

Investment defaults and retirement savings allocations

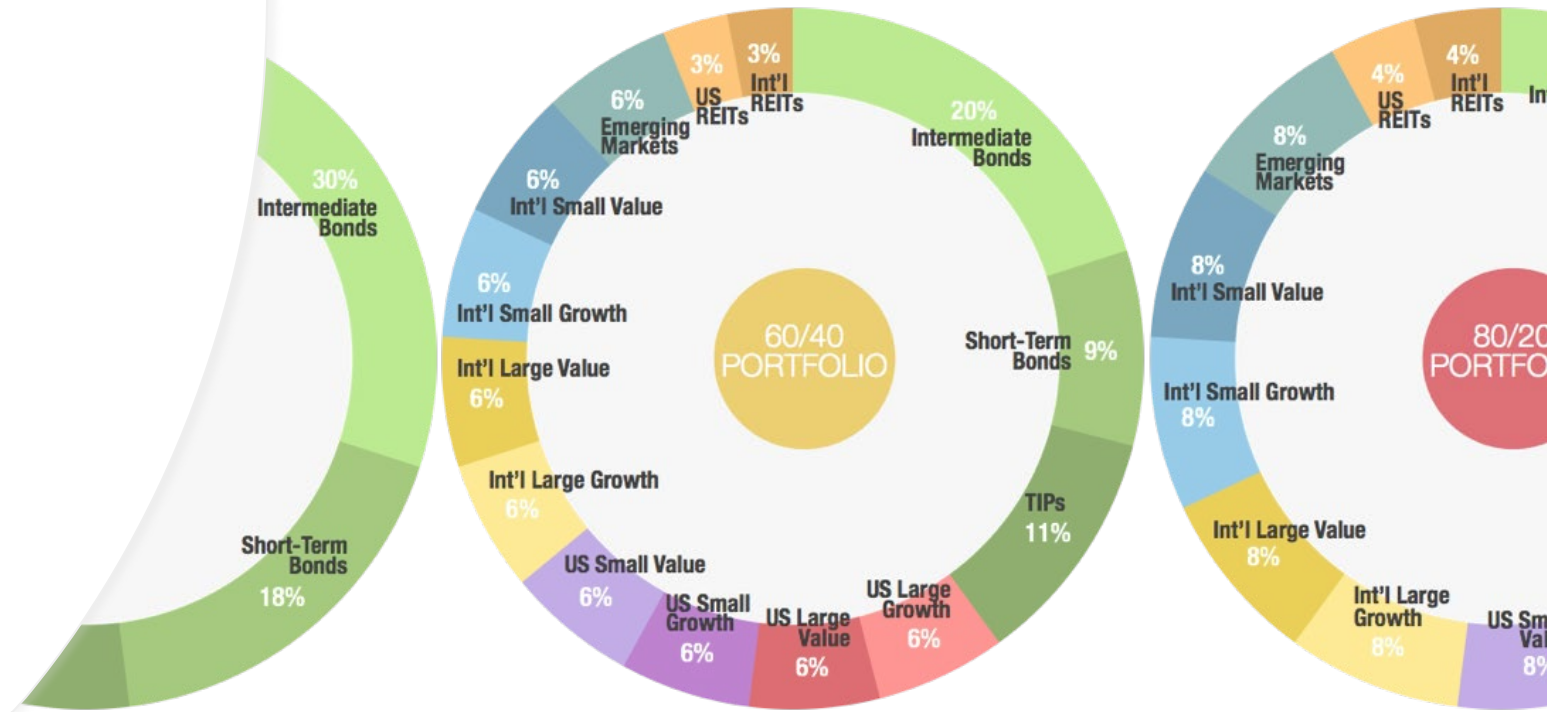
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The General Question:
How do people allocate their
retirement assets?



Wells Fargo Retirement
Asset Allocation Diagram



**In theory,
defaults should
not affect asset
allocation**

In practice, defaults have large effects

- Defaults attract participants
 - Making enrollment a default increases participation in 401(k) plans (Madrian and Shea, 2001)
 - Most participants contribute at the default rate
 - Most allocate entirely to the default money market fund
- Defaults are sticky
 - Most participants allocate exclusively to the default six months to three years after joining the plan (Choi et al., 2002; Madrian and Shea, 2001)

We combine TIAA data with UI HR data and, for a subset of participants, experimental data

- HR administrative data for UI participants
 - Demographics (age, gender, marital status, etc.)
 - Classification (faculty/staff, college appointment, etc.)
- Experimental data from a subset of 543 participants
 - 202 who joined during our sample period
 - Performance on a financial knowledge survey
 - Self reported financial market experience
 - A single bet risk preference measure

We use TIAA allocation data from July 2002 through December 2010 for University of Iowa (UI) participants

