Private Information and Insurance Rejections

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- Why reject applicants? Why not offer some contract, perhaps at a higher price?
- I ask whether private information can explain rejections

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3. Apply the approach to three non-group market settings: Long-term care, Disability, and Life insurance

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  - Results suggest practice of rejections limit extent of *observed* adverse selection
- Pattern of private information in Life setting can also explain *absence of* rejections in annuity markets

Outline

1. Theory
2. Comparative Statics / Measures of Private Information
3. Empirical Methodology
4. Setting and Data
5. Specification and Results
6. Conclusion

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  - Allocation $A = \{c_L(p), c_{NL}(p)\}_{p \in \Psi}$

Implementable Allocations

Definition

An allocation $A = \{c_L(p), c_{NL}(p)\}_{p \in \Psi}$ is **implementable** if

1. A is resource feasible:
$$\int \left[w - pl - pc_L(p) - (1-p)\,c_{NL}(p)\right] dF(p) \geq 0$$
2. A is incentive compatible: $\forall p, \hat{p} \in \Psi$,
$$pu(c_L(p)) + (1-p)\,u(c_{NL}(p)) \geq pu(c_L(\hat{p})) + (1-p)\,u(c_{NL}(\hat{p}))$$
3. A is individually rational: $\forall p \in \Psi$
$$pu(c_L(p)) + (1-p)\,u(c_{NL}(p)) \geq pu(w-l) + (1-p)\,u(w)$$

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- What friction could prevent trade in this environment?
  - If type p prefers bundle (c_L, c_{NL}) to the endowment, then all types $P \geq p$ also prefer bundle (c_L, c_{NL})

No Trade Theorem

Theorem

The endowment, $\{(w-l, w)\}$, is the only implementable allocation if and only if

$$\frac{p}{1-p}\frac{u'(w-l)}{u'(w)} \leq \frac{E[P|P \geq p]}{1-E[P|P \geq p]} \;\forall p \in \Psi \backslash \{1\} \qquad (1)$$

where $\Psi \backslash \{1\}$ denotes the support of $F(p)$ excluding the point $p=1$. Conversely, if (1) does not hold, then there exists an allocation that does not exhaust resources and provides a strict utility improvement to a positive mass of types.

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- I derive conditions under which *any* contract (or menu of contracts) would unravel
  - Allow for variable premiums and deductibles
  - Previous literature has argued trade must always occur in these settings (Riley 1979, Chade and Schlee 2011)

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Suppose the No Trade condition holds. Then, $F(p) < 1 \; \forall p < 1$.

- Empirically relevant?
  - Does not require any mass at $p = 1$ (robustness/approximation)
  - Can be relaxed if each contract must attract non-trivial fraction of types

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- **Unraveling Intuition:** "Thick upper tails" increase $E\left[P|P \geq p\right]$ and make no trade more likely

Metric #1: Minimum Pooled Price Ratio

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- $\frac{u'(w-l)}{u'(w)} - 1$ is highest markup on premiums individual would pay
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- **Quantification of barrier to trade:** $\inf_{p \in \Psi \backslash \{1\}} T(p) - 1$

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  - But doesn't work for those who would be rejected

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4. Classification of X into Θ^{Reject} and $\Theta^{NoReject}$

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     - Construct an analogue of the minimum pooled price ratio

Using Subjective Probability Eliciations

- Z may not express an agents' true beliefs
- I will provide **two complementary treatments** of these elicitations:
  1. Nonparametric lower bounds using relatively weak assumptions
     - Test for presence of private information & comparative static
  2. Add some structure to estimate distribution of private information, $F(p)$
     - Construct an analogue of the minimum pooled price ratio
     - Test comparative static and quantify barrier to trade

Approach 1: Nonparametric Lower Bounds

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- But no statement about magnitude of private information

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  - Provides simple link between unobserved beliefs, P, and observed realizations, L

Construct Distribution of Predicted Values

The approach:

- Consider the predicted loss given X and Z

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  - Measure predictive power of Z using dispersion metric derived from the theory

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- Generates lower bounds

$$E[m_Z(P_Z)|X] \leq E[m(P)|X]$$

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- Flexibly approximate $f_p(p)$ and estimate f_p and θ using MLE

Translate to Minimum Pooled Price Ratio

- Given estimates of f_P, construct $T(p)$

$$T(p) = \frac{E[P|P \geq p]}{1 - E[P|P \geq p]} \frac{1-p}{p}$$

Inf Link

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  - Use f_P to construct $E[P|P \geq p]$ at each p

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  - Economic rationale: $\inf_{p \in [0, F^{-1}(\tau)]} T(p)$ characterizes barrier to trade if firms must attract at least fraction $1 - \tau$ of population to a contract

Inf Link

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Summary of Empirical Approach

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    - Quantify minimum pooled price ratio, $\inf_{p\in[0,F^{-1}(\tau)]} T\left(p\right)$
        - Test comparative static
        - Assess magnitude - large/small enough?

