

Fi360

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Put Your Best Fund Forward: Research-Backed Strategies to Improve Retirement Plans



- David Blanchett, PhD, CFA, CFP®
- Head of Retirement Research
- Morningstar Investment Management LLC

Agenda

- Core Menu Size and Participant Investment Behaviors
- Fund Replacements in Defined Contribution Plans
- Made to Stick: What Drives Default Investment Acceptance in Defined Contribution Plans
- Mixed Target-Date Fund Investors
- Participant Trading Activity During Q1 2020

Core Menu Size and Participant Investment Behaviors

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Research Question

Is there any relation between the size of the core menu and...

1. default acceptance
2. the quality of self-directed portfolios

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Defined Contribution Menu Choices with Plan Defaults

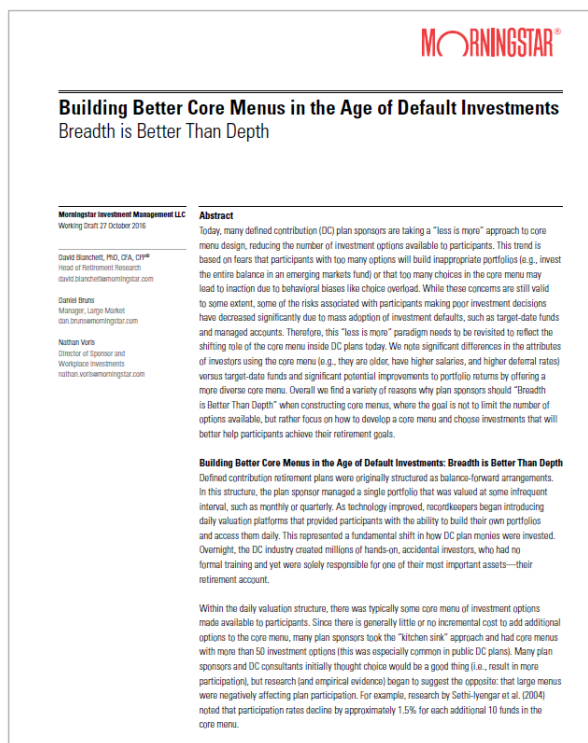
The Study

- Prior studies of core menu size in defined contribution (DC) plans find that smaller menus help improve employee participation by reducing choice overload
- Since these studies, automatic enrollment and default investments have become significantly more popular within DC retirement plans
- How does the role of the core menu affect participant investment behaviors in a world of default investments?

Source: “Bigger is Better: Defined Contribution Menu Choices with Plan Defaults” by David Blanchett. Working Morningstar White Paper. For financial professional use only. Not for public distribution. For financial professional use only. Not for public distribution. This research has not been published yet and the results are subject to change. Contact David Blanchett at david.blanchett@morningstar.com with questions about this research.

Past Morningstar Research Related to this Topic

“Breadth is Better than Depth”



- Theoretical in nature
- Suggests that participants need choices to build efficient portfolios and that those who are not using the default investment are likely more “sophisticated” participants
- Offering more style exposures is more important than offering lots of funds

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Defined Contribution Menu Choices with Plan Defaults

Data Set

- Using data from a U.S.-based defined contribution recordkeeper
- The raw dataset consists of 644,707 participant account allocations across 545 401(k) plans*
- The raw dataset was then filtered to only include participants actively participating in the plan and, again, filtered for reasonable age, plan tenure, and salary
- Actual test population varied by test

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Defined Contribution Menu Choices with Plan Defaults

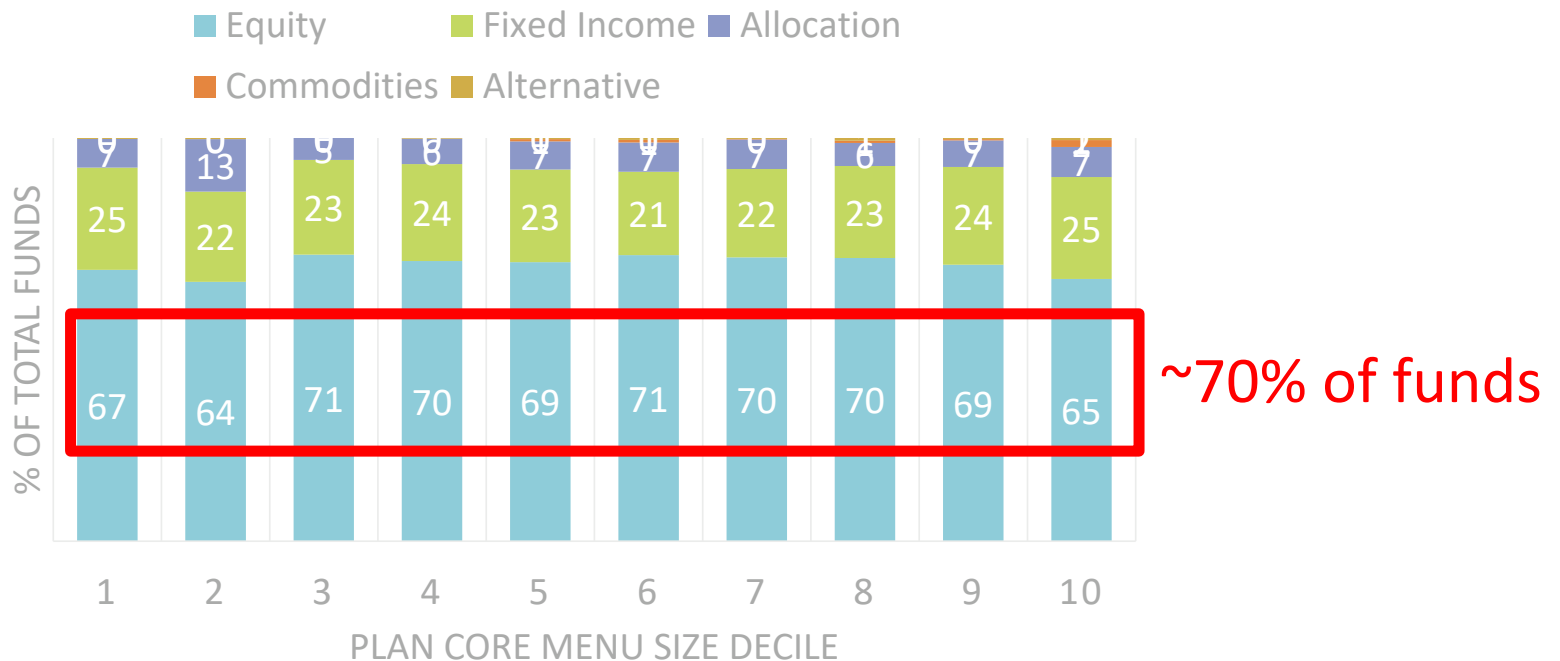
Distribution of Size of Core Menus for Plans Considered

Percentile	All Funds	Excluding TDFs	
2.5	13	11	} ~very similar to overall 401(k) market
5	14	12	
10	16	13	
25	20	15	
Median	25	18	
75	30	21	
90	34	26	
95	37	30	
97.5	42	33	
Average	25	19	

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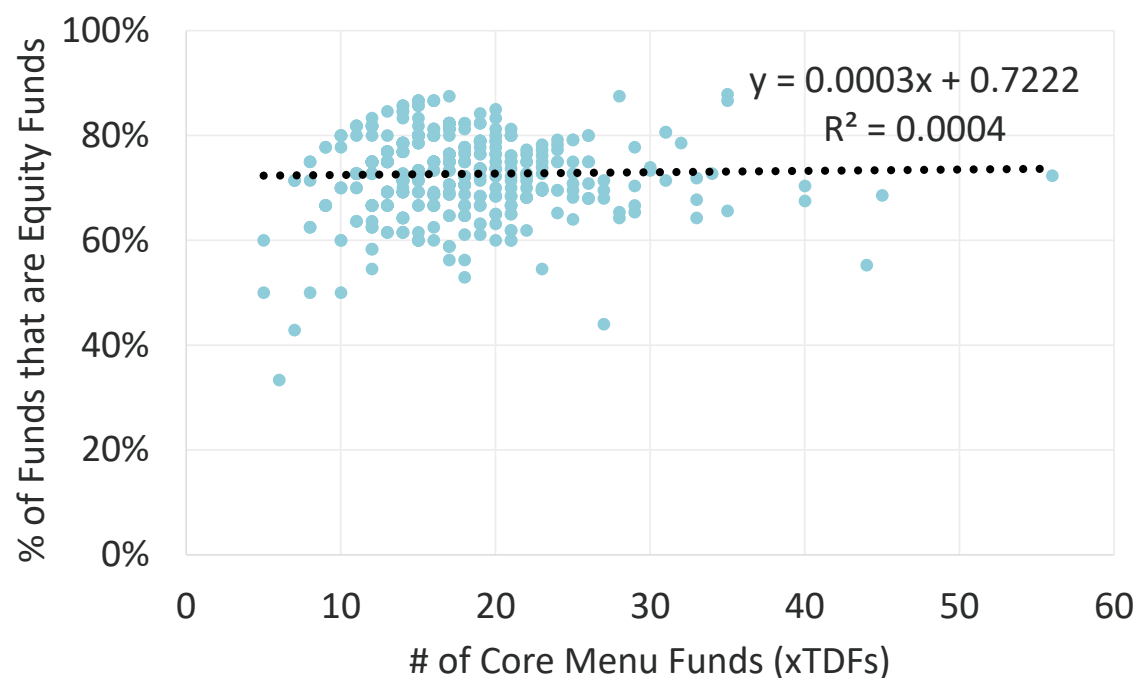
Broad Style Coverage



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% of Funds that are Equities by Core Menu Size

Broad Style Coverage



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% of Plans with Respective Style Coverage by Plan Menu Decile Size

Investment Style	Plan Menu Size Decile									
	1	2	3	4	5	6	7	8	9	10
Short Government	0	6	3	2	4	0	3	5	7	24
Short-Term Bond	7	18	5	9	27	22	39	28	32	52
Multisector Bond	2	0	10	4	15	2	10	15	22	22
High Yield Bond	0	6	8	4	21	7	7	15	31	57
Inflation-Protected Bond	9	24	30	27	37	37	36	39	58	74
Intermediate Government	12	12	12	4	17	27	30	31	32	37
Intermediate-Term Bond	55	88	55	58	58	100	100	100	100	100
World Bond	7	3	10	9	8	12	10	23	38	49
Large Growth	60	76	90	93	92	98	95	93	100	100
Large Blend	95	94	100	100	98	100	100	100	100	100
Large Value	60	64	80	84	87	93	92	96	94	95
Mid-Cap Growth	21	30	45	53	42	59	73	81	92	83
Mid-Cap Blend	49	76	70	82	67	90	86	92	86	94
Mid-Cap Value	14	27	20	22	44	44	51	64	76	71
Small Growth	33	36	53	51	67	73	80	81	85	87
Small Blend	51	52	70	58	69	76	86	81	82	91
Small Value	40	39	43	33	69	63	68	76	79	81
Real Estate	35	30	33	33	58	66	46	53	58	70
Global Real Estate	0	0	5	4	2	7	5	5	8	26
Foreign Large Growth	51	43	73	53	48	43	43	53	68	78
Foreign Large Blend	56	70	60	87	81	88	83	86	90	91
Foreign Large Value	14	6	10	27	25	7	27	32	39	44
Foreign Small/Mid Blend	0	6	5	2	17	13	15	23	23	27
Diversified Emerging Mkts	19	30	40	29	65	66	66	58	72	83

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Defined Contribution Menu Choices with Plan Defaults

