Chair of Economics III, Public Finance
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UNIVERSITÄT BAYREUTH

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Eliciting preferences for redistribution: choice modelling in public finance

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presented by
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Agenda

1. Background of the research project
2. Conceptional framework
3. Estimation technique
4. Results
5. Conclusion

1. Background of the research project

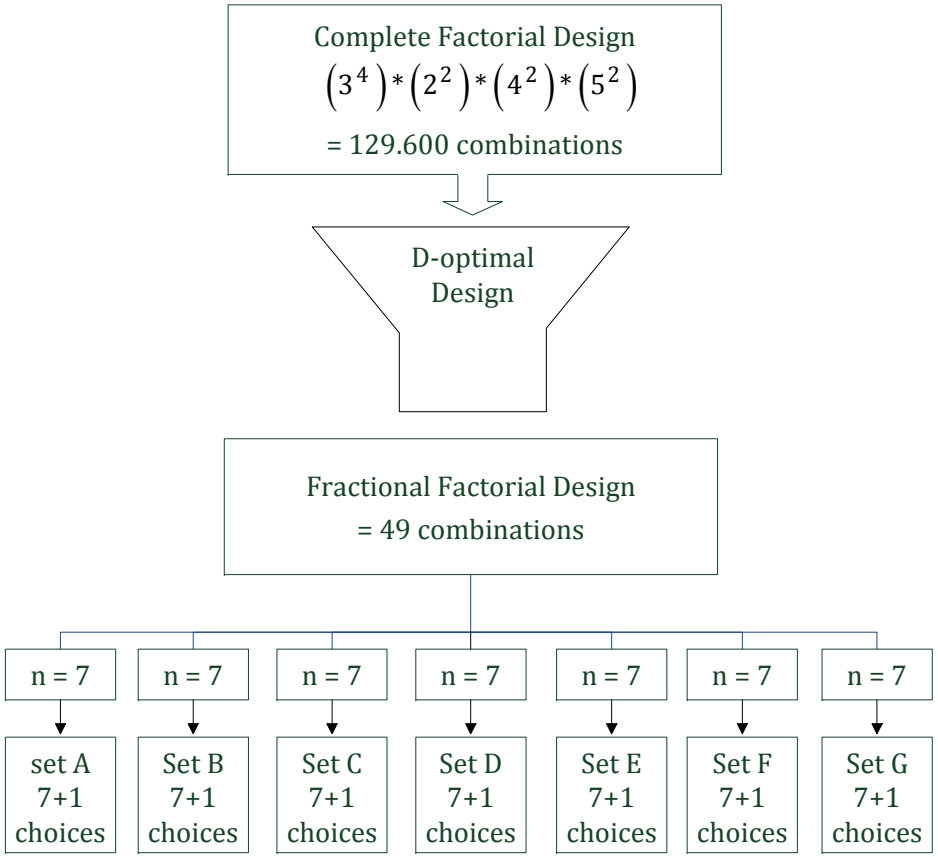
- Preferences for redistribution
  - Economic, behavioral and institutional factors
- Shortcomings so far
  - No differentiation between demand and supply side (voting mechanism)
  - No prediction of individuals' decision making under their budget constraint
  - No trade-offs
- Aim and contribution of this project
  - Representatively eliciting individuals preferences for redistribution
  - First time in Germany
  - DCE in Public Finance
  - Measuring preferences for the whole redistribution budget
  - Analyzing preferences for different beneficiaries of redistribution
  - Investigating heterogeneous preferences (income, age, altruism, fairness)

2. Conceptional Framework: Attributes

- Conceptional framework: Demand vs. supply of redistribution
- Attributes and levels
  - Identification process: literature review, expert interviews, “focus group” analysis, 3 independent pretests

Attribute	**Lable**	**Level**				
				Status quo		
Personal tax and social contribution deduction						
tax and contribution	TC	15 %	25 %	**30 %**	35 %	45 %
total amount of redistribution as percentage of GDP						
redistribution	RE	20 %	25 %	**30 %**	35 %	45 %
socio-demographic status of beneficiaries						
retirees	RI		30 %	**40 %**	45 %	
sick persons and persons in need of care	SP		30 %	**35 %**	40 %	
unemployed	UL		5 %	**10 %**	15 %	
families with children	FC		5 %	**10 %**	15 %	20 %
working poor	WP			**5 %**	10 %	
Nationality of recipients						
German	DE	75 %	80 %	**85 %**	90 %	
West-European	WE			**5 %**	10 %	
Other	OT		5 %	**10 %**	15 %	

