

Help in Defined Contribution Plans: Is It Working and for Whom?

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Are participants using
Help better off?

Executive Summary

Professional help provided to participants in employer-sponsored 401(k) plans has been growing steadily for the last decade. In the landmark report “Help in Defined Contribution Plans: Is It Working and for Whom?” Hewitt Associates and Financial Engines examine the topic of employer-sponsored professional help in 401(k) plans and answer the questions:

- Are participants using professional 401(k) help better off?
- Which participants use professional help, and what kind of help do they use?

This report focuses on three of the most prevalent and fastest-growing types of professional investment help in employer-sponsored 401(k) plans today:¹ target-date funds, managed accounts, and online advice (referred to collectively as “Help” throughout this report). Participants not using any of these three types of Help or those not using Help appropriately make up the Non-Help group.

Linking participant Help usage with actual results, this report looks at participant behavior and portfolio risks and returns during the volatile period between January 1, 2006 and December 31, 2008. Our report is based on a data set of seven large plans representing more than 400,000 individual participants and over \$20 billion in plan assets.

Help Is Working; Participants Using Help Are Better Off

The main finding of the report is that 401(k) participants of all ages using employer-provided 401(k) Help (defined as target-date funds, managed accounts, or online advice) are better off than those who do not use Help across a variety of market environments. On average, the median annual return for Help Participants was almost 2% (186 basis points) higher than for Non-Help Participants, net of fees.²

Participants using Help have portfolios with risk levels that are both more appropriate for their retirement horizons and more efficiently allocated among the options in their plan. Non-Help Participants often have inappropriate risk

¹ *Trends and Experience in 401(k) Plans 2009*, Hewitt Associates.

² All returns reported in this research are net of fees, including fund-specific management and expense fees, and managed account fees.

levels and/or inefficient allocations, both of which can significantly affect portfolio performance. Of particular concern, given their limited time to recover from any mistakes, is that the greatest variability in observed portfolio risk levels is found among retirees and near-retirees not using Help.

Participants Are Using Help

On average, across the more than 400,000 plan participants represented in this report, about one-quarter (25.3%) currently use at least one of the types of Help offered within their 401(k) plans, while three quarters (74.7%) do not. Average usage of Help overall varies across the seven plans, from a low of 15% to a high of more than 35%.

Plan design (specifically, automatic enrollment coupled with a qualified default investment alternative³), the length of time Help has been in place in a plan, and participant demographics all impact Help usage.

Multiple Help Options Required to Meet Participant Needs

The report findings suggest that no single type of Help is necessarily suited for a participant's entire work life, and a range of help offerings is required to meet the retirement needs of a diverse workforce. For example:

- **Target-date fund** users tend to be younger, with lower tenures and with significantly lower account balances, salary, and contribution rates. We estimate that approximately half of the participants using Help through target-date funds have been defaulted into the funds by their employers.
- **Managed account** users tend to be older and with longer tenures than participants using target-date funds or online advice, or those receiving no Help at all.
- **Online advice** users tend to be younger, but with higher account balances (as compared with target-date fund users), salaries, and contribution rates.

³ A "qualified default investment alternative," as defined in the Department of Labor's final rule, Default Investment Alternatives Under Participant Directed Individual Account Plans, 72 Fed. Reg. 60452 (Oct. 24, 2007).

Introduction: About This Report

This report examines the topic of employer-sponsored professional help in 401(k) plans. It seeks to determine the following:

- Are participants using professional help better off?
- Which participants use professional help, and what kind of help do they use?

With more Americans relying on their 401(k) plans as their primary source of retirement income and with pervasive evidence of inertia and poor investment decision making, it has become increasingly clear that 401(k) participants need more retirement help. In response, over the last decade, plan sponsors have made more types of savings and investing help available to participants. Starting in the mid- to late 1990s, a number of sponsors began to add target-date funds to their investment lineup. Online investment advice came of age with the Internet in the late 1990s and became a common offering of mid- and large-sized plan sponsors. Beginning in 2002, plan sponsors began offering discretionary managed account programs to their participants.

This trend was accelerated with the passage of the Pension Protection Act in 2006. Today, the majority of large employers offer some type of professional help to participants, often in combination with automatic enrollment. According to Hewitt Associates' *Trends and Experience in 401(k) Plans 2009* study of more than 300 employers, 71% of employers currently offer target-date funds, up from 52% in 2007. In addition, one-third (32%) offer online advice, up from 20% in 2007, and the number of plans offering managed accounts has more than doubled in the last two years, increasing from 11% in 2007 to 26% in 2009.

Perhaps nothing highlighted the need for participant help more clearly than the financial crisis and resulting stock market meltdown of 2008. With the sudden drop in participant 401(k) balances, having a clear understanding of whether or not offering help to participants was actually working became an urgent and important question for plan sponsors. This study looks at the period between January 2006 and December 2008—a unique period in American financial market history and a good “stress test” for determining the benefits of help in a variety of market conditions.

This report is a result of collaboration between Hewitt Associates and Financial Engines. The two companies contributed complementary participant data, financial technology, and portfolio analytics, without which the report would not have been possible. As a result, this report links participant decisions around using help to actual portfolio results. It is our hope that this research be used to inform 401(k) plan design and retirement policy, with the goal of helping more American workers reach financially secure retirements.

Introduction: Defining Help in 401(k) Plans

This report focuses on three of the most prevalent and fastest growing types of professional investment help provided by employers in 401(k) plans today:⁴

- Target-date funds
- Managed accounts
- Online advice

Throughout this report, we refer to all three types of professional investment help collectively as “Help.” In addition, we have applied the following requirements to each type of Help:

Target-date funds—Target-date funds are generally intended to be used for a participant’s entire 401(k) account holding. Therefore, for workers to qualify as receiving Help through target-date funds in this analysis, participants were required to have 95% or more of their 401(k) accounts invested in an age-appropriate target-date fund.⁵ Participants with less than 95% in an age-appropriate target-date fund were categorized in the Non-Help group.

Managed accounts—Participants who enroll in a managed account program have their 401(k) accounts professionally managed by the managed accounts provider, relieving the participant from having to make ongoing investment decisions. To qualify as using Help through managed accounts, participants had to be currently enrolled in a managed accounts program.

Online advice—Online advice is designed to help participants with savings and investment recommendations for their 401(k) accounts. It is up to the participant to implement the advice. For workers to qualify as receiving investment Help in this analysis, participants had to have used online advice within the last 12 months and received one or more recommendations. Participants whose last usage of online advice was more than 12 months ago were categorized in the Non-Help group.

Non-Help Participants—Participants not using any of the three types of Help together with those using one of the types of Help but failing to use it appropriately were placed in the Non-Help group.

⁴ *Trends and Experience in 401(k) Plans 2009*, Hewitt Associates.

⁵ Further details can be found in the Methodology Appendix.

Introduction: Data Sample Information

Usage and Profiles

The data included in this report are drawn from seven large 401(k) plans; the sponsors of these plans are joint clients of Hewitt Associates and Financial Engines. The included 401(k) plans vary in size from 8,200 to more than 120,000 participants. Collectively, the plans represent more than 400,000 participants with over \$20 billion in assets.

In terms of plan design, all seven have made all three forms of Help (target-date funds, managed accounts, and online advice) available to their plan participants, although they have introduced them at different times. Five of the seven plan sponsors automatically enroll new employees in the 401(k) plan and automatically invest employees in an age-appropriate target-date fund. The remaining two plans have also made target-date funds the default investment but do not automatically enroll participants.

The following table provides a general overview of the plans included in the study:

OVERVIEW OF PLANS INCLUDED IN STUDY

Plan Feature	Plans with Feature	Plans without Feature
Auto-Enrollment	5	2
Target-Date Funds as Default Investment	7	0
Company Stock as Investment Option	5	2
Match in Company Stock	4	3

Plan Implementation of:	Date Range
Managed Accounts	September 2004-May 2008
Target-Date Funds	April 2005-December 2008
Target-Date Funds as Default Investment	June 2007-December 2008
Online Advice	July 2000-March 2009

The Usage and Profiles sections of the report utilize 401(k) account and savings data collected between April and July 2009, and each individual participant's Help classification was assessed in a corresponding manner (i.e., based on the form of Help, if any, the participant was using when the 401(k) account data was collected).

Similarly, plan design information (such as company stock being an investment option) is based on the rules in place during the same mid-2009 time frame.

