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An analysis of white label funds in public pension plans

1. Introduction

White label funds are generically named funds that include one or more underlying funds. They are often named for the broad asset class the fund invests in. While white label funds are not new, they are increasingly popular options in defined contribution retirement plans. The reasons often cited for adoption of these generically named funds by plan sponsors include menu simplification, lower fund costs, and the potential to offer plan participants more sophisticated and diversified funds that can leverage the expertise of multiple fund managers. On the other hand, some requirements, like customized participant communications and increased fiduciary responsibility, add to administrative costs that can hinder greater white label fund adoption by plan sponsors. In this study, we utilize a new database of individual-level data from public sector defined contribution retirement plans. We aim to investigate the prevalence of white label funds in the public sector and begin to explore whether they are related to different participant investment allocations. This paper provides an enhanced view of how white label funds fit into plan menus. We also add insights into the understudied public sector defined contribution market. We outline several promising avenues for future research based on these preliminary findings.

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This study uses a unique database that includes plan level and participant level administrative data from 207 public plans representing $112 billion dollars in assets and 2.3 million participant accounts. At the plan level, we find that white label funds are more prevalent in larger plans, consistent with the theory that implementation costs make these funds more attractive to larger plans. White label only and mixed menus (i.e., menus including branded and white label funds) appear to offer more simplified menus compared to branded menus. The mixed and white label only menus offer fewer fund options and fewer fund families, on average, but a similar broad selection of asset classes. There is also more variation in the number of options offered in branded menus relative to menus including white labels. Altogether, these results paint a more detailed picture of how white labels are integrated into public sector plan menus. Given the limited information related to white label use in practice, our study adds to the sparse research on this topic.

At the participant level, we find preliminary evidence that white label funds are associated with greater use of self-directed brokerage windows, albeit to a very small degree. Therefore, it is not clear from our results whether this is cause for concern or not. We argue that additional data are needed to test whether white label menus alter allocations not just in self-directed brokerage windows but also in mixed menus featuring multiple brands. We view these early findings as motivation for future research.

This paper is organized as follows. First, we provide our motivation for studying this topic by reviewing the literature related to plan menu effects and branding. For those less familiar with white label funds, our second section highlights the important features of these funds and describes the reasons why they are used in retirement plans. Our third section outlines the unique features of the new Public Retirement Research Lab (PRRL) database and presents our initial plan-level findings. Section four presents our participant-level analysis. This analysis is our first step towards understanding how these funds may influence behavior. Our final section concludes by summarizing these preliminary results and providing suggestions for additional research to investigate the impact of white label funds more thoroughly.

2. Plan menus, branding and investment behavior

Research shows that investors can be influenced by irrelevant factors when making asset allocation decisions. For example, studies document that the type and/or number of fund options available in investment menus, fund option names, and participants' familiarity with the fund options can all influence participants' investment choices (Agnew 2006; Bateman, Dobrescu, Newell, Ortmann and Thorp 2016; Benartzi and Thaler 2001; Brown, Liang and Weisbenner 2007; Cohen 2009; Cooper, Gulen and Rau 2005; Green and Jame 2013; Huberman 2001; Huberman and Jiang 2006; Tang, Mitchell, Mottola and Utkus 2010).[1] As a result, this evidence suggests that plan sponsors should consider the potential unintended consequences of altering fund menus before they change menus.

Brand factors can also influence portfolio choices. This is not necessarily irrational, as brands may be associated with favorable features such as low fees or successful fund managers. Wang and Tsai (2014) find that the more favorable a fund's brand image, the greater the likelihood it will be purchased. In addition, Sialm and Tham (2015) find that there is a spillover effect from the fund's management company to its branded funds, such that individuals are more likely to direct their investments towards funds where the management company's name is included in the fund name and the management company's stock has performed well. The spillover effect is not observed when the fund management company's name is not included in the fund's name. The authors conclude that their findings suggest that the reputation of the fund management company's brand influences customers' fund flows. Brand trust, a measure of how dependable a brand is perceived by people, may also be important to individuals' fund allocation decisions. Agnew, Hung, Montgomery, and Thorp (2019) find in an experimental paper that individuals are more likely to invest in more (vs. less) trusted brands than generic funds not associated with a brand—i.e., white label funds. White label funds play a prominent role in this study and are discussed in more detail in the next

1 Agnew, Hung, Montgomery, and Thorp (2019) provide a brief overview of these studies.

section. Agnew et al. (2019) also find that participants generally expect higher returns and lower risk from highly trusted brand options. In sum, this combined research suggests that many different facets of branding may influence fund allocation decisions.

The combined evidence that branding and fund menus matter and the growing popularity of white label funds in defined contribution plans suggest this is an interesting area for research and motivates our project.

3. White label funds

White label funds have existed for some time and continue to grow in popularity. They are generically named investment options that can include one or more underlying funds. Typically, they are named based on the investment class the fund invests in. A plan sponsor may also 'brand' these generic funds with the employer's name. Over the past decade, these funds have played an increasing role in defined contribution lineups. To highlight this, a 2014 Hewitt Ennisknupp study estimated that 25% of employers' defined contribution plans offered a white label option. By 2017, Alight (formerly a part of Aon Hewitt) reported that this percentage increased to one-third of employers' plans (Alight Solutions 2017). Investments in these funds are also nontrivial. Healy (2020) estimates based on PIMCO's 2020 Defined Contribution Consulting Study that 30% of assets in plans with more than $1 billion dollars are invested in white label funds. The total estimated amount ranges between $750 billion and $1 trillion. White label funds appear to be more common in larger plans according to a report analyzing Fidelity Management Trust Company (FMTC) data (Fidelity Investments 2021). FMTC provides recordkeeping for 23,000 plans. In 2020, FMTC reported that 1 percent of their plans across all asset sizes offered white label funds. In contrast, a much larger 18 percent of plans with over $1 billion in assets featured this type of fund. This suggests that while the overall number of plans offering these funds may be small, the actual number of participants choosing from menus featuring white label funds may be much larger.

Why are white label funds attractive offerings in defined contribution plans? Practitioners report several reasons for the rising popularity of these funds. One of the most cited reasons is menu simplification. Hewitt Ennisknupp (2014) report that white label naming provides a better connection for plan participants between the fund's name and the fund's investment goal. They comment that funds that refer to the asset manager rather than the fund's strategy or objective can be problematic for participants. To illustrate this, they provide an example. They show how the branded fund by American Funds "EuroPacific Growth Fund, R6" could be relabeled "International Equity" in a white label context and contend that this renaming would reduce overall participant confusion about their investment options when making their asset allocation decisions.

Another attractive feature is that a white label fund can incorporate multiple underlying funds into the structure that are managed by different people. This multi-manager approach allows the plan to create a "fund-of-funds." As a result, the white label fund created can provide a more sophisticated product than a stand-alone single fund, while keeping the overall fund menu simple. A survey by PIMCO (PIMCO 2022) reports that 80 percent of plans offering white labels use multi-manager funds.

White labels can also make it easier for plan sponsors to replace a poor-performing fund. Replacing a fund is challenging whenever the fund is offered as a stand-alone branded option in a menu. White labeling makes the process of removing funds much swifter and easier because the branded fund is simply a component of the white-label fund. In this case, when an underlying fund is removed or replaced, participants are often unaware that a fund change has been made.

Another reported advantage of white labeling is that it may reduce overall costs to participants and plan sponsors. However, this may only be true for larger plans. To explore how expensive white label funds are, Fidelity Investments (2021) reviewed the expense ratios of white label funds on their platform and found a wide variation in expenses. Depending on the asset class, they report expense ratios ranging from .01% to 1.03%. In addition, these expenses are not all the costs associated with these funds. Fidelity highlights several other potential costs including audit fees, third-party provider fees, custom fund fact sheets costs, communication expenses, trustee and custodial service fees, and transition management costs. Fidelity Investments (2021) points out that plan sponsors must either pay these costs out of pocket or pass the expenses onto participants. They argue that for large plans these costs may be insignificant, but for small plans these costs are more likely meaningful. Fidelity Investments' (2021) finding that there are more white label offerings in their larger plans is consistent with this cost theory. Our study does not address fees or other costs.

