Internet Appendix

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Internet Appendix A: Additional Tables

Table A1: Demographic Characteristics in each Survey									
	Data 2015 (N=898)			Data 2016 (N=913)			Data 2021 (N=1,383)		
	Mean	Median	Std	Mean	Median	Std	Mean	Median	Std
Age	49.39	49.00	15.42	49.24	49.00	15.52	49.84	49.00	15.83
Female	0.47	0.00	0.50	0.49	0.00	0.50	0.49	0.00	0.50
Married	0.65	1.00	0.48	0.65	1.00	0.48	0.64	1.00	0.48
Have children	0.37	0.00	0.48	0.41	0.00	0.49	0.37	0.00	0.48
Education	1.97	2.00	0.75	1.96	2.00	0.73	1.97	2.00	0.74
Risk tolerance	3.67	4.00	1.71	3.65	4.00	1.62	3.59	4.00	1.63
Patience	6.91	7.00	2.29	6.89	7.00	2.40	6.91	7.00	2.17
Financial liquidity	0.76	0.99	0.33	0.77	0.99	0.33	0.80	0.99	0.32
Low financial literacy	0.28	0.00	0.45	0.26	0.00	0.44	0.27	0.00	0.44
Zip density (in 1,000)	3.39	1.42	8.27	3.44	1.55	7.33	3.89	1.61	7.93
Credit score	3.77	4.00	1.42	3.84	4.00	1.34	3.98	5.00	1.30

Education: 1 = Less than BA, 2 = BA, 3 = More than BA (e.g. Master, Doctorate, Professional degree).
Risk tolerance = Measure (from Dohmen et al. 2011) of willingness to take risk regarding financial matters between 1 (not willing at all) and 7 (very willing).
Patience = Measure (from Falk et al. 2022) of willingness to give up something today in order to benefit in the future between 1 (not willing at all) and 10 (very willing).
Financial liquidity = Reported percent chance to come up with $2k if the need arose.
Low financial literacy = 1 when respondent gets fewer than 4 out of 6 financial literacy questions correct.
Zip density = Population density in the respondent's zip code (in 1,000).
Credit score: 1 =< 620, 2 = between 620 and 679, 3 = between 680 and 719, 4 = between 720 and 760, 5 => 760.

Table A2: Components of Financial Wealth in each Survey									
	Data 2015 (N=898)			Data 2016 (N=913)			Data 2021 (N=1,383)		
	Mean	Median	Std	Mean	Median	Std	Mean	Median	Std
Retirement savings†	209.45	75.00	335.32	224.82	91.00	371.27	282.82	115.00	427.39
Savings & investments†	91.90	16.50	291.47	99.36	18.00	253.30	113.08	20.00	336.58
Other Assets†	75.14	23.50	157.01	77.94	24.00	162.65	84.15	25.00	194.27
Non-housing debt†	41.56	20.00	65.15	45.22	20.00	85.72	44.91	20.00	82.94
Financial wealth†	272.60	73.00	544.89	287.32	98.40	561.01	360.98	135.00	644.69
Share of risky financial assets	0.32	0.26	0.23	0.36	0.33	0.23	0.35	0.29	0.27

† In $1,000.
Retirement savings = Money on IRA, 401K, thrift, savings plan.
Savings and investments = Money on checking and savings accounts, CDs, stocks, bonds, mutual funds, Treasury bonds.
Other assets = Jewelry, valuable collection(s), vehicles, cash value in a life insurance policy, rights in a trust or estate.
Non-housing debt = Balances on credit cards, auto loans, student loans, personal loans, medical or legal bills.
Share of risky financial assets = Proportion of financial assets owned in stocks and mutual funds.
Except for the next to last row (Financial wealth), all statistics are conditional on the variable being strictly greater than 0.

Table A3: Components of Net Wealth in each Survey									
	Data 2015 (N=898)			Data 2016 (N=913)			Data 2021 (N=1,383)		
	Mean	Median	Std	Mean	Median	Std	Mean	Median	Std
Primary home value†	265.87	180.00	227.02	271.18	190.00	253.94	312.43	250.00	243.61
Home equity†	196.88	110.00	238.66	200.46	130.00	246.65	211.95	150.00	215.87
Housing debt†	157.23	125.00	128.00	155.01	120.00	134.48	159.56	125.00	125.58
Business equity†	124.37	75.00	197.75	143.74	107.50	142.35	179.92	97.50	306.63
Net wealth†	419.95	112.40	711.86	434.89	144.35	715.89	524.48	272.00	742.52
Share of real risky assets	0.63	0.63	0.24	0.62	0.64	0.23	0.61	0.65	0.26

† In $1,000.
Primary home value = Self-reported value of primary home (if it were sold today).
Home equity = Value of all homes minus all outstanding loans against the home(s).
Housing debt = Outstanding mortgages for all homes.
Net wealth = Financial wealth + home and business equity.
Share of real risky assets = proportion of total assets owned in stocks, mutual funds, homes and business.

Table A4: Auto Insurance in each Survey									
	Data 2015 (N=898)			Data 2016 (N=913)			Data 2021 (N=1,383)		
	Mean	Median	Std	Mean	Median	Std	Mean	Median	Std
Car value†	15.07	12.00	12.86	15.12	12.00	15.40	16.44	15.00	12.60
Damage past 2 years (in $)	1493.76	0.00	7883.03	1539.61	0.00	6138.53	1335.40	0.00	4339.96
Damage expected next 2 years	1843.84	750.00	2919.08	1888.98	750.00	2767.22	1918.83	750.00	2849.04
Annual premium (in $)	979.79	900.00	590.19	1008.47	900.00	574.48	1116.60	1000.00	599.47
Liability component	1.58	2.00	0.56	1.63	2.00	0.54	1.65	2.00	0.52
Injury component	1.41	2.00	0.70	1.44	2.00	0.70	1.44	2.00	0.70
Collision component	2.37	3.00	1.25	2.33	3.00	1.28	2.32	3.00	1.24
Comprehensive component	2.42	3.00	1.37	2.36	3.00	1.40	2.34	3.00	1.38
Uninsured component	1.93	2.00	1.41	1.92	2.00	1.39	1.96	2.00	1.42
Rental component	0.55	1.00	0.50	0.55	1.00	0.50	0.55	1.00	0.50
Towing component	0.59	1.00	0.49	0.59	1.00	0.49	0.59	1.00	0.49
Simple index $I_{i,1}$	4.32	4.75	1.76	4.32	4.75	1.75	4.32	4.50	1.68
Relative index (CDF) $I_{i,2}$	0.17	0.06	0.24	0.18	0.08	0.23	0.16	0.05	0.24
First component $I_{i,3}$	-0.01	0.35	1.77	0.01	0.36	1.74	0.00	0.34	1.73
Self-reported measure $I_{i,4}$	__	__	__	5.41	6.00	1.27	5.27	6.00	1.40

† In $1,000.

Liability: 0=No coverage, 1=Legal minimum, 2=More than legal minimum.

Injury: 0=No coverage, 1=Legal minimum, 2=More than legal minimum.

Collision: 0=No coverage, 1=deductible>$1,000, 2=$501<deductible<$1,000, 3=$251<deductible <=$500, 4=deductible<=$250.

Comprehensive: 0=No coverage, 1=deductible>$1,000, 2=$501<deductible<$1,000, 3=$251<deductible <=$500, 4=deductible<$250.

Uninsured: 0=No coverage, 1= Coverage<$10k, 2=$10k<coverage<$50k, 3=$50k<coverage<$100k, 4=Coverage>$100k.

Rental: 0=No coverage, 1=coverage.

Towing: 0=No coverage, 1=coverage.

Table A5: Auxiliary Price Model

Wealth = Financial wealth, $I_{i,1}$ = Simple index of coverage

	Insurance Premium (Log)
$I_{i,1}$ Simple index of coverage	0.055*** (0.010)
Age	-0.003*** (0.001)
Female	0.008 (0.018)
Objective Risk Auto	0.174*** (0.012)
Subjective Risk	0.012 (0.011)
Car Value	0.011*** (0.001)
Zip Density	0.923*** (0.171)
Credit Score	-0.052*** (0.008)
Married	0.016 (0.022)
Have Kids	0.019 (0.021)
Black	0.063* (0.036)
Latino	0.033 (0.037)
Unemployed	0.043 (0.047)
High Education	0.005 (0.021)
Low Education	0.007 (0.023)
Wealth	0.012 (0.025)
Low Financial Numeracy	0.061** (0.028)
Know Car Insurance	-0.015* (0.009)
Financial Liquidity	0.046 (0.034)
Adjusted R2	0.291

N=3,194. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Baseline Model for 2015, 2016 and 2021 Data								
Wealth = Liquid wealth, $I_{i,1}$ = Simple index of insurance coverage, R_i = Share of risky liquid assets								
	2015 Data		2016 Data		2021 Data		All Data	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i
Wealth	0.626^{***} (0.134)	0.239^{***} (0.025)	0.638^{***} (0.144)	0.189^{***} (0.022)	0.541^{***} (0.120)	0.180^{***} (0.023)	0.714^{***} (0.120)	0.233^{***} (0.023)
Insurance Premium	0.028 (0.020)	—	0.014 (0.014)	—	0.007 (0.011)	—	0.015^{*} (0.008)	—
Car Value	0.015^{***} (0.005)	—	0.015^{***} (0.005)	—	0.021^{***} (0.004)	—	0.018^{***} (0.003)	—
Objective Risk Auto	0.089 (0.086)	—	0.019 (0.073)	—	0.003 (0.058)	—	0.031 (0.040)	—
Zip Density	0.877 (6.731)	-0.133 (0.774)	2.888 (5.813)	0.485 (0.932)	1.758 (4.425)	0.166 (0.804)	1.599 (4.438)	0.178 (0.783)
Age	0.010^{***} (0.004)	-0.002^{***} (0.001)	0.008^{***} (0.004)	-0.002^{***} (0.001)	0.007^{***} (0.003)	-0.001^{**} (0.001)	0.008^{***} (0.002)	-0.002^{***} (0.001)
Female	-0.074 (0.119)	-0.001 (0.018)	-0.047 (0.115)	-0.022 (0.019)	-0.080 (0.090)	-0.019 (0.016)	-0.026 (0.058)	-0.012 (0.009)
Married	-0.077 (0.126)	0.021^{**} (0.009)	-0.040 (0.127)	0.035^{**} (0.016)	0.034 (0.101)	0.044^{***} (0.017)	-0.021 (0.065)	0.034^{***} (0.010)
Have Kids	0.102 (0.115)	0.006 (0.017)	0.123 (0.116)	0.028 (0.020)	0.095 (0.098)	0.019 (0.018)	0.106^{*} (0.063)	0.018^{*} (0.011)
Black	-0.089 (0.210)	-0.003 (0.033)	0.111 (0.218)	-0.049^{*} (0.026)	-0.065 (0.156)	-0.009 (0.027)	-0.002 (0.108)	-0.017 (0.018)
Latino	-0.329 (0.214)	-0.011 (0.029)	-0.105 (0.232)	-0.019 (0.038)	-0.119 (0.156)	-0.045^{*} (0.025)	-0.139 (0.112)	-0.023 (0.017)
Unemployed	-0.062 (0.351)	-0.051 (0.040)	-0.246 (0.453)	-0.021 (0.057)	-0.105 (0.211)	-0.043 (0.035)	-0.110 (0.173)	-0.043^{*} (0.025)
High Education	0.185^{*} (0.105)	0.040^{**} (0.020)	0.212^{**} (0.106)	0.050^{**} (0.023)	0.195^{*} (0.104)	0.055^{**} (0.026)	0.183^{***} (0.067)	0.043^{***} (0.012)
Low Education	-0.272^{**} (0.137)	-0.040^{**} (0.019)	-0.330^{**} (0.133)	-0.051^{**} (0.023)	-0.231^{***} (0.109)	-0.040^{**} (0.019)	-0.258^{***} (0.072)	-0.047^{***} (0.011)
Credit Score	0.018 (0.049)	0.016^{**} (0.007)	0.007 (0.044)	0.020^{***} (0.007)	0.036 (0.041)	0.025^{***} (0.007)	0.023 (0.025)	0.021^{***} (0.004)
Subjective Risk	0.161^{**} (0.065)	0.259^{***} (0.079)	0.165^{**} (0.068)	0.304^{***} (0.106)	0.136^{**} (0.054)	0.201^{**} (0.078)	0.136^{***} (0.035)	0.239^{***} (0.050)
Low Financial Literacy	-0.316^{**} (0.142)	-0.042^{**} (0.019)	-0.325^{**} (0.133)	-0.047^{**} (0.023)	-0.239^{**} (0.107)	-0.037^{**} (0.017)	-0.257^{***} (0.071)	-0.042^{***} (0.011)
Knowledge	0.242^{***} (0.038)	0.015^{*} (0.009)	0.288^{***} (0.039)	0.021^{*} (0.011)	0.071^{**} (0.032)	0.019^{*} (0.010)	0.176^{***} (0.021)	0.016^{***} (0.006)
Financial Liquidity	0.587^{***} (0.196)	0.140^{***} (0.026)	0.384^{**} (0.192)	0.141^{***} (0.032)	0.363^{**} (0.161)	0.184^{***} (0.027)	0.444^{***} (0.105)	0.157^{***} (0.017)
Patience	0.053^{**} (0.026)	0.010^{**} (0.004)	0.045^{**} (0.022)	0.009^{**} (0.004)	0.047^{**} (0.023)	0.010^{**} (0.004)	0.042^{***} (0.014)	0.009^{***} (0.003)
Risk Tolerance	-0.082^{**} (0.035)	0.026^{***} (0.005)	-0.098^{***} (0.037)	0.013^{**} (0.006)	-0.101^{***} (0.029)	0.018^{***} (0.005)	-0.092^{***} (0.019)	0.019^{***} (0.005)
2016 Dummy	—	—	—	—	—	—	0.018 (0.093)	0.020 (0.014)
2016 Dummy * Wealth	—	—	—	—	—	—	-0.096 (0.172)	-0.046 (0.029)
2021 Dummy	—	—	—	—	—	—	-0.080 (0.086)	0.019 (0.013)
2021 Dummy * Wealth	—	—	—	—	—	—	-0.148 (0.151)	-0.040 (0.030)
Correlation (ρ_{IR})	0.097^{***} (0.025)		0.066^{**} (0.024)		0.085^{***} (0.024)		0.089^{***} (0.022)	
N	899		912		1,383		3,194	

Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation..

Table A7: Linear and Non-Linear Wealth Effects

Wealth = Financial wealth, R_i = Share of risky financial assets

	Baseline†		Linear†			Cubic†			Quintiles†	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i		$I_{i,1}$	R_i		$I_{i,1}$	R_i
Wealth	0.605***	0.291***	0.345***	0.152***	**Wealth**	0.862***	0.642***	**Wealth 1st Quintile**	-0.712***	-0.171***
	(0.077)	(0.018)	(0.051)	(0.014)		(0.158)	(0.044)		(0.156)	(0.028)
	—	—	—	—	**Wealth Squared**	-0.285***	-0.204***	**Wealth 2nd Quintile**	-0.500**	-0.133***
						(0.095)	(0.029)		(0.168)	(0.025)
	—	—	—	—	**Wealth Cubed**	0.043**	0.024***	**Wealth 4th Quintile**	0.376***	0.078***
						(0.019)	(0.005)		(0.125)	(0.021)
	—	—	—	—		—	—	**Wealth 5th Quintile**	0.838***	0.186***
									(0.246)	(0.021)
Insurance Premium	0.014*	—	0.014*	—		0.013*	—		0.014*	—
	(0.008)		(0.008)			(0.008)			(0.008)	
Car Value	0.018***	—	0.018***	—		0.017***	—		0.017***	—
	(0.003)		(0.003)			(0.003)			(0.003)	
Objective Risk Auto	0.034	—	0.033	—		0.036	—		0.038	—
	(0.040)		(0.040)			(0.040)			(0.040)	
Zip Density	1.965	0.294	1.505	0.179		1.646	0.678		2.442	0.704
	(4.428)	(0.831)	(4.478)	(0.823)		(4.459)	(0.879)		(4.434)	(0.918)
Age	0.008***	-0.002**	0.009***	-0.002**		0.008***	-0.003**		0.007***	-0.003**
	(0.002)	(0.001)	(0.002)	(0.001)		(0.002)	(0.001)		(0.002)	(0.001)
Female	-0.034	-0.021	-0.005	-0.020		-0.033	-0.021		-0.027	-0.016
	(0.057)	(0.014)	(0.055)	(0.014)		(0.057)	(0.014)		(0.057)	(0.014)
Married	-0.020	0.053***	-0.020	0.064***		-0.028	0.043***		-0.049	0.033**
	(0.065)	(0.016)	(0.065)	(0.016)		(0.066)	(0.016)		(0.066)	(0.016)
Have Kids	0.108*	0.022	0.107*	0.023		0.107*	0.022		0.097	0.014
	(0.063)	(0.016)	(0.063)	(0.016)		(0.063)	(0.016)		(0.063)	(0.016)
Black	-0.004	-0.013	-0.005	-0.017		-0.001	-0.013		-0.004	-0.006
	(0.108)	(0.029)	(0.109)	(0.029)		(0.108)	(0.028)		(0.107)	(0.029)
Latino	-0.147	-0.037	-0.154	-0.041		-0.141	-0.028		-0.150	-0.034
	(0.111)	(0.027)	(0.112)	(0.028)		(0.111)	(0.027)		(0.110)	(0.027)
Unemployed	-0.133	-0.061	-0.133	-0.062		-0.138	-0.067		-0.133	-0.057
	(0.172)	(0.041)	(0.172)	(0.042)		(0.171)	(0.041)		(0.168)	(0.040)
High Education	0.185***	0.065***	0.188***	0.067***		0.188***	0.066***		0.184***	0.066***
	(0.067)	(0.016)	(0.067)	(0.017)		(0.067)	(0.016)		(0.067)	(0.016)
Low Education	-0.257***	-0.071***	-0.264***	-0.075***		-0.253***	-0.066***		-0.248***	-0.063***
	(0.072)	(0.018)	(0.072)	(0.018)		(0.072)	(0.017)		(0.072)	(0.018)
Credit Score	0.022	0.036***	0.027	0.039***		0.020	0.034***		0.011	0.024***
	(0.025)	(0.006)	(0.025)	(0.007)		(0.025)	(0.006)		(0.025)	(0.007)
Subjective Risk	0.136***	0.333***	0.138***	0.333***		0.135***	0.361***		0.138***	0.432***
	(0.035)	(0.081)	(0.035)	(0.084)		(0.035)	(0.079)		(0.035)	(0.078)
Low Financial Literacy	-0.258***	-0.064***	-0.262***	-0.068***		-0.256***	-0.062***		-0.252***	-0.058***
	(0.071)	(0.018)	(0.071)	(0.018)		(0.071)	(0.017)		(0.071)	(0.017)
Knowledge	0.177***	0.019**	0.178***	0.022**		0.176***	0.021**		0.171***	0.023***
	(0.021)	(0.009)	(0.021)	(0.009)		(0.021)	(0.009)		(0.021)	(0.009)
Financial Liquidity	0.435***	0.235***	0.474***	0.258***		0.405***	0.202***		0.306***	0.145***
	(0.104)	(0.028)	(0.104)	(0.029)		(0.106)	(0.028)		(0.107)	(0.028)
Patience	0.041***	0.012***	0.045***	0.014***		0.041***	0.010***		0.037***	0.006**
	(0.014)	(0.003)	(0.013)	(0.003)		(0.014)	(0.003)		(0.014)	(0.003)
Risk Tolerance	-0.090***	0.035***	-0.086***	0.038***		-0.090***	0.034***		-0.087***	0.035***
	(0.019)	(0.005)	(0.019)	(0.005)		(0.019)	(0.005)		(0.019)	(0.005)
Correlation (ρ_{IR})	0.087***		0.085***			0.073**			0.074**	
	(0.021)		(0.023)			(0.029)			(0.029)	
AIC	14,536.1		14,592.0			14,530.9			14,527.0	

† **Baseline Model:** Inverse hyperbolic sine of wealth. **Linear**: Wealth. **Cubic**: Cubic polynomial of wealth. **Quintiles**: Dummies for each quintile of wealth with the reference group being the central quintile.