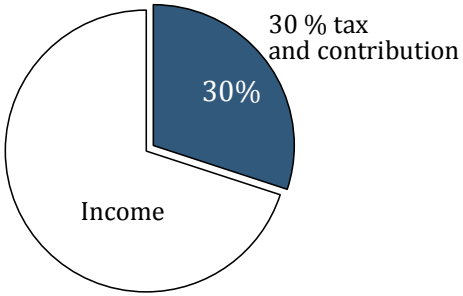
2. Conceptional Framework: Design



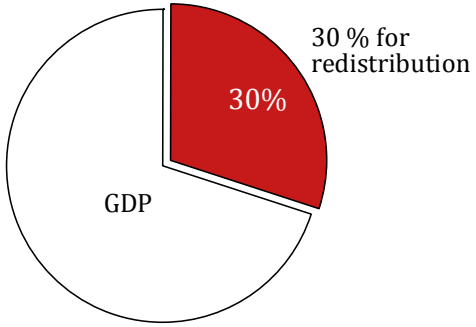
2. Conceptional Framework: Presentation

Status quo

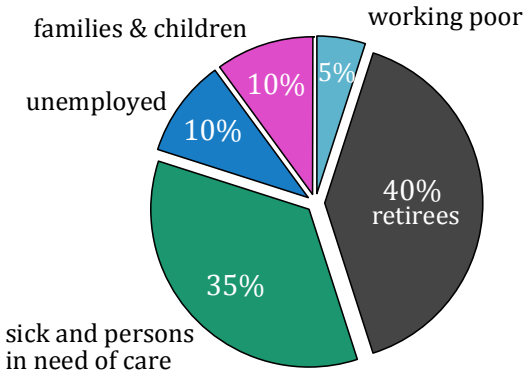
Personal tax and social contribution deduction



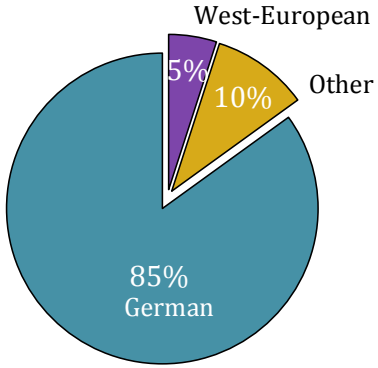
Total amount of redistribution



Status of beneficiaries



Nationality of recipients



2. Conceptional Framework: Choice-Set

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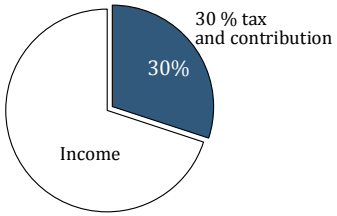
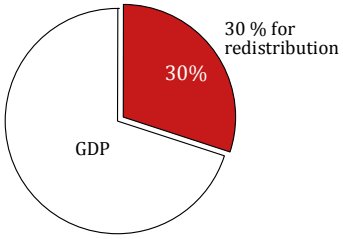
Status quo

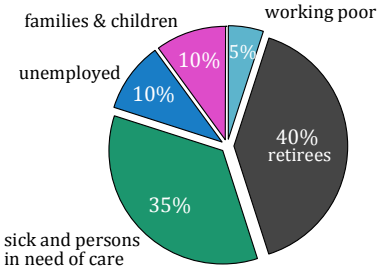
Personal tax and social contribution deduction