Bare, Kloepfer, Lucas, and Veneruso (2017) provide an excellent overview of the white label market and go into detail explaining the pros and cons of this product offering. While the discussion in this paper so far has focused on the attractive features of the product, Bare et al (2017) also cite several drawbacks, including increased fiduciary liabilities to plan sponsors, greater operational requirements, the need for participant education, and required customized communications. Therefore, the decision to include white label funds in a plan is not straightforward; plan sponsors must weigh the advantages and disadvantages of the funds before adding them.

4. PRRL Database and plan level analysis

Until recently, researchers interested in white label funds were limited to studying hard-to-access administrative data or conducting their own surveys. While researchers interested in plan menus often turn to public data from annual filings of Form 5500, the forms do not require information related to white label assets (Healy 2020). In 2020, the Employer Benefit Research Institute (EBRI) and the National Association of Government Defined Contribution Administrators (NAGDCA) created the Public Retirement Research Lab (PRRL) Database (https://www.prrl.org/). Plan sponsors voluntarily join the Public Retirement Research Lab and their recordkeepers transmit de-identified participant-level data on plans' behalf. These data collected from multiple public plan sponsors through their recordkeepers provide the most comprehensive participant-level information related to the public sector defined contribution industry available for public research.[2] At the plan level, the data provides the complete fund menus for the plans including flagging white label funds. In addition, the names of the investment funds are included so that white label funds incorporating their plan sponsors' names are also identifiable. Thus, this database is well designed for our research purposes.

Another notable feature of the data is that it covers public sector defined contribution plans. Most academic retirement research focuses on defined contribution plans offered through private companies. However, public sector employees often face an even more complex set of retirement choices, making this segment an important sector to study.

In the public sector, most full-time state and local government employees are typically covered by a primary mandatory retirement plan. Generally, it is a defined benefit plan, but some states now offer workers a choice between different types of plans (for example, the choice could be between a defined benefit plan and a defined contribution plan or a hybrid plan). In addition to the mandatory primary plan, public employees are also often offered one or more supplemental defined contribution retirement plans. These plans are typically voluntary.

For example, state and local governments are allowed to offer both 401(k) plans and public 457(b) plans to employees.[3] In addition, public schools, hospitals, and charitable organizations can also offer 403(b) plans. Finally, 401(a) plans are available to government agencies, educational institutions, and non-profit organizations.[4] As a result, some public employees not only have to decide whether to save in a supplemental defined contribution plan, but also, in many cases, they must choose which plan or combination of plans to contribute their savings to each year. In some cases, participants are choosing from two to four plans.

Clark, Pathak and Pelletier (2018) provide an informative overview of the complex supplemental public defined contribution market. They study three supplemental plans offered to public school employees in North Carolina to identify the determinants of plan participation and total annual contributions. The PRRL dataset does not

2 The Center for Retirement Research at Boston College produces the Public Plan Data (PPD) in partnership with the MissionSquare Research Institute, the National Association of State Retirement Administrators, and the Government Finance Officers Association (Public Plans Data, 2001-2020). It is a rich plan level resource of information on public plans that includes data on defined benefit and defined contribution plans. More information about these data is available at this site: https://publicplansdata.org/about/our-research . These data do not include individual-level allocations nor information about white label funds. Therefore, it was not suited for this study, but is an excellent resource to answer other research questions related to public plans.

3 Note while public employers can offer 401(k) plans, federal legislation passed in 1986 restricted employers from creating new 401(k) plans after its enactment. As a result, existing 401(k) public plans predate 1986 (Clark, Pathak and Pelletier 2018). Public 457(b) plans are substantially different than 457(b) plans offered through private employers. In the public sector, the 457(b) plan is a supplemental savings plan available to all employees when available. 457(b) plans offered through the private sector are only available for highly compensated employees or executives.

4 401(a) plans, and public sector retirement plans more generally, do not fit neatly into the dichotomy of an employer-sponsored pension or individual-based retirement account. For example, some 401(a) plans are mandatory for employees to participate in as part of a "hybrid" DB-DC retirement system. See "What are Hybrid Retirement Plans, A Quick-Reference Guide" (NASRA, https://www.nasra.org/Files/Topical%20Reports/Hybrids/Hybrid-primer.pdf) for additional details. In addition, 401(a) plans can be limited to only employer contributions or require a certain contribution rate from employees as a condition of employment.

include information on the employees that chose not to participate in the plans, however, it does provide individual-level data that permits us to determine how many, and in which, plans each employee participates.

Table 1 provides a broad overview of the data in the PRRL. While data collected in December 2019 and December 2020 are available, we limit our plan level analysis to 2020 data to provide the most up-to-date snapshot. The PRRL 2020 database includes 212 plans, but we restrict the sample to 207 plans that fall into the data's three main plan types (401(a), 401(k) and 457(b)).[5] We were concerned that the five remaining plans might become identifiable if separated out and included in our analysis. To avoid this, we eliminate these plans from our study. While the number of plans in the PRRL database may appear small when measured against the thousands of state and local government entities in the United States, it is important to note that many state plans serve as the primary defined contribution vehicle for lower-level governments within their respective states. The state plans in the PRRL database represent as many as 1,000 participating governmental employers even though they are counted as a single plan.

Table 1 presents summary statistics for all plans and by plan type. In total, plan assets account for $112 billion dollars and 2.3 million accounts. Table 1 also breaks the plans down into the category of employee types covered by the plans. Plans often include participants representing more than one category of employees. As a result, the total number of plans for each plan type is less than the sum of the plans covering each category of employee.

Figure 1 provides a visual illustration of Table 1's information. It is clear from Figure 1 that the 457(b) plans represent the largest segment in this database based on plan numbers and participants. The 401(k) plans account for the smallest segment by plan numbers. This is not surprising given that U.S. law has prohibited plan sponsors from establishing new 401(k)s in the public sector since 1986 (Clark, Pathak and Pelletier 2018). Interestingly, compared to the number of plans offered, 401(k) plans account for a relatively greater number of assets per plan than 401(a) and 457(b) plans. This might be because 401(k) plans tend to be longer tenured than others.

As discussed earlier, public sector employees are often offered multiple defined contribution plans to join. Thus, one person may represent multiple accounts in the PRRL database. There are 1.8 million unique participants in the 2020 PRRL. Of those, 436,730 participants hold multiple accounts, representing 23.8% of the unique participants. The median number of accounts held by participants is one, while the average number of accounts is 1.25. In our later participant-level analysis, we analyze the largest (based on dollar balances) account held by the participant with multiple accounts. However, for our plan-level analysis, we continue to focus on participant accounts.

5 We define a "plan" as a combination of plan sponsor, plan type (401(a), 401(k), or 457(b)), and participant population. For example, the same state plan sponsor may have multiple 457(b) plans, one for higher education employees and another for regular state employees. In this paper, we treat these participant populations as two separate plans.

This table summarizes the plans included in the PRRL database by their plan type (401(a), 401(k) or 457(b)). For each type, the aggregate plan assets, number of participant accounts, and category of employees the plan covers (for example, state or city employees) are tabulated. Plans often include more than one category of employees. Therefore, the total number of plans for each plan type is not equal to the sum of the plans covering each employee category.

Table 1. Summary of 2020 PRRL database

	401(a)	401(k)	457(b)	All
Number of Plans	68	14	125	207
Plan Assets	$32,831,858,217	$26,997,363,541	$52,548,938,840	$112,378,160,599
Number of Participant Accounts	789,747	567,494	943,522	2,300,763
Number of Plans Serving				
State Employees	19	8	23	50
City Employees	37	9	73	119
Hospital Employees	4	4	13	21
School Employees	4	7	14	25
County Employees	21	5	32	58
Special District Employees	13	5	13	31
College Employees	5	6	15	26
Other Employees	15	0	19	34

Figure 1. Plan type and assets in 2020 PRRL Database

This figure displays the number of plans and total plan assets by plan type.

