Executive summary. In 2010, about 3 of 10 (29%) defined contribution (DC) plan participants invested in a professionally managed allocation—a single target-date or balanced fund, or a managed account service. These strategies eliminate extreme asset allocation behaviors by using a third party to make all portfolio construction decisions. The three types of managed allocation strategies can appeal to investors with varying demographic characteristics.

Impact of professionally managed allocations. Participants with professionally managed allocations have less extreme asset allocations, on average, than participants making their own choices. Also, participants holding single target-date funds (TDFs) and those using managed account services have a distinctive equity-age gradient, with equity exposure declining with age. Balanced fund investors hold static equity exposures (around 50% to 65%) independent of age. [Note: Investments in target-date funds are subject to the risks of their underlying funds. The year in the fund name refers to the approximate year (the target date) when an investor in the fund would retire and leave the workforce. The fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date. An investment in a target-date fund is not guaranteed at any time, including on or after the target date.]

* The authors would like to thank John A. Lamancusa for his research assistance.
Single TDF versus balanced fund investors. In 2010, 20% of Vanguard participants used a single TDF as their sole portfolio holding and 6% of participants held a single balanced fund. Designating TDFs as a plan’s default investment has the biggest influence on single TDF adoption. Single TDF users tend to have smaller account balances and are generally younger than the average. Single balanced fund investors also tend to have lower balances and are predominantly female. Both groups are less likely to be web-registered—a probable indication of reduced account engagement.

Managed account users. Three percent of Vanguard participants were managed account users in 2010. Managed account users are more likely to be older and web-registered and to have larger account balances but lower nonretirement-plan wealth.

Implications. An increasing number of DC plan participants use professionally managed allocations, in which all portfolio decisions and rebalancing are delegated to a fund manager or third-party advice service. These strategies can help remedy potential participant portfolio construction errors by eliminating extreme equity allocations and improving portfolio diversification. Sponsors concerned about poor diversification practices will want to consider the potential benefits of such strategies, which can be offered through voluntary choice, automatic enrollment, or a reenrollment program.

Background

Professionally managed allocations are an emerging development in DC plans. In 2010, about 3 in 10 (29%) Vanguard participants used 1 of 3 automatic investment strategies—a single TDF, a single balanced fund, or a managed account advisory service—as their sole portfolio holding. This is up from just 9% five years earlier. Driving this development is the growing designation of TDFs and balanced funds as default options under automatic enrollment, as well as the increased use of investment advice within DC plans.

Interest in these strategies has grown because of concerns about poor portfolio construction among participants. Although they differ in important respects, all three strategies are designed to provide participants with a streamlined decision-making process, whereby a fund manager or third-party advisor is responsible for all portfolio allocation and rebalancing decisions. In particular, TDFs provide declining risk levels with age. Managed account programs offer a similar approach, along with customization that considers other personal and plan assets, typically for an additional fee. Balanced funds offer a static asset allocation, and, when offered as a group of “lifestyle” funds, provide portfolio choices based not on age but on risk preference.

In this paper we examine two aspects of the growing use of these programs: their impact on asset allocation patterns by age and the demographic and plan factors associated with their adoption. Data for this study is drawn from Vanguard’s DC plan recordkeeping system as of December 31, 2010, and includes more than 3 million participants in more than 2,000 plans. As of that date, 29% of Vanguard participants were in some type of professionally managed allocation arrangement, including 20% in a single TDF, 6% in a single balanced fund, and 3% in a managed account program.

Professionally managed allocations

Participants in professionally managed allocations have quite different portfolio allocation characteristics compared with all other participants. Participants who are not in such programs tend to have widely dispersed equity allocations (Figure 1, panel A). Among participants younger than 35, 10% have zero equity allocation, while 39% have more than 90% of their portfolio in stocks. There are similar patterns for participants ages 35–54 and participants older than 55.

1 How America Saves 2011, Figure 67, p.61
2 Mottola and Utkus, 2009.
3 As of December 2010, 86% of participants in the sample had access to a TDF, 79% to a traditional balanced and/or static allocation lifestyle fund, and 41% to a managed account program.
Figure 1. Equity allocations and managed allocation strategies

Vanguard defined contribution plan participants, 2010

A. All other participants (i.e., nonusers of managed allocations)

B. Single target-date participants

C. Single balanced fund participants

D. Managed account participants

Source: Vanguard, 2011.
By comparison, professionally managed allocations eliminate such extreme allocations. Among single TDF investors, young investors have equity allocations of around 90%, and equity allocations are systematically reduced over time (Figure 1, panel B). Among balanced fund investors, equity allocations for each fund are not related to age, and range from 41%–50% to 61%–70% in equities (Figure 1, panel C). Finally, managed account investors have age-varying equity allocations that are similar to those of TDFs, although the range of results by age is wider, given the customized nature of the advice program (Figure 1, panel D).