N=3,194. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A8: Alternative Measures of Insurance Coverage

Wealth = Financial wealth, R_i = Share of risky financial assets

	Model 1†		Model 2†		Model 3†		Model 4‡		Model 5‡		Model 6†	
	$I_{i,2}$	R_i	$I_{i,3}$	R_i	$I_{i,4}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I^{-}_{i,1}$	R_i
Wealth	0.082***	0.290***	0.629***	0.291***	0.442***	0.290***	0.708***	0.294***	0.706***	0.293***	0.438***	0.291***
	(0.015)	(0.018)	(0.075)	(0.018)	(0.068)	(0.018)	(0.092)	(0.021)	(0.099)	(0.023)	(0.052)	(0.018)
Insurance Premium	0.001*		0.015*		0.008		0.013*		0.014*		0.005	
	(0.001)	—	(0.008)	—	(0.006)	—	(0.008)	—	(0.008)	—	(0.005)	—
Car Value	0.002***		0.019***		0.015***		0.018***		0.018***		0.011***	
	(0.000)	—	(0.003)	—	(0.003)	—	(0.003)	—	(0.003)	—	(0.002)	—
Objective Risk Auto	-0.002		0.032		0.029		0.031		0.033		0.022	
	(0.006)	—	(0.039)	—	(0.036)	—	(0.040)	—	(0.040)	—	(0.026)	—
Zip Density	1.086	0.284	1.486	0.297	2.524	0.294	1.572	0.182	1.834	0.251	1.151	0.299
	(1.751)	(0.832)	(4.413)	(0.830)	(4.553)	(0.831)	(4.424)	(0.827)	(4.433)	(0.824)	(2.940)	(0.830)
Age	0.001***	-0.002***	0.008***	-0.002***	0.005***	-0.002***	0.008***	-0.002***	0.008***	-0.002***	0.004***	-0.002***
	(0.000)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
Female	-0.008	-0.022	-0.037	-0.021	-0.018	-0.022	-0.037	-0.023	-0.037	-0.022	-0.038	-0.021
	(0.008)	(0.014)	(0.057)	(0.014)	(0.053)	(0.014)	(0.057)	(0.014)	(0.057)	(0.014)	(0.038)	(0.014)
Married	0.005	0.053***	0.017	0.053***	0.053	0.053***	-0.017	0.055***	-0.016	0.056***	0.073*	0.053***
	(0.009)	(0.016)	(0.066)	(0.016)	(0.061)	(0.016)	(0.065)	(0.016)	(0.065)	(0.016)	(0.044)	(0.016)
Have Kids	0.012	0.022	0.104*	0.022	0.090	0.022	0.109*	0.023	0.107*	0.023	0.052	0.022
	(0.009)	(0.016)	(0.062)	(0.016)	(0.059)	(0.016)	(0.063)	(0.016)	(0.063)	(0.016)	(0.041)	(0.016)
Black	-0.004	-0.013	-0.044	-0.013	-0.075	-0.013	0.004	-0.012	-0.002	-0.014	-0.113	-0.013
	(0.014)	(0.028)	(0.108)	(0.028)	(0.105)	(0.028)	(0.108)	(0.028)	(0.108)	(0.028)	(0.071)	(0.028)
Latino	0.001	-0.036	-0.185*	-0.037	-0.062	-0.036	-0.146	-0.035	-0.141	-0.035	-0.132*	-0.037
	(0.016)	(0.027)	(0.111)	(0.027)	(0.097)	(0.027)	(0.111)	(0.027)	(0.113)	(0.027)	(0.075)	(0.027)
Unemployed	-0.001	-0.060	-0.123	-0.061	-0.222	-0.061	-0.129	-0.060	-0.125	-0.059	-0.066	-0.061
	(0.023)	(0.041)	(0.173)	(0.041)	(0.164)	(0.041)	(0.171)	(0.041)	(0.170)	(0.041)	(0.111)	(0.041)
High Education	0.027**	0.064***	0.184***	0.065***	0.138**	0.065***	0.188***	0.065***	0.187***	0.064***	0.112**	0.065***
	(0.011)	(0.016)	(0.066)	(0.016)	(0.062)	(0.016)	(0.067)	(0.016)	(0.068)	(0.016)	(0.044)	(0.016)
Low Education	-0.025***	-0.071***	-0.276***	-0.071***	-0.234***	-0.071***	-0.261***	-0.071***	-0.259***	-0.072***	-0.165***	-0.071***
	(0.009)	(0.018)	(0.072)	(0.018)	(0.068)	(0.018)	(0.072)	(0.018)	(0.072)	(0.017)	(0.048)	(0.018)
Credit Score	0.002	0.036***	0.039	0.036***	0.034	0.036***	0.019	0.035***	0.020	0.036***	0.027	0.036***
	(0.003)	(0.006)	(0.025)	(0.006)	(0.023)	(0.006)	(0.025)	(0.007)	(0.024)	(0.006)	(0.017)	(0.006)
Subjective Risk	0.013**	0.331***	0.137***	0.334***	0.112***	0.334***	0.137***	0.329***	0.136***	0.328***	0.084***	0.335***
	(0.005)	(0.080)	(0.035)	(0.081)	(0.032)	(0.081)	(0.035)	(0.081)	(0.033)	(0.080)	(0.023)	(0.081)
Low Financial Literacy	-0.029***	-0.064***	-0.299***	-0.064***	-0.244***	-0.064***	-0.259***	-0.064***	-0.259***	-0.064***	-0.237***	-0.064***
	(0.009)	(0.018)	(0.072)	(0.018)	(0.069)	(0.018)	(0.071)	(0.018)	(0.070)	(0.017)	(0.048)	(0.018)
Knowledge	0.019***	0.019**	0.180***	0.019**	0.071***	0.019**	0.177***	0.019**	0.172***	0.020**	0.096***	0.019**
	(0.003)	(0.009)	(0.021)	(0.009)	(0.020)	(0.009)	(0.021)	(0.008)	(0.020)	(0.009)	(0.014)	(0.009)
Financial Liquidity	0.039**	0.235***	0.481***	0.235***	0.373***	0.235***	0.433***	0.233***	0.435***	0.234***	0.385***	0.235***
	(0.013)	(0.028)	(0.105)	(0.028)	(0.106)	(0.028)	(0.104)	(0.028)	(0.100)	(0.028)	(0.071)	(0.028)
Patience	0.004**	0.012***	0.039***	0.012***	0.031***	0.011***	0.041***	0.011***	0.041***	0.011***	0.022**	0.012***
	(0.002)	(0.003)	(0.014)	(0.003)	(0.012)	(0.003)	(0.014)	(0.003)	(0.013)	(0.003)	(0.009)	(0.003)
Risk Tolerance	-0.010***	0.035***	-0.094***	0.035***	-0.134***	0.035***	-0.090***	0.035***	-0.091**	0.035***	-0.050***	0.035***
	(0.003)	(0.005)	(0.019)	(0.005)	(0.018)	(0.005)	(0.019)	(0.006)	(0.020)	(0.005)	(0.013)	(0.005)
Other Legal Minima							-0.117	0.036	-0.136*	0.035		
	—	—	—	—	—	—	(0.073)	(0.022)	(0.071)	(0.021)	—	—
Other Legal Minima*Wealth							-0.197	-0.007	-0.189	-0.003		
	—	—	—	—	—	—	(0.133)	(0.032)	(0.130)	(0.031)	—	—
Correlation (ρ_{IR})	0.077***		0.086***		0.079***		0.081***		0.086**		0.085**	
	(0.025)		(0.028)		(0.028)		(0.038)		(0.043)		(0.040)	
AIC	14488.1		14,427.0		10,198.2		14,478.9		14,881.1		11,915.2	

† **Model 1** : $I_{i,2}$ = Relative index (CDF); **Model 2** : $I_{i,3}$ = First component in principal component analysis; **Model 3** : $I_{i,4}$ = Self-reported measure of insurance coverage (for 2016 and 2021 surveys only); **Model 6** : $I^{-}_{i,1}$ = combination of all the insurance components except rental and towing absent

‡ Legal requirements for auto insurance differ from state to state. In practice, these requirements are summarized in the form *" a/b/c "* where *a* , *b* and c represent the minimum coverage (in thousands dollars) required for bodily injury per person, bodily injury per accident, and property damage per accident, respectively. **Model 4** : Simple index $I_{i,1}$; the dummy "*Other Legal Minima*" equal 1 for respondents NOT in states with legal minima between 20/40/10 and 25/50/25; **Model 5** : Simple index $I_{i,1}$; the dummy "*Other Legal Minima*" equal 1 for respondents NOT in states with legal minima between 25/50/10 and 25/50/25.

N=3,194 except in Model 3 where N=2,296. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A9: Alternative Measures of Wealth and Investments in Risky Assets $I_{i,1}$ = Simple index of insurance coverage								
	Model 1†		Model 2†		Model 3†		Model 4†	
	$I_{i,1}$	$R_{i,1}$	$I_{i,1}$	$R_{i,2}$	$I_{i,1}$	$R_{i,3}$	$I_{i,1}$	R_i
Wealth	0.485*** (0.068)	0.103*** (0.015)	0.606*** (0.077)	0.695*** (0.047)	0.484*** (0.068)	0.873*** (0.039)	0.380*** (0.052)	0.126*** (0.013)
Insurance Premium	0.014* (0.008)	—	0.013 (0.008)	—	0.014* (0.008)	—	0.005 (0.008)	—
Car Value	0.017*** (0.003)	—	0.018*** (0.003)	—	0.017*** (0.003)	—	0.018*** (0.003)	—
Objective Risk Auto	0.038 (0.040)	—	0.034 (0.040)	—	0.038 (0.038)	—	0.046 (0.042)	—
Zip Density	2.352 (4.466)	-0.524 (1.048)	1.864 (4.435)	3.469 (2.396)	2.385 (4.468)	2.162 (1.916)	1.968 (4.744)	1.320 (0.826)
Age	0.008*** (0.002)	-0.002*** (0.001)	0.008*** (0.002)	-0.002*** (0.001)	0.008*** (0.002)	-0.003*** (0.001)	0.009*** (0.002)	-0.003** (0.001)
Female	-0.032 (0.055)	-0.021 (0.014)	-0.034 (0.057)	-0.009 (0.012)	-0.032 (0.056)	-0.013 (0.012)	-0.027 (0.006)	-0.012 (0.014)
Married	-0.024 (0.066)	0.051*** (0.016)	-0.020 (0.065)	0.048*** (0.015)	-0.024 (0.066)	0.045*** (0.014)	-0.006 (0.071)	0.054*** (0.017)
Have Kids	0.112* (0.065)	0.025 (0.015)	0.106 (0.070)	0.020 (0.013)	0.107* (0.067)	0.028* (0.015)	0.124* (0.068)	0.010 (0.017)
Black	-0.005 (0.108)	-0.039 (0.030)	-0.001 (0.108)	-0.002 (0.020)	-0.005 (0.108)	-0.011 (0.019)	0.118 (0.123)	-0.033 (0.031)
Latino	-0.152 (0.112)	0.003 (0.029)	-0.146 (0.111)	-0.015 (0.025)	-0.150 (0.112)	-0.012 (0.024)	-0.163 (0.126)	-0.035 (0.028)
Unemployed	-0.144 (0.170)	-0.038 (0.044)	-0.134 (0.172)	-0.036 (0.032)	-0.141 (0.172)	-0.038 (0.031)	-0.038 (0.190)	-0.047 (0.044)
High Education	0.180*** (0.067)	0.031** (0.016)	0.184*** (0.066)	0.045*** (0.014)	0.181*** (0.066)	0.049*** (0.015)	0.177*** (0.071)	0.071*** (0.017)
Low Education	-0.253*** (0.072)	-0.056*** (0.018)	-0.257*** (0.072)	-0.047*** (0.015)	-0.253*** (0.070)	-0.038*** (0.013)	-0.319*** (0.079)	-0.070*** (0.018)
Credit Score	0.021 (0.024)	0.032*** (0.006)	0.022 (0.025)	0.027*** (0.006)	0.021 (0.025)	0.017*** (0.004)	0.006 (0.028)	0.031*** (0.007)
Subjective Risk	0.138*** (0.035)	0.168** (0.073)	0.137*** (0.035)	0.369*** (0.098)	0.137*** (0.034)	0.278** (0.102)	0.131*** (0.038)	0.359*** (0.086)
Low Financial Literacy	-0.256*** (0.071)	-0.036** (0.018)	-0.258*** (0.071)	-0.045*** (0.015)	-0.259*** (0.071)	-0.029** (0.013)	-0.205*** (0.078)	-0.072*** (0.018)
Knowledge	0.174*** (0.020)	0.010 (0.008)	0.178*** (0.019)	0.011* (0.007)	0.175*** (0.021)	0.014** (0.007)	0.166*** (0.023)	0.018** (0.009)
Financial Liquidity	0.420*** (0.104)	0.219*** (0.029)	0.435*** (0.108)	0.097*** (0.032)	0.423*** (0.105)	0.125*** (0.027)	0.484*** (0.121)	0.226*** (0.030)
Patience	0.043*** (0.014)	0.008*** (0.003)	0.042*** (0.014)	0.007*** (0.003)	0.043*** (0.015)	0.007*** (0.002)	0.054*** (0.014)	0.011*** (0.003)
Risk Tolerance	-0.088*** (0.019)	0.010** (0.005)	-0.090*** (0.020)	0.024*** (0.005)	-0.089*** (0.019)	0.014*** (0.004)	-0.078*** (0.021)	0.040*** (0.005)
Correlation (ρ_{IR})	0.086*** (0.027)		0.073*** (0.026)		0.076*** (0.024)		0.083*** (0.028)	
AIC	15,047.1		13,403.0		13,571.9		12,215.5	

† **Model 1** : Wealth = Net wealth, $R_{i,1}$ = Share of total risky assets; **Model 2** : Wealth = Financial wealth, $R_{i,2}$ = Amount invested in risky financial assets (in \$100k); **Model 3** : Wealth = Net wealth, $R_{i,3}$ = Amount invested in total risky assets (in \$100k); **Model 4** : Baseline model estimated without respondents with negative wealth.

