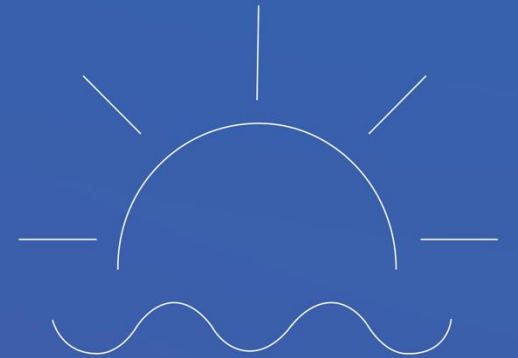


# The Impact of Managed Accounts on Participant Savings and Investment Decisions

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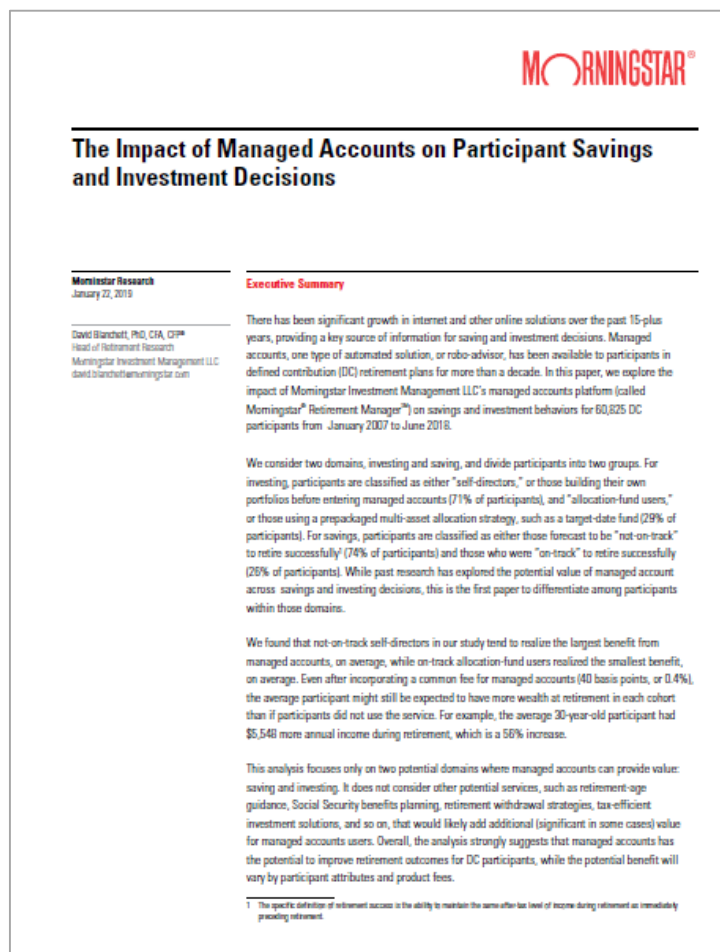
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# About the Study



# The Research





- Looked at 60,825 Morningstar® Retirement Manager<sup>SM</sup> “opt-in” participants from January 5, 2007 to June 4, 2018
- Recorded savings and investment decisions before and after entering managed accounts

Source: Blanchett (2019)

Morningstar® Retirement Manager<sup>SM</sup> is offered by Morningstar Investment Management LLC, a registered investment adviser and subsidiary of Morningstar Inc., and is intended for citizens or legal residents of the United States or its territories.

# Divided Participants Based on Investing and Savings

 <p>Investing</p>	<p><b>Self-Director, or DIY Investor (~71%)</b></p> <p>less than 90% of portfolio in an “allocation” fund (e.g., target-date fund, or TDF)</p>	<p><b>Allocation-Fund User (~29%)</b></p> <p>more than 90% of portfolio in an “allocation” fund (e.g., TDF)</p>
 <p>Savings</p>	<p><b>Not on Track for Retirement Success (~74%)</b></p> <p>less than 70% probability of achieving retirement income goal</p>	<p><b>On Track for Retirement Success (~26%)</b></p> <p>more than 70% probability of achieving retirement income goal</p>

Source: Blanchett (2019). "Retirement Success" is defined as a participant having a 70%+ probability of achieving the same level of after-tax income in retirement.