These results are similar to other findings related to the benefits of professionally managed allocations, including reduction in extreme risk and return characteristics, reduction in company stock, and potential improvement in expected returns.4

Figure 2. Demographic characteristics

Vanguard defined contribution plan participants, 2010

<table>
<thead>
<tr>
<th>Users of professionally-managed allocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>All participants</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Percentage of total sample</td>
</tr>
<tr>
<td>Male (%)</td>
</tr>
<tr>
<td>Age (average)</td>
</tr>
<tr>
<td>Tenure (average)</td>
</tr>
<tr>
<td>Account balance (average)</td>
</tr>
<tr>
<td>Account balance (median)</td>
</tr>
<tr>
<td>Percent web registered</td>
</tr>
<tr>
<td>Percent in plan offering new-hire automatic enrollment</td>
</tr>
<tr>
<td>Percent defaulted*</td>
</tr>
</tbody>
</table>

* Defaulted participants include only new hires in a plan offering new-hire automatic enrollment.

Source: Vanguard, 2011.

4 See Mottola and Utkus, 2006; Hewitt Associates and Financial Engines, 2010; Young, 2011; and Utkus and Bapat, 2011.
Demographic and plan characteristics

Users of the three types of professionally managed allocation strategies are quite distinct from nonusers. The three types of managed allocation investors are also quite different from one another (Figure 2). Nonusers tend to be older, male, and long-tenured, with higher average and median balances. Both single TDF and balanced fund investors are younger and shorter-tenured, with lower account balances. Single balanced fund users are also more likely to be female. Single TDF investors are more likely to be in an automatic enrollment plan and to have been defaulted into the fund. In contrast, managed account investors are older, long-tenured, with higher balances.

These summary statistics indicate some of the factors influencing participant adoption of professionally managed allocations. Plan design—through automatic enrollment into a default investment—is clearly a strong influence, especially for TDF investors. Balanced funds are designed to avoid high or extreme risk-taking, and that may be part of their appeal to female participants with lower account balances. Meanwhile, managed account programs provide, for an additional fee, direct control over the investment of the participant’s account and customization of portfolio recommendations. The inclination to seek advice, which is correlated with age and size of portfolio, is not controlled for in the analysis but may be influencing some of the age and portfolio-size effects observed.

Model of adoption

To understand the factors influencing adoption of each type of strategy, we used a regression model relating adoption of a managed allocation strategy to employee demographics and to a new-hire automatic enrollment default designation. The demographic variables include age, gender, household income, account balance, nonretirement-plan wealth, and web registration. The model is described in more detail in the Appendix. In this section, we present predicted effects from our model and demonstrate how different variables are related to adoption of a given strategy.

Single TDF investors. The majority of professionally managed allocation users hold a single TDF. While the majority of current users enrolled voluntarily, being defaulted into the funds under new-hire automatic enrollment has the greatest impact on adoption (Figure 3, panel A, page 6). It more than doubles the probability of being a single TDF user—from 20% on average in our entire set of participants to just more than 40%. In other words, if all the new hires were in automatic enrollment plans and had been defaulted into TDFs, we would expect to see twice as many participants (40% versus the actual 20%) in a single TDF.

The probability of being a single TDF investor is also inversely associated with account balance. The percentage of single TDF investors is highest for those with balances of less than $10,000, and then declines for higher balances. For example, having an account balance of $100,000 means having a 5% chance of being invested in a single TDF, versus 20% for our sample overall. As expected, participants who are web-registered, and presumably more engaged, are also less likely to hold a single TDF.

Note that because of plan variation in the time since adoption of automatic enrollment, our usage measures for TDFs and balanced funds capture those who voluntarily chose the investment as well as those who have been defaulted into the funds and remained in the funds.

Bajtelsmit, Bernasek, and Jianakoplos, 1999.

