# Choice in Retirement Plans:

## How Participant Behavior Differs in Plans Offering Advice, Managed Accounts, and Target-Date Investments

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### EXECUTIVE SUMMARY

Research has shown that too many choices can lead to choice overload, causing people to disengage from making any decision at all. Otherwise put: Too many choices can be bad—especially in the context of retirement planning decisions. In such cases, less can literally equate to more.

T. Rowe Price, in conjunction with choice expert Professor Sheena Iyengar of Columbia University, examines how participant behavior differs based on the services and investment options that plans offer. Specifically, participant behavior is analyzed in over 110 401(k) plans recordkept by T. Rowe Price. Plans are of all different sizes and offer a combination of Advice and Managed Account (MAs) services, as well as Target-Date Investment (TDI) options.

Some plans included all three offerings, while other plans included only one or two. Different combinations of plan offerings are evaluated with regard to whether or not they:

- Impact employees' tendency to participate
- Affect participants' likelihood of using a particular offering
- Alter participants' deferral rates
- Change asset allocation mixes of participants

Here is what the research shows:

**Offering TDIs may positively impact participation.** Plans that offer TDIs appear to have higher participation rates than those that do not offer TDIs.

**Some choice is good for participation.** Plans that offer one of the two services in combination with TDIs see a boost in enrollment relative to plans that offer TDIs alone.

**More choice does not guarantee increased participation**. Plans offering two services in combination with TDIs have similar participation rates relative to plans that offer only TDIs. In fact, for plans that automatically enroll employees into a TDI, offering two services is associated with lower levels of participation relative to offering neither service in conjunction with the TDI default.

**Usage of TDIs is high.** When TDIs are offered as part of a plan, TDI usage for participating employees is about 70%. TDI usage is even higher when employees are automatically enrolled in a TDI.

**Usage rates for particular services and investment options are not cannibalized when offered together in one plan.** Plans that offer only services, only investment options, or both have similar service and investment option usage rates.

**Deferral rates are similar regardless of the combination of services or investment options a plan offers.** Plans that make one or all offerings available to participants—Advice, MAs, and/or TDIs—do not show different rates of saving.

**Asset allocation to stocks and bonds is higher in plans that offer TDIs.** Plans that offer TDIs alone, or in conjunction with services, have stock allocations at least 15 percentage points higher and bond allocations at least three percentage points higher than plans that do not offer TDIs.


[1] This summary is based on research commissioned by T. Rowe Price and executed by Professor Sheena Iyengar of Columbia University (Graduate School of Business) as well as Mark Dean and Greg Kaplan of New York University (Department of Economics) under the guidance of Behavioral Research Associates and T. Rowe Price.

## INTRODUCTION

Offering too many choices to consumers can lead to decision paralysis, preventing consumers from making decisions. One of the most well-known examples of choice overload in retirement plan services comes from past research led by Professor Sheena Iyengar of Columbia University.[2] With data from about 800,000 employees, Professor Iyengar and colleagues found that the probability of 401(k) participation decreased as the number of funds offered in a plan increased: For every 10 additional investments in a plan, there was a 1.5% to 2.0% drop in the participation rate. Such choice effects are particularly relevant given that choice in retirement plans seems to be increasing, not decreasing. From 1998 to 2006, the average number of investments in 401(k) plans increased from 10 to 18.[3] It is quite possible that too much investment choice is unnecessarily lowering plan participation.

T. Rowe Price partnered with Professor Iyengar (in addition to researchers Mark Dean and Greg Kaplan of New York University) to further evaluate the effect of choice on retirement plan participant behavior. Unlike previous research, the current research focuses on the combination of services and investment options offered—Advice, MAs, and/or TDIs—rather than investment choices per se. The analysis herein examines the potential costs and benefits of plans with one, two, or all of the offerings in the context of participation, service usage, savings rates, and asset allocation at the plan level. The results of this research shed light on how the number and type of offerings that a 401(k) plan makes available to participants may impact plan-level outcomes.

## ACADEMIC RESEARCH ON CHOICE EFFECTS

One simply has to look at the vast number of products and services offered by U.S. retailers to see that in the present consumer environment, more choice is considered "good." From a purely rational perspective this is true: The more choices that are available to us, the more likely it is that an option will fit our preferences. However, research has shown that too much choice can have surprisingly negative effects on consumer behavior. In a seminal study examining choice effects, Professor Iyengar and Professor Mark Lepper of Stanford University evaluated the choice behavior of 502 grocery store consumers.[4] One group of consumers passed by an extensive display of 24 different jams, while another group passed by a limited selection of six different jams. Although 1.5 times more consumers passing by the extensive display stopped to taste the jams (60% vs. 40%), for those who did stop, nearly 10 times more consumers purchased the jams when the selection was limited (30% vs. 3%). Increased choice led to fewer purchases, even though more consumers seemed interested in having a larger number of choices.