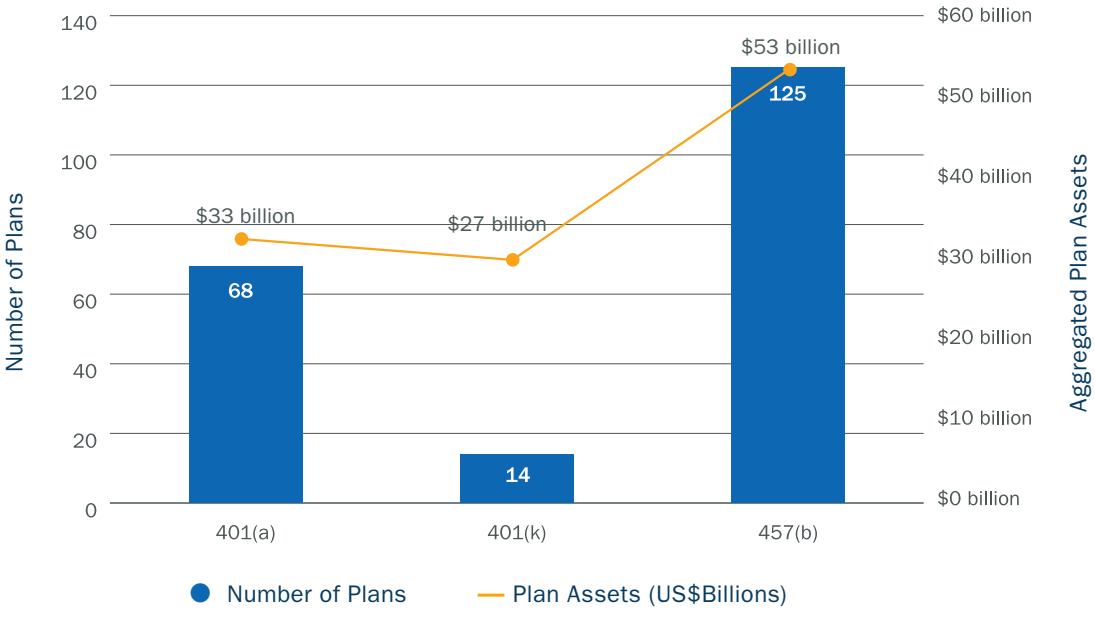


Table 2, Panels A and B calculate the percentage of plans that offer at least one white label fund option in their investment menu except where the only white label fund offered in the menu is a stable value fund. We exclude these plans from the calculation. Later, we create a special separate category for this type of menu because it is common for stable value funds to be unbranded. This allows the reader to interpret the data following their own white label definition which could be less restrictive and include this special category. In this table, we calculate two percentages: the percentage of plans offering white label options and the percentage of participant accounts (not unique participants) in plans with white label options. We also identify plans that include white label funds that incorporate the employers' name in the fund name. We call these funds "employer white label funds." This group is a subset of the white label group. Other researchers and practitioners sometimes call this type of labeling "employer-branded funds."

This table displays the prevalence of white label fund options available in plan menus based on types of plans.

Table 2. Panel A – White label prevalence by plan

Type of Plan	Number of Plans	Percentage of Plans with White Label Options	Percentage of Plans with Employer White Label
401(a)	68	26%	22%
401(k)	14	21%	14%
457(b)	125	11%	8%
Total	207	17%	13%

This table displays the prevalence of white label fund options available by participant accounts based on types of plans. The same individual may participate in multiple plans in this table. The total reflects the total participant accounts not the total unique participants. The results are relatively unchanged when the total is recalculated to reflect unique participants.

Table 2. Panel B – White label prevalence by participant account

Type of Plan	Number of Participant Accounts	Percentage of Participant Accounts with White Label Fund as an Option	Percentage of Participant Accounts with Employer White Label Fund as an Option
401(a)	789,747	91%	87%
401(k)	567,494	51%	17%
457(b)	943,522	54%	48%
Total	2,300,763	66%	54%

Roughly 17% of plans in this dataset offer at least one white label option according to our strict definition. When we relax our definition to include the special category of branded funds with white label stable value funds, this percentage increases to 23%. While there is limited data on the prevalence of white label menus in defined contribution plans, our less restrictive number is broadly consistent with other estimates discussed earlier. At the plan type level, we observe some variation in white label prevalence. Relative to 401(a) and 401(k) plans in this database, 457(b) plans have a smaller percentage of plans that offer white labels (26% and 21% versus 11%). While this database comprises a large number of public plans, we are not able to confirm whether this relationship between plan type and white label offerings holds for the whole public sector.

In terms of participant accounts, a significantly higher percentage of participant accounts are in plans that offer white labels suggesting that white label funds are more often offered in larger plans (See Table 2, Panel B). For example, while 26% of 401(a) plans offer menus with white label funds, 91% of participants in 401(a)s are members of plans with these menus. This relationship holds for 401(k)s (21% vs. 51%) and 457(b)s (11% vs 54%) participants. Across all participant accounts, 66% are in plans with white label funds in their menus versus 17% of plans.

Figure 2 breaks down these percentages by plan size. Readers should note that in some participant bins the number of plans in the database is very small, so caution is needed when interpreting the figures. Nonetheless, the observed trend is in line with our hypothesis that white label funds are more likely found in larger plans, probably because the costs and required sophistication to administer these funds is only justified for larger plans.

We find similar trends for employer white label funds. Table 2, Panel A reports a larger percentage of 401(a) plans offering employer-branded white labels (24%) compared to 401(k) (14%) and 457(b)(8%) plans, respectively. Not surprisingly, Figure 2 also supports that these funds tend to be found in larger plans.

Figure 2. Panel A – Percentage of plans with white label funds by plan size

This figure displays the percentage of plans with white label funds by plan size.

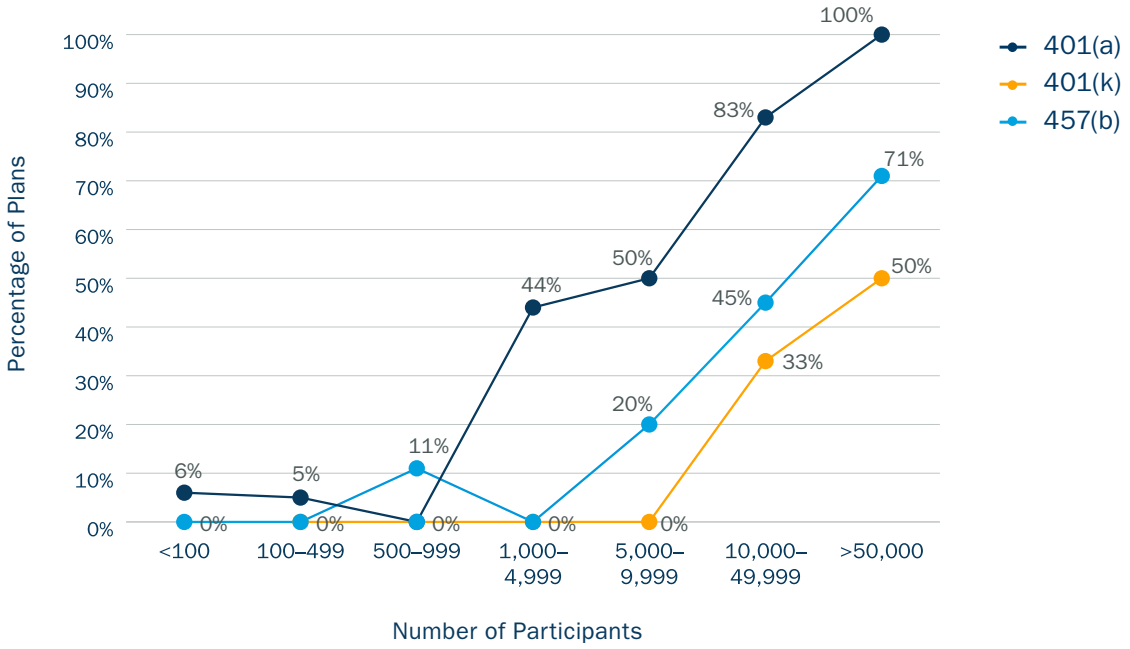
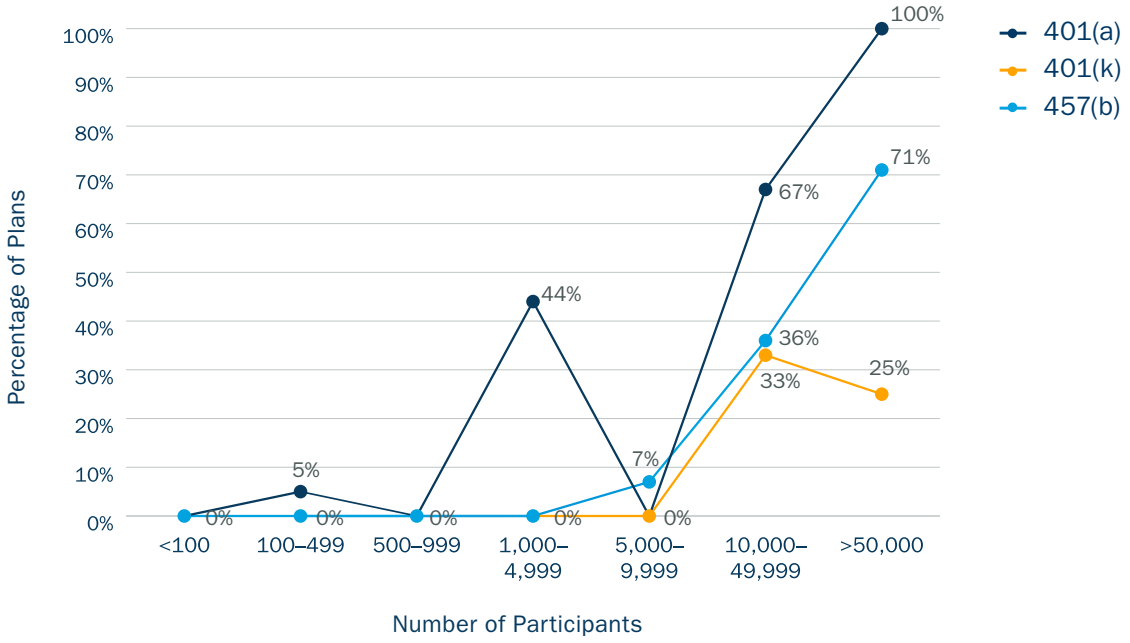


