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University of St. Gallen

# How Do Price Presentation Effects Influence Consumer Choice? The Case of Life Insurance Products

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Carin Huber, Chair for Risk Management and Insurance Economics

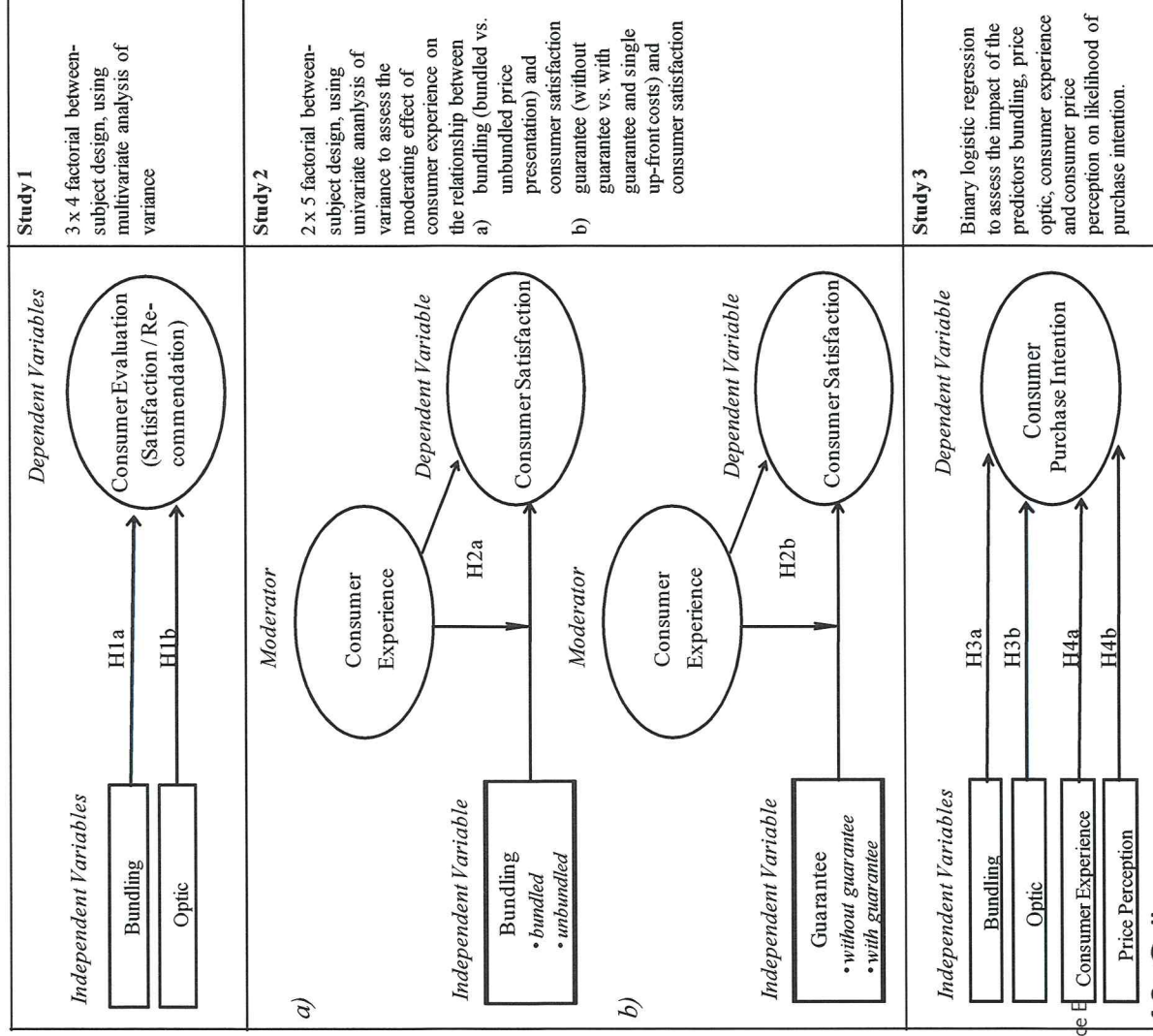
## Outline

- 1 Introduction and Problem Setting
- 2 Experimental Design
- 3 Calibration of the Model
- 4 Experimental Study
- 5 Results
- 6 Implications and Summary

## 1. Introduction and problem setting

- Importance of attractive pension product design: investment guarantees in unit-linked life insurance policies
- Demand for cost transparency
- Related literature on bundling investigates mainly consumer goods
- Literature on mental accounting shows that consumers prefer bundled (vs. unbundled) price presentations
- Aim: Measuring consumer evaluation of the same unit-linked life insurance product while varying the price presentation (present values are identical!)