1. Theory
2. Comparative Statics / Measures of Private Information
3. Empirical Methodology
4. **Setting and Data**
5. Specification and Results
6. Conclusion

Setting and Data

Apply the approach to three non-group market settings: Long-term care, Disability, and Life

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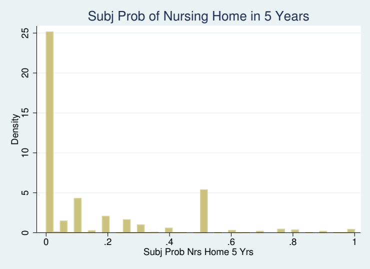
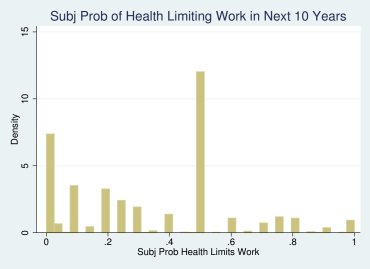
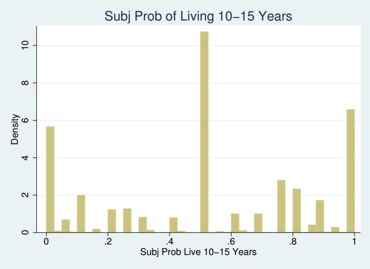
  - Survey asks subjective probability elicitations
    - LTC: *"What is percent chance (0-100) that you will move to a nursing home in the next five years?"*
    - Disability: *"[What is the percent chance] that your health will limit your work activity during the next 10 years?"*
    - Life: *"What is the percent chance that you will live to be AGE or more?"* (where $AGE \in \{75, 80, 85, 90, 95, 100\}$ is respondent-specific chosen to be 10-15 years from interview date)
- Panel allows us to construct corresponding realizations, L
- Empirical methodology will ask: what are the barriers to trade imposed by private information for obtaining insurance against these events?

Subjective Probability Histograms







Classification of Rejections

Not everyone can purchase insurance in these three markets

- Comprehensive review of underwriting guidelines and interviews with underwriters provides conditions which would lead to rejection
    - LTC: ADL restrictions, past stroke, previous care, over age 80
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- Construct "Uncertain" group
  - Allows confidence in "Reject" and "No Reject" groups Classification

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  - Paper provides extensive robustness to controls Public Information
    - Age and Gender only
    - Price controls
    - Extensive controls

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    - e.g. observe 10+ years for Life setting

Summary Statistics

Sample Summary Statistics

	Sample Mean				
	Subj Prob	Loss	Insured*	# Obs	# HH
LTC					
No Reject	11.2%	5.2%	14.0%	9,027	3,206
Reject	17.1%	22.5%	10.5%	11,259	2,887
Uncertain	13.2%	7.3%	14.6%	10,976	3,870
Disability					
No Reject	27.6%	11.5%		763	290
Reject	38.5%	44.1%		2,216	975
Uncertain	33.5%	28.6%		5,534	2,362
Life					
No Reject	36.6%	27.3%	65.1%	2,689	1,419
Reject	55.6%	57.2%	63.3%	2,362	1,145
Uncertain	49.1%	43.3%	64.2%	6,800	3,545

*Calculated based on full sample prior to excluding individuals who purchased insurance

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- Approximate $P_Z = \Pr\{L|X, Z\}$ with probit

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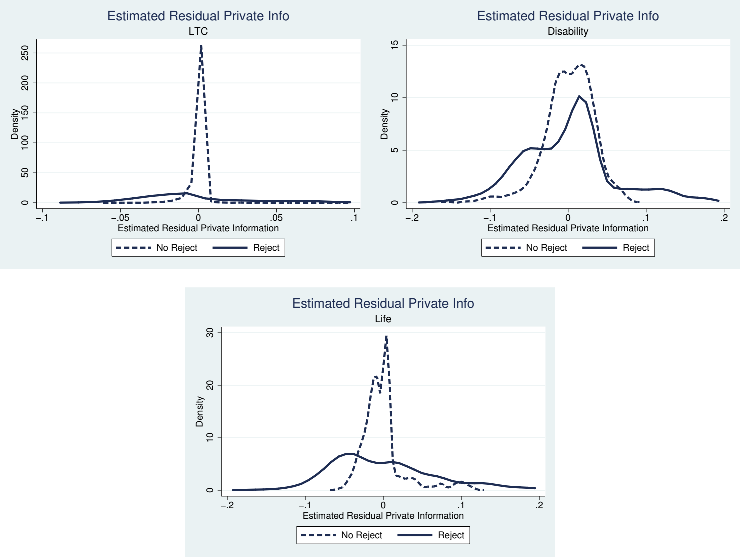
  - More dispersed for the rejected vs. not rejected?