N=3,194 except in Model 4 where *N*=2,719. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A10: IV Estimates Wealth = Financial wealth, $I_{i,1}$ = Simple index of insurance coverage, R_i = Share of risky financial assets								
	Baseline Model		Model 1		Model 2		Model 3	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i
Wealth	0.605*** (0.077)	0.291*** (0.018)	0.485*** (0.072)	0.234*** (0.016)	0.521*** (0.068)	0.227*** (0.016)	0.514*** (0.070)	0.250*** (0.015)
Insurance Premium	0.014* (0.008)	—	0.012 (0.008)	—	0.013* (0.008)	—	0.014* (0.009)	—
Car Value	0.018*** (0.003)	—	0.018*** (0.003)	—	0.017*** (0.003)	—	0.017*** (0.003)	—
Objective Risk Auto	0.034 (0.040)	—	0.039 (0.040)	—	0.035 (0.038)	—	0.033 (0.041)	—
Zip Density	1.965 (4.428)	0.294 (0.831)	1.966 (4.434)	-0.297 (0.826)	1.960 (4.429)	-0.295 (0.834)	1.958 (4.424)	-0.289 (0.830)
Age	0.008*** (0.002)	-0.002** (0.001)	0.008*** (0.002)	-0.002** (0.001)	0.008*** (0.002)	-0.002** (0.001)	0.007*** (0.002)	-0.002** (0.001)
Female	-0.034 (0.057)	-0.021 (0.014)	-0.028 (0.063)	-0.020 (0.018)	-0.033 (0.060)	-0.023 (0.016)	-0.036 (0.062)	-0.020 (0.017)
Married	-0.020 (0.065)	0.053*** (0.016)	-0.023 (0.066)	0.049** (0.020)	-0.028 (0.054)	0.052*** (0.017)	-0.019 (0.069)	0.052*** (0.016)
Have Kids	0.108* (0.063)	0.022 (0.016)	0.116* (0.060)	0.024 (0.017)	0.097 (0.068)	0.022 (0.016)	0.098* (0.070)	0.022 (0.018)
Black	-0.004 (0.108)	-0.013 (0.029)	-0.008 (0.087)	-0.022 (0.032)	-0.010 (0.093)	-0.020 (0.031)	-0.011 (0.0.90)	-0.023 (0.033)
Latino	-0.147 (0.111)	-0.037 (0.027)	-0.156 (0.103)	-0.038 (0.032)	-0.151 (0.109)	-0.039 (0.030)	-0.153 (0.105)	-0.038 (0.031)
Unemployed	-0.133 (0.172)	-0.061 (0.041)	-0.133 (0.170)	-0.057 (0.037)	-0.142 (0.182)	-0.068 (0.044)	-0.138 (0.176)	-0.064 (0.042)
High Education	0.185*** (0.067)	0.065*** (0.016)	0.192*** (0.072)	0.068*** (0.017)	0.201*** (0.082)	0.071*** (0.022)	0.199*** (0.073)	0.074*** (0.024)
Low Education	-0.257*** (0.072)	-0.071*** (0.018)	-0.248*** (0.079)	-0.067*** (0.021)	-0.232*** (0.084)	-0.066*** (0.022)	-0.242*** (0.082)	-0.067*** (0.021)
Credit Score	0.022 (0.025)	0.036*** (0.006)	0.016 (0.030)	0.044*** (0.007)	0.020 (0.028)	0.044*** (0.008)	0.018 (0.028)	0.043*** (0.007)
Subjective Risk	0.136*** (0.035)	0.333*** (0.081)	0.122*** (0.040)	0.312*** (0.085)	0.126*** (0.040)	0.308*** (0.080)	0.125*** (0.039)	0.314*** (0.083)
Low Financial Literacy	-0.258*** (0.071)	-0.064*** (0.018)	-0.243*** (0.073)	-0.062*** (0.018)	-0.243*** (0.075)	-0.063*** (0.018)	-0.258*** (0.071)	-0.064*** (0.019)
Knowledge	0.177*** (0.021)	0.019** (0.009)	0.143*** (0.024)	0.022** (0.010)	0.147*** (0.026)	0.019* (0.010)	0.139*** (0.025)	0.021** (0.010)
Financial Liquidity	0.435*** (0.104)	0.235*** (0.028)	0.417*** (0.118)	0.231*** (0.032)	0.421*** (0.120)	0.222*** (0.035)	0.412*** (0.124)	0.228*** (0.036)
Patience	0.041*** (0.014)	0.012*** (0.003)	0.036*** (0.016)	0.010*** (0.003)	0.036*** (0.017)	0.011*** (0.003)	0.037*** (0.017)	0.011*** (0.003)
Risk Tolerance	-0.090*** (0.019)	0.035*** (0.005)	-0.087*** (0.020)	0.030*** (0.006)	-0.088*** (0.020)	0.029*** (0.005)	-0.087*** (0.020)	0.032*** (0.005)
Correlation (ρ_{IR})	0.087*** (0.021)		0.078*** (0.028)		0.085*** (0.021)		0.082*** (0.028)	
AIC	14,536.1		14,572.1		14,566.3		14,560.8	
1st Stage F-Statistic	—		215.37		142.07		202.73	

Model 1: Baseline Model with wealth instrumented by median house price growth over the previous 3 years within the respondent's zip code. **Model 2**: Baseline Model with wealth instrumented by unexpected percent change in respondent's wealth over the past 12 months. **Model 3**: Wealth instrumented by previous 2 instruments.

N=3,194. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A11: Homeowner and Renter Insurance Wealth = Financial wealth, $I_{i,1}$ = Simple index of coverage, R_i = Share of risky financial assets				
	Model 1 with Homeowners		Model 2 with Homeowners & Renters	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i
Wealth	0.527*** (0.113)	0.259*** (0.023)	0.509*** (0.114)	0.252*** (0.022)
Insurance Premium	0.094 (0.076)	—	0.015* (0.008)	—
Replacement Cost ($100k)	0.737** (0.322)	—	0.634** (0.249)	—
Objective Risk	0.070 (0.061)	—	0.068 (0.057)	—
Zip Density	9.472 (6.370)	-0.539 (0.956)	5.338 (5.537)	-0.580 (1.078)
Age	0.008*** (0.003)	-0.003** (0.001)	0.006*** (0.002)	-0.003** (0.001)
Female	-0.022 (0.067)	-0.022 (0.022)	-0.032 (0.061)	-0.009 (0.021)
Married	-0.070 (0.076)	0.053** (0.024)	-0.031 (0.066)	0.054** (0.023)
Have Kids	0.066 (0.077)	0.016 (0.021)	0.093 (0.067)	0.010 (0.020)
Black	-0.042 (0.129)	-0.031 (0.047)	-0.011 (0.011)	-0.023 (0.043)
Latino	-0.177 (0.120)	-0.005 (0.041)	-0.084 (0.114)	-0.030 (0.036)
Unemployed	-0.467* (0.256)	-0.065 (0.067)	-0.107 (0.236)	-0.029 (0.061)
High Education	0.131* (0.074)	0.046** (0.022)	0.146** (0.072)	0.055** (0.021)
Low Education	-0.143* (0.080)	-0.066*** (0.024)	-0.150** (0.068)	-0.063*** (0.023)
Credit Score	0.004 (0.026)	0.029*** (0.009)	0.047** (0.022)	0.030*** (0.008)
Subjective Risk	0.166*** (0.043)	0.365** (0.118)	0.258*** (0.038)	0.358** (0.108)
Low Financial Literacy	-0.181** (0.077)	-0.076*** (0.026)	-0.183*** (0.067)	-0.072*** (0.024)
Knowledge	0.125*** (0.024)	0.022* (0.013)	0.178*** (0.021)	0.024** (0.011)
Financial Liquidity	0.241** (0.119)	0.138*** (0.038)	0.293*** (0.093)	0.160*** (0.037)
Patience	0.036*** (0.014)	0.021*** (0.005)	0.038*** (0.014)	0.020*** (0.005)
Risk Tolerance	-0.063*** (0.021)	0.042*** (0.006)	-0.070*** (0.019)	0.044*** (0.006)
Renter Dummy	—	—	0.806** (0.408)	0.483** (0.190)
Renter Dummy * Wealth	—	—	-0.126* (0.065)	-0.085 (0.089))
Correlation (ρ_{IR})	0.070** (0.030)		0.068** (0.027)	
AIC	5,526.3		7,432.3	

N=1,229 in Model 1 and *N*=1,806 in Model 2. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

"Knowledge" is a measure of the respondent's knowledge of his homeowner insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A12: French Data

Wealth = Financial wealth, $I_{i,1}$ = Dummy equal to 1 when the insurance contract is "Tous Risques" and 0 when "Au Tiers", R_i = Share of risky financial assets

	$I_{i,1}$	R_i
Wealth	0.183*** (0.018)	0.506*** (0.008)
Insurance Premium	3.862** (1.946)	—
Original Car Price	0.907*** (0.159)	—
Car Age	-0.207*** (0.013)	—
Original Car Price * Car Age	-0.070*** (0.017)	—
Objective Risk (Bonus-Malus)	0.018*** (0.002)	—
High Density	0.280*** (0.023)	0.083*** (0.018)
Age	0.012*** (0.001)	0.012*** (0.001)
Female	0.118*** (0.025)	-0.096*** (0.016)
Unemployed	-0.320*** (0.049)	-0.134*** (0.035)
Credit Worthy	0.263** (0.128)	0.398** (0.149)
Correlation (ρ_{IR})	0.144*** (0.020)	
AIC	42,353.3	

N=24,642. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A13: Experimental Analysis

Wealth = Financial wealth, $I_{i,1}$ = Willingness to Pay for Insurance, R_i = Share of risky financial assets

	Low Probability High Consequences		High Probability Low Consequences	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i
Wealth	0.151^{**} (0.063)	0.269^{***} (0.030)	0.036^{*} (0.021)	0.268^{***} (0.030)
Age	0.346^{*} (0.184)	-0.002^{**} (0.001)	0.098^{*} (0.057)	-0.002^{**} (0.001)
Female	-4.653 (4.684)	-0.039^{*} (0.023)	-0.039 (1.622)	-0.038 (0.025)
Married	2.296 (4.789)	0.072^{***} (0.026)	0.373 (1.750)	0.072^{***} (0.026)
Have Kids	6.847 (5.226)	0.021 (0.026)	2.252 (1.894)	0.022 (0.026)
Black	-1.859 (7.526)	-0.009 (0.042)	1.140 (2.583)	-0.009 (0.042)
Latino	3.582 (7.642)	-0.072^{*} (0.042)	1.427 (3.568)	-0.071 (0.044)
Unemployed	-1.294 (9.255)	-0.063 (0.058)	-0.076 (4.222)	-0.062 (0.056)
Zip Density	-1.871 (2.843)	1.252 (1.306)	0.397 (1.143)	1.260 (1.309)
High Education	11.285^{*} (6.159)	0.055^{**} (0.026)	2.978 (1.976)	0.052^{*} (0.027)
Low Education	-10.391^{**} (4.889)	-0.071^{**} (0.028)	-3.834^{**} (1.836)	-0.070^{**} (0.028)
Credit Score	1.782 (1.982)	0.044^{***} (0.012)	0.146 (0.667)	0.044^{***} (0.012)
Subjective Risk	—	0.344^{***} (0.123)	—	0.338^{***} (0.124)
Low Financial Literacy	-9.631^{*} (5.131)	-0.058^{**} (0.027)	-2.756^{**} (1.640)	-0.056^{**} (0.027)
Knowledge	3.160^{**} (1.351)	0.025^{*} (0.014)	0.955^{**} (0.529)	0.026^{*} (0.014)
Financial Liquidity	11.678^{*} (6.783)	0.272^{***} (0.047)	4.288 (2.659)	0.270^{***} (0.049)
Patience	2.098^{**} (1.055)	0.015^{**} (0.006)	0.700^{*} (0.408)	0.015^{**} (0.006)
Risk Tolerance	-3.759^{**} (1.526)	0.030^{***} (0.008)	-1.285^{**} (0.514)	0.029^{***} (0.008)
Correlation (ρ_{IR})	0.097^{***} (0.027)		0.105^{***} (0.028)	
AIC	16,821.1		13,087.8	

N=1,383. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.
"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.
"Subjective risk" is the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A14: Panel Analysis Wealth = Financial wealth, $I_{i,1}$ = Simple index of insurance coverage, R_i = Share of risky financial assets		
	$\Delta\ I_{i,1}$	$\Delta\ R_i$
Δ Wealth	1.085*** (0.383)	0.144*** (0.056)
Δ Insurance Premium	0.020 (0.013)	—
Δ Car Value	0.075** (0.030)	—
Δ Objective Risk Auto	0.059 (0.068)	—
Δ Zip Density	-0.003 (0.091)	-0.000 (0.001)
Δ Married	0.005 (0.091)	0.026 (0.016)
Δ Have Kids	0.102 (0.115)	0.022 (0.017)
Δ Unemployed	-0.227* (0.131)	-0.036** (0.017)
Δ Credit Score	0.034 (0.035)	0.011* (0.006)
Δ Subjective Risk	0.267*** (0.099)	0.146** (0.065)
Δ Low Financial Literacy	-0.279 (0.217)	-0.040 (0.025)
Δ Knowledge	0.059* (0.032)	0.008* (0.005)
Δ Financial Liquidity	0.295** (0.142)	0.036** (0.017)
Δ Patience	0.047 (0.030)	0.006 (0.004)
Δ Risk Tolerance	-0.133** (0.067)	0.007* (0.004)
Correlation (ρ_{IR})	0.136*** (0.024)	
AIC	95.3	

Δ indicates differences in the variable for a respondent between the 2022 survey and either the 2015 or 2016 survey.

N=472. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A15: Homeowner Insurance									
	All Data			Data 2015			Data 2016		
	Mean	Median	Std	Mean	Median	Std	Mean	Median	Std
Replacement cost†	231.31	200.00	179.53	231.30	200.00	164.91	231.31	182.00	193.08
Annual premium (in $)	1,152.1	1,000.0	747.1	1,195.8	1,000.0	800.0	1,108.9	1,000.0	688.8
Damage past 2 years (in $)	1,221.2	0.0	6,959.3	1,062.9	0.0	4,411.5	1,377.4	0.0	8,777.9
Damage expected next 2 years	2,026.8	975.0	2,977.8	2,113.4	1,025.0	3,008.9	1,941.3	860.0	2,946.8
Deductible	2.27	2.00	0.63	2.31	2.00	0.64	2.24	2.00	0.62
Dwelling coverage†	217.55	180.00	169.14	219.75	197.50	171.33	215.37	170.00	167.06
Personal property coverage†	84.88	50.00	89.90	89.70	50.00	99.65	80.125	50.00	78.88
Liability coverage†	242.11	100.00	492.62	253.02	100.00	525.82	231.43	100.00	458.00
Have flood insurance	0.12	0.00	0.32	0.13	0.00	0.33	0.11	0.00	0.31
Have earth movement insurance	0.08	0.00	0.27	0.09	0.00	0.28	0.07	0.00	0.25
Have windstorm insurance	0.11	0.00	0.31	0.11	0.00	0.31	0.11	0.00	0.31
Have floater insurance	0.12	0.00	0.32	0.11	0.00	0.31	0.13	0.00	0.33
Have umbrella insurance	0.20	0.00	0.40	0.22	0.00	0.41	0.19	0.00	0.39
Simple index $I_{i,1}$	3.37	3.08	1.17	3.40	3.17	1.17	3.34	3.08	1.17

† In $1,000.

Replacement cost: amount it would cost today to rebuild home.

Deductible: 1 = <$250, 2 = $251 to $1,000, 3 = $1001 to $5,000, 4 >$5,000.

Dwelling (i.e. the home itself), personal property and liability coverages capture the maximum amount the insurance will pay in case of loss.

Earth movement insurance covers earthquake, mudslides, landslides and such.

Floater insurance covers special items such as expensive jewelry or antiques.

Umbrella insurance covers against lawsuit and claims.

Table A16: Wealth Dependent Losses						
Wealth = Financial Wealth, $I_{i,1}$ = Simple index of insurance coverage, R_i = Share of risky Financial assets						
	Model 1		Model 2		Model 3†	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}^{-}$	R_i
Wealth	0.828*** (0.137)	0.290*** (0.018)	0.628*** (0.120)	0.290*** (0.018)	0.418*** (0.064)	0.290*** (0.018)
Insurance Premium	0.013 (0.008)	—	0.013* (0.008)	—	0.011* (0.006)	—
Car Value	0.021*** (0.004)	—	0.018*** (0.003)	—	0.015*** (0.002)	—
Objective Risk Auto	0.038 (0.040)	—	0.041 (0.046)	—	0.028 (0.033)	—
Zip Density	2.041 (4.387)	-0.292 (0.829)	2.130 (4.491)	-0.294 (0.831)	2.127 (3.763)	0.292 (0.831)
Age	0.008*** (0.002)	-0.002** (0.001)	0.008*** (0.002)	-0.002** (0.001)	0.008*** (0.002)	-0.002*** (0.001)
Female	-0.032 (0.057)	-0.021 (0.014)	-0.033 (0.057)	-0.020 (0.014)	0.007 (0.048)	-0.021 (0.014)
Married	-0.024 (0.064)	0.053*** (0.016)	-0.021 (0.065)	0.052*** (0.016)	-0.044 (0.054)	0.053*** (0.016)
Have Kids	0.099 (0.064)	0.022 (0.016)	0.107* (0.063)	0.022 (0.016)	0.095* (0.052)	0.022 (0.016)
Black	0.001 (0.106)	-0.013 (0.028)	-0.002 (0.109)	-0.016 (0.029)	0.065 (0.090)	-0.013 (0.028)
Latino	-0.148 (0.111)	-0.036 (0.027)	-0.147 (0.111)	-0.037 (0.027)	-0.072 (0.092)	-0.036 (0.027)
Unemployed	-0.130 (0.171)	-0.061 (0.041)	-0.134 (0.171)	-0.060 (0.041)	-0.111 (0.137)	-0.061 (0.041)
High Education	0.186*** (0.065)	0.064*** (0.016)	0.183*** (0.067)	0.065*** (0.016)	0.135** (0.056)	0.065*** (0.016)
Low Education	-0.249*** (0.072)	-0.071*** (0.018)	-0.256*** (0.070)	-0.071*** (0.018)	-0.179*** (0.060)	-0.071*** (0.018)
Credit Score	0.018 (0.025)	0.035*** (0.006)	0.020 (0.026)	0.036*** (0.005)	0.010 (0.021)	0.036*** (0.006)
Subjective Risk	0.134*** (0.035)	0.330*** (0.080)	0.137*** (0.040)	0.333*** (0.081)	0.100*** (0.029)	0.333*** (0.081)
Low Financial Literacy	-0.257*** (0.070)	-0.064*** (0.018)	-0.255*** (0.070)	-0.064*** (0.018)	-0.147** (0.058)	-0.064*** (0.018)
Knowledge	0.177*** (0.021)	0.020** (0.009)	0.177*** (0.021)	0.019** (0.009)	0.144*** (0.017)	0.019** (0.009)
Financial Liquidity	0.420*** (0.104)	0.232*** (0.029)	0.432*** (0.105)	0.234*** (0.029)	0.241*** (0.086)	0.235*** (0.028)
Patience	0.040*** (0.014)	0.012*** (0.003)	0.041*** (0.014)	0.012*** (0.003)	0.033*** (0.011)	0.012*** (0.003)
Risk Tolerance	-0.090*** (0.018)	0.034*** (0.005)	-0.089*** (0.019)	0.035*** (0.005)	-0.080** (0.015)	0.035*** (0.005)
Car Value * Wealth	-0.009 (0.006)	—	—	—	—	—
Objective Risk Auto * Wealth	—	—	-0.020 (0.044)	—	—	—
Subjective Risk Auto *Wealth	—	—	-0.004 (0.052)	—	—	—
Correlation (ρ_{IR})	0.073*** (0.028)		0.079*** (0.030)		0.081** (0.035)	
AIC	14,480.6		14.488.9		13,346.1	

† **Model 3** : $I_{i,1}^{-}$ = Simple index $I_{i,1}$ absent any liability protection.

