Online Appendix for "Wealth Shocks and Health Outcomes: Evidence from Stock Market Fluctuations"

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A The role of stock market expectations

Constructed wealth shocks under- or overestimate actual wealth shocks if retirees' expectations of stock market returns systematically differ from zero. Since 2002 the HRS includes a question about the likelihood that the stock market increases within the following year. Figure E in the Appendix plots monthly averages for this question together with the S&P500. Expectations are strikingly low: even those with stocks expect on average only a 45-60% chance that the stock market will increase. Furthermore, expectations seem to be slightly correlated with the stock market. Following Dominitz and Manski (2007) I transform expected probabilities about stock market increases into expected stock market returns and adjust for them when constructing wealth shocks. As expectations are only marginal compared to actual stock market changes, their inclusion decreases estimates only slightly. For better comparability of my results with other studies I therefore do not include expectations in the baseline regressions.

B Further details on the construction of lifetime wealth

The HRS reports the subjective probability of living to reach a certain age and Hurd and McGarry (2002) show these subjective probabilities are predictive of

*Notes for Appendix

the respondent's remaining life time. I do not include this information because subjective survival probabilities are only available for age 75 and 85 and I would have to make assumptions about how subjective probabilities at other ages relate to these reports. However, the inclusion of such subjective survival probabilities may be a worthwhile extension for future research.

Social Security benefits pose a potential problem as there are financial incentives to delay take-up to age 65 Coile et al. (2002). For retirees below age 65 who do not report receiving Social Security it is not clear whether they are postponing or whether they are not entitled to Social Security payments. I present robustness checks excluding all households with one or both spouses below age 65.

Different life expectancies within households, i.e. within couples, are a further complication. Typically, wives can expect to survive their husbands, but it would be demanding to calculate all different survival constellations and the corresponding exact survivor benefit amounts. For simplicity, a couple's lifetime wealth is calculated by applying the couple's mean life expectancy to the sum of the couple's total annual income. Restricting the sample to singles in order to avoid this simplified lifetime wealth formula for couples does not affect the pattern of the estimated effects (see Table A.15).

C Estimating effects on physical health conditions in survival models

As discussed in the data section, the questions on physical health conditions ask whether a condition has ever been diagnosed. Taken literally, these questions imply a survival process. Once a respondent replied "yes" to the question, there should not be any reversal to "no" in a future period. In the data, these reversals occur and they seem non-random, which suggests that not all respondents understand the question in this way and that these reversals contain information about people's current health status. However, one can create measures of health conditions that are switched on if a respondent ever replied "yes" and estimate effects on these outcomes using survival models. Note that this transformation implies a loss of information not only because it eliminates reversals from "yes" to "no". It also eliminates future switches back from "no" to "yes", which might contain further information about actual health changes (e.g. the sequence "no"-"yes"-

"no"-"no"-"yes" is transformed to "no"-"yes"-"yes"-"yes"-"yes").

Table A.20 shows hazard ratios estimated using the following Cox proportional hazard model:

$$h(t) = h_0(t)exp(\beta \frac{s_{i,t-1}}{W_{i,t-1}} \frac{\Delta SP_t}{SP_{t-1}} + \gamma \frac{s_{i,t-1}}{W_{i,t-1}} + \delta X_{i,t}) \tag{A.1}$$

where $h_0(t)$ is the baseline hazard function and the variables in the exponent are the same as in the baseline specification. Survival time is the time until a respondent affirms the diagnosis of a health condition for the first time, with individuals never reporting a health condition treated as censored observations. The Cox proportional hazard model assumes that the hazard rate of developing a health condition is multiplicatively shifted by changes in the right-hand-side variables, i.e. exogenous wealth shocks and included covariates in this case.

Appendix Table A.20 compares the baseline regression estimates in column (1) and (2) with the estimated hazard ratios based on equation (A.1) in columns (3) and (4). For high blood pressure, the hazard ratio is smaller than one and significant at the 5% level, in line with the negative impact of wealth shocks estimated in the baseline regressions. The estimated hazard ratio in the heart disease regression is smaller than one, too, but it is not significantly different from zero.

D Effects on nutrition and health inputs

As discussed in the introduction, calorie intake and health inputs are central mechanisms through which wealth affects health in poor countries (Jensen and Richter 2004; Case 2004) but they might be less relevant for wealthy retirees in the US. The HRS reports respondents' body mass index (BMI) and the number of doctor visits as well as out-of-pocket medical expenditure (OOP), which allows to directly test for the role of these potential mechanisms. Table A.21 in the Appendix shows that indeed wealth shocks do not significantly affect any of these three measures.