Our default variable includes only those who were defaulted into an investment strategy as new hires and remained in that strategy. It excludes those who may have been initially invested in the default option but eventually changed or added investments, or existing participants who may have been reenrolled into these funds. It also does not include existing eligible participants who were “swept” as part of automatic enrollment of non-new hires.
Factors influencing use of professionally-managed allocations

Vanguard defined contribution plan participants, 2010

A. Single target-date participants

B. Single balanced fund participants

C. Single managed account participants

Note: Model includes gender, age, account balance, household income, nonretirement-plan wealth, web registration, and default status. Only statistically significant effects are shown. See Appendix for model specification.

Source: Vanguard, 2011.
Single balanced fund investors. As with single TDF usage, account balance has a very strong relationship to single balanced fund usage (Figure 3, panel B). Those with a balance of less than $10,000 have a 15% probability of being a single balanced fund investor, compared with an overall average probability of 6%. That’s an increase of nearly threefold.

Single balanced fund investors also tend to be female, although the impact of this characteristic is much smaller than that of low balances. Being female is associated with an 8% chance of being a single balanced fund investor, versus a 6% probability overall. We speculate that, at the margin, women find the moderate risk characteristics of balanced funds appealing. As with TDF users, single balanced fund investors are less likely to be web-registered, which in our view is a proxy for low account engagement.

Designating an automatic enrollment default does not affect single balanced fund usage in our sample. We surmise that this is because of the relatively small number of autoenrollment plans that designate balanced funds as default investments. Thus, the defaulted participants who remain solely in the balanced fund represent a very small portion of our sample, and so the effect of the default variable is not statistically significant.

Managed account investors. Among managed account investors, we do not observe the level of variation in demographic characteristics that we see with other managed allocation investors (Figure 3, panel C). Older participants are somewhat more likely to be managed account investors. Managed account investors tend to have larger plan portfolios, but also appear to have less wealth outside the retirement plan. It could be that those with significant assets outside the retirement plan feel they do not need advice within the plan itself. Those with most of their wealth within the plan may be more guarded with their assets, and therefore more willing to pay for in-plan advice. The somewhat higher tendency of managed account investors to be web-registered may signal a higher level of engagement, perhaps because many are approaching retirement.

Preference for advice, which can be correlated with age and portfolio savings, is not measured in our report, but it stands to reason that our measured effects of age and portfolio size among managed account investors may also include an indirect measure of a preference for seeking advice. In other words, these participants might select managed accounts not only because they are older and have larger portfolios, but also because they have a basic inclination to want professional advice.

Another factor to note is that participants with larger balances ($50,000 and more) are only somewhat more likely to use managed accounts. Earlier we noted that managed account investors on average have higher balances. The relative importance of a larger balance declines somewhat when adjusting for age and income. In other words, managed account investors are more likely to have higher balances because they tend to be older. As in the case of balanced fund usage, the effect of the default designation for managed accounts is insignificant because of the small sample of current managed account users who were defaulted into the program.
Figure 4. Voluntary and default choice in target-date funds

Vanguard defined contribution plan participants, 2010

A. Voluntary choice

<table>
<thead>
<tr>
<th>Age</th>
<th>Account balance</th>
<th>Web registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>25%</td>
<td>Yes</td>
</tr>
<tr>
<td>25–34</td>
<td>18%</td>
<td>No</td>
</tr>
<tr>
<td>35–44</td>
<td>14%</td>
<td>Yes</td>
</tr>
<tr>
<td>45–54</td>
<td>13%</td>
<td>No</td>
</tr>
<tr>
<td>55+</td>
<td>11%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Predicted probability of using a single target-date fund:
- Average (voluntary): 12%
- Average (all participants): 20%

B. Default choice (new-hire automatic enrollment)

<table>
<thead>
<tr>
<th>Age</th>
<th>Account balance</th>
<th>Web registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25</td>
<td>43%</td>
<td>Yes</td>
</tr>
<tr>
<td>25–34</td>
<td>36%</td>
<td>Yes</td>
</tr>
<tr>
<td>35–44</td>
<td>37%</td>
<td>Yes</td>
</tr>
<tr>
<td>45–54</td>
<td>37%</td>
<td>Yes</td>
</tr>
<tr>
<td>55+</td>
<td>36%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Predicted probability of using a single target-date fund:
- Average (defaulted): 36%
- Average (all participants): 20%

Note: Model includes gender, age, account balance, household income, nonretirement-plan wealth, web registration, default status, and the interaction of defaulted participants with age, balance, and web registration. Only statistically significant effects are shown.

