumer Price Index. An investment cannot be made directly in an index. Each monthly with-drawal is adjusted for inflation. Each portfolio is rebalanced monthly. Assumes reinvestment of income and no transaction costs or taxes.

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Government bonds and Treasury bills are guaranteed by the full faith and credit of the United States government as to the timely payment of principal and interest, while stocks are not guaranteed. Small stocks are more volatile than large stocks, are subject to significant price fluctuations, business risks, and are thinly traded. REITs are subject to certain risks, such as risks associated with general and local economic conditions, interest rate fluctuation, credit risks, liquidity risks and corporate structure. Transactions in commodities carry a high degree of risk, and a substantial potential for loss. In light of the risks, you should undertake commodities transactions only if you understand the nature of the contracts (and contractual relationships) you are entering into, and the extent of your exposure to risk. Trading in commodities is not suitable for many members of the public. You should carefully consider whether this type of trading is appropriate for you in light of your experience, objectives, financial resources and

other relevant circumstances. International investments involve special risks such as fluctuations in currency, foreign taxation, economic and political risks, liquidity risks, and differences in accounting and financial standards. TIPS carry individual and unique risks.

About the data: Large stocks are represented by the Ibbotson® Large Company Stock Index; Small stocks by the Ibbotson® Small Company Stock Index; International stocks by the Morgan Stanley Capital International Europe, Australasia, and Far East (EAFE®) Index; Bonds by the 20-year U.S. Government bond; REITs by the FTSE NAREIT All Equity REIT Index®; Commodities by the Morningstar Long-Only Commodity Index, and TIPS by the Morningstar TIPS Index.