

DETERMINANTS AND CONSEQUENCES OF POOR DECISIONS IN HEALTH INSURANCE

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MOTIVATION

Health insurance market:

- **Sub-optimal decision provision in the market:** price not reflecting actual risk to assure equal access, one fit for all?
- **Choice provisions increase surplus** by better matching heterogeneous preference
- **Ineffective decision making** impair the policy motivation.

In this paper, we

- evaluate choice optimality;
- explore the decision patterns in the market: is there a certain pattern for decision quality?

INSTITUTIONAL CONTEXT

Swiss Health insurance market:

- community rating;
- individual mandate setting, no opt out option;
- 6 options: only differ in deductible level: coverage level, uniform covered service;
- premium difference for contracts fixed at 69 percent of the extra deductible level.

	Plan 1	Plan 2	Plan3	Plan4	Plan5	Plan 6
Deductible	CHF 300	CHF 500	CHF 1000	CHF 1500	CHF 2000	CHF 2500
Coinsurance	10%	10%	10%	10%	10%	10%
Cap – coinsurance	CHF 700	CHF 700	CHF 700	CHF 700	CHF 700	CHF 700

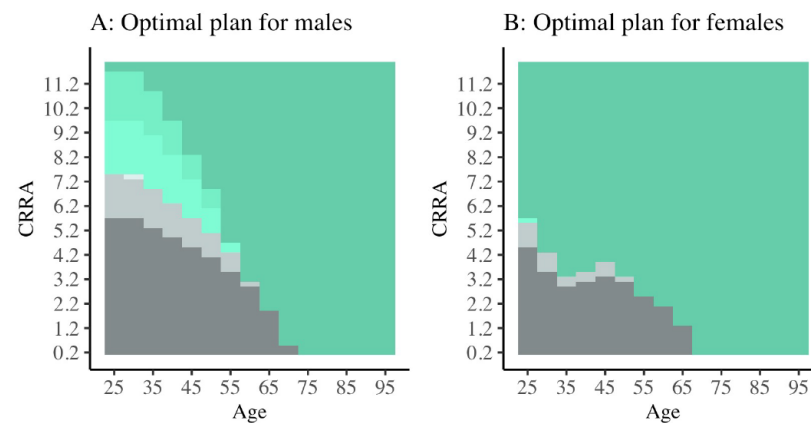
DATA

National survey data

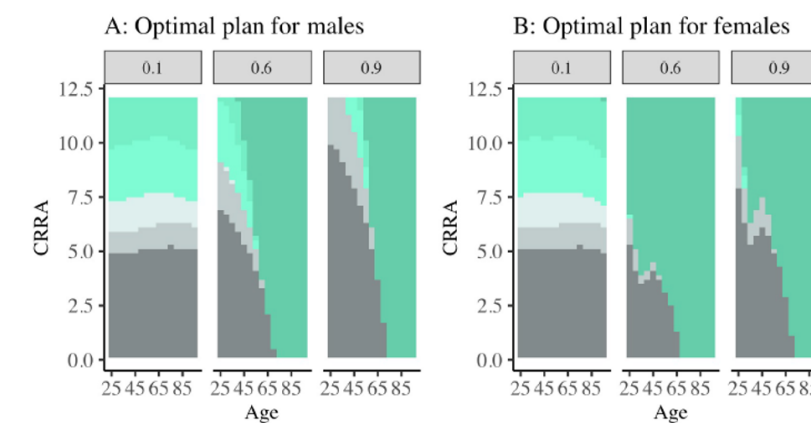
- health care utilization
- health insurance choice
- myriad socio-demographic data