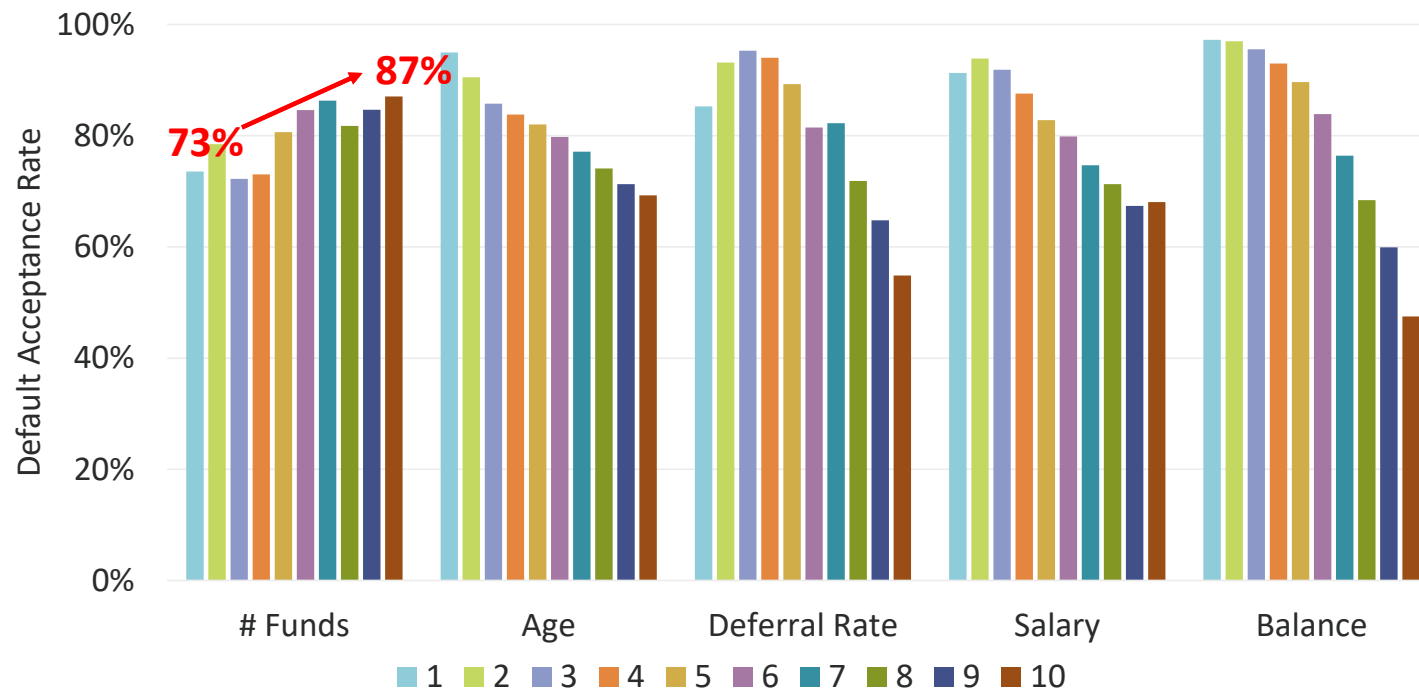
Fund Quality Metrics

Decile	# Funds xTDF	Star Rating	Analyst Rating	1 Year Cat Rank	3 Year Cat Rank	5 Year Cat Rank	10 Year Cat Rank	Expense Ratio
1	6-12	3.66	4.03	38.34	35.52	30.91	35.10	0.42
2	13	3.68	4.05	37.67	34.70	29.01	35.13	0.35
3	14	3.71	4.00	41.54	35.83	30.99	33.31	0.47
4	15	3.70	4.13	40.49	35.73	30.75	32.17	0.42
5	16	3.70	3.90	38.99	36.81	30.36	32.52	0.36
6	17	3.70	3.91	39.30	36.44	30.49	31.34	0.36
7	18	3.74	3.98	40.12	35.90	29.56	30.84	0.39
8	19-20	3.72	3.93	39.37	36.76	30.16	31.76	0.38
9	21-23	3.76	3.86	39.61	35.91	29.58	31.00	0.43
10	24+	3.63	3.69	41.72	38.37	33.48	33.69	0.46

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Default Investment Acceptance Analysis

Default Investment Acceptance by Attribute Decile



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Default Investment Acceptance Analysis

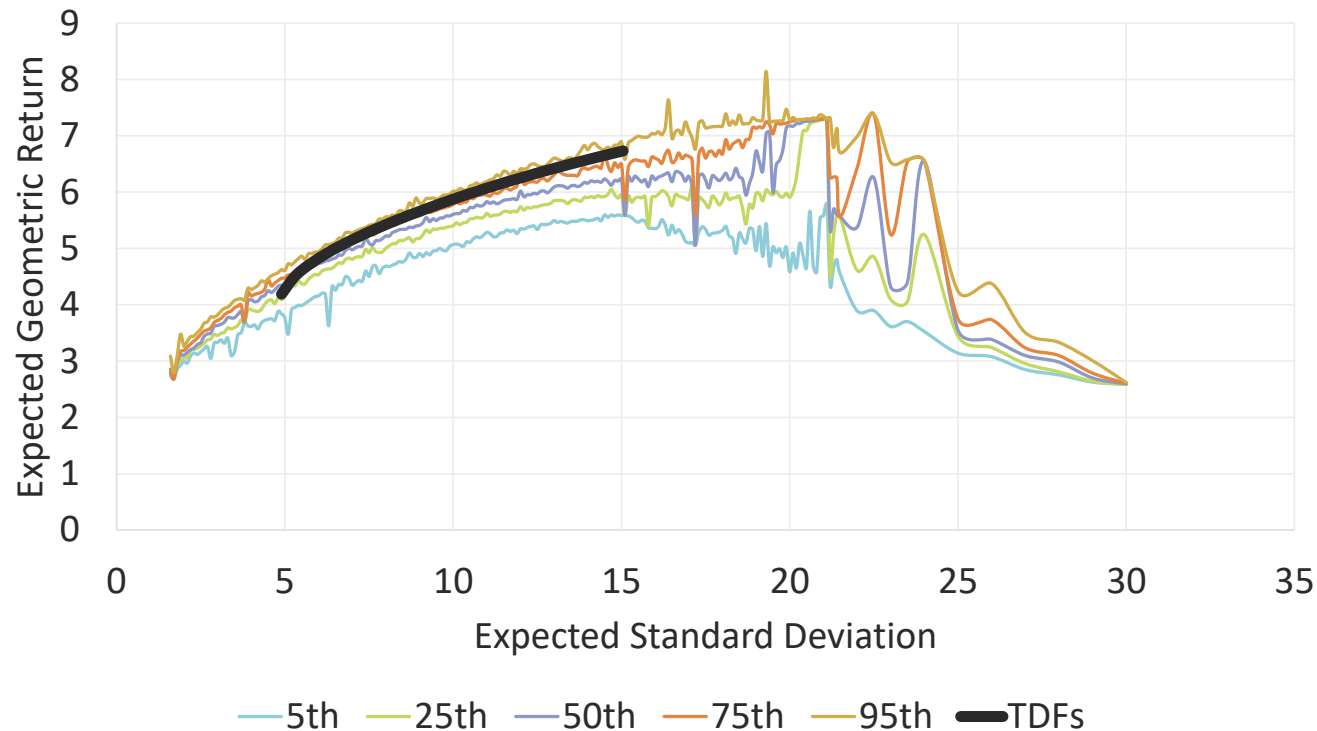
Logistic Regression Results

	Model 1				Model 2		
Coefficient	Value	Pr > Chi ²	Odds ratio		Value	Pr > Chi ²	Odds ratio
Intercept	0.752	< 0.0001			4.142	< 0.0001	
# Plan Funds	0.038	< 0.0001	1.039		0.046	< 0.0001	1.047
Age					-		
					0.010	< 0.0001	0.990
Plan Tenure					-		
					0.019	< 0.0001	0.981
Deferral Rate					-		
					0.011	< 0.0001	0.990
ln(Salary)					0.139	< 0.0001	1.149
ln(Balance)					0.591	< 0.0001	0.554
Male					0.247	< 0.0001	1.280

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Portfolio Quality Analysis

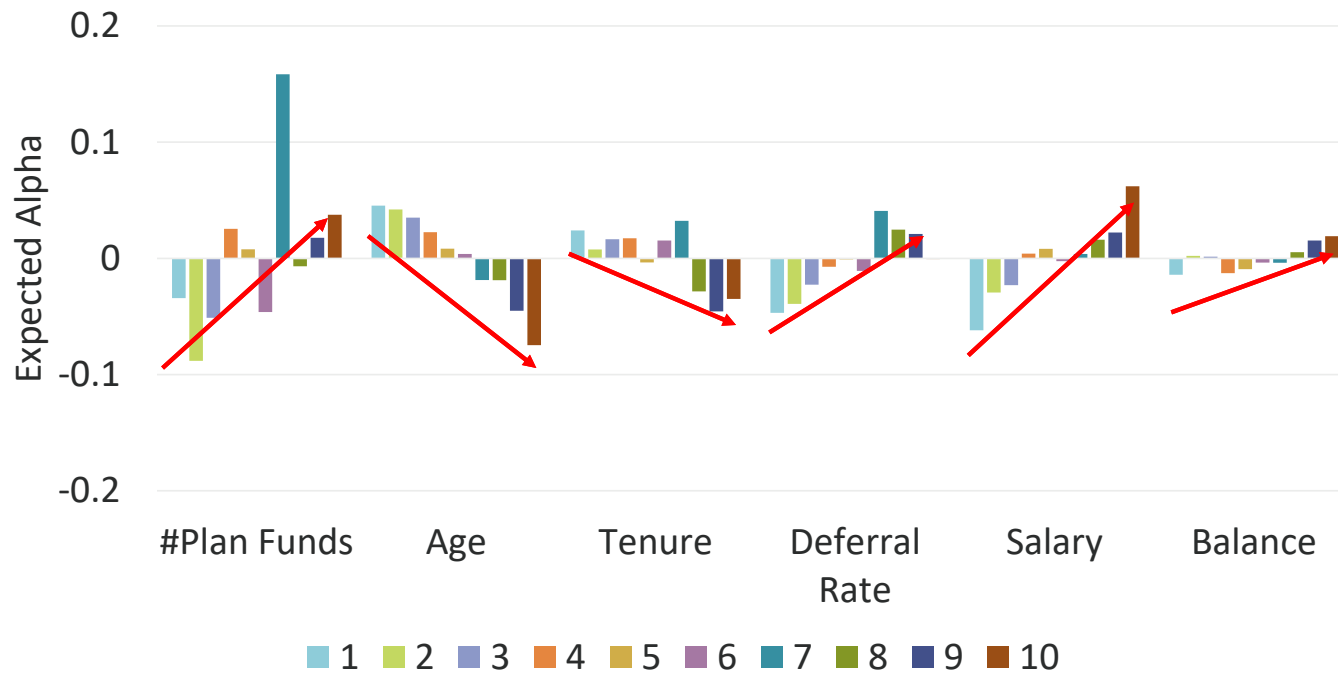
Distribution of Expected Return and Risk Values



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Portfolio Quality Analysis

Average Risk-Adjusted Relative Performance for Attribute Decile



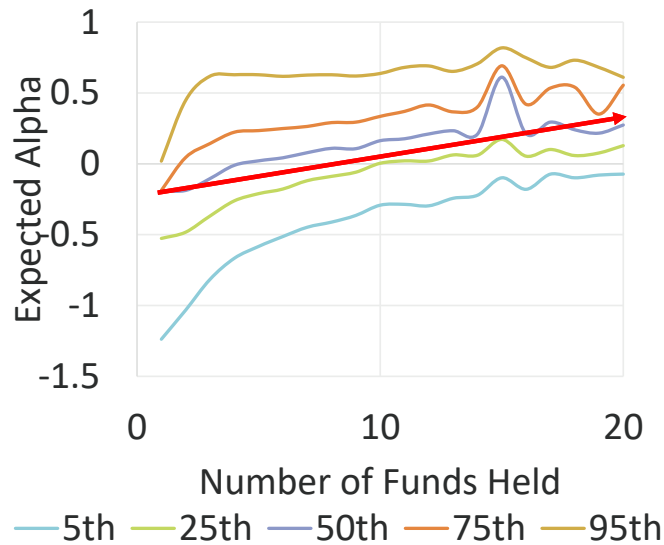
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Portfolio Quality Analysis