Results

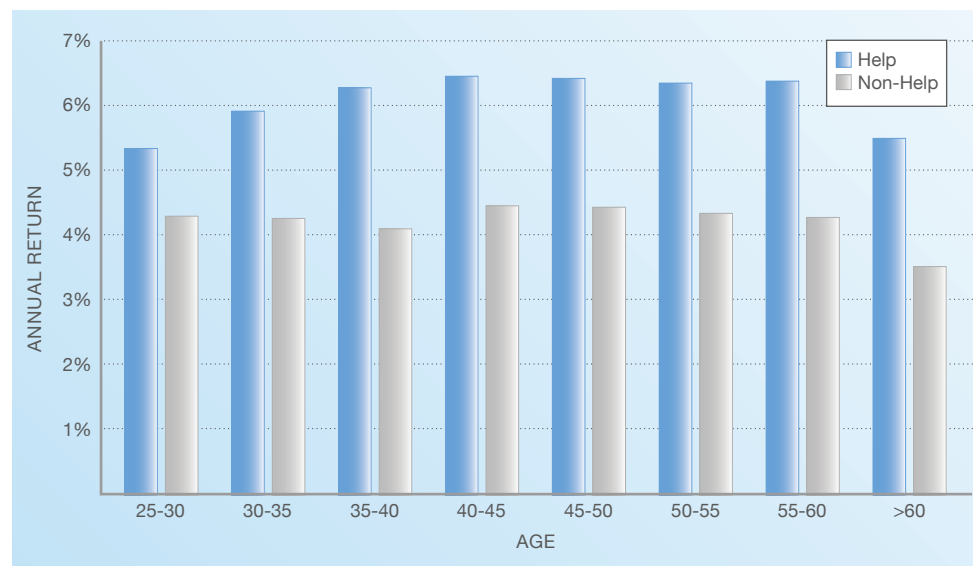
The Results section focuses on historical returns and risk levels from January 2006 through December 2008. Three of the seven sponsors included in the Usage and Demographic sections have returns data available for the entire range of 2006–2008. These are augmented with one additional new sponsor in order to mitigate sponsor-specific data issues and produce more robust results. Within the Results section, the associated 401(k) plans vary in size from approximately 11,000 to 180,000 participants; collectively, the plans in the Results section of the report represent more than \$15 billion in assets and over 310,000 participants. This provides us with an average of approximately 225,000 participant observations for each of the three years.

Results: Are Participants Using Help Better Off?

In this section, we examine the portfolio return and risk benefits of using Help, with the goal of answering the question: Are Help Participants better off than Non-Help Participants?

First, we look at how the 401(k) portfolios of Help Participants have performed relative to Non-Help Participants across various age groups in the three-year sample period between 2006 and 2008.⁶

FIGURE 1: MEDIAN RETURNS



Across all age groups, Help Participants perform better than Non-Help Participants. On average, annual median returns for Help Participants were nearly 2% (186 basis points) higher than Non-Help Participants across the three-year period. All returns reported in this study are net of fees.⁷

⁶ The intent of this section is to evaluate all types of Help in aggregate, rather than to conduct a comparative analysis of the individual types of Help.

⁷ All returns reported in this research are net of fees, including fund-specific management and expense fees, and managed account fees.

This difference can have a significant impact on a participant's wealth accumulation. To illustrate the impact, compare the potential outcome of a Help Participant versus a Non-Help Participant after 20 years, where each invests a lump sum of \$10,000 at age 45.⁸ Assuming each receives the median returns identified in this report, the Help Participant could have 47% more money at age 65 (\$33,000) than the Non-Help Participant (\$22,500).⁹

Why are Non-Help Participants performing so poorly relative to Help Participants? An analysis of their portfolios points to two major mistakes:

- **Inappropriate risk levels**—Non-Help Participants frequently have portfolios with inappropriate levels of risk. For example, they often take far too much risk near retirement or are far too conservative early in their careers.
- **Inefficient portfolios**—For any given risk level, Non-Help Participants frequently have inefficient portfolios, often making poor asset class selections or selecting poor asset combinations.

In the following sections, we illustrate these mistakes by performing a deeper analysis on subsets of the data.

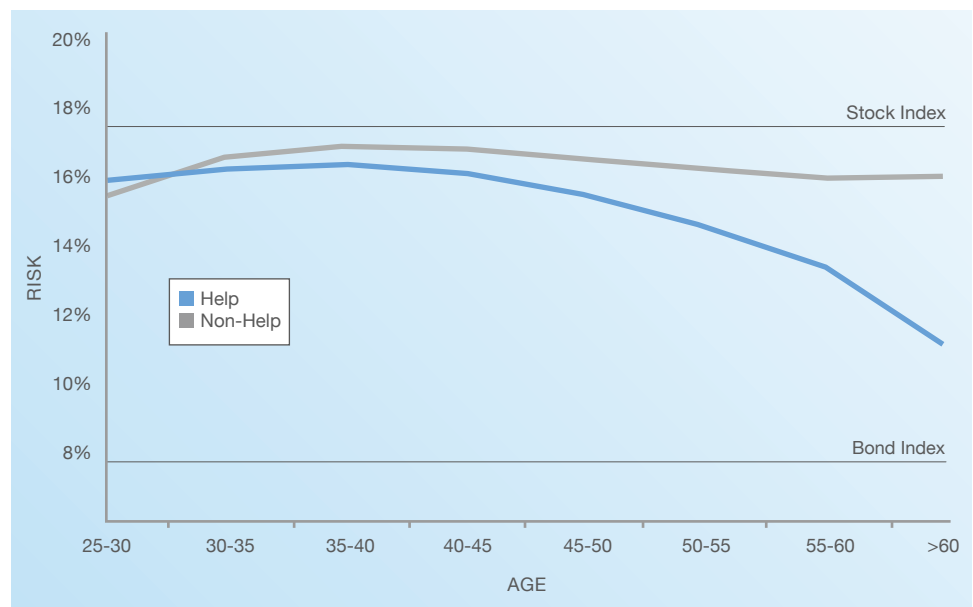
⁸ For participants in the study, the average years until retirement is 19.5 and the average age is 45.5.

⁹ The difference becomes even more dramatic if the initial investment is made at age 25. In this scenario, the Help Participant could have 103% more money at age 65 (\$105,800) than the Non-Help Participant (\$52,100). Further details can be found in the Methodology Appendix.

Results: Non-Help Participants Have Higher Risk Levels

Managing risk is a critical component in investing. One of the most common ways of measuring investment risk is standard deviation of returns, which indicates how variable returns are likely to be over a given time period.¹⁰ Using this as our proxy for risk, we plot the median risk levels of Help Participants and Non-Help Participants in Figure 2 (below). We also plot the risk levels for two reference portfolios: a Stock Index portfolio and a Bond Index portfolio.¹¹

FIGURE 2: MEDIAN PORTFOLIO RISK



Comparing median risk levels among participants by age, Help Participants clearly follow an appropriate glide path in which risk starts out higher early in their careers and “glides” downward as they approach retirement.¹² In contrast, Non-Help Participants almost always have higher risk levels and a minimal reduction in risk as they approach retirement.

¹⁰ All reported risk levels are forward-looking annual standard deviation values. Further details can be found in the Methodology Appendix.

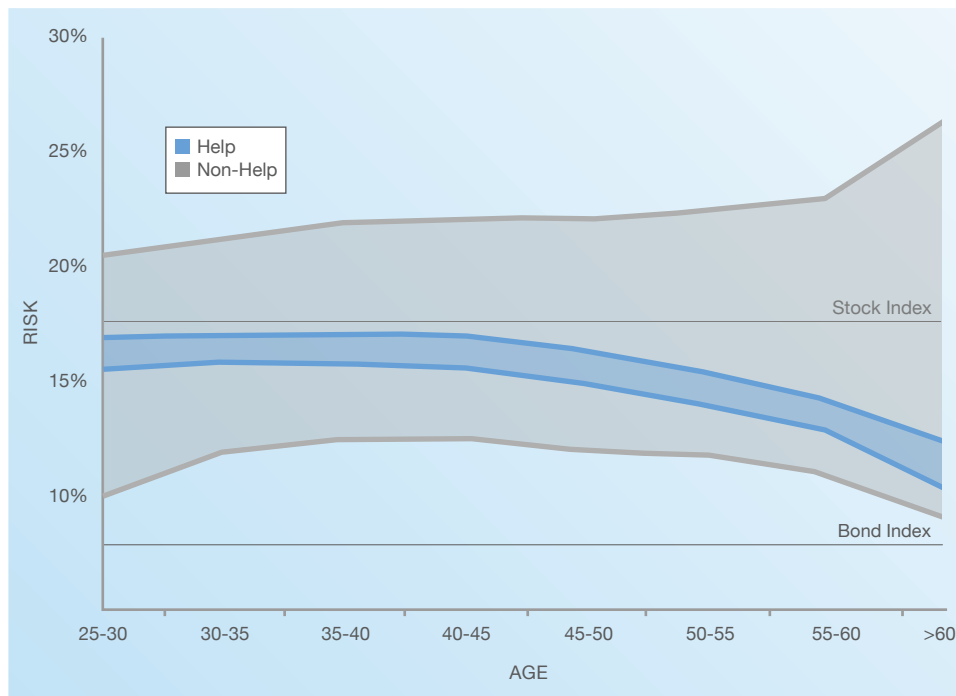
¹¹ The Stock Index portfolio is based on the Standard and Poor’s S&P 500 Index and represents a well-diversified all-equity portfolio. The Bond Index portfolio is based on the Barclays Capital U.S. Aggregate Bond Index and represents a well-diversified all-fixed income portfolio. Further details can be found in the Methodology Appendix.

¹² All participants are assumed to retire at age 65.

Results: Non-Help Participants Have Wider Risk Ranges

In addition to the median risk values, we compare the range of risk levels being taken by Help Participants with those of Non-Help Participants. In the figure below, we show the middle 50% for each of these categories.¹³ We also plot the risk levels for the two reference portfolios.

FIGURE 3: PORTFOLIO RISK RANGES



This analysis yields two important observations:

- **Inconsistent investment strategies**—Non-Help Participants have substantially wider ranges of risks across all age ranges, indicating that they have far less consistency in their investment strategies and are potentially failing to adjust or rebalance their portfolios over time. In addition, many Non-Help Participants are taking levels of risk well above that of a well-diversified all-equity portfolio. This provides further evidence that many Non-Help Participants are

¹³ We take the entire range of risks for each age group and remove the top and bottom 25% of the risk values. This helps reduce the impact of anomalous outlying data points and leaves the middle 50% of risk values, which are plotted in Figure 3.

poorly diversified. In contrast, Help Participants' portfolios have relatively narrow risk ranges and do not appear to incur these wide variances.