The research demonstrates that while a lot of choice might seem good, too much choice can be bad for a number of reasons. Although more choice provides the opportunity for consumers to find their preferred option, more choice also increases the time it takes to make a decision—especially as the amount of information becomes increasingly large, complex, and confusing.[5] Importantly, many consumers simply may not have the time to make decisions involving large amounts of information while they are working, taking care of their families, and coping with other demands. Additionally, increased choice may make the decision seem daunting and decrease consumers' motivation to make a decision, leading consumers to opt out of decision-making altogether.[6]

[2] Sheena Iyengar, Gur Huberman, and Wei Jiang. "How Much Choice is Too Much? Contributions to 401(k) Retirement Plans." 2004.
[3] Profit Sharing/401(k) Council of America. "50th Annual Survey of Profit Sharing and 401(k) Plans." 2007.
[4] Sheena Iyengar and Mark Lepper. "When Choice is Demotivating: Can One Desire Too Much of a Good Thing?" 2000.
[5] Richard Thaler and Cass Sunstein. "Nudge: Improving Decisions About Health, Wealth, and Happiness." 2008. See also James Choi, Brigitte Madrian, and David Laibson. "Reducing the Complexity Costs of 401(k) Participation Through Quick Enrollment™." 2006.
[6] See Footnote 4.

Indeed, Professors Julie Agnew and Lisa Skyzman of the College of William and Mary have suggested that the large number of choices in retirement plans may cause general disengagement from savings decisions.[7] For example, Sweden's public pension program—which has over 500 options—may cause eligible new participants to disengage, resulting in over 80% of the participants staying with the default option.[8] One can argue that opting out of a decision—such as whether or not to purchase jam—does not have a substantial negative impact on consumers. However, it is difficult to argue that disengaging from savings decisions is a good thing. Therefore, understanding how the availability of services, such as Advice and MAs, or investment options, such as TDIs, affects retirement plan participant behavior is of importance.

## SERVICES, INVESTMENT OPTIONS, AND CHOICE

### What Are Advice, Managed Accounts (MAs), and Target-Date Investments (TDIs)? [9]

Advice and MAs are services, whereas TDIs are investment options. Although perhaps unconventional, thinking about these offerings in conjunction with each other makes quite a bit of sense. All three—Advice, MAs, and TDIs—are designed to help employees make important savings and investing decisions aimed at bettering their retirement outcomes.

**Advice** is intended to make investment decisions easier by giving participants the ability to access specific fund recommendations through their medium of choice—typically online, by phone, or through a paper statement. The recommendations are personalized based on participants' individual goals and characteristics. The participant can choose to implement these recommendations and can check back periodically for updates.

**Managed Accounts (MAs)** are designed to simplify investment decisions by delegating plan management to an investment professional. Each participant undergoes a personalized retirement assessment, which is considered by the investment professional when creating and managing a personalized, diversified portfolio for the participant. The advisor then automatically updates the participant's investments on a periodic basis (typically quarterly), alleviating the need for participants to make decisions about the ongoing management of their investments.

**Target-Date Investments (TDIs)** are investments that include a diverse portfolio of stocks, bonds, and other securities (e.g., cash equivalents). TDIs provide a simple, one-step investment solution: Once a participant's target retirement date is selected, the investment's professionally managed investment portfolio automatically shifts from a more risky to a more conservative mix as the retirement date approaches and continues to shift to a more conservative mix through retirement.

### Why Study Advice, MAs, and TDIs Together?

It is no secret that retirement plans provide employees with many choices. That is one reason why services, such as Advice and MAs, as well as investment options, such as TDIs, were developed: These offerings are intended to help simplify employees' saving and investing decisions. In fact, the Department of Labor considers MAs and TDIs to be qualified default investment alternatives (QDIAs) under the Employee Retirement Income Security Act (ERISA)[10]—presumably because they are more prudent defaults than non-QDIAs. However, the availability of multiple QDIAs begs the questions: Which QDIA is best for participants? Should other service alternatives be offered with QDIAs, such as Advice? And what if there is no default service or investment option—what then? If the choice is difficult for those designing and administering plans, one can only imagine how it must be perceived by participants. Ironically, although these services were meant to simplify participant decision-making, offering many services or investment options, rather than just one or two, may further complicate things.