1,519,538 Contribution Allocations

22,626 Unique Participants

7,493 Joined
during Sample
Period

2,988 MMD

4,505 TDD

543 Experimental Subjects

202 Joined during
Sample Period

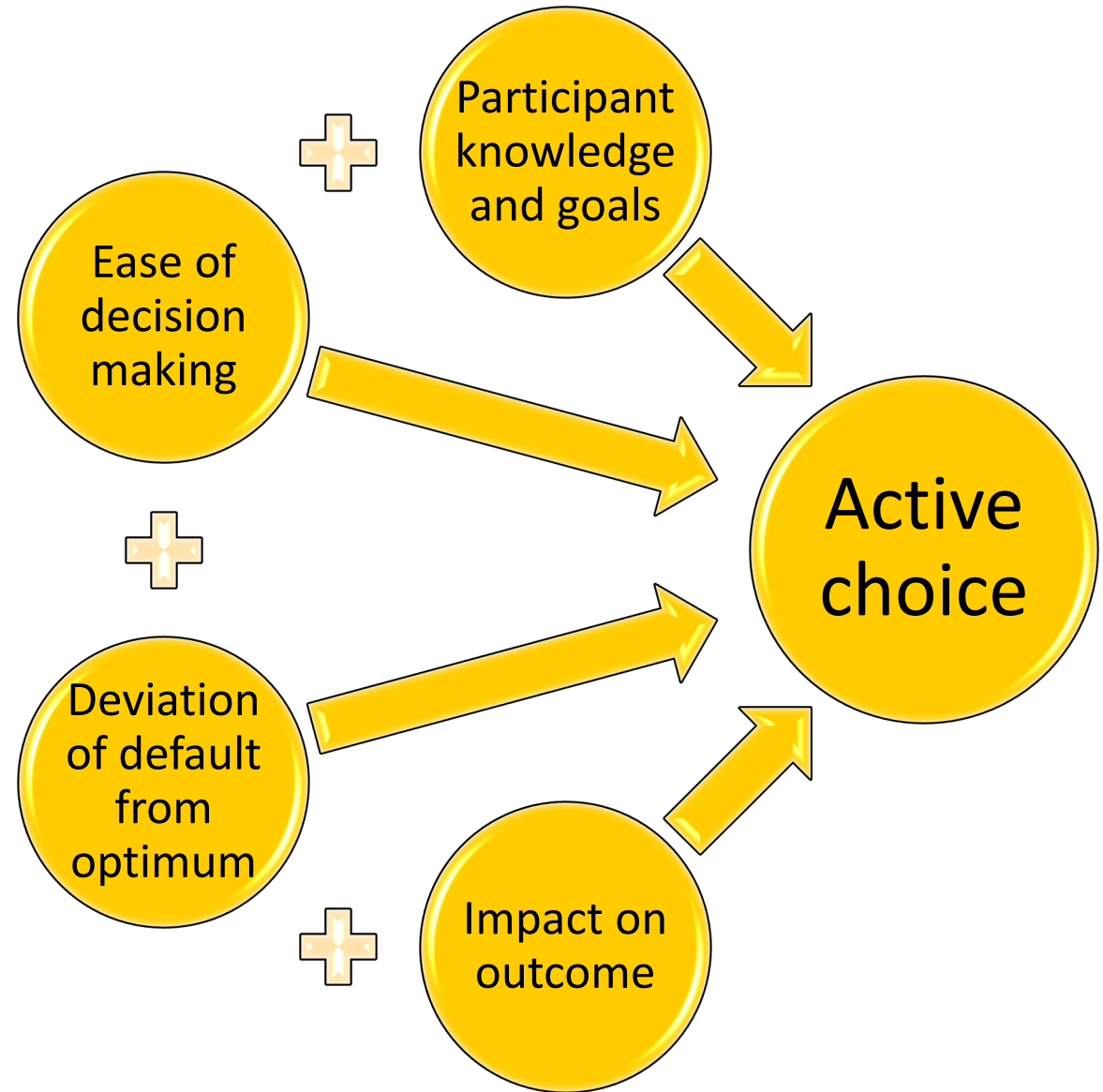
77 MMD
125 TDD

We show that the nature of the default changes its impact

- Target date defaults (TDDs) attract many more participants than money market defaults (MMDs)
- TDDs are much stickier than MMDs
- Defaults can affect overall asset allocations
- Participant characteristics and experience affect the chances of defaulting into a default fund and overall asset allocations

