Internet Appendix to "Reinforcement Learning and Savings Behavior"*

Table IA.I
Subsample Regressions of Contribution Rate Changes on Portfolio Returns and Variance

This table presents coefficients from estimating regression equation (3) on subsets of the full sample. The dependent variable is the year-over-year change, in 1999 and 2000, in the contribution rate effective during the last pay cycle of December. The Δ operator is for year-over-year changes. The subscript i indexes investors, and t indexes years. $R_{i,t}$ is average monthly 401(k) percent return, $\sigma^2(R_{i,t})$ is 401(k) monthly return variance, $CapitalGain_{i,t}$ is 401(k) dollar capital gain, $Y_{i,t}$ is annual salary, and $Tenure_{i,t}$ is the number of years since original hire at the end of year t. The regressions include company × year dummies, asset class (equities, bonds, or cash) balances at the prior year-end normalized by income interacted with year dummies, and the share of the 401(k) in equities or bonds at the prior year-end interacted with year dummies. Standard errors, clustered by company × employee's state of residence in 1998 × year, are in parentheses below the point estimates. * significant at the 5% level, and ** significant at the 1% level.

	Excluding Company E	Excluding Companies A and D	Excluding Companies A and E
$\Delta R_{i,t}$	0.0836**	0.1665**	0.1477**
	(0.0230)	(0.0226)	(0.0294)
$\Delta R_{i,t-1}$	-0.0222	-0.0662	-0.1048*
	(0.0275)	(0.0461)	(0.0403)
$\Delta\sigma^2(R_{i,t})$	-0.0039**	-0.0025**	-0.0031*
	(0.0011)	(0.0008)	(0.0013)
$\Delta\sigma^2(R_{i,t-1})$	-0.0045*	-0.0092**	-0.0102**
	(0.0020)	(0.0024)	(0.0031)
$\Delta(CapitalGain_{i,t}/Y_{i,t})$	-0.2340	-0.3878**	-0.5418**
	(0.1336)	(0.1345)	(0.1272)
$\Delta(CapitalGain_{i,t-1}/Y_{i,t})$	0.6662**	0.8373	1.2059**
	(0.2253)	(0.4296)	(0.1844)
$\Delta Log(Tenure_{i,t})$	-0.8216	-1.5357	1.4456
	(1.1608)	(2.1229)	(4.7811)

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Table IA.II
Tests for Asymmetry in the Response of Contribution Rate Changes to Portfolio Returns and Variance

This table presents coefficients from estimating variants of regression equation (3) on subsets of the full sample. The dependent variable is the year-over-year change, in 1999 and 2000, in the contribution rate effective during the last pay cycle of December. The Δ operator is for year-over-year changes. The subscript *i* indexes investors, and *t* indexes years. $R_{i,t}$ is average monthly 401(k) percent return, $SP500_t$ is the average monthly S&P 500 return, $\sigma^2(R_{i,t})$ is 401(k) monthly return variance, $CapitalGain_{i,t}$ is 401(k) dollar capital gain, $Y_{i,t}$ is annual salary, and $Tenure_{i,t}$ is the number of years since original hire at the end of year *t*. The regressions include company × year dummies, asset class (equities, bonds, or cash) balances at the prior year-end normalized by income interacted with year dummies, and the share of the 401(k) in equities or bonds at the prior year-end interacted with year dummies. Standard errors, clustered by company × employee's state of residence in 1998 × year, are in parentheses below the point estimates. * significant at the 5% level, and ** significant at the 1% level.

$\Delta R_{i,t}$	0.1007**	0.1126**
	(0.0259)	(0.0281)
$\Delta(R_{i,t} \times (R_{i,t} > R_{i,t-1}))$	-0.0043	
	(0.0372)	
$\Delta(R_{i,t} \times (R_{i,t} > SP500_t))$		-0.0182
		(0.0180)
$\Delta R_{i,t-1}$	-0.0116	0.0010
	(0.0297)	(0.0291)
$\Delta\sigma^2(R_{i,t-1})/100$	-0.0023$^+$	-0.0036**
	(0.0012)	(0.0009)
$\Delta(\sigma^2(R_{i,t}) \times (\sigma^2(R_{i,t}) > \sigma^2(R_{i,t-1}))/100$	-0.0011	
	(0.0013)	
$\Delta(\sigma^2(R_{i,t-1}))/100$	-0.0002	-0.0035*
	(0.0038)	(0.0015)
$\Delta(\sigma^2(R_{i,t-1}) \times (\sigma^2(R_{i,t-1}) > \sigma^2(R_{i,t-2}))/100$	-0.0029	
	(0.0030)	