Lower Bound Specification

Distribution of Predicted Values $P_Z - E\left[P_Z | X\right]$

Subjective Probabilities More Explanatory for the Reject Group



Lower Bounds - Specification

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Aggregation

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- Construct

$$\Delta_Z = E\left[m_Z\left(P_Z\right)|X \in \Theta^{Reject}\right] - E\left[m_Z\left(P_Z\right)|X \in \Theta^{NoReject}\right]$$

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- Test $\Delta_Z > 0$

Aggregation

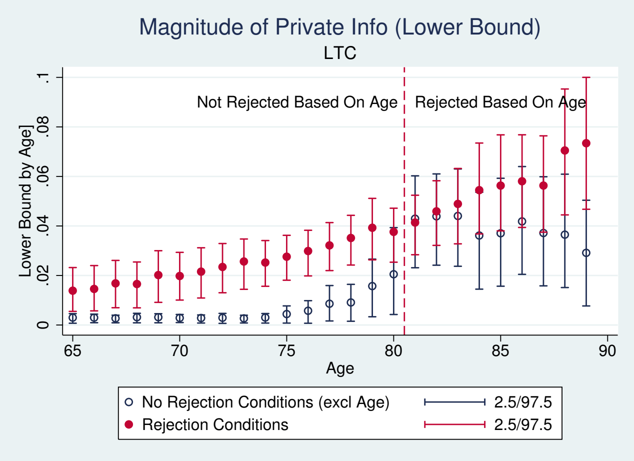
Lower Bound Results

Lower Bound Test

	LTC	Disability	Life
Reject	**0.0358*****	**0.0512*****	**0.0587*****
p-value[2]	(0.000)	(0.000)	(0.000)
No Reject	0.0049	0.0240	0.0249
p-value[2]	(0.336)	(0.853)	(0.119)
Difference: Δ_Z	0.0309***	0.0272	0.0338***
p-value[3]	(0.000)	(0.121)	(0.000)
Uncertain, $E[m_Z(P_Z)]$	0.0086***	0.0409***	0.0294***
(p-value)	(0.001)	(0.000)	(0.000)

Robustness Subgroups

Lower Bounds - LTC by Age



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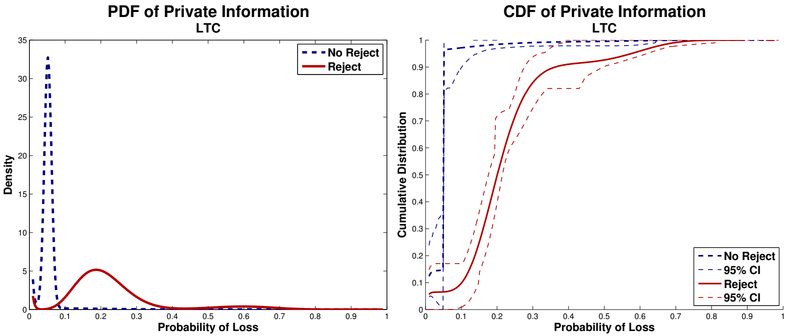
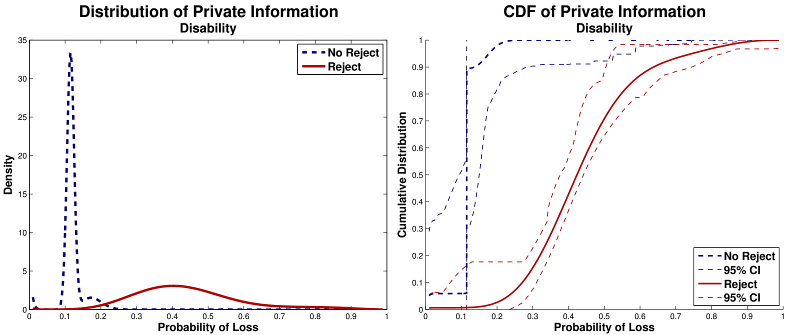
- Qualitative tests of theory:
  - Thick upper tails

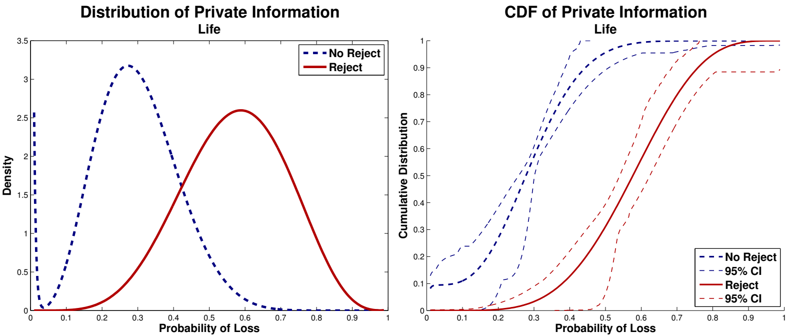
Distribution of Private Information - LTC



Distribution of Private Information - Disability



Distribution of Private Information - Life



T(p) Graph

Minimum Pooled Price Ratio - Specification

Theory Link

- Estimate analogue to minimum pooled price ratio:

$$\inf_{p \in [0, F^{-1}(\tau)]} T(p)$$

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    - How much would agents need to be willing to pay for trade?