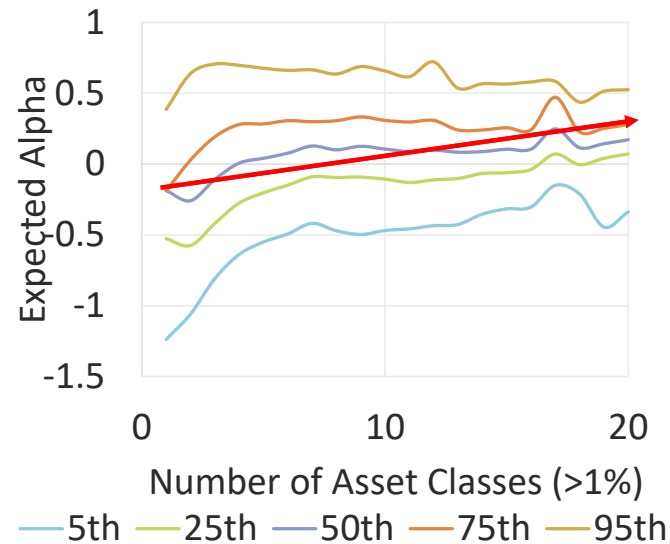
Distribution of Portfolio Efficiency by Holdings

Panel A: Number of Fund

Holdings



Panel B: Number of Portfolio Asset Classes



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Portfolio Quality Analysis

Distribution of Holdings by Plan Menu Size

Panel A: Number of Fund Holdings

Holdings

		5th	25th	50th	Avg	75th	95th
Number of Plan Funds Decile	1	1	2	4	4.4	6	9
	2	1	3	5	5.1	7	11
	3	1	3	5	5.2	7	11
	4	1	3	5	5.6	8	11
	5	1	4	6	6.4	9	12
	6	1	3	5	5.5	8	12
	7	1	4	6	6.9	10	15
	8	1	3	5	6.0	8	13
	9	1	3	6	6.5	9	15
	10	1	4	7	8.6	11	22

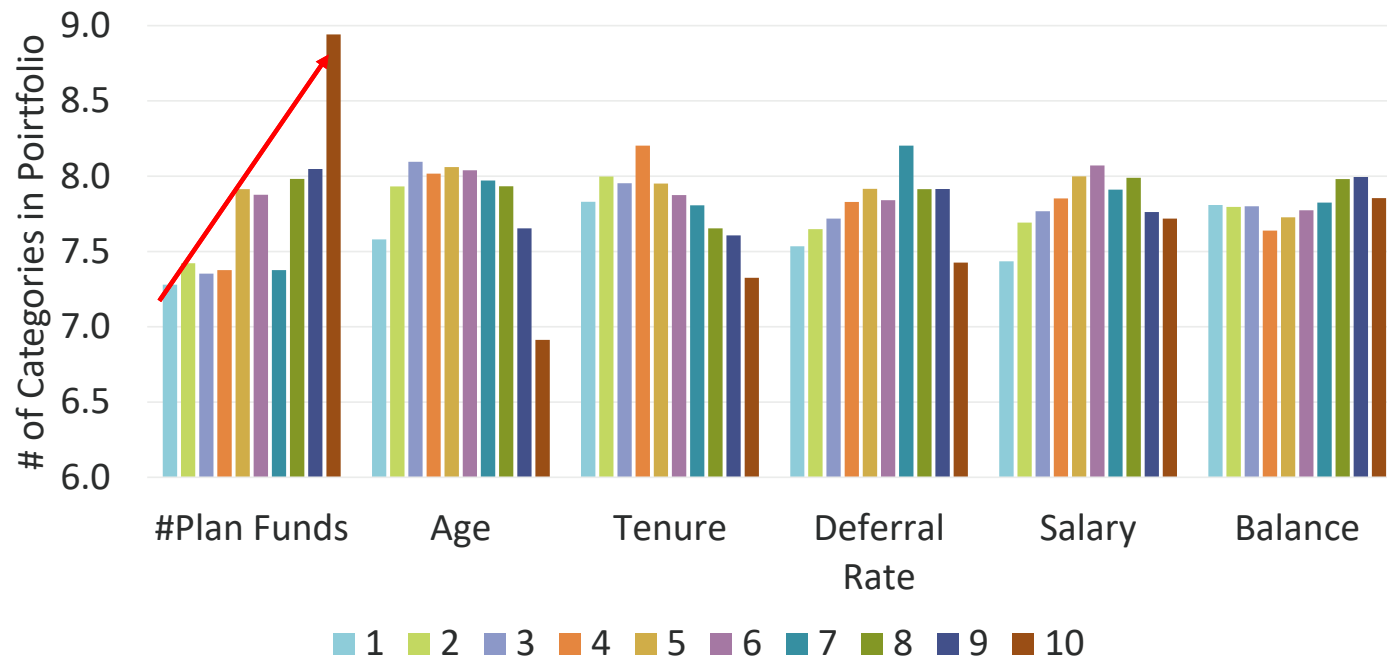
Panel B: Number of Portfolio Asset Classes

		5th	25th	50th	Avg	75th	95th
Number of Plan Funds Decile	1	1	3	6	7.3	12	18
	2	1	3	6	7.4	12	17
	3	1	3	6	7.4	11	18
	4	1	3	7	7.4	11	16
	5	1	4	7	7.9	11	17
	6	1	3	7	7.6	11	18
	7	1	4	7	7.8	12	16
	8	1	4	7	8.0	12	18
	9	1	4	8	8.0	12	17
	10	1	5	9	8.9	13	18

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Portfolio Quality Analysis

Number of Asset Classes in Portfolio by Attribute



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Portfolio Quality Analysis

Ordinary Least Squared Regressions, Dependent Variable = Portfolio Alpha

Variable	Model 1			Model 2			Model 3		
	Coeff	t Stat	p val	Coeff	t Stat	p val	Coeff	t Stat	p val
Intercept	-0.109	-26.468	0.000	-0.385	-17.953	0.000	-0.471	-23.294	0.000
# of Plan Funds	0.006	27.915	0.000	0.005	21.616	0.000	-0.001	-3.720	0.000
# of Participant Funds							0.036	118.297	0.000
Age				-0.003	-23.921	0.000	-0.002	-14.574	0.000
Tenure				-0.001	-6.088	0.000	-0.001	-4.949	0.000
Deferral Rate				0.000	1.078	0.281	0.000	4.864	0.000
ln(Salary)				0.033	14.786	0.000	0.040	19.225	0.000
ln(Balance)				0.008	6.529	0.000	-0.010	-8.073	0.000
Male?				-0.012	-4.401	0.000	-0.004	-1.594	0.111
R ²	0.69%			1.80%			12.65%		
Adjusted R ²	0.69%			1.79%			12.65%		
Observations	112,572			112,572			112,572		

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Defined Contribution Menu Choices with Plan Defaults

Conclusions

- Larger core menus are associated with higher default investment acceptance and higher quality* portfolios (among self-directors)
- The reason self-directors in plans with more core funds have more efficient portfolios is because they include more funds in their portfolios.
- Plan sponsors and DC consultants likely need to revisit their perspective of the role of the core menu

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Fund Replacements in Defined Contribution Plans

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Research Question/s

Do you think fund replacements in defined contribution plans add value?

➤ If yes/no... why/how?

What about past research?

Research

Financial Analysts Journal | A Publication of CFA Institute
<https://doi.org/10.1080/0015198X.2019.1682426>

Change Is a Good Thing

David M. Blanchett, CFA, Michael S. Finke, and James A. Licato

David M. Blanchett, CFA, is head of Retirement Research at Morningstar Investment Management LLC, Chicago, Illinois. Michael S. Finke is a professor at The American College, Bryn Mawr, Pennsylvania. James A. Licato is vice president of Product Management at Morningstar Investment Management LLC, Chicago, Illinois.

Empirical research offers little evidence that monitoring defined-contribution menus adds value, despite the time, effort, and resources spent by plan sponsors on such activities. Using a unique longitudinal dataset of plan menus from January 2010 to November 2018 that included 4,215 fund replacements, we found that the replacement fund outperformed the replaced fund over future one-year and three-year periods. The outperformance remained even after we controlled for various fund characteristics and risk factors. It can be attributed primarily to the subsequent underperformance of replaced funds and to the lower expense ratios of the replacements.

Defined-contribution (DC) plan sponsors in the United States bear a fiduciary responsibility to prudently select and monitor investments offered to participants. These decisions play an important role in retirement outcomes for workers and in the allocation of the \$5.6 trillion in assets in 401(k) plans today (ICI 2018). Plan sponsors often add or remove funds in an effort to improve the quality of funds available to participants. These plan adjustments are significant because they explain most DC investment changes by plan participants (Sialm, Starks, and Zhang 2015). Despite the potential importance of this monitoring activity, however, we know little about whether adding and deleting mutual funds from a plan menu is valuable for workers.

Fund replacements represent a clear preference for one investment (the replacement) over another (the fund being replaced), yet a lack of data on plan menus has limited research into the value of monitoring investments offered to individual participants in DC plans. Using a sample of 215 fund additions and 45 fund deletions, Elton, Gruber, and Blake (2007) found that added funds had significant excess performance before their addition but no statistically significant excess performance relative to the sample of deleted funds after the change. The comparison of relative performance did not account for differences in investment style between the additions and deletions. Sialm et al. (2015) also found no evidence in a larger sample that fund additions subsequently outperform deletions, but they were unable to compare the relative performance of funds that were added and funds that were deleted from the same plan.

The need to justify the decision to make investment changes appears to influence the recommendations that advisers make to institutional plans, and the most commonly used criterion for evaluating funds is recent investment returns. Investment managers consider historical risk-adjusted performance when selecting new investments and are particularly attracted to funds that have had the highest recent alpha and performance relative to a benchmark (Del Guercio and Tkac 2002). Plan managers focus on adding new funds that have achieved the highest recent performance. They eliminate funds that have had the most extreme negative recent performance, and this tendency to focus on extreme performance has increased in recent years as a result of the liability risk of failing to monitor plans (Sialm et al. 2015).

Studies of investment selection by the managers of assets held by institutional investment funds overseen by a plan sponsor, such as

Disclosure: Two of the authors' companies offer menu services for defined-contribution plans.

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First Quarter 2020

Selecting and Monitoring an Investment Menu

- Defined contribution (DC) plan sponsors bear a fiduciary responsibility to prudently select and monitor investments offered to participants.
- There is little evidence to suggest that monitoring DC menus adds value.
- Most existing research is based on a relatively small sample (~300 funds) and does not explicitly control for investment style (e.g., Morningstar Category)

Source: "Change is a Good Thing" by David Blanchett, Michael Finke, and Jim Licato. Morningstar White Paper. For financial professional use only. Not for public distribution.


Data Set

- Using data from four recordkeepers, we studied 4,215 fund replacements from January 2010 to November 2018 from four recordkeepers
- Only looked at instances where both funds were in the same Morningstar Category (grouping based on how the funds invest money)
- Limited data on plan itself (e.g., assets by fund, if there is plan advisor, reasons driving change, etc. are **not** available)
- Overwhelmingly active funds, Large Blend was the investment style with most replacements and equity was the most common broad style group in our data set

Source: "Change is a Good Thing" by David Blanchett, Michael Finke, and Jim Licato. Morningstar White Paper. For financial professional use only. Not for public distribution.