7 Julie Agnew and Lisa Szykman. "Asset Allocation and Information Overload: The Influence of Information Display, Asset Choice, and Investor Experience." 2005.

8 Presumably the default option does not best fit 80% of participants' preferences. See also James Choi, David Laibson, Brigitte Madrian, and Andrew Metrick. "For Better or for Worse: Default Effects and 401(k) Savings Behavior." 2004.

9 For the plans in our dataset, TDIs are investment options offered by T. Rowe Price (also referred to as T. Rowe Price Retirement Funds), whereas Advice and MAs are services offered via a third party.

10 Balanced funds are also a QDIA, but are not studied in this report.

## RESEARCH OBJECTIVES AND APPROACH

In the current research, the analysis is focused on how participant behavior differs based on whether one, two, or three offerings—Advice, MAs, and TDIs—are available in a retirement plan. Are there any benefits to participant behavior if plans make all three available rather than just one or two?

### Description of Dataset

The dataset analyzed includes information at both the plan and participant level from April 2008 for over 110 401(k) plans recordkept by T. Rowe Price.[11] About half of the plans (53%) automatically enroll eligible participants in TDIs, while the other half (47%) do not automatically enroll eligible participants in any service or investment option. Plans include over 200,000 eligible participants hired after the most significant plan change.[12] Evaluating only "new hires" removes potential confounds that would make it difficult to interpret results.

The plans analyzed are categorized by the combination of services or investment options offered and whether or not those plans automatically enroll eligible participants. In total, there are six plan categories (see Table 1).[13]

**TABLE 1: Plan categories analyzed. Plans are sorted by the combination of services or investment options offered and whether or not the plan auto-enrolls participants.**

| Plan Categories | Combination of Services or Investment Options Offered | Automatic Enrollment |
|---|---|---|
| 1 | TDIs | No |
| 2 | Advice, TDIs | No |
| 3 | Advice, MAs | No |
| 4 | Advice, MAs, TDIs | No |
| 5 | TDIs | Yes, into TDIs |
| 6 | Advice, MAs, TDIs | Yes, into TDIs |

### Description of Analysis

The key findings described in this paper include modeled statistics.[14] This allows us to evaluate the effect of changing one aspect of the retirement plan environment while holding all other factors constant. For example, the modeled statistics can tell us the differences in participation rates between plans that offer all three services and investment options relative to those that offer only TDIs, if all other plan and individual level characteristics were similar—something un-modeled statistics cannot accomplish.

## KEY FINDINGS

### Participation

Participation levels were analyzed for the dataset's six plan categories. Please note that an eligible employee is considered a participant if he or she has a positive deferral rate.

Findings show that:

**Participation rates are different depending on the combination of services and investment options offered by plans in the dataset**. As can be seen from Figure 1, some choice can be good for enrollment levels: For non-automatic enrollment plans that offer one service option (e.g., Advice) in conjunction with TDIs, participation rates are higher relative to when only TDIs are offered.[15] However, more choice may not be better. Non-automatic enrollment plans that offer two services (i.e., Advice and MAs) with TDIs do not show a significantly greater level of participation relative to when TDIs are offered alone. In fact, too much choice may decrease the benefits of some choice. Participation is lower for non-automatic enrollment plans that offer two services, rather than just one service, with TDIs.[16]

The potential drawback of too much choice is even clearer under automatic enrollment. Figure 2 shows that offering two services in conjunction with TDIs, rather than just offering TDIs alone (when TDIs are the default investment option), is associated with lower participation rates. It is possible that offering many options

11 Plans were selected based on criteria defined prior to conducting the analysis and drawing conclusions. Specifically, only plans that offered Advice, MAs, and/or TDIs were to be included in the analysis. The plan set was to be further restricted to plans where necessary plan and participant data (a) were available to complete the analysis and (b) were valid when crosschecked against other available data sources. A rigorous data review process was conducted to implement these restrictions.

12 Significant plan changes are defined as the introduction (or termination) of an automatic enrollment feature or the addition of a new service or investment option.

13 For the purpose of discussing only reliable key findings, the text herein focuses on plan categories with more than one plan. As such, a seventh plan category is excluded from this summary—plans offering Advice and MAs, where MAs act as a default—because the category only contains one plan with less than 300 eligible participants.