Tax Rate Equivalence - Results

Tax Rate Equivalence: inf T(p) - 1

	LTC	Disability	Life
Reject	**0.827****	**0.661****	**0.428****
5%	0.657	0.524	0.076
95%	1.047	0.824	0.780
No Reject	**0.163**	**0.069**	**0.350**
5%	0.000	0.000	0.000
95%	0.361	0.840	0.702
Difference	**0.664****	**0.592****	**0.077**
5%	0.428	0.177	-0.329
95%	0.901	1.008	0.535

Robustness

Consistent with Plausible Values of WTP

What is a plausible willingness to pay?

- Existing estimates/calibrations of $\frac{u'(w-l)}{u'(w)}$:
  - LTC: 26-62% (Brown and Finkelstein, 2008)
  - Disability: 46-109% (Bound et al., 2004)
- Direct Calibration: Assume $u(c) = \frac{c^{1-\sigma}}{1-\sigma}$ and $l = \gamma w$
  - If $\gamma = 10\%$ and $\sigma = 3$, then $\frac{u'(w-l)}{u'(w)} - 1 = 0.372$

Annuities

Results suggest asymmetric pattern of private information:

- One way to be healthy, but many observable ways to be sick
- Explains not only why high risk are rejected
- But also explains:
  - Rejections of high risks in health insurance?
  - Why no rejections in **Annuity** markets
- Few people know they drank from the fountain of youth
  - Rothschild and Stiglitz (1976): Highest risk type undistorted

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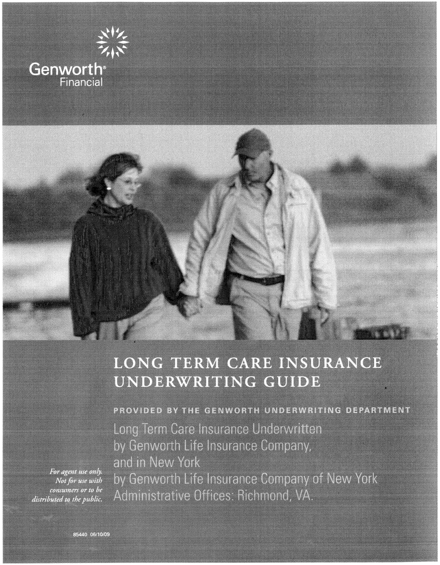
  - Found evidence supportive of the theory in 3 non-group insurance markets: LTC, Life, and Disability
    - One way to be healthy, many (unobservable) ways to be sick
    - Also explains absence of rejections in annuities

7 Appendix

- Theory Appendix
- Rejections Summary Statistics
- Public Information Specifications
- Lower Bound Construction
- Lower Bound Robustness
- Lower Bound - Subgroups
- Minimum Pooled Price Ratio Robustness
- Pooled Price Ratio
- Elicitation Error Parameters

Insurance Rejections



UNINSURABLE CONDITIONS

Acquired Immune Deficiency Syndrome (AIDS)
ADL limitation, present
AIDS Related Complex (ARC)
Alzheimer's Disease
Amputation due to disease, e.g., diabetes or atherosclerosis
Amyotrophic Lateral Sclerosis (ALS) , Lou Gehrig's Disease
Ascites present
Ataxia, Cerebellar
Autonomic Insufficiency (Shy-Drager Syndrome)
Autonomic Neuropathy (excluding impotence)
Behçet's Disease
Binswanger's Disease
Bladder incontinence requiring assistance
Blindness due to disease or with ADL/IADL limitations
Bowel incontinence requiring assistance
Buerger's Disease (thromboangiitis obliterans)
Cerebral Vascular Accident (CVA)
Chorea
Chronic Memory Loss
Cognitive Testing, failed
Cystic Fibrosis
Dementia
Diabetes treated with insulin
Dialysis, Kidney (Renal)
Ehlers-Danlos Syndrome
Forgetfulness (frequent or persistent)
Gangrene due to diabetes or peripheral vascular disease
Hemiplegia
Hoyer Lift
Huntington's or other forms of Chorea
Immune Deficiency Syndrome
Korsakoff's Psychosis
Leukemia-except for Chronic Lymphocytic Leukemia (CLL) and Hairy Cell Leukemia (HCL)
Marfan's Syndrome
Medications

- Antabuse (disulfiram)
- Aricept (donepezil HCl)
- Campral (acamprosate calcium)
- Cognex (tacrine)
- Depade (naltrexone)
- Exelon (rivastigmine)
- Hydergine (ergoloid mesylate)
- Namenda (memantine)
- Razadyne (galantamine hydrobromide)
- Reminyl (galantamine hydrobromide)
- ReVia (naltrexone)
- Vivitrol (naltrexone)

Memory Loss, chronic
Mesothelioma
Multiple Sclerosis (MS)

vi

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Return to Theory Return to Empirical Approach Return to Empirical Results

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- Or,

$$\frac{u'(W-L)}{u'(W)} \leq 2$$

No trade unless WTP 100% tax for insurance

Return to Theory Return to Empirical Approach Return to Empirical Results

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- **Unraveling Intuition:** "Thick upper tails" increase $E[P|P \geq p]$ and make no trade more likely

