

How Choices Are Demotivating: The Impact Of More Options on 401(k) Investment

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Table 1. Summary Statistics

Panel A reports the summary statistics of all employees in the sample (including non-participants). Panel B reports the summary statistics of participants (employees who contribute positive amount to their DC plans in 2001).

	Unit	Mean	Std. Dev.	5%	25%	50%	75%	95%
Panel A: Eligible Employees (793,794)								
PART	0-1	0.71	0.45	0	0	1	1	1
COMP	\$10,000	5.81	3.78	1.91	3.23	4.81	7.16	13.76
FEMALE	0-1	0.38	0.46	0	0	0	1	1
WEALTH	\$10,000	4.69	15.89	0.04	0.17	0.73	3.57	18.70
AGE	year	43.00	9.72	27	37	43	50	59
TENURE	year	11.33	9.07	1.50	3.67	10.08	16.08	29.83
MATCH(2%)	1%	51.31	35.51	0	25	50	100	100
COMPSTK	0-1	0.58	0.49	0	0	1	1	1
DB	0-1	0.66	0.47	0	0	1	1	1
NFUNDS	fund	13.05	5.73	6	9	12	16	22
WEB	1%	26.92	12.05	10.35	18.58	25.54	34.74	51.68
NEMPLOY	person	20146	23445	342	2217	6333	34010	69378
Panel B: Participants (527,800)								
MM%	1%	15.93	30.28	0	0	0	18.64	100
MM_BOND%	1%	20.75	32.72	0	0	0	30.72	100
MM50	0-1	0.15	0.36	0	0	0	0	1
MM_BOND50	0-1	0.16	0.37	0	0	0	0	1
EQ%(inc.. Co. Stk.)	1%	64.09	36.78	0	37.51	75	100	100
EQ%(ex. Co. Stk.)	1%	60.81	38.82	0	25	70	100	100
EQ_PART(inc. Co. Stk.)	0-1	0.84	0.36	0	1	1	1	1
EQ_PART(ex. Co. Stk.)	0-1	0.79	0.41	0	1	1	1	1
COMP	\$10,000	6.59	5.09	2.27	3.75	5.43	7.82	1.45
FEMALE	0-1	0.38	0.46	0	0	0	1	1
WEALTH	\$10,000	6.07	17.67	0.04	0.36	1.64	6.13	23.71
AGE	year	43.69	9.59	28	37	44	51	59
TENURE	year	11.67	9.12	1.50	4.00	9.92	16.75	29.92
MATCH(5%)	1%	49.67	29.17	0	30	50	70	100
COMPSTK	0-1	0.60	0.49	0	0	1	1	1
DB	0-1	0.63	0.48	0	0	1	1	1
NFUNDS	fund	13.60	5.76	7	10	13	16	22
WEB	1%	28.68	11.73	12.91	19.63	26.21	36.25	51.68
NEMPLOY	person	17330	22340	291	1687	5788	26433	69378

Figure 1. The Relation between Participation and Number of Funds Offered

The graph plots the relation between participation rate (all explanatory variables except the number of funds offered are set at their respective mean values) and the number of funds offered using the Robinson (1988) two stage semiparametric estimation method. The dotted line represents the 95% confidence intervals.