- **Inappropriate glide paths**—Among Non-Help Participants near the higher risk levels (the upper gray line in Figure 3), participants age 55 and older have risk levels that increase with age, indicating that they are taking on **more** risk as they approach retirement rather than decreasing their risk. Similarly, those near the lower risk levels (the lower gray line in Figure 3) and **under** age 40 also take on increased risk with age, as illustrated by the upward sloping glide path. The only Non-Help Participants to have an age-appropriate glide path are those near the lower risk levels and **over** age 40.

Results: Inappropriate Risk Levels Negatively Impact Returns

Clearly, many Non-Help Participants are taking on inappropriate levels of risk. Non-Help Participants err both ways: too low risk and too high risk. In this section, we evaluate the impact this is having upon their returns. First, though, we must more precisely define which Non-Help Participants have inappropriate risk levels.

As can be seen in Figure 3, the majority of Help Participants had risk levels in the 10%–18% range,¹⁴ and this can serve as our proxy for **appropriate** risk levels. These levels of risk are consistent with diversified portfolios combining fixed income and equity holdings.

Turning our attention to Non-Help Participants only, we can classify them as follows:

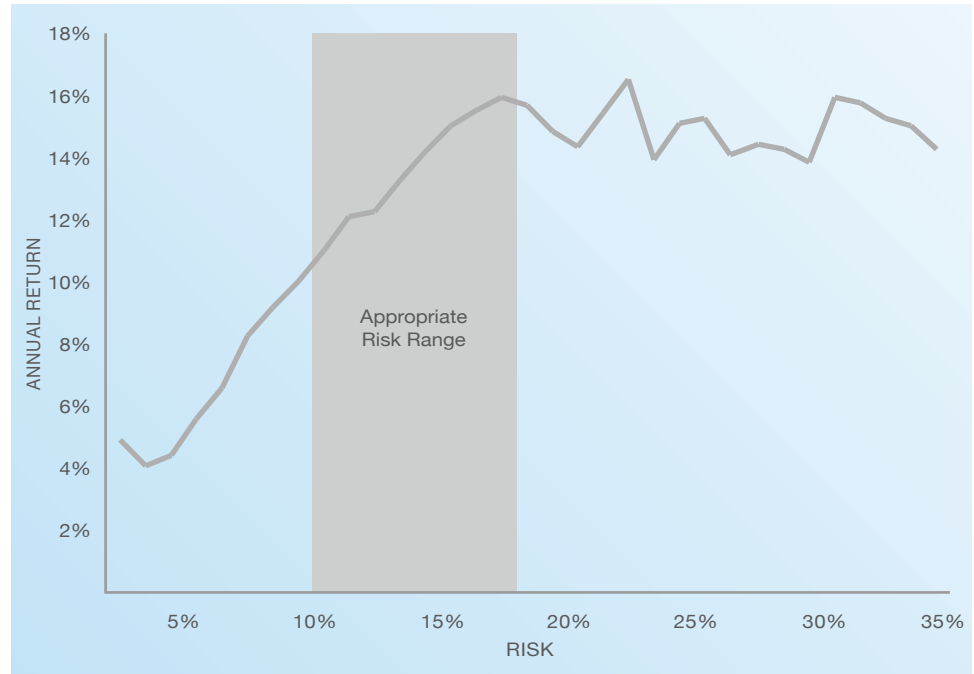
- Risk levels below 10% are **too low** (22% of Non-Help Participants)
- Risk levels between 10% and 18% are **appropriate** (39% of Non-Help Participants¹⁵)
- Risk levels above 18% are **too high** (39% of Non-Help Participants)

Next, we examine the returns that Non-Help Participants experienced by risk level between 2006 and 2008. Given the widely divergent market returns over the sample period, we look at median returns year by year, starting with 2006.

¹⁴ This range represents approximately 85% of Help Participants.

¹⁵ The 39% estimate for the appropriate risk level does not consider any Non-Help Participants who fall within the 10%–18% range but are at an age-inappropriate risk level (e.g., a near-retiree at the high end of the appropriate risk range). Thus, 39% is most likely a high estimate of the actual number of Non-Help Participants who are at appropriate risk levels.

FIGURE 4: NON-HELP PARTICIPANT RETURNS (2006)



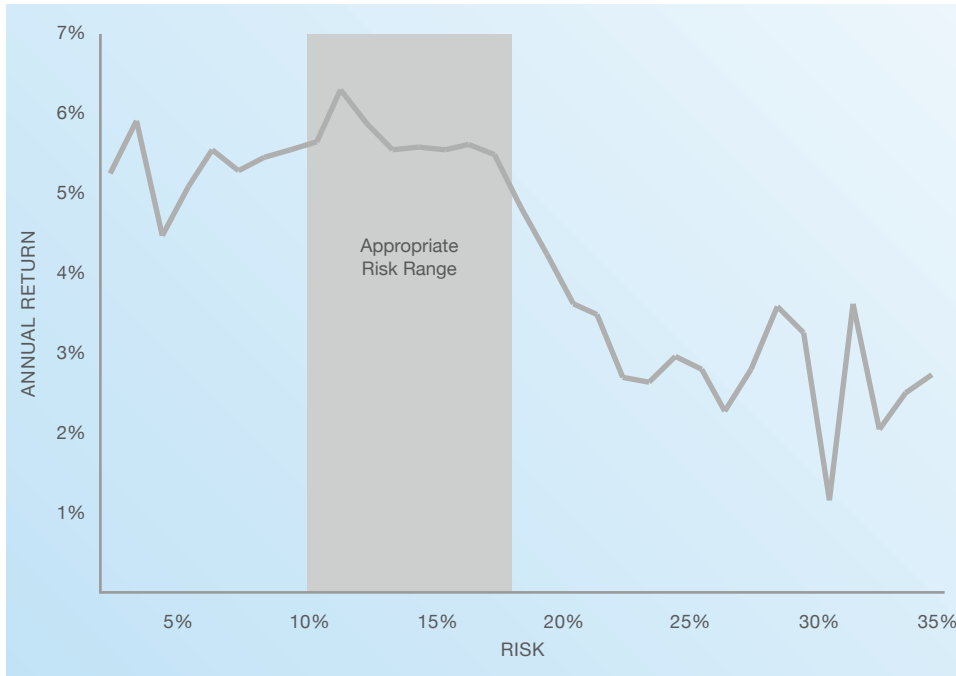
2006: Bull Market (Rising)¹⁶

For 2006 (Figure 4), Non-Help Participants with **too low or appropriate** risk levels had returns that behaved as expected—taking on additional risk provided additional returns. Non-Help Participants with **too high** risk levels had returns that did **not** behave as expected, as the curve is flat beyond the appropriate risk range. Therefore, Non-Help Participants with risk levels that are **too high** are essentially taking on uncompensated risk (i.e., they do not receive higher returns for taking on additional risk).¹⁷

¹⁶ S&P 500 Total Return was 15.79%. (Source: Standard and Poor’s Financial Services LLC).

¹⁷ Further details can be found in the Methodology Appendix.

FIGURE 5: NON-HELP PARTICIPANT RETURNS (2007)



2007: Mixed Market¹⁸

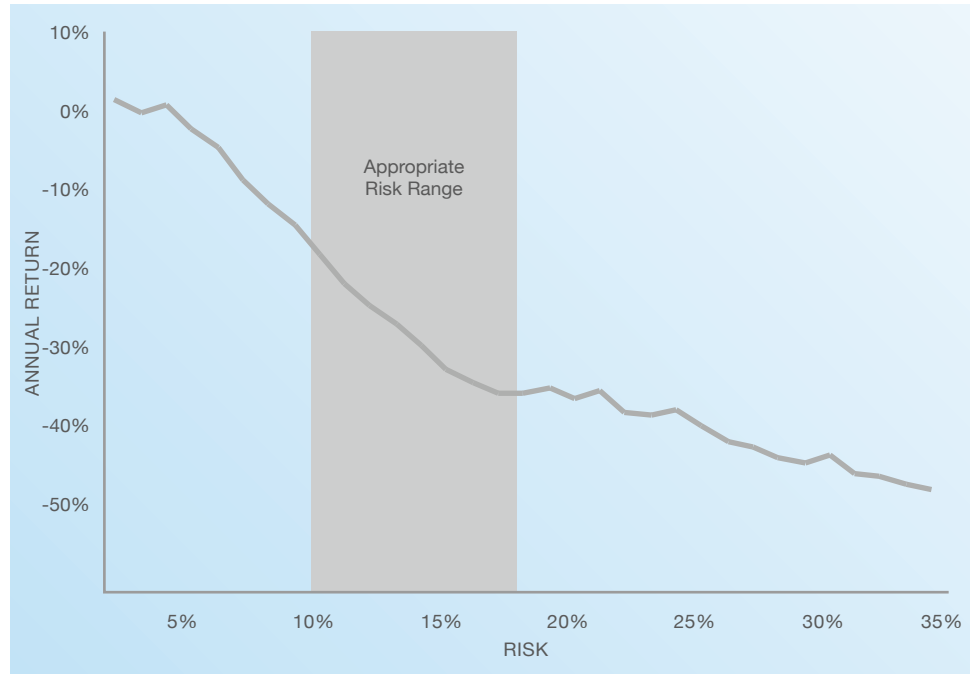
In 2007 (Figure 5), the risk-return relationship changed dramatically. The return curve is essentially flat for the 0%–18% risk range. Within that range, there was little benefit (or detriment) on average to selecting any particular risk level.