Notice however that there could be opposing effects at work that might cancel out

in the regression. People might be cutting back on food expenditures as a response to a negative wealth shock. But 'cheaper calories' often come in the form of inferior food that remains stored in body fat to a greater extent than higher quality food. In this case, cutting back on food expenditure might even increase people's BMI. The effect on health inputs is ambiguous, too. If wealth shocks make you sick, you might end up going to the doctor more often, even if this might imply higher OOP expenditures, e.g. because premium health care coverage is not affordable anymore. Therefore, the results in Table A.21 should not be interpreted as evidence that wealth shocks do not affect people's nutrition behavior or the optimal receipt of health inputs. However, it seems unlikely that these are the main mechanisms underlying the strong short-term effects of wealth shocks on physical and mental health that we observe in the data.

E Appendix Figures

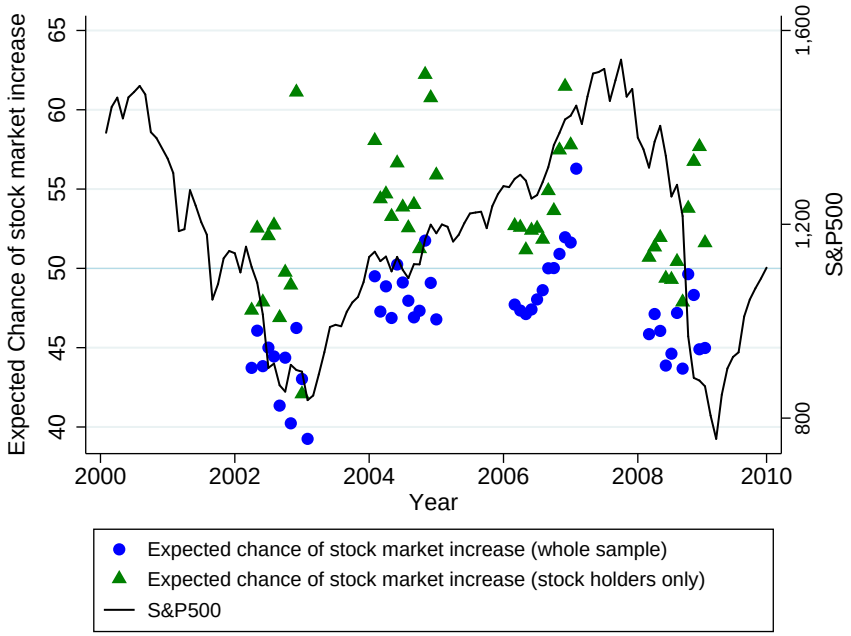

Figure A.1: HRS Expectations of an Increase in the Stock Market and the S&P500
Monthly averages of the following question in the HRS are plotted: 'By next year at this time, what is the percent chance that mutual fund shares invested in blue chip stocks like those in the Dow Jones Industrial Average will be worth more than they are today?' Averages for months with less than 25 responses are not displayed.

F Appendix Tables

Table A.1: Summary Statistics Demographic Controls

Variable	Mean	Std. dev.	Variable	Mean	Std. dev.
Sex			*Education*		
Female	0.634		Years of education	11.659	3.390
			Less than high school	0.305	
Age			GED diploma	0.044	
Age	75.43	8.91	High-school graduate	0.325	
Age>75	0.522		Some college	0.182	
			College and above	0.143	
Race					
White	0.823		*Marital status (lagged)*		
African-American	0.142		Married	0.509	
			Partnered	0.017	
Region			Separated	0.012	
Northeast	0.166		Divorced	0.074	
Midwest	0.247		Separated/divorced	0.012	
South	0.407		Widowed	0.346	
West	0.179		Never married	0.031	

Standard deviations are omitted for binary variables. Further comments as in Table 1.

Table A.2: Summary Statistics Wealth Measures

Wealth measure	Symbol (1)	Mean (2)	Std. dev. (3)
Reported household wealth (nominal USD)	A_t	361,411	1,059,818
Change in reported household wealth (nominal USD)	ΔA_t	10,347	988,519
Household lifetime wealth (nominal USD)	W_t	548,065	3,911,738
Relative change in reported household wealth	$\frac{\Delta A_t}{W_{t-1}}$	0.111	0.995
Fraction of lifetime wealth held in stocks	$\frac{s_t}{W_t}$	0.064	0.145
Percentage change in the S&P500	$\frac{S\&P_t}{S\&P_{t-1}}$	0.049	0.223
Constructed wealth shocks	$\frac{s_{t-1}}{W_{t-1}}\frac{\Delta S\&P_t}{S\&P_{t-1}}$	0.002	0.035

For comments, see notes under Table 1.