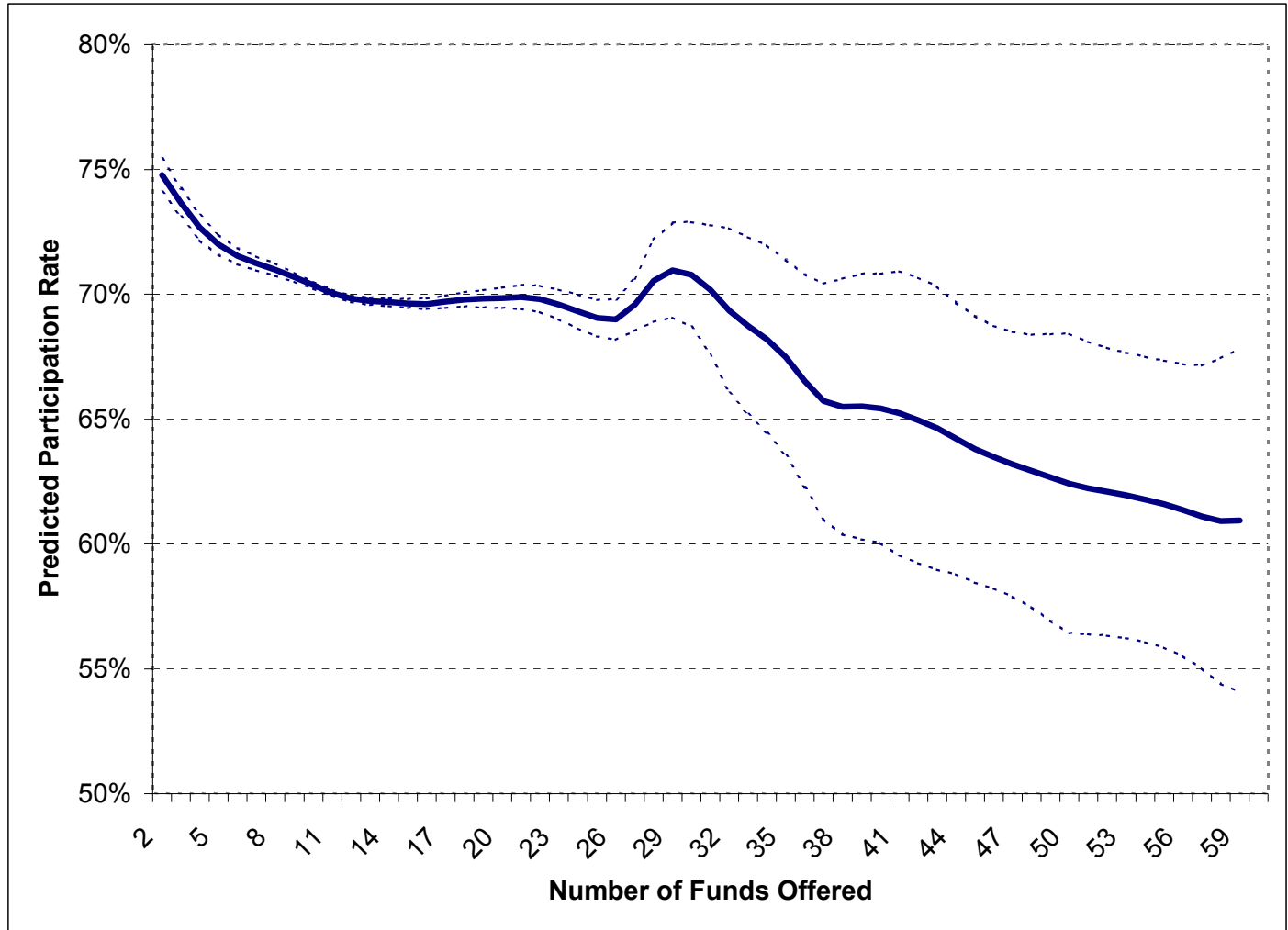


Table 2. Choices and Participation in Defined Benefits Pension Plans

The dependent variable is PART, a dummy variable equal one if the employee contributed positive amount to his DC pension account. The all-sample participation rate is 70.8%. All coefficients and standard errors are multiplied by 100. Columns (1) to (2) use the linear probability model. The standard errors adjust for both heteroskedasticity and within group correlation (due to the group-specific disturbance). Columns (3) and (4) adopts Probit model. The standard errors adjust for correlation within the same plan. Pseudo R-squared and incremental probability of correct prediction are reported for goodness-of-fit. The marginal probabilities are calculated by setting all non-dummy variables at their mean values, and all dummy variables at zero. In columns (1) and (3) COMP and WEALTH are expressed in log dollars. In columns (2) and (4) COMP is expressed in \$10,000, and WEALTH is expressed in IXI ranks from 1 to 24. Plan-level average individual attributes are used as control variables (coefficients not tabulated). The number of observations is 793,794 individuals and 647 plans.

	Linear Probability				Probit					
	(1)		(2)		(3)		(4)			
	COEF	SE	COEF	SE	COEF	SE	Margl. Pr.	COEF	SE	Margl. Pr.
NFUNDS	-0.23	0.11	-0.25	0.13	-0.92	0.31	-0.25	-0.78	0.34	-0.25
COMP	15.27	0.21	2.60	0.06	57.34	4.72	18.12	11.54	0.94	3.71
WEALTH	5.96	0.06	0.47	0.02	23.16	1.30	7.32	2.14	0.34	0.69
FEMALE	5.64	0.50	5.50	0.43	18.88	1.29	5.97	20.11	0.93	6.47
AGE	0.21	0.05	0.49	0.06	0.32	0.44	0.10	0.88	0.51	0.28
AGE^2	0.00	0.00	-0.01	0.00	-0.01	0.01	0.00	-0.01	0.01	0.00
TENURE	1.30	0.08	1.43	0.10	4.79	0.47	1.51	5.07	0.55	1.63
TENURE^2	-0.03	0.00	-0.03	0.00	-0.12	0.01	-0.04	-0.12	0.02	-0.04
MATCH	0.12	0.02	0.12	0.02	0.44	0.04	0.14	0.41	0.04	0.13
COMPSTK	3.50	1.60	2.96	1.85	9.47	4.40	3.01	7.53	3.58	2.41
DB	-0.28	1.45	-0.65	1.55	1.01	2.11	0.32	0.26	2.60	0.09
WEB	0.07	0.08	0.19	0.08	0.31	0.14	0.10	0.65	0.14	0.21
NEMPLOYEE	-2.89	0.52	-3.11	0.57	-9.55	2.10	-3.02	-9.80	2.02	-3.15
CNST	-214.14	36.88	-4.51	14.68	-926.76	81.03	--	-173.06	86.21	--
Goodness of Fit	0.19		0.13		0.18		0.33	0.13		0.26

Table 3. Relation between Number of Funds Offered and Allocation in Money Market/Bond Funds