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$$\forall p \leq F^{-1}\left(1-\alpha\right), p \in \Psi \setminus \left\{1\right\}$$

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Return to Theory

- It is often the observably high (mean) risk who are rejected
- Model provides a qualitative explanation if distributions ordered according to common stochastic orderings
  - Let P_1 and P_2 be two r.v. representing two risk populations
  - Suppose P_1 and P_2 are can be ordered according to the hazard rate ordering
  - Then,

$$E\left[P_1\right] \leq E\left[P_2\right] \implies \inf_{p \in \Psi \backslash \{1\}} T_1\left(p\right) \leq \inf_{p \in \Psi \backslash \{1\}} T_2\left(p\right)$$

Rejecting the Observably High Risk

Return to Theory

- It is often the observably high (mean) risk who are rejected
- Model provides a qualitative explanation if distributions ordered according to common stochastic orderings
    - Let P_1 and P_2 be two r.v. representing two risk populations
    - Suppose P_1 and P_2 are can be ordered according to the hazard rate ordering
    - Then,

$$E\left[P_1\right] \leq E\left[P_2\right] \implies \inf_{p \in \Psi \backslash \{1\}} T_1\left(p\right) \leq \inf_{p \in \Psi \backslash \{1\}} T_2\left(p\right)$$

    - Distributions with higher mean loss impose larger barrier to trade

Validity of Lower Bound Test

Return

- When do higher values of $E\left[m\left(P\right)\right]$ imply higher values of $m\left(p\right)\ \forall p$?
    - OK if normal with common mean
    - OK if increasing upper-tail skewness
- How does $E\left[m\left(P\right)\right]$ relate to $\inf_p T\left(p\right)$?

$$\inf_p T(p) \leq 1 + \frac{E[m(P)]}{E[P(1-P)] - E[m(P)]\Pr\{L\} - E[(P-\Pr\{L\})m(P)]}$$

- When do higher values of $E\left[m_Z\left(P_Z\right)\right]$ imply higher values of $E\left[m\left(P\right)\right]$?
    - Suppose agents report true beliefs with probability λ (otherwise noise)
    - Then

$$E\left[m_Z\left(P_Z\right)\right] = \lambda E\left[m\left(P\right)\right]$$

so that similar values of λ ensure valid comparisons

- "No differential impact of measurement error"

Summary Statistics of Rejections - LTC

Rejection Classification (LTC)

	Long-Term Care	
Classification	Condition	% Sample
Rejection	Any ADL/IADL Restriction	7.5%
	Past Stroke	8.3%
	Past Nursing/Home Care	13.6%
	Over age 80	20.0%
Uncertain	Lung Disease	10.7%
	Heart Condition	29.6%
	Cancer (Current)	15.4%
	Hip Fracture	1.3%
	Memory Condition	0.9%
	Other Major Health Problems	26.8%

Return

Summary Statistics of Rejections - Disability

Rejection Classification (Disability)

	Disability	
Classification	Condition	% Sample
Rejection	Back Condition	22.7%
	Obesity (BMI > 40)	1.7%
	Psychological Condition	6.3%
Uncertain	Arthritis	36.9%
	Diabetes	7.7%
	Lung Disease	5.1%
	High Blood Pressure	31.3%
	Heart Condition	6.9%
	Cancer (Ever Have)	4.6%
	Blue-collar/high-risk Job[3]	23.3%
	Wage < $15 or income < $30K	65.5%
	Other Major Health Problems[2]	16.2%

Return

Summary Statistics of Rejections - Life

Rejection Classification (Life)

	Life	
Classification	Condition	% Sample
Rejection	Cancer (Current)	13.1%
	Stroke (Ever)	7.3%
Uncertain	Diabetes	13.8%
	High Blood Pressure	50.7%
	Lung Disease	10.9%
	Cancer (Ever, not current)	12.1%
	Heart Condition	26.5%
	Other Major Health Problems	23.5%

Return

Public Information - LTC

Covariate Specifications

Long-Term Care	
Price Controls	Extended Controls
Age, Age^2, Gender Gender*age Gender*age^2	Full interactions of Age Gender
Word Recall Performance[1]	Word Recall Performance[1]
Indicators for ADL/IADL Restriction Psych Condition Diabetes Lung Disease Arthritis Heart Disease Cancer Stroke High blood pressure	Indicators for ADL/IADL Restriction Psychological Condition Diabetes Lung Disease Arthritis Heart Disease Cancer Stroke High blood pressure
	Interactions between 5 yr age bins and the presence of: Number of Health Conditions (High bp, diabetes, heart condition, lung disease, arthritis, stroke, obesity, psych condition) Number of ADL / IADL Restrictions Number of living relatives (<=3) Past home care usage Census region (1-5) Income Decile

