T. Rowe Price®

2023 U.S. Retirement Market Outlook

Three Themes Shaping the Retirement Landscape

Contents

INTRODUCTION

Three Themes Shaping the U.S. Retirement Landscape in 2023

Helping Americans get and stay on track with their retirement savings, providing the holistic help savers need, and navigating market uncertainty and volatility

November 2022

KEY INSIGHTS

- There is an increased focus on savings adequacy to close a widening savings gap, particularly among women and underrepresented communities.
- Financial wellness is becoming more holistic. A broader view of retirement, wealth, and health needs illuminates the road from working years into retirement.
- Volatile markets create complex challenges for those investing for, and spending in, retirement. Professionally managed portfolios can help navigate uncertainty.

The U.S. retirement system has helped working Americans accumulate $21 trillion in wealth.[1] The system isn't broken, but it can be improved by doing more of what is known to work.

In November 2021, T. Rowe Price identified three broad trends that we believed were shaping the U.S. retirement landscape. These trends focused on:

- increasing access to retirement plans and improving the adequacy of savings,
- offering more comprehensive services focused on financial wellness, and
- navigating an ever-shifting investment landscape for both savers and retirees.

These trends continue to shape the retirement outlook for millions of Americans who are saving and investing for retirement. In our 2023 U.S. Retirement Market Outlook (RMO), we explore these trends in greater depth, examine how they interact with each other and with the evolution of the marketplace and client needs, and describe how these and other factors are creating both challenges and opportunities for helping achieve the outcomes that retirement system stakeholders seek.

The first theme we will explore is the impact of under-saving and its contribution to the retirement savings gap. T. Rowe Price research has shown that only half of American workers participate in an employer-sponsored

T. Rowe Price research shared throughout this report as "our research" was compiled from the sources listed on pages 17–18.

[1] As of June 30, 2022. Includes assets held in defined contribution plans and individual retirement accounts (IRAs). IRA data are estimated. Source: "Retirement Assets Total $33.7 Trillion in Second Quarter 2022," Investment Company Institute, September 15, 2022.

retirement plan. However, the issue of under-saving among those who do participate is often overlooked. Our research shows that saving early and consistently can make a big difference in helping workers retire on their own terms.

Our second theme focuses on the types of help people need. Providing access to a retirement plan and encouraging participation is only the first step. Many people need help—whether via education, guidance, or advice—to navigate a complex set of retirement and other financial challenges.

Our research also confirms that workers' retirement, wealth, and health needs change over time, and this creates opportunities for better integrated solutions that can help them transition from saving to spending to help support their standards of living in retirement. Despite the complex interaction of needs during the transition into retirement, our research found that only 43% of retirees reported receiving help from a financial professional with their retirement planning process.

Finally, our third theme focuses on the impact of market and economic factors such as inflation, the risk of recession, volatile markets, and rising interest rates. We look at the ways professionally managed investment portfolios can help those who are investing for, and spending their wealth in, retirement.

Stakeholders in the U.S. retirement system are dealing with new challenges during this unique period in history. While we transition from the COVID-19 pandemic to a longer-term endemic reality, we also are witnessing changes in the relationships between employers and employees as well as increasing employee expectations among younger generations.

How younger generations think about accumulating and growing wealth also is evolving. Interest in cryptocurrencies and highflying "meme stocks" has sparked debate and blurred lines between long-term investing and more speculative investment opportunities. Further, interest in environmental, social, and governance (ESG) strategies presents an opportunity to capture the attention of retirement investors, particularly among younger cohorts who otherwise may not be engaged with the topic of retirement savings.

It is in light of this rapidly evolving landscape that employers and industry stakeholders are helping millions of working Americans progress toward and through retirement.

A 360-Degree View of the U.S. Retirement Market

Our insights are based in part on T. Rowe Price's work as a recordkeeper for more than 7,600 U.S. retirement plans with a total of over 2.2 million participants as of September 30, 2022. Almost two-thirds of our firm's $1.3 trillion in assets under management[2] is held in retirement accounts, and the firm has 1.35 million individual investor clients.[3] We believe our position in the U.S. retirement market allows us to provide an especially informed perspective on the challenges faced by today's retirement investors and plan sponsors.

[2] The combined assets under management of the T. Rowe Price group of companies. Data as of June 30, 2022.
[3] T. Rowe Price recordkeeping statistics and individual investor clients as of September 30, 2022.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

THEME ONE

Access and Adequacy

Getting on track and staying there

Among employers that do offer retirement savings plans, the focus has pivoted from simply providing access to helping employees take full advantage of the benefits offered....

T. Rowe Price research has found that more than 40% of the U.S. private sector workforce does not have access to a retirement savings plan at work.

Lack of access to a retirement plan is particularly acute for racial and ethnic minorities. Our research found that, overall, only 40.5% of Black workers and 31.9% of Hispanic workers in the private sector participated in a retirement plan, compared with 57.7% of their white peers.[4] However, that participation gap narrowed significantly when we accounted for reduced access to a retirement plan among non-white workers. Participation is higher among underrepresented communities when they are given the opportunity to participate in a workplace retirement savings plan. It is commonly agreed that the access gap needs to be closed. However, how to do so involves robust political discourse and differing legislative proposals.

Among employers that do offer retirement savings plans, the focus has pivoted from simply providing access to helping employees take full advantage of the benefits offered to them by encouraging increased participation and saving. But there are additional barriers to achieving better financial outcomes.

The coronavirus pandemic has exposed basic underlying economic frailty among many workers. Participant interest in usage of coronavirus-related distributions during the peak of the pandemic suggested that, for many workers, retirement savings were likely the greatest or perhaps the only source of liquid savings available for them to tap when facing pandemic-related economic hardships.

Premature use of retirement savings was not the only effect of the pandemic. The rush to return to economic normalcy inspired many workers to seek new employment opportunities. However, this might have unintended consequences for their retirement savings. While auto enrollment and auto escalation (a plan feature that automatically increases an employee's contribution) have benefited many employees by increasing their savings over time, our recordkeeping data show that newly enrolled employees, on average, saved less than longer-tenured employees. This disparity highlights a potential unintended consequence of job changes and the need to better understand the effects of plan defaults.

These are the realities that policymakers, employers, and other retirement stakeholders such as recordkeepers, financial professionals, and plan consultants now face.

Who Under-Saves and Why

Retirement savings gaps among different races, ethnicities, and genders are well-understood inequalities that need to be addressed. However, a pivotal nuance is often overlooked: *When* people start to save for retirement can make a big difference in whether they get on track toward achieving their retirement objectives.