N=3,194. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A17: Trust								
Wealth = Financial wealth, $I_{i,1}$ = Simple index of insurance coverage, R_i = Share of risky financial assets								
	Baseline Model		Model 1†		Model 2†		Model 3†	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i	$I_{i,1}$	R_i
Wealth	0.533*** (0.120)	0.268*** (0.030)	0.508*** (0.122)	0.263*** (0.031)	0.508*** (0.121)	0.256*** (0.030)	0.527*** (0.117)	0.266*** (0.032)
Insurance Premium	0.007 (0.011)	—	0.009 (0.011)	—	0.009 (0.011)	—	0.008 (0.010)	—
Car Value	0.021*** (0.004)	—	0.020*** (0.004)	—	0.020*** (0.004)	—	0.021*** (0.005)	—
Objective Risk Auto	0.002 (0.058)	—	0.005 (0.058)	—	0.005 (0.059)	—	0.000 (0.061)	—
Age	0.007** (0.003)	-0.002** (0.001)	0.007** (0.003)	-0.002** (0.001)	0.007** (0.003)	-0.002** (0.001)	0.008** (0.003)	-0.002** (0.001)
Female	-0.080 (0.090)	-0.038* (0.023)	-0.078 (0.090)	-0.036 (0.024)	-0.079 (0.089)	-0.039* (0.022)	-0.093 (0.095)	-0.036 (0.025)
Married	0.034 (0.101)	0.071*** (0.026)	0.036 (0.100)	0.070*** (0.026)	0.035 (0.101)	0.074*** (0.027)	0.026 (0.112)	0.069*** (0.027)
High Education	0.195* (0.104)	0.055** (0.026)	0.190 (0.112)	0.056** (0.025)	0.188* (0.112)	0.055** (0.025)	0.209** (0.102)	0.056** (0.025)
Low Education	-0.231** (0.109)	-0.071** (0.028)	-0.233** (0.109)	-0.071** (0.029)	-0.233** (0.109)	-0.074** (0.031)	-0.246** (0.111)	-0.072** (0.029)
Credit Score	0.037 (0.041)	0.044*** (0.012)	0.040 (0.039)	0.045*** (0.014)	0.039 (0.039)	0.045*** (0.014)	0.034 (0.040)	0.046*** (0.013)
Subjective Risk	0.137** (0.054)	0.336** (0.154)	0.127** (0.059)	0.342** (0.151)	0.125** (0.059)	0.347** (0.148)	0.142** (0.058)	0.339** (0.150)
Low Financial Literacy	-0.238** (0.107)	-0.058** (0.027)	-0.244** (0.105)	-0.056** (0.028)	-0.245** (0.105)	-0.058** (0.028)	-0.241** (0.110)	-0.059** (0.028)
Knowledge	0.073** (0.032)	0.026* (0.014)	0.075** (0.032)	0.028* (0.014)	0.076** (0.032)	0.024 (0.016)	0.066* (0.035)	0.025* (0.013)
Financial Liquidity	0.363** (0.161)	0.272*** (0.047)	0.372** (0.157)	0.270*** (0.050)	0.373** (0.158)	0.289*** (0.054)	0.342** (0.154)	0.278*** (0.051)
Patience	0.047** (0.023)	0.015** (0.006)	0.048** (0.023)	0.015** (0.007)	0.048** (0.023)	0.016** (0.007)	0.048** (0.022)	0.015** (0.006)
Risk Tolerance	-0.102*** (0.029)	0.030*** (0.008)	-0.094*** (0.030)	0.026*** (0.010)	-0.095*** (0.030)	0.025** (0.011)	-0.106*** (0.032)	0.027*** (0.011)
Trust	—	—	0.026 (0.018)	0.042 (0.029)	0.026 (0.017)	0.049** (0.025)	0.014 (0.024)	0.045* (0.026)
Additional Controls†	Yes		Yes		Yes		Yes	
Correlation (ρ_{IR})	0.087*** (0.021)		0.081*** (0.020)		0.086*** (0.021)		0.086*** (0.021)	
AIC	6,350.5		6,335.6		6349.6		6,340.1	

† **Model 1** : "Trust" is the measure of trust in banks in the investment equation and trust in insurance companies the insurance equation. **Model 2** : "Trust" is the measure of trust in the stock market in the investment equation and trust in insurance companies the insurance equation. **Model 3** : "Trust" is the measure of trust in other people in both the investment and insurance equations.

Each model also includes the following variables "Zip Density," "Have Kids," "Black," "Latino," "Unemployed."

N=1,383. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

"Subjective risk" is the sum of all monetary damages the respondent expects to incur over the next two years in the insurance equation and the respondent's expected change in the U.S. stock market over the next 12 months in the investment equation.

Table A18: Skewness Preference				
Wealth = Financial wealth, $I_{i,1}$ = Simple index of insurance coverage, R_i = Share of risky financial assets				
	Baseline Model		Model 1	
	$I_{i,1}$	R_i	$I_{i,1}$	R_i
Wealth	0.533^{***} (0.120)	0.268^{***} (0.030)	0.508^{***} (0.116)	0.255^{***} (0.028)
Insurance Premium	0.007 (0.011)	—	0.006 (0.011)	—
Car Value	0.021^{***} (0.004)	—	0.020^{***} (0.005)	—
Objective Risk Auto	0.002 (0.058)	—	0.008 (0.061)	—
Age	0.007^{**} (0.003)	-0.002^{**} (0.001)	0.008^{**} (0.003)	-0.002^{**} (0.001)
Female	-0.080 (0.090)	-0.038^{*} (0.023)	-0.074 (0.085)	-0.036^{*} (0.024)
Married	0.034 (0.101)	0.071^{***} (0.026)	0.036 (0.092)	0.073^{***} (0.026)
High Education	0.195^{*} (0.104)	0.055^{**} (0.026)	0.200^{**} (0.103)	0.055^{**} (0.026)
Low Education	-0.231^{**} (0.109)	-0.071^{**} (0.028)	-0.242^{**} (0.111)	-0.070^{**} (0.029)
Credit Score	0.037 (0.041)	0.044^{***} (0.012)	0.034 (0.038)	0.041^{***} (0.013)
Subjective Risk (Mean)	0.137^{**} (0.054)	0.336^{**} (0.154)	0.102^{**} (0.048)	0.270^{**} (0.126)
Subjective Risk (Variance)	—	—	0.027 (0.026)	-0.005 (0.023)
Subjective Risk (Skewness)	—	—	0.004 (0.034)	0.011 (0.042)
Low Financial Literacy	-0.238^{**} (0.107)	-0.058^{**} (0.027)	-0.235^{**} (0.108)	-0.057^{**} (0.029)
Knowledge	0.073^{**} (0.032)	0.026^{*} (0.014)	0.068^{**} (0.031)	0.024 (0.014)
Financial Liquidity	0.363^{**} (0.161)	0.272^{***} (0.047)	0.340^{**} (0.158)	0.254^{***} (0.049)
Patience	0.047^{**} (0.023)	0.015^{**} (0.006)	0.041^{**} (0.020)	0.014^{**} (0.006)
Risk Tolerance	-0.102^{***} (0.029)	0.030^{***} (0.008)	-0.096^{***} (0.031)	0.026^{***} (0.008)
Skewness Preference Score	—	—	0.054^{**} (0.025)	0.027^{*} (0.016)
Additional Controls†	Yes		Yes	
Correlation (ρ_{IR})	0.087^{***} (0.021)		0.090^{***} (0.024)	
AIC	6,350.5		6,356.2	

† Each model also includes the following variables "Zip Density," "Have Kids," "Black," "Latino," "Unemployed."

N=1,383. Estimated constant term not reported. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

"Knowledge" is a measure of the respondent's knowledge of his car insurance policy in the insurance equation and of the respondent's knowledge of his debts and savings in the investment equation.

The Subjective risk Mean, Variance and Skewness are the first three standardized moments of a respondent's subjective distributions of investment returns (in the investment equation) and of possible insurance losses (in the insurance equation).

"Skewness Preference Score" is our experimental measure of skewness preference for a respondent in the gain domain (for the investment equation) and in the loss domain (for the insurance equation).