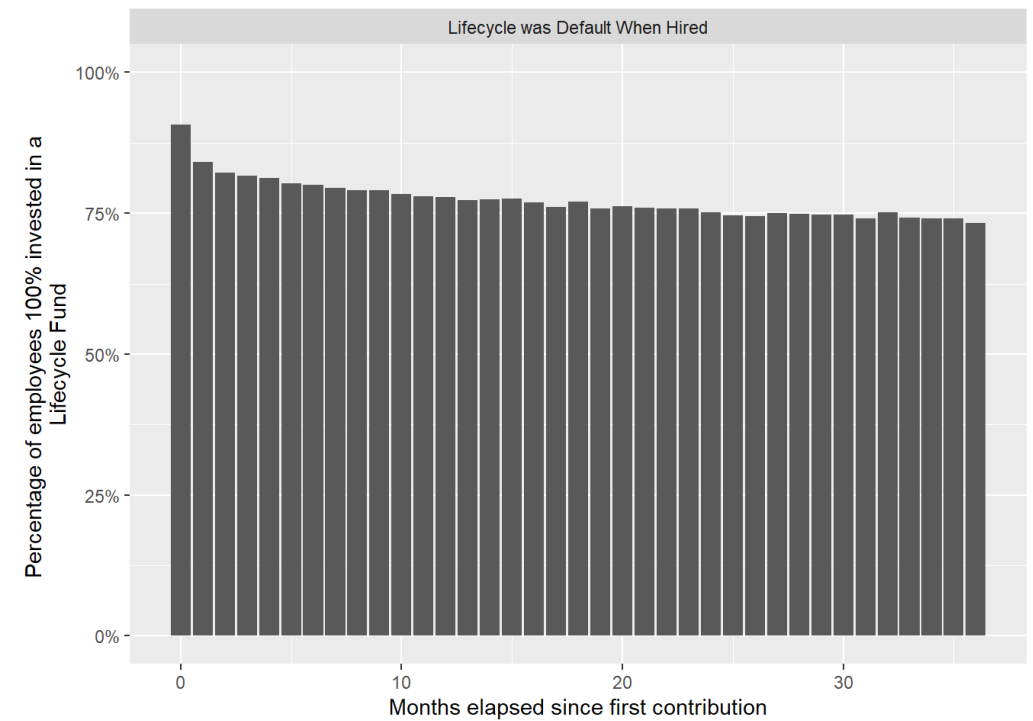
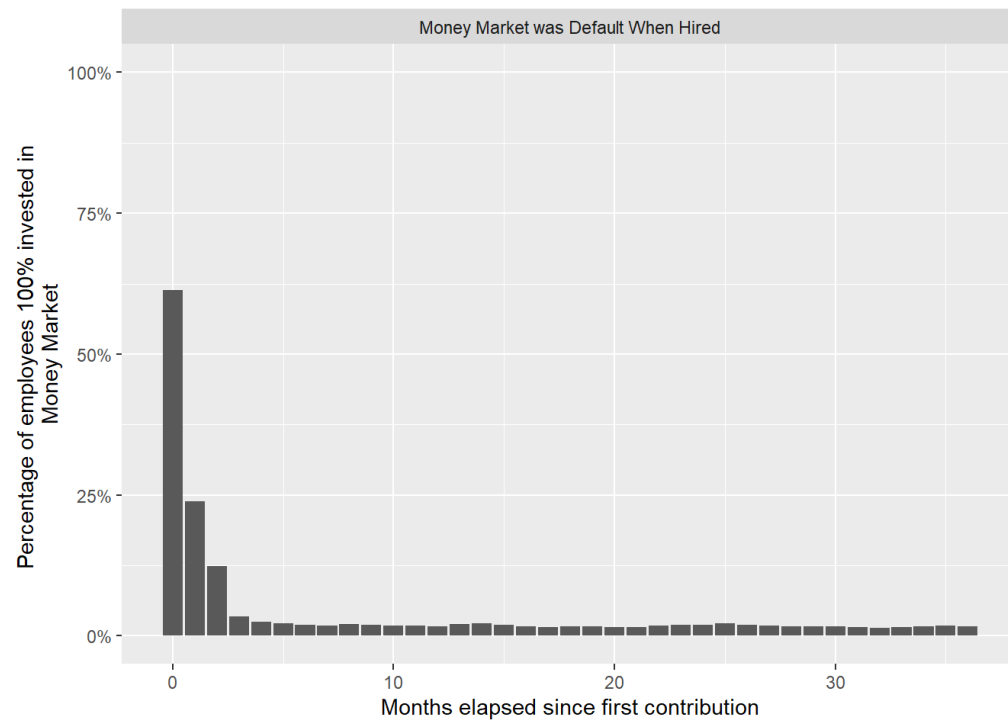
Results are strongly consistent with a Capital-Labor-Production decision framework