In a recent research study, we found that 38% of white 401(k) participants said they started saving before age 30, compared with only 18% of Black and 29% of Hispanic participants. More than 30% of Black and Hispanic participants who responded to our survey said they didn't start saving for retirement until age 40 or later.

A late start in saving can have major consequences (Figure 1). Successful retirement outcomes usually depend on starting early, saving at a high enough rate, or increasing that rate over time and saving persistently. Someone facing a savings shortfall at retirement can't go back and give themselves more time: Once lost, the opportunity to start saving early can never be regained.

[4] Among private-sector wage or salaried workers between 21 and 64 years old.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

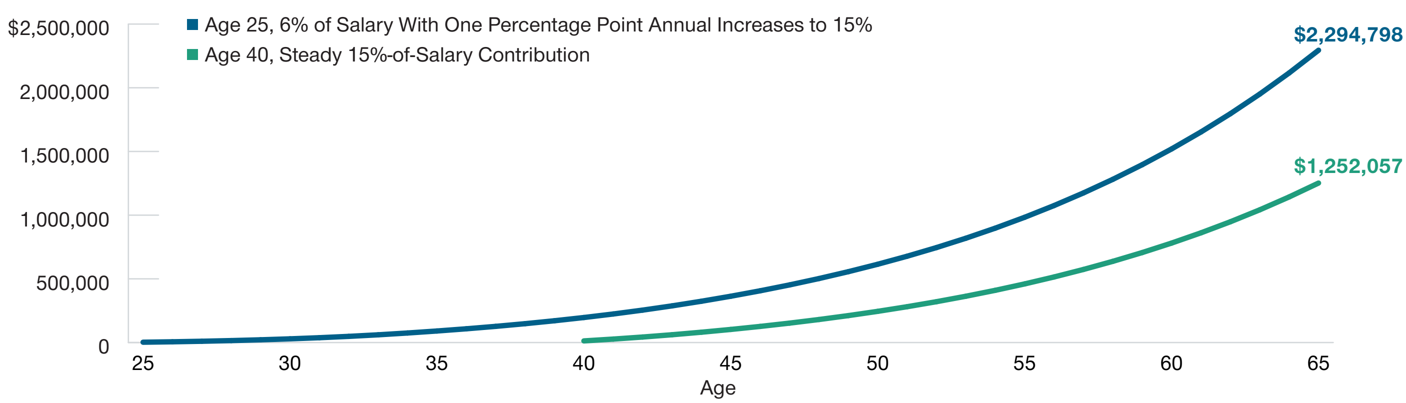
However, under-saving is not solely a function of race or ethnicity. Gender differences exist as well. Our research found that the median 401(k) account balance among women was just $21,600—less than a third of the $62,000 median balance among men. Unsurprisingly, single women fared even worse. What's more, the savings gap between men and women appears to be increasing: While the median 401(k) balance among baby boomer women was 54% of the median for men, the median balance for millennial women was only 35% of the median for their male counterparts.

In addition to lack of access to a plan or a failure to begin saving early, competing financial priorities also can play a major role in under-saving. Under-savers often have needs that are more immediately pressing than saving for retirement, which may be decades away. Priorities such as day-to-day living expenses, establishing an emergency savings fund, or servicing debt often take precedence. This is particularly true in underrepresented communities. For example, our research suggests that Black and Hispanic participants are likely to hold more debt than their white counterparts. Among Black participants, 41% held student loans, more than twice the rate for white participants. Black and Hispanic participants were also more likely to cite credit card debt and medical debt as barriers to saving.

Financial priorities often change with age, too, our research found. Not surprisingly, people in the 50 to 64 age group cited saving for retirement as a major financial goal more often than younger workers did. In middle age, retirement grows nearer, yet many savers feel competing financial demands most intensely during those same years—from servicing a mortgage to paying for a child's college education to helping support elderly parents.

Saving Early Can Make a Large Difference

(Fig. 1) Hypothetical accumulation of retirement savings with early and late starts

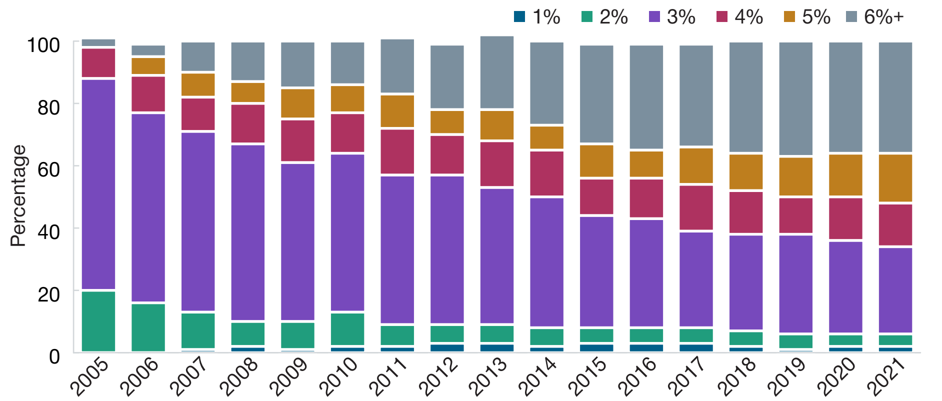


As of March 2022.
Source: T. Rowe Price.
Assumptions: The hypothetical example that starts at age 25 assumes a beginning salary of $40,000 that increases 5% a year until age 45 and then rises 3% a year until age 65. Retirement savings are calculated based on a beginning savings rate of 6% of salary, with one percentage point annual increases until 15% of salary is reached. The hypothetical example that starts at age 40 assumes a beginning salary of $80,000 that increases 5% a year until age 45 and then 3% a year until age 65. Retirement savings are calculated based on a flat savings rate equal to 15% of salary. The annual rate of return for both examples is assumed to be 7%, which is lower than the average annual return for the S&P 500 Index between 1957 and 2021. All savings are assumed to be tax-deferred. **These examples are hypothetical and for illustrative purposes only, and are not meant to represent the performance of any specific investment option. Results do not reflect actual investment results and are not a guarantee of future results. Actual investment returns and outcomes may differ materially. The assumptions used may not reflect actual market conditions or your specific circumstances and do not account for plan or IRS limits. Results do not include management fees, trading costs, and other related investment fees that would serve to reduce ending balances. Investors cannot invest directly in an index.** Please be sure to take all of your assets, income, and investments into consideration in assessing your retirement savings adequacy.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

6% of Salary Is Now the Most Common Default Contribution Rate

(Fig. 2) Default automatic enrollment contribution rates in 401(k) plans*



As of December 2021.
Source: T. Rowe Price Retirement Plan Services, Reference Point 2022.
*Columns may not total 100% due to rounding.