Figure A1 : Participation Costs

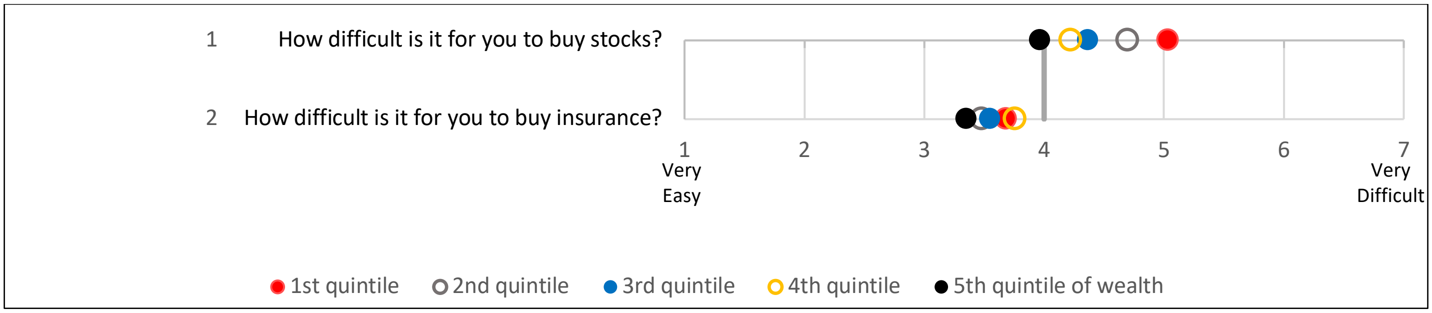


Figure A2 : Factors Influencing Investment Decisions

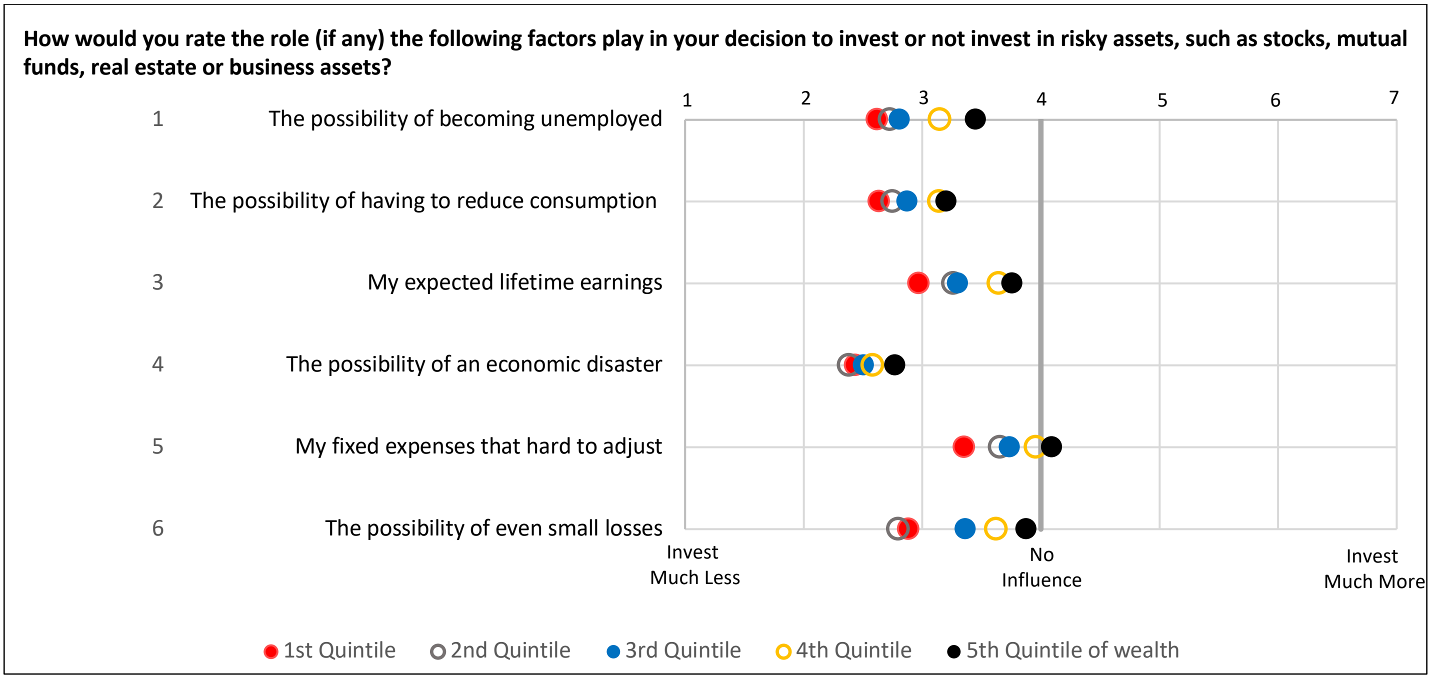


Figure A3 : Factors Influencing Insurance Decisions

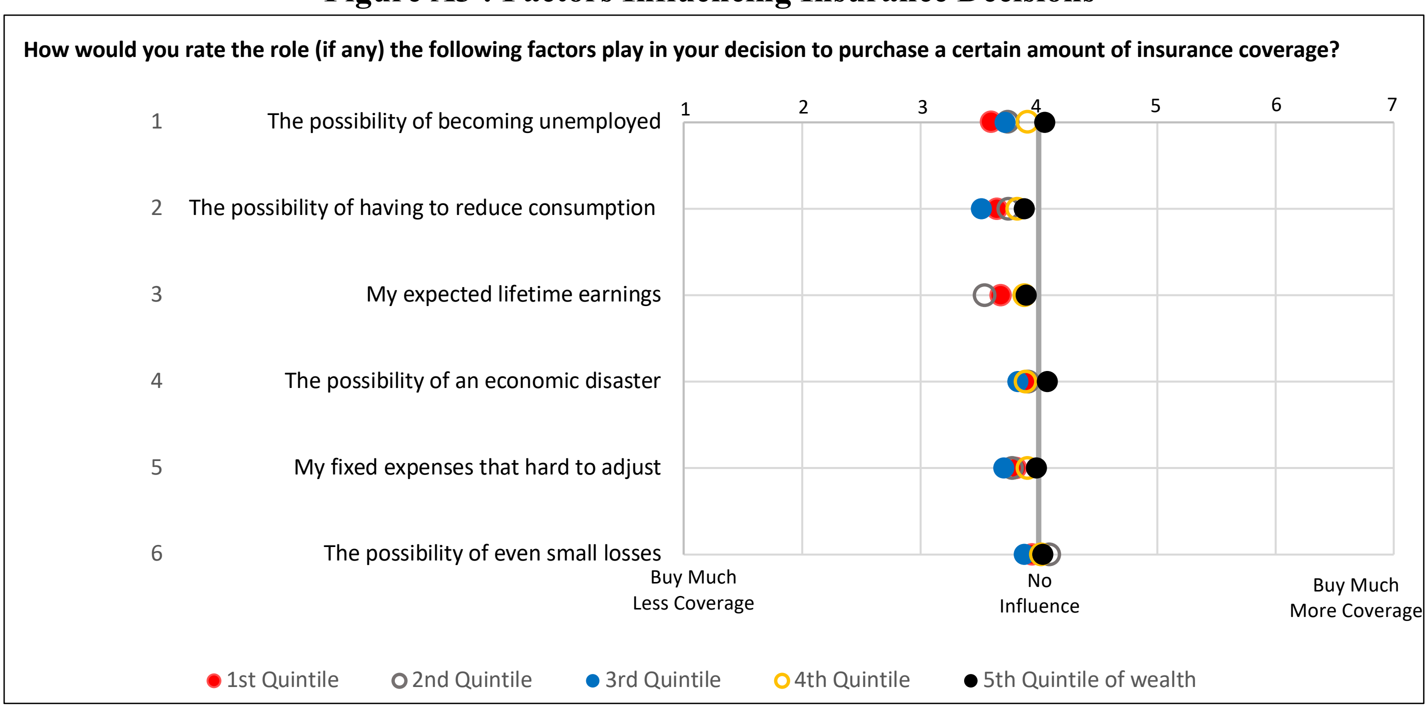


Figure A4 : Behavioral Factors

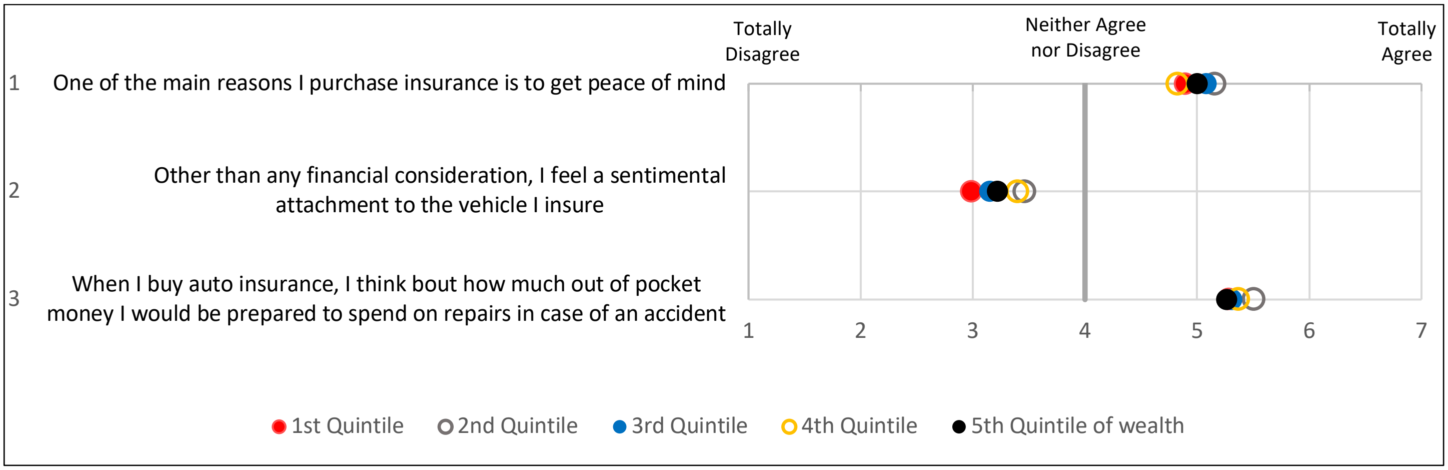


Figure A5 : Trust

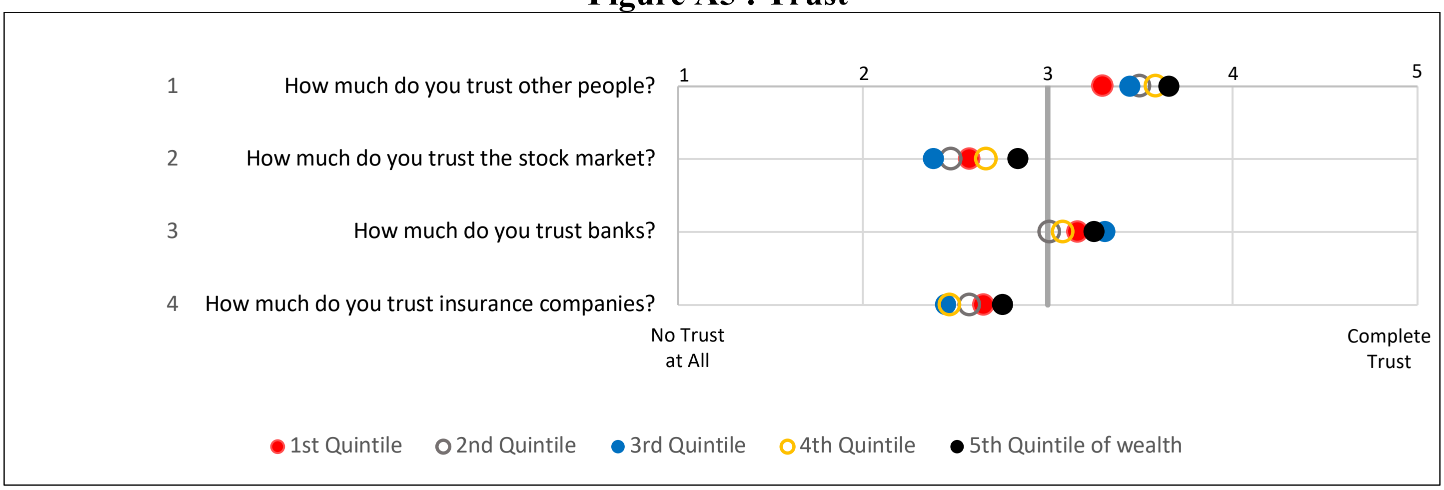
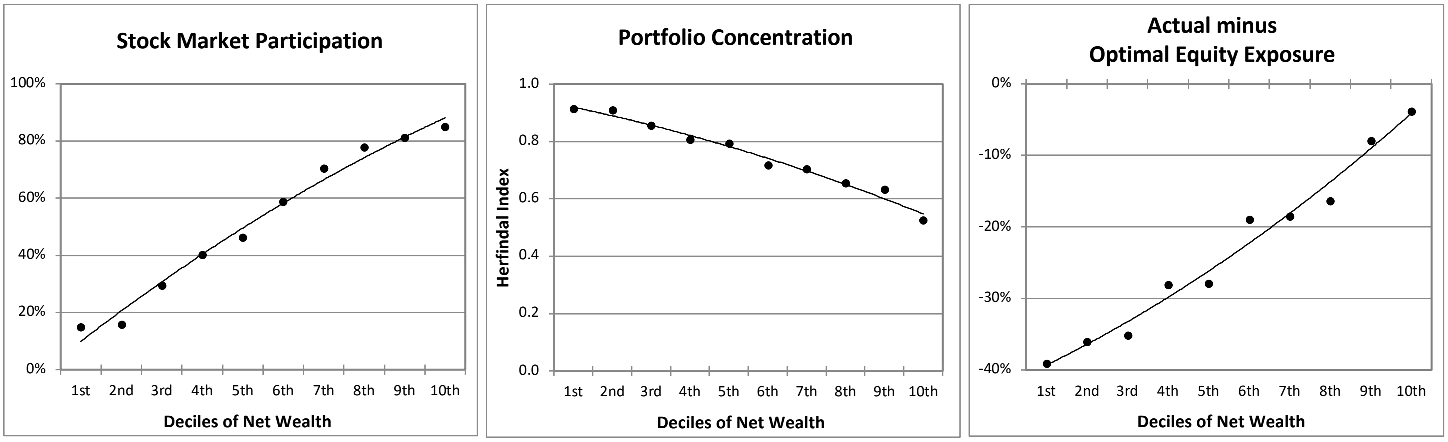
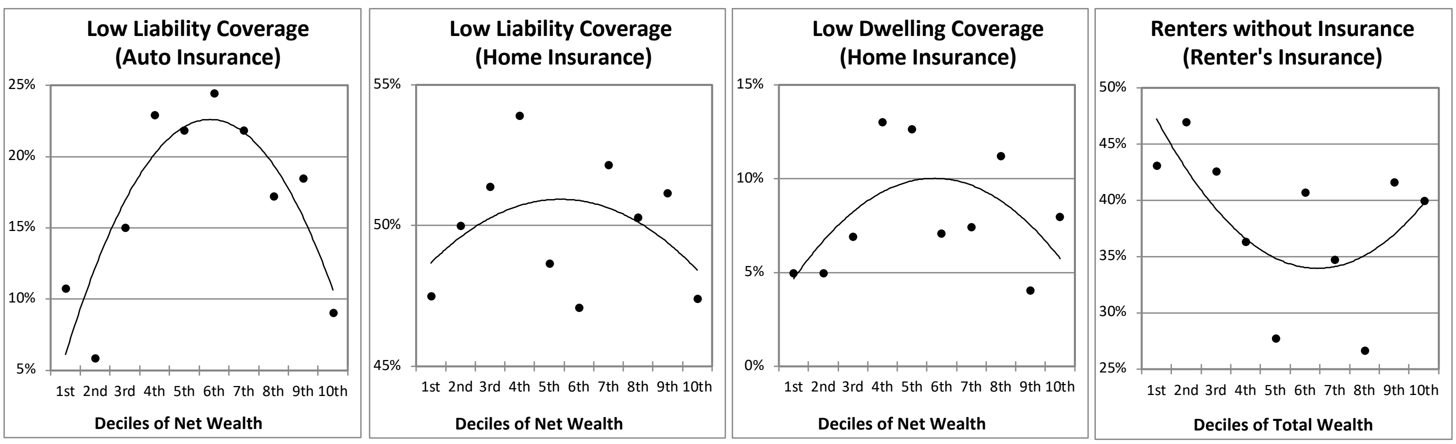


Figure A6: Measures of Investment Mistakes



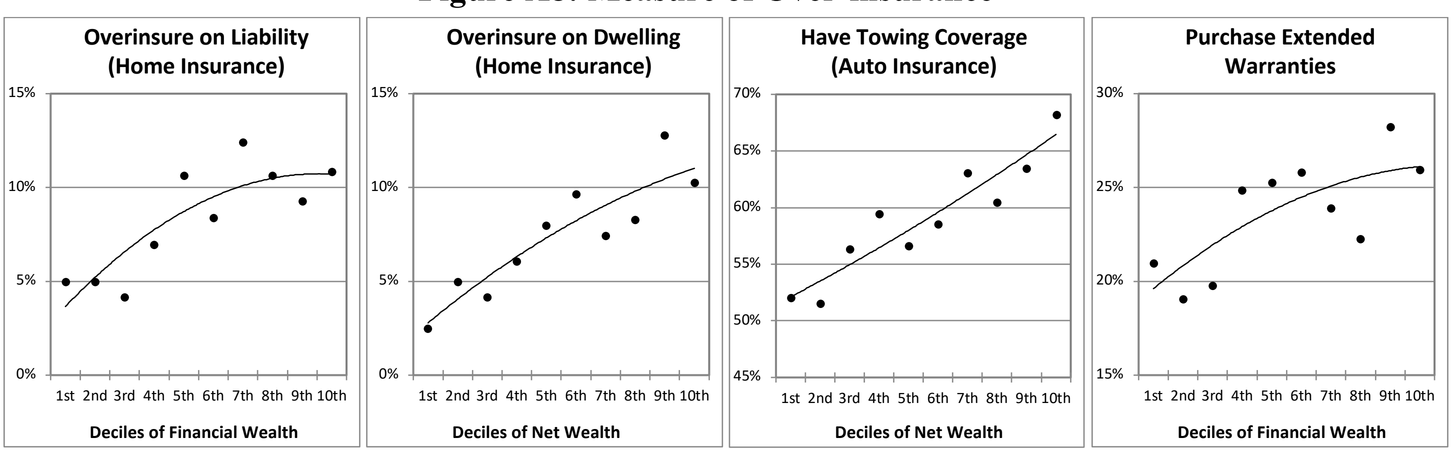
Stock Market Participation: Percentage of respondents in each decile of financial wealth who report owning stock directly or indirectly in pooled investment funds.
Portfolio Concentration: Herfindal index of the respondent's portfolio when decomposed in 6 categories: cash, stocks, bonds, Treasury bills, Treasury inflation protected securities (TIPS), and real estate investment trusts (REIT). Average for each decile of financial wealth.
Actual minus Optimal Equity Exposure: Percentage of financial assets the respondent actually owns in stocks minus the percentage of stocks the respondents should own given his age according to the optimal life-cycle asset allocation of Gomes and Michealides (2005). Average for each decile of financial wealth.

Figure A7: Measures of Under-Insurance



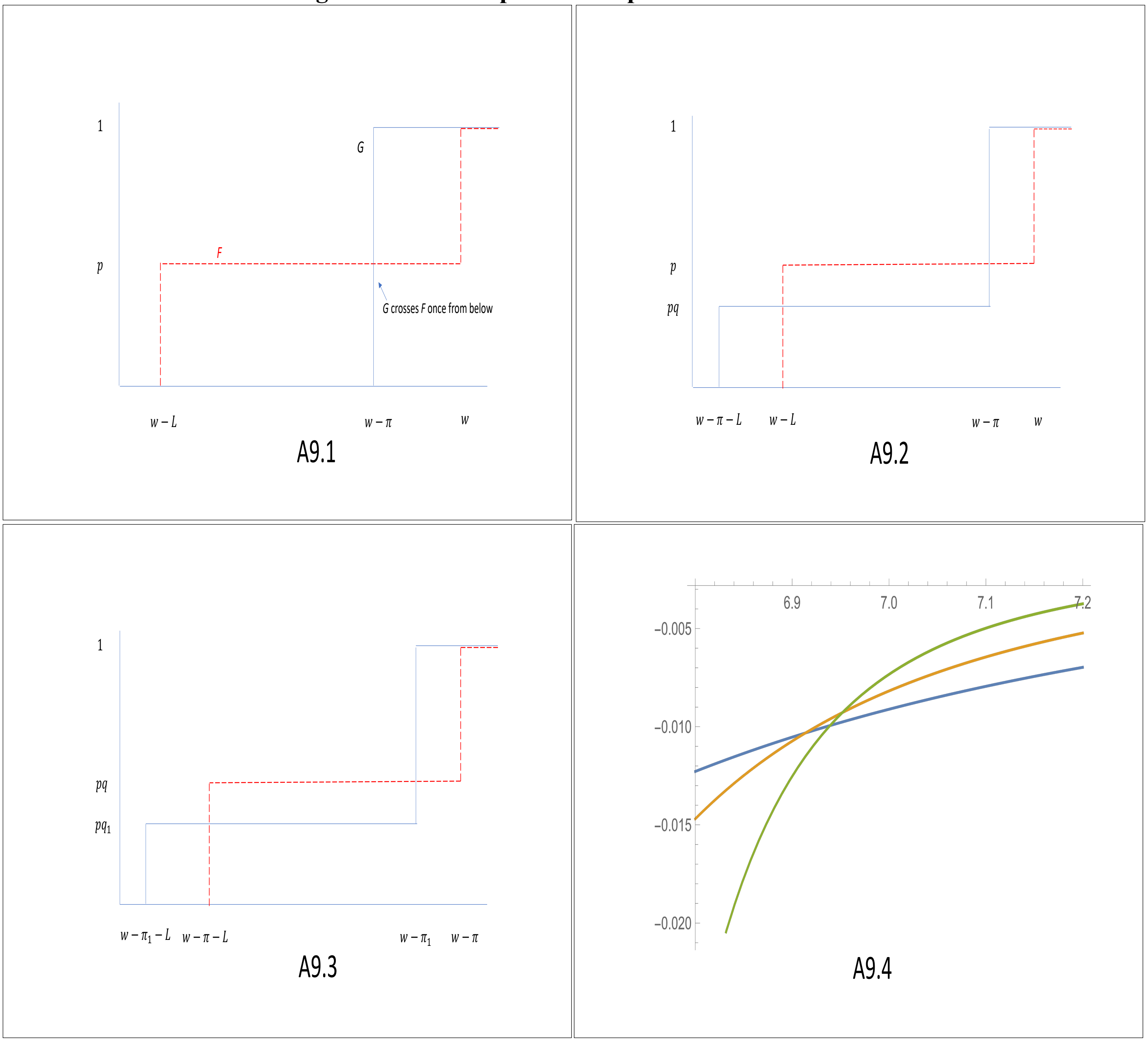
Low Liability Coverage (Auto Insurance): The respondent purchased the minimum auto liability coverage required by law, this minimum is less than half of the respondent's exposed assets (i.e. all assets absent retirement savings), and the respondent does not have an umbrella insurance. Average for each decile of net wealth.
Low Liability Coverage (Home Insurance): The home insurance liability coverage is less than half of the respondent's exposed assets and the respondent does not have an umbrella insurance. Average for each decile of net wealth.
Low Dwelling Coverage (Home Insurance): The dwelling coverage is less than half of the replacement cost. Average for each decile of net wealth.
Renter without Insurance (Renter's insurance): The respondent is a renter and has not purchased renter's insurance. Average for each decile of net wealth.

Figure A8: Measure of Over-insurance



Over-insurance on Liability (Home Insurance): The home insurance liability coverage is more than 25% over the respondent's exposed assets (i.e. all assets absent retirement savings). Average for each decile of net wealth. **Over-insurance on Dwelling (Home Insurance)**: The dwelling coverage is more than 25% over the replacement cost. Average for each decile of net wealth. **Have Towing Coverage (Auto Insurance)**: The respondent purchased towing coverage. Average for each decile of net wealth. **Purchase Extended Warranties:** The respondent purchased insurance or extended warranties when purchasing new appliances (such as electronics or home appliances) at least occasionally. Average for each decile of net wealth.

Figure A9: The Impact of Nonperformance Risk



Figures A9.1, A9.2 and A9.3 each show two cumulative distribution functions of wealth. Figure A9.1 illustrates the single crossing property associated with the wealth distribution functions under no insurance and under insurance. Figure A9.2 shows two crossing points associated with the wealth distribution functions under insurance, and under insurance with nonperformance risk. Figure A9.3 shows two crossing points associated with the wealth distribution functions under a low cost insurance with high nonperformance risk (red curve), and under a high cost insurance with low nonperformance risk (blue curve). Figure A9.4 plots the numerical values obtained using Mathematica for the agent's expected utility as a function of wealth i) under no insurance (blue curve), ii) under a low cost insurance with high nonperformance risk (orange curve), and iii) under a high cost insurance with low nonperformance risk (green curve).

Internet Appendix B: Theoretical Background

B.1 Simultaneous Insurance and portfolio decisions

We now consider a model in which insurance and portfolio decisions are made simultaneously. Using the same notation as in Section 2 of the paper, we have

$$max_{a,b} Eu[w + a\tilde{X} + b\tilde{Y}] \tag{5}$$

We want to analyze how the optimal solutions a and b vary with w. Following the isomorphism between insurance and portfolio decisions (see Section 2 of the paper), we can interpret a and b as insurance and portfolio decisions respectively (i.e., an increase in a means less insurance demand and an increase in b means more investments in risky assets). The comparative statics analysis with multiple decisions is difficult in general. Here, we only consider "small risks" (Samuelson 1970). Assuming small risks imposes a strong restriction on the admissible set of probability distributions. This restriction implies that a second-order approximation is valid in the sense that it leads to the same solution as the general problem in (5). The approximation yields:

$$Eu[w + a\tilde{X} + b\tilde{Y}] \simeq u(w) + E\{a\tilde{X} + b\tilde{Y}\}u'(w) + \frac{1}{2!}E\{a\tilde{X} + b\tilde{Y}\}^2 u''(w)$$

Differentiating the right hand side with respect to a and equating to zero gives

$$a = \frac{E\tilde{X}}{E\tilde{X}^2}\frac{u'(w)}{-u''(w)} - b\frac{E\tilde{X}\tilde{Y}}{E\tilde{X}^2} \tag{6}$$

Note that the expression above shows that a is equal to the difference between two terms: a standard risk retention term, namely $\frac{E\tilde{X}}{E\tilde{X}^2}\frac{u'(w)}{-u''(w)}$, and a second term $b\frac{E\tilde{X}\tilde{Y}}{E\tilde{X}^2}$ which can be interpreted as a (endogenous) background risk generated by the portfolio decision b.