Attributes of Replacement Funds

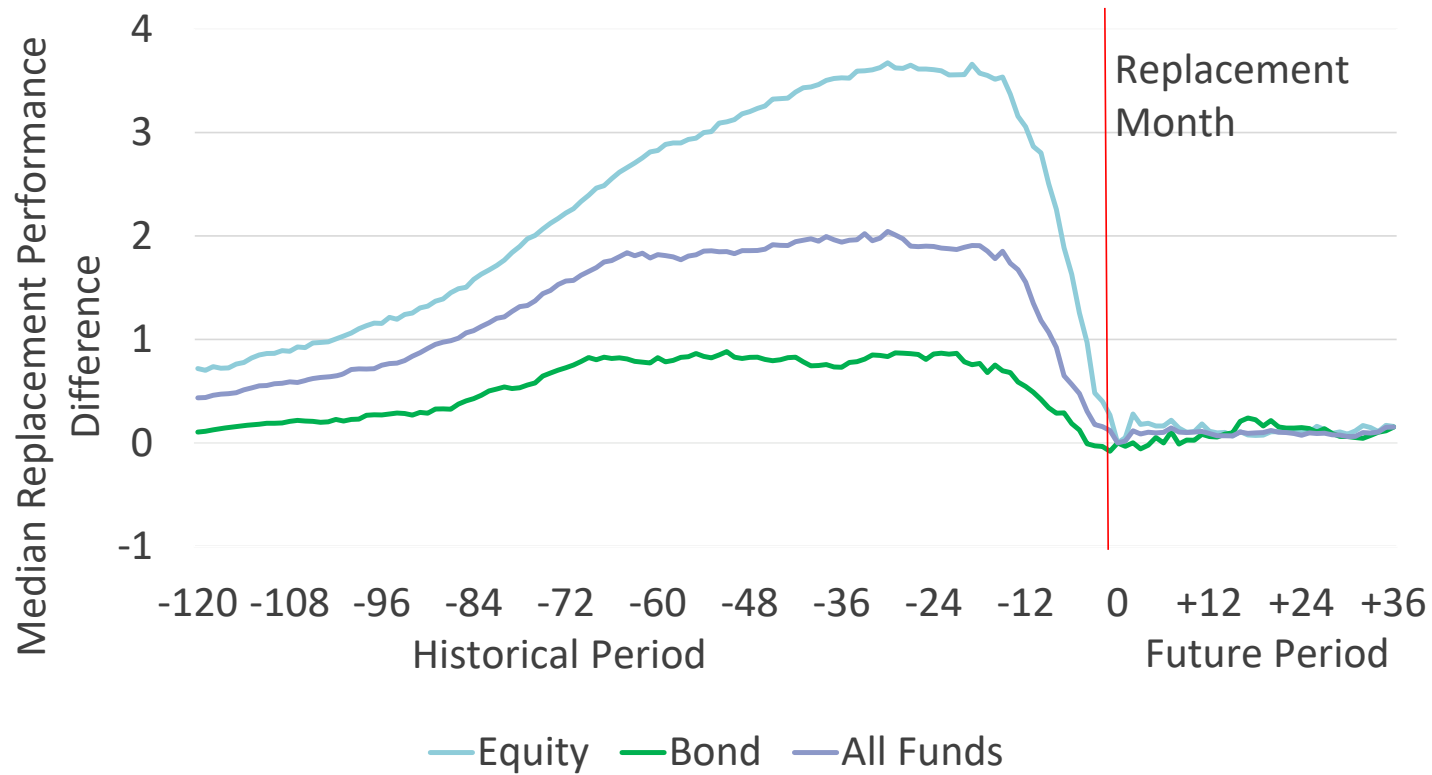
- Lower expense ratios
- Significantly higher historical relative performance
- Higher Morningstar (Star) Rating™
- Higher Morningstar Quantitative (Analyst) Rating™



“better” funds

Source: “Change is a Good Thing” by David Blanchett, Michael Finke, and Jim Licato. Morningstar White Paper. For financial professional use only. Not for public distribution.

Performance of Replacement Funds vs. Replaced Fund



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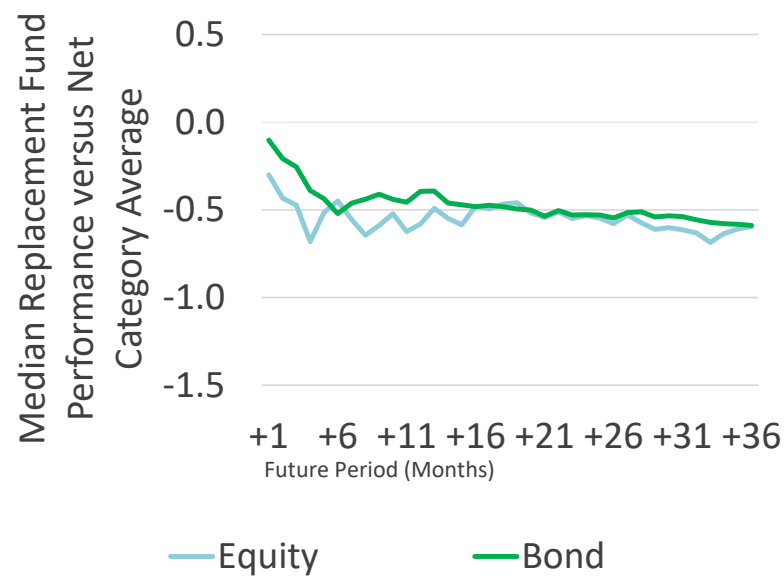
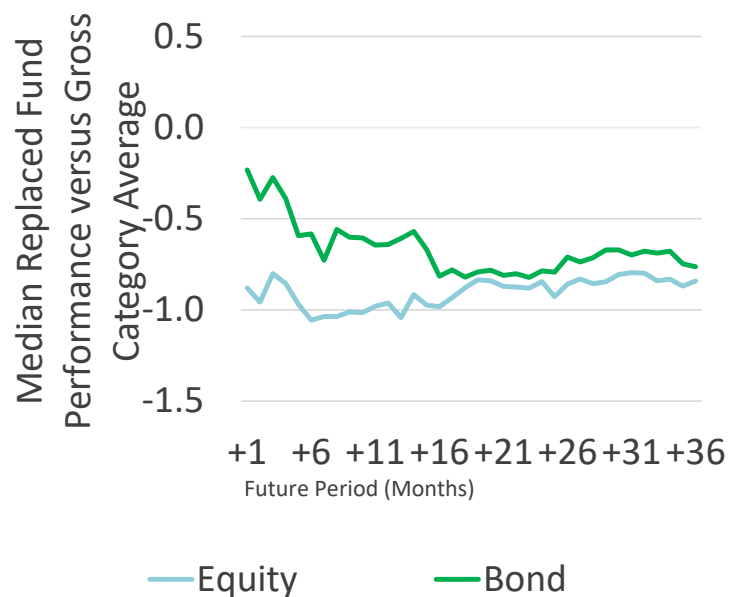
Ordinary Least Squared Regression Results

<i>Dependent Variable</i>	Replaced, Future 1-Year		Replaced, Future 3-Year		Replacement, Future 1-Year		Replacement, Future 3-Year	
	Coeff	t Stat	Coeff	t Stat	Coeff	t Stat	Coeff	t Stat
Intercept	60.976**	16.827	67.596**	15.640	56.973**	13.163	55.453**	9.432
# Funds in Plan	-0.046	-0.532	-0.278**	-2.689	0.245**	2.981	0.061	0.562
Expense Ratio	-10.513**	-5.727	-19.597**	-8.590	-12.237**	-7.889	-14.113**	-6.474
Morningstar Rating™	-0.359	-0.408	2.320*	2.188	0.098	0.117	0.776	0.714
Analyst Rating	1.064	1.840	2.656**	4.062	-1.076*	-2.003	1.738*	2.484
Historical 5 Year Rank	0.027	0.886	-0.021	-0.571	0.105**	2.604	-0.017	-0.319
Historical 1 Year Rank	-0.009	-0.395	-0.081**	-2.899	-0.009	-0.379	0.072*	2.194
Index Fund	2.014	0.834	2.751	0.873	1.059	0.477	1.367	0.406
R ²	2.66%		10.65%		4.28%		5.82%	
Adjusted R ²	2.38%		10.22%		4.00%		5.37%	
Observations	2,450		1,468		2,450		1,468	

** significant at 1% level, * significant at 5% level

Source: "Change is a Good Thing" by David Blanchett, Michael Finke, and Jim Licato. Morningstar White Paper. For financial professional use only. Not for public distribution.

Where Does the Outperformance Come From?



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Conclusions

- Monitoring fund menus is crucial given the significant assets in DC plans and the importance of these assets for participants saving for retirement.
- Our research provides evidence that monitoring plan menus to identify underperforming funds and replace them with more attractive funds can provide value to plan participants.
- I am a fan of “one metric monitoring” where a single (quantitative) metric is used for pass/fail versus a variety of criteria

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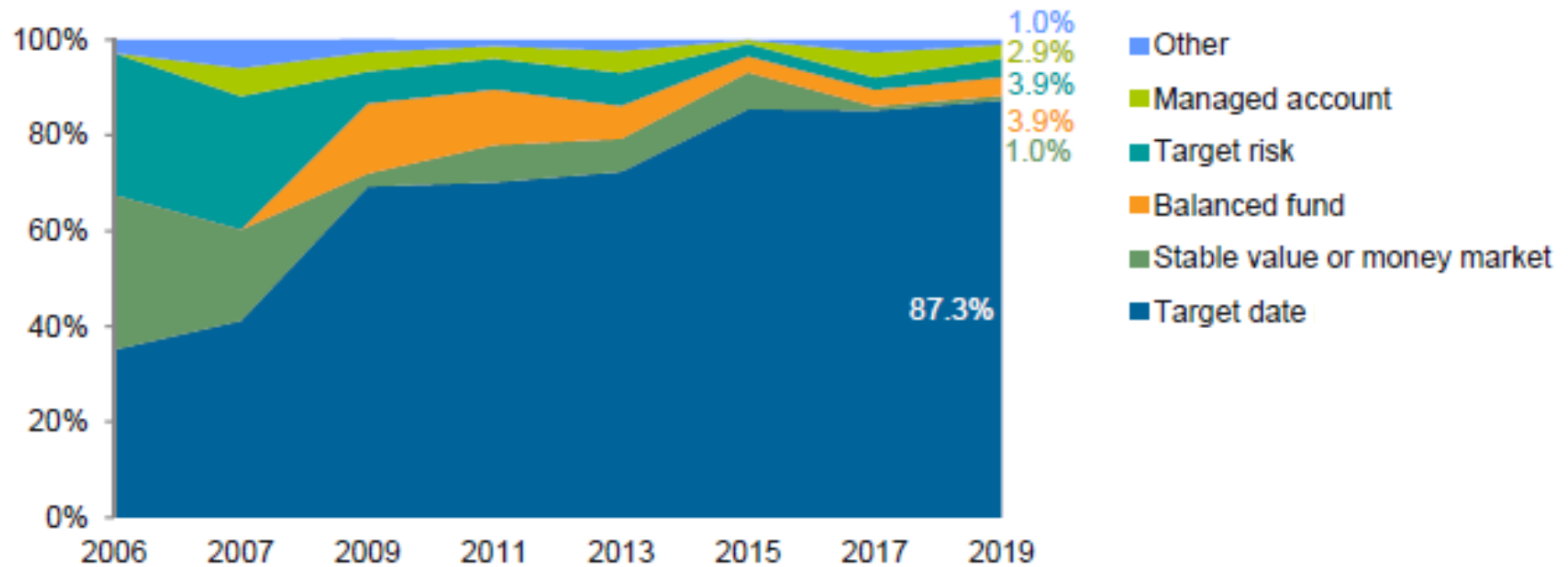
Made to Stick: What Drives Default Investment Acceptance in Defined Contribution Plans