Figure 2. Panel B – Percentage of plans with employer white label funds by plan size

This figure displays the percentage of plans with employer white label funds by plan size.



To categorize the plan menus in more detail, we use the following taxonomy:

All Branded—These are menus where all the offered funds are offered by a professional investment manager and branded by that company. The offered mutual funds' names do not need to include their fund managers' names.

Mixed Menu—These are menus that include both funds that are branded and funds that are white labeled or employer labeled.[6]

Only Stable Value White Labeled—These are plans where the entire menu includes branded funds except for an unbranded stable value fund. As discussed earlier, we make this a separate category and do not consider these menus white labeled.

White Label Only—These menus include only white label funds. However, the menu may include a brokerage window that participants can opt to invest in to access individual stocks and other funds.

Figure 3, Panels A and B reveal patterns like those found in Table 2. The figure reinforces the fact it may be deceiving to measure white label prevalence by considering menus by plans because larger employers are more likely to feature white label funds. Figure 2, Panel B displays another striking result that approximately 40% of participant accounts in 401(a) and 457(b) plans are in mixed menu plans. The exception is 401(k) plans that offer zero mixed menu plans.

6 Unfortunately, we cannot determine from the data if all employees in the plan have access to all the funds. For example, when a plan menu changes and fund options are removed, sometimes the plan allows existing assets to remain in the removed funds, while prohibiting new contributions to those deleted funds. Therefore, we cannot rule out the scenario where employees in a mixed menu plan hold balances in removed options but are permitted to invest only in a selection of white label funds. While we do not know the specific plans included in the PRRL database, we have confirmed through internet searches of public plan information that several plans exist that offer mixed menus to all participants (new and old hires combined).

Figure 3. Panel A – Percentage of plans in menu categories by plan type

This figure displays the percentage of plans in menu categories by plan type.

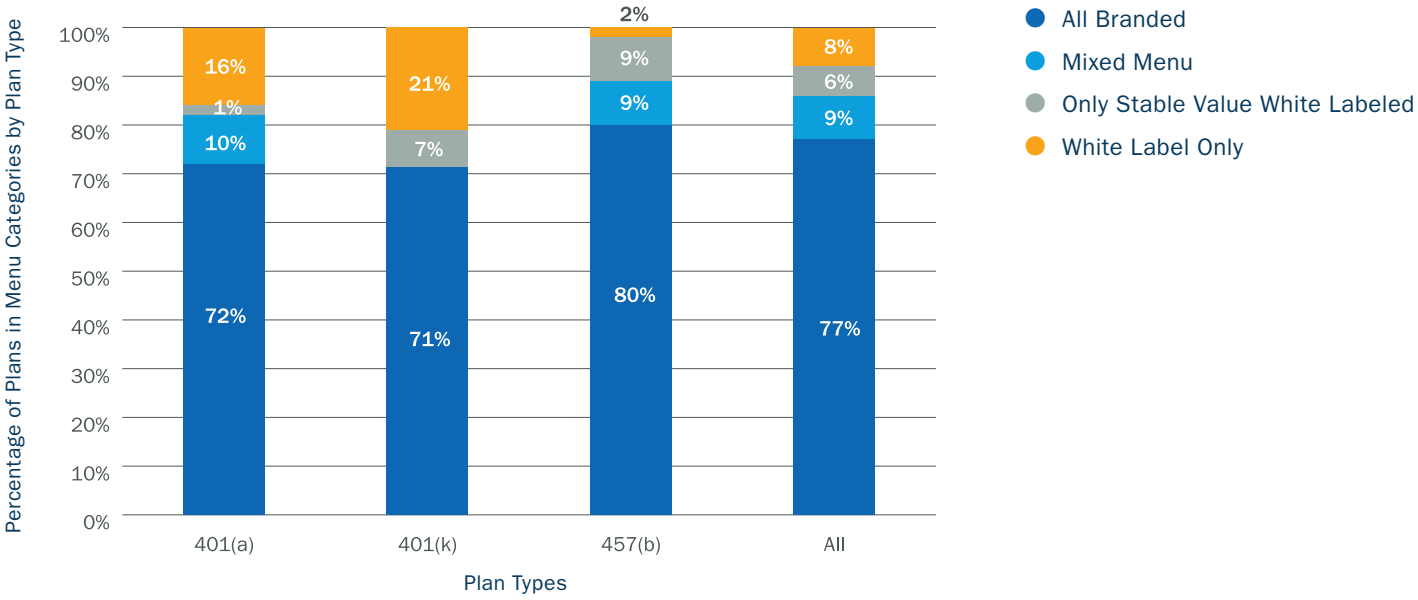


Figure 3. Panel B – Percentage of participant accounts in menu categories by plan type

This figure displays the percentage of participant accounts in menu categories by plan type.