Source: Vanguard, 2011.
TDF default effect
As noted above, in the case of single TDF usage, the impact of the default designation is significant. As a follow-up exercise, we sought to distinguish the separate effects of voluntary choice versus default designation for single TDF investors. We model being a single TDF investor or not, and interact demographic terms with the default designation variable. This model is also described more fully in the Appendix. As in the prior case, we report on predicted effects from our model.

Both age and account balance are strongly linked to voluntarily investing in a single TDF (Figure 4, panel A). Participants with balances of less than $10,000, and from $10,000 to $25,000, are disproportionately more likely to be single TDF investors. The same is true of investors younger than 35.

In the case of defaulted participants, adoption rates are uniformly higher, as noted previously. What we do not observe, however, is much variation in age or account balance (Figure 4, panel B). While participants younger than 25 are disproportionately more likely to be defaulted, single TDF usage is similar among other age groups. Differences in balances are statistically insignificant. Overall, this represents the “leveling” effect of automatic enrollment. The impact of autoenrollment is so strong that it overshadows the typical demographic differences that arise when participants make voluntary choices.

Implications
Compared with participants making their own choices, participants in professionally managed allocations avoid extreme equity allocations and, in most cases, have predictable age variation in equity holdings. This finding is consistent with other research showing the benefit of such programs in improving diversification among various asset classes, reducing extreme risk and return outcomes, and reducing specific risk of employer stock.

TDFs are the dominant professionally managed allocation program in our sample. Two distinct effects are influencing adoption. Sponsors are selecting TDFs more frequently as a qualified default investment alternative (QDIA) under Department of Labor regulations. As a result, there is a strong default effect leading to an increase in single TDF investors. At the same time, our results show that single TDF usage is strongly associated with low balances and younger participants—characteristics often associated with lower levels of investor sophistication and literacy. In this sense, the funds are playing a role in addressing the risks of poor portfolio construction among this population.

Single balanced fund usage, while less prevalent, is also associated with participants with low account balances. It is also somewhat more common among female investors than male investors. We surmise that, at the margins, balanced funds, with their moderate risk characteristics, may have greater appeal to female investors. TDFs show no such gender differences.

Finally, managed account investors are more likely to be older participants. These investors also tend to have most of their financial wealth in their retirement plan, not “outside the plan,” which may in part explain their need for in-plan investment advice. In our analysis, we could not directly observe participant preferences for investment advice, so these effects—their age and the fact that most of their wealth is in the plan—may also be indirect measures of these participants’ basic preference for using a third-party in-plan advisor.
The increased use of professionally managed allocations represents a notable change in the delegation of portfolio construction responsibilities. Many participants lack the time, interest, or skill to construct their portfolios. With the emergence of these strategies, participants can now delegate the task to third-party professionals, either a fund manager or a third-party advisor. Sponsors concerned about poor diversification practices will want to consider the potential benefits of such strategies, which can be offered through voluntary choice, automatic enrollment, or a planwide reenrollment program.

Appendix

The following multinomial logistic model was estimated to determine the relationship between the use of professionally managed allocations and participant demographic characteristics, controlling for participants who were defaulted into a strategy as a result of automatic enrollment.

\[
\text{Outcome} = \alpha + \beta \text{Defaulted} + \varepsilon + \nu
\]

The dependent variable, *Outcome*, included four outcomes, measuring the probability that a participant is a single TDF user, a single balanced fund user, or a managed account owner, with the reference category being a nonuser of any of these three professionally managed allocations. *DEMographics* is a vector of demographic variables, including gender, age, account balance, household income, nonretirement-plan wealth, and web registration. The reference categories were male, ages 35 to 44, a balance of $50,000 to $99,999, household income of $75,000 to $99,999, nonretirement-plan wealth of $50,000 to $99,999, and not being web-registered, respectively. A binary measure for whether a participant was defaulted into a fund or account because of new-hire automatic enrollment, *Defaulted*, was also included as a control variable.

A second, binary logistic, model was run to determine whether the effects of the demographic predictors of age, account balance, and web registration varied if a participant was defaulted into an allocation strategy. Therefore, interaction terms between *Defaulted* and these selected demographic variables were added to the original predictors to measure the predicted probability of single TDF use.

Although the data was available, job tenure was not included in the model since it was highly correlated with age, balance, and being defaulted. Controls were also in place for missing values, to ensure that observations were not unnecessarily deleted.

To address possible correlation of error terms arising from participants within a given plan, the models controlled for plan-level heteroskedasticity.

All of the regression results shown are predicted values of the outcome variable. Only significant effects are reported.
References


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