The story is quite different for 2007 Non-Help Participants with risk levels above the appropriate risk range. Specifically, there is a precipitous **decrease** in returns associated with taking on additional risk beyond 18%. While the market conditions were different in 2007 than they were in 2008, we once again see the costs of selecting portfolios with higher-than-appropriate levels of risk.¹⁹

¹⁸ S&P 500 Total Return was 5.49% (Source: Standard and Poor's Financial Services LLC).

¹⁹ Further details can be found in the Methodology Appendix.

FIGURE 6: NON-HELP PARTICIPANT RETURNS (2008)



2008: Bear Market (Falling)²⁰

Finally, 2008 (Figure 6) was a severe bear market—one of the worst in the last 70 years—from which only the most conservative portfolios emerged unscathed. The chart above (Figure 6) shows a pattern typical of severe bear markets in which returns decline as risk increases. As a result, Non-Help Participants with **appropriate** risk levels outperformed those with risk levels that were **too high**, and Non-Help Participants with **too low** risk levels outperformed those with **appropriate** risk levels. 2008 was an unusual year where the most conservative allocations, no matter how undiversified or age-inappropriate, did better than more diversified portfolios.²¹

²⁰ S&P 500 Total Return was -37.00%. (Source: Standard and Poor's Financial Services LLC).

²¹ Further details can be found in the Methodology Appendix.

The results for 2006–2008 can be summarized in the following chart (Figure 7), which shows the returns of Non-Help Participants with **appropriate** risk versus Non-Help Participants with **too low** and **too high** risk levels.

FIGURE 7: RETURNS FOR APPROPRIATE RISK LEVEL

	Market Type	Returns for Appropriate Risk vs. Too Low Risk	Returns for Appropriate Risk vs. Too High Risk
2006	Bull (Rising)	Better	Same
2007	Mixed	Same	Better
2008	Bear (Falling)	Worse	Better

Non-Help Participants with **appropriate** risk levels underperformed in only one case—when compared to Non-Help Participants with **too low** risk levels in 2008. This is not surprising, as 2008 was a severe bear market where virtually all equities performed poorly.²² Even so, across all three years, Non-Help Participants with **appropriate** risk levels outperformed those with **too low** or **too high** risk levels by an average of 138 basis points.²³

²² One problem with always holding a **too low** risk portfolio is that the expected returns of such portfolios are substantially lower than more diversified allocations. This creates a significant opportunity cost for younger participants with long-time horizons, reducing their wealth accumulation potential.

²³ Recall that 22% of Non-Help Participants are in the **too low** risk range and 39% of Non-Help Participants are in the **too high** risk range. The reported average accounts for this by weighting the relative returns accordingly.

Results: Inefficient Portfolios Negatively Impact Returns

We next examine the second major mistake made by Non-Help Participants—inefficient portfolios. An inefficient portfolio is one that gets lower expected returns for a given risk level than is possible given the available investment options. This can be caused by several factors, such as making poor asset class selections or selecting poor asset combinations.²⁴

We look at this problem separate from the inappropriate risk level problem. In doing so, we assume that Non-Help Participants have, through either luck or skill, constructed portfolios at an appropriate risk level. Under this assumption, it is possible to determine the efficiency (or inefficiency) of Non-Help portfolios relative to portfolios with similar risk levels that are held by Help Participants.

To conduct an apples-to-apples comparison, we separate the data so that the portfolios of Non-Help Participants are truly similar to the portfolios held by Help Participants. This requires two steps. First, as we have done previously, we group portfolios by risk levels (i.e., by 1% ranges in the standard deviation of returns²⁵).

Second, we control for any confounding effects introduced by company stock holdings. All four of the sponsors in this section's data set offer company stock in their plans, and two also provide matching contributions in company stock. Given the small number of sponsors and years, unusually high or low returns to any one company's stock could seriously distort the comparison. (Annual company stock returns in our sample range from a low of approximately -70% to a high of approximately +40%.) To control for this, we restrict our analysis to Non-Help Participants who hold 20% or less of their portfolios in company stock.^{26, 27}

²⁴ For example, two common investment mistakes are the 1/N strategy (which invests an equal amount in each investment option available in a plan regardless of suitability) and the barbell strategy (which invests half in the highest risk option and half in the lowest risk option in the mistaken belief that it “averages out”).

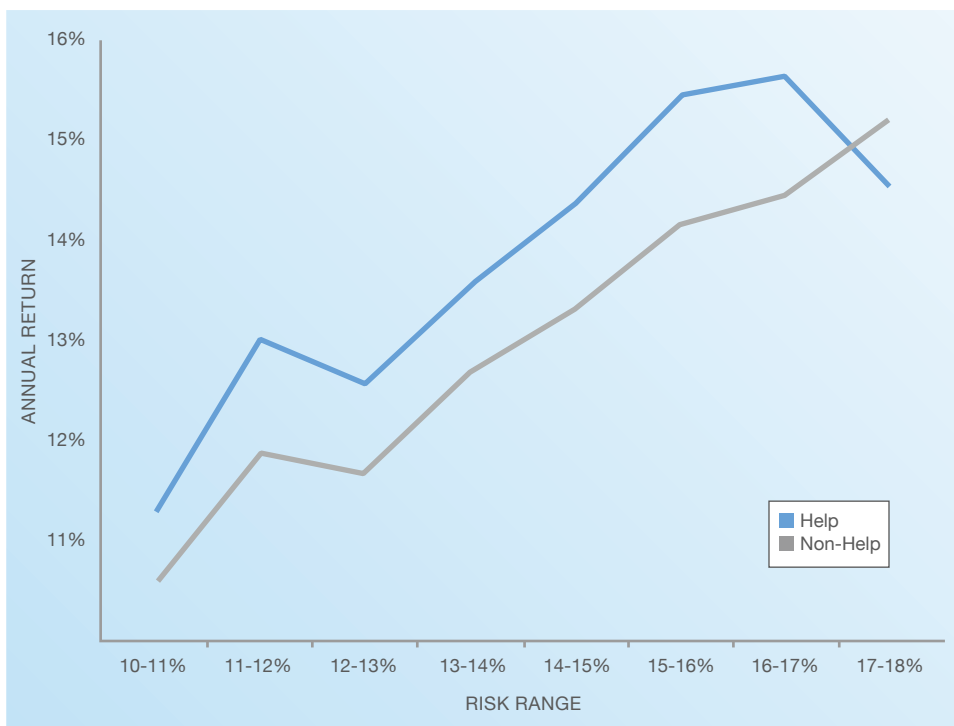
²⁵ All reported risk levels are forward-looking annual standard deviation values. Further details can be found in the Methodology Appendix.

²⁶ Help participants are typically limited to a maximum of 20% company stock holdings, so this provides for an equivalent comparison. In our sample, 38% of Non-Help Participants have company stock holdings over 20%. This is comparable to the 36% of 401(k) plan participants with more than 20% company stock reported in Financial Engines' 2008 *National 401(k) Evaluation*.

²⁷ Results in Figure 1 are robust to this restriction—the net benefit of Help is virtually unchanged at 1.93% (versus 1.86%).

Finally, we restrict our analysis to the range in which Help is designed to function—the 10%–18% range.²⁸ This risk range is consistent with diversified portfolios that mix fixed income and equity allocations. As before, we compare returns year by year to account for the wide variation in market conditions during the period. Results are shown in Figures 8–10.

FIGURE 8: COMPARATIVE RETURNS (2006)



²⁸ Additionally, limited Help Participant data beyond this range makes accurate comparisons difficult.

FIGURE 9: COMPARATIVE RETURNS (2007)