Return

Public Information - Disability

Covariate Specifications

Disability	
Price Controls	Extended Controls
Age, Age^2, Gender Gender*age Gender*age^2	Full interactions of Age Gender
Indicators for Self Employed Obese Psych condition Back condition Diabetes Lung Disease Arthritis Heart Condition Cancer Stroke High Blood Pressure	Full interactions of wage decile part time indicator job tenure quartile self-employment indicator Interactions between 5 yr age bins and the presence of: Arthritis Diabettes Lung disease Cancer Heart condition Psychological condition Back condition BMI Quartile
BMI	
Wage Decile	
	Full interactions of BMI quartile 5 year age bins
	Full interactions of Job requires stooping Job requires lifting

Return

Public Information - Life

Covariate Specifications

Life	
Price Controls	Extended Controls
Age, Age^2, Gender Gender*age Gender*age^2 Smoker Status	Full interactions of Age Gender
Indicator for years to question[2]	Full Interactions of age AGE in subj prob question
Indicator for death of parent before age 60	Interactions of 5 yr age bins with: Smoker Status Income Decile Heart condition Stroke Cancer Lung disease Diabetes High blood pressure Census Region
BMI	
Indicators for Psychological Condition Diabetes Lung Disease Arthritis Heart Disease Cancer Stroke High blood pressure	BMI
Income decile	Indicator for death of parent before age 60

Return

Approximation of P_Z

Return

- We approximate P_Z

$$\Pr\left\{L|X,Z\right\} = \Phi\left(\beta X + \Gamma\left(age,Z\right)\right)$$

where $\Gamma\left(age,Z\right)$ is approximated using an interaction of linear function of *age* and second-order chebyshev polynomials in Z, along with focal indicators at 0, 50 and 100.

Estimation of Lower Bound

Return

- Given P_Z, we estimate its distribution by assuming

$$P_Z - E\left[P_Z|X\right] = \Pr\left\{L|X,Z\right\} - \Pr\left\{L|X\right\}$$

  has the same distribution conditional on age.
- We then estimate $m_Z\left(p\right)$ for every age group (for every p) and then average over the values of P_Z.

Lower Bounds - LTC

Magnitude of Private Information (Lower Bound) - LTC

	LTC		
	Age & Gender	Price Controls	Extended Controls
Reject	0.0336***	0.0358***	0.0313***
s.e.[1]	(0.0038)	(0.0037)	(0.0036)
p-value[2]	0.0000	0.0000	0.0000
No Reject	0.0048	0.0049	0.0041
s.e.[1]	(0.0018)	(0.0018)	(0.0018)
p-value[2]	0.2557	0.3356	0.3805
Difference: Δ_Z	0.0288***	0.0309***	0.0272***
s.e.[1]	(0.0041)	(0.0041)	(0.0039)
p-value[3]	0.0000	0.0000	0.0000
Uncertain	0.009***	0.0086***	0.0079***
Bootstrap s.e.	(0.0024)	(0.0025)	(0.0024)
Wald test p-value	0.0001	0.0014	0.0001

Return

Lower Bounds - Disability

Magnitude of Private Information (Lower Bound) - Disability

	LTC		
	Age & Gender	Price Controls	Extended Controls
Reject	0.0727***	0.0512***	0.0504***
s.e.[1]	(0.0092)	(0.0086)	(0.0083)
p-value[2]	0.000	0.000	0.000
No Reject	0.036	0.024	0.023
s.e.[1]	(0.0116)	(0.009)	(0.0072)
p-value[2]	0.684	0.853	0.932
Difference: Δ_Z	0.0365*	0.027	0.0274*
s.e.[1]	(0.0146)	(0.0127)	(0.0109)
p-value[3]	0.091	0.121	0.092
Uncertain	0.0506***	0.0409***	0.0363***
Bootstrap s.e.	(0.0058)	(0.0047)	(0.0051)
Wald test p-value	0.0000	0.0000	0.0000

Return

Lower Bounds - Life

Magnitude of Private Information (Lower Bound) - Life

	Life		
	Age & Gender	Price Controls	Extended Controls
Reject	0.0759***	0.0587***	0.0604***
s.e.[1]	(0.0088)	(0.0083)	(0.0078)
p-value[2]	0.000	0.000	0.000
No Reject	0.031**	0.025	0.021
s.e.[1]	(0.0076)	(0.007)	(0.0066)
p-value[2]	0.010	0.119	0.239
Difference: Δ_Z	0.0449***	0.0338***	0.0397***
s.e.[1]	(0.0112)	(0.0107)	(0.0103)
p-value[3]	0.000	0.000	0.001
Uncertain	0.0463***	0.0294***	0.028***
Bootstrap s.e.	(0.0058)	(0.0054)	(0.0051)
Wald test p-value	0.0000	0.0001	0.0001