Camerer & Hogarth 1999



MMD not sticky relative to prior research nor attractive relative to TDD

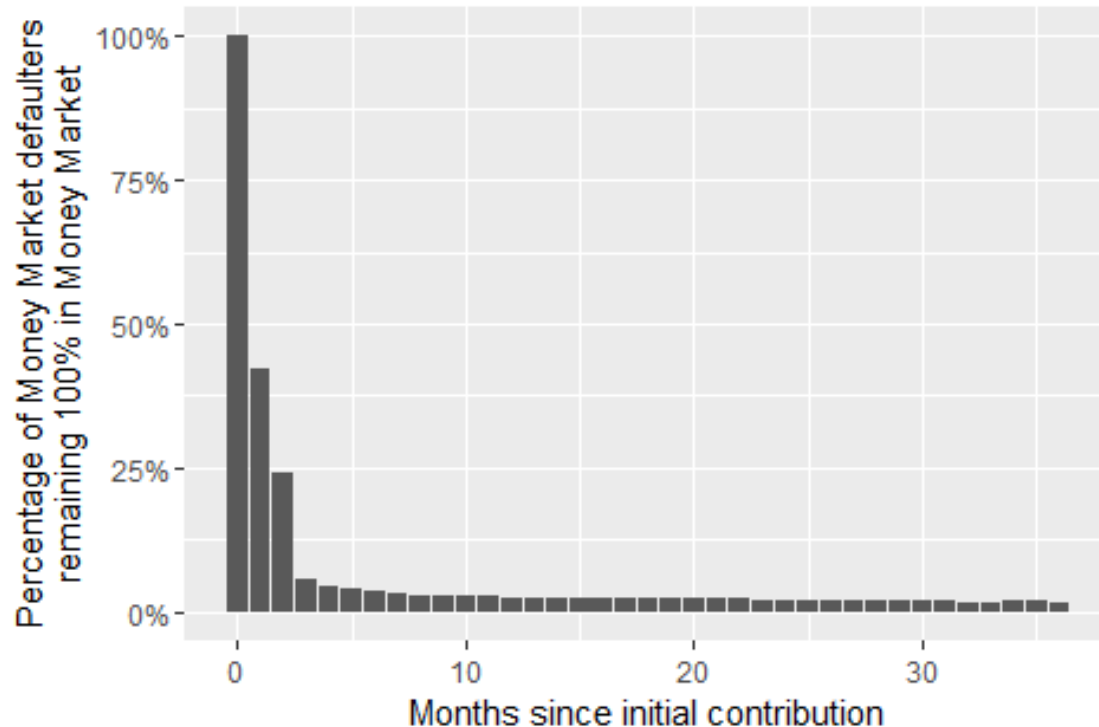
- 61% default into MMD in 1st contribution, but only 3.5% remain 3 *months* later
- 91% default into TDD in 1st contribution and 73% remain 3 *years* later



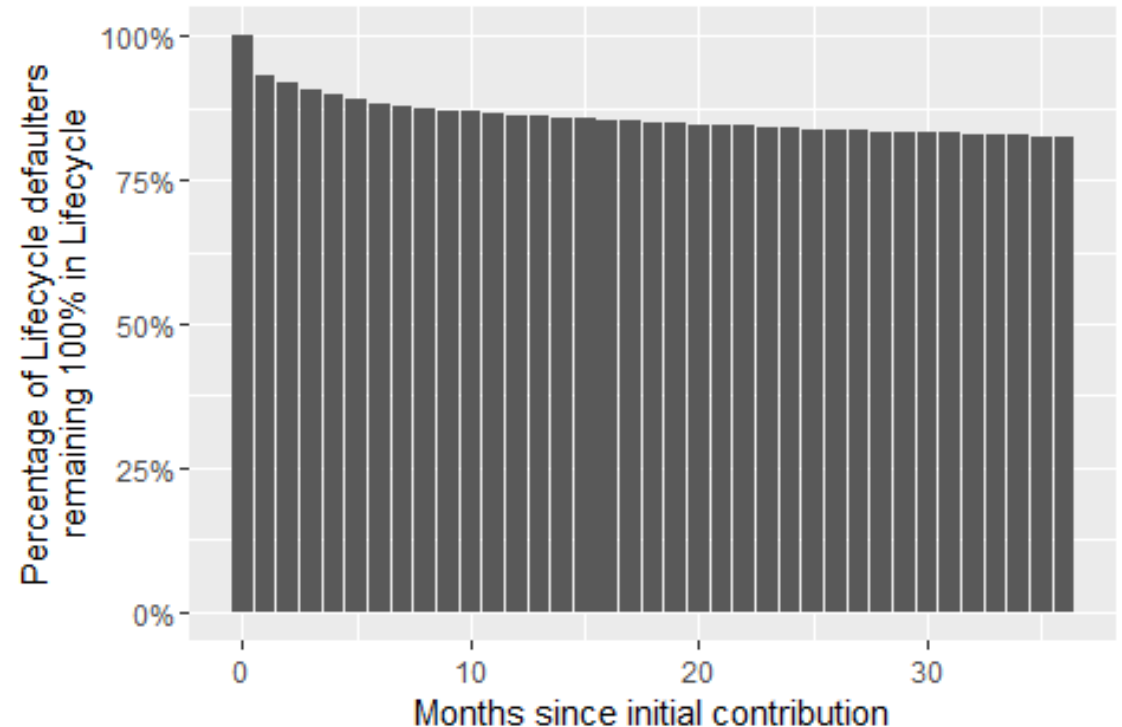
When do defaulters change to customized portfolios?