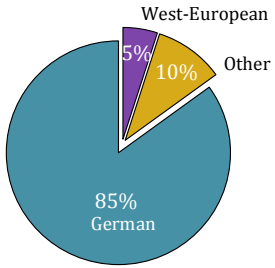
Total amount of redistribution



Status of beneficiaries

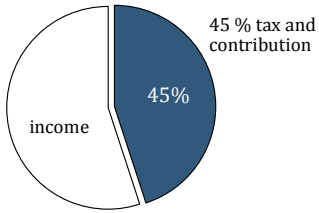


Nationality of recipients

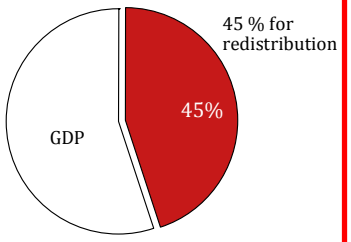


Alternative 1

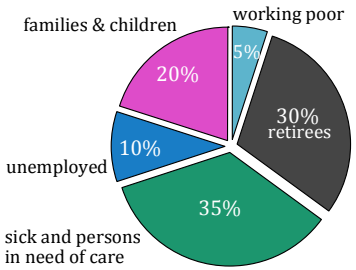
Personal tax and social contribution deduction



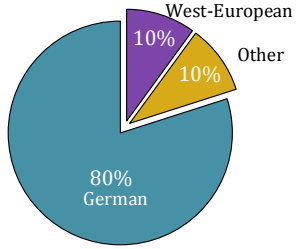
Total amount of redistribution



Status of beneficiaries



Nationality of recipients



3. Estimation technique

- According to the Random Utility Theory, the probability of individual *i* choosing alternative *l* rather than status quo *j* can be estimated via:

$$\Delta V_{ilj} = \Pr_i[decision_{il} = 1 \mid C_m] = \alpha_0 + \beta_1 \Delta RI + \beta_2 \Delta WP + \beta_3 \Delta FC + \beta_4 \Delta UL + \delta_1 \Delta OT + \delta_2 \Delta OTsq + \delta_3 \Delta WE + \lambda_1 \Delta TC + \lambda_2 \Delta TCsq + \eta_1 \Delta RE + \eta_2 \Delta REsq + \varphi_{il}$$

with $\varphi_{il} = \gamma_i + \kappa_{il}$; $\alpha_0 = \alpha_{0l} - \alpha_{0j}$.

- Random-Effects-Probit-Model
- Additive quadratic specification of the deterministic term

4. Results: MWTP

- Marginal Willingness-to-Pay for redistribution:

$$MWTP_{TC}^{RE} = -\frac{\partial \Delta V_{ilj}(\bullet) / \partial \Delta RE}{\partial \Delta V_{ilj}(\bullet) / \partial \Delta TC} = -\frac{\eta_1 + 2\eta_2 * \Delta RE}{\lambda_1 + 2\lambda_2 * \Delta TC}.$$

$$MWTP_{TC}^{RE}\Big|_{\Delta TC=0;\, \Delta RE=0} = -\frac{\eta_1 + 2\eta_2 * \Delta RE}{\lambda_1 + 2\lambda_2 * \Delta TC}\Bigg|_{\Delta TC=0;\, \Delta RE=0} = -\frac{\eta_1}{\lambda_1} = -\frac{0{,}0321}{(-0{,}0569)} = 0{,}564.$$