14 All modeled statistics reported in the following text are relative (i.e., benchmarked) to non-automatic enrollment plans where TDIs are the only offering. Our modeled statistics involve multivariate regression analysis, which controls for the effects of other related variables. For example, certain plan- or individual-level characteristics such as plan size or salary may impact participant behavior. These factors have the potential to influence un-modeled statistics, making it difficult to interpret them. However, regression analysis helps to factor these variables out of the results, making the statistics more interpretable. We control for a number of plan- and individual-level variables including, but not limited to, plan size, number of funds offered, company match, availability of loans, participant age, tenure, and salary.

15 Difference is significant, $p = .002$.

16 Difference is marginally significant, $p = .07$.

increases eligible participants' desire to make an active service or investment option decision—thus, under automatic enrollment, eligible participants opt out so that they can make their decisions at a later date. However, inertia may reduce the chance that any choice (including the choice to participate) will be made at all.

**Participation in plans that offer TDIs is high.** Non-automatic enrollment plan categories that offer TDIs have substantially higher participation rates than the non-automatic enrollment plan category that offers only Advice and MAs, but not TDIs.[17] (Of course, under automatic enrollment, participation is even higher.) When participants are not automatically enrolled, TDIs might be particularly effective in increasing enrollment because they may overcome participant inertia (resulting from choice overload) by offering a simple, one-step solution to asset allocation decisions over time.

FIGURE 1 Non-automatic enrollment plans: absolute differences in participation rates when TDIs are not offered alone, but in conjunction with...

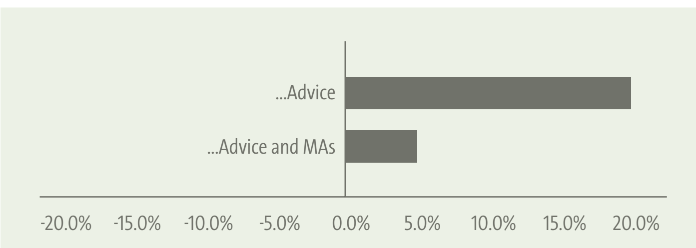


FIGURE 2 Automatic enrollment plans: absolute difference in participation rates when TDIs are not offered alone, but in conjunction with...

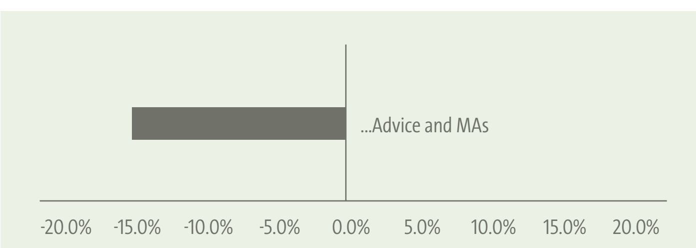


TABLE 2: Modeled usage of Advice, MAs, and TDIs by plan category.

| Plan Type | Combination of Services or Investment Options Offered | Advice | MAs | TDIs |
|---|---|---|---|---|
| Non-Automatic Enrollment Plans | TDIs | – | – | 69% |
| | Advice, TDIs | 7% | – | 72% |
| | Advice, MAs | 8% | 3% | – |
| | Advice, MAs, TDIs | 7% | 2% | 69% |
| Automatic Enrollment Plans | TDIs | – | – | 92% |
| | Advice, MAs, TDIs | 7% | 2% | 81% |

**Service and Investment Option Usage**
Usage levels for the six plan categories within the dataset were analyzed. Please note that only participants (i.e., employees with positive deferral rates) are considered when calculating usage rates.

Findings show that:

**Usage for particular services or investment options is similar regardless of the combination of services or investment options offered by the plan.** For all plan categories with and without automatic enrollment, service usage ranges from 7% to 8% for Advice, and from 2% to 3% for MAs. These findings show that offering multiple services or investment options, rather than just one or two, does not cannibalize usage. For TDI usage—while defaulting participants into TDIs matters (usage is higher for plans that default participants into TDIs)—the combination of services and investment options does not matter: Non-automatic enrollment plan usage ranges from 69% to 72%, and from 81% to 92%[18] for automatic enrollment plans.

It may come as a bit of a surprise that the combination of services and investment options offered does not impact usage for the plans in the dataset—especially considering that too many choices may negatively impact participation rates. Why can too many choices potentially cause disengagement when eligible participants make a decision to enroll in a plan, but not when participants choose between options? One possible explanation is as follows: A decision to use a particular service may require less effort relative to the decision to participate. If this is true, a greater number of services may need to be offered in a plan (i.e., greater than three) to detect a corresponding decrease in the probability of usage.