Columns 1 and 2 analyze contribution allocation to money market funds, and columns 3 and 4 analyze allocation to money market and bond funds. In columns 1 and 3, the dependent variable is the percentage of total contribution allocated to the particular category. Estimates are obtained from the Powell (1984) censored least absolute deviation (CLAD) regressions. Pseudo- R^2 of quantile regressions is reported as goodness of fit. In columns 2 and 4 the dependent variable is a dummy variable equal one if the employee invests 50% or more of her total contribution to the category. Coefficients and standard errors in Columns 2 and 4 are multiplied by 100. All standard errors adjust for heteroskedasticity as well as within-cluster (plan) correlations. The number of observations is 500,022 individuals and 631 plans in columns 1 and 2 (applied to employees who are offered at least one money market fund), and 527,800 individuals and 643 plans in columns 3 and 4.

	Cash Funds				Cash and Bond Funds			
	% of total contribution		1(% > 50%)		% of total contribution		1(% > 50%)	
	COEF	SE	COEF	SE	COEF	SE	COEF	SE
NFUNDS	0.39	0.24	0.17	0.08	0.54	0.20	0.36	0.08
COMP	-19.15	1.75	-5.45	0.16	-14.69	1.21	-6.34	0.16
WEALTH	-4.65	0.40	-1.34	0.05	-3.55	0.20	-1.47	0.06
FEMALE	1.31	0.51	-0.10	0.12	2.91	0.55	0.43	0.15
AGE	-2.57	0.23	-0.92	0.05	-2.30	0.23	-0.95	0.07
AGE^2	0.04	0.00	0.01	0.00	0.04	0.00	0.02	0.00
TENURE	2.38	0.24	0.64	0.06	1.57	0.18	0.68	0.06
TENURE^2	-0.04	0.01	-0.01	0.00	-0.02	0.01	-0.01	0.00
MATCH	0.02	0.03	0.01	0.02	0.07	0.04	0.00	0.02
MATCHINCOMP	-0.18	0.07	-0.07	0.02	-0.17	0.05	-0.10	0.02
COMPSTK	-0.49	0.52	-1.09	1.23	-1.04	2.68	-3.78	1.16
DB	7.29	3.50	2.14	1.12	8.97	3.14	3.21	1.35
WEB	0.03	0.20	-0.03	0.07	0.06	0.11	-0.03	0.07
NEMPLOYEE	-0.93	1.45	-0.12	0.45	-1.33	1.16	0.46	0.44
CNST	235.86	60.60	83.30	17.19	335.46	65.13	99.84	20.16
Goodness of Fit	0.058		0.046		0.046		0.054	

Table 4. Relation between Number of Funds Offered and Allocation in Equity Funds

In columns 1 and 2, the dependent variable is the percentage of contribution allocated to stock funds. Estimates are obtained from the Powell (1984) censored least absolute deviation (CLAD) regressions. Pseudo-R² of quantile regressions is reported as goodness of fit. In columns 3 and 4 the dependent variable is a dummy variable equal one if the employee participates (i.e., invest positive amount) in stock funds (all coefficients and standard errors are multiplied by 100). In columns 1 and 3, contributions to company stock are excluded from both investment in equity funds and total contribution. Columns 2 and 4 exclude all participants in plans where employer match is restricted to company stock. All standard errors adjust for heteroskedasticity as well as within-cluster (plan) correlations. The number of observations is 527,800 individuals and 643 plans in columns 1 and 3, and is 355,571 individuals and 596 in columns 2 and 4.

	Allocation				Participation			
	Ex. Company Stock		Ex. Restrictive Match		Ex. Company Stock		Ex. Restrictive Match	
	COEF	SE	COEF	SE	COEF	SE	COEF	SE
NFUNDS	-0.71	0.31	-0.89	0.35	-0.31	0.14	-0.46	0.17
COMP	15.06	1.05	13.69	0.99	8.10	0.23	7.54	0.27
WEALTH	3.26	0.18	3.38	0.22	1.78	0.10	1.61	0.14
FEMALE	-3.29	0.54	-3.50	0.39	0.92	0.14	0.15	0.16
AGE	1.01	0.16	0.87	0.21	0.72	0.10	0.65	0.06
AGE^2	-0.02	0.00	-0.02	0.00	-0.01	0.00	-0.01	0.00
TENURE	-0.54	0.16	-0.35	0.20	-0.34	0.06	-0.16	0.07
TENURE^2	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
MATCH	0.21	0.06	0.26	0.09	0.10	0.04	0.15	0.04
COMPSTK	4.81	4.05	7.54	4.13	1.62	3.37	5.77	2.82
DB	-4.59	2.44	-6.75	2.40	-0.72	2.13	-2.38	1.59
WEB	0.01	0.11	0.03	0.12	-0.02	0.09	-0.10	0.07
NEMPLOYEE	-1.28	0.89	-1.93	1.25	-2.13	0.68	-2.16	0.67
CNST	-17.29	29.17	-49.23	28.36	103.78	29.37	59.40	21.72
Goodness of Fit	0.073		0.084		0.049		0.074	