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Research Question/s

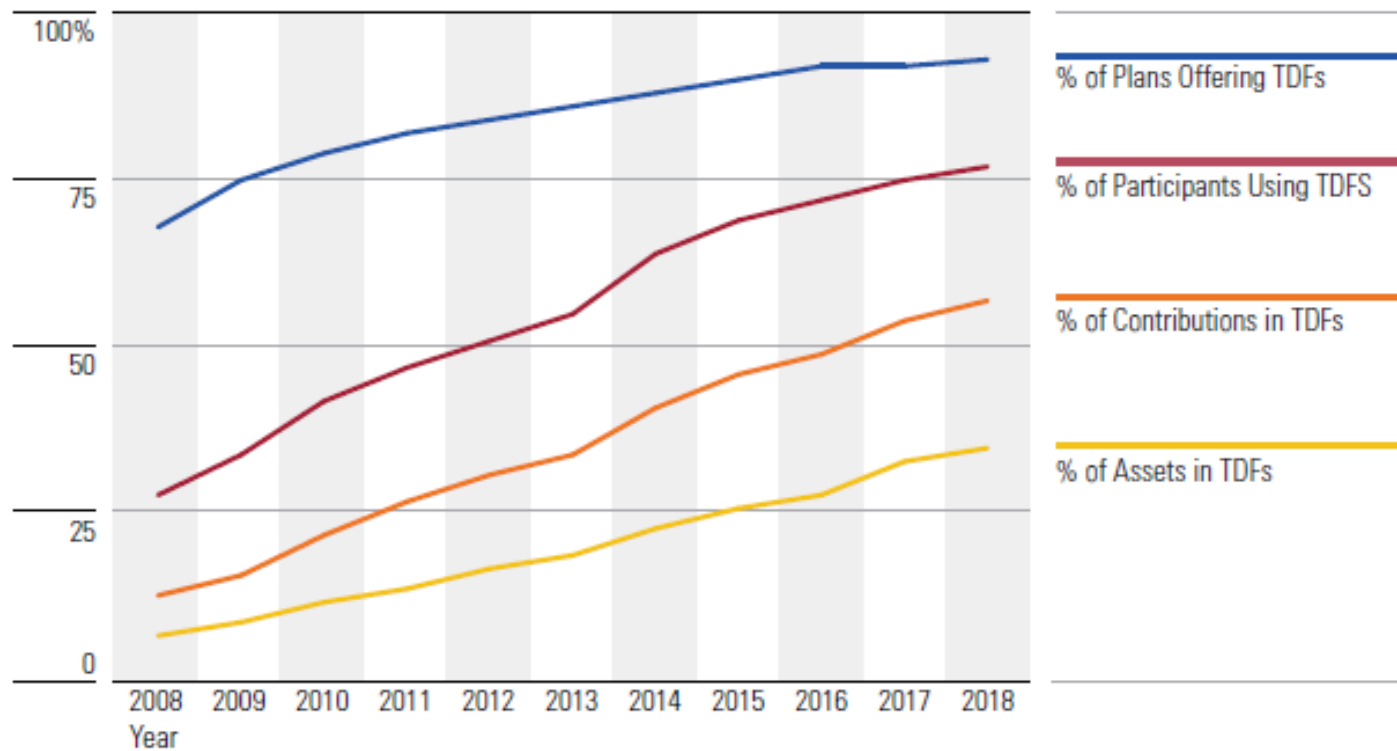
What attributes are related to default investment acceptance in defined contribution plans?

Default Investments Choices Over Time



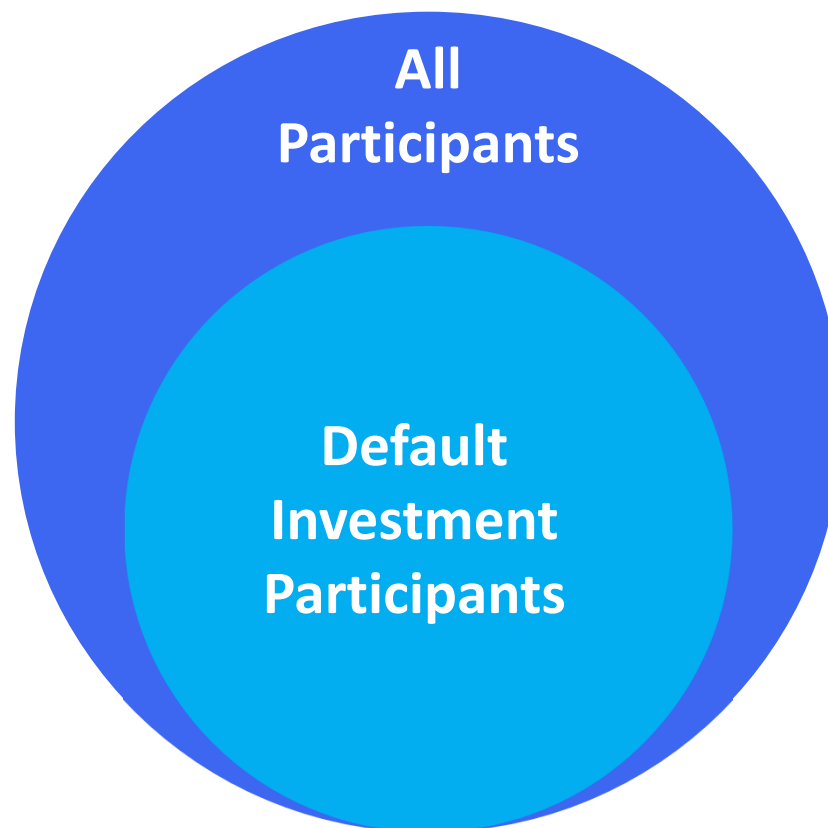
Source: Callan: 2020 Defined Contribution Trends

Default Investments: Everybody Wants One

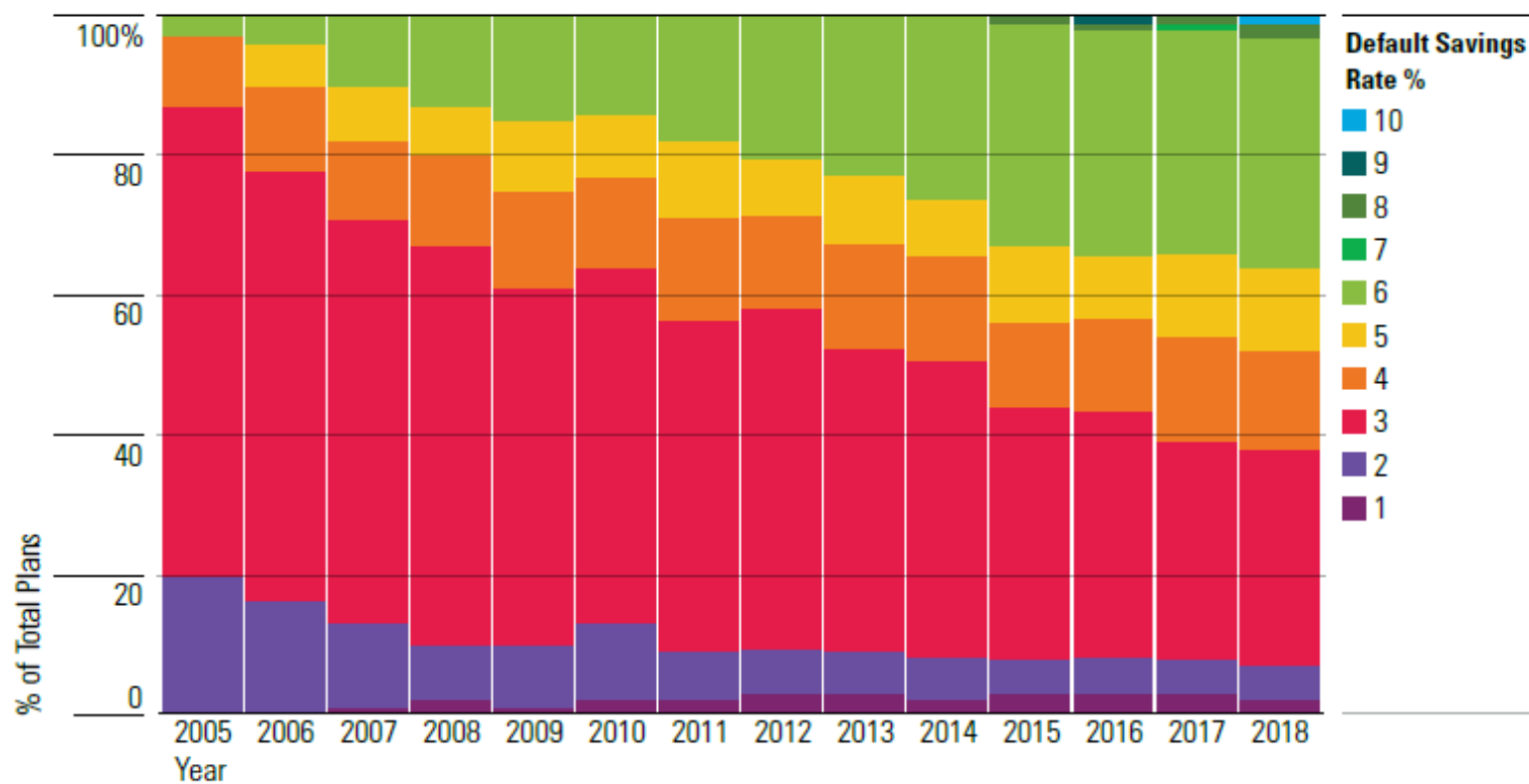


Source: Young and Young (2019).

Default Investment Population (Design/Selection Implications)

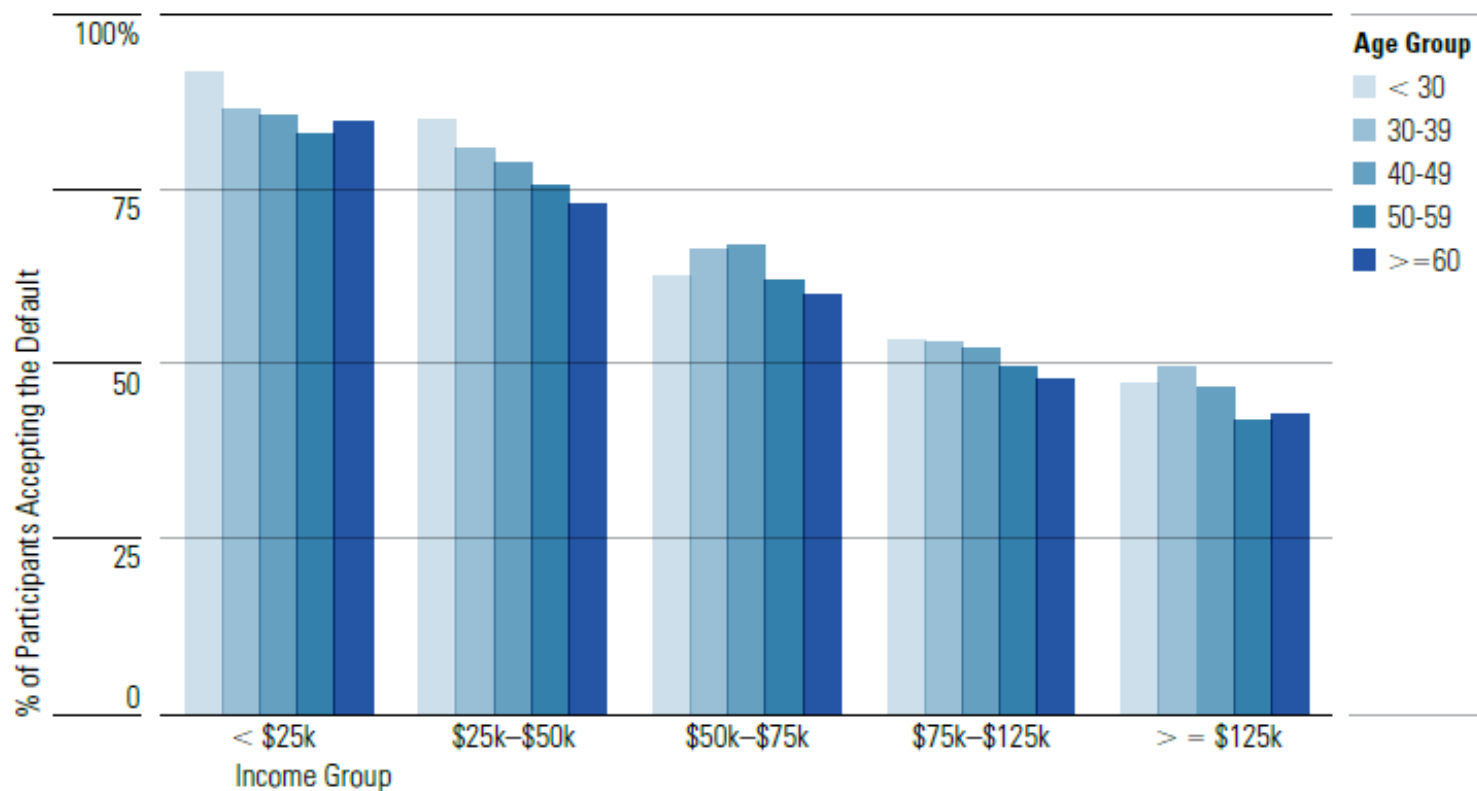


The Default Option Isn't Necessarily the Right Choice...