# The Impact on Off-Track Participants



# Not on Track for Retirement Success



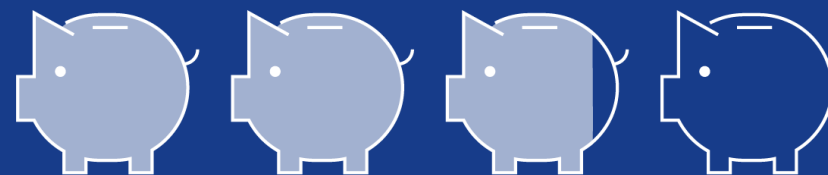
## Most Participants Were Off Track

74 percent of the participants in this study were not on track to achieve their retirement goals.

Not everyone needs to save more for retirement, so this study aimed to look at the impact of managed accounts within the context of those who need it.

# Saving More for Retirement

Of those participants who were not on track to meet their retirement goals, most increased their savings rate after entering a managed accounts service.

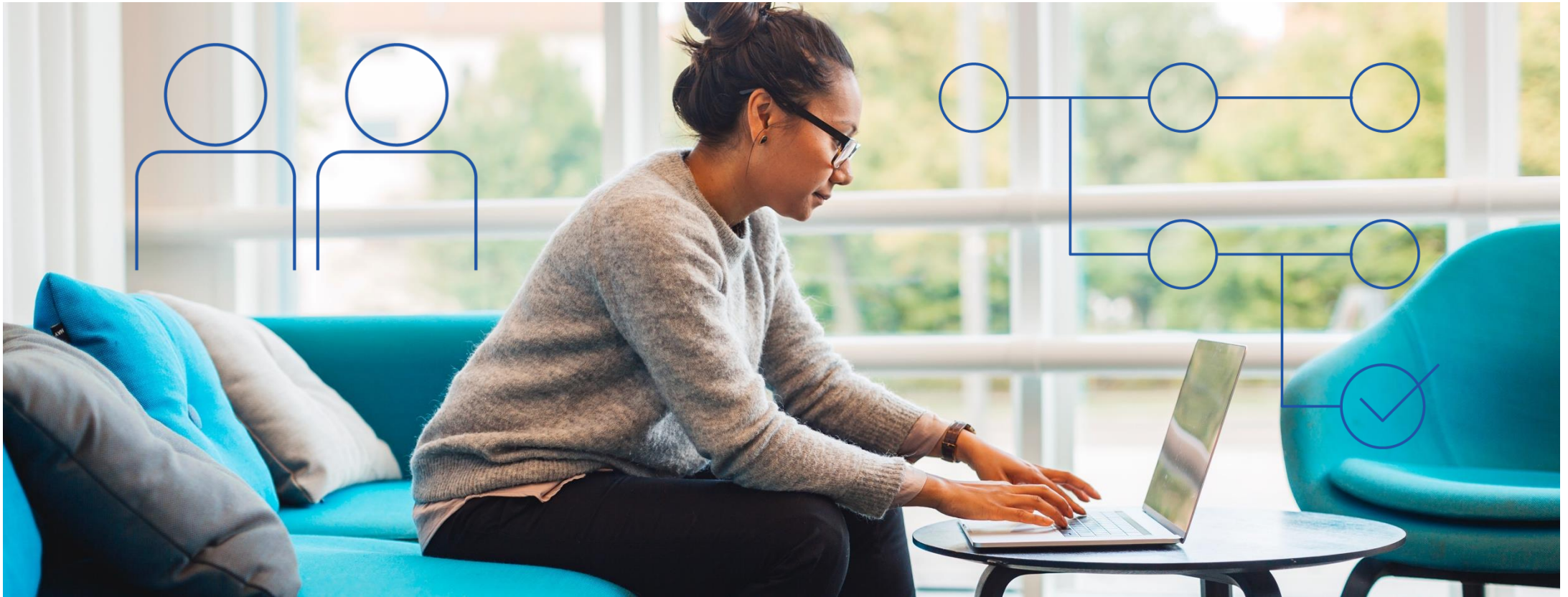


## More Savings in Retirement

71 percent of off-track participants increased their savings rate after using managed accounts.