We now assume that the random variables $\tilde{X}$ and $\tilde{Y}$ are independent, with $E\tilde{X} > 0$ and $E\tilde{Y} > 0$. Producing a similar expression as (6) for b, and solving for these two equations, yields:

$$a = \frac{E\tilde{X}}{E\tilde{X}^2}\frac{u'(w)}{-u''(w)}\left[\frac{E\tilde{Y}^2 - (E\tilde{Y})^2}{E\tilde{Y}^2 - \frac{(E\tilde{X})^2}{E\tilde{X}^2}(E\tilde{Y})^2}\right] \tag{7}$$

Observe that since $\frac{(E\tilde{X})^2}{E\tilde{X}^2}$ is lower than one, the expression in brackets in (7) is positive. This shows that a is positive, and increases with wealth iff $\frac{u'(w)}{-u''(w)}$ increases with wealth, namely iff DARA. This implies that insurance demand decreases everywhere with wealth iff DARA and that the demand for risky assets increases everywhere with wealth iff DARA. Hence, the standard wealth effects are preserved in this case even if portfolio and insurance decisions are made simultaneously.[1]

B.2 Insurance and savings decisions

We now study a standard two-period model in which savings and insurance decisions are made simultaneously. We consider the following model

$$max_{s,a} u[w - s] + Eu[s + a\tilde{X}] \tag{8}$$

where s denotes savings. The solutions, denoted $s(w)$ and $a(w)$, are characterized by

$$-u'[w - s(w)] + Eu'[s(w) + a\tilde{X}] = 0$$

$$E\tilde{X}u'[s(w) + a(w)\tilde{X}] = 0$$

Differentiating the second equation with respect to w, we obtain

$$a'(w) = s'(w)\frac{E\tilde{X}u''[s(w) + a(w)\tilde{X}]}{-E\tilde{X}^2u''[s(w) + a(w)\tilde{X}]}$$

This last equality shows that $a'(w)$ has the sign of $s'(w)$ iff $E\tilde{X}u''[s(w)+a(w)\tilde{X}] \geq 0$. Yet, we saw in Section 2 of the paper that $E\tilde{X}u'[s(w)+a(w)\tilde{X}] = 0$ implies $E\tilde{X}u''[s(w)+a(w)\tilde{X}] \geq 0$ iff DARA. Hence, if savings is a normal good, i.e. $s'(w) > 0$, insurance demand decreases with wealth iff DARA, as in the simple insurance demand model considered in Section 2 of the paper. Aura, Diamond and Geanakoplos (2002) show that savings is indeed always a normal good in this savings-portfolio model, and derive a similar result showing that wealth increases investments in risky assets iff DARA. They also generalize the result to multiple portfolio decisions, and thus to the case in which savings and both insurance and portfolio decisions are made simultaneously.

[1] A few papers (e.g. Eeckhoudt, Meyer and Ormiston 1997) show, using a model with simultaneous decisions, that insurance demand can increase with wealth but only for a subset of DARA agents.

Internet Appendix C: Additional Robustness Checks

C.1 Homeowner/renter insurance

To measure homeowner insurance coverage, respondents in the 2015 and 2016 SCE special surveys were asked about nine different components of coverage for their primary home: the amount of coverage on 1) the dwelling (the home itself), 2) personal property and 3) liability; 4) their deductible; and whether the respondent contracted any of the following additional insurances 5) flood, 6) earth movement (earthquake, mudslides or landslides), 7) windstorm, 8) floater or rider (to cover special items such as expensive jewelry or antiques), or 9) umbrella (to cover lawsuits and claims). Based on the responses to these questions we constructed an index of coverage similar to $I_{i,1}$. In addition, respondents had to report the premium they pay, their "replacement cost" (the cost of rebuilding their home), objective and subjective measures of risks (the value of all damages incurred over the past 2 years and expected to incur over the next 2 years), and knowledge of their home insurance policy.

Summary statistics for homeowner insurance are provided in Table A15. Similar to auto insurance, the data collected for home insurance are sensible. Out of the 1,229 homeowners in the sample, 98% have homeowner insurance, in line with the 2016 estimate of 95% by the Insurance Information Institute (III). The average premium reported is \$1,152, similar to the 2016 III figures of \$1,110. The most frequent range of deductible in the data is "\$251 to \$1,000" with a share of 62%, consistent with Sydnor (2010). For the 577 renters in the sample, 58% have renter insurance, their average premium is \$266 and 84% of them have coverage below \$75k, compared to the 2016 III estimates of 40%, \$190 and 88%, respectively.

The proportion of homeowners who report having additional insurance is 12% for flood insurance (the 2016 III estimate is 14%), 8% for earth movement insurance (the 2016 III estimate is 10%), 11% for windstorm insurance, 12% for floater insurance, and 20% for umbrella insurance (compared to 10% according to a 2013 Consumer Reports study). Consistent with intuition, respondents with earthquake (respectively, windstorm) insurance are predominantly located in the west (respectively the south-east), while those holding an umbrella insurance are more likely to be in the top quartile of the wealth distribution.

C.2 Administrative data from France

The sample consists of 24,642 observations, each corresponding to an individual with a bank account and a car insurance contract at *Credit Agricole*. To the extent possible, we define the variables as in the baseline model. Liquid wealth consists of all the money held by the individual at *Credit Agricole* in checking, savings and investment accounts. However, like

Gropper and Khunnen (2022), but in contrast with our survey data from the U.S., we do not have a comprehensive measure of wealth. In particular, we do not observe non-banking wealth, assets held at other banking institutions, and (non-housing) debt (e.g. loans, credit cards, medical or legal bills). Note, however, that credit cards, medical and legal debts are not common in France, and so is having accounts at different banks (Daley 2005). Risky assets are measured by the share of financial wealth invested in stocks and bonds.

As explained by Chiappori and Salanié (2000), there are essentially two insurance contracts in France: "Au Tiers," a liability contract required by law, and "Tous Risques," a full coverage contract which also covers the damages the insured is responsible for.[2] In addition, we observe the annual premium paid and a measure of objective risk, the "Bonus-Malus" (see Chiappori and Salanié 2000). Although we do not observe the current value of the car it can be proxied by the vehicle's age and the manufacturer's suggested retail price.

Finally, demographic variables are limited to gender, age, employment status, population density and a measure of credit worthiness. The French data appear sensible. In particular, stock participation (21%) is in line with the estimates by Guiso, Haliassos and Jappelli (2003) for France. Further, roughly two out of three drivers purchased a "Tous Risques" contract, consistent with Dionne, Michaud and Dahchour (2013).

[2] Following Chiappori and Salanié (2000), we ignore the small deductibles of "Tous Risques" contracts.

Internet Appendix D: Alternative Hypotheses to Explain the Puzzle

D.1 Hypotheses based on standard theory

We start with alternative hypotheses based on extensions of the standard Mossin-Pratt model under expected utility.

Wealth-dependent losses and probabilities. The Mossin-Pratt model assumes that losses are independent of wealth. In practice, however, the wealthy are likely to own more expensive goods. Further, the upper bound on liability losses is set by the assets of the agent. Hence, the wealthy face higher potential losses.

We first show that the puzzle could be explained by wealth-dependent losses. To do so, we consider an insurance model in which the loss may depend on wealth (see e.g. Szpiro 1986). For simplicity, we assume that the distribution of the loss is binary, that is, either the agent loses $L(w)$ with probability p or he loses nothing. Note that the loss is now denoted $L(w)$, so that we make it explicit that the loss is wealth-dependent. Also, for simplicity, we assume that the insurance premium now takes the standard form $\alpha\pi = (1+\lambda)\alpha p L(w)$, where $\lambda > 0$ is the loading factor. Given these assumptions, equation (1) in the paper can be rewritten as follows:

$$max_{\alpha}(1-p)u[w-(1+\lambda)\alpha pL(w)] + pu[w-(1+\lambda)\alpha pL(w)-(1-\alpha)L(w)]$$

We further restrict the model and consider a common CRRA utility function, i.e. $u[w] = (1-\gamma)^{-1}(w^{1-\gamma})$ with $\gamma > 0$. In this case, the problem of the agent can be rewritten

$$max_{\alpha}(1-\gamma)^{-1}\{(1-p)[\frac{w}{L(w)}-(1+\lambda)p\alpha]^{1-\gamma} + p[\frac{w}{L(w)}-(1+\lambda)p\alpha-(1-\alpha)]^{1-\gamma}\}$$

Note that this expression is equivalent to Mossin's model in Section 2 of the paper with a "fixed" loss (i.e., a loss independent from wealth and equal to 1 in that case) and an initial wealth equal to $\frac{w}{L(w)}$. Therefore, since the CRRA utility function displays DARA, it is immediate that the effect of wealth on insurance demand is fully determined by how $\frac{w}{L(w)}$ varies with w. If $L(w)$ is linear in w for instance, as may be the case for full liability insurance (i.e. $L(w) = w$), then wealth has no effect on insurance coverage. More generally, the effect of wealth is positive iff the wealth-elasticity of the good insured, i.e. $\frac{wL'(w)}{L(w)}$, is greater than 1. Hence, insurance can be a normal good even under DARA when losses depend on wealth. Relatedly, the probability of incurring a loss could also depend on wealth (e.g. expensive cars may be more likely to be stolen) which could also lead to more insurance coverage.

To test these hypotheses, we added to the baseline models interaction effects between wealth, the car value and the two measures of risk. The results in Models 1 and 2 of Table A16 indicate that none of the interaction effects are significant. Further, the nature of the results remains unchanged.[3] We also tested the possible effect of bounded liability losses by redefining the index of coverage $I_{i,1}$ absent any liability coverage. In Model 3 of Table A16, the new index $I^{-}_{i,1}$ is now a combination of only the collision, comprehensive, underinsured, rental and towing components. The results in Table A16 show that the insurance-portfolio puzzle is not driven by the inclusion of liability coverage. Insurance coverage still increases in wealth even absent any liability. This confirms the results we obtained with the French data in Section 6 of the paper where the puzzle was found despite the fact that liability coverage is not bounded by wealth in France.

To sum-up, we find no evidence that wealth-dependent losses or wealth-dependent probabilities could explain why affluent drivers purchase more insurance coverage.

Wealth-dependent risk aversion. The Mossin-Pratt model assumes that risk preferences are independent of wealth. However, if the wealthy are more risk averse than the poor (for a given wealth level), then they should purchase more insurance. This hypothesis, however, is inconsistent with the other finding that risky asset holding increases with wealth. Further, the wealthy are usually found to be less risk averse for a given wealth (see e.g. Guiso and Paiella 2008). Finally, Figure 5 in the paper shows a monotonically increasing relationship between risk tolerance and wealth. Thus, wealth-dependent risk attitudes cannot explain the insurance-portfolio puzzle.

Liquidity constraints. The Mossin-Pratt model assumes that agents can always pay the insurance premium. This may not be the case in practice and liquidity constraints could explain low insurance take up by the poor.[4] Consistent with this hypothesis, we found in Section 5 of the paper that respondents facing liquidity constraints have less insurance. The insurance-portfolio puzzle, however, remains highly significant after controlling for liquidity constraints (see Model 5 in Table 7). Further, as discussed in Section 7.1 of the paper, the puzzle seems to be driven more by the wealthy who over-insure than by the poor who under-insure. Thus, we conclude that the insurance-portfolio puzzle is not simply a reflection of liquidity constraints.

[3] We also estimated models with interactions between wealth and other covariates (e.g. risk attitude, liquidity constraints, literacy). The interaction effects were insignificant and the effect of wealth was unaffected.

[4] Rampini and Viswanathan (2022) show that collateral constraints and limited enforcement reduce insurance purchase by the poor in an intertemporal model. We note, however, that liquidity constraints can conversely exacerbate insurance demand and the DARA effect in an intertemporal setting as shown by Gollier (2003).

Adverse selection/moral hazard. The Mossin-Pratt model assumes that risks are common knowledge. This may not be the case in practice due to the idiosyncratic nature of insurable risks. When the insurer cannot observe the risk exposure of the agent, it is well known from asymmetric information theory that there may be separating equilibria featuring a link between risk exposure and insurance coverage (Chiappori and Salanié 2000, 2015, Fang, Keane and Silverman 2008). Hence, if wealth is correlated with risk exposure, then it should affect insurance coverage at the equilibrium. However, the econometric model estimated in Section 5 of the paper includes controls for objective and subjective risks. Further, we controlled for possible interactions between wealth and objective and subjective risks in Table A16. Therefore, adverse/advantageous selection and moral hazard should not explain why insurance coverage was found to increase with wealth.

Supply side effects. The Mossin-Pratt model does not account for the interplay between supply and demand. However, it has been shown that commission-based intermediaries (agents, brokers) have an incentive to oversell complex financial products (e.g. life insurance) to naive consumers (Cummins and Doherty 2006, Inderst and Ottaviani 2012, Egan, Ge and Tang 2022). These perverse incentives should play a limited role in explaining the puzzle we identify in the paper because i) commissions on auto insurance are low, ii) consumers in the U.S. are increasingly bypassing agents to purchase auto and (to a lesser extent) home insurance, and iii) the wealthy, who tend to over-insure, should be less likely to fall prey of unscrupulous agents because they are generally considered financially sophisticated. In the U.S., an agent's commission on the first year premium is 5-10% for auto insurance versus at least 30% for life insurance. Auto insurance agents are still highly relevant for customer management, but their role in purchase decisions is becoming increasingly limited. This can be explained by the fact that U.S. auto insurance products are highly standardized and easily comparable with popular online aggregators. A follow-up survey reveals that 74% of respondents purchased their auto insurance directly online. Conditional on using an agent, 91% said that the agent discussed coverage options with them but only 24% of those respondents said the discussion led them to buy more coverage. Importantly, this relatively small group of respondents (5.6% of the original sample) whose insurance purchase was influenced by an agent does not differ by wealth from the overall sample. Hence, most people do not use agents and agents do not disproportionally lead the wealthy to buy more coverage. Finally, we have evidence that wealthier respondents are more sophisticated insurance consumers as they report having significantly better knowledge of their insurance policy and a higher likelihood of shopping around for auto and homeowner insurance (see below).

It is also possible that insurance companies price discriminate based on wealth. With recent developments in information technology, auto insurance companies have engaged in "price optimization" or "non-risk based pricing."[5] We estimate a pricing model in Table A5 which suggests that indeed premia may depend on non-driving factors (e.g. credit score, race), but it reveals no price discrimination based on wealth.[6] This result is consistent with Pope and Snydor (2011) who argue that income and wealth are banned from use in insurance pricing. It is also consistent with Gropper and Khunnen (2022) who find that the wealthy pay more in premium per dollar of insurance coverage. Finally, the insurance-portfolio puzzle was also identified in France where wealth-based discrimination is illegal.

Taken together, these results suggest that supply side effects cannot explain the insurance-portfolio puzzle.

Participation costs. Investing and insuring involve (monetary and non-monetary) fixed participation costs (e.g. to gather and process information, to get advice). It has often been suggested that participation costs play a major role in explaining stock market non-participation, especially among the poor (Vissing-Jørgensen 2003, Choi and Roberston 2020). Similarly, it is conceivable that high entry costs to the insurance market could lead the poor to have less coverage than the rich.

To measure the extent to which fixed participation costs influence portfolio decisions we asked respondents "*Imagine you just came across an amount of money you can invest in the stock market. Think about the entire process, from acquiring information about the various stocks, to making a decision about which stock to buy, to actually purchasing the stock. On a scale of 1 to 5, can you tell us how difficult or challenging this process would be for you?*" To measure the extent to which fixed participation costs influence insurance decisions we asked respondents *"Imagine you just got a new car and you must now purchase an auto insurance. Think about the entire process, from acquiring information about the various insurances and different insurance companies, to making a decision about which insurance to buy, to actually purchasing the insurance. On a scale of 1 to 5, can you tell us how difficult or challenging this process would be for you?*"

Consistent with previous literature, we find that the poor face substantial costs of entry to invest in the stock market (see row 1 in Figure A1). Respondents also report lower costs

[5] There is a long history of racial discrimination known as "redlining" in insurance markets (Squires 1997). Over the last decade, various consumer organizations have suggested that insurers price discriminate based on the driver's zip code, credit score, race, education or occupation (Schwarcz 2020). A bill, the "Preventing Auto Insurance Discrimination Act," is currently being considered by the U.S. Congress to restrict auto insurance pricing solely to driving factors.

[6] 78% of respondents report bundling their auto and homeowners/renters policies (similar to the figure in Simpson 2017) and the decision is negatively correlated with wealth. Thus, there is no evidence the wealthy bundle more and thereby get better prices, consistent with the absence of wealth effect in Table A5.

of entry to the insurance market than to the stock market (see row 2 in A1). Further, the participation costs for insurance are relatively homogenous by wealth. This result likely reflects the fact that auto insurance is mandatory, which implies that everyone must pay the entry cost. This may also explain why we found no clear evidence of under-insurance by the poor in our analysis. Hence, participation costs do not explain why the wealthy insure more.

Background risks. In theory, an independent and uninsurable background risk can increase the demand for insurance (see e.g., Gollier and Pratt 1996, Schlesinger 2013). Thus, the positive correlation between wealth and insurance coverage could be explained if the wealthy face higher background risks. Following Choi and Robertson (2020), we test this hypothesis by asking respondents to evaluate the impact four types of background risks (employment, consumption, income and economic disasters) would have on their portfolio and insurance decisions.

Consistent with Choi and Robertson (2020), the results in Figure A2 (rows 1 to 4) indicate that each of these background risks (and especially the possibility of an economic disaster) has a strong influence on investment decisions, leading respondents to hold fewer risky assets (consistent with precautionary saving). Further, these effects are more pronounced among the poor than among the rich. In contrast, none of the background risks has a particularly notable influence on insurance coverage and no clear pattern by wealth emerges (see Figure A3 rows 1 to 4). Hence, like Gropper and Kuhnen (2022), we find no evidence suggesting that background risks can explain the positive relationship between wealth and the demand for insurance.

Consumption commitments. Chetty and Szeidl (2007) show that committed consumptions that are costly to adjust in the short term (e.g. mortgage payments, utilities) can amplify risk aversion or induce risk seeking depending on the agent's wealth level. Chen and Mahani (2012) show that committed consumptions can make insurance a normal good within certain regions of wealth. To test this hypothesis, we followed Choi and Robertson (2020) and asked respondents how their portfolio and insurance decisions are affected by "*My fixed expenses (like mortgage payments, rent, car payments, utility bills, etc) that are difficult to adjust in the short term.*"

Consistent with Choi and Robertson (2020), we find consumption commitments to have a modest effect, on average, on portfolio decisions leading to slightly lower investments in risky assets (see row 5 in Figure A2). The effect, however, is more pronounced for those in the lowest deciles of wealth. Consumption commitments are also found to have essentially no effect on insurance decisions and no clear difference by wealth is observed (see row 5 in Figure

A3). This may be explained in part by the fact that, because it is mandatory, incurance is a consumption commitment (as argued by Chetty and Szeidl 2007, page 831). Hence, it does not seem like consumption commitments can explain the puzzle. Further, the result of Chen and Mahani (2012) applies only locally, for certain levels of wealth, and thus cannot explain the monotonic relationship we identified between insurance coverage and wealth.