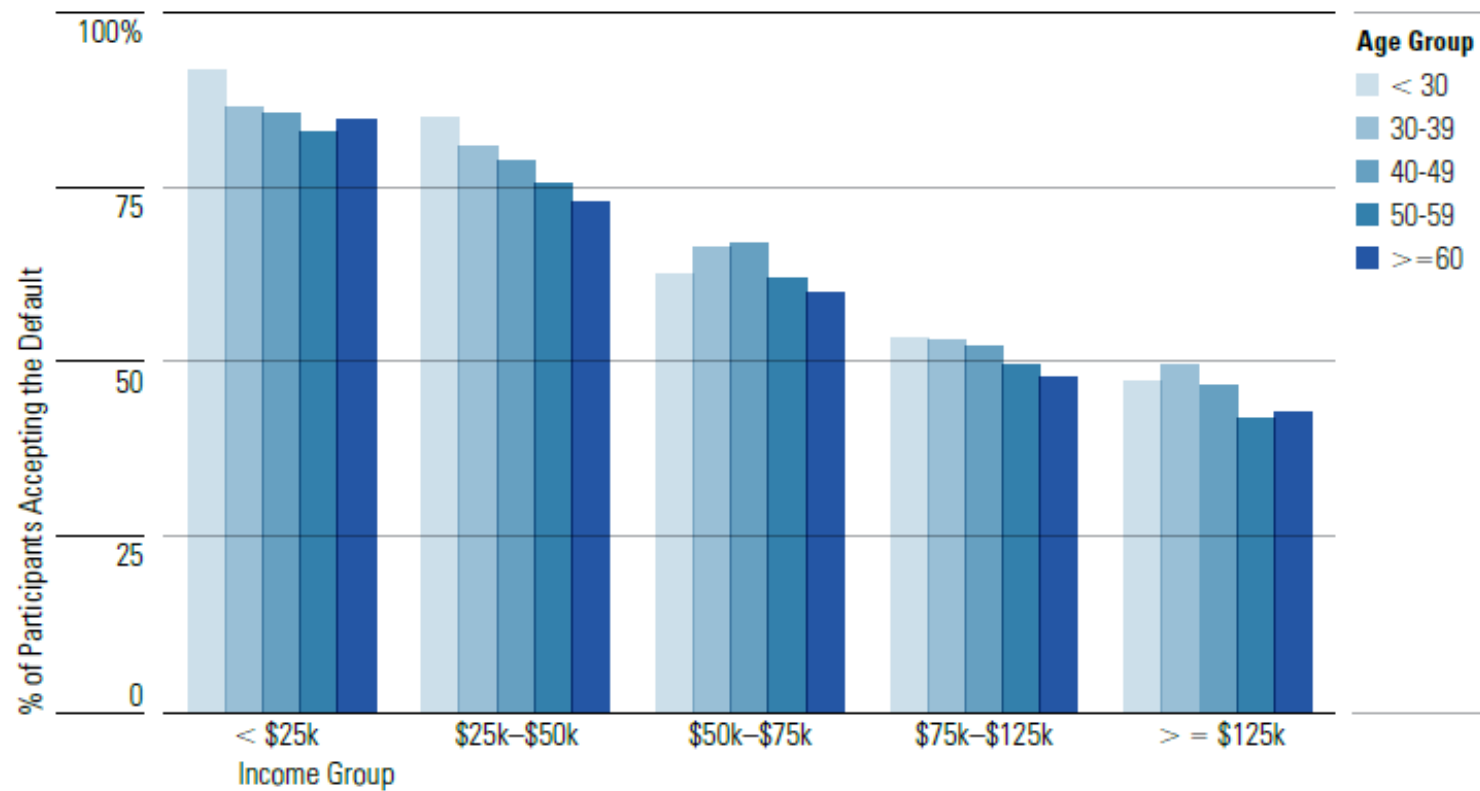
Source: T. Rowe Price, ©2019 T. Rowe Price. Dietch and Choukhmane. Used with Permission.

Default Investment Acceptance by Age and Income



Source: "Which Default Investment Is the Stickiest?" by David Blanchett and Daniel Bruns. Working Morningstar White Paper For financial professionals, plan sponsors, plan providers and consultants use only. Not for public distribution.

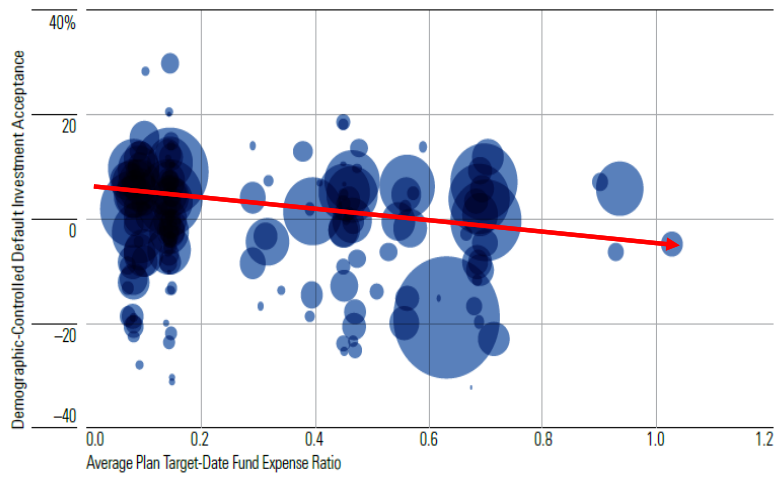
Default Investment Acceptance by Age and Income



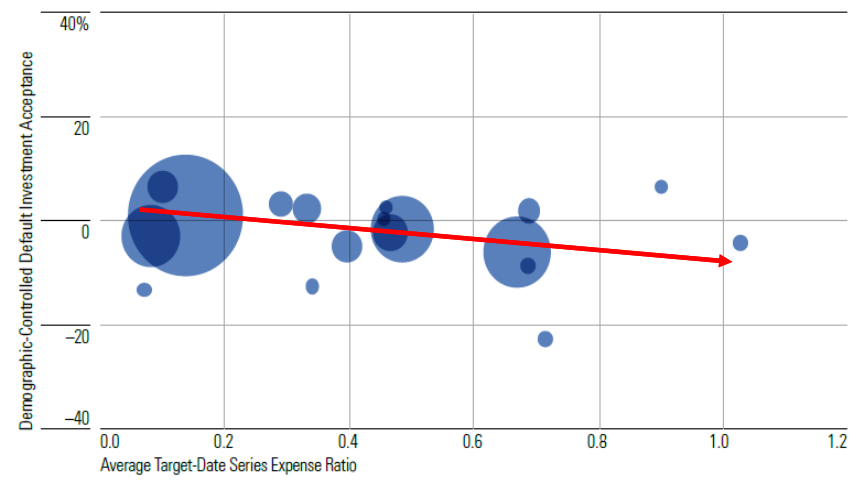
Source: "Which Default Investment Is the Stickiest?" by David Blanchett and Daniel Bruns. Working Morningstar White Paper For financial professionals, plan sponsors, plan providers and consultants use only. Not for public distribution.

Demographic-Controlled Default Investment Acceptance

Average Plan Target-Date Fund Expense Ratio



Average Target-Date Series Expense Ratio



Source: "Made to Stick: The Drivers of Default Investment Acceptance in Defined Contribution Plans" by David Blanchett and Daniel Bruns. Working Morningstar White Paper For financial professionals, plan sponsors, plan providers and consultants use only. Not for public distribution.

The Drivers of Default Investment Acceptance

Conclusions

- Participant demographics are the primary driver of default investment acceptance, but default investment attributes also have an impact.
- Acceptance appears to increase with lower levels of equity risk, higher relative performance, and – especially – lower expense ratios.
- Higher expense ratios not only come with a higher explicit return hurdle to generate alpha, but an additional implicit cost by lowering potential default acceptance.

Source: “Made to Stick: The Drivers of Default Investment Acceptance in Defined Contribution Plans” by David Blanchett and Daniel Bruns. Working Morningstar White Paper For financial professionals, plan sponsors, plan providers and consultants use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

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Research Question

When participants “mix” their accounts with target-date funds, what do they typically do? (Does it matter?)

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Background

- We estimate there are potentially over 10 million participants in defined contribution plans today combining a target-date fund with other plan investments
- Target-date funds are generally best used as an “all or nothing” investment option because mixing target-date funds with other plan investments can diminish, and potentially eliminates, their value
- Mixed target-date fund investors have attributes that suggest they are more sophisticated investors who use the default, but less sophisticated than self-directors

Source: “Mixing Target-Date Fund Investors: Is There a Method to the Madness?” by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Tf



- Explored the allocation decisions of 30,516 mixed target-date fund investors to determine which types of investors are susceptible to mixing target-date funds
- Potentially use these results to reduce the incidence of mixed target-date fund investing when appropriate

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Mixed Target-Date Fund Investors

- There's difficulty estimating the total number of affected participants, but we conservatively assume there are 10 million mixed target-date fund investors today (10% of the ~100 million DC participants)
- The number is likely going to decline as auto-enrollment becomes more popular, but remains a significant issue for defined contribution plans
- The majority (55%) of participants mix target-date fund investments by choice, while the remainder (45%) stem from plan sponsor decisions

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Data Set

Exhibit 4 Descriptive Statistics

Panel A: Medians

	Age	Tenure	Salary	Balance	Deferral
All Participants	45.00	6.29	\$69,010	\$44,152	7.00
Default Investor	44.00	5.54	\$64,176	\$33,834	6.00
Self-Director	48.00	9.67	\$87,867	\$93,171	9.00
Mixed TDF Investor	47.00	8.16	\$88,000	\$84,462	9.00

Panel B: Averages

	Age	Tenure	Salary	Balance	Deferral
All Participants	45.09	8.71	\$98,726	\$127,687	10.02
Default Investor	44.27	8.02	\$88,750	\$104,367	9.19
Self-Director	47.63	10.84	\$129,729	\$200,157	12.59
Mixed TDF Investor	46.49	9.95	\$120,478	\$184,246	12.02

Panel C: Standard Deviations

	Age	Tenure	Salary	Balance	Deferral
All Participants	12.09	7.38	\$189,700	\$241,524	11.82
Default Investor	12.24	7.07	\$153,042	\$210,169	10.59
Self-Director	11.23	7.89	\$271,590	\$308,879	14.71
Mixed TDF Investor	10.84	7.35	\$225,258	\$278,130	13.49