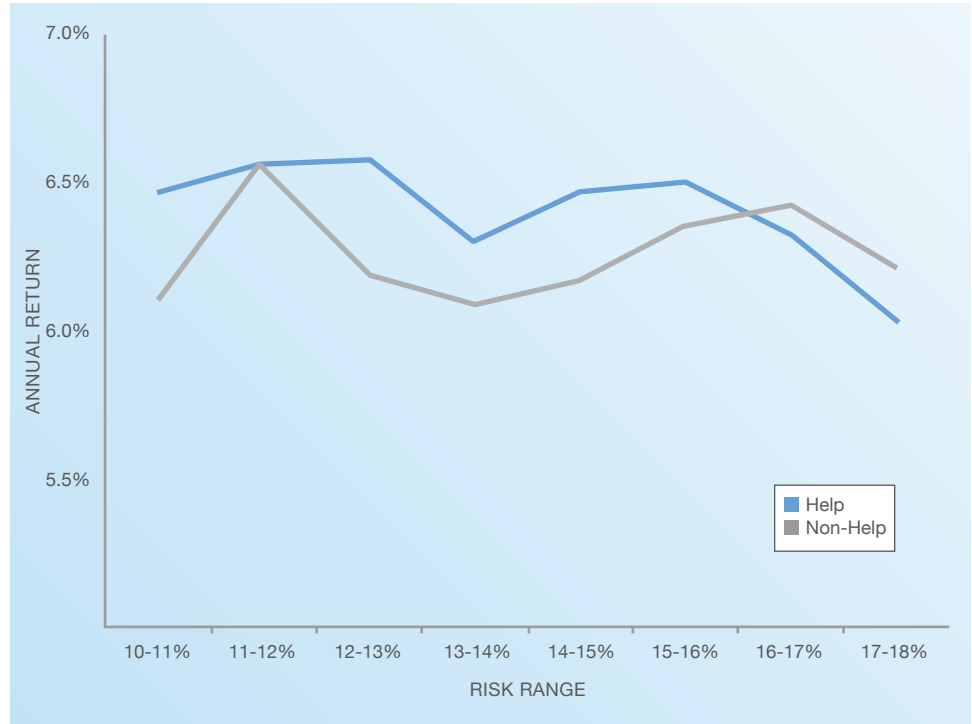
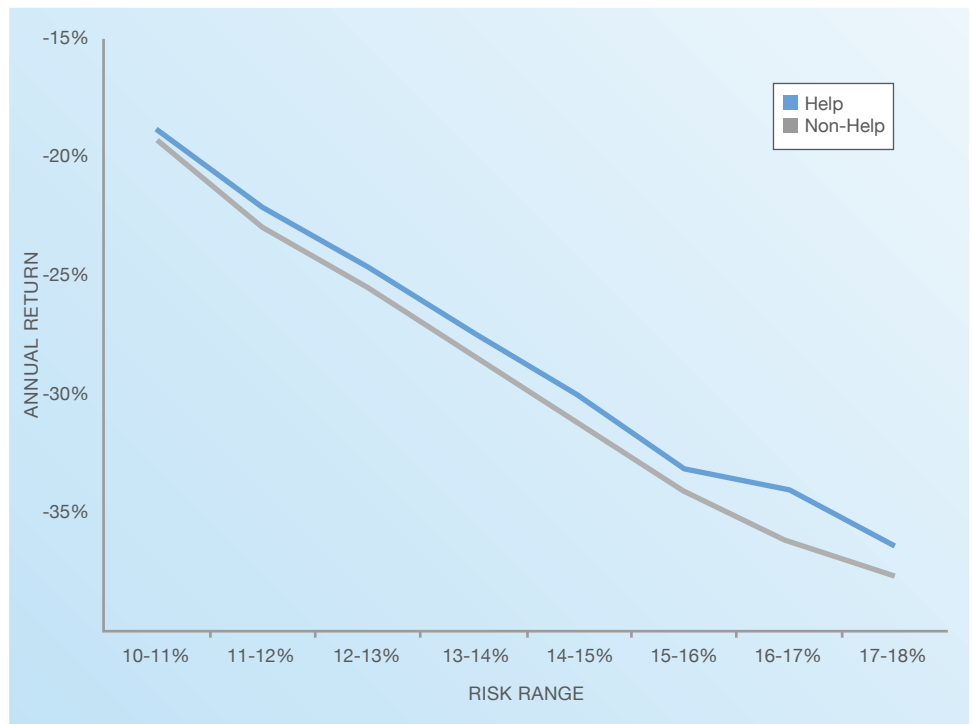


FIGURE 10: COMPARATIVE RETURNS (2008)



Help Participants Outperform Non-Help Participants the Majority of the Time

As we have seen before, the three years in the sample provide a good cross-section of market returns: one bull market (2006), one mixed market (2007), and one bear market (2008). It is significant that across all of these market conditions, Help Participants outperform Non-Help Participants 88% of the time.²⁹ Across the three years, the extra efficiency provided by Help portfolios provides an average annual return benefit of 67 basis points, even when adjusted for similar risk levels.³⁰ In other words, the portfolios of Help Participants are more efficient across the spectrum of market conditions, and the efficiency is not simply a bull or bear market story.

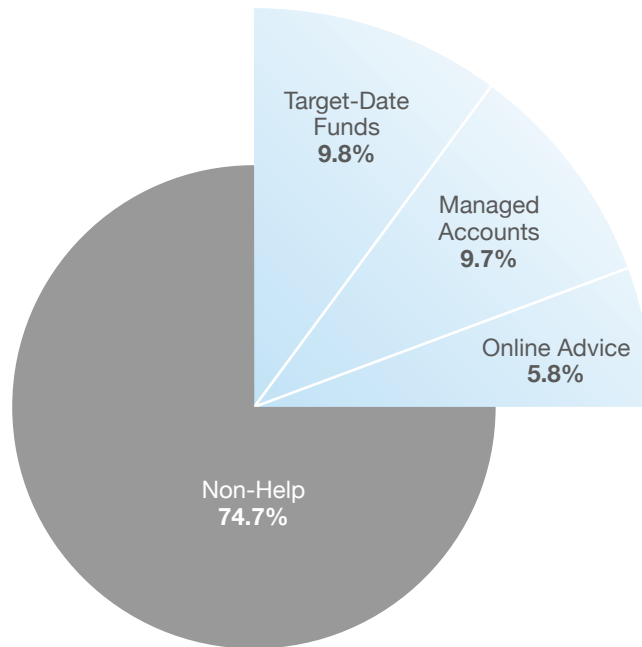
As we have seen, Non-Help Participants are faring poorly. We next examine Help usage and examine some of the factors determining usage and the type of Help participants seek.

²⁹ Help Participants perform better than Non-Help Participants in 21 of the 24 year-risk range subcategories.

³⁰ This is the average of all 24 year-risk range subcategories (including those where Help Participants underperform).

Usage: Who Uses Help and What Kind of Help Do They Use?

FIGURE 11: HELP USAGE



Based on the definition of Help outlined previously, approximately one-quarter (25.3%) of plan participants currently take advantage of one or more of the types of Help offered within their employer-sponsored 401(k) plans.

Of the quarter of participants using Help, 9.8% are invested appropriately in target-date funds³¹, 9.7% have enrolled in managed accounts, and 5.8% use online advice.^{32, 33}

Of the 75% of participants not using Help, 43% have allocated a portion of their accounts to target-date funds, but less than the 95% or more required to be considered using target-date funds appropriately. Among participants with less than 95% allocated to an age-appropriate target-date fund, the average portfolio allocation was 36%. Similarly, another 13% of participants in the Non-Help group have used online advice but not within the last 12 months. For purposes of this report, we set up usage requirements for online advice to identify those most likely to have implemented the advice. There is no possibility of inappropriate usage of managed accounts, since the managed accounts provider has discretionary control over the participant's full account balance.

In general, participants have responded positively as Help has become more available in 401(k) plans. In addition to those using Help appropriately (25.3%), an additional 41.7% of Non-Help Participants show partial Help usage.³⁴

Hewitt Associates and Financial Engines have additional research in progress for phase two of this study, which will attempt to identify **why** participants use or do not use certain types of Help.

³¹ Total target date fund usage (appropriate and inappropriate) is approximately 53% when looking at Help and Non-Help Participants.

³² Total online advice usage (including less frequent users) is 19%.

³³ There is a potential for participants to use more than one type of Help. Further details can be found in the Methodology Appendix.

³⁴ 32.0% of all participants hold target date funds but are using them incorrectly, and 9.7% of all participants are infrequent users of online advice.

Usage: Help Usage Varies by Plan

FIGURE 12: HELP BY PLAN

	Target-Date Funds	Managed Accounts	Online Advice	Total Help
Company A	9.2%	7.7%	10.7%	27.6%
Company B	1.6%	12.8%	5.0%	19.4%
Company C	13.9%	8.5%	7.1%	29.5%
Company D	9.3%	12.5%	2.9%	24.7%
Company E	21.4%	12.6%	2.7%	36.7%
Company F	6.8%	10.3%	13.1%	30.2%
Company G	1.0%	7.4%	6.4%	14.8%

While all of the plans involved in this report offer target-date funds, managed accounts, and online advice, a wide variation in usage of different types of Help by participants was observed among the plans. Total usage of all forms of Help overall varies across the seven plans, from a low of 15% to a high of more than 35%.

Why would different plans offering the same types of Help have such different usage patterns? Key drivers of Help usage at the plan level include the following:

Time—The companies in this report introduced various types of Help available to employees at different times. Plan sponsors in the sample began offering target-date funds between April 2005 and December 2008, managed accounts between September 2004 and May 2008, and online advice between July 2000 and March 2009.

In general, the longer Help has been available in a plan, the more participants tend to use it. For example, the three plan sponsors that have had managed accounts in place the longest (Companies B, D, and E) have the three highest managed account usage rates.

Plan design—Plan design—and specifically automatic enrollment, investment defaults, default conversions, or a plan reenrollment—can also have a significant impact on participant Help usage. Five of the seven plan sponsors automatically enroll new employees in the 401(k) plan and automatically invest employees in an age-appropriate target date fund. The remaining two plans have also made

target-date funds the default but do not automatically enroll participants. One plan, Company E, recently converted their plan default from a stable value fund to a target-date fund.

When designated as the plan default and coupled with automatic enrollment, we would expect the percentage of participants using Help through target-date funds to increase over time.

We estimate that approximately 50% of participants using target-date funds as their form of Help were defaulted into them by their employers. The other half most likely selected target date funds on their own.³⁵

Participant demographics—Participant demographics are also an important factor in determining the type of Help most used at the plan level. Factors such as age and account balance, for example, vary across the seven plans in our sample: The average age of participants ranged from 38 to 49 years, and the average 401(k) account balance ranged from \$5,000 to \$62,000.

Each company has different participant demographics, depending on size, industry, and geographic location. Similarly, different participants will be more or less attracted to various types of Help, depending on their individual situations.

We next examine the types of Help used by various demographic groups.

³⁵ Due to data limitations, it is not possible to determine with certainty which participants in the sample were defaulted into a target-date fund and which made active selections. Further details can be found in the Methodology Appendix.