...one should not lose sight of the impact that plan design can have on both participation and savings behavior.

Who Can Help and How

Plan sponsors and those who help them, such as recordkeepers, financial professionals, and plan consultants, have a variety of means at their disposal to help close racial, ethnic, and gender savings gaps among participants. Not only can employers address this challenge, for many it is emerging as a key business objective.

Increasingly, we see companies viewing their retirement plans as critical components in their human capital management strategies, including benefits; total rewards; talent management; and diversity, equity, and inclusion (DEI). Further, we see at least three areas where employers potentially can benefit by helping their employees get and stay on track with their retirement savings.

- **Tight labor markets:** We see employers turning more to their benefit offerings to help attract and retain talent, with their retirement plan as a key component.
- **Aging workforces:** Employers face costs if some employees must work past the typical retirement age because they can't afford to retire. Examples may include direct compensation or benefits such as health care. Other costs may relate to broader workforce management expenses if younger workers leave due to limited promotion opportunities.
- **Social equity:** Employers could consider if and how to use their retirement plans as elements of their DEI strategies and seek ways to ensure that all employees fairly benefit from the forms of compensation companies offer.

In all of this, one should not lose sight of the impact that plan design can have on both participation and savings behavior. Among our recordkeeping clients, the average participation rate is 85% for plans that offer automatic enrollment but only 39% for those that do not.[5]

Among our recordkeeping clients, 6% of salary was the most commonly used default contribution rate in 401(k) plans (Figure 2).[6] In our view, plan designs that combine a 6%-of-salary default deferral with an automatic escalation feature that

[5] As of December 31, 2021. Automatic enrollment and opt-in figures are rounded. Source: T. Rowe Price Retirement Plan Services.
[6] As of December 31, 2021.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

increases the deferral annually by one percentage point to at least 10% (and, ideally, to 15%) could do a lot to help people who otherwise would not invest for retirement get and stay on track.

How Policy Changes May Help

Employers are not the only ones who can help address under-saving. U.S. lawmakers can, too. As of the date of this report, Congress is considering several retirement-related legislative proposals. These include:

- **Increasing the safe harbor default deferral rate:** The default deferral rate for the automatic enrollment safe harbor in the Pension Protection Act of 2006 has remained at 3% of salary since the legislation was enacted. Congress is considering legislation that would raise the minimum default rate for new types of safe harbor plans to 6%.

- **Improving the saver's credit:** Use of the tax credit for eligible contributions to retirement plans and IRAs has been limited due to the relatively modest size of the credit and the need to owe taxes in order to claim it. Congress is discussing two proposals that would increase the percentage of a taxpayer's eligible contributions that could be claimed. One of the proposals also would allow refundable credits, as long as the refunded amount was contributed to a retirement vehicle.

- **Facilitating emergency savings:** Federal law allows employers to withhold money from employees' paychecks for retirement savings via automatic enrollment in an employer-sponsored plan. However, it's not clear whether federal law also allows automatic enrollment in emergency savings vehicles, and state wage garnishment laws also could present issues. Congress is discussing two proposals to boost emergency savings using retirement plans. One would permit the creation of "sidecar" savings accounts within a retirement plan as part of automatic enrollment. The other would exempt withdrawals for "emergency personal expenses" from the early withdrawal excise tax. In addition, employers currently have the option of creating emergency savings accounts outside of the plan. All of these options could encourage greater plan participation by employees with limited savings ability because they would know that they were also building up their emergency savings and would have more immediate access to those balances.

- **Matching student loan repayments:** Many younger workers have sizable student debt loads that can limit their ability to start saving for retirement. To help address this challenge, pharmaceutical company Abbott Labs obtained a favorable private letter ruling from the Internal Revenue Service (IRS) for an innovative program called Freedom 2 Save, in which employees who showed that they had used at least 2% of their eligible salary to pay down student loans during the year received 5% employer nonelective contributions to their 401(k) accounts. In a private letter ruling to Abbott Labs before it implemented the program, the Internal Revenue Service (IRS) interpreted this benefit as a nonelective employer contribution, not a match. The private letter ruling did not address complexities with coverage, nondiscrimination testing, or application to safe harbor plans, nor was it applicable beyond Abbott Labs. If Congress passes legislation allowing plans to consider these contributions as employer matches, it could encourage similar programs and help improve the retirement readiness of younger workers.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.
The information provided is for general and educational purposes only and is not intended to provide legal, tax, or investment advice.

THEME TWO

Financial Wellness

The need to offer holistic, personalized help to savers

> **At T. Rowe Price, we've developed a framework called the Retirement Behavior Index™ (RBI) that.... measures how well a person is able to manage their day-to-day household financial behaviors....**

Our research suggests that keeping people on the path to their desired outcomes in retirement may require holistic help that goes beyond saving and investing for retirement. Conversations with plan sponsors reveal converging demands to help their employees that require breaking down the silos between retirement, wealth, and planning for future health care expenses in retirement.

What has changed? The concept of "financial wellness" has been around for some time, but it feels different now. Plan participants are seeking solutions, plan sponsors are more willing to offer them, and financial professionals and plan consultants increasingly are offering innovative products and services to help meet the needs of their clients.

This sea change has multiple drivers. First, young employees entering the workforce today have different expectations of their employers and the benefits offered to them than did previous generations. Second, employers have begun to better understand the role of benefits as potential strategic levers that can be pulled to attract and retain talent. Third, technology continues to increase and improve the user experience of services that can be delivered to plan sponsors and participants. Fourth, and last, these services are increasingly viewed by participants as valuable and potentially worth paying for.

Who Needs Help and Why

Financial wellness is a lifelong pursuit, and it means different things to different people. Ultimately, it comes down to this question: "How do I make the best decisions about the wealth and savings I have to achieve the goals that I've set?" However, because what people have and what they want both can differ, everyone has their own best answer to this question.

There are barriers to being financially well. For example, financial stress can impact individuals' ability to save for retirement. T. Rowe Price research found that one-third of workers struggled to stick to their monthly budgets, and one-third of workers with student debt said they felt challenged by trying to repay it. Our research also suggests that the challenges of balancing day-to-day household finances, juggling competing financial goals, and feeling confident about retirement often persist throughout a person's working years and into retirement. Further, the effects of financial stress are increasingly recognized by all stakeholders as a common barrier for participants saving for retirement. This has amplified the demand for potential solutions.

Our research and our experience working with clients suggest that the financial needs of participants evolve with both time and experience. The challenge that most participants face is that of establishing sound financial behaviors and setting and making progress toward financial goals. Whether we call it financial wellness, wealth management, or financial planning, the basic concepts and goals are similar. There are multiple stakeholders, such as employers, recordkeepers, financial professionals, and plan consultants, that can help those saving for retirement pursue successful outcomes.