- Some attrition comes from participants leaving the plan
- Focus on participants in the data continuously for 3 years after joining
- Most who will customize do so in the first few months

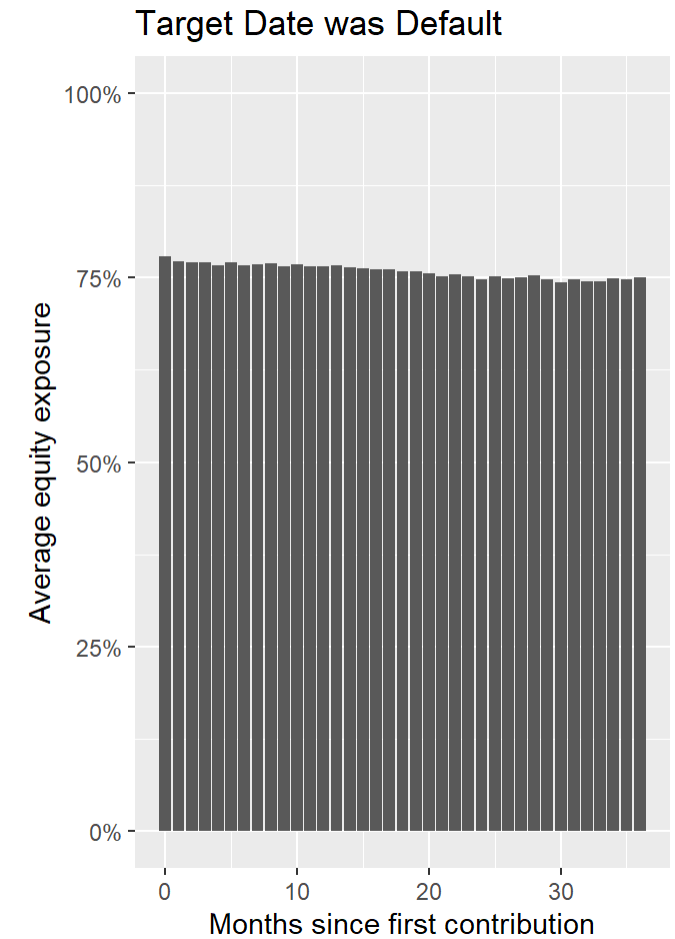
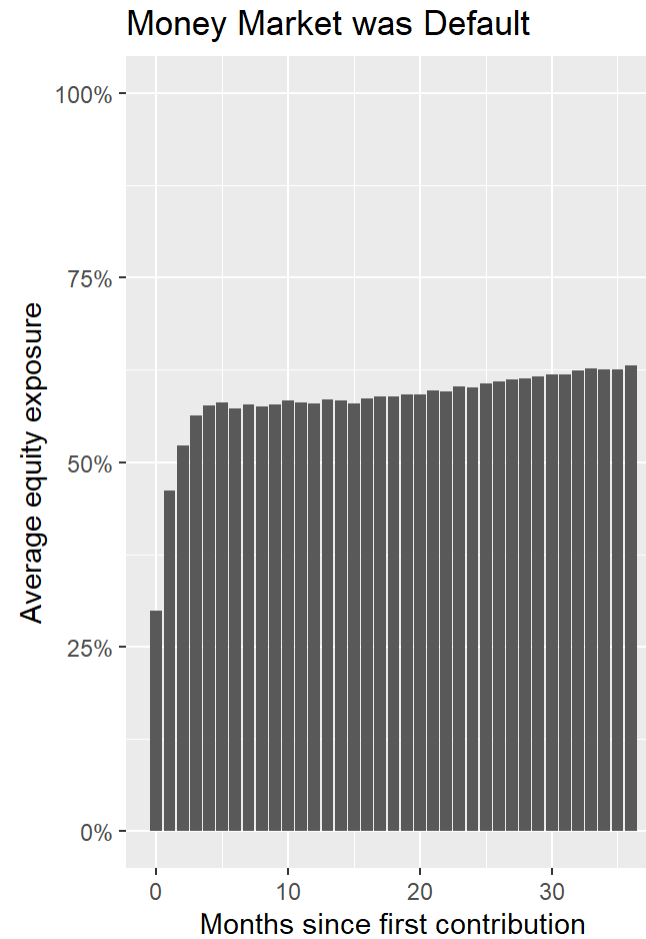
Fraction of Money Market defaulters that stay 100% in Money Market fund across 36 month period