## Increased Savings Rate

After using a managed accounts service, off-track participants increased their savings rate by nearly 33%, an average of 2% of their salary.





# Maximizing Employer Match

The percentage of off-track participants maximizing employer match increased by 12% after entering a managed accounts service.



# Wealth at Retirement



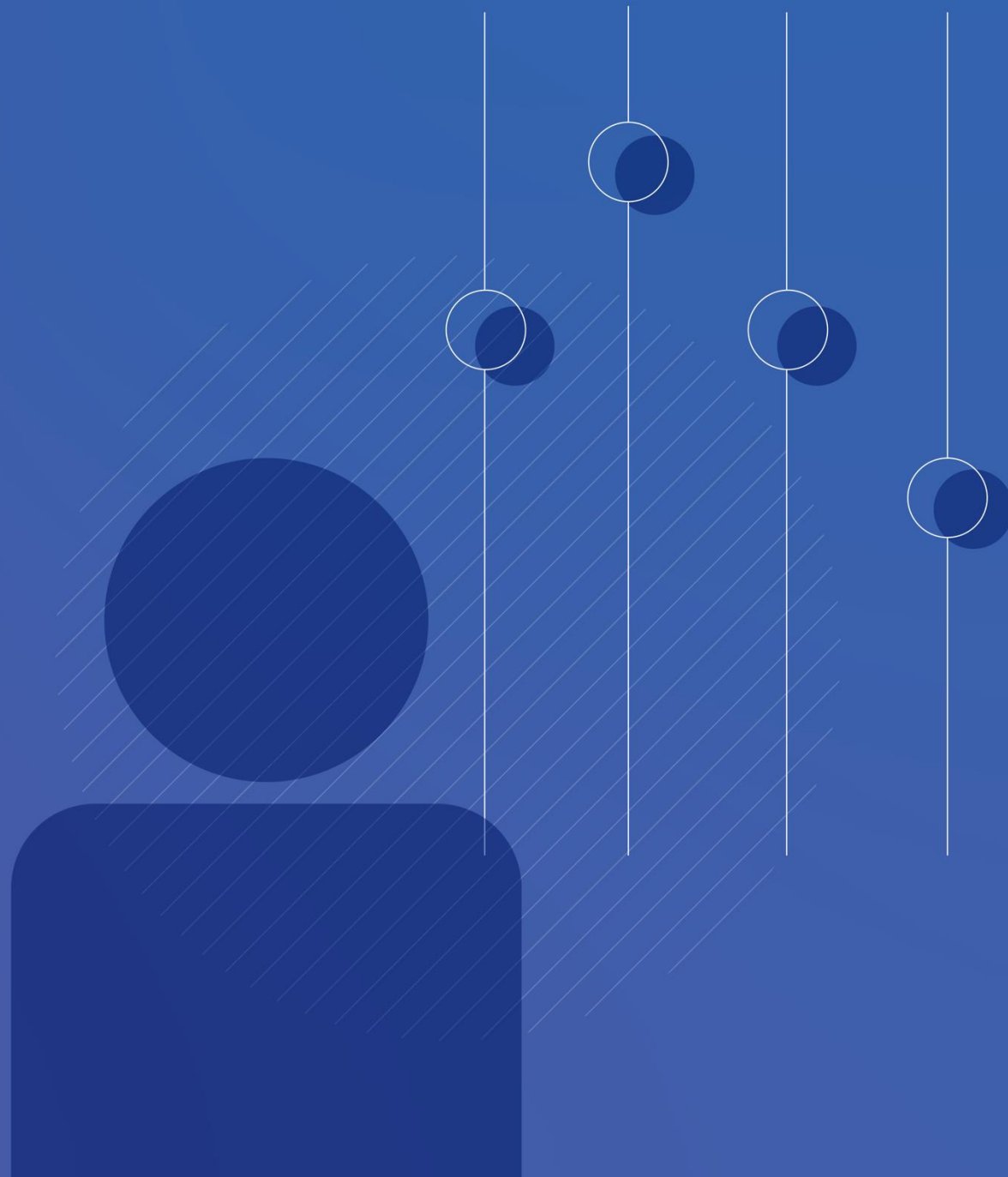
## More Wealth at Retirement

On average, wealth at retirement increased by 47% for off-track participants who previously managed their own investments.\*