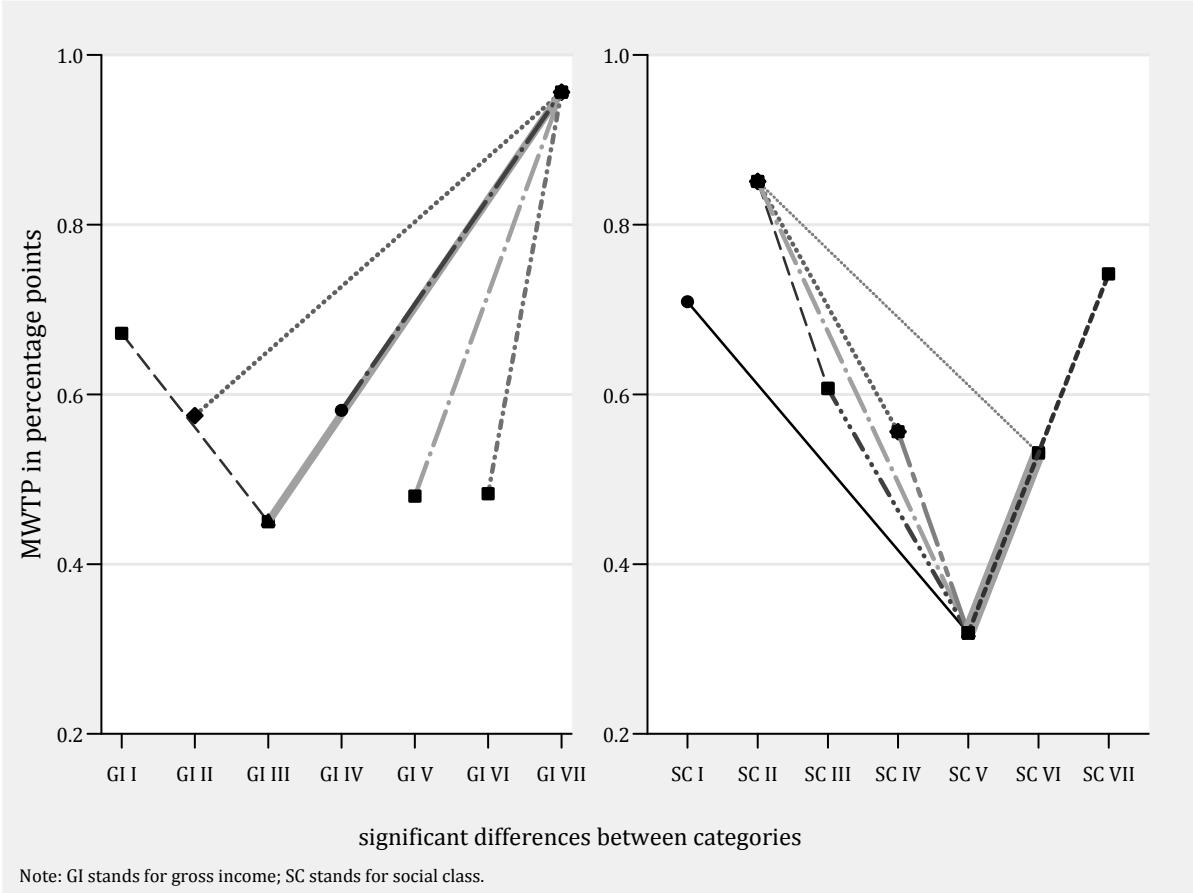
- Evaluated with different forms of income:

	redistribution	
	MWTP	*SE*
In percent	0.564	(0.034)***
Average gross income within the dataset (1,775.22 €)	10.025	(0.608)***
Average gross income ofindividuals with income > 0 (2,104.90 €)	11.887	(0.721)***
Average gross income of employees (2,172.13 €)	12.268	(0.744)***

*p<0. 1, **p<0.05, ***p<0.01. standard errors (SE) in pharanthesis, calculated with the help of the delta-method.

4. Results: Income

- Standard economic theory suggests a decreasing preference for redistribution with increasing personal income



Note: GI stands for gross income; SC stands for social class.

4. Results: Reliability and Validity

- Consistency test reveals that about 13 % of all decisions are inconsistent
  - Phillips et al. (2002): 9-39 %
- Lancsar and Louviere (2006), Seston et al. (2007): inconsistent individuals' should not be omitted from estimation
  - Inconsistency dependent from socio-demographic characteristics?
  - Does inconsistency bias estimation results?
- Only 2 % of the respondents had difficulties with understanding the DCE

5. Conclusion

- Study aims at eliciting preferences for redistribution in Germany
- First study to provide evidence using a DCE
- Strong preference for redistribution that overshoots the current level
- Preferences are increasing rather than decreasing the higher the income
- Results are free from distortions

- Even for a highly complex topic such as redistribution a DCE can provide convincing results!

Conclusion

Thank you for your attention!

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Backup: Descriptive Statistics

choices	N	in %
for status quo	8,084	65.70
for alternative	4,220	34.30
Total	12,304	100.00

chosen alternatives	# respondents	in percent
0	138	8.97
1	234	15.21
2	313	20.35
3	382	24.84
4	247	16.06
5	142	9.23
6	67	4.30
7	6	0.39
8	9	0.59
Total	1,538	100.00