The challenge essentially boils down to the ability to strike a financial balance between one's present and future self. At T. Rowe Price, we've developed a framework called the Retirement Behavior Index™ (RBI) that seeks to do just that. On a scale of 0–100, with 0 being the lowest and 100 being the highest, the RBI measures how well a person is able to manage their day-to-day household financial behaviors, set and make progress toward their personal financial goals, and express their beliefs about what will be true about their future retirement, such as maintaining their standard of living.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

Our research found that among people struggling with financial wellness, expressed as an RBI score, their stress often stems from an inability to manage debt, handle household budgeting, or accumulate adequate retirement and nonretirement savings (Figure 3). People with higher levels of financial wellness said that they were more concerned with health care costs or managing their investments, so financial stress for these investors may stem more from managing wealth than from paying down debt.

Though RBI scores are measured at the individual level, we found differing patterns of interest among demographic groups. Among those saving for retirement through their employer's retirement plans, younger workers had greater interest in all types of financial wellness assistance, especially budgeting and cash flow management, as well as managing student loan debt. Women expressed more interest than men in all financial wellness categories, with budgeting and cash flow management, as well as building an emergency savings fund, ranking highest.

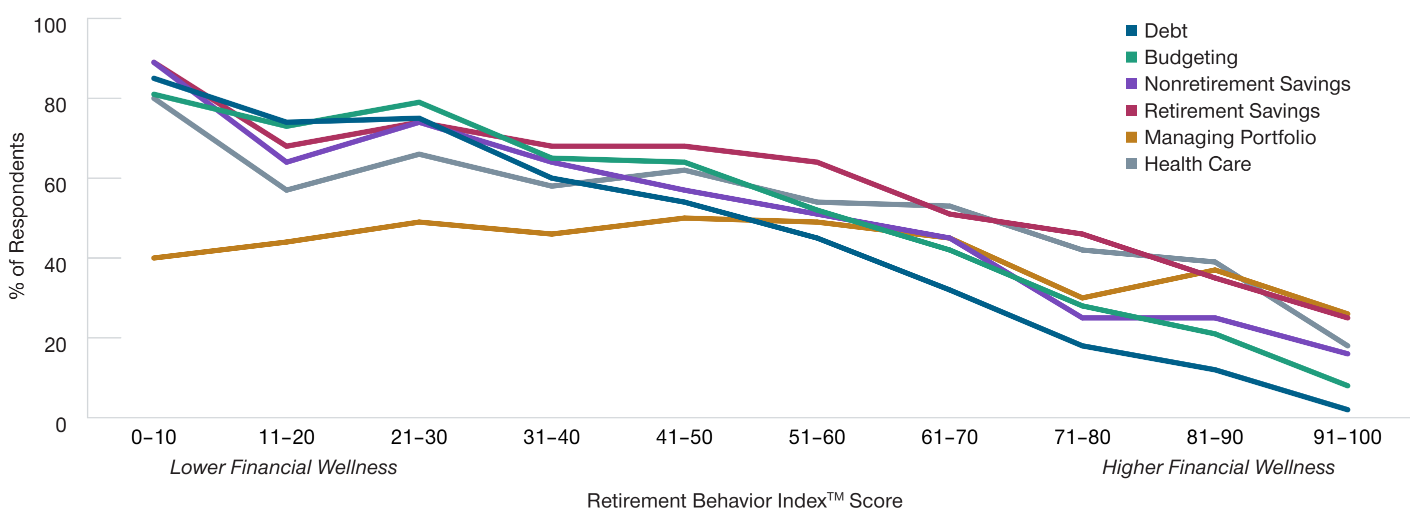
Not surprisingly, our research found that income plays a key role in what type of help is most appealing. Households making less than $50,000 had the greatest interest in receiving help to build emergency savings funds. In contrast, the highest-earning households, those with incomes greater than $150,000, were least likely to express interest in help provided through their employers.

More Advice for More People

Our research also suggests that people increasingly want holistic financial advice and that the world is moving toward more advice for more people. We asked retirees and active workers what financial advice they consider very valuable. Retirees named investment selection and asset allocation/rebalancing as their top two, followed by retirement planning and tax planning. In contrast, active workers most often saw value in paying for retirement planning and tax planning, followed by investment selection and asset allocation/rebalancing.

Debt, Budgeting, and Savings Are the Three Most Common Drivers of Financial Stress

(Fig. 3) Moderate to high levels of financial stress by source



As of August 2021.
Source: T. Rowe Price, 7th Annual Retirement Savings and Spending Study.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

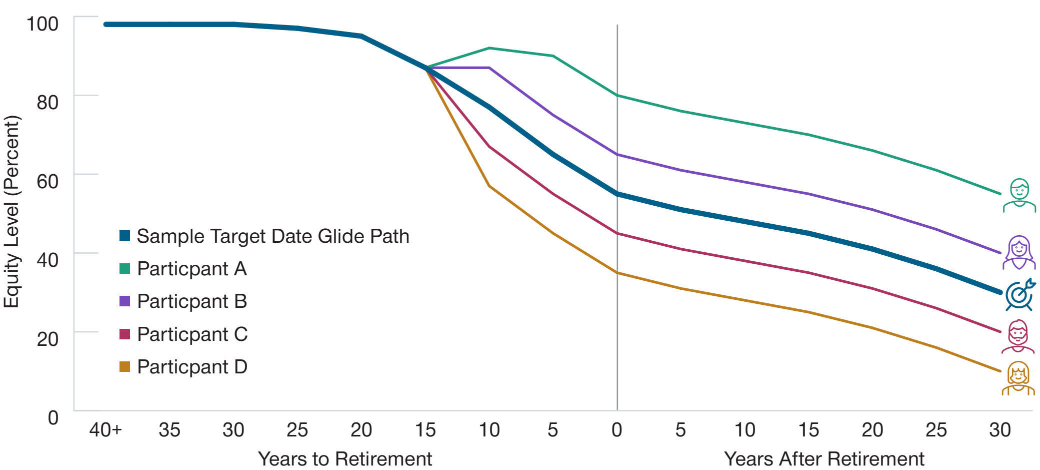
One size doesn't fit all, neither with financial planning guidance nor with investment advice. Along with implementing an impactful financial wellness program, employers and financial professionals increasingly are offering investment advice to plan participants in the form of a personalized portfolio. We view this as a natural extension of the effort to offer employees more personalized help with their financial lives. While target date strategies remain the most prevalent default vehicles and have benefited millions of Americans investing for retirement, adding a personalized portfolio as a target date alternative or as an additional choice in a plan lineup recognizes that some participants may seek more personalized solutions, particularly as they get closer to retirement.