By improving both saving and investment decisions, managed accounts can have a positive impact on a participant's retirement outlook.

\*This figure represents the expected average difference in wealth at retirement including an annual assumed 0.40% fee.

# Overall Impact of Managed Accounts



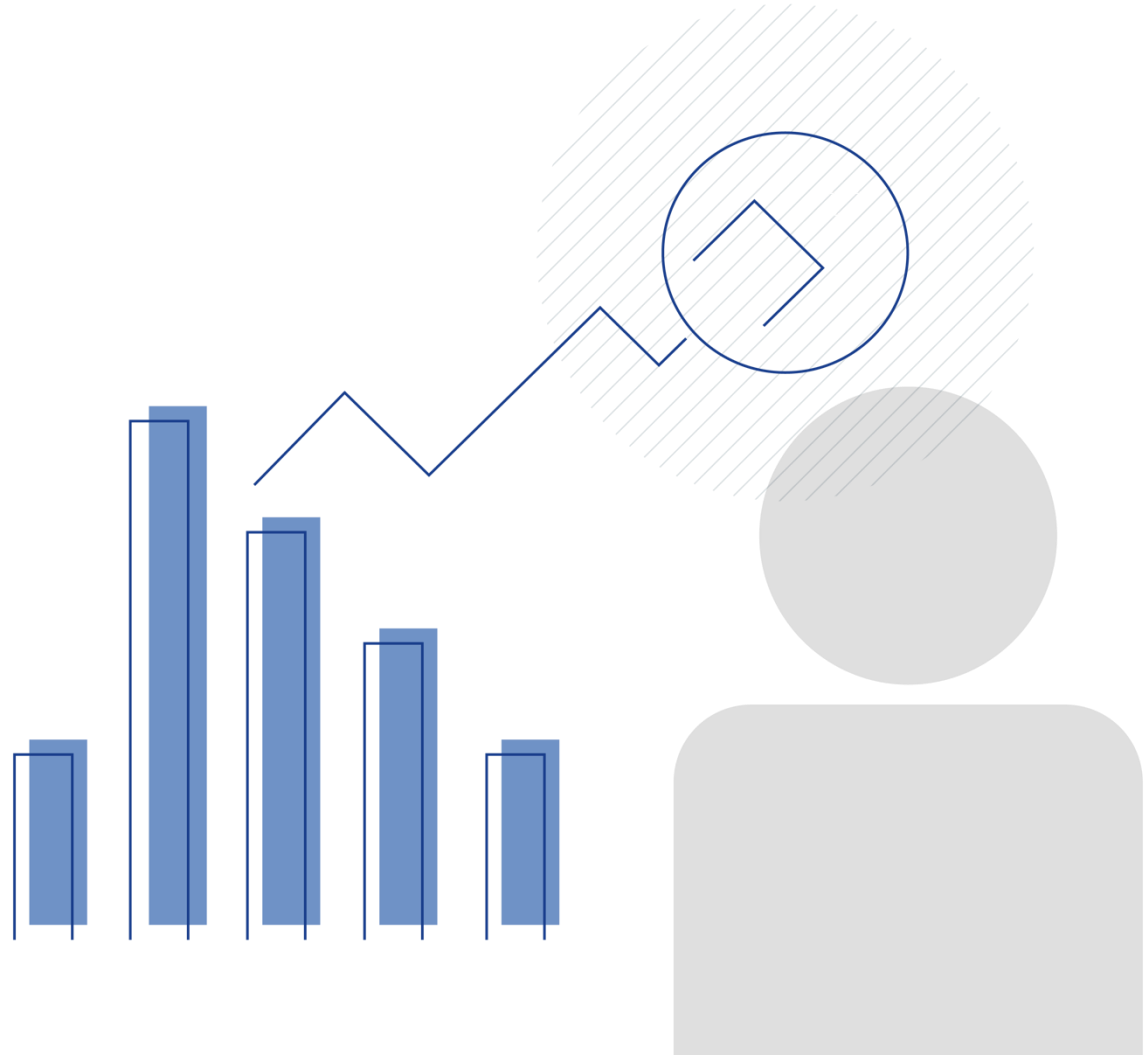
## More Wealth at Retirement

Assuming an annual fee of 0.40%, the average 30-year old participant could have almost 56% more annual retirement income from a managed accounts service.