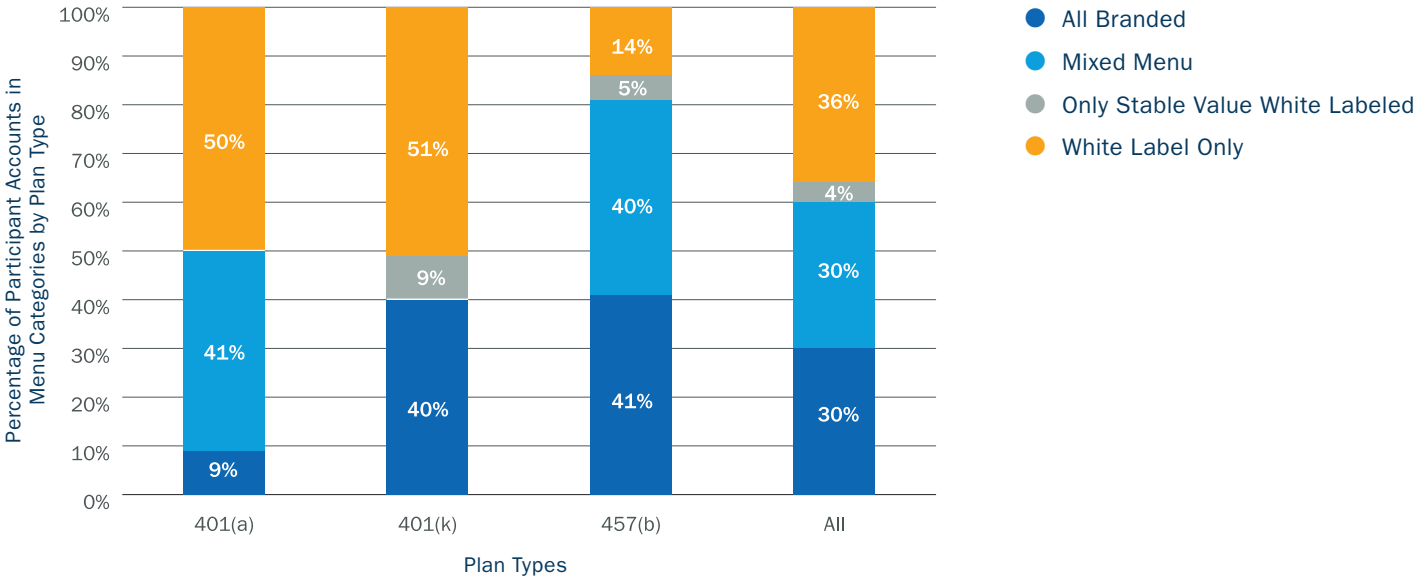


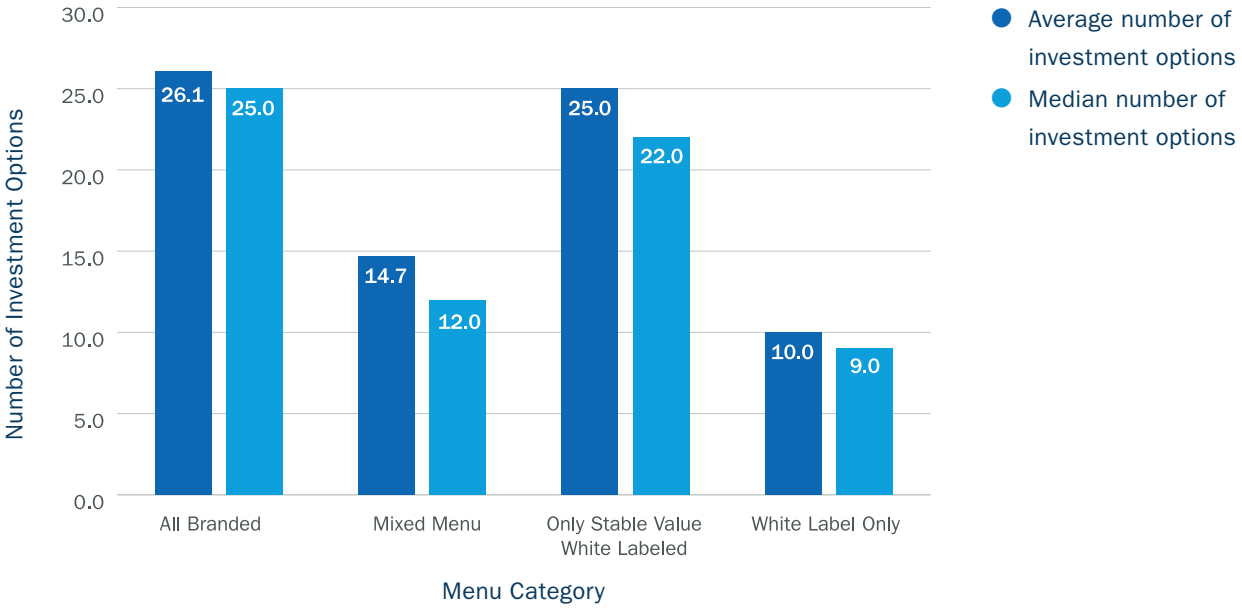
Figure 4, Panel A displays the number of investment options by menu type. Note that for plans that offer target date options, we count the series of target date funds as one option. Our rationale is that these options are designed so that participants invest in only one fund in the series.[7] Figure 6, Panel A supports the assertion that white label funds simplify plan menus. The figure shows white label only menus and mixed menus have the lowest average number of investment options (10.0 options and 14.7 options) versus all branded menus (26.1 options). In terms of options offered, we find our special category of branded menus with white labeled stable value options (25 options) is most consistent with all branded menus (26.1 options).

White label and mixed menus are also simpler when measured by the number of different fund families represented in the menu. We define fund families as funds managed by the same fund management company (or example, TIAA is a fund family). For these figures, we count white label funds as one fund family. As a result, white label only plans offer only one fund family. Figure 4, Panel B shows that mixed menus on average offer funds from multiple fund families (5.8 fund families). The median number is 3.5 fund families. The two types of branded menus offer substantially more fund families. Given choice overload theory and brand research, these larger menus may be overwhelming for participants (Agnew and Szykman 2005).

Finally, in Figure 4, Panel C, we divide the fund options into six very broad asset classes/fund types. They are equities, fixed income, stable value, target date funds, balanced funds, and brokerage window. Of all the categories, brokerage windows and balanced funds are the most likely funds to be excluded from the menu. Approximately three-quarters of the plans in our sample offer at least one investment option in either five or all six of our broadly defined asset classes.

Figure 4. Panel A – Average and median number of investment options by menu category

This figure displays the average and median number of investment options offered based on menu category.



7 Prior research shows that some individuals do not follow the prescribed allocation and invest in multiple funds including target date options (Agnew, Szykman, Utkus and Young 2013).

Figure 4. Panel B – Average and median number of fund families by menu category

This figure displays the average and median number of fund families offered based on menu category.