The distinctions between work and retirement also are blurring. A 2019 paper from the National Bureau of Economic Research indicated that only 37% of individuals followed the standard pattern of retiring directly and completely from their full-time jobs. Another 14% took part-time jobs before retirement, 10% remained in full-time jobs until age 70, 16% switched to part-time jobs and did not retire until age 70, and the rest followed more complex retirement pathways (such as retiring and then returning to work).[7]

A growing emphasis on personalization and holistic financial wellness services is beginning to be reflected in the investment solutions offered to retirement plan participants, particularly those nearing retirement. Hybrid solutions that seamlessly transition a retirement investor from a target date strategy to a personalized allocation, typically 15 years prior to retirement, are attracting attention as a mechanism to move retirement investors to a more customized investment vehicle at a point in time when they can potentially derive the most value from personalization (Figure 4).

Hybrid Personalized Allocations Can Extend Traditional Target Date Investing

(Fig. 4) Equity levels in various hypothetical hybrid personalized glide paths



Plan Sponsor Views

92%
of plan sponsors identified the hybrid/dynamic concept as "interesting."

45%
agreed that focusing on older populations should drive higher levels of engagement with a hybrid/dynamic solution.

T. Rowe Price, 2019 An Informed, Research-Based Approach to Better Retirement Outcomes*

Source: T. Rowe Price.
*See Page 17 for additional information.
For illustrative purposes only. Does not represent an actual investment or strategy. This is not intended to be investment advice or a recommendation to take any particular investment action. Each individual's circumstance and what is appropriate will vary.

[7] The Effects of Job Characteristics on Retirement, National Bureau of Economic Research, October 2019. On the Web at https://www.nber.org/papers/w26332
"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

Our research, as well as academic studies, suggests that comprehensive and integrated solutions may lead to better outcomes.[8] Having a customized investment portfolio, as well as guidance in areas such as setting the appropriate drawdown rate, factoring in nonretirement wealth, and providing tools to optimize Social Security benefit claims, can be especially valuable for those nearing and in retirement, in our view.

For plan sponsors contemplating a hybrid approach in a qualified default investment alternative, we believe it is important that the target date vehicle and the personalized solution both follow a consistent approach that employs the same underlying glide path methodology and uses similar asset class building blocks. A participant's asset allocation shouldn't change simply because they are switching methodologies at a certain point in their life cycle.

Delivering Personalized Advice and Guidance

Among our institutional clients, we are seeing retirement and wealth managers increasingly converge on the delivery of personalized financial coaching and investment advice as opportunities for differentiation and growth in their practices.

For many financial professionals, individual financial coaching is no longer a fuzzy, vague service that's a sideline to their core services to retirement plan sponsors. Instead, it has become a key part of their value proposition. The firms making headway in winning and keeping business today have evolved their practices and value propositions based on their ability to help employees with their financial lives in a more holistic way.

Similarly, recordkeepers, financial professionals, and plan consultants have increased the availability of holistic help for retirement savers that is increasingly personalized, specific, bite-sized, easily actionable, and delivered digitally. Examples include:

- **Personalized messages**, which can influence investor behavior. Our research showed that participants between the ages 30 and 50 were 30% less likely to make an online withdrawal if they had engaged with financial wellness content.
- **Interactive videos** that use personalized data. Our research found that participants who watched short, personalized, interactive videos were twice as likely to increase their deferrals compared with those who did not.
- **Innovation that seeks to improve financial resiliency.** Emergency savings programs both within and outside a retirement plan can help savers address financial shocks (e.g., unexpected car repairs, medical bills, etc.) without tapping in to long-term retirement savings.

Investor demand for holistic financial wellness advice continues to grow and we believe the many stakeholders in the retirement savings process, including financial professionals, plan consultants, and recordkeepers, will continue to evolve and innovate their services to meet the opportunity.

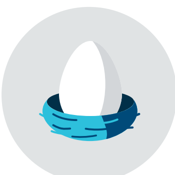
[8] See, for example, "Broad Framing in Retirement Income Decision Making;" Hal E. Hershfield, Suzanne Shum, Stephen Spiller, David B. Zimmerman; National Bureau of Economic Research, September 2020.
On the Web at nber.org/programs-projects/projects-and-centers/retirement-and-disability-research-center/center-papers/nb20-10

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

THEME THREE

The Investment Landscape

Weathering challenges to keep portfolios on track in both the saving and spending phases



We believe many investors may need to reset their expectations for fixed income, including both the returns they might receive and the amount of fixed income diversification that they will need.

Moving into 2023, working and retired participants both face economic uncertainty and high levels of market volatility. However, we believe that individualized investment advice and professional portfolio management—throughout the journey to and through retirement—potentially can help set participants up for successful outcomes.

Many investors have never experienced the economic dynamics we saw in late 2021 and into 2022, which included the biggest surge in U.S. consumer inflation since the 1980s. We view inflation as the transmission mechanism for all the other risks investors now face. The big question: Could the U.S. Federal Reserve's efforts to tame inflation by raising interest rates and shrinking its balance sheet cause a sharp deceleration in economic and corporate earnings growth or push the U.S. economy into a full-blown recession?

Inflation, rising interest rates, and recession concerns could be front and center issues for investors in 2023 and potentially beyond. In addition to these cyclical risks, we think investors also need to consider the possibility that global markets have reached a structural inflection point—an end to the extraordinary era of ample liquidity, low inflation, and low interest rates that followed the 2008–2009 global financial crisis.

An era of increased economic and market uncertainty could greatly complicate financial decision-making for people in or near retirement, especially for under-savers. Under-savers faced with disappointing returns or outright losses in their portfolios can try to work longer than they had planned, put aside more money, take greater investment risk in pursuit of higher returns, or lower their retirement spending plans. However, each of these options poses potential challenges for preretirees and retirees.

In a complex and potentially volatile market environment, we believe plan sponsors and retirement savers may want to keep several key issues in mind.

A Critical Need for Diversification

For much of the past decade, a hypothetical do-it-yourself retirement saver who invested their entire portfolio in passive strategies tied to the S&P 500 Index and the Bloomberg U.S. Aggregate Bond Index could have done pretty well.[9] A passive portfolio of 60% stocks and 40% fixed income proved tough to beat. But conditions are much more uncertain now. Accordingly, we think it is critically important for retirement investors to build portfolios with well-diversified allocations that have the potential to do well across a range of potential market environments.