Table A.3: Summary Statistics of Health Measures

	Original				Probit-adapted (standardized)	
	Levels		First difference		Levels	First difference
	Range	Mean (Std. dev.)	Range	Mean (Std. dev.)	Mean (Std. dev.)	Mean (Std. dev.)
	(1)	(2)	(3)	(4)	(5)	(6)
Health measures						
Physical Health Index	[0;...;7]	4.669	[-5;...;5]	-0.231	0	-0.171
		(1.319)		(0.551)	(0.972)	(0.410)
Self-reported health	[0;...;4]	1.883	[-4;...;4]	-0.069	0	-0.060
		(1.121)		(0.938)	(0.958)	(0.806)
Self-reported change in health	[-1;0;1]	-0.243	-	-	0.001	-
		(0.599)			(0.870)	
Mental Health Index	[0;...;8]	6.34	[-8;...;8]	-0.017	0	-0.006
		(2.008)		(1.818)	(0.932)	(0.858)
Survival	[0;1]	0.885	-	-	0	-
		(0.319)			(0.609)	
Health conditions (*Ever had...*)						
High blood pressure	[0;1]	0.65	[-1;0;1]	0.047	0	0.076
				(0.235)	(0.776)	(0.382)
Heart disease	[0;1]	0.336	[-1;0;1]	0.047	0	0.077
				(0.233)	(0.772)	(0.381)
Stroke	[0;1]	0.106	[-1;0;1]	0.019	0	0.037
				(0.149)	(0.595)	(0.287)
Arthritis	[0;1]	0.713	[-1;0;1]	0.041	0	0.068
				(0.233)	(0.753)	(0.387)
Cancer	[0;1]	0.181	[-1;0;1]	0.026	0	0.047
				(0.174)	(0.684)	(0.308)
Diabetes	[0;1]	0.227	[-1;0;1]	0.03	0	0.052
				(0.177)	(0.720)	(0.305)
Lung disease	[0;1]	0.127	[-1;0;1]	0.021	0	0.039
				(0.158)	(0.625)	(0.296)

Notes: Self-reported change in health and survival refer to changes so that no first differences are constructed. Standard deviations are omitted for binary variables. For further comments, see the Data section.

Table A.4: Regressions of Mental Health Index Items on Wealth Shocks

Dependent Variable ($\Delta > 0$: Mood improvement)	(1)	(2)
Δ Felt depressed	0.140*	0.143*
	(0.077)	(0.076)
Δ Felt sad	0.153**	0.154*
	(0.078)	(0.078)
Δ Everything is an effort	0.030	0.037
	(0.083)	(0.082)
Δ Sleep is restless	0.109	0.109
	(0.087)	(0.087)
Δ Felt alone	0.112	0.114
	(0.071)	(0.072)
Δ Could not get going	0.056	0.056
	(0.068)	(0.068)
Δ Felt happy	-0.003	0.000
	(0.068)	(0.068)
Δ Enjoyed life	0.043	0.044
	(0.054)	(0.053)
Main effects	✓	✓
Demographic controls		✓

Notes: The coefficient on constructed wealth shocks (*'%wealth in stocks[t-1] x stock market change*') is displayed. Main effects' are the lagged fraction of wealth held in stocks, a dummy for lagged stock ownership, the stock market change, and year-month dummies. 'Demographic controls' are dummies for gender (1), age group (12), cohort (10), race (2), region (4), degree (4), and lagged marital status (7). Standard errors in brackets are multi-level clustered by household and interview month. For details on the coding of the items, see the data sections.

Table A.5: Event study regressions for main outcomes

	(1)	(2)	(3)	(4)	(5)
Dep. var.: Δ Reported wealth change					
Wealth shock (t-2)	-0.138				
	[0.377]				
Wealth shock (t-1)	-0.131	-0.071			
	[0.516]	[0.281]			
Wealth shock in t	-0.153	0.499***	0.798***	0.846***	0.623**
	[0.344]	[0.188]	[0.174]	[0.201]	[0.284]
Wealth shock (t+1)				0.364	0.074
				[0.399]	[0.500]
Wealth shock (t+2)					-0.777
					[0.596]
N	12,036	19,567	31,672	19,530	11,987
Dep. var.: Δ Physical health index					
Wealth shock (t-2)	0.109				
	[0.166]				
Wealth shock (t-1)	-0.231	-0.190			
	[0.194]	[0.128]			
Wealth shock in t	-0.358*	0.084	0.262***	0.218**	0.066
	[0.192]	[0.107]	[0.081]	[0.104]	[0.146]
Wealth shock (t+1)				-0.122	-0.244
				[0.150]	[0.190]
Wealth shock (t+2)					0.150
					[0.244]
N	13,256	21,894	35,738	21,986	13,440
Dep. var.: Δ Self-reported health					
Wealth shock (t-2)	0.360				
	[0.262]				
Wealth shock (t-1)	0.235	-0.130			
	[0.349]	[0.206]			
Wealth shock in t	0.840**	0.188	0.247*	0.290*	0.294**
	[0.404]	[0.148]	[0.125]	[0.162]	[0.144]
Wealth shock (t+1)				0.224	0.293
				[0.164]	[0.250]
Wealth shock (t+2)					0.311
		10			[0.305]
N	15,416	25,374	41,692	25,389	15,440