Return

Lower Bounds - Sample Selection

Table 4: Robustness to Moral Hazard: No Insurance Sample

	LTC, Price Controls		Life, Price Controls	
	Primary Sample	Excluding Insured	Primary Sample	Excluding Insured
Reject	0.0358***	0.0351***	0.0587***	0.0491*
s.e.[1]	(0.0037)	(0.0041)	(0.0083)	(0.0115)
p-value[2]	0.0000	0.0000	0.0000	0.0523
No Reject	0.0049	0.0038	0.0249	0.0377
s.e.[1]	(0.0018)	(0.0019)	(0.007)	(0.0107)
p-value[2]	0.3356	0.8325	0.1187	0.2334
Difference: Δ_Z	0.0309***	0.0313***	0.0338***	0.011
s.e.[1]	(0.0041)	(0.0046)	(0.0107)	(0.0157)
p-value[3]	0.000	0.000	0.000	0.301
Uncertain	0.0086***	0.0064	0.0294***	0.0269
s.e.[1]	(0.0025)	(0.0024)	(0.0054)	(0.0078)
p-value[2]	0.0014	0.1130	0.0001	0.1560

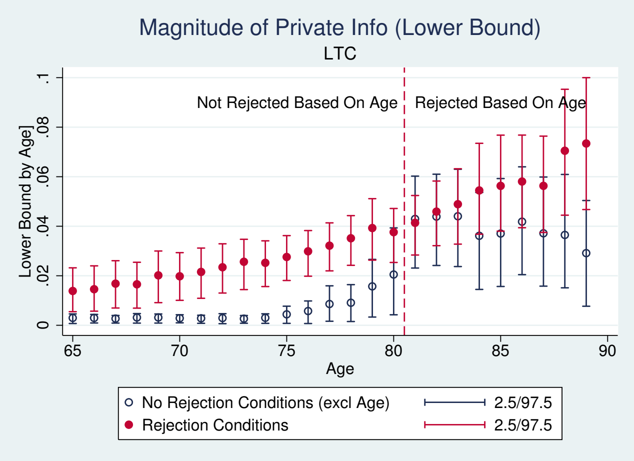
Return

Lower Bounds - Organ Controls (Life)

Table A2: Cancer Organ Controls (Life Setting)

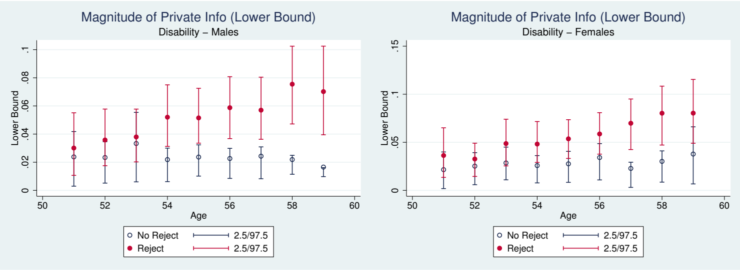
	Preferred Specification	Organ + Extended Controls (1993/1994 Only)
Reject	0.0587***	0.0526***
s.e.[1]	(0.0083)	(0.0098)
p-value[2]	0.000	0.002
No Reject	0.0249	0.0218
s.e.[1]	(0.007)	(0.007)
p-value[2]	0.1187	0.3592
Difference: Δ_Z	0.0338***	0.0308**
s.e.[1]	(0.0107)	(0.0121)
p-value[3]	0.0000	0.0260
Uncertain	0.0294***	0.0342***
s.e.[1]	(0.0054)	(0.0063)
p-value[2]	0.0001	0.0003

Lower Bounds - LTC by Age



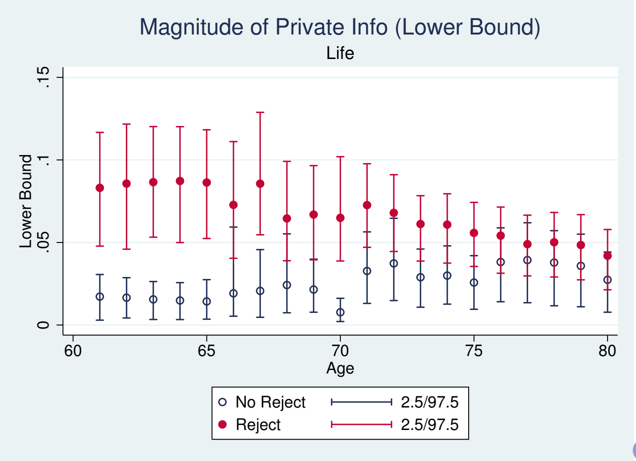
Return

Lower Bounds - Disability by Age & Gender



Return

Lower Bounds - Life by Age



Return

Minimum Pooled Price Ratio - LTC

Minimum Pooled Price Ratio (LTC)

	LTC		
Quantile Region: Ψ_τ	0-70%	0-80%	0-90%
Reject	**1.827**	**1.827**	**1.827**
5%	1.661	1.657	1.624
95%	2.250	2.047	2.030
No Reject	**1.163**	**1.163**	**1.163**
5%	1.000	1.000	1.000
95%	1.361	1.361	1.366
Difference	**0.664**	**0.664**	**0.664**
5%	0.430	0.428	0.407
95%	1.026	0.901	0.922

Return

Minimum Pooled Price Ratio - Disability

Minimum Pooled Price Ratio (DIS)

