

Optimal Taxation Under Different Concepts of Justness

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Research Question

- ▶ What optimal social weights (Saez, 2002) are implied by different concepts of "fair taxation" for singles in Germany?
 - ▶ Welfarist
 - ▶ Minimum Sacrifice (Mill, 1921)
 - ▶ Justness: Subjective Measure based on SOEP question
- ▶ Findings:
 - ▶ Welfarist approach: lowest weights for working poor
 - ▶ Minimum Sacrifice: highest weights for working poor
 - ▶ Justness:
 - ▶ Absolute deviations: lowest weight for working poor
 - ▶ Relative deviations: lowest weight for working poor, highest weight for poor and highest income earners

Motivation

- ▶ Standard approach in optimal taxation objective of social planner is welfarist (e.g., Mirrlees, 1971; Saez, 2002).
- ▶ In practice other considerations play a role
 - ▶ Mankiw and Weinzierl (2010)
 - ▶ Weinzierl (2014)
- ▶ Which concepts of justness can explain current tax practice?
 - ▶ Do the concepts of justness imply "reasonable" weights?
- ▶ Positive approach
 - ▶ Examples with welfarist approach: Blundell, Brewer, Haan, and Shephard (2009); Haan and Wrohlich (2010); Bourguignon and Spadaro (2012)

Optimal Tax Formulas I/II

- ▶ Generalization of Saez (2002)
- ▶ $i = 0, \dots, I$ income groups defined through gross income y_i
- ▶ Social planner optimizes:

$$L = \sum_{i=0}^I \mu_i h_i f_i \quad \text{s.t.} \quad \sum_{i=0}^I h_i T_i = G \quad (1)$$

h_i : share of group $e_i \equiv \frac{\mu_i}{\lambda}$: weight of group f_i : function based on a justness concept
 T_i : total tax paid by group

- ▶ Intensive and extensive mobility elasticities

$$\zeta_i = \frac{c_i - c_{i-1}}{h_i} \frac{\partial h_i}{\partial (c_i - c_{i-1})}, \quad \eta_i = \frac{c_i - c_0}{h_i} \frac{\partial h_i}{\partial (c_i - c_0)} \quad (2)$$

Optimal Tax Formulas II/II

Weights e_1, \dots, e_l implicitly defined by:

$$\frac{T_i - T_{i-1}}{c_i - c_{i-1}} = \frac{1}{\zeta_i h_i} \left\{ \sum_{j=i}^l \left[\left(1 - e_j \frac{\partial f_j}{\partial c_j} \right) - \eta_j \frac{T_j - T_0}{c_j - c_0} \right] h_j \right. \\ \left. - (e_i f_i - e_{i-1} f_{i-1}) \zeta_i \frac{h_i}{c_i - c_{i-1}} - \sum_{j=i}^l (e_j f_j - e_0 f_0) \eta_j \frac{h_j}{c_j - c_0} \right\} \quad (3)$$

$$\sum_{i=0}^l h_i e_i \frac{\partial f_j}{\partial c_j} = 1 \quad (4)$$

Operationalization of Justness Concepts

- ▶ Welfarist:

$$f_i = u(i) + b * c_i \quad (5)$$

- ▶ Minimum Sacrifice:

- ▶ Absolute

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

- ▶ Relative

$$f_i = \begin{cases} -\left(\frac{y_i - c_i}{c_i}\right)^2 & \text{if } y_i \geq c_i \\ -0.01\left(\frac{y_i - c_i}{c_i}\right)^1 & \text{if } y_i < c_i \end{cases} \quad (7)$$

- ▶ Subjective Justness

- ▶ Absolute

$$f_i = \begin{cases} -(c_i^{\text{just}} - c_i)^2 & \text{if } c_i^{\text{just}} \geq c_i \\ -0.01(c_i^{\text{just}} - c_i)^1 & \text{if } c_i^{\text{just}} < c_i \end{cases} \quad (8)$$

- ▶ Relative

$$f_i = \begin{cases} -\left(\frac{c_i^{\text{just}} - c_i}{c_i}\right)^2 & \text{if } c_i^{\text{just}} \geq c_i \\ -0.01\left(\frac{c_i^{\text{just}} - c_i}{c_i}\right)^1 & \text{if } c_i^{\text{just}} < c_i \end{cases} \quad (9)$$

Subjective just taxes

- ▶ 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?"

$$T_i^{\text{just}} = y_i^{\text{just}} - c_i^{\text{just}}$$

- ▶ Advantages:

- ▶ Interviewees are not prepossessed with a theory of just taxation by the questionnaire.
- ▶ Interviewees do not need a thorough understanding of tax schedules.