D.2 Behavioral Theories

We now discuss whether alternative theories relying on bounded rationality and psychology can explain the insurance-portfolio puzzle.

Prospect theory. According to prospect theory (see Kahneman and Tversky 1979, or Barberis 2013 for applications to finance and insurance), two decisions pertaining to different domains need not be conceived as similar even when they reflect an opposite risk retention tradeoff. Thus, one may intuitively expect prospect theory to explain the puzzle if it is assumed that portfolio decisions belong to the gain domain, while insurance decisions belong to the loss domain. This intuition, however, is incomplete. First, portfolio and insurance decisions each entail gains and losses, and it is unclear why they would necessarily belong to different domains. Second, even if the two decisions were to belong to different domains, prospect theory (including generalizations such as Köszegi and Rabin 2007) does not predict an opposite effect of wealth in each domain. Finally, Gropper and Kuhnnen (2022) similarly conclude that prospect theory cannot explain the positive correlation between wealth and insurance coverage. Nevertheless, we explore below two features of prospect theory, probability weighting and loss aversion.

Probability weighting/ Risk (mis)perception. Suppose that the rich are more optimistic than the poor about financial risks, but that they are more pessimistic about insurable risks. In that case, the rich invest more in risky assets and demand more insurance than the poor, thereby explaining the insurance-portfolio puzzle. We find little support for this hypothesis: Although the correlations between wealth and i) expectations about the stock market and ii) expected (auto and home) damages are positive, they are small and insignificant. Furthermore, our regressions in Tables 7 and A16 controlled for differences in subjective risks and their interactions with wealth. Finally, Jaspersen, Peter and Ragin (2022) conduct a comprehensive analysis of the impact of probability weighting on optimal insurance demand in a unified framework and conclude that "*Together, these results reveal that the descriptive appeal of probability weighting is limited to overinsurance puzzles and does not extend to underinsurance puzzles.*" Hence, we find no reason to believe that probability weighting or risk misperceptions could explain the positive correlation between wealth and insurance coverage.[7]

Loss aversion. Eeckhoudt, Fiori and Gianin (2018) propose a model with a reference point corresponding to full insurance coverage in which sufficient loss aversion can make insurance a normal good for some levels of wealth (but not all). Our strategy to gauge the extent to which loss aversion can explain the puzzle consists in three parts.

First, following Choi and Robertson (2020), we asked respondents the extent to which loss aversion plays a role when they make portfolio and insurance decisions. In slight contrast with Choi and Robertson (2020) who found little effect of loss aversion on investment decisions, we find that the perspective of possible losses reduces the risky asset holding of respondents at the bottom of the wealth distribution (see rows 6 in Figure A2). In contrast, we find no effect of loss aversion on insurance decisions, and no pattern by wealth emerges (see rows 6 in Figure A3).

Second, we elicited a loss aversion coefficient from each respondent using the experimental approach proposed by Dimmock and Kouwenberg (2010). We find the average coefficient of loss aversion to be relatively small (1.24, where 1 corresponds to no loss aversion) and consistent with the estimates of 1.17 in Dimmock and Kouwenberg (2010). Further, we find no significant differences across deciles of wealth.

Third, the result in Eeckhoudt et al. (2018) hinges on the assumption that the reference point people use to assess gains and losses is full insurance coverage. To test this hypothesis we asked respondents the following question: "*Imagine you have a car and you purchase an insurance that cost $150. The insurance covers all damages you may incur. Would you consider the following situations a loss or a gain: 1) You have no damage for a year; 2) You have a damage of $130 for which you are entirely reimbursed; 3) You have a damage of $180 for which you are entirely reimbursed.*" For each of the three situations the respondent could choose among {Loss, Neither a loss nor a gain, Gain}. If full insurance is the reference point, then "Neither a loss nor a gain" should be chosen in all three situations. Only 8% of respondents did so. Hence, we find little support for the assumption of Eeckhoudt et al. (2018) that full insurance is the relevant reference point. Instead, 48% of respondents chose "loss" in situation 1) and 2), and "gain" in situation 3). In other words, these respondents start experiencing gains when the indemnity they receive from the insurance company ex-

[7] Barseghyan et al. (2013) is often cited for showing that probability weighting plays a role in the choice of insurance deductible. However, the authors acknowledge that their analysis "*does not enable us to say whether households are engaging in probability weighting per se or whether their subjective beliefs about risk simply do not correspond to the objective probabilities.*" (p. 2527). Our results consistent with Barseghyan et al. (2013) since we found that subjective risks play an explicit role over and beyond that objective risks.

ceeds the insurance premium they paid. This suggests that the premium is the reference point for almost half of the respondents.

Taken together, these results suggest that loss aversion is not a good candidate to explain the positive correlation between wealth and insurance demand.

Rational inattention. Under rational inattention (Sims 2003, Caplin 2016) an agent facing small stakes may prefer not to acquire information, thereby leading to "sub-optimal" choices. This model is appealing intuitively given the relatively modest individual cost of insurance mistakes estimated in appendix E (around 13% of the premium). Rational inattention, however, cannot be reconciled with the fact that those most likely to make insurance "mistakes" (the wealthy) are also those who i) report being better informed about their policy and ii) shop around more often for insurance (see below). Further, without additional assumptions, rational inattention appears inadequate to capture the pattern of insurance "mistakes" we observe in the data, i.e. compared to the poor, the wealthy are more likely to over-insure, but equally likely to under-insure. Finally, it does not seem like rational inattention can explain why the wealthy over-insure while the poor under-invest.

Context-dependent preferences. There is mounting evidence that risk preferences may not be stable across contexts (for a review, see Barseghyan et al. 2018). So it could be that portfolio and insurance decisions concern different contexts and that risk preferences differ in each context. To explain the puzzle, risk preferences would then have to be DARA in the financial context and IARA in the insurance context. Although possible, this hypothesis implies that risk preferences belong to a different "family" of utility functions in each context. This is an unusual assumption for which there is currently no empirical support.

As a first step to test this hypothesis, we elicited two separate risk tolerance measures from each respondent, one in the investment context and one in the insurance context.[8] We found that respondents generally report being more risk averse when it comes to insurance decisions as compared to investment decisions. However, the correlation between the two measures of risk tolerance is high (0.72) and there is no differential effect by wealth (e.g. the rich are not relatively more risk averse when it comes to insurance decisions). Finally, when we plot both measures against wealth, we see the same concave and monotonically increasing relationship as in Figure 5. Hence, we find evidence consistent with DARA preferences in both contexts.

[8] Namely, we asked respondents "*On a scale from 1 to 7, how would you rate your willingness to take risks when you make an insurance coverage decision?*" and "*On a scale from 1 to 7, how would you rate your willingness to take risks when you make a risky investment decision?*". The two questions were asked in two separate and distant places in the survey so as to avoid anchoring.

Finally, recall that once we control for regret avoidance and nonperformance risk, the data no longer suggest that risk preferences differ for portfolio and insurance decisions. Instead, we find a positive relationship between wealth and risky asset holding, and a negative relationship between wealth and insurance coverage. These two relationships are consistent with DARA preferences under standard theory. Hence, we find no evidence suggesting that risk preferences may differ fundamentally between portfolio and insurance decisions.

Inertia. Even when consumers initially make optimal decisions, they do not necessarily adjust their choices over time optimally. This tendency for inertia has been shown to explain suboptimal insurance and portfolio choices (see e.g. Handel 2013, Koijen, Van Nieuwerburgh and Yogo 2016 or Andersen et al. 2020). Similarly, it is conceivable that the wealthy have too much insurance coverage because they do not shop around regularly and are "stuck" with an inappropriate contract as their car ages (e.g. they keep their collision and comprehensive coverage unchanged even when the value of their vehicle depreciates over time).

To test this hypothesis, and to measure the prevalence of inertia in insurance and portfolio choices, we asked respondents "*How often do you 'shop around' for car insurance, that is, how often do you compare prices or coverage options between insurance companies?*" and "*How often do you 'shop around' for investments, that is, how often do you look at the stock market performance, compare specific stocks, or study other possible investment opportunities?*" with possible answers (1) At least once a month, (2) A couple of times a year, (3) Once a year, (4) Once every two years, (5) Never.

For investment decisions (respectively, insurance decisions), 86% (respectively 69%) of respondents in the top quartile of wealth chose one of the first 3 options (i.e. they shop around at least once a year). In contrast, a significantly smaller share, 32% and 48%, of respondents in the bottom quartile of wealth chose one of the first 3 options for portfolio and insurance decisions, respectively. Hence, consistent with Andersen et al. (2020), but contrary to our hypothesis, we find that the poor are more likely to suffer from inertia when managing risks. This also confirms that the wealthy tend to be more "savvy consumers," as discussed above. Therefore, we conclude that inertia cannot explain why the wealthy purchase more insurance.

Non-monetary benefits. Full insurance coverage may provide additional benefits such as a better quality of service or time savings.[9] Insurance may also have an intrinsic consumption

[9] This hypothesis, however, is questionable. Under standard product differentiation, products with better quality have higher prices, and the quality of a product does not improve with the amount purchased. Further, it is not clear that over-insuring saves time. Drivers with low deductibles often do not submit claims for small damages in part because the administrative process can be very time consuming.

value distinct from its monetary implications, similar to the "utility of gambling" (Conlisk 1993). For instance, such "utility of insurance" could include a feeling of "peace of mind" (Chiappori and Salanié 2000, Kunreuther and Pauly 2006). Finally, people may attach a sentimental value to the goods they insure. In this case, over-insurance can help compensate the loss in sentimental value when damages occur (Hsee and Kunreuther 2000). To test these hypotheses, we asked respondents the extent to which they attach a non-monetary or a sentimental value to their vehicle and the extent to which they purchase insurance for peace of mind. As reported in Rows 1 and 2 of Figure A4, we find no evidence that the rich care more about peace of mind or assign a higher sentimental value to the good they insure. Thus, we find no reason to believe these non-monetary effects can explain the puzzle.

Trust. In the absence of complete and perfectly enforceable contracts, trust has long been recognized as a key driver of economic activity (Arrow, 1972). In particular, financial transactions are believed to be particularly dependent on trust because they involve an element of time: money is exchanged today against a contingent promise of future payments. Several studies have shown that trust in others has a positive effect on households' stock market participation and on the share of wealth they invest in stocks (e.g. Guiso, Sapienza and Zingales 2008, Sapienza and Zingales 2012). Similarly, Guiso (2012, 2021) argues that trust should play a role in insurance markets. How trust influences the demand for insurance, however, may be more subtle. Indeed, while Guiso et al. (2008) recognize that investors must consider the subjective risk of being cheated when making portfolio decisions, Guiso (2021) argues that insurance contracts involve two-sided trust since both parties are exposed to the possibility of abuse: The insured can cheat the insurance company (e.g. by making an illegitimate claim) and the insurance company can cheat the insured (e.g. by not paying a legitimate claim).

To test the role played by trust in shaping portfolio and insurance choices, and to gauge the extent to which trust can explain the insurance-portfolio puzzle, we elicited various measures of trust from each respondent. Following Sapienza and Zingales (2012) and the Chicago Booth/Kellogg School Financial Trust Index approach, respondents are asked to assess in turns how much they trust other people, the stock market, banks, and insurance companies, with responses ranging from 1 "No trust at all" to 5 "Complete trust."[10]

Figure A5 shows that trust differs by institutions. Respondents generally trust other

[10] Trust and nonperformance risk are related concepts. A key difference is that our measures of trust are more general (we ask about trust in others, trust in banks), while our measures of nonperformance risk are more specific (we ask about the risk associated with the respondent's own insurance contract). The correlation between trust and nonperformance risks ranges from 0.47 to 0.63. Hence, the two measures are closely related, but they do not seem to capture the same information. In particular, there is no trust equivalent to our measure of "manageable nonperformance risk" which plays a significant role in explaining the puzzle.

people (consistent with Guiso et al. 2008), they are fairly neutral toward banks, and they equally distrust the stock market and insurance companies. The latter is consistent with recent literature (e.g. Courbage and Nicolas 2021, der Cruijsen, de Haan and Roerink 2021) showing that the public's trust in insurance companies is generally lower than trust in banks.

We report in Table A17 the results of the estimation of the baseline model augmented with different measures of trust. Observe first that we (weakly) confirm the results of Guiso et al. (2008). Indeed, regardless of the measure we use in Models 1, 2 and 3, the effect of trust on portfolio decisions is always positive and often significant. In contrast, our measures of trust have no significant impact on insurance coverage in each of the three models. Finally, observe that the parameter associated with wealth remain little changed when we control for trust. Hence, unlike the related notion of nonperformance risk, we find little evidence that general measures of trust play a substantial role in explaining why insurance coverage increases with wealth.

Salience theory. Salience theory posits that attention is directed toward outcomes that are more "salient," that is more different from the average. To formalize the approach Bordalo, Gennaioli and Shleifer (2012) assume that agents overweight salient outcomes relative to their objective probabilities. Salience theory is closely related to other non-expected utility theories. In particular, salience theory can explain skewness preference, because extreme payoffs are more salient (Dertwinkel-Kaltand and Köster 2020). Further, Herweg and Mueller (2021) show that original regret theory (Loomes and Sugden 1982) is a special case of salience theory, which itself is a special case of generalized regret theory (Loomes and Sugden 1987).

At first glance, salience theory does not seem like a good candidate to explain why insurance demand increases with wealth. Indeed, decisions are independent of wealth under salience theory. For instance, in their application of salience theory to asset pricing Bordalo, Gennaioli and Shleifer (2013) state "*Salience is thus defined within the 'narrow frame' of objective asset payoffs and does not depend on investor-specific attributes such as own portfolio or wealth.*"

Nevertheless it is conceivable that high insurance coverage is a more salient outcome for the wealthy given the possible losses they face. While we cannot completely rule out this possibility, we note that i) we control for possible losses in the baseline model, and ii) wealth is still positively correlated with insurance demand in our experiment in Section 6 when all respondents face exactly the same potential losses.

It is also possible that sensitivity to salient outcomes vary by wealth. To test this hypothesis we replicated part of the lottery experiment of Carsten, Sebald and Sorensen (2021). In the experiment, the lotteries are economically equivalent across treatments, but the best outcome of the risky lottery is made more or less salient. Comparing an individual willingness to pay for the risky lottery across treatments therefore provides a measure of her/his sensitivity to salience. The results of the experiment we conducted provide some evidence supporting salience theory, consistent with Carsten et al. (2021). However, we find no evidence that salience sensitivity vary by wealth.

Summing up, while we cannot completely rule out salience theory, it is not a natural candidate to explain the puzzle, in contrast with the closely related concept of regret avoidance which we found to have strong explanatory power.

Skewness preference. It is now well established, both experimentally and empirically, that people tend to seek risks with positive skewness and avoid risks with negative skewness beyond what standard expected utility would predict (e.g. Golec and Tamarkin 1998, Ebert and Wiesen 2011, Boyer and Vorkink 2014, Jondeau, Zhang and Zhu 2019, Dertwinkel-Kalt and Köster 2020). In particular, people have been found to over-insure against negatively skewed risks (e.g. Sydnor 2010, Barseghyan et al. 2013), and they are willing to pay more for positively skewed assets (e.g. Boyer, Mitton and Vorkink 2010, Conrad, Dittmar, and Ghysels 2013). Various theories can generate skewness preferences including probability weighting (Barberis and Huang 2008), salience theory (Bordalo et al. 2012), or regret theory (Gollier 2020). In principle, skewness preference could explain the insurance-portfolio puzzle through two possible channels.

First, the wealthy could believe they face risks that are more positively skewed for investments and more negatively skewed for insurance, thereby leading to higher demand for both insurance and risky assets. We find some evidence to support this hypothesis. First, while the stock market as a whole is generally described as being negatively skewed (Barberis 2013), individual stocks tend to be positively skewed (Mitton and Vorkink 2007). Responses to our survey indicate that conditional on owning stocks, 65% of respondents in the top quartile of wealth own individual stocks versus only 21% for respondents in the bottom quartile of wealth. Hence, the portfolio of the wealthy is arguably more right skewed than the portfolio of the poor, consistent with the results of Choi and Robertson (2020). Further, we can use the subjective distributions we elicited for investment returns and possible insurance losses to calculate for each respondent the skewness (defined here as the standardized third moment) of her/his portfolio and insurance subjective distributions. The correlation between wealth and individual skewness is 0.13 for portfolio risk and -0.29 for insurance risk, with both statistics significant at the 5% level. Hence, we find evidence suggesting that the wealthy perceive their investment returns to be more positively skewed and their insurance risks to be more negatively skewed.