	Disability		
Quantile Region: Ψ_τ	0-70%	0-80%	0-90%
Reject	**1.661**	**1.661**	**1.661**
5%	1.518	1.524	1.528
95%	1.824	1.824	1.795
No Reject	**1.069**	**1.069**	**1.069**
5%	1.000	1.000	1.000
95%	1.918	1.840	1.728
Difference	**0.592**	**0.592**	**0.592**
5%	0.158	0.177	0.215
95%	1.026	1.008	0.970

Return

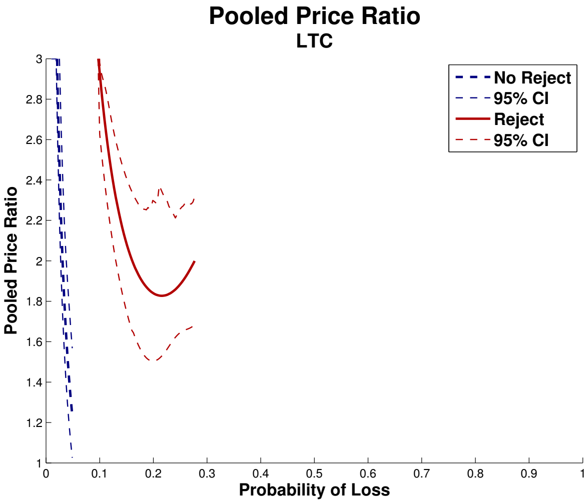
Minimum Pooled Price Ratio - Life

Minimum Pooled Price Ratio (LIFE)

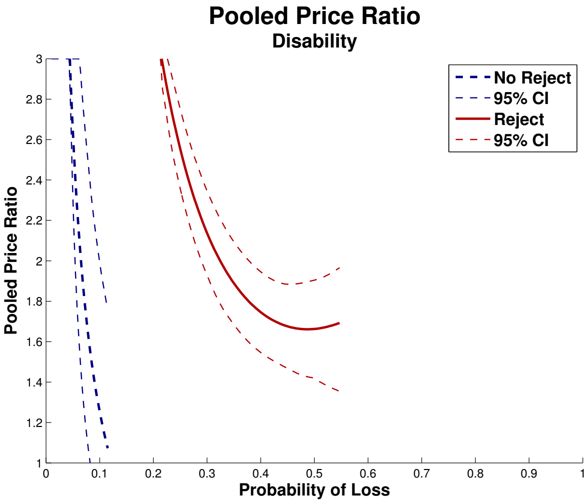
	Life		
Quantile Region: Ψ_τ	0-70%	0-80%	0-90%
Reject	**1.488**	**1.428**	**1.369**
5%	1.124	1.076	1.000
95%	1.815	1.780	1.754
No Reject	**1.423**	**1.350**	**1.280**
5%	1.000	1.000	1.000
95%	1.750	1.702	1.665
Difference	**0.065**	**0.077**	**0.089**
5%	-0.344	-0.329	-0.340
95%	0.505	0.535	0.558

Return

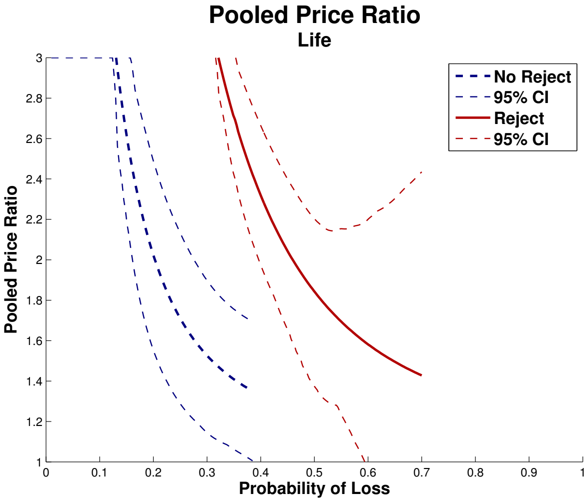
Pooled Price Ratio - LTC



Pooled Price Ratio - Disability



Pooled Price Ratio - Life



Return to F(p)

Elicitation Error Parameters

Table A4: Elicitation Error Parameters

	LTC		Disability		Life	
	No Reject	Reject	No Reject	Reject	No Reject	Reject
Standard Deviation (σ)	0.293	0.443	0.298	0.311	0.422	0.462
s.e.	(0.015)	(0.009)	(0.025)	(0.016)	(0.014)	(0.013)
Fraction Focal Respondents (λ)	0.364	0.348	0.292	0.417	0.375	0.383
s.e.	(0.046)	(0.01)	(0.032)	(0.018)	(0.014)	(0.013)
Focal Window (κ)	0.173	0.001	0.000	0.000	0.001	0.000
s.e.	(0.058)	(0.015)	(0.073)	(0.053)	(0.014)	(0.003)
Bias (α)	-0.078	-0.286	0.086	-0.099	0.034	0.014
s.e.	(0.025)	(0.01)	(0.041)	(0.017)	(0.014)	(0.016)