Notes: Comments below Table A.6.

Table A.6: Event study regressions for main outcomes, continued

	(1)	(2)	(3)	(4)	(5)
Dep. var.: Δ Mental health index					
Wealth shock (t-2)	-0.314				
	[0.519]				
Wealth shock (t-1)	-0.194	-0.292			
	[0.222]	[0.253]			
Wealth shock in t	-0.562	-0.071	0.664**	0.913***	0.506
	[0.663]	[0.303]	[0.257]	[0.284]	[0.407]
Wealth shock (t+1)				0.216	-0.002
				[0.263]	[0.459]
Wealth shock (t+2)					0.331
					[0.762]
N	13,829	22,636	37,034	23,235	14,344
Dep. var.: Survival					
Wealth shock (t-2)	0.181**				
	[0.088]				
Wealth shock (t-1)	0.112	0.000			
	[0.108]	[0.061]			
Wealth shock in t	0.156	0.038	0.096**	0.000	0.000
	[0.190]	[0.087]	[0.044]	[.]	[.]
Wealth shock (t+1)				0.000	0.000
				[.]	[.]
Wealth shock (t+2)					0.000
					[.]
N	11,879	20,603	34,955	25,447	15,468

Notes: Regressions with different sets of leads and lags of wealth shocks are displayed. Each column represents one regression. All regressions include main effects, as well as the respective lead and lag versions of the main effects (depending on which leads and lags of the wealth shocks are included), and demographic controls. Figure 3 plots the coefficients on the diagonal for the most affected outcomes. For survival, lead regressions cannot be estimated as everyone observed with a future wealth shock has survived.

Table A.7: Event study regressions for hypertension, heart problems, and cancer

	(1)	(2)	(3)	(4)	(5)
Dep. var.: Δ High blood pressure					
Wealth shock (t-2)	-0.073				
	[0.068]				
Wealth shock (t-1)	-0.017	0.030			
	[0.081]	[0.052]			
Wealth shock in t	-0.157*	-0.124**	-0.107***	-0.054	-0.009
	[0.093]	[0.051]	[0.038]	[0.058]	[0.066]
Wealth shock (t+1)				0.005	0.030
				[0.062]	[0.089]
Wealth shock (t+2)					-0.057
					[0.109]
N	13,256	21,894	35,738	21,986	13,440
Dep. var.: Δ Heart disease					
Wealth shock (t-2)	-0.047				
	[0.068]				
Wealth shock (t-1)	0.067	0.014			
	[0.075]	[0.052]			
Wealth shock in t	0.109	-0.079	-0.068*	-0.091**	-0.132**
	[0.115]	[0.052]	[0.036]	[0.035]	[0.052]
Wealth shock (t+1)				-0.028	-0.062
				[0.046]	[0.062]
Wealth shock (t+2)					-0.133
					[0.108]
N	13,256	21,894	35,738	21,986	13,440
Dep. var.: Δ Cancer					
Wealth shock (t-2)	0.006				
	[0.053]				
Wealth shock (t-1)	0.007	0.058			
	[0.052]	[0.041]			
Wealth shock in t	0.020	0.010	-0.034*	-0.017	0.014
	[0.061]	[0.031]	[0.020]	[0.025]	[0.044]
Wealth shock (t+1)				0.034	0.048
				[0.032]	[0.036]
Wealth shock (t+2)					0.063
		12			[0.073]
N	13,256	21,894	35,738	21,986	13,440

Notes: Comments below Table A.6.