For example, real assets equities potentially can be an effective hedge against unexpected inflation. Over the past decade, as inflation remained low, this type of allocation tended to underperform the broader global equity markets. However, as we've seen inflation rates surge recently, real assets have shown their value.

Fixed Income Dynamics

We believe many investors may need to reset their expectations for fixed income, including both the returns they might receive and the amount of fixed income diversification that they will need.

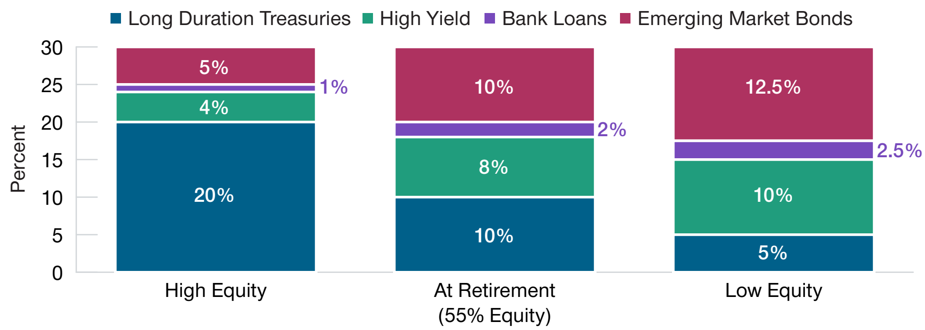
For years, investors could put money into a portfolio that tracked a major U.S. aggregate bond index and have a reasonably good chance of earning positive after-inflation returns while also hedging against equity volatility. However, the Bloomberg U.S. Aggregate Bond Index had a -14.6% return over

[9] Based on index data. Index performance is for illustrative purposes only and is not indicative of any specific investment. Investors cannot invest directly in an index.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

The Role of Fixed Income Can Vary Along the Glide Path

(Fig. 5) Sample dynamic diversification weights at different portfolio equity levels



Source: T. Rowe Price. For illustrative purposes only. Not intended to represent an actual investment or strategy. This is not to be construed as investment advice or a recommendation to take any particular investment action. **Diversification cannot assure a profit or protect against loss in a declining market.** Percentage of total fixed income allocation (core component = 70%).

the 12 months ended September 30, 2022, one of the worst performances on record. And while bond and equity returns historically have tended to be negatively correlated, we saw the reverse in the first half of 2022 as U.S. and global fixed income and equity markets both sold off in tandem.

Such conditions highlight the increased importance of fixed income diversification. U.S. investment‑grade bonds still make sense, in our view, as portfolio anchors and can play an important role in adding some potential stability to a multi‑asset portfolio. But we think it's important for most retirement investors to have fixed income exposure that goes beyond such "core" bond holdings. We think they also should consider whether it is appropriate for their situation to include international fixed income, high yield bonds, floating rate loans, and more dynamic fixed income strategies in their portfolios.

In our view, enhancing fixed income diversification with these "plus" sectors could help investors better navigate the various risks they will face over their life cycles, as well as the market conditions they may experience as they prepare for and go through retirement. However, some or all of these sectors may not be included in a retirement plan's core lineup. In our view, this makes fixed income diversification within multi‑asset portfolios, such as target date vehicles and personalized portfolio solutions, all the more important for retirement investors as they seek to navigate more complex market environments (Figure 5).

The Potential Benefits of Active Management

Over the 10 years ended September 30, 2022, the S&P 500 returned an annualized 11.7%—generating similarly strong returns for passive equity strategies tied to the index. With many passive U.S. large‑cap strategies performing well, many investors may have thought the costs associated with active management were not worth it. However, in a more subdued long‑term environment for equity returns, even 50 basis points of excess return from active management could make a meaningful difference in retirement outcomes, in our view.

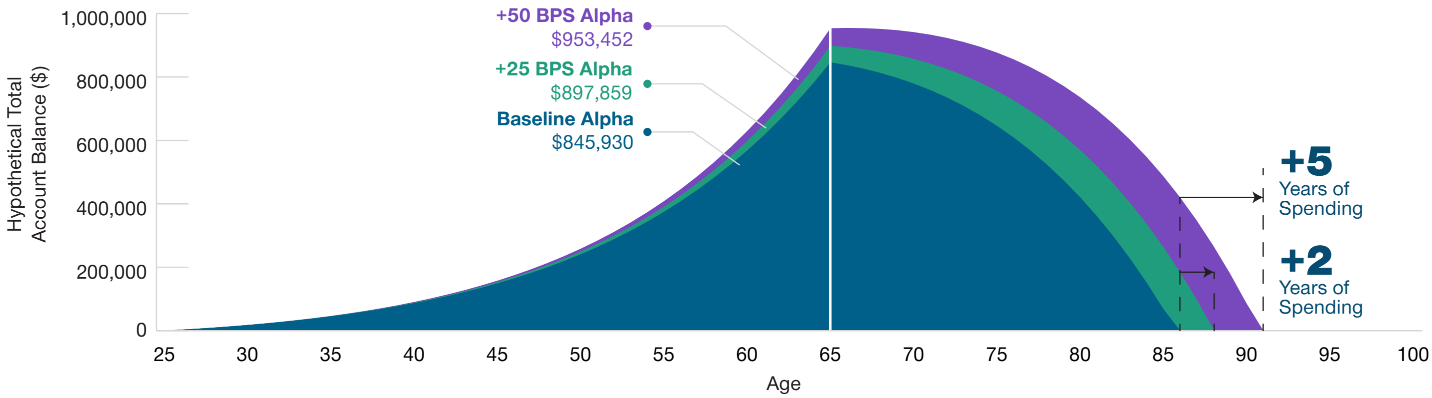
Our analysis, for example, suggests that an additional 50 basis points in excess return over an investor's lifetime could result in additional five years of

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

Past performance is not a reliable indicator of future performance. Investors cannot invest directly in an index.

Even Modestly Higher Returns Potentially Can Improve Retirement Outcomes

(Fig. 6) Hypothetical impact of potential active management alpha on portfolio growth



Demographic Assumptions

Starting Balance ($)	0
Starting Age	25
Starting Salary ($)	30,000
Annual Salary Growth Rate	3%
Annual Contribution Rate	9%
Retirement Age	65
Ending Salary ($)	97,861

Scenario Assumptions

	Baseline Alpha	+25 BPS Alpha	+50 BPS Alpha
Returns Before 65	7%	7.25%	7.50%
Returns After 65	5%	5.25%	5.50%
Account Balance at 65 ($)	845,930	897,859	953,452
Withdrawal (% of Ending Salary)	50%	50%	50%
Annual Withdrawal Amount ($)	48,931	48,931	48,931
Withdrawal Increase	3%	3%	3%

Source: T. Rowe Price.