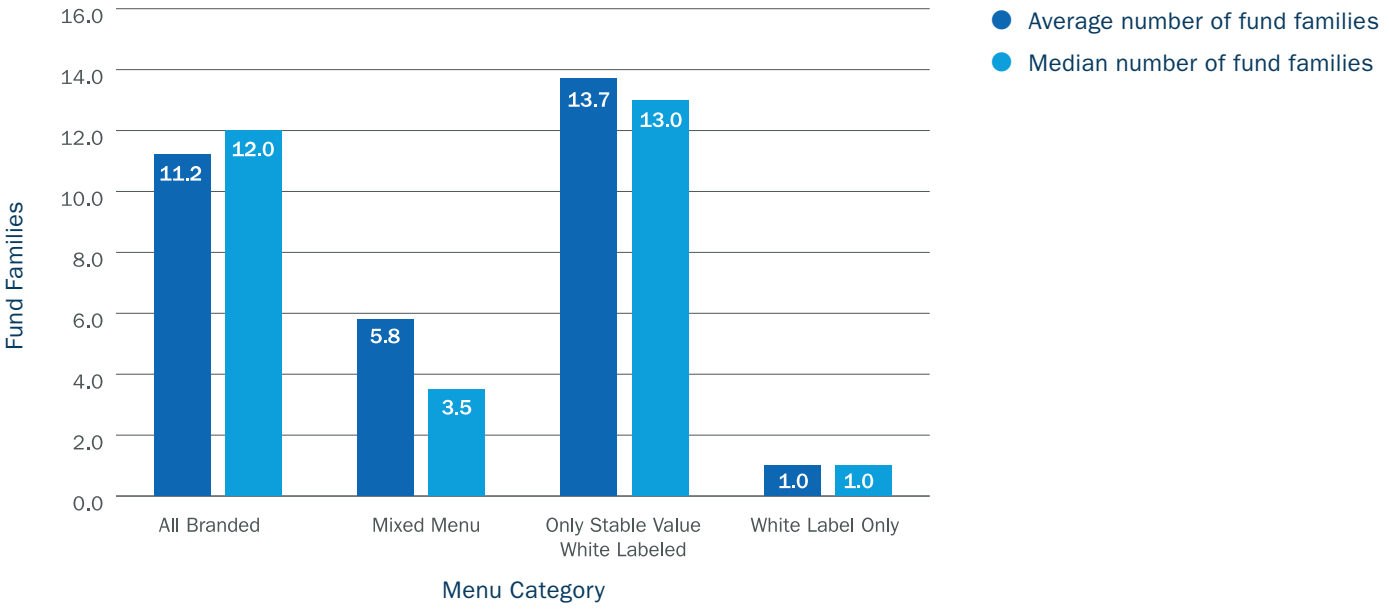
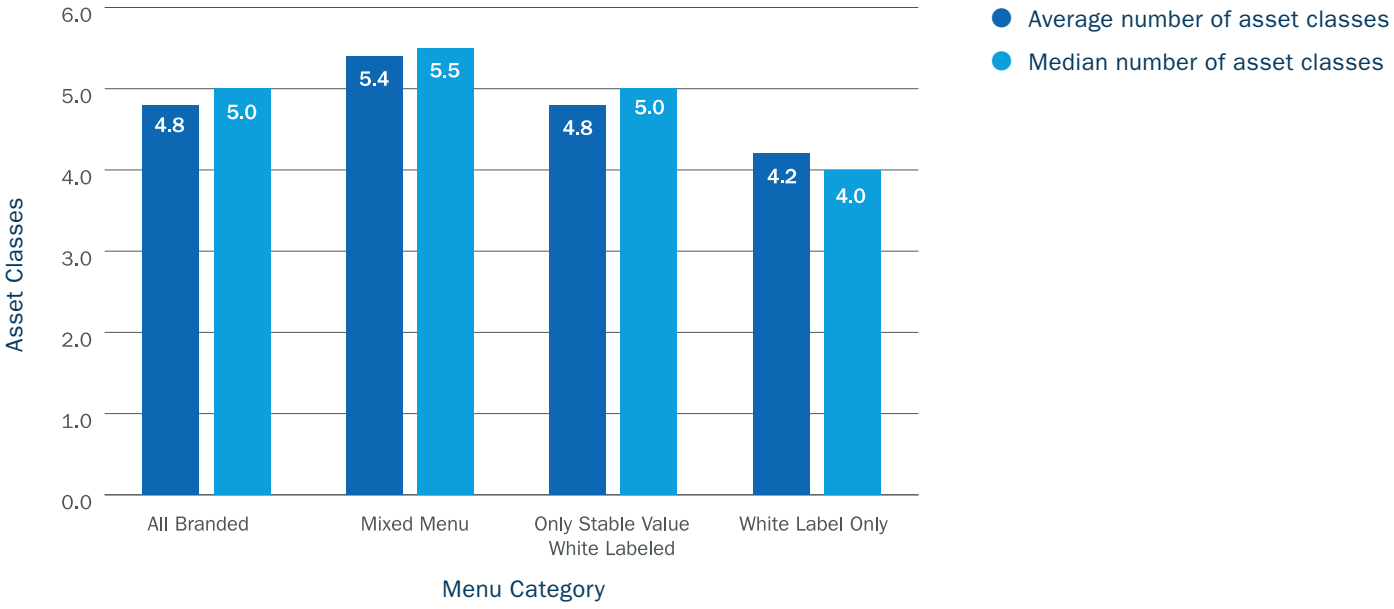


Figure 4. Panel C – Average and median number of assets classes by menu category

This figure displays the average and median number of asset classes offered based on menu category.



We next explore the distribution of fund options offered, motivated by the differences between the median and average number of options in Figure 4. Unsurprisingly, Figure 5 shows a significant variation in number of funds offered by plans. Figure 6 looks at the distribution of the number of fund options by menu types. We again see that white label and mixed funds tend to have smaller menus with less dispersion in the number of funds offered than the other two types of menus. This is consistent with white labels increasing menu simplification.

Figure 5. Percentage of plans offering different ranges of fund options

This figure displays the percentage of plans offering different ranges of fund options.

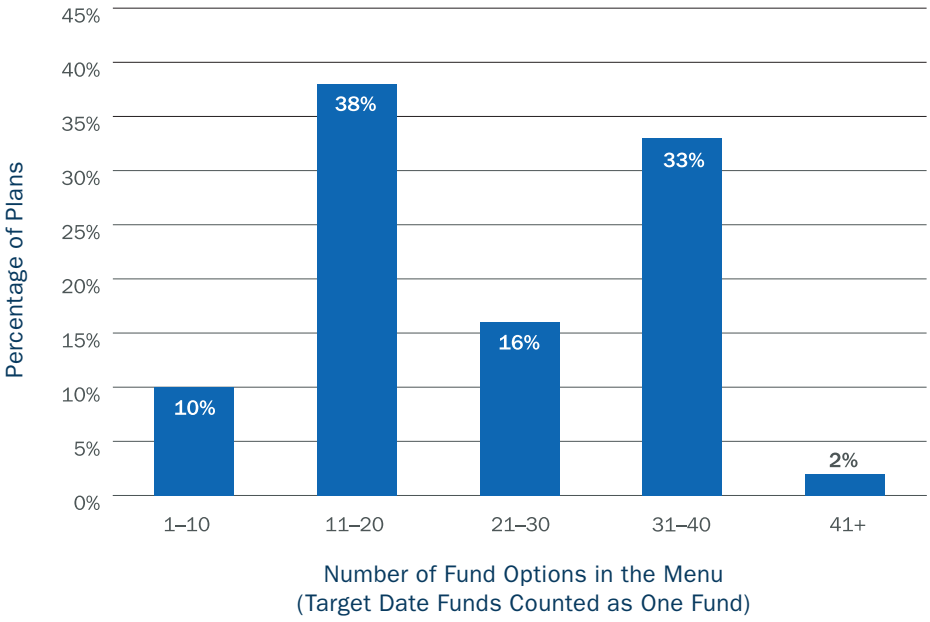
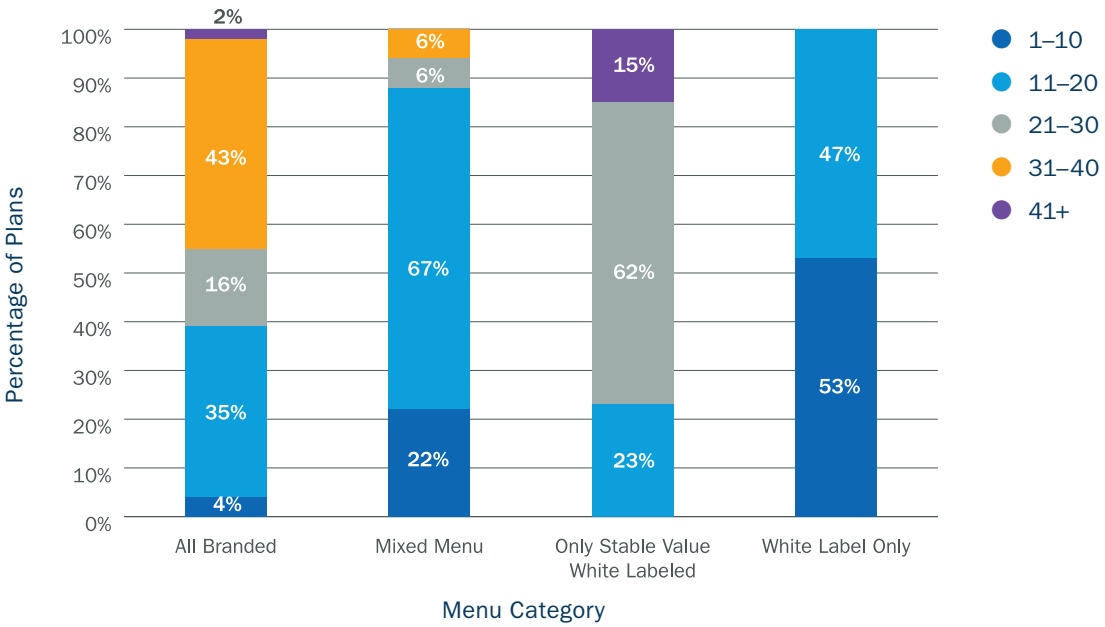


Figure 6. Percentage of plans offering different ranges of fund options by menu category

This figure displays the number of plans offering different ranges of fund options based on menu category.