Profiles: Participant Demographics Vary By Type of Help

First, we review what we know about participants in the sample. We have the following demographic information for each participant:

- Date of birth
- Account balance
- Salary (if employed or active)
- Contribution rate (if employed or active)
- Tenure with employer (if employed or active)

FIGURE 13: PROFILES BY TYPE OF HELP

	Target-Date Funds	Managed Accounts	Online Advice	Non-Help
Average Age	38.0 years	48.8 years	40.6 years	45.0 years
Average Balance	\$6,295	\$45,816	\$69,057	\$42,845
Median Balance	\$1,031	\$18,667	\$23,073	\$10,305
Average Salary	\$34,802	\$48,585	\$72,046	\$45,970
Average Contribution	4.1%	5.7%	7.1%	5.5%
Average Tenure	3.8 years	12.5 years	9.4 years	9.8 years

Clear usage trends emerge when we examine the demographic characteristics of participants using Help:

- **Target-date fund** users tend to be younger, with lower tenures and with significantly lower account balances, salary, and contribution rates. As previously indicated, we estimate that approximately half of the participants using Help through target-date funds have been defaulted into the funds by their employers. Help Participants who actively selected a target-date fund are very similar in terms of age, account balance, and salary to those participants we estimate were defaulted into their target-date fund position.
- **Managed account** users tend to be older and with longer tenures than participants using target-date funds or online advice, or those receiving no Help at all.
- **Online advice** users tend to be younger but with higher account balances, salaries, and contribution rates.

Profiles: Type of Help Used Varies by Age

FIGURE 14: HELP BY GENERATION

	Target-Date Funds	Managed Accounts	Online Advice
Generation Y (under 30 years old)	16.9%	5.4%	7.6%
Generation X (30–44 years old)	8.0%	9.3%	6.4%
Boomers (45–64 years old)	6.4%	13.7%	4.5%
Retirees (over 65 years old)	4.8%	12.4%	1.3%

Age appears to be one of the key demographic factors driving the type of Help a participant uses.

For example, members of Generation Y (participants under age 30) are more likely to select target-date funds or use online advice, and are less likely to enroll in managed accounts or be part of the Non-Help group. Plan design and possibly the one-size-fits-all nature of target-date funds make them the most popular choice or default for this age group.

In contrast, participants are more likely to enroll in managed accounts as they age. Baby boomers (participants age 45–64) and retirees (age 65+) are far more likely to prefer managed accounts and less likely to use target-date funds or online advice as their preferred type of Help.

Members of Generation X (participants age 30–44) tend to be more likely to enroll in managed accounts than Generation Y, but less likely than members of Generation Y to use target-date funds or online advice.

Using statistical analysis, it is possible to identify ages where a participant's likelihood of using a certain type of Help changes. There are two ages in particular where the probabilities significantly shift.³⁶

- Starting at age 50, participants begin to be far more likely to enroll in managed accounts versus the other two types of Help.
- Participants tend to be more likely to use target-date funds over the other two types of Help up to age 35.

There was no clear shift tied to age for online advice users.

³⁶ Further details can be found in the Methodology Appendix.

Profiles: Type of Help Used Varies by Account Balance

FIGURE 15: HELP BY ACCOUNT BALANCE

	Target-Date Funds	Managed Accounts	Online Advice
Under \$5,000	22.0%	5.2%	3.0%
\$5,000—\$15,000	3.9%	11.7%	6.2%
\$15,000—\$50,000	1.9%	14.0%	7.3%
\$50,000—\$100,000	1.2%	13.5%	8.1%
\$100,000—\$250,000	1.0%	11.4%	9.8%
Over \$250,000	1.0%	9.0%	11.8%

The size of a participant’s account balance also appears to drive the type of Help used.

For example, low account balances tend to correlate with high usage of target-date funds, with 22% of those using Help through target-date funds with account balances under \$5,000. However, even among participants who appear to select target-date funds on their own, average balances are substantially lower than the plan average.

The higher the balance, the more likely participants are to use online advice. Nearly 12 percent of participants with account balances over \$250,000 use online advice. Managed accounts appeal to participants across several balance categories, with higher concentrations of participants with balances between \$15,000 and \$100,000.

When we look at the relationship between account balances and where the probabilities for selecting a certain type of Help shift, we can see that \$5,000 is a key threshold for target-date funds in our sample. Participants with account balances between \$0 and \$5,000 are 80% more likely to use target-date funds than participants with account balances between \$5,000 and \$10,000. This is not surprising, since roughly half of the target-date group were new employees defaulted into the funds. Even though there is a correlation between balance and use of managed accounts and online advice, there are no specific account balance levels where there are significant shifts in usage probabilities.

Profiles: Predicting the Type of Help Used

FIGURE 16: LIKELY HELP USAGE

Account Balance	Age			
	25 Years	35 Years	45 Years	55 Years
\$10,000	Target-Date Funds	Target-Date Funds	Target-Date Funds	Managed Accounts
\$40,000	Online Advice	Managed Accounts	Managed Accounts	Managed Accounts
\$75,000	Online Advice	Online Advice	Managed Accounts	Managed Accounts

The breakdowns detailed above that looked separately at the influence of age or balance are highly suggestive but require caution when interpreting because age and balance tend to be highly related. For example, older workers have had more time to accumulate larger balances. Older workers also usually have higher salaries, which has some relationship to the form of Help used. To measure the independent effects of age and balance, we created regression models³⁷ from which we were able to determine the following:

- A 25-year-old with an account balance of \$10k is more than twice as likely to use target-date funds than online advice and more than three times more likely to use target-date funds over managed accounts.
- A 25-year-old with an account balance of \$40k will most likely use online advice. He or she is more than twice as likely to use online advice over target-date funds and about 65% more likely to use online advice over managed accounts.
- A 55-year-old with \$40k is most likely to use managed accounts. He or she is three times as likely to use managed accounts over target-date funds or online advice.

Age or Balance: Which Matters More?

These examples highlight the important role both age and account balance play in the form of Help used by participants. A natural follow-up question is: All other

³⁷ Further details can be found in the Methodology Appendix.

things being equal, which matters **more**? We used our regression framework to investigate this question, and the results of the analysis suggest that age is the dominant driver of the type of Help used.³⁸ In general, target-date funds appeal most to younger participants, while managed accounts appeal to older participants, regardless of their account balances. Across a number of age categories, especially younger participants, online advice appeals more to those with higher account balances.

These findings suggest that no single type of Help is necessarily ideal for a participant's entire work life, and that certain types of Help correlate with various life stages. At 25 years of age, for example, most participant risk preferences and life situations are relatively similar, making it easier to combine them into a cohort based only on age, as is the case with a product solution like target-date funds. As participants age, however, their life situations grow more heterogeneous, requiring greater flexibility and personalization. For instance, among near-retirees there is substantially greater variation in risk preferences due to a variety of life factors including the stability of future income, other sources of retirement income, the presence or absence of a working spouse, and many other factors. It is very challenging to address these differences among older participants without the flexibility offered by a personalized solution such as a managed account.

³⁸ Further details can be found in the Methodology Appendix.

Conclusion

In summary, Help Participants significantly outperform Non-Help Participants across all horizons in the data sample. On average, the median annual return for Help Participants was nearly 2% (186 basis points) higher than for Non-Help Participants.

Non-Help Participants typically made the following mistakes:

- Inappropriate risk levels; and/or
- Inefficient portfolios.

While it is clear participants investing on their own are doing poorly, it is encouraging to see that many participants are using Help. On average, across the seven plan sponsors represented in this report, about one in every four plan participants (25.3%) currently use at least one of the types of Help offered within their 401(k) plans. Plan design (specifically automatic enrollment coupled with a QDIA³⁹), the length of time Help has been in place in a plan, and participant demographics all affect Help usage at the plan level.

Finally, the report findings suggest that no single type of Help is necessarily ideal for a participant's entire work life, and a range of Help offerings is required to meet the retirement needs of a diverse workforce. Target-date funds seem to appeal to lower-balance, younger participants. Older and wealthier participants prefer managed accounts or online advice, with near-retirees and retirees most often using a managed account.

In the next section, we examine the implications of these findings for plan sponsors, plan participants, and policy makers.

³⁹ A "qualified default investment alternative", as defined in the Department of Labor's final rule, Default Investment Alternatives Under Participant-Directed Individual Account Plans, 72 Fed. Reg. 60452 (Oct. 24, 2007).

Implications

The findings of this report have a number of key implications for plan sponsors, plan participants, and public policy makers alike.

Plan Sponsors

Help Is Working. For plan sponsors, the main message from this research is that providing Help—whether in the form of target-date funds, managed accounts, or online advice—is benefiting participants. Still, more plan sponsors could be offering additional forms of Help to participants, and those already making Help available should be looking for new ways to encourage participants currently not using Help to do so.

Range of Help Solutions Needed to Reach the Most Participants. Another key finding of this report is that there is not a single form of Help that is right for every participant all the time. A range of Help solutions is necessary to meet the needs of a diverse workforce. These results also indicate that target-date funds, managed accounts, and online advice—all designed to get and keep participants in a diversified portfolio—should not be considered substitute Help options. Rather than deciding between one type of Help over another, plan sponsors should focus on offering a range of solutions that can get more participants, regardless of life stage, to better retirement outcomes.