For Illustrative Purposes only. Actual investment results will vary, perhaps significantly. Results will vary for other periods, and all investments are subject to market risk Alpha = excess returns and BPS = basis points. 1 basis point is .01%. The results shown above are hypothetical, do not reflect actual investment results, and are not a guarantee of future results. Hypothetical results were developed with the benefit of hindsight and have inherent limitations. Hypothetical results do not reflect actual trading or the effect of material economic and market factors on the decision-making process. Results do not include the impact of fees, expenses, or taxes. Results have been adjusted to reflect the reinvestment of dividend and capital gains. Actual returns may differ significantly from the results shown. The demographic assumptions, returns, and ending balances are shown for illustrative purposes only and are not intended to provide any assurance or promise of actual returns and outcomes.

retirement income for a hypothetical 401(k) plan participant (Figure 6).

We also believe that active management can help fixed income investors achieve the diversification they need. When allocating to sectors such as high yield and emerging market bonds, the primary risk for investors could be the possibility of default. In actively managed strategies, skilled credit analysts and portfolio managers can thoroughly evaluate these risks and seek to avoid troubled credits while also pursuing more attractive return opportunities.

Consideration of ESG factors offers an additional lever that active managers potentially can use to add value. A growing cohort of retirement investors now expect their employers' retirement plans to offer access to strategies that incorporate ESG factors in their investment analysis.

While a values-based approach to incorporating ESG factors initially may be more eye-catching from a participant perspective, we see increasing plan sponsor interest in an ESG integration approach, where material ESG factors are embedded in the investment decision-making process in an effort

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to either contribute to returns or mitigate potential risks. We believe ESG integration aligns with a fiduciary framework and is well positioned to withstand any future objections from a regulatory perspective.

The Role of Tactical Allocation

Since saving for retirement is a long-term goal, most investors need to look decades into the future when considering their asset allocations. However, we don't believe that investment managers should just take a "set it and forget it" static approach to their portfolios. Tactical allocation changes that seek to take advantage of dislocations in market valuations over shorter time periods potentially can enhance returns and reduce risks.

Helping Meet Retirees' Needs

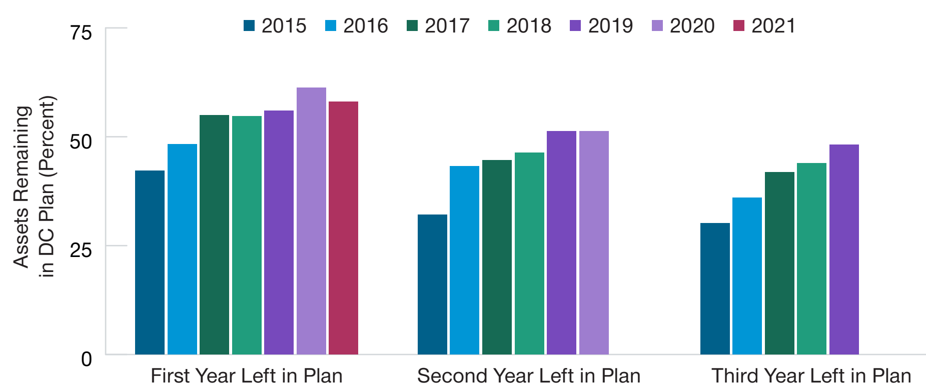
The investment climate is, without doubt, uncertain. For that reason, as well as others, we believe plan sponsors will continue to collaborate with plan consultants and other financial professionals to provide plan participants with the tools they need to stay on track toward their retirement objectives. In the process, many plan sponsors also are redefining their relationships with their employees and, increasingly, with retirees. Most notable in this regard is how many sponsors are seeking to help plan participants navigate the transition from saving to managing and drawing down their wealth in retirement.

We have discussed at length the demand for financial wellness advice and how this can extend to the use of retirement portfolios customized to personal needs, preferences, and circumstances. What we have not discussed yet is how plan sponsors are stepping in and seeking to meet the specific needs of retirees.

Historically, many retirees rolled their assets over into IRAs at retirement to access more personalized guidance and advice from financial professionals. However, recent analysis of the plans in T. Rowe Price's recordkeeping database points to more retirees keeping their assets in their former employers' plans and keeping those assets there for longer periods of time (Figure 7). In our view, this creates both an opportunity and a challenge for plan sponsors as they form

Meeting the Needs of Retirees Is Both a Challenge and an Opportunity for Plan Sponsors

(Fig. 7) Share of retiree assets kept in DC plans*



Source: T. Rowe Price Retirement Plan Services.
*Percent of account value retained by DC plan participants age 65 or older after one, two, or three calendar years following separation from service.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

Retiree needs are not limited to generating adequate and sustainable income.

views on how the purpose of their plan aligns with offering services to retirees.

When asked about the potential benefits to retirees of keeping their assets in a former employer's plan, plan consultants and financial professionals cited ongoing fiduciary oversight and lower costs for comparable investments versus rollover IRAs. Plan sponsors, too, increasingly are identifying benefits for their plans when retirees choose to keep their assets in them through retirement. Still, it is up to plan sponsors to decide what relationship with retirees is right for them. Factors such as plan demographics and workforce characteristics are critical considerations.

In general, we see sponsors who want their plans to retain retiree assets falling into three camps: those who feel an obligation to help former employees draw down their wealth in retirement, those who want to preserve plan pricing economies of scale that can benefit all participants, and those who are concerned about both objectives.

For plan sponsors who decide to help retirees manage and draw down their wealth in retirement, we believe that these efforts will require more than simply adding a solitary product or service. In contrast to individuals in the accumulation phase of the retirement investing journey, those approaching or in retirement have diverse needs, making it less likely that a single investment such as a managed payout fund or an annuity will suffice.

Consistent with the demand for holistic, personalized solutions that can help savers accumulate wealth, we believe plan sponsors may want to consider creating ecosystems for their retirees that encompass an array of investment solutions, complemented by services that potentially can assist retirees who are drawing down their savings. Retiree needs are not limited to generating adequate and sustainable income. Our understanding of the behavior of retirement investors suggests that their increasingly diverse needs can best be met in a comprehensive retirement ecosystem that includes investments, guided tools, and access to advice.