OPTIMAL PLAN CHOICE

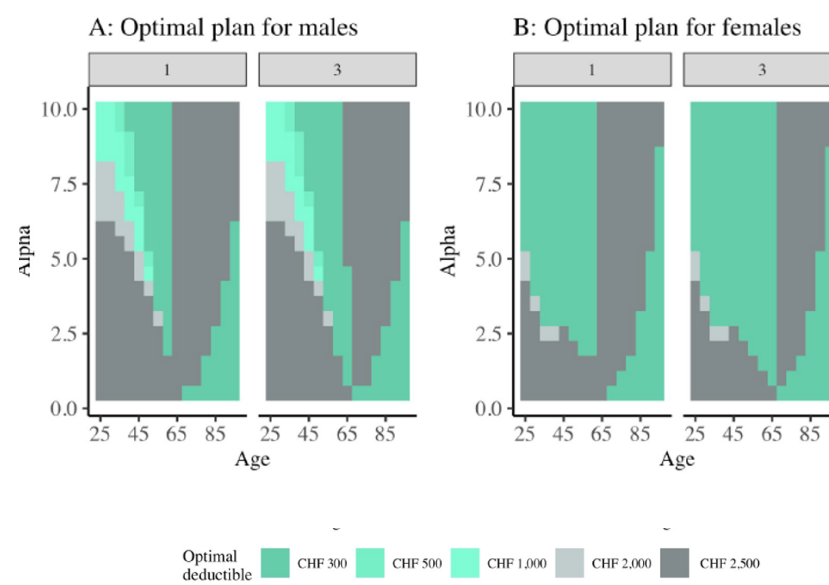
EXPECTED UTILITY MODEL



RANK-DEPENDENT UTILITY



CUMULATIVE PROSPECT THEORY



Implications:

- Risk appetite does not matter.
- Risk is crucial for choice optimality.

POLICY TAKEAWAY

1. Giving consumers choice in coverage has modest impacts on sorting high versus. low risk averse consumers.
2. Instead, its primary effect is redistribution
 - Sick consumers pay more, healthy consumers pay less, relative to a single plan choice.
 - less sophisticated consumers make mistakes, which is an indirect subsidy to sophisticated/ educated/ high income consumers.

CONCLUSION

Finding 1: Dominated plans are selected by large population of consumers.

Finding 2: Inequality in choice quality: less sophisticated consumers make mistakes, which is an indirect subsidy to sophisticated/educated consumers.

Finding 3: Low-income individuals lose the most resulting from poor decision making.

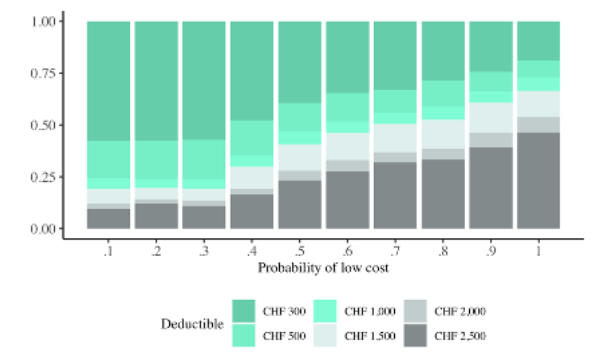
EMPIRICAL ANALYSIS

OVERVIEW OF DEDUCTIBLE CHOICE

Consumers make mistakes if:

- High-cost consumers pick high deductible plan.
- They pick intermediate plan.
- Low-cost consumers pick low deductible plan.

COST AND COVERAGE



MANY PEOPLE PICK INTERMEDIATE PLANS

Findings:

Consumers that makes subsidize those who don't:

- Less educated --> more educated
- Low-income --> high income

	Dependent variable: Optimal choice				
	(1)	(2)	(3)	(4)	(5)
Prob. Low Cost	2.254*** (0.740)	2.201*** (0.741)	2.258*** (0.740)	2.196*** (0.748)	2.153*** (0.749)
Prob. Low Cost square	-10.785*** (1.540)	-10.910*** (1.542)	-10.779*** (1.541)	-11.255*** (1.556)	-11.311*** (1.557)
Prob. Low Cost cubic	8.342*** (0.925)	8.432*** (0.926)	8.337*** (0.925)	8.473*** (0.934)	8.519*** (0.935)
Income	-0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Prob. Low Cost × Income					
Education			-0.031 (0.039)	-1.217*** (0.092)	-1.180*** (0.106)
Prob. Low Cost × Education				1.904*** (0.139)	1.959*** (0.162)
Income × Education					-0.000 (0.000)
Prob. Low Cost × Income × Education					0.000 (0.000)
Have child(ren)	-0.229*** (0.037)	-0.231*** (0.037)	-0.228*** (0.037)	-0.203*** (0.037)	-0.204*** (0.037)
Have a Partner	0.114*** (0.035)	0.112*** (0.035)	0.113*** (0.035)	0.101*** (0.035)	0.102*** (0.035)
Self-employed	-0.285*** (0.064)	-0.286*** (0.064)	-0.286*** (0.064)	-0.251*** (0.064)	-0.248*** (0.064)
Gr->Fr(0->1)	-0.122*** (0.038)	-0.120*** (0.038)	-0.119*** (0.038)	-0.119*** (0.038)	-0.119*** (0.038)
Gr->It(0->1)	0.097* (0.057)	0.097* (0.057)	0.099* (0.057)	0.087 (0.057)	0.085 (0.057)
Constant	0.236** (0.102)	0.282** (0.103)	0.232** (0.101)	0.394*** (0.103)	0.425*** (0.105)
Observations	16,381	16,381	16,381	16,381	16,381

	healthy 300	unhealthy 2500	healthy 300	unhealthy 2500
Demographics				
Age	29.4	53.9	1.8	1.3
Male	100 %	55.8 %		
Have child(ren)	63 %	41.7 %	< 10 Fr. 25.4 %	26.9 %
Have a Partner	35 %	66.7 %	100-299 Fr. 27.3 %	21.2 %
Language			300-999 Fr. 4.8 %	3.8 %
German	55.3 %	69.9 %	1,000-2,499 Fr. 1 %	0.6 %
French	36.3 %	19.2 %	2,500-9,999 Fr. 1.6 %	0.6 %
Italian	8.4 %	10.9 %	Unkown 33.4 %	39.1 %
Financial Status				
Income	103,844	166,550	Cost 849	16,203
Job Security	2.4	2.7	Healthy BMI 46 %	55.8 %
Eudcation level				
Compulsory school	16.7 %	7.1 %	Company Type Self-employed 1.9 %	7.7 %
Upper Secondary School I	35.7 %	27.6 %	Company 2.3 %	1.9 %
Upper Secondary School II	19.6 %	14.7 %	Family Business 1.9 %	4.5 %
Tertiary level	11.3 %	15.4 %	Private Company 71.4 %	53.2 %
University	16.7 %	35.3 %	Learner 7.1 %	0 %
Unkown	0 %	0 %	Unkown 15.4 %	32.7 %
Profession Sector				
Agriculture	2.3 %	2.6 %		
Industry and Commerce	12.9 %	4.5 %		
Technical and IT	10.3 %	7.1 %		
Construction and Mining	10.9 %	6.4 %		
Trade and transport	11.3 %	9.6 %		
Hospitality Service	6.8 %	0.6 %		
Financial Service	20.3 %	17.3 %		
Health,teaching and culture	7.7 %	16.7 %		
Unkown	2.3 %	2.6 %		
Observation	311	156		

▶ **HEALTHY PEOPLE SELECT LOW DEDUCTIBLE PLANS**

▶ **SICK PEOPLE SELECT HIGH DEDUCTIBLE PLANS**

Findings:

- Low-income individual are over-insured compare to high-income individual.
- There is little difference in risk preference across two groups.

MOST RELATED LITERATURE

Handel, Benjamin R., Jonathan T. Kotstad, Thomas Minten, and Johannes Spinnewijn. The social determinants of choice quality: evidence from health insurance in the Netherlands. No. w27785. National Bureau of Economic Research, 2020.

Marone, Victoria R., and Adrienne Sabety. Should There be Vertical Choice in Health Insurance Markets?. No. w28779. National Bureau of Economic Research, 2021.