Second, the wealthy may have different preferences for skewness. To test this hypothesis we built on Ebert (2015) and conducted a (hypothetical) lottery experiment with two treatments, one in the "gain domain" (i.e. the lotteries have positive expected returns) and the other in the "loss domain" (the lotteries result in losses). Each treatment consists in two rounds. In round 1 of the gain treatment, the respondent is given $1,000 to invest in either lottery 1 : {50% chance of a 45% return ; 50% chance of a -25% return} or lottery 2 : {30% chance of a 63% return ; 70% chance of a -13% return}. If the respondent chose lottery 1 in round 1, then s/he had to choose between lottery 1 and lottery 3 : {70% chance of a 33% return ; 30% chance of a -43% return} in round 2. Instead, if the respondent chose lottery 2 in round 1, then s/he had to choose between lottery 2 and lottery 4 : {10% chance of a 115% return ; 90% chance of a -2% return} in round 2. Observe that each lottery has the same mean and variance. The lotteries however, can be ranked from least to most skewed (lottery 3 < lottery 1 < lottery 2 < lottery 4). Based on a respondent choices, s/he can be assigned a score representing her/his preference for skewness in the gain domain between 1 (lowest skewness preference) and 4 (highest skewness preference). The lotteries in the "loss treatment" are the same as the lotteries in the gain treatment, except that they are framed as losses. For instance, in round 1 of the loss treatment, the respondent is given $2,500 but s/he has to take one of two risks resulting in losses: risk 1 : {50% chance of losing $1,050 ; 50% chance of losing $1,750} or risk 2 {30% chance of losing $870 ; 70% chance of losing $1,630}. Using the same approach as above, each respondent can be assigned a score representing her/his preference for skewness in the loss domain. The data collected in the experiment show that the correlation between wealth and the skewness preference score is 0.15 in the gain treatment and 0.26 in the loss treatment, with both statistics significant at the 5% level.[11] Hence, we find evidence suggesting that the wealthy may have stronger skewness preferences in the gain and especially in the loss domain.

To test whether skewness preference could explain the insurance-portfolio puzzle, we estimated the baseline model augmented with i) the variance and the standardized third moment of each respondent's subjective distributions of investment returns and of possible insurance losses, and ii) each respondent's skewness preference score in the gain domain (for the investment equation) and in the loss domain (for the insurance equation). The results reported in Table A18 provide no support for the first channel. Indeed, our subjective measure of skewness does not play a significant role on investment and insurance decisions. In contrasts, we find some evidence to support the second channel. Indeed, respondents with higher skewness preference scores purchase significantly more insurance coverage and hold

[11] Individual responses are generally consistent across domains. In particular, the correlation between an individual's skewness preference score in the gain and in the loss domain is 0.68.

significantly (at the 10% level) riskier assets. Skewness preference, however, does not explain the puzzle. Indeed, compared to the baseline model, the parameters associated with wealth remain little changed and highly significant in Table A18. Further, the skewness preference scores become insignificant once we control for anticipated regret, which, as explained above, could be the source of skewness preferences.

Mental accounting/Narrow bracketing. Under mental accounting (Thaler 1999) consumers set separate budgets across expense categories (e.g. for clothing, utilities, insurance, or investments).[12] An assumption of the model is that the money is not fungible across budgets. For instance, Farhi and Gabaix (2015) assume that there is a cost for deviating from the initial budget. As a result, consumers have an incentive to spend the money budgeted for a specific expense category. So, if each budget increases with wealth, then we should expect the wealthy to spend more simultaneously on insurance and on risky assets. Spending more, however, does not necessarily imply that the wealthy would purchase more insurance coverage. Indeed, if the budget allocated to the good insured also increases with wealth, then all else equal, the cost of insuring a more valuable good would also increase for the wealthy. Our approach to assess the extent to which mental accounting plays a role in insurance decisions consists of three parts.

First, we tested one implication of the model which is that agents do not think holistically about how to address possible damages, and instead set different budgets to pay for insurance and to pay for car repairs. To do so we asked "*When I buy auto insurance, I think about how much out of pocket money I would be prepared to spend on repairs in case of an accident*" with responses ranging from 1=Disagree, 4=neither agree nor disagree, to 7=Agree. As indicated in row 3 of Figure A4, respondents generally agreed with the statement with little difference by wealth. Hence, respondents do not seem to consider separately expenses for insurance and for car repairs.

Second, we use the scale devised by Muehlbacher and Kirchler (2019) to assess the extent to which each respondent in our survey engages in mental accounting. The scale is based on five questions: "*1) It is important to me to keep track of my financial activities precisely; 2) I keep a record of my earnings and expenses; 3) I could at least say roughly how much I have spent this month; 4) I classify my expenses into different categories (for instance, clothing, entertainment, education); 5) Generally, I am someone others would describe as well organized.*" We added two questions "*6) When it comes to my car, I classify my expenses into different categories (for instance, for gas, for insurance, for maintenance, for repairs) 7) When it comes to my savings and investments, I classify my money into different categories*

[12] By "mental accounting" we mean "narrow bracketing of consumption decisions."

(for instance for cash on hands, for risky investments, for safe investments)." For each question respondents had to use a Likert scale ranging from 1=Disagree, 4=neither agree nor disagree, to 7=Agree. Focusing on the first five questions (on which the scale of Muehlbacher and Kirchler 2019 is based), we find an average response of 4.1 with no evidence of wealth differences. Further, respondents tend to disagree with the last two statements (with an average of 3.6 for question 6 and 3.7 for question 7), and no obvious wealth differences emerge. Hence we find no evidence that respondents engage in mental accounting, and no evidence that they compartmentalize their investments or their auto related expenses.

Third, we ran an experiment similar to Abeler and Marklein (2017) to assess the extent to which the money budgeted for insurance is fungible, as assumed under mental accounting. The experiment has the same structure as the one describe in Section 6 of the paper. Half of the 1,256 respondents (group A) were asked to imagine they won a prize consisting of a new car with a resale value of $20,000 and $500 in cash. The other half (group B) was asked to imagine they won a prize consisting of a new car with a resale value of $20,000, $425 in cash and $75 which can only be used to pay for car insurance. Then, each group had to state their willingness to pay to insure against a risk of a 1% chance of $15,000 in damages. As explained in Abeler and Marklein (2017), if respondents are rational and treat money as fungible, then there should be no difference in their willingness to pay for insurance between the two groups. In contrast, if respondents do not treat money as fungible, then group B will be willing to spend more on insurance. We find no evidence to support the latter hypothesis. In fact, group A is willing to spend a little more on average ($181.4) than group B ($177.6) in our experiment. The difference, however, is not significant. Similarly, the median willingness to pay is not significantly different between the two groups.

Taken together, these results suggest that mental accounting does not play a substantial role in insurance decisions and thus, cannot explain the positive correlation between wealth an insurance demand. In particular, when we add the Muehlbacher and Kirchler (2019) individual measure of mental accounting to the baseline model estimated in Section 5, the associated parameter comes out insignificant.

Internet Appendix E: Behavioral Mistakes and the Cost of the Puzzle

E.1 Are departures from standard theory due to behavioral mistakes?

We assess in this section the extent to which respondents in our survey make systematic investment and insurance mistakes that could shed light on the insurance-portfolio puzzle. Following previous literature, we consider three criteria to gauge investment mistakes: Stock market participation, portfolio diversification and equity exposure over the lifecycle. The first two panels in Figure A6 show that stock market participation increases monotonically with wealth, while portfolios are more concentrated at the lower end of the wealth distribution, consistent with Calvet, Campbell and Sodini (2009). The last panel in Figure A6 shows that equity exposure among the rich is more consistent with the optimal life-cycle asset allocation of Gomes and Michealides (2005).[13] Thus, consistent with existing literature, we find that the wealthy are less prone to investment mistakes.

We consider four common measures of "under-insurance" in Figure A7.[14] The first panel shows the proportion of drivers with low auto liability coverage.[15] The next two panels show the proportion of homeowners with low home liability and dwelling coverage.[16] Finally, the last panel shows the proportion of renters without renter's insurance. Figure A7 reveals that under-insurance is prevalent, as often argued in the press: roughly half of homeowners have low home liability coverage, and 42% of renters are not insured.[17] However, no monotonic

[13] We exclude respondents without risky assets in the right panel of Figure A6. Accounting for these respondents makes the difference between rich and poor even more pronounced. It should to be noted that there is no consensus on the shape of the optimal "glide path." Here, we use the optimal equity exposure over the lifecycle calculated by Gomes and Michealides 2005 (page 883) as a benchmark. Note however, that the nature of our results does not change when we consider alternative glide paths (e.g. inverse U-shape), including popular rule of thumbs (e.g. "100 (or 120) minus your age in stock", or "your age in bonds").

[14] These measures are typically listed among the most common insurance mistakes by consumer advocates (see e.g. www.consumerreports.org/cro/2013/05/4-big-insurance-mistakes-to-avoid/index.htm)

[15] A respondent is said to have low auto liability insurance when three conditions are met: 1) the respondent purchased the minimum auto liability coverage required by law in his state, 2) this minimum is less than half of the respondent's assets exposed to liability suits (all the respondent's assets absent retirement savings which are exempt from creditors), and 3) the respondent does not have an umbrella insurance. This measure is a lower bound, as drivers who have more than the legal minimum could still be under-insured.

[16] A homeowner is said to have low home liability insurance when his home liability coverage is less than half of his exposed assets and the homeowner does not have an umbrella insurance. A homeowner is said to have low dwelling insurance when his dwelling coverage is less than half of his replacement cost (the cost of rebuilding his home). Using benchmarks other than 50% produce similar results.

[17] The inverse U-Shape in the first two panels of Figure A7 is not necessarily surprising. The poorest and wealthiest respondents are less likely to under-insure on liability, because the former have few assets while the latter are more likely to have an umbrella insurance.

pattern between under-insurance and wealth emerges in any of the four panels of Figure A7.

We consider four measures of over-insurance in Figure A8. The first two panels show the proportion of homeowners who purchase too much liability and dwelling coverage.[18] The last two panels focus on insurance add-ons typically considered unnecessary or too expensive: roadside assistance and towing coverage for auto insurance,[19] and extended warranty on appliances and durable goods.[20] Each panel on Figure A8 shows the same pattern: Over-insurance is not rare and it is more prevalent among the wealthy.

Summing up, we find evidence suggesting that the poor tend to under-invest in risky assets, whereas the rich tend to over-insure.

E.2 The cost of the puzzle

The exercise to evaluate the cost of over-insuring by the wealthy consists in four steps. First, we use Model 5 in Table 7 to predict what the insurance coverage of each respondent i in the top quartile of wealth would have been if that respondent's wealth had been equal to the median wealth of a respondent in the first quartile of wealth (i.e. \$7,000). In other words, we estimate the insurance coverage Y_i of respondent i, if, all else equal (i.e. leaving the respondent's other characteristics unchanged), she had been poor instead of wealthy. Second, we take the difference between respondent i actual insurance coverage X_i and the insurance coverage Y_i we estimated in step 1. Under expected utility and DARA, this difference provides a lower bond on over-insurance. Indeed, respondent i selected an index of insurance coverage of X_i when she should have selected a coverage no greater than Y_i (because insurance coverage decreases with wealth under DARA). Third, we use the auxiliary insurance premium model estimated in Table A5 to evaluate a lower bond on how much respondent i would have saved (both in absolute and relative terms) by selecting coverage Y_i instead of X_i. Fourth, we calculate the median absolute and relative savings across all

[18] A homeowner is said to over-insure on home liability when his coverage exceeds by at least 25% his exposed assets. A homeowner is said to over-insure on dwelling when his coverage exceeds his replacement cost by at least 25%. Using benchmarks other than 25% produce similar results. Although positive, the correlation between these two variables is not large (0.11). Thus, it appears that the homeowners who over-insure on liability are not systematically the same as the homeowners who over-insure on dwelling.

[19] New vehicles are already covered by 3 to 10 years roadside assistance plans, many credit cards offer roadside assistance and towing as a benefit, and less expensive alternatives are often available (e.g. joining an automobile club).

[20] As defined by Abito and Salant (2019) "An extended warranty is an insurance contract that protects against the failure of a durable good such as a consumer electronic." Although almost universally described as a waste of money by consumer advocates, the willingness to pay for extended warranties is high. This failure to self-insure has been somewhat of a puzzle to economists. In the survey, we asked "When purchasing new appliances (such as electronics or home appliances), how often do you also purchase an insurance or extended warranty? (1) Every time or almost every time (2) Sometimes (3) Never or almost never." The right panel in Figure A8 shows the proportion of respondents who selected (1) or (2).

respondents i in the first quartile of wealth.[21] At the end of this process, we estimate that the median saving among respondents in the top quartile of wealth would have been at least \$126 or 12.8% of the premium they actually paid.

This estimated cost of the insurance-portfolio puzzle is consistent with other puzzles in the household finance literature. For instance, Sydnor (2010) finds that homeowners could save \$100 by selecting higher deductibles on their homeowner insurance. Similarly, Calvet et al. (2007) evaluate the cost of portfolio under-diversification between \$30 and \$130 per household. Although the cost of these puzzles are modest at the individual level, Bhamra and Uppal (2019) show that they cannot be ignored because they have large aggregate effects and serious general equilibrium implications for real investment, growth and social welfare. In our case, a back-of-the-envelope calculation suggests that the cost of over-insurance in the U.S. exceeds \$8 billion dollar per year for car insurance and \$5.5 billion per year for homeowner insurance, just for people in the top quartile of wealth.[22]

[21] We use the median instead of the mean because it is less susceptible to outliers.

[22] There are roughly 125 million households in the U.S., each with two cars on average. The cost calculations for homeowner insurance follow the same back-of-the-envelope calculations as car insurance. Similarly, Sydnor (2010) reports that the cost of over-insurance to U.S. homeowners is \$4.8 billion per year.

Internet Appendix F: Nonperformance Risk

We show in this appendix how insurance demand can increase with wealth under nonperformance risk, even under DARA.

Mossin's result. We first replicate the standard Mossin's result using Jewitt (1987)'s theorem on the single crossing property. This theorem will be used later on to explain how nonperformance risk changes the problem. To simplify, we consider two states of nature, loss (with probability p) and no loss, and a unique full insurance contract with premium π. The agent's expected utility under no insurance is

$$U^N(w) = (1-p)u(w) + pu(w-L)$$

while the agents's expected utility under full insurance is

$$U^I(w) = u(w-\pi)$$

Theorem 1 in Jewitt (1987, page 75) says the following: Consider two cumulative distribution functions of wealth F and G that cross exactly once, and suppose that G crosses F from below. It follows that $\int udG = \int udF$ implies $\int vdG \geq \int vdF$ whenever u and v are both increasing with v more risk averse than u in the sense of Arrow-Pratt.

Note that this theorem provides a necessary and sufficient condition (Gollier 2001, Proposition 19) in the sense that if F and G cross more than once then it is always possible to find specific utility functions such that, locally, we have $\int udG = \int udF$ implies $\int vdG \leq \int vdF$.

Figure A9.1 shows the cumulative distribution functions of the agent's wealth under full, and under no insurance, denoted G and F, respectively. It is clear from the figure that G crosses F only once from below, so that we can apply Jewitt's theorem. Hence, if an agent is indifferent between the two prospects, then a more risk averse agent prefers insurance.

Following the argument in Section 2 of the paper, let $v = -u'$, which implies that v is more risk averse than u iff u DARA. Thus, under DARA and Jewitt's theorem, we have $(1-p)u(w) + pu(w-L) = u(w-\pi)$ implies $(1-p)u'(w) + pu'(w-L) \geq u'(w-\pi)$. That is, at the crossing point, the slope of the expected utility function is higher under no insurance than under insurance. This implies that $U^N(w)$ can only cross $U^I(w)$ once from below when wealth increases. This is essentially Mossin result: as the agent becomes wealthier, he switches from insurance to no insurance under DARA.

Nonperformance risk. We consider now the possibility of contract nonperformance. Following Doherty and Schlesinger (1990), we consider a simple model under which the insurance company defaults on the indemnity payment with probability q. In that case, the agent's expected utility under full insurance is

$$U^{NP}(w) = (1-p)u(w-\pi) + p(qu(w-\pi-L) + (1-q)u(w-\pi))$$

$$= (1-pq)u(w-\pi) + pqu(w-\pi-L)$$

We plot in Figure A9.2 the cumulative distribution functions of the agent's wealth under no insurance, and under insurance with nonperformance risk. As can be seen on the figure, there are now two crossing points. This implies (from Jewitt's theorem) that Mossin's result no longer holds, as mentioned in Doherty and Schlesinger (1990). In other words, insurance can increase with wealth under DARA when there is a risk of nonperformance. The intuition is simple. Observe that in the loss state, wealth under no insurance ($w-L$) is higher than wealth when the insurance contract does not perform ($w-\pi-L$). The poor may be particularly sensitive to this reduction in wealth in the loss state and thus, they may find insurance less attractive than the wealthy when there is a risk of nonperformance.

Observe also that purchasing insurance under nonperformance risk is akin to self-protection. It is a payment that reduces the probability of loss from p to pq. If the loss occurs however, then the agent is worse off under self-protection. Unsurprisingly, it has long been known that self-protection efforts need not increase with risk aversion (Dionne and Eeckhoudt 1985).

Manageable nonperformance risk. We now turn to the case of a manageable nonperformance risk. To the best of our knowledge this problem has not been studied in the literature. We assume that purchasing more insurance coverage (i.e. paying a higher premium $\pi_1 > \pi$ in our case), reduces the probability that the insurance company defaults on the indemnity to $q_1 < q$. The agent's expected utility under this new contract is

$$U^{NP1}(w) = (1-pq_1)u(w-\pi_1) + pq_1u(w-\pi_1-L) \tag{9}$$

We plot in Figure A9.3 the cumulative distribution functions of the agent's wealth under the two contracts characterized by $\{\pi, q\}$ and $\{\pi_1, q_1\}$. Again, there are two crossing points. Hence, the poor may favor the high insurance coverage contract less than the wealthy when nonperformance risk is manageable. The intuition is similar as above: Managing the risk of nonperformance by purchasing more insurance is akin to self-protection.

To illustrate, we consider a numerical example. We assume $L = 5$, $p = 0.2$, $q = 0.1$, $q_1 =$

0.01, $\pi = 1$ and $\pi_1 = 1.5$. We take u CRRA (which is thus DARA) with a relative risk aversion parameter of 4. Using Mathematica, we plot in Figure A9.4 the agent's expected utility as a function of wealth i) under no insurance (blue curve), ii) under the low cost insurance with high nonperformance risk characterized by $\{\pi, q\}$ (orange curve), and iii) under the high cost insurance with low nonperformance risk characterized by $\{\pi_1, q_1\}$ (green curve). The figure shows that, as wealth increases, the agent initially prefers no insurance, then the low cost insurance with high nonperformance risk, and finally the high cost insurance with low nonperformance risk. This example therefore shows that a wealthier agent who exhibits DARA can purchase more insurance when the risk of nonperformance is manageable.

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