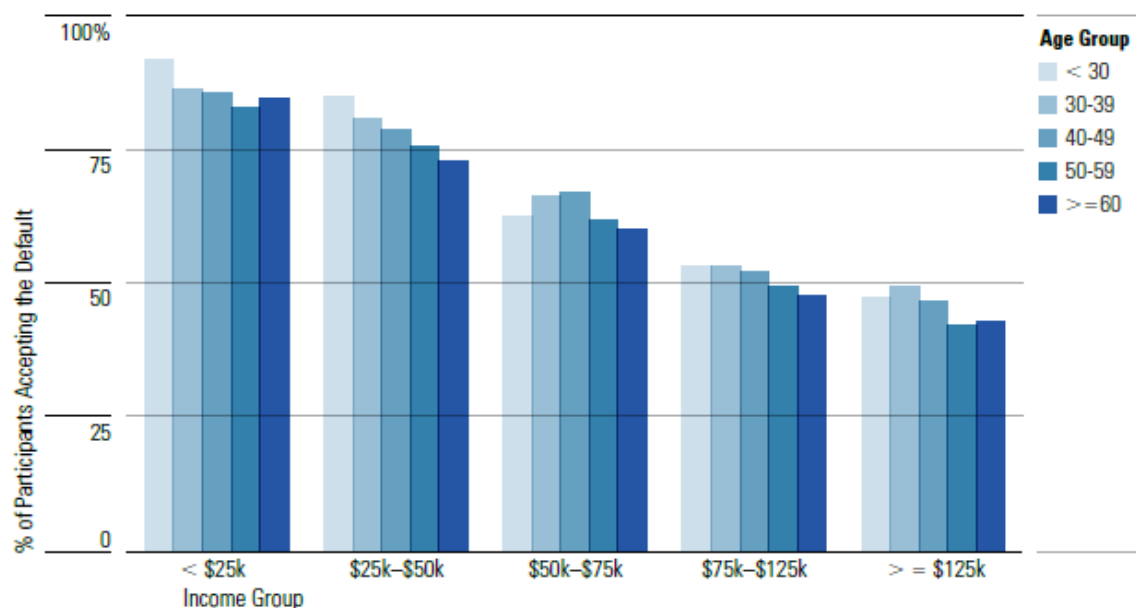
Source: Authors' calculations

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Default Acc

Exhibit 3 Default Acceptance by Age and Income Groups



Source: Blanchett and Bruns (2019)

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Portfolio Weights of Mixed Target-Date Fund Investors

Exhibit 5 Portfolio Weights of Mixed Target-Date Fund Investors

Panel A: Allocations

Percentile	Target-Date Fund	Allocation Fund	Equity Fund	Bond Fund	Alternative Fund
95th	80.0	10.0	85.0	50.0	0.0
75th	50.0	0.0	70.0	20.0	0.0
Median	30.0	0.0	50.0	5.0	0.0
Average	37.2	1.3	48.5	13.0	0.0
25th	20.0	0.0	30.0	0.0	0.0
5th	8.0	0.0	0.0	0.0	0.0

Panel B: Number of Funds

Percentile	Target-Date Fund	Allocation Fund	Equity Fund	Bond Fund	Alternative Fund
95th	3.0	1.0	8.0	3.0	0.0
75th	1.0	0.0	4.0	1.0	0.0
Median	1.0	0.0	3.0	1.0	0.0
Average	1.4	0.1	3.1	0.8	0.0
25th	1.0	0.0	1.0	0.0	0.0
5th	1.0	0.0	0.0	0.0	0.0

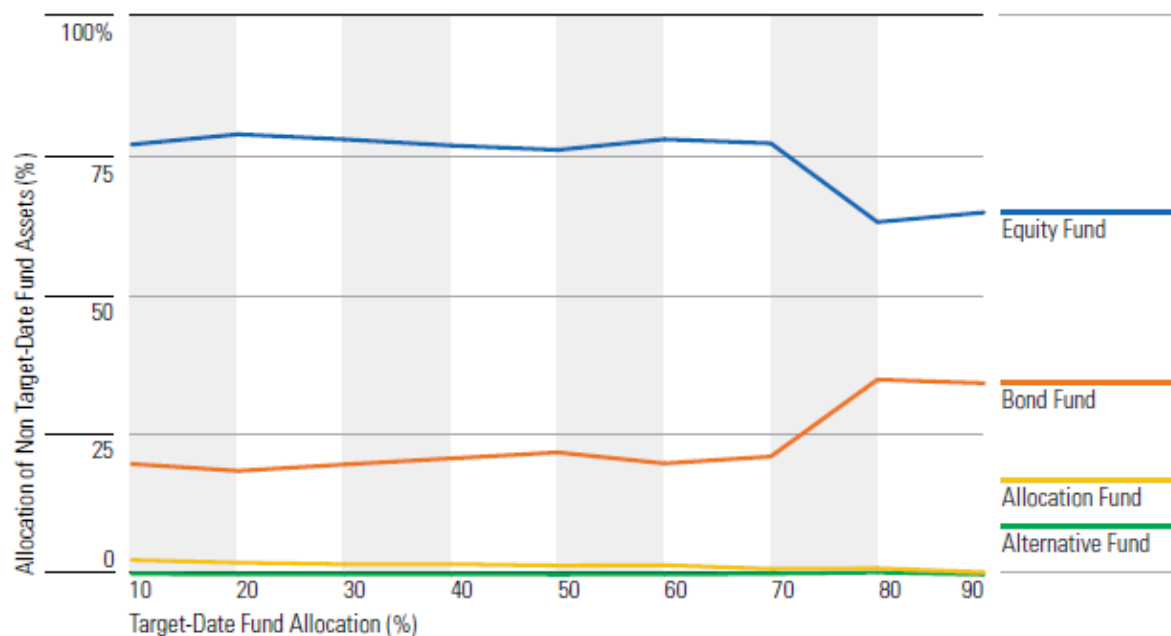
Source: Authors' calculations

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

How Non-Target-Date Fund Allocations Vary by Target-Date Fund Allocation

Exhibit 6 How Non-Target-Date Fund Allocations Vary by Target-Date Fund Allocation



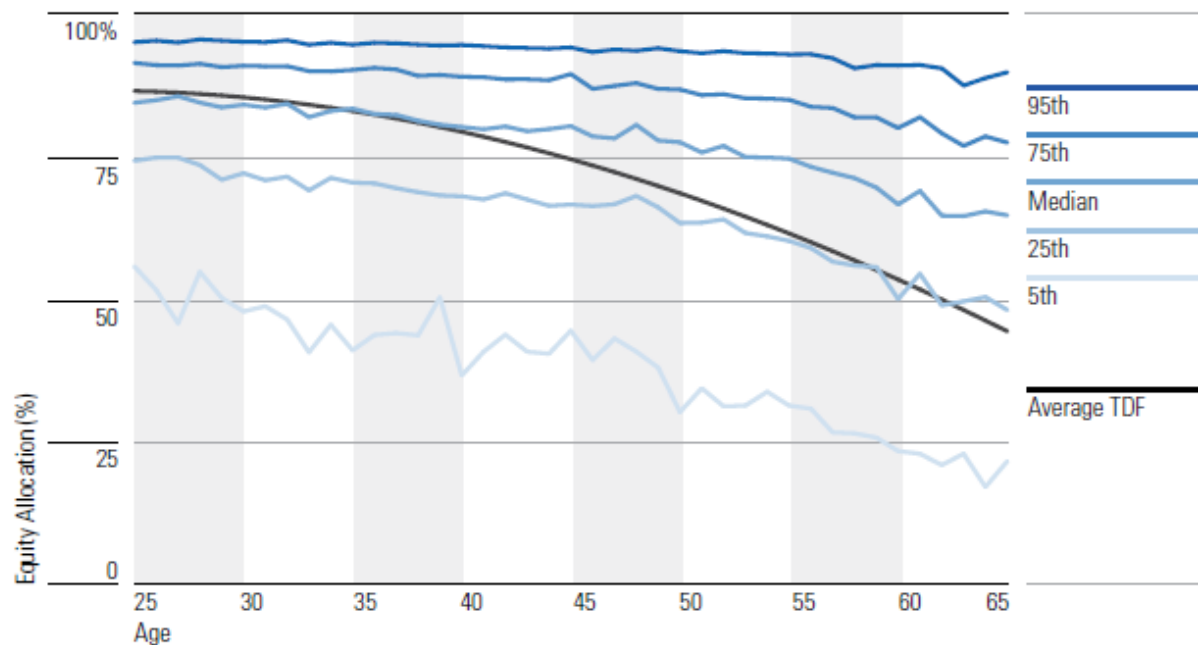
Source: Authors' calculations

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Distribution
Investor

Exhibit 7 Distribution of Equity Allocations for Mixed Target-Date Fund Investors



Source: Authors' calculations

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Mixed Target-Date Fund Investors: Is There a Method to the Madness?

Conclusions

- There are potentially over 10 million defined contribution participants combining target-date funds with other plan investments
- Investors may not be aware that target-date funds are designed to be diversified options to be held by themselves because they appear to be single investment options
- Plan sponsors should communicate other in-plan advice solutions to their participants who are not interested in using the target-date fund in its entirety

Source: "Mixing Target-Date Fund Investors: Is There a Method to the Madness?" by David Blanchett. 2019. Morningstar White Paper. For financial professional use only. Not for public distribution.

Participant Trading Activity During Q1 2020

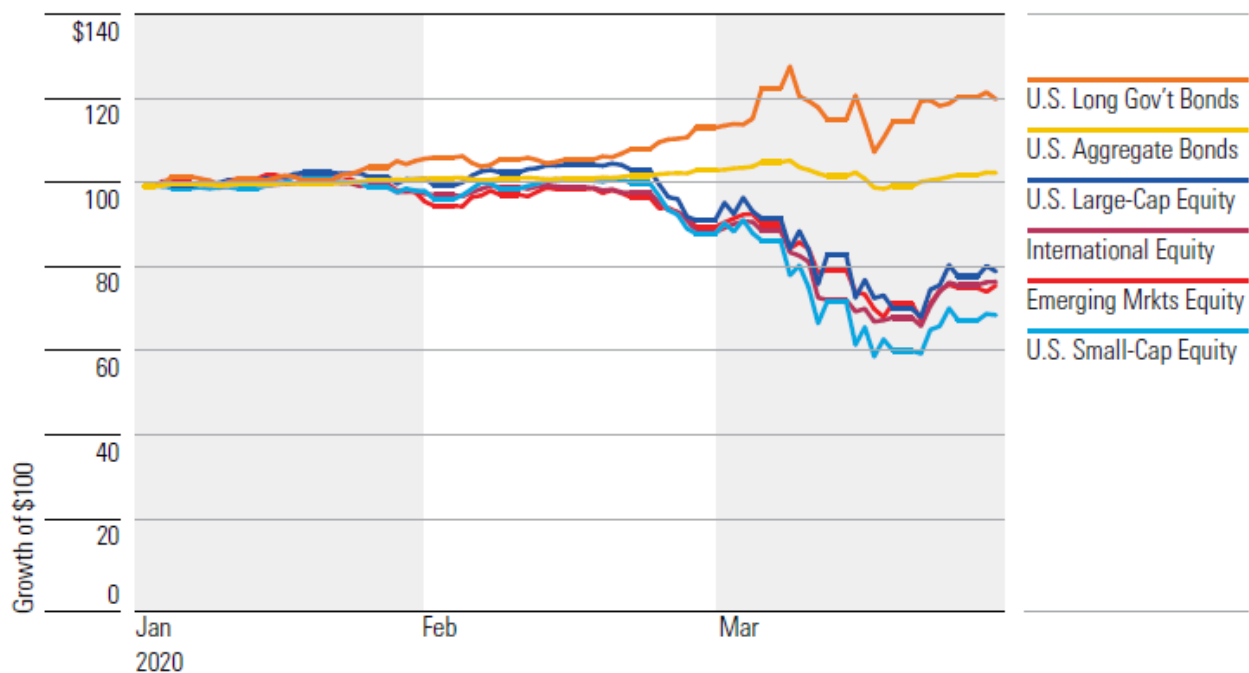
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Research Question

Which 401(k) participants best stayed the course during the first quarter of 2020?