Table A.8: 4-year wealth shocks

	Baseline (1)	4 yr sample (2)	4 yr shock (3)	Both shocks (4)
Dep. var.: Δ Physical health index				
Wealth shock (2 yr)	0.262***	0.166		0.152
	[0.081]	[0.082]		[0.121]
Wealth shock (4 yr)			0.067	0.030
			[0.082]	[0.090]
N	35,738	23,064	23,064	23,064
p-value ($\beta_{2yr} \neq \beta_{4yr}$)				0.515
Dep. var.: Δ Mental health index				
Wealth shock (2 yr)	0.664**	0.245		0.181
	[0.257]	[0.210]		[0.357]
Wealth shock (4 yr)			0.176	0.132
			[0.210]	[0.243]
N	37,034	23,895	23,895	23,895
p-value ($\beta_{2yr} \neq \beta_{4yr}$)				0.926
Dep. var.: Survival				
Wealth shock (2 yr)	0.096**	0.032		0.031
	[0.044]	[0.044]		[0.074]
Wealth shock (4 yr)			0.009	0.002
			[0.044]	[0.048]
N	34,955	21,955	21,955	21,955
p-value ($\beta_{2yr} \neq \beta_{4yr}$)				0.781
Dep. var.: Δ High blood pressure				
Wealth shock (2 yr)	-0.107***	-0.151***		-0.126**
	[0.038]	[0.039]		[0.057]
Wealth shock (4 yr)			-0.085**	-0.055
			[0.039]	[0.040]
N	35,738	23,064	23,064	23,064
p-value ($\beta_{2yr} \neq \beta_{4yr}$)				0.394
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓

Notes: Col. (1) shows the baseline results. Col. (2) estimates in subsample with non-missing 4-yr wealth shocks. Col. (3) coefficient on 4-yr wealth shocks. Col. (4) includes both 2-yr and 4-yr wealth shocks. Further comments as in Table 3.

Table A.9: Linearity of Wealth Shock Effects

Dependent Variable	Δ Physical H Index (1)	Δ Self-rep. Health (2)	Δ Mental H Index (3)	Survival (4)
Stock market change	-0.036	-0.036	0.152	-0.017
(reference group)	[0.042]	[0.061]	[0.198]	[0.033]
Stock market change	0.073*	0.025	0.023	0.007
x D(1-10% stocks[t-1])	[0.044]	[0.080]	[0.097]	[0.019]
Stock market change	0.138***	0.065	0.237**	0.035**
x D(>10% stocks[t-1])	[0.030]	[0.045]	[0.108]	[0.017]
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓

Coefficients of the interaction of stock market changes with dummies for lagged stock holding levels are displayed. Main effects: Dummies for "1-10% stocks[t-1]" and ">10% stocks[t-1]," and year-month fixed effects. Demographic controls and numbers of observations as in Table 3. Standard errors are multi-level clustered by household and interview month.

Table A.10: Regressions of Health Measures on Wealth Shocks Interacted with Age and Gender

	Interaction category					
	Sign of wealth shock		Gender		Age	
Dependent Variable	Shock effect (1)	x (Shock>0) (2)	Shock effect (3)	x (Female) (4)	Shock effect (5)	x (Age>79) (6)
Δ Physical health index	0.584**	-0.237	0.275*	-0.031	0.134	0.311*
	[0.246]	[0.339]	[0.156]	[0.176]	[0.112]	[0.174]
Δ Self-reported health	-0.172	0.512	0.120	0.189	0.206	0.116
	[0.610]	[0.717]	[0.235]	[0.326]	[0.143]	[0.276]
Δ Mental health index	1.114*	0.176	0.256	0.674	0.531	0.322
	[0.635]	[0.802]	[0.339]	[0.523]	[0.338]	[0.482]
Survival	0.173	0.026	0.102	-0.009	-0.003	0.238**
	[0.164]	[0.194]	[0.066]	[0.069]	[0.042]	[0.091]
Controls (interacted)						
Main effects		✓		✓		✓
Demographic controls		✓		✓		✓

Shown are the coefficients on wealth shocks and the coefficients on wealth shock interacted with three different subgroup dummies: positive shocks, female, and age above 79. All controls are interacted with the respective subgroup dummy. Further comments as in Table 3.