The process of constructing a solutions ecosystem for retirees is likely to be iterative and build on common retirement plan characteristics we already know are effective, such as plan design features, target date strategies, and advice. Finally, while many plan sponsors may choose to pursue this path, we continue to believe in the value of financial professionals and think that many retirees may be equally well served by continuing to seek help outside their retirement plans.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

Final Thoughts

In our 2023 RMO, we have defined what we believe is a potential path to financial success for millions of Americans who are saving for or are in retirement. In our view, this path includes:

- The importance of workers starting to save early in their careers, saving at the right level, and finally, saving persistently through their working years.
- Providing retirement investors with the holistic and personalized help they need.
- Providing professionally managed investment portfolios that can help retirement investors manage through market volatility, potentially improving their chances of having sufficient wealth to draw down in retirement.

Saving and investing for retirement is often a test of nerves. It appears that investors in target date portfolios know that their assets are being managed for the long term. Amid the rising inflation and market volatility seen in the first half of 2022, our recordkeeping data showed that more than 99% of participants who invested 100% in a target date product did not make an exchange between plan investment offerings.

Volatility can produce undesirable outcomes. Our analysis of bear market cycles over the past century has highlighted the futility of trying to time the market. Bear markets are often not long-lived, and converting stocks to cash after they have lost value often only serves to memorialize those losses. Worse, an investor could miss out on gains when the market recovers.

The retirement savings journey is long, and it's important for participants to get on the path early and stay on the path. For more information on how T. Rowe Price can help plan sponsors and participants make this journey together, please visit troweprice.com/retirementUS or contact your T. Rowe Price representative.

"Our research" refers to the T. Rowe Price sources listed on pages 17–18.

T. Rowe Price Sources

The T. Rowe Price research shared throughout this report comes from these sources:

Race, Retirement, and the Savings Gap

This paper used the U.S. Census Bureau's 2021 Current Population Survey as well as our 7th annual Retirement Savings and Spending Study to analyze where the largest savings gaps exist along racial and ethnic lines. Our study was conducted between June 9, 2021, and August 4, 2021, and included 3,844 plan participants and 1,332 retirees.

Retirement Savings and Spending Study

NMG Consulting conducts this annual survey on behalf of T. Rowe Price. The sample population surveyed includes 401(k) plan participants and retirees with a rollover IRA or left-in-plan balance. The survey has been fielded online annually since 2014.

Automatic Enrollment, Reenrollment, and Retirement Outcomes

In June 2022 we published this study, which took a closer look at specific plan design steps to try to improve retirement savings adequacy. The paper included an analysis of T. Rowe Price recordkeeping data, comparing participant savings behaviors 12 months prior to, and 36 months after, implementation of automatic enrollment.

2019 An Informed, Research-Based Approach to Better Retirement Outcomes

Survey conducted by P&I Content Solutions Group during November and December 2019, and statistical analysis conducted by Signet Research, Inc. Survey population included 451 corporate, nonprofit, and government defined contribution plan sponsors.

2021 Defined Contribution Consultant Study

T. Rowe Price, in partnership with Schaus Group, conducted this study, which included 51 questions, from September 20, 2021, to November 8, 2021. Responses came from 32 consulting and advisory firms with more than 33,000 plan sponsor clients and more than $7.2 trillion in assets under advisement.

Automatic Enrollment's Long-Term Effect on Retirement Saving

This paper included an analysis of two data sets. The primary set came from 600 firms that use T. Rowe Price as their recordkeeper and covered 4 million employees over the years 2006–2017. The secondary data set came from the United Kingdom's Office of National Statistics and covered contributions to the National Employment Savings Trust (NEST), the UK's defined contribution savings plan.

Financial Stress Is a Predictor of Financial Wellness

In this paper, we utilized participant findings from our 7th annual Retirement Savings and Spending Study. The study was conducted between June 9, 2021, and August 4, 2021, and included 3,844 plan participants and 1,332 retirees. Other insights in this paper stemmed from our Retirement Behavior Index™. To measure an employee's financial wellness, we developed a three-part framework—Household Financial Behaviors, Progress Made Toward Financial Goals, and Feelings About Future Retirement. Each part is built on responses to a series of questions and weighted equally. The result is the Retirement Behavior Index score.

What Is the Value of Financial Advice, and Would You Benefit From It?

This paper sought to measure the value of advice to the investors who are paying the bill. It explored the types of advice that investors want and what influences the perception of value received. The basis for the analysis was the 7th annual Retirement Savings and Spending Study research conducted in 2021.

2022 Midyear Market Outlook: Transitioning to a New Paradigm

This paper, released in June 2022, included our analysis of the risks

T. Rowe Price Sources

The T. Rowe Price research shared throughout this report comes from these sources:

of current inflation as well as the implications of prevailing economic conditions for equities and fixed income. It also discussed the potential impact of current geopolitical risks.

Participant Reactions to Jobs and the Economy, Q2 2022

Analysis of the plans in T. Rowe Price's recordkeeping database from January 2017 through June 2022. The analysis focused on the effects of inflation on plan participant saving and investing behavior.

How to Make Your Savings Last When Retiring Into a Down Market

We examined the sequence of returns risk for an investor's retirement withdrawal strategy in this paper, released in July 2022.

The High Cost of Cashing Out

In this paper, published in January 2022, we looked more closely at the potential benefits of staying invested through all types of markets.

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Investment Risks:
The principal value of **target date strategies** is not guaranteed at any time, including at or after the target date, which is the approximate year an investor plans to retire. These products typically invest in a broad range of underlying mutual funds that include asset classes such as stocks, bonds, and short-term investments and are subject to the risks of different areas of the market. A substantial allocation to equities both prior to and after the target date can result in greater volatility over short term horizons. In addition, the objectives of target date funds typically change over time to become more conservative.

International investments can be riskier than U.S. investments due to the adverse effects of currency exchange rates, differences in market structure and liquidity, as well as specific country, regional, and economic developments. These risks are generally greater for investments in **emerging markets.**

Fixed-income securities are subject to credit risk, liquidity risk, call risk, and interest-rate risk. As interest rates rise, bond prices generally fall. Investments in **high-yield bonds** involve greater risk of price volatility, illiquidity, and default than higher-rated debt securities. Investments in **bank loans** may at times become difficult to value and highly illiquid; they are subject to credit risk such as nonpayment of principal or interest, and risks of bankruptcy and insolvency.

Hybrid and personalized solutions are subject to risks including possible loss of principal. There is no assurance that any investment objective will be met.

The incorporation of environmental and/or social impact criteria into an investment process may cause a strategy to perform differently from a strategy that uses a different methodology to identify and/or incorporate environmental and/or social impact criteria or relies solely or primarily on financial metrics. There is no assurance that any objective will be met.

Active investing may have higher costs than passive investing and may underperform the broad market or passive peers with similar objectives. Passive investing may lag the performance of actively managed peers as holdings are not reallocated based on changes in market conditions or outlooks on specific securities.

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