

Optimal Taxation Under Different Concepts of Justness

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A Positive Approach to Just Taxation

- Objective of social planner is mostly welfarist
- In practice other concepts of justness important (Mankiw and Weinzierl, 2010; Weinzierl, 2014; Saez and Stantcheva, 2016)
- **Which concepts of justness can explain current tax practice?**
 - Do the concepts of justness imply "reasonable" weights?
 - "Reasonable weights": positive, non-increasing in income

Research Question and Contributions

• What optimal social weights are implied by different concepts of just taxation for singles in Germany?

- Welfare weights defined as in Saez (2002)
- We estimate labor supply elasticities
 - at the extensive margin η
 - at the intensive margin ζ
- We consider the following concepts
 - Welfarist
 - Minimum Sacrifice
 - Justness: Subjective Measure based on SOEP question

Optimal Tax Formula

A Generalization of Saez (2002)

Extension of Saez (2002) optimal taxation model with extensive and intensive labor supply responses. Weights e_1, \dots, e_I of gross income groups $i = 1, \dots, I$ implicitly defined by:

$$\frac{T_i - T_{i-1}}{c_i - c_{i-1}} = \frac{1}{\zeta_i h_i} \left\{ \sum_{j=i}^I \left[\left(1 - e_j \frac{\partial f_j}{\partial c_j} \right) - \eta_j \frac{T_j - T_0}{c_j - c_0} \right] h_j \right. \\ \left. - (e_i f_i - e_{i-1} f_{i-1}) \zeta_i \frac{h_i}{c_i - c_{i-1}} - \sum_{j=i}^I (e_j f_j - e_{j-1} f_{j-1}) \eta_j \frac{h_j}{c_j - c_0} \right\} \quad (1)$$

h_i : share of group c_i : net income of group T_i : total tax paid by group
 f_i : function based on a justness concept
 η_i and ζ_i : extensive and intensive mobility elasticities (Saez, 2002)

Operationalization of Justness

- Welfarist:

$$f_i = u(c_i) + b \times c_i \quad (2)$$

- Minimum Sacrifice:

- Absolute

$$f_i = \begin{cases} -(y_i - c_i)^2 & \text{if } y_i \geq c_i \\ -0.01(y_i - c_i)^1 & \text{if } y_i < c_i \end{cases} \quad (3)$$

- Relative

$$f_i = \begin{cases} -\left(\frac{y_i - c_i}{c_i}\right)^2 & \text{if } y_i \geq c_i \\ -0.01\left(\frac{y_i - c_i}{c_i}\right)^1 & \text{if } y_i < c_i \end{cases} \quad (4)$$

- Subjective Justness

- Absolute

$$f_i = \begin{cases} -(c_i^{\text{just}} - c_i)^2 & \text{if } c_i^{\text{just}} \geq c_i \\ -0.01(c_i^{\text{just}} - c_i)^1 & \text{if } c_i^{\text{just}} < c_i \end{cases} \quad (5)$$

- Relative

$$f_i = \begin{cases} -\left(\frac{c_i^{\text{just}} - c_i}{c_i}\right)^2 & \text{if } c_i^{\text{just}} \geq c_i \\ -0.01\left(\frac{c_i^{\text{just}} - c_i}{c_i}\right)^1 & \text{if } c_i^{\text{just}} < c_i \end{cases} \quad (6)$$

Subjective Just Taxes

German Socio-Economic Panel (SOEP) questions:

- "How high would your gross income have to be in order to be just?"
- "How high would your net income have to be in order to be just?"

Advantages:

- Interviewees are not framed with a theory of just taxation by the questionnaire.
- Interviewees do not need to be tax experts

Weights for Different Justness Concepts

Group	Gross income	Net income	Just Net income	Share	η	ζ	Welfarist	Minimum Sacrifice		Subjective	
								Abs	Rel	Abs	Rel
0	0	669	670	0.12	-	-	3.066	0.875	0.557	21.048	16.266
1	683	764	771	0.18	0.30	0.30	-1.000	1.000	1.000	-1.000	-1.000
2	1649	1244	1266	0.17	0.22	0.15	0.243	0.000	0.010	0.074	0.196
3	2420	1632	1706	0.18	0.16	0.18	0.277	0.000	0.006	0.026	0.114
4	3283	2083	2138	0.20	0.12	0.13	0.321	0.000	0.007	0.040	0.289
5	5487	3234	3283	0.15	0.07	0.15	0.305	0.000	0.007	0.042	0.750

Note: German single households; own calculations based on the SOEP and the STSM microsimulation model

- Welfarist approach: lowest weights for working poor
- Minimum Sacrifice: highest weights for working poor
- Justness:
 - Absolute: lowest weight for working poor
 - Relative: lowest weight for working poor, highest for poor and high income

Just Net Incomes and Weights by Party Affiliations

Group	SPD			CDU			Green			Left		
	Gross	Net	Just	Gross	Net	Just	Gross	Net	Just	Gross	Net	Just
0	0	736	600	0	686	670	0	895	600	0	713	670
1	611	685	661	1081	952	953	688	667	623	573	755	748
2	1661	1264	1203	2132	1454	1584	2193	1555	1721	1529	1131	1586
3	2486	1665	1724	2817	1836	1935	3132	1949	2087	2373	1615	1648
4	3204	2070	2131	3550	2256	2264	3962	2511	2497	2947	1978	2083
5	5273	2948	3007	6257	3510	3514	6270	3631	3431	3845	2387	2602

Note: German single households; own calculations based on the SOEP

- Voters with higher difference to just net income vote for smaller parties

Group	Absolute				Relative			
	SPD	CDU	Green	Left	SPD	CDU	Green	Left
0	2.440	170196.	2.884	3.171	4.273	83.471	2.504	3.332
1	-1.000	1.000	1.000	-1.000	-1.000	1.000	1.000	-1.000
2	0.300	0.230	0.000	0.000	1.004	0.314	0.066	0.004
3	0.000	0.346	0.000	0.000	0.185	0.780	0.078	0.183
4	0.000	5.129	0.870	0.000	0.315	18.306	2.378	0.116
5	0.000	8.177	0.675	0.000	0.487	70.756	2.807	0.062

Note: German single households; own calculations based on the SOEP

- Negative weights for working poor SPD and the Left voters

Conclusions

- **Minimum Sacrifice** can explain current tax practice in Germany
 - Only for the minimum sacrifice approach, social weights for all groups are positive
 - For minimum sacrifice the working poor have the highest weights followed by the unemployed
- Welfarist and subjective justness imply negative weights for the working poor
- Subjective justness of the **conservative** and **green party** can explain current tax practice

The Normative Approach

- Compare to optimal taxation under welfarist approach
- Decreasing welfare weights:

$$g_i = \frac{1}{(\lambda \times c_i)^\gamma}$$
- Net income of the working poor should increase
- More redistribution through higher taxes on higher income earners.

Group	Status Quo			Optimal	
	Gross Inc	Net Inc	Net Inc	Weight	Share
0	0	669	669	0.95	0.01
1	683	764	1101	0.84	0.28
2	1649	1244	1441	0.78	0.18
3	2420	1632	1704	0.75	0.18
4	3283	2083	1985	0.72	0.20
5	5487	3234	2850	0.66	0.15

Note: German single households; own calculations based on the SOEP.

References

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