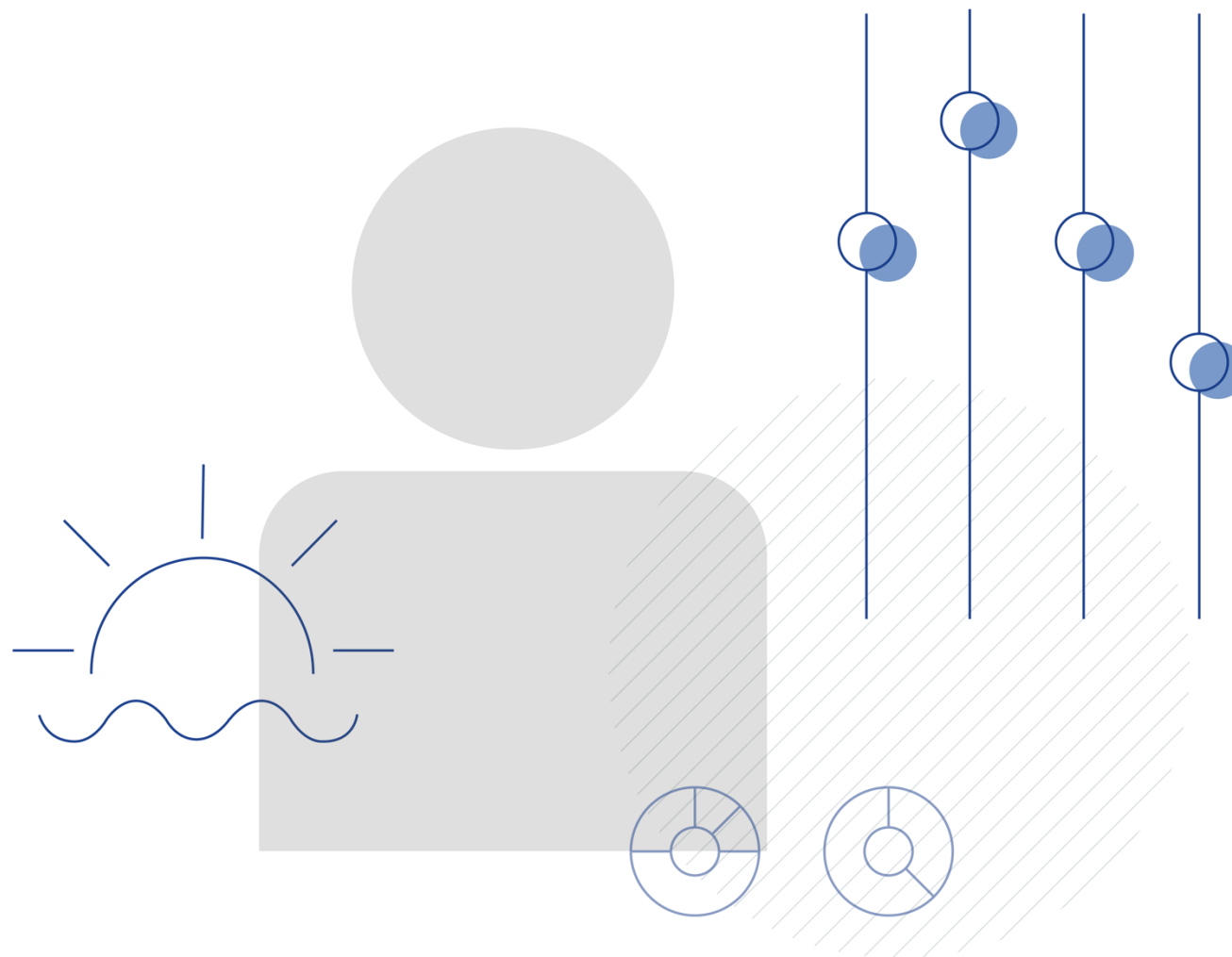
# More-Appropriate Portfolios

Participating in a managed accounts service resulted in more-appropriate portfolio risk levels for participants.



# Higher-Quality Funds

Participating in managed accounts resulted in portfolios with higher quality\* funds, especially among those who previously managed their own investments.



Higher quality was defined using Morningstar® Quantitative Rating™

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# Important Disclosures

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## **Research on The Impact of Managed Accounts on Participant Savings and Investment Decisions**

A total of 60,825 retirement plan participants were included in Morningstar Investment Management's study, "The Impact of Managed Accounts on Participant Savings and Investment Decisions." Participants were selected for use based on available information and various filters and include those participants that used the Morningstar Retirement Manager managed accounts service between the dates of January 5, 2007 and June 4, 2018.

In no way should any performance shown be considered indicative or a guarantee of the future performance of an actual defined-contribution plan participant's portfolio with the same investment option or viewed as a substitute for an investment option recommended to an individual participant. Actual results of an individual participant may differ substantially from the historical performance shown for an investment option and may include an individual participant incurring a loss. Past performance is no guarantee of future results.

Performance returns were calculated using a time-weighted, geometrically-linked rate of return formula. Returns for periods over one year are annualized.

Morningstar Investment Management does not guarantee that the results of their advice, recommendations, or the objectives of an investment option will be achieved.

In no way should the results of this analysis be considered indicative or a guarantee of the future performance of an actual participant using Morningstar Retirement Manager or considered indicative of the actual performance achieved by an individual participant using Morningstar Retirement Manager.

To download the full research paper, please go to: <https://www.morningstar.com/lp/impact-of-managed-accounts>.

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# Important Disclosures