## 2. Experimental design: Model framework and hypotheses



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### 3. Calibration of the model: Input parameters

- Aim: products with identical present values
- Product: term life insurance with
  - death benefit: actuarial approach
  - investment guarantee in the savings part: risk-neutral valuation (fair price as a reservation price for an insurance company)
  - administration costs: ( $k = 8\%$ )
- Calibration features:
  - $T = 10$  years
  - $x = 30$  years (male insured )
  - gross premium  $P = 100$
  - guarantee  $G_T = 12,000$  (sum of gross premiums), which in the present setting corresponds to a guaranteed interest rate of  $1.68\%$  on the savings premium



### 3. Calibration of the model: Overview of product cards for 3x4 factorial between-subject design

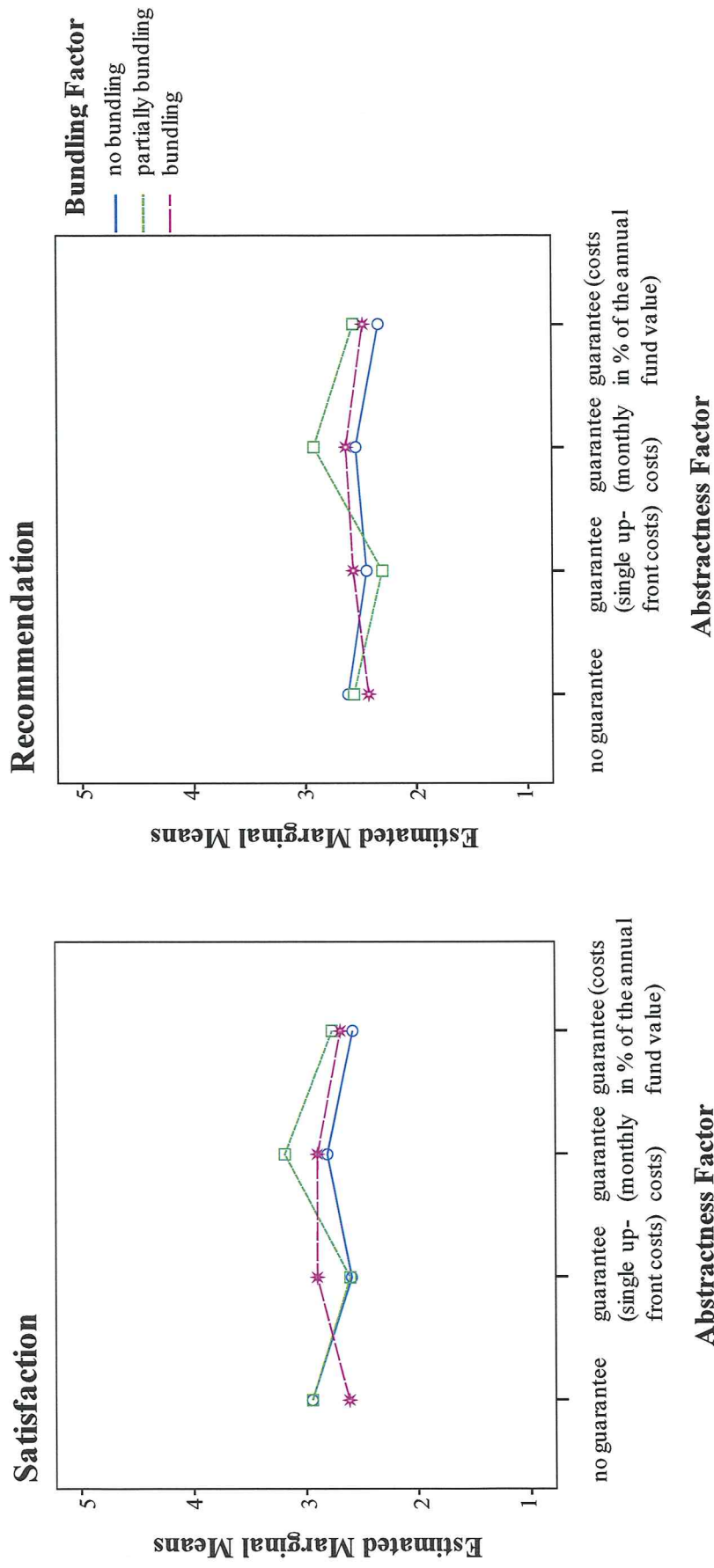
PRICE BUNDLING FACTOR	PRICE OPTIC FACTOR			
	No Guarantee	Guarantee level: 12,000		
		Single up-front guarantee costs	Monthly guarantee costs	Guarantee costs in % of the annual fund value
Bundling	Offer 1 100	Offer 4 644 first month then 100	Offer 7 105	Offer 10 105 + 1% p.a.
Partial bundling	Offer 2 100 0	Offer 5 100 544 up-front	Offer 8 100 5	Offer 11 105 1% p.a.
No bundling	Offer 3 1 91 8 0	Offer 6 1 91 8 544 up-front	Offer 9 1 91 8 5	Offer 12 1 96 8 1%