Interestingly, while plans offer many different investment options, participants hold only three funds in their portfolio on average. We believe this number is low because most people are invested in the default investment fund. This is usually a target date fund corresponding to the participant's age but could be a balanced or stable-value fund. Often the default option is one investment option, like a target date fund. However, there are some cases where the default consists of a mix of the offered funds, which results in a default portfolio including more than one fund. Of all the participant accounts, 40% of participant accounts had only one fund included in the account portfolio.

Given the strength of the default bias, we wondered what percent of defaults were white labeled. Unfortunately, the default option is not known for all the plans in the database. For the subsample of 155 plans where default information is available, we find 22 plans (or 14 percent) feature white labeled defaults.[8] Target date funds are by far the most popular default option in all the menus. Ninety-five percent of known defaults are in target date funds and every white labeled default fell into this category.

Our summary statistics suggest that the probability of inclusion of white label funds into plan menus may be related to several factors. We estimate a linear probability model to determine the relative importance of the different factors. The results are reported in Table 3. The dependent variable equals 100 if the plan does offer a white label fund (columns 1 and 2) or an employer-branded white label fund (columns 3 and 4) and 0 otherwise. Thus, the coefficient estimates can be interpreted in units of percentage points.

As expected, we find that larger plans are more likely to offer white label funds (either based on assets under management, hereafter AUM, or the number of plan participants). For employer-branded white labels, AUM is the significant size variable. Relative to 457(b) plans, 401(a) plans are more likely to offer white label options. Plans covering state employees are more likely to offer white label funds versus plans covering hospital and county employees. While plans for special district employees seem to all offer white label offerings.[9]

8 This calculation includes plans with no white label options and plans with only white labeled options. Nine of the nineteen plans (47 percent) with mixed menus or whose stable value options are white labeled (but no other investment options are) and whose default options are known have white label options as their default.

9 A special district is a local government employer, usually serving a narrow purpose. Common examples include water authorities or fire departments. See, e.g. "What is a special district? Why are they important? (Institute for Local Government, https://www.ca-ilg.org/post/what-special-district).

This table shows the results of a linear probability model. The dependent variable equals 100 if a plan offers any white label options (or employer-branded options).

Table 3

	Any White Label Options	Any White Label Options	Any Employer-Branded Options	Any Employer-Branded Options
Tax Regulation: 401(a)	10.43*	9.36*	7.12	6.46
	(4.33)	(4.23)	(4.05)	(4.08)
Tax Regulation: 401(k)	-5.23	-5.16	-7.44	-7.39
	(6.89)	(7.16)	(6.81)	(7.09)
Plan AUM $100m or Above	18.59**		11.96*	
	(6.65)		(5.77)	
Plan Has 1,000 or More Participants		17.25*		11.20
		(7.13)		(6.06)
Plan Serves City Employees	-19.34	-17.69	-23.33*	-22.23*
	(11.01)	(10.75)	(11.30)	(10.98)
Plan Serves Hospital Employees	-32.88**	-31.45*	-44.85***	-43.89***
	(12.55)	(12.81)	(12.20)	(12.40)
Plan Serves Primary School Employees	-25.61	-26.30	-33.81*	-34.21*
	(13.05)	(13.91)	(13.71)	(14.43)
Plan Serves County Employees	-26.69*	-27.79**	-27.89*	-28.59*
	(10.49)	(10.64)	(10.92)	(11.02)
Plan Serves Special District Employees	101.56***	101.49***	108.14***	108.02***
	(16.20)	(15.75)	(17.08)	(16.80)
Plan Serves Higher Education Employees	13.47	14.01	17.37	17.67
	(12.81)	(13.73)	(12.78)	(13.51)
Plan Serves Other Employees	-15.27	-13.61	-29.63**	-28.53**
	(12.86)	(12.72)	(10.49)	(10.01)
Intercept	16.84	15.45	22.65*	21.68*
	(10.31)	(10.12)	(10.58)	(10.13)
N	207	207	207	207
R^2	0.46	0.45	0.53	0.53

The dependent variables are scaled to be either 100 or 0. The omitted category for plan regulation type is 457(b); the omitted category of employee type is state employee. Standard errors are clustered by plan sponsor. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

5. Participant-level analysis

In light of past research suggesting that menus influence participant allocations, we investigate how branding and white label options in menus may affect behavior. Inspired by a Fidelity (2021) report, we study how the probability of selecting the self-directed brokerage (SDB) option depends on whether the menu includes branded options or pure white label options. Fidelity studied seven plans that changed their menus to white label only options while continuing to offer a SDB option. Fidelity found that SDB utilization increased substantially after the switch to the white label only menu. While Fidelity could not identify why the SDB option became more popular, they conjecture from speaking to plan sponsors that a lack of transparency about white label options may have been a factor. We offer another possible explanation that branding effects may also be in play. For example, longer tenured participants may change to the SDB option once a new white labeled menu is introduced if they wish to continue to invest in formerly offered brands.

While none of the PRRL plans changed menus to white label only menus during the 2019 to 2020 timeframe, we still can test if there is a difference between participants' SDB allocations for plans offering all branded menus and brands offering only white label menus. Using a subsample of the PRRL database, we employ a matching technique to find plans that are similar based on the category of employees they serve. We require an overlap in the type of employees served but do not require an exact match. Plans must also include individual-level asset allocations and some demographic data. We require the plan to have been included in both the 2019 and 2020 PRRL databases so that we can identify new hires. Our matching procedure results in three treated plans and two control plans.[10] A plan is considered treated if it is a pure white label plan offering plus an SDB option. The control plans can either be all branded or branded plus white label stable value. The control and treated plans must all offer an SDB option. Mixed menus are excluded from the analysis. In all cases, the SDB option is not the default. This allows us to say that a positive investment in the SDB option was not because that option was the default. The plans feature default options that are either a TDF fund or a predetermined mix of available options. Our data also includes age and gender data. Salary information is not available for this subset of plans.

Based on prior research, we hypothesize that sophisticated investors may be more likely to want to invest in SDB options. Past research shows a positive relationship between salary and financial sophistication (Calvet, Campbell and Sodini 2009; Lusardi and Mitchell 2007). Therefore, we include a rough proxy for salary by using quintiles of overall account balances. One flaw of this proxy is that it could be confounded with plan tenure; lower-salaried individuals in the plan for several years will accumulate larger balances just as higher-salaried participants will have higher balances. Another complication of these data is that we do not have the history of the plan menus over time. Given the documented inertia in investment behavior, plan allocations are affected by the menu options and defaults available at the time the choice is made (Agnew, Balduzzi, and Sunden 2003). Therefore, we include a dummy variable that captures new participants that joined between 2019 and 2020. We can identify new hires because they do not appear in the 2019 data. We have confidence that these new participants face the menus reported in the database.