Slide 4: For the purposes of this study, a “self-director” is defined as an individual that has less than 90% of their portfolio invested in an “allocation” fund (e.g., target-date fund) prior to using the Morningstar Retirement Manager managed accounts service. An “allocation-fund user” is defined as an individual that has 90%+ of their portfolio invested in an “allocation” fund prior to using the managed accounts service.

For the purposes of this study, a participant who is “not on track for retirement success” is defined as an individual that has less than a 70% probability of achieving their retirement income goal prior to using the Morningstar Retirement Manager managed accounts service. A participant who is “on track for retirement success” is defined as an individual that has 70%+ probability of achieving their retirement income goal prior to using the managed accounts service.

Morningstar Investment Management defines “retirement success” as a participant having a 70%+ probability of achieving the retirement income goal, which is based on the individual achieving the same level of after-tax income during retirement.

Slide 7: This figure quantifies the change in savings rates for participants prior to and after using the Morningstar Retirement Manager managed accounts service. (Total savings rates include employee deferrals and employer matching contributions. If an employer matching contribution rate was not available for a plan, an assumed match rate of 50% on the first 6% of deferrals was assumed.) The majority of participants who were not on track increased their savings rate (71.5%) while the majority of participant who were on track did not change their savings rates (64.8%). Changes in savings rates were not constant across age ranges, with younger participants having larger average changes than older participants. Total savings rates increased more than employee deferral rates because Morningstar Retirement Manager considers whether a participant is achieving the maximum employer match and recommends a deferral rate increase up to the employer match amount regardless of whether the participant is on track or not on track to meet their retirement goals.

Slide 8: This figure quantifies the change in deferral rates for participants prior to and after using the Morningstar Retirement Manager managed accounts service. The median absolute difference for those not-on-track users was two percentage points with a relative change of 33.3%. The median absolute difference for on-track users was zero percentage points with a relative change of 0%. Changes were not constant across age ranges.