Table A.11: Testing effect symmetry using dummies for stock market increases and decreases

Dependent Variable	Δ Physical H Index (1)	Δ Self-rep. Health (2)	Δ Mental H Index (3)	Survival (4)
D(>10% stock market *increase*)	0.009	-0.016	0.010	-0.003
	[0.010]	[0.016]	[0.047]	[0.009]
D(<-10% stock market *decrease*)	0.007	0.004	-0.060	-0.025
	[0.014]	[0.034]	[0.064]	[0.021]
% stocks[t-1]	0.024	-0.086	-0.104	-0.004
	[0.041]	[0.064]	[0.090]	[0.024]
D(>10% stock market *increase*)	0.013	0.061	0.173	0.027
x (% stocks[t-1])	[0.046]	[0.081]	[0.114]	[0.032]
D(>10% stock market *decrease*)	-0.118**	-0.031	-0.055	-0.016
x (% stocks[t-1])	[0.045]	[0.082]	[0.156]	[0.030]
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓

Notes: D(>*10% stock market change*) and D(<*-10% stock market change*) are dummy variables that indicate stock market changes of more than 10% or less than -10%, respectively. *'% stocks[t-1]'* is the lagged fraction of lifetime wealth held in stocks. Further comments as in Table 3.

Table A.12: 2SLS Regressions with Initial Stock Holdings as Instrument for Actual Stock Holdings

Dependent Variable	Baseline (1)	IV sample (2)	$\frac{\Delta S\&P_t}{S\&P_{t-1}}[\frac{s_i}{W_i}]^{1998}$ as IV for constructed wealth shocks (3)
Δ Physical health index	0.262***	0.315***	0.397***
	[0.081]	[0.094]	[0.135]
N		21,953	21,953
Δ Self-reported health	0.247*	0.261*	0.133
	[0.125]	[0.136]	[0.194]
N		25,968	25,968
Δ Mental health index	0.664**	0.460	0.744**
	[0.257]	[0.297]	[0.355]
N		22,760	22,760
Survival	0.096**	0.086*	0.052
	[0.044]	[0.048]	[0.047]
N		23,100	23,100
Main effects	✓	✓	✓
Demographic controls	✓	✓	✓

Notes: The coefficient on constructed wealth shocks ('*%wealth in stocks[t-1] x stock market change*') is displayed. Column (1) shows the baseline results. Column (2) repeats the baseline regressions in the IV sample. Column (3) reports coefficients from 2SLS regressions with wealth shocks based on the 1998 fraction of wealth in stocks as instrument. Further comments as in Table 3.

Table A.13: Balancing regressions

Dependent variable	Male (1)	Black (2)	Age <= 70 (3)	Age >= 80 (4)	> 12 yrs of education (5)	Region Midwest (6)
Predicted wealth shock	-0.004	-0.024	0.000	0.017	0.090	0.001
	[0.045]	[0.020]	[0.037]	[0.042]	[0.090]	[0.063]
Mean dep. var.	0.366	0.142	0.312	0.332	0.325	0.246
Controls						
Main effects	✓	✓	✓	✓	✓	✓
Demographics (excl. dep. var.)	✓	✓	✓	✓	✓	✓

Notes: The coefficient on constructed wealth shocks in baseline regressions with individual controls as dependent variable is displayed. Demographic controls exclude (the category of) the dependent variable. Further comments as in Table 3.

Table A.14: Regressions of Health Measures on Changes in Reported Stock Wealth

	Specification of wealth shock			
	Baseline	Using changes in *reported* stock wealth		
	$\frac{\Delta S\&P_t}{S\&P_{t-1}} \frac{s_{i,t-1}}{W_{i,t-1}}$	$\frac{\Delta s_{i,t}}{1{,}000{,}000}$	$\frac{\Delta s_{i,t}}{W_{i,t-1}}$	$\frac{\Delta S\&P_t}{S\&P_{t-1}} \frac{s_{i,t-1}}{W_{i,t-1}}$ as IV for $\frac{\Delta s_{i,t}}{W_{i,t-1}}$
Dependent Variable	(1)	(2)	(3)	(4)
Δ Physical health index	0.262***	0.002	0.001	0.450***
	[0.081]	[0.003]	[0.008]	[0.165]
Δ Self-reported health	0.247*	0.006	0.022	0.389
	[0.125]	[0.005]	[0.014]	[0.238]
Δ Mental health index	0.664**	0.005	0.004	1.207**
	[0.257]	[0.008]	[0.022]	[0.501]
Survival	0.096**	-0.002	-0.010*	0.160*
	[0.044]	[0.002]	[0.006]	[0.086]
First stage *F*-statistic				32.07
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓

Notes: The coefficient on wealth shocks as defined at the top of each column is displayed. $\frac{\Delta SP_t}{SP_{t-1}}$= percentage change in the S&P500; $s_{i,t}$ = stock wealth; $W_{i,t-1}$ = lifetime wealth (see Data section). Further comments as in Table 3.