17 All differences are significant, $p < .001$.

18 Although the 11-percentage-point difference in usage rates for TDIs looks significant between the two automatic enrollment plan categories, it is not ($p > .1$).

**Usage of TDIs is high across all plan categories.** Regardless of whether plans default participants into TDIs, TDI usage is high. Modeled TDI usage ranges from 69% to 92%, with the higher usage rates in plans that automatically enroll participants in TDIs.[19] Again, high usage rates could be a result of the simplicity in decision-making that TDIs provide.

### Deferral Rates

The six plan categories were evaluated with respect to deferral rates. Deferral rates include plan participants only (i.e., only those with a positive deferral rate).

Findings show that:

**Deferral rates are similar regardless of the combination of services and investment options that plans offer.** The difference in modeled deferral rates is 0.4 percentage points for automatic enrollment plans and ranges from 0.1 to 1.3[20] percentage points for non-automatic enrollment plans. Considering that Advice and MA usage is low (from 2% to 3% and 7% to 8%, respectively), it is not particularly surprising that no systematic differences in deferral rates are found between plans that offer varying combinations of services and investment options. In other words, usage of these services may need to be much higher in order to identify their potential impact.

### Asset Allocation

Asset allocation to stocks, bonds, and cash equivalents for the respective plan categories was evaluated. Only plan participants are considered in asset allocation calculations.

Findings show that:

**Allocations to stocks and bonds are higher for plans that offer TDIs.** For both automatic and non-automatic enrollment plans, the combination of services and investment options offered is clearly related to asset allocation in one respect: Table 3 shows that for the plan category that does not offer TDIs, allocation to stocks and bonds is always lower, and allocation to cash equivalents is always higher, relative to plan categories that offer TDIs. Otherwise put, plans that offer TDIs are associated with higher stock (up to 21 percentage points) and bond (up to five percentage points) allocations and lower cash (up to eight percentage points) allocations relative to plans without TDIs.[21]

**TABLE 3: Modeled allocation to stocks, bonds, and cash by plan category.**

| Plan Type | Combination of Services or Investment Options Offered | Stocks | Bonds | Cash |
|---|---|---|---|---|
| Non-Automatic Enrollment Plans | TDIs | 76% | 12% | 9% |
| | Advice, TDIs | 82% | 14% | 4% |
| | Advice, MAs | 61% | 9% | 12% |
| | Advice, MAs, TDIs | 80% | 13% | 6% |
| Automatic Enrollment Plans | TDIs | 81% | 14% | 6% |
| | Advice, MAs, TDIs | 78% | 13% | 7% |

For both automatic and non-automatic enrollment plans, while the type of offering matters, the number of offerings does not seem to matter. For example, offering just Advice, or Advice and MAs, with TDIs does not seem to systematically influence the allocation mix. However, as mentioned in the deferral rate analysis, it is possible that the low usage rates for Advice and MAs may make it difficult to detect their influence when offered in a plan.

19 TDI usage for the automatic enrollment plan category that offers TDIs alone is significantly higher than all other non-automatic enrollment plan categories, $p < .05$.

20 Only the difference between non-automatic enrollment plan categories offering Advice and TDIs versus Advice, MAs, and TDIs is significant, $p = .05$. This finding does not appear to reveal any systematic relationship between the combination of services and investment options offered in a plan and deferral rates.

21 All differences in stock and bond allocations are significantly higher for plan categories with TDIs relative to the plan category without TDIs, $p < .001$. However, differences for cash allocations are not always significant.

## IMPLICATIONS

Previous research suggests that too much choice in retirement plans leads people to disengage from retirement savings decisions. Motivated by this prior research, this report evaluates whether plans that offer multiple services (such as Advice and MAs) and investment options (such as TDIs)—which are meant to simplify decision-making—may actually complicate it, resulting in less positive participant behavior.

Considerations based on the analysis of the plans in the dataset:

- **Offer some choice of service or investment options to employees—but be wary of offering too much choice.** Although some choice appears to be good for participation rates, plans that offer many choices do not necessarily have higher levels of enrollment. In fact, this research suggests that sometimes plans with many, rather than fewer, choices have lower participation rates.
- **Do not worry about cannibalizing usage of one service or investment option by providing multiple choices.** Although too much choice appears to impact participation rates, plans that offer only services, only investment options, or services and investment options, do not show substantially lower usage rates for particular services or investment options.
- **Offering TDIs may have a positive impact on participant behavior.** TDIs appear to be associated with higher rates of participation and usage relative to plans that do not offer TDIs. TDIs may be popular because they overcome issues related to choice overload.

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