Slide 9: This figure quantifies the percentage of participants who received the maximum employer match prior to and after using the Morningstar Retirement Manager managed accounts service. Only plans that offered an employer match were included in this analysis. On average, 12% more not-on-track participants received the maximum employer match, when a match was available, versus 1% of on-track participants.



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# Important Disclosures

Slide 10: The impact of higher returns and increasing savings rates assumed to be experienced by managed accounts users was estimated by analyzing participants' expected wealth at retirement. A time value of money (i.e., future value) calculation was used which included the expected geometric return of a participant's portfolio, total savings amount (total savings rate times income level), and the portfolio's current balance. The expected geometric return of each participant's portfolio prior to and after using the managed accounts service is calculated using the portfolio's asset class exposures. The difference between these results was then projected forward to the participant's assumed retirement at age 65. Income, savings rates, and portfolio risk level were assumed to remain constant until retirement. In reality, these would likely change over time and would differ by individual participants. Participants were grouped by (i) self-directors versus allocation-fund users, (ii) whether they are "on track" or "off track" for meeting the retirement goal, and (iii) annual managed accounts investment management fee.

For this calculation, forty (40) basis points was used as a proxy for the average fee assessed by a managed account provider. This analysis does not account for all portfolio costs such as fees, taxes, or expenses other than the annual investment management fee. If included, these fees would lower the potential amount of additional wealth at retirement.

Not-on-track self-directors were found to have the highest median increase in projected wealth at retirement at 15%, followed by not-on-track allocation-fund users (14%), On-track allocation-fund users (0%), and then on-track self-directors (-1%). In addition to impact of managed accounts varying by participant group, the results were also found to vary by age and managed account fees.

Slide 12: The amount of annual income a participant could receive in retirement was determined by calculating the expected geometric return for each participant's portfolio prior to and after using the Morningstar Retirement Manager managed accounts service using the portfolio's asset class exposures. The difference between these results was then projected forward to the participant's assumed retirement at age 65. Participants are grouped by (i) age, (ii) self-directors versus allocation-fund users, (iii) whether they are "on track" or "off track" for meeting the retirement goal, and (iv) annual managed account investment management fee. Each portfolio's fund allocation and the participant's savings rate are assumed to remain constant over time and a retirement age of 65 is assumed. In reality, these would likely change over time and would differ by individual participants.

For this calculation, forty (40) basis points was used as a proxy for the average fee assessed by a managed account provider. This analysis does not account for all portfolio costs such as fees, taxes, or expenses other than the annual investment management fee. If included, these fees would lower the potential amount of additional wealth at retirement shown in this analysis.

Overall, an average 25- to 34-year-old participant in this scenario could potentially realize an additional \$5,548 in annual retirement income. (In this age group, not-on-track self-directors could realize an additional \$8,212 by enrolling in managed accounts; Not-on-track allocation-fund users could realize an additional \$3,279, and on-track self-directors could realize an additional \$3,418. On-track allocation-fund users were found to potentially realize \$496 less by using managed accounts than by using an allocation fund).

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# Important Disclosures

The average amount a participant could realize in annual retirement income by enrolling in managed accounts with an annual 40 basis-point investment management fee varies across age groups, with an average 35- to 44-year-old having the potential to realize an additional \$2,566 and an average 45- to 54-year-old has the potential to realize an additional \$690. A 55- to 65-year-old could potentially realize \$66 less by using managed accounts.

Slide 13: Equity allocations for portfolios before and after a participant enrolled in the Morningstar Retirement Manager managed accounts service were estimated. After using managed accounts, there were considerable changes in risk levels for some participants, in particular a subset of self-director users who were invested primarily or entirely in fixed income prior to enrolling in managed accounts. Such participants were generally invested too conservatively and had a significant increase in their equity allocations after enrolling in managed accounts. In addition, a significant number of participants, especially older participants, ended up in more conservative portfolios after enrolling in managed accounts.