The QDIAs Are Working. Based on this research and the fact that a fair percentage of participants appear to have been defaulted into target-date funds, it is clear that automatically enrolling participants into a QDIA is getting new hires started on the right track. Auto-enrolling participants into a QDIA, either managed accounts or target-date funds, can have dramatic effects on participation rates and getting participants into efficient, risk-appropriate portfolios. Plan sponsors should consider expanding QDIAs beyond new hires to existing participants to increase usage of Help. Plan sponsors may also consider utilizing more than one QDIA—one for new hires and another for existing participants.

Helping Participants Select the Right Help. At the same time, we need to acknowledge that where participants are defaulted might not be the right Help option for their entire careers. The industry needs to work on developing new ways to help participants select the form of Help that's right for them at various points in their careers.

Near-Retirees and Those in Retirement Need the Most Help. Of all the groups represented in this research, near-retirees and those already in retirement need the most Help. They have the widest range of risk levels and the least time to recover from the economic downturn of 2008. While some may be getting Help outside of the plan, we did not see evidence of that in the three-year sample period reflected in this report. This group needs the focus and attention of both plan sponsors and public policy makers.

Participants

Use Available Help. Participants should use employer-provided Help. As this report shows, participants who received Help experienced higher portfolio returns with lower variability in risk. Participants using target-date funds need to take care to use them appropriately (i.e., place their entire 401(k) portfolio in the age-appropriate target-date fund in the plan). If using online advice, participants should review the suggested allocations periodically and adjust their portfolios accordingly. Participants not using Help are potentially missing out on a valuable employee benefit.

Type of Help Needed Is Likely to Change. As participants age and their portfolios grow, their Help preferences may change. This suggests that participants will need to reevaluate their Help choices as their lives and financial circumstances change.

Public Policy Makers

Recognition of Work Well Done. Public policy makers deserve credit for creating incentives for plan sponsors to offer Help to participants and to select QDIAs as their plan defaults. With five of the seven plans studied automatically enrolling new participants, those incentives put forth by the Pension Protection Act of 2006 are working as intended. Even so, we encourage efforts by public policy officials to foster more Help for participants who still so clearly need it. In particular, it is clear that existing employees, not just new hires, are in need of more assistance.

Near Retirees Need More Help. While new hires are increasingly being enrolled in QDIAs, more needs to be done to help existing employees, especially near-retirees and those already in retirement. This group—more than any other—has the most at stake and the least amount of time to recover from the losses of 2008.

And, as we have seen in this study, at a point in their lives when they should be taking less risk, we see many in this group are actually increasing it.

The Future of Help. Future innovations in Help will come from service providers, plan sponsors, and regulators focused on this pressing issue. For example, a number of organizations are already focused on the problem of transforming existing accumulation portfolios into disbursement portfolios which will provide income throughout retirement.

Future Participant Research

While this research looked at who is using and not using Help, what Help they are using, and how they are doing, at least one overriding question remains: Why? Why are participants making certain decisions around Help?

Hewitt Associates and Financial Engines have future research planned that will include participant surveys with the goal of determining the following:

- How aware are participants of the Help options available to them?
- Why are participants choosing to use Help?
- If they are not using Help, why not?
- Which participants were defaulted into Help versus those that actually chose to use it?
- If participants have a choice, what leads them to choose a particular type of Help over another?
- How satisfied are they with the Help they have received through their 401(k) plans?
- What additional Help solutions are participants looking for?

Methodology Appendix: Results

Results: Definitions of Variables

In both the Results section and the Usage and Profiles sections, we classify participants as either Help Participants or Non-Help Participants. In the Results section, however, the classification methodology is slightly different to account for the fact that we are looking at historical rather than contemporaneous data. Specifically, Help Participant/Non-Help Participant status is assigned on a yearly basis, and it is possible for a given participant to change his or her status over the three years analyzed.

With this in mind, participant statuses are all set based on start-of-year values. Thus, participants are considered a managed accounts member if they were enrolled in the managed account program as of the start of the given year. Similarly, they are considered target-date fund users if they meet the >95% threshold (described in the prior section) as of the start of the year. Finally, participants are considered online advice users if they have received at least one online recommendation at any point in time and have used online advice within the prior 12 months.⁴⁰ All three of these categories are combined to give us all Help Participants,⁴¹ and all other participants are classified as Non-Help Participants.

In addition to the Help Participant/Non-Help Participant classification, several new variables are introduced in this section. These are described in detail below.

Portfolio balances—Portfolio balances are tabulated for each participant as of the start of each year. Balances are calculated both at an aggregate level (i.e., total holdings for a participant) and at the asset level (e.g., total holdings for a specific mutual fund). Portfolios with aggregate balances of less than \$100 are excluded from the analyses.

Portfolio returns—For each participant, annual portfolio returns are calculated for each year. These returns are internal rates of return, which account for portfolio contributions (including reinvested dividends and distributions), withdrawals and reallocations throughout the course of the year.⁴²

Weighting factors—One of the challenges inherent in using a relatively small and disparate set of plans is that plan-specific data issues⁴³ can significantly influence the results. This situation can be further exacerbated if the data issue is present in a large plan whose participants represent a disproportionately large percentage of the total. To account for such potential problems, we apply a weighting factor to each participant.

⁴⁰ The 12 months prior to either April or July 2009, depending upon the data-collection date for the specific sponsor.

⁴¹ These values are mutually exclusive and assigned in the order listed. The order of assignment has no impact on our results, though, as all Help Participants are grouped together for the purposes of our analysis.

⁴² Thus, the actual portfolio holdings at any time during the year may differ from the start-of-year allocations.

⁴³ For example, matching contributions made in company stock.

This weighting factor is constructed by first dividing the entire sample into Help Participant and Non-Help Participant categories. Within each category, the weighting factor is constructed such that each plan-year has equal weight. In other words, all plans are considered to be of equal importance, and all years are also considered to be of equal importance.⁴⁴ For the analyses incorporating risk ranges, we calculate the weighting factors as above but within each risk range subcategory.⁴⁵

All percentiles reported incorporate these weighting factors (i.e., they are weighted percentiles). Using weighting factors is a conservative approach and actually results in a smaller difference between Help and Non-Help Participants. Without weighting, the analysis in Figure 1 results in median returns for Help Participants being 259 basis points higher than Non-Help Participants (as opposed to 186 basis points when using weighting).

Age—Each participant’s age is calculated as the difference between the start-of-year date(s) and the participant’s date of birth.⁴⁶ This value is calculated as of the start of each year, and as such a participant who is present in more than one year of the study will have different ages in different years and may appear in a different age subcategory in different years.⁴⁷

Risk—The risk of each participant portfolio is calculated as of the start of each year. This risk is based on the portfolio holdings described above and measures how the value of the portfolio could vary over time. Specifically, the risk is the estimated standard deviation of the portfolio based on market conditions as of the start of the given year. In other words, it is the **forward-looking** standard deviation.

The estimated standard deviation of the portfolio is based on the estimated standard deviations, covariances, and values of the individual assets within the portfolio. These are estimated using a mutual fund (or stock) analysis model that takes the correlations and covariances generated from a generic asset class model and generates fund-specific projected risk characteristics. Using modified returns-based style analysis techniques and other methods, a baseline risk profile is determined by mapping the fund onto the generic asset classes. The result, called the fund’s “style,” serves as the baseline for the estimated risk characteristics of the fund.

This style exposure is augmented with additional risk adjustments. These are estimated by comparing a fund’s historical performance with that of its estimated average style. The difference is the residual or fund-specific return, the volatility of which is examined to estimate the amount of additional risk, above and beyond the style risk, an investor will likely face when investing in this fund.

⁴⁴ This controls for changes in participation levels within a sponsor across the sample years.

⁴⁵ This additional level of refinement is required to control for the non-uniform distribution of participants by company across the risk range subcategories. Note that this level of refinement was not required for the age range subcategory analyses due to the more uniform distribution of the participants across those subcategories.

⁴⁶ Ages are calculated as decimal values (i.e., they are not rounded to the nearest whole year).

⁴⁷ For example, a participant age 49.5 as of the start of 2006 will fall into the 45–50 age range in 2006. As of the start of 2007 and 2008, the participant will be age 50.5 and 51.5, respectively, and will fall into the 50–51 age range for both of those years.

Figure 1: Calculating Annual Returns

The values in Figure 1 are calculated as follows. First, all participants in the sample are separated into Help Participant and Non-Help Participant categories as defined above. Second, within each of these categories, the participants are further categorized into age range subcategories.⁴⁸

For each of these 16 subcategories, a weighted median return value is calculated.⁴⁹ These are the values reported in the chart. The difference between the median returns for Help Participants and Non-Help Participants within each age subcategory is calculated and the equal-weighted average of these eight values is reported as the average median difference of 186 basis points.

The examples demonstrating the impact of Help over time are calculated as follows. First, both the Help Participant and Non-Help Participant are assumed to invest a lump sum of \$10,000 on their 45th birthday (i.e., at the start of year 45). They make no additional contributions, but their portfolios grow at annual rates equal to the median returns in Figure 1. For example, for the first five years the Help Participant's portfolio grows at a compounded rate of 6.40% and the Non-Help Participant's portfolio grows at a compounded rate of 4.43%, which are the values shown in the Age 45–50 column of Figure 1. For the next five years, the participants' portfolios grow at the rates shown in the Age 50–55 column, and so forth until 20 years have elapsed and they reach retirement at age 65.

The figures reported in the footnote are calculated in a similar manner but starting with the Age 25–30 returns.