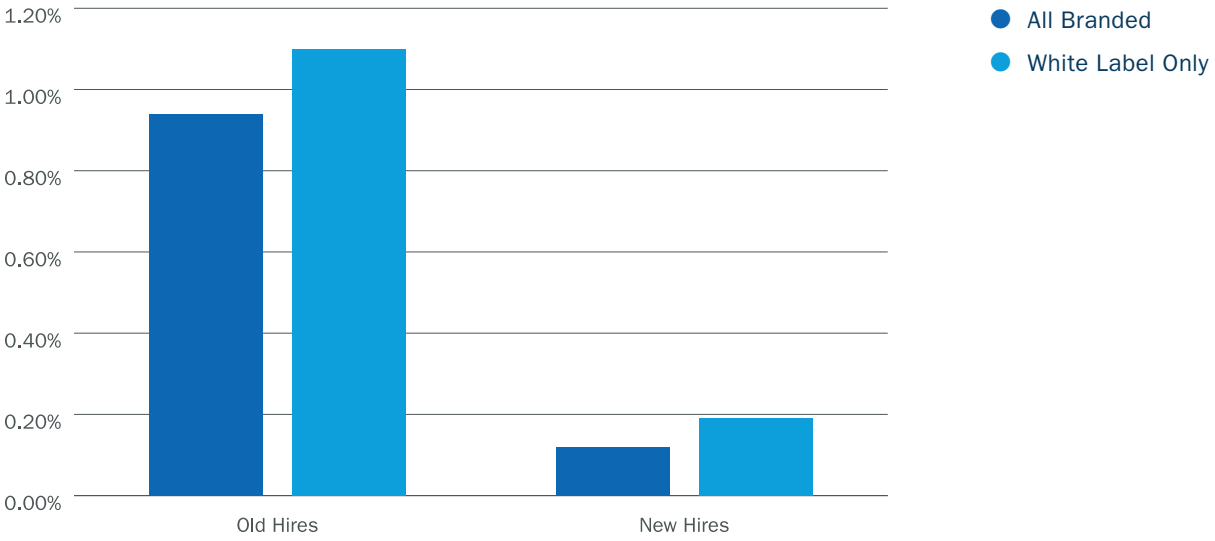
Figure 7 compares the participation rates in the self-directed brokerage account in the matched treated and control plans. In addition, the sample is divided by new participants joining after 2019 where the menu is known for certain, and by older hires, who may have faced different menus. Consistent with intuition, we find that participation in the brokerage window is extremely low. Only one percent of old hires choose this option. This is not unexpected; the Fidelity study reports usage before white label funds are introduced into the menu of their plans averaging between two and three percent. We also find that the new hires' participation rates are significantly lower than old hires. Without more knowledge about historic menus and defaults or changes in participation allocations over time, we cannot determine why this is the case. A further complication is that these

10 The three treated plans are a 401(a), 401(k), and 457(b) plan all offered by a single plan sponsor (i.e., a single government entity). Following Brown et al. (2007), we limit to the plan with the largest balance for each employee. The two control plans belong to two different plan sponsors. Our matching strategy is similar in spirit to coarsened exact matching (Iacus, King, & Porro, 2012). We identify plans that offer self-directed brokerages and serve the same types of employees but otherwise differ on their treatment status. We match on all of the employee types listed in Table 1 with the exception of hospital employees (matching on all employee types resulted in no matched treated and control plans).

data are collected during the COVID-19 pandemic which may also have affected allocations. What is clear is that the proportions of individuals utilizing the SDB are higher for both types of hires when offered in white label menus relative to branded menus.

Figure 7. Brokerage window participation rates by menu type and participant type matched plan sample

This figure shows the percentage of participants investing in the brokerage window based on hire date and menu.



Our next step is to run a linear probability model on the matched sample at the individual level. The results are reported in Table 4. The dependent variable equals 0 if the participant is not invested in the SDB option and 100 if the participant does invest. Thus, the coefficients can be interpreted in units of percentage points. The standard errors are clustered at the plan sponsor level. The analysis includes only three plan sponsors. Therefore, caution is recommended when considering the standard errors on the coefficients. Given Figure 7 and the fact that the plans all offer non-SDB defaults, the significant but small effect (0.28%) of white labels fund menus is not surprising in the first regression. The first regression also controls for new hires, an interaction between new hires and white labels and whether the default is a TDF fund or not (motivated by the differences between the left and right side of Figure 7). The second regression controls for some participant demographic features.[11] Men are more likely than women to contribute to the brokerage option (0.65%). Also, the coefficient estimates on large plan balance indicator variables (which may proxy for the participant's time in the plan, investment ability and/or salary) are also significant. Notice that the new hire coefficient in column 2 is not significant and much smaller than in the first regression. This is likely due to controlling for age and balance quintiles. The wealthiest quintile is 2.2% more likely to invest in SDB relative to the lowest quintile of account balances. The white label treatment effect is still significant after controlling for these individual characteristics and the interaction term has become significant.

11 One of the distinguishing features of the PRRL database is that it includes some demographic data. It is not available for all plans. Most of the PRRL data in our larger plan analysis includes gender (95%) and age data (almost 100%). Data on job tenure (68%) and salary (44%) are more limited.

Our findings suggest that incumbent participants in white label plans use the brokerage window more than new participants. One explanation could be that older participants want to stick to a branded product when it is off the menu. However, we cannot test this theory with the data that we have because we do not know the history of the plan menus. That said, these results are consistent with the Fidelity (2021) report and we cannot rule out that white label funds may affect behavior.

However, the estimated effects are small, so more research is needed to determine whether white labels funds affect other parts of the participants' portfolios beyond the SDB investment and the magnitude of these effects. The results presented here are preliminary and future research will explore more closely the allocation patterns in the mixed menus plans.

This table reports the results from a linear probability model. The dependent variable equals 0 if the participant is not invested in the SDB option and 100 if the participant does invest.

Table 4

	Brokerage Participation	Brokerage Participation
White Label Option Available	0.28***	0.38***
	(0.01)	(0.02)
Default is TDF	-0.57***	-0.41***
	(0.00)	(0.01)
New Hire	-0.80***	-0.02
	(0.12)	(0.06)
New Hire x White Label Option Available	-0.12	-0.16*
	(0.12)	(0.06)
Male		0.65***
		(0.11)
Age: 25-29		-0.18***
		(0.04)
Age: 30-34		-0.01
		(0.04)
Age: 35-39		0.02
		(0.11)
Age: 40-44		-0.01
		(0.18)
Age: 45-49		0.05
		(0.05)
Age: 50-54		0.14
		(0.12)
Age: 55-59		0.11
		(0.12)
Age: 60-64		0.06
		(0.27)
Age: 65-69		0.08
		(0.26)
Age: 70+		0.01
		(0.34)
Account Balance Quantile 2		0.13
		(0.07)
Account Balance Quantile 3		0.37***
		(0.11)
Account Balance Quantile 4		1.09***
		(0.13)
Account Balance Quantile 5		2.23***
		(0.55)
Intercept	1.39***	0.07
	(0.01)	(0.17)
N	123,417	123,349
R^2	0.00	0.01

Standard errors are clustered by plan sponsor. *** p < 0.001; ** p < 0.01; * p < 0.05.

6. Conclusions and avenues for future research

White label funds are becoming increasingly popular. Still not much is known about how these funds are integrated into defined contribution menus. To address this, our paper takes advantage of a new database that includes both plan- and participant-level data related to public sector plans. We find that white label funds are more prevalent in larger plans and surmise that it is due to the implementation costs. White label only and mixed menus do appear more simplified as they tend to offer fewer fund options and fund families relative to branded menus. Branded menus also offer a wider dispersion of fund options.

At the participant level, we find preliminary evidence that white label funds are associated with greater use of self-directed brokerage windows albeit to a small degree. Therefore, it is not clear from our results whether this is cause for concern. We view our early findings as motivation for further research. Fortunately, as the PRRL database grows there will be more opportunities to investigate how white label funds affect behavior. More specifically, we hope as more years are added to the database that we can identify plans that change their menus to either mixed label or white label only menus.

By following the methodology employed by Madrian and Shea (2001) in their study of the effect of automatic enrollment on plan participation, we can determine if and how new hires' portfolio allocations react to plan menu changes introducing white label funds. If it is possible to calculate fund returns, we can also follow the methodology in Tang et al (2010) to determine whether participant-chosen portfolios are more or less efficient following the menu change. Given the strong influence of the default, it may be useful to include in the analysis a study of the subset of those who opt out of the default and actively select their portfolios. In addition, we can test whether specific brands attract allocations. Testing the brand trust experimental findings of Agnew et al. (2019) is of particular interest given the variety of brands in the mixed menu plans. This would require conducting a survey of brand trust to incorporate into the analysis.

In closing, the changing defined contribution fund menus provide an excellent opportunity for researchers to study how menu effects such as the introduction of white label funds may affect behavior in unexpected ways. In addition, our plan level analysis provides a useful guide to plan sponsors regarding how different plans incorporate or do not incorporate these funds into their menus.

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