Table A.15: Alternative sample specifications

Dependent Variable	Baseline (1)	Including non-retirees (2)	Excluding HH < 65 (3)	Singles only (4)	Financial resp. only (5)	Excluding 12/07 - 6/09 (6)
Δ Physical health index	0.262***	0.221***	0.325***	0.453***	0.311***	0.263***
	[0.081]	[0.080]	[0.080]	[0.114]	[0.094]	[0.082]
N	35,738	55,060	28,285	17,094	26,851	29,837
Δ Self-reported health	0.247*	0.201	0.256*	0.129	0.235*	0.248**
	[0.125]	[0.133]	[0.137]	[0.203]	[0.141]	[0.123]
N	41,692	63,229	33,236	20,318	31,583	34,848
Δ Mental health index	0.664**	0.452**	0.756**	0.834*	0.545*	0.695***
	[0.257]	[0.224]	[0.326]	[0.489]	[0.314]	[0.259]
N	37,034	56,892	29,240	17,747	28,384	30,746
Survival	0.096**	0.082**	0.089*	0.101	0.136**	0.100**
	[0.044]	[0.033]	[0.047]	[0.085]	[0.054]	[0.045]
N	34,955	52,934	27,573	16,943	26,341	28,437
Main effects	✓	✓	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓	✓	✓

Column (1) shows the baseline estimates as in Table 3. Column (2): non-retired individuals are included (as long as some kind of retirement income is reported for HH). (3): HHs are excluded if either financial respondent or spouse or both are below age 65. (4): Only single HH included. (5): Only financial respondents are included. (6): Wave 9, covering the financial crisis, is excluded. Further comments as in Table 3.

Table A.16: Regressions by wealth quartile

Dependent Variable	Baseline (1)	Bottom quartile (2)	Second quartile (3)	Third quartile (4)	Top quartile (5)
Δ Physical health index	0.262***	0.113	0.733	0.428**	0.126
	[0.081]	[0.708]	[0.454]	[0.185]	[0.135]
N	35,738	8,382	8,718	8,820	9,008
Δ Self-reported health	0.247*	-0.323	1.123**	0.072	0.127
	[0.125]	[1.116]	[0.550]	[0.342]	[0.240]
N	41,692	10,185	10,192	10,206	10,208
Δ Mental health index	0.664**	-2.633	0.024	0.949	0.699*
	[0.257]	[2.187]	[0.776]	[0.741]	[0.379]
N	37,034	8,163	9,101	9,399	9,624
Survival	0.096**	0.004	0.044	0.118	0.134**
	[0.044]	[0.476]	[0.171]	[0.124]	[0.052]
N	34,955	8,590	8,587	8,479	8,514
Main effects	✓	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓	✓
Percent life-time wealth in stocks	0.068	0.006	0.024	0.067	0.181

Notes: The sample is split into quartiles based on households' lagged lifetime wealth. The coefficient on constructed wealth shocks (*'%wealth in stocks[t-1] x stock market change'*) is displayed. Main effects' are the lagged fraction of wealth held in stocks, a dummy for lagged stock ownership, the stock market change, and year-month dummies. 'Demographic controls' are dummies for gender (1), age group (12), cohort (10), race (2), region (4), degree (4), and lagged marital status (7). Standard errors in brackets are multi-level clustered by household and interview month.

Table A.17: Alternative definitions of stock market changes

Dependent Variable	(1)	(2)	(3)	(4)
Δ Physical health index	0.262***	0.276***	0.294***	0.249***
	[0.081]	[0.086]	[0.086]	[0.079]
Δ Self-reported health	0.247*	0.204	0.253*	0.232*
	[0.125]	[0.130]	[0.135]	[0.120]
Δ Mental health index	0.664**	0.638**	0.635**	0.655**
	[0.257]	[0.285]	[0.285]	[0.251]
Survival	0.096**	0.080*	0.083*	0.092**
	[0.044]	[0.045]	[0.046]	[0.043]
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓
Stock market change averaged by year		✓		
Stock market change averaged by wave			✓	
Stock market change incl. dividends				✓

Notes: Column (1) shows the baseline results. Column (2) reports the coefficients of wealth shocks that are constructed using average annual changes in the stock market. In Column (3) stock market changes are averaged across entire waves instead of years. Regressions in column (4) use wealth shocks that are based on a "total returns" version of the S&P500 that includes dividends. Further comments as in Table 3.