Slide 14: Morningstar Quantitative Ratings™ are used as a proxy for fund quality for this analysis. Morningstar Quantitative Ratings are statistical ratings that range from Gold, Silver, Bronze, Neutral, or Negative. Higher ratings reflect Morningstar's conviction in a fund's ability to outperform its peer group and/or benchmark on a risk-adjusted basis over a full market cycle of at least 5 years. Using these ratings, the weighted average "quality" of a portfolio was estimated. Prior to enrolling in the Morningstar Retirement Manager managed account service, Allocation-fund users had an average fund quality score of 3.8 while self-director users had an average fund quality score of 3.7. After enrolling in managed accounts, the average fund quality score for users was 3.9.

## **Morningstar Quantitative Rating™**

Morningstar's quantitative fund ratings consist of: (i) Morningstar Quantitative Rating (overall score), (ii) Quantitative Parent Pillar, (iii) Quantitative People Pillar, (iv) Quantitative Performance Pillar, (v) Quantitative Price Pillar, and (v) Quantitative Process Pillar (collectively the "Quantitative Fund Ratings").

The Quantitative Fund Ratings are calculated monthly and derived from the analyst-driven ratings of a fund's peers as determined by statistical algorithms. Morningstar, Inc. calculates Quantitative Fund Ratings for funds when an analyst rating does not exist as part of its qualitative coverage.

• **Morningstar Quantitative Rating:** Intended to be comparable to Morningstar's Analyst Ratings for open-end funds and ETFs, which is the summary expression of Morningstar's forward-looking analysis of a fund. The Morningstar Analyst Rating is based on the analyst's conviction in the fund's ability to outperform its peer group and/or relevant benchmark on a risk adjusted basis over a full market cycle of at least 5 years. Ratings are assigned on a five-tier scale with three positive ratings of Gold, Silver, and Bronze, a Neutral rating, and a Negative rating. Morningstar calculates the Morningstar Quantitative Rating using a statistical model derived from the Morningstar Analyst Rating our fund analysts assign to open-end funds. For information about Morningstar Analyst Rating Morningstar's fund analysts assign to funds, please go to: [https://www.morningstar.com/content/dam/marketing/shared/research/methodology/778136\\_Morningstar\\_Analyst\\_Rating\\_for\\_Funds\\_Methodology.pdf](https://www.morningstar.com/content/dam/marketing/shared/research/methodology/778136_Morningstar_Analyst_Rating_for_Funds_Methodology.pdf) for information about Morningstar Analyst Rating that Morningstar's fund analysts assign to funds.

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# Important Disclosures

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- **Quantitative People Pillar:** Intended to be comparable to Morningstar's People Pillar scores, which provides Morningstar's analyst opinion on the fund manager's talent, tenure, and resources. Morningstar calculates the Quantitative People Pillar using an algorithm designed to predict the People Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.
- **Quantitative Performance Pillar:** Intended to be comparable to Morningstar's Performance Pillar scores, which provides Morningstar's analyst opinion on the fund's performance pattern of risk-adjusted returns. Morningstar calculates the Quantitative Performance Pillar using an algorithm designed to predict the Performance Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.
- **Quantitative Price Pillar:** Intended to be comparable to Morningstar's Price Pillar scores, which provides Morningstar's analyst opinion on the fund's value proposition compared to similar funds sold through similar channels. Morningstar calculates the Quantitative Price Pillar using an algorithm designed to predict the Price Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative.
- **Quantitative Process Pillar:** Intended to be comparable to Morningstar's Process Pillar scores, which provides Morningstar's analyst opinion on the fund's strategy and whether the management has a competitive advantage enabling it to execute the process and consistently over time. Morningstar calculates the Quantitative Process Pillar using an algorithm designed to predict the Process Pillar score our fund analysts would assign to the fund. The quantitative rating is expressed as Positive, Neutral, or Negative. Morningstar Quantitative Ratings have not been made available to the issuer of the security prior to publication.

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For more information about Morningstar's quantitative methodology, please visit <https://www.morningstar.com/research/signature>.

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