## 4. Experimental Study

- Sample: n=647 (Panel data, representative for Switzerland regarding gender and region; focus on age group of 25-35 years)
- Procedure:
  - Evaluation of product cards (regarding satisfaction, likelihood of recommending, and purchase intention)
  - Measuring experience and price perception
  - Sociodemographics

# 5. Results of Study 1: MANOVA

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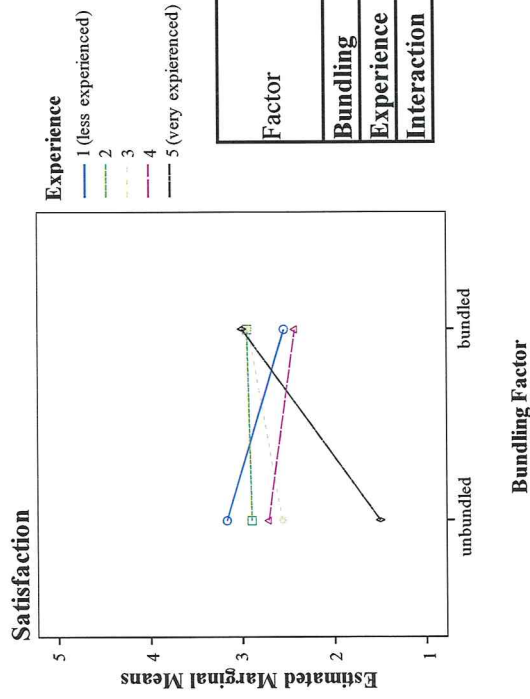
## 5. Results of Study 1: MANOVA

Factor	Dependent Variable	Between groups sum of squares	Between groups mean square	df	F-statistic	p
<b>Optic</b>	Satisfaction	8.442	2.814	3	1.453	.226
	Likelihood to recommend	6.465	2.155	3	1.126	.338
<b>Bundling</b>	Satisfaction	2.405	1.203	2	.621	.538
	Likelihood to recommend	1.186	.593	2	.310	.734
<b>Interaction</b>	Satisfaction	9.724	1.621	6	.837	.542
	Likelihood to recommend	7.137	1.189	6	.622	.713

- No significant difference between bundled, partially bundled and debundled price conditions regarding the satisfaction with the product and the likelihood of recommending  
→ No confirmation of H1a
- No significant difference between no premium, the initial up-front premium, monthly guarantee costs or guarantee costs in % regarding the satisfaction with the product and the likelihood of recommending  
→ No confirmation of H1b