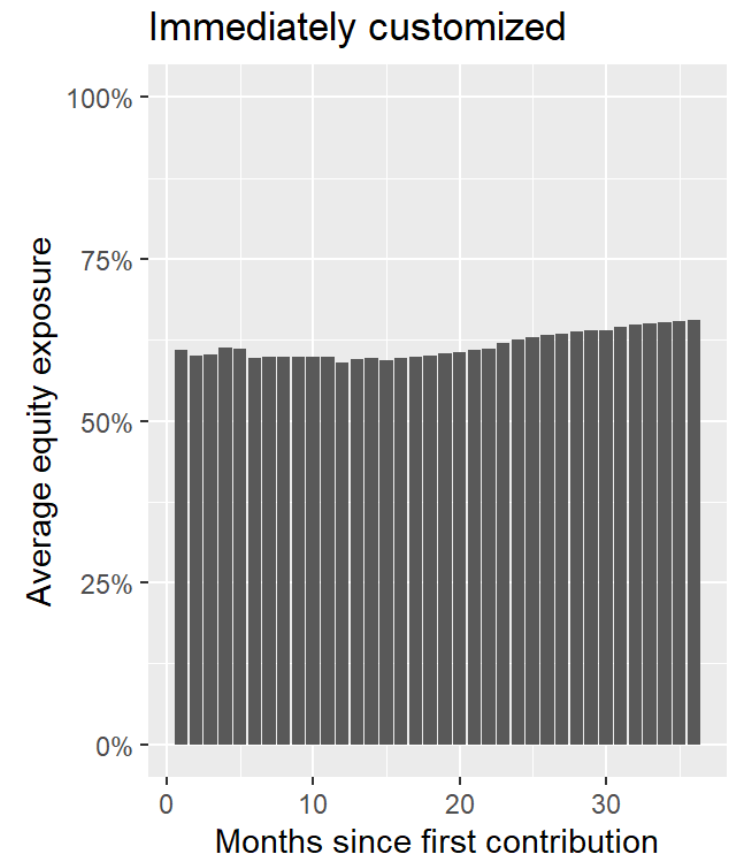
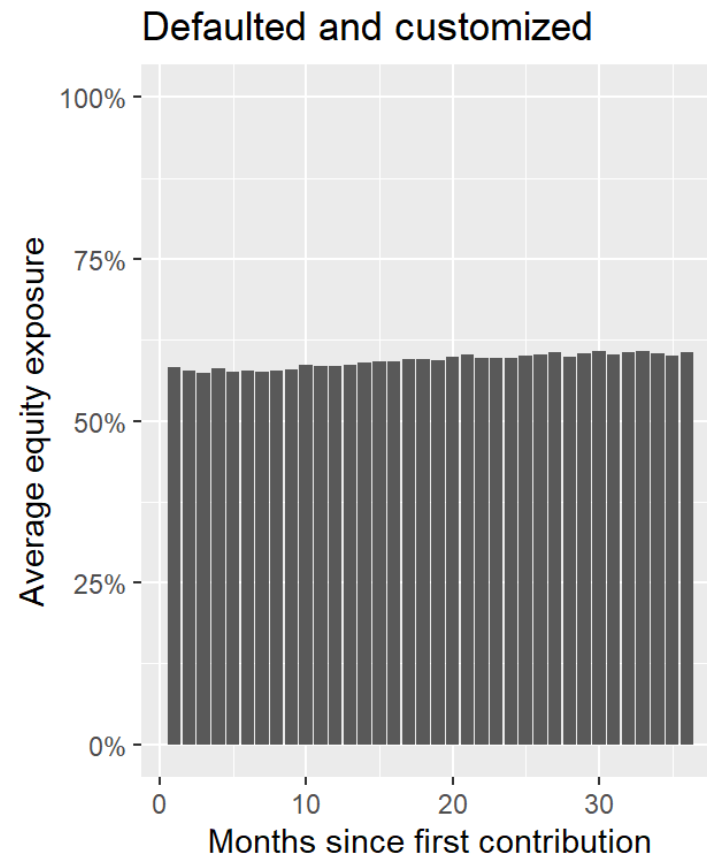
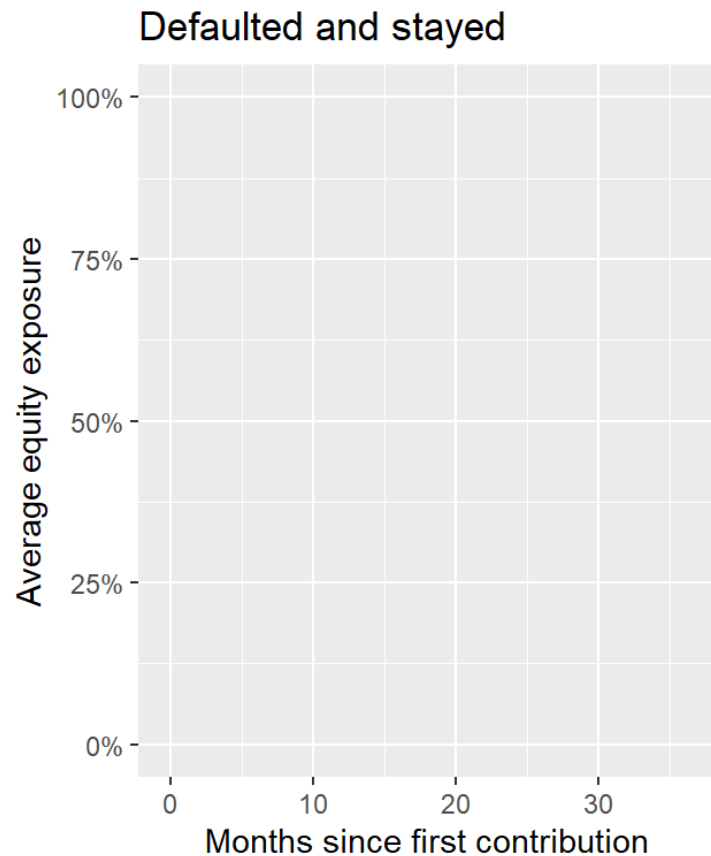
Fraction of Lifecycle defaulters that stay 100% in Lifecycle fund across 36 month period