Q1 2020: A Wild Ride for Equity Investors

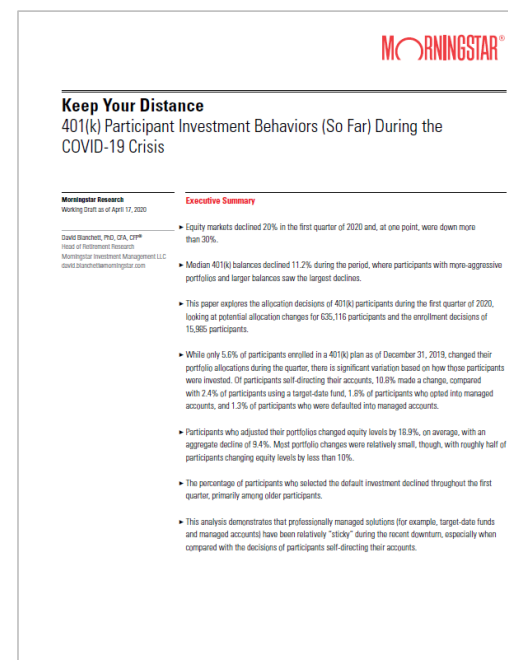
Exhibit 1 Market Returns in the First Quarter of 2020



Source: Morningstar Direct.

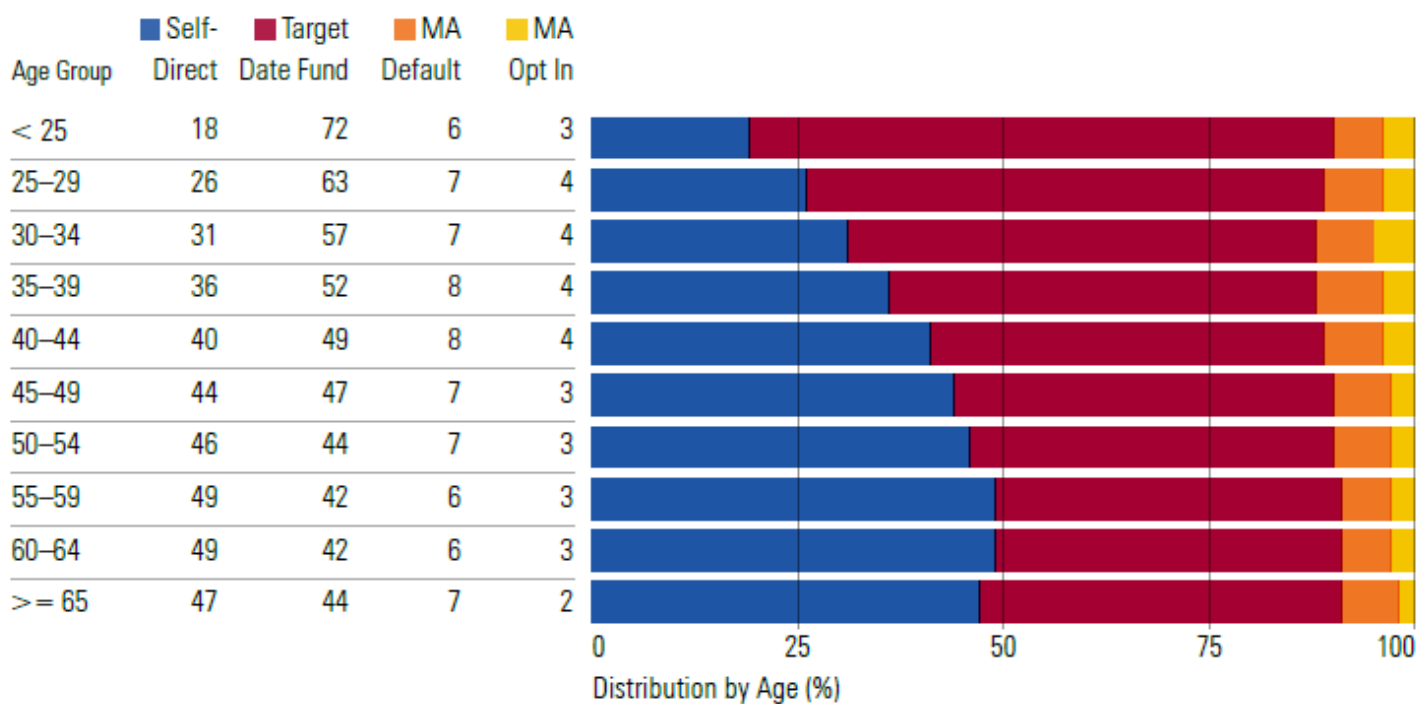
Research Exploring Participant Decisions During Q1 2020

- Allocation changes for 635,116 participants and the enrollment decisions of 15,985 participants during the first quarter of 2020 are reviewed (as of 12/31/19 and 03/31/20)
- Original research focused only on the changes in allocations, an updated version, with Michael Finkel and Jon Reuter, also incorporates changes in balances
- Equity risk level is based on the Morningstar Category or similar style proxy
- Participants are categorized into four broad groups based on whether the participant is self-directing his or her account, is using a target-date fund, was defaulted to managed accounts, or opted into managed accounts.

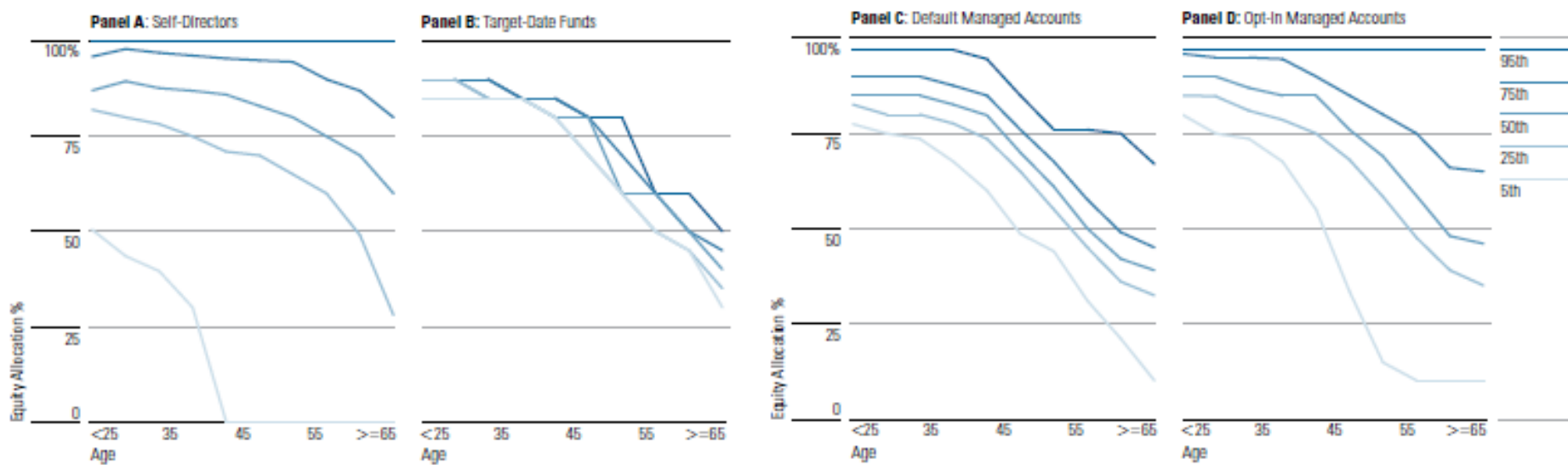


Distribution of Investment-Type by Age

Panel B: Distribution by Age (%)



Equity Allocation by Investment-Type

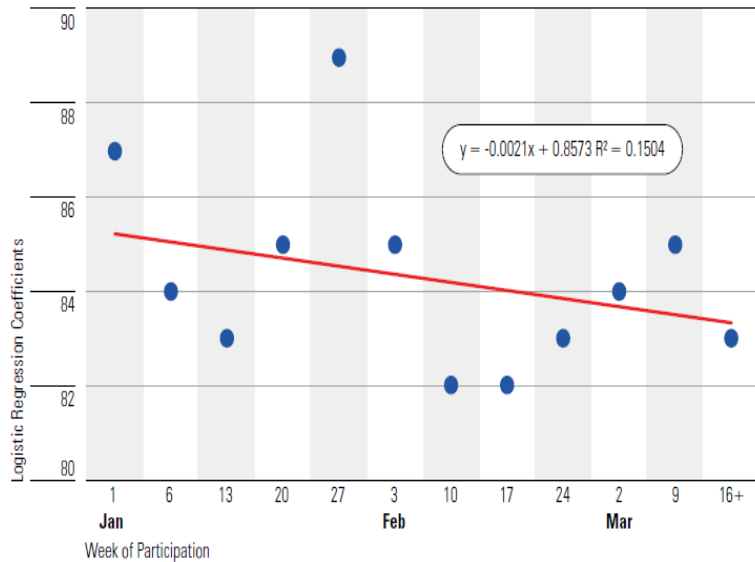


Equity Changes by Equity Allocation and Age Group Among Self-Directors

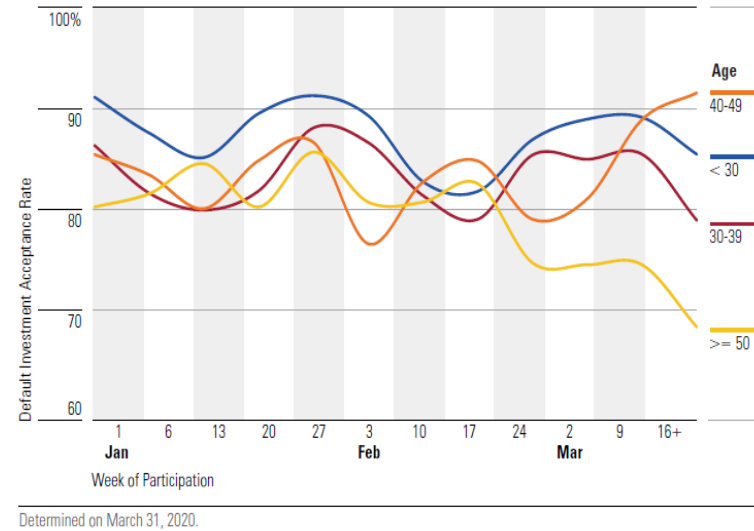
Age Group	Equity Allocation (%)						
	< 10	10-25	25-45	45-55	55-75	75-90	>= 90
< 25	92.4	30.7	-2.3	17.5	0.7	0.3	-3.9
25-29	74.3	16.1	8.0	25.7	0.2	-1.0	-9.8
30-34	71.6	13.9	4.3	-0.5	-1.2	-1.6	-13.7
35-39	51.5	27.5	9.4	3.9	-4.1	-5.9	-16.9
40-44	57.5	19.9	9.7	8.5	-3.5	-7.5	-22.6
45-49	56.1	17.3	7.2	3.2	-5.4	-9.0	-22.6
50-54	54.6	16.7	3.1	-0.2	-7.6	-13.3	-27.0
55-59	47.8	4.5	-0.3	-5.1	-8.3	-20.7	-33.5
60-64	35.7	-0.6	-4.4	-5.6	-15.4	-26.9	-42.8
65-69	23.0	-1.1	-9.1	-10.8	-18.1	-28.6	-41.8
>= 70	21.3	11.6	-7.9	-8.9	-13.1	-36.4	-41.3

Default Acceptance Over the Quarter

Default Investment Acceptance:
Controlling for Participant Attributes



Default Investment Acceptance: by Age Groups



Conclusions

Conclusions

- Bigger core menus are probably better given the rise of default investments
- Change is a good thing when it comes to monitoring funds
- Default investment acceptance varies significantly by participant demographics and sort of by TDF attributes
- Mixed TDF investors invest in aggressive funds
- 401(k) participants did a great job “staying the course” during the first quarter, especially those in a professionally managed portfolio

Disclosures

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The "Mixed Target-Date Investors...Is there a Method to the Madness?" paper [can be accessed here](#). The “Change Is a Great Thing” paper can [be accessed here](#). If you have questions about the unpublished research, please contact David Blanchett at david.blanchett@morningstar.com.

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Questions