# 5. Results of Study 2a: ANOVA

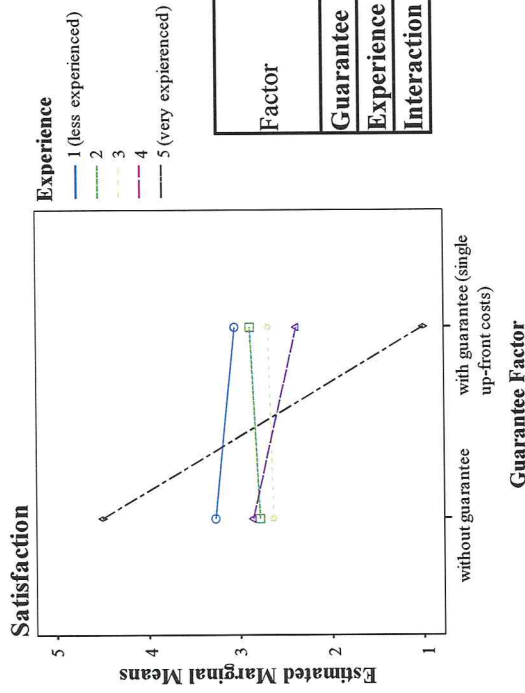
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Factor	Between groups sum of squares	Between groups mean square	df	F-statistic	p
<b>Bundling</b>	2.14	2.14	1	1.15	.285
<b>Experience</b>	10.48	2.62	4	1.4	.233
<b>Interaction</b>	19.31	4.83	4	2.58	<u>.037</u>

- Significant moderating effect of experience on the relationship between bundling (unbundled price vs. bundled price) and consumer satisfaction
  - Simple effects analysis: Significant difference between the very experienced and less experienced consumers for the unbundled price presentation ( $F(df = 4) = 2.23, p = .07$ ) and no significant difference for the bundled price presentation ( $F(df = 4) = 1.6, p = .17$ );
- Confirmation of H2a

## 5. Results of Study 2b: ANOVA



Factor	Between groups sum of squares	Between groups mean square	df	F-statistic	p
<b>Guarantee</b>	15.26	15.26	1	8.09	0.005
<b>Experience</b>	9.54	2.38	4	1.26	0.284
<b>Interaction</b>	18.06	4.52	4	2.39	0.051

- Significant moderating effect of experience on the relationship between guarantee (without guarantee vs. with guarantee (single-up front premium)) and consumer satisfaction
  - Simple effects analysis: Significant difference between the product without an investment guarantee and with an investment guarantee for the very experienced consumers,  $F(df = 1) = 8.11, p = .005$ .
- Confirmation of H2b

## 5. Results of Study 3: Logistic Regression

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	$\beta$	Std. Error	Wald	df	p	Odds Ratio	95% C.I. for Odds Ratio	
							Lower	Upper
Bundling								
no bundling			.011	2	.994			
partially bundled	-.016	.220	.005	1	.944	.985	.640	1.514
bundled	-.023	.223	.011	1	.918	.977	.631	1.514
Optic								
no guarantee			1.309	3	.727			
guarantee (single up-front costs)	-.189	.258	.540	1	.462	.827	.499	1.372
guarantee (monthly costs)	.103	.251	.169	1	.681	1.109	.678	1.813
guarantee (costs in % of the annual fund value)	-.058	.250	.054	1	.816	.943	.578	1.541
Experience								
	.226	.090	6.264	1	.012	1.253	1.050	1.496
Price Perception	-.599	.096	39.149	1	.000	.549	.455	.663
$\alpha$	-.969	.093	108.338	1	.000	.379		

- No significant effects of bundling or optic on model.
- No confirmation of H3a and H3b
- Significant effect of Experience on model (Wald=6.264,  $p=.012$ ): the more people are experienced the more likely they will purchase the product (odds ratio).
- Confirmation of H4a
- Significant effect of Price Perception on model (Wald=39.149,  $p<.01$ ): for every unit that the price is regarded as too expensive, participants were .55 times less likely to purchase the product (odds ratio). → Confirmation of H4b





## 6. Implications and Summary

- Price presentation (bundling vs. abstractness) does generally not have any effect on consumers evaluation of unit-linked life insurance products with embedded investment guarantees.
    - Rational decision makers using present value calculations?
    - High complexity of insurance products; differences in price presentation are not perceived
  - Consumer experience and price perception as predictors
    - Very experienced participants were less satisfied with a product if prices are presented unbundled or if additional investing guarantees were embedded, confirming mental accounting
    - Price perception is a significant predictor for purchase intention
- Cost transparency generally does not influence consumer evaluation (except for the very experienced subsample)
- Marketing strategy: use of emotional factors and reduction of complexity to convince customers



# Thank you for your attention!