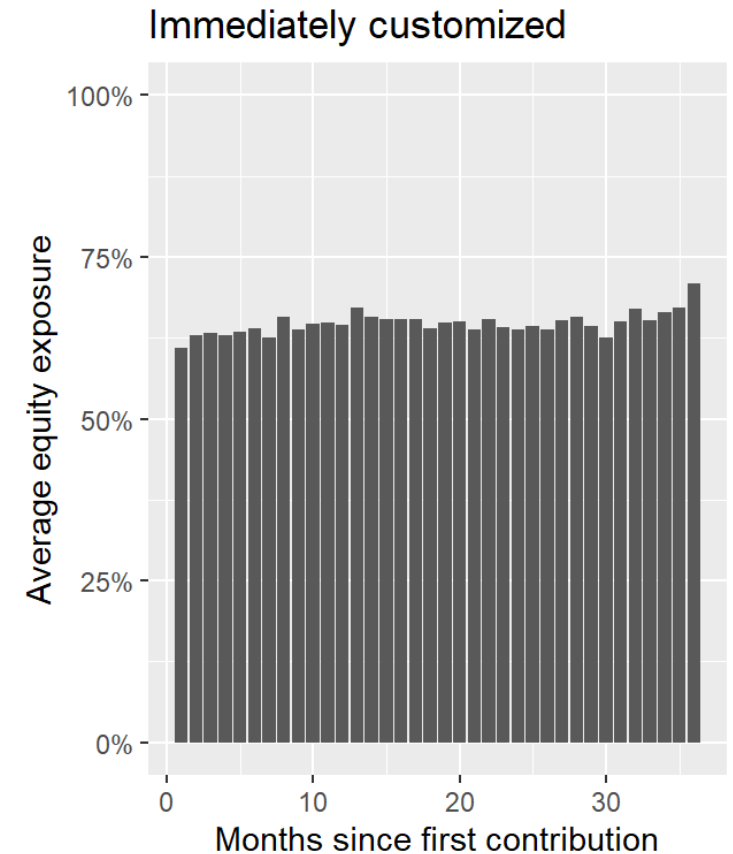
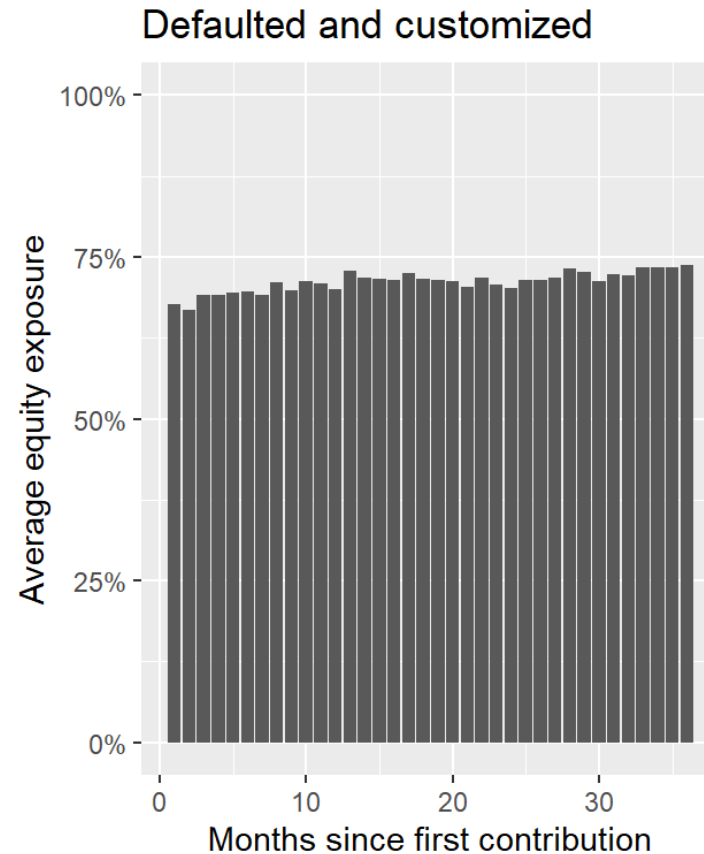
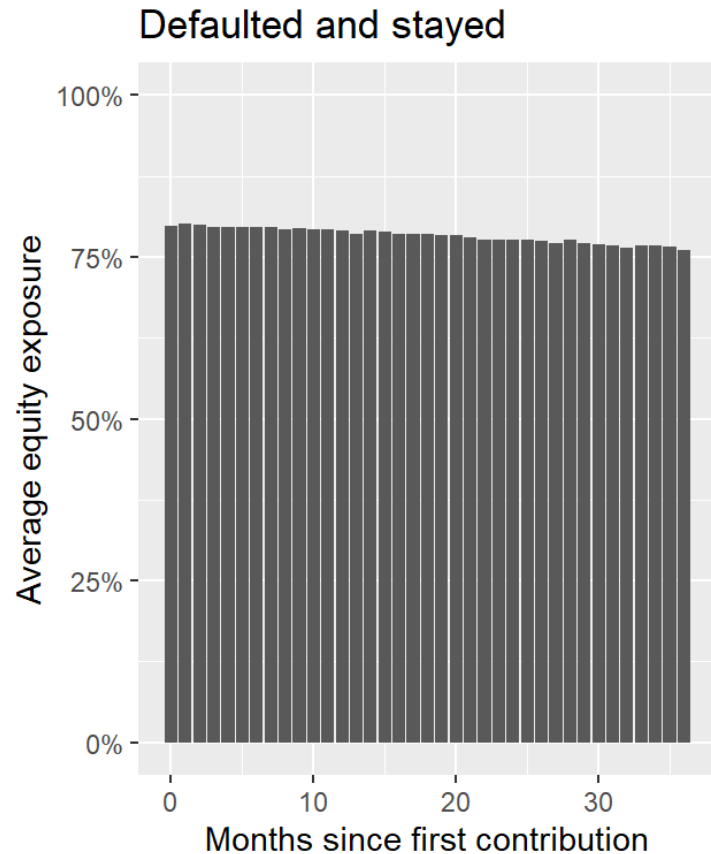
Target date defaults result in higher equity exposures than money market defaults even after most participants customize