Figure 2: Calculating Median Portfolio Risk by Age

The values in Figure 2 are calculated as follows. First, the risk of each participant portfolio is calculated as of the start of each year. This risk is based on the portfolio holdings described above and measures how the value of the portfolio could vary over time. Specifically, the risk is the estimated standard deviation of the portfolio based on market conditions as of the start of the given year.⁵⁰

As in Figure 1, participants are then separated into Help Participant/Non-Help Participant categories and age subcategories, and median (50th percentile) risk values are calculated and reported for each of these subcategories.

⁴⁸ Each of the eight age range subcategories includes ages that are greater than the lower bound and less than or equal to the upper bound. Each subcategory spans five years.

⁴⁹ The weighting factor calculation methodology is described above.

⁵⁰ This is an important distinction. It would be incorrect for us to calculate retrospective (or *ex post*) risk values based on currently available data, as that would imply we had perfect foresight regarding future market events.

The risk level for the Bond Index is based on the risk level of the Barclays Capital U.S. Aggregate Bond Index⁵¹, and the risk level for the S&P 500 Index is based on the risk level of the Standard and Poor's S&P 500 Index.⁵²

Figure 3: Calculating Risk Ranges by Age

This figure is based on the same underlying data as Figure 2, except that the 25th and 75th percentiles for each subcategory are reported (as opposed to the 50th percentile reported in Figure 2).

Figures 4, 5, and 6: Calculating Returns by Risk Level

The values in each of these figures are calculated as follows. First, participants are sorted according to year. Each of the figures shows a further analysis of one year's data only.⁵³ Next, Help Participants are excluded, leaving only Non-Help Participants in the analysis. The Non-Help Participants are then sorted into risk subcategories where each subcategory represents a standard deviation range of 1% (e.g., 2%–3% 3%–4%, etc.).⁵⁴ Finally, the median returns are calculated for each of the risk subcategories. These are the values reported in the figures. The methodology for assigning over/underperformance is described in the Figure 7 discussion below.

Figure 7: Summarizing Appropriate Risk/Returns by Year

The results shown in this figure are based on Figures 4, 5, and 6. Specifically, for each of the three figures, we evaluated the **too low**, **appropriate**, and **too high** ranges. For each of these ranges, the equal-weighted average of the median returns (i.e., the values reported in the figures) is calculated. If the **appropriate** range outperforms the **too low** or **too high** range by more than half a percent (50 basis points), it is classified as performing **better**. If its performance is within +/- half a percent, it is classified as performing the **same**. If it underperforms by more than half a percent, it is classified as performing **worse**.

Figures 8, 9 and 10: Calculating Returns by Risk Level

The values in each of these figures are calculated as follows. First, participants are sorted according to year. Each of the figures shows a further analysis of one year's data only. Next, within each year, participants are subdivided into Help Participant and Non-Help Participant categories. Non-Help Participants with company stock holdings greater than 20% (as of the start of the given year) are

⁵¹ This index provides a broad measure of the taxable U.S. bond market, including most Treasury, agency, corporate, mortgage-backed, asset-backed, and international dollar-denominated issues, all with investment-grade ratings (rated Baa3 or above by Moody's) and maturities of 1 year or more. (Source: The Vanguard Group Inc.)

⁵² This index provides a single gauge of the large capitalization U.S. equities market. The index includes 500 leading companies in leading industries of the U.S. economy, capturing 75% coverage of U.S. equities. (Source: Standard & Poor's Financial Services LLC)

⁵³ Figure 4 shows 2006, Figure 5 shows 2007, and Figure 6 shows 2008.

⁵⁴ No participants have risk values below 2%.

removed.⁵⁵ The Help Participants and Non-Help Participants are then sorted into risk subcategories, where each subcategory represents a standard deviation range of 1% (e.g., 10%–11%, 11%–12%, etc.). To ensure accurate comparisons, the range of risks is limited to 10%–18%, which is the range over which Help is designed to function.⁵⁶ Finally, the median returns are calculated for each of the risk subcategories for Help Participants and for Non-Help Participants. These are the values reported in the figures.

Thus, for both Help Participants and Non-Help Participants there are three years of data (2006–2008), each of which has eight median return values (10%–11%, ..., 17%–18%), for a total of 24 median return values. Help Participants' median returns are higher than Non-Help Participants' median returns in 21 out of 24 of these subcategories. The difference between the Help Participants' median return and the Non-Help Participants' median return in each of these 24 subcategories is also calculated, and the unweighted average of these 24 differences is the reported value of 67 basis points.

⁵⁵ Help Participants are typically limited to a maximum of 20% company stock holdings, so this provides for an equivalent comparison. In our sample, 38% of Non-Help Participants have company stock holdings over 20%. A further explanation is provided in the main body of the report.

⁵⁶ Additionally, Help Participant data is limited beyond this range making accurate comparisons difficult.

Methodology Appendix: Usage and Profiles

Defining Help in 401(k) Plans: Age-Appropriate Usage of Target-Date Funds

To determine the percentage of each participant's 401(k) account held in the "age-appropriate" target-date fund, a retirement age of 65 was assumed for all participants. Using each participant's age, a target retirement year was computed based on this assumed retirement age; for example, a 45-year-old would be assigned a retirement year of 2029 (because he or she is 20 years from retirement). This year was then evaluated against the target-date fund options available to identify the funds representing retirement horizons closest to the retirement year. In the preceding example, holdings in the available 2025 and 2030 funds would have been used (or 2020 and 2030 funds if mid-decade fund options were not in the fund lineup). In the less common case where a participant mapped exactly onto a specific fund (such as a 44-year-old with a retirement year of 2030), three funds were used: the matching fund, plus the two surrounding funds (in our example, 2025 and 2035). Once these "age-appropriate" funds were identified for each participant, the dollar value of the holdings in each was summed up. If this combined target-date fund total comprised 95% or more of the overall account balance, the participant was classified as an appropriate target-date fund user.

Figure 11: Overlapping Help Usage

The three types of Help, as defined in this report with regard to appropriate usage, are generally intended to be mutually exclusive, meaning participants cannot engage with more than one at the same time. By definition, since professional management is discretionary, users are not able to use online advice for reallocation or other purposes and similarly cannot self-direct to a holding of 95%+ in target-date funds. However, while infrequent, it is possible to be a user of online advice and hold 95%+ in the age-appropriate target-date funds. Since our primary focus is on Help versus Non-Help, any small overlap between these two groups is not a concern for this research, as both online advice and target-date funds are forms of Help.

Figure 12: Estimating Defaulted Participants

Since five of the seven plans automatically enroll new hires into age-appropriate target-date funds, participants classified in the target-date fund Help category either elected their allocation or were defaulted into their holding. (The remaining two plans have target-date funds as the default; however, because they do not also have automatic enrollment, the number of participants defaulted will be small.) The data on how the participant came to hold the age-appropriate target-date position is not available, so a proxy had to be used.

For four of the seven plan sponsors, we were able to obtain a hire date for most active employees in the plan. For each person in the target date fund group, the hire date was compared with the date on which target-date funds were made the default. If the hire date was after the default date, we assumed the person was defaulted into his or her position. Conversely, if the hire date preceded

the default date, we assumed the participant elected his or her target date fund holding(s). The resulting estimate is that 46% of participants in the target-date fund Help group were defaulted and the remaining 54% proactively chose their position.

As with any data proxy, there are some limitations to this approach worth noting. Because the needed data was not available for two of the seven sponsors, the analysis excludes participants from these companies (which make up about 35% of the full participant sample). In addition, this proxy methodology cannot account for conversions that mapped existing participant balances into target-date funds, which one sponsor in the sample implemented when also making target-date funds the default for new hires. Such users would be misleadingly classified as “non-default,” implying that they chose their position, so this sponsor was also excluded from the analysis. Despite these limitations, we believe the hire date proxy allows us to generate the most robust, estimate of the split between default and non-default in the target-date fund category.

Based on this estimate, comparing those Help Participants believed to have actively selected a target-date fund to those believed to have been defaulted, we see the two groups are very similar: Average age 37.6 years (non-default) compared to 36.4 years (defaulted); median balance \$2,048 (non-default) compared to \$2,389 (default); average salary \$66,126 (non-default) compared to \$65,191 (default).

Figure 16: Predicting the Type of Help Used

The predictive results presented in this section are based on the results of estimating a multinomial logit regression model, where the outcomes are the three categories of Help as defined in this paper (target-date funds, managed accounts, and online advice) plus the Non-Help category. The independent variables include participant age, account balance, salary, 401(k) contribution, and employee tenure. The coefficient estimates generated by this model can be transformed into probabilities that provide an answer to questions of the following form: All other things being equal, how much does one unit of change in a particular variable impact the odds that a participant uses a particular form of Help?

Practically speaking, this enables one to focus on a variable of interest (age, for example) and calculate how a change in that variable impacts which form of Help participants are most likely to use. This is accomplished by selecting two values to compare (age 40 versus age 50, for example), and then computing an associated predicted probability for each, based on the sample averages of all of the other independent variables in the regression model and each user-defined value for the variable of interest. The two resulting probabilities can then be directly compared to determine whether the change increased, lowered, or had no impact on the odds of participants using a particular form of Help.

This same technique can be used to compare the relative impact of two different independent variables on the dependent variable. Put differently, one can determine which variable “matters” more, in terms of having the largest impact on the estimated probability of selecting each form of Help. In this report, we contemplated whether age or balance was more influential, and based our test on the impact a one standard deviation increase in each variable would have (again, holding all the other independent variables at their averages). The results of the analysis show that age is notably more impactful than account balance.

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