Estimation of elasticities

- ▶ Net incomes calculated with microsimulation model STSM (Steiner, Wrohlich, Haan, and Geyer, 2012)
- ▶ Estimate random utility discrete choice labor supply model (van Soest, 1995; McFadden, 1974)
- ▶ Each hours-person combination is assigned to an income group $i = 1, \dots, I$.
- ▶ Predict changes in relative employment shares of income groups due to changes in relative net incomes $c_i - c_{i-1}$ and $c_i - c_0$

Table 1: Resulting 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	0.3	0.3	-1.	1.	1.	-1.	-1.
2	1649	1244	1266	0.17	0.22	0.15	0.243	0.	0.01	0.074	0.196
3	2420	1632	1706	0.18	0.16	0.18	0.277	0.	0.006	0.026	0.114
4	3283	2083	2138	0.2	0.12	0.13	0.321	0.	0.007	0.04	0.289
5	5487	3234	3283	0.15	0.07	0.15	0.305	0.	0.007	0.042	0.75

Note: German single households; own calculations based on the SOEP and the STSM (see Jessen et al. (2016))

Simulation results

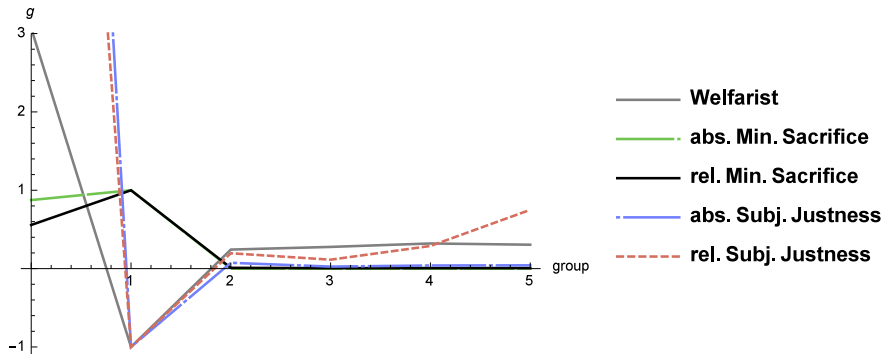


Table 2: Just net incomes by party affiliations

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.

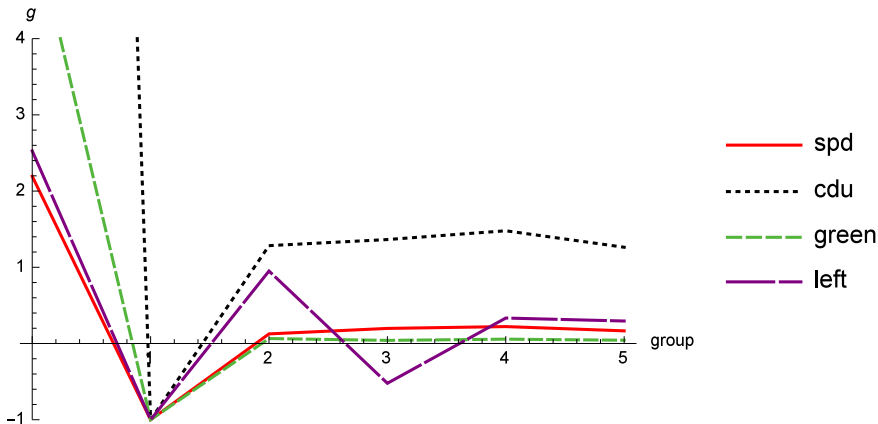
Table 3: Justness – Resulting Weights with Just Net Incomes by Party Affiliations

Group	Absolute				Relative			
	SPD	CDU	Green	Left	SPD	CDU	Green	Left
0	2.44	170196.	2.884	3.171	4.273	83.471	2.504	3.332
1	-1.	1.	1.	-1.	-1.	1.	1.	-1.
2	0.3	0.23	0.	0.	1.004	0.314	0.066	0.004
3	0.	0.346	0.	0.	0.185	0.78	0.078	0.183
4	0.	5.129	0.87	0.	0.315	18.306	2.378	0.116
5	0.	8.177	0.675	0.	0.487	70.756	2.807	0.062

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

Welfarist weights according to supporters of different parties

We set the tax burden for the six income groups by subtracting net incomes perceived as just by supporters of the four parties from actual gross incomes.



Summary and Conclusion

- ▶ We calculate social weights implied by the current tax schedule taking into account labor supply reactions.
- ▶ German tax and transfer system is only optimal if social weights are non-decreasing (or other justness concerns play a role).
- ▶ Welfarist and subjective justness imply low (negative) weights for the working poor.
- ▶ With regard to our four different parties, welfarist and subjective justness imply high weights for the non-working.
 - ▶ Justness weights are negative for working poor and for SPD or the Left voters.
 - ▶ Welfare weights are negative for working poor for all party affiliations
 - ▶ Welfare weights are negative for the middle class for the Left voters.

Thanks for your attention!

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Question for justness

67. Is the gross income that you earn at your current job just, from your point of view?

No..... Yes ➔ *Question 69!*

↓

68. How high would your gross income have to be in order to be just?

Gross: euros per month Don't know

69. Is the net income that you earn at your current job just, from your point of your view?