Money Market defaulters who customize increase equity exposure, but not as much as those who never defaulted



Target date defaulters who customize decrease equity exposure, but not as much as those who never defaulted



Not all defaults are equal

Money market

- Relatively low default rate
- Rapid customization
- To heterogenous portfolios that systematically vary with demographics
- Lower equity exposures (even after customization)

Target date

- Relatively high default rate
- Low customization rate through time
- Overall portfolios are more homogeneous (except for age effects)
- Higher equity exposures (even after customization)

Behavior under the Money Market Default

- Few defaulters
- Nonlinear age relationships
- Higher income less likely to default
- No significant demographic factors 6 months later
- Equity exposure generally falls with age (≥ 28)
- Higher income and business college participants hold more equity

	Default	Remain in Default @ 6 Months	Equity Allocation
Constant	2.398*** (0.497)	-6.190*** (1.945)	0.393*** (0.031)
Age	-0.078*** (0.028)	0.076 (0.103)	0.015*** (0.001)
Age²	0.001** (0.0004)	-0.001 (0.0010)	-0.0002*** (0.0000)
Gender (1=Female)	-0.1 (0.086)	0.038 (0.313)	-0.008* (0.005)
Marital Status (1=Married)	-0.042 (0.083)	0.239 (0.311)	0.009* (0.005)
Contribution/\$1,000	-0.571*** (0.110)	-0.083 (0.298)	0.019*** (0.003)
Faculty Dummy	-0.212 (0.135)	0.249 (0.420)	0.003 (0.006)
College of Business Dummy	0.025 (0.368)	0.28 (1.044)	0.092*** (0.016)

Behavior under the Target Date Default

- Many defaulters, many remain in the default
- Nonlinear effects of age on 6 months later and equity exposure
- Higher income less likely to default and remain
- Faculty more likely to remain in default
- Business college less likely to remain in default
- No demographic effects on equity exposure except age

	Default	Remain in Default @ 6 Months	Equity Allocation
Constant	3.850*** (0.647)	3.273*** (0.543)	0.921*** (0.041)
Age	-0.058 (0.036)	-0.074** (0.030)	0.001 (0.002)
Age²	0.0004 (0.0004)	0.001** (0.0004)	-0.0002*** (0.0000)
Gender (1=Female)	0.08 (0.111)	0.129 (0.088)	-0.009 (0.006)
Marital Status (1=Married)	0.066 (0.118)	-0.125 (0.094)	0.004 (0.007)
Contribution/\$1,000	-0.291*** (0.064)	-0.676*** (0.077)	0.003 (0.005)
Faculty Dummy	0.008 (0.156)	0.352*** (0.134)	-0.008 (0.009)
College of Business Dummy	-0.371 (0.370)	-0.742*** (0.274)	0.007 (0.017)

Financial knowledge correlates with behavior

- More knowledgeable participants more likely customize immediately and 6 months later
- No significant change in equity exposure

Panel A: Financial Knowledge Score

Independent Variable	Initial Default Dummy		Residuals from Model 1a	
	MMD Ps	TDD Ps	MMD Ps	TDD Ps
Initial Default	0.005 (0.124)	-0.533*** (0.192)	0.015 (0.030)	-0.061*** (0.022)
6-months Later Default	0.671 (0.926)	-0.551*** (0.185)	0.006 (0.008)	-0.078*** (0.029)
Equity Allocation	0.013 (0.008)	-0.027 (0.027)	0.012 (0.007)	-0.026 (0.026)

Financial experience correlates with behavior

- More knowledgeable TDD participants more likely customize immediately and 6 months later
- Results in no significant change in equity exposure
- More knowledgeable MMD participants allocate more to equity

Panel B: Self-reported Financial Experience Score

Independent Variable	Initial Default Dummy		Residuals from Model 1a	
	MMD Ps	TDD Ps	MMD Ps	TDD Ps
Initial Default	-0.718 (1.230)	-4.682*** (1.341)	-0.035 (0.295)	-0.697*** (0.182)
6-months Later Default	1.502 (4.160)	-3.179*** (1.168)	0.016 (0.067)	-0.537** (0.214)
Equity Allocation	0.183*** (0.058)	0.098 (0.091)	0.156*** (0.058)	0.082 (0.085)