Table A.18: Alternative definitions of stock market changes, physical health conditions

Dependent Variable	(1)	(2)	(3)	(4)
Δ High blood pressure	-0.107***	-0.095**	-0.094**	-0.101***
	[0.038]	[0.039]	[0.039]	[0.038]
Δ Heart disease	-0.068*	-0.068*	-0.073*	-0.066*
	[0.036]	[0.038]	[0.038]	[0.035]
Δ Stroke	-0.017	-0.017	-0.027	-0.015
	[0.025]	[0.025]	[0.025]	[0.025]
Δ Diabetes	0.003	-0.007	-0.005	0.004
	[0.024]	[0.023]	[0.022]	[0.023]
Δ Cancer	-0.034*	-0.019	-0.021	-0.033*
	[0.020]	[0.022]	[0.022]	[0.020]
Δ Arthritis	-0.038	-0.062	-0.063	-0.040
	[0.046]	[0.044]	[0.043]	[0.044]
Δ Lung disease	0.000	-0.007	-0.011	0.002
	[0.021]	[0.020]	[0.020]	[0.020]
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓
Stock market change averaged by year		✓		
Stock market change averaged by wave			✓	
Stock market change incl. dividends				✓

Notes: Comments as in Table A.17.

Table A.19: Including additional controls

Dependent Variable	(1)	(2)	(3)	(4)
Δ Physical health index	0.262***	0.209***	0.166*	0.246**
	[0.081]	[0.079]	[0.089]	[0.110]
N	35,738	35,738	31,914	31,914
Δ Self-reported health	0.247*	0.190	0.159	0.172
	[0.125]	[0.153]	[0.127]	[0.180]
N	41,692	41,692	38,034	38,034
Δ Mental health index	0.664**	0.841***	0.542**	0.353
	[0.257]	[0.287]	[0.253]	[0.610]
N	37,034	37,034	33,605	33,605
Survival	0.096**	0.081*	-0.024	-0.057
	[0.044]	[0.043]	[0.043]	[0.064]
N	34,955	34,955	31,337	31,337
Main effects	✓	✓	✓	✓
Demographic controls	✓	✓	✓	✓
Demographic controls, interacted with stock market change		✓		
Fixed effects sample			✓	✓
Individual fixed effects				✓

Notes: Column (1) shows the baseline results. The included 'demographic controls' are dummies for gender (1), age group (12), cohort (10), race (2), region (4), degree (4), and lagged marital status (7). In column (2), these demographic controls are interacted with the stock market change. Column (3) shows the baseline specification in the subsample of individuals that are observed with at least two changes (at least three consecutive observations). Column (4) includes person fixed effects. Note that the survival regressions require three consecutive observation periods already in the baseline specification (two periods to construct the wealth shock and an additional period to observe post-shock survival). Therefore, the fixed effects specification requires four consecutive periods for the survival regression, straining power in particular for this outcome. Further comments as in Table 3.

Table A.20: Estimating effects on physical health conditions using survival models

	Baseline		Cox prop. hazard	
Dependent variable	(1)	(2)	(3)	(4)
Δ High blood pressure	-0.108***	-0.107***	0.165**	0.200**
	[0.039]	[0.038]	[0.147]	[0.162]
Δ Heart disease	-0.068*	-0.068*	0.812	0.761
	[0.035]	[0.036]	[0.887]	[0.714]
Δ Stroke	-0.015	-0.017	0.365	0.393
	[0.025]	[0.025]	[0.653]	[0.579]
Δ Diabetes	-0.001	0.003	1.125	1.478
	[0.023]	[0.024]	[1.418]	[1.713]
Δ Cancer	-0.033	-0.034*	0.193	0.227
	[0.020]	[0.020]	[0.198]	[0.216]
Δ Arthritis	-0.039	-0.038	0.515	0.572
	[0.046]	[0.046]	[0.617]	[0.605]
Δ Lung disease	0.000	0.000	2.408	2.362
	[0.021]	[0.021]	[3.950]	[3.581]
Main effects	✓	✓	✓	✓
Demographic controls		✓		✓
Survival model			✓	✓

Notes: Column (1) and (2) show the baseline estimates as in Table 3. Column (3) and (4) report hazard ratio estimated in Cox proportional hazard models described in Appendix section C. Further comments as in Table 3.

Table A.21: Regressions of Potential Mechanisms on Wealth Shocks

Dependent Variable	(1)	(2)
Δ BMI	-0.558	-0.503
	(0.389)	(0.401)
Δ Number doctor visits	-0.036	-0.036
	(0.035)	(0.035)
Δ OOP expenditure	0.015	0.013
	(0.012)	(0.012)
Main effects	✓	✓
Demographic controls	✓	✓

Notes: The coefficient on constructed wealth shocks is displayed. BMI is the respondent's body mass index. Number doctor visits refers to the respondent's doctor visits since the past interview. OOP refers to out-of-pocket medical expenditures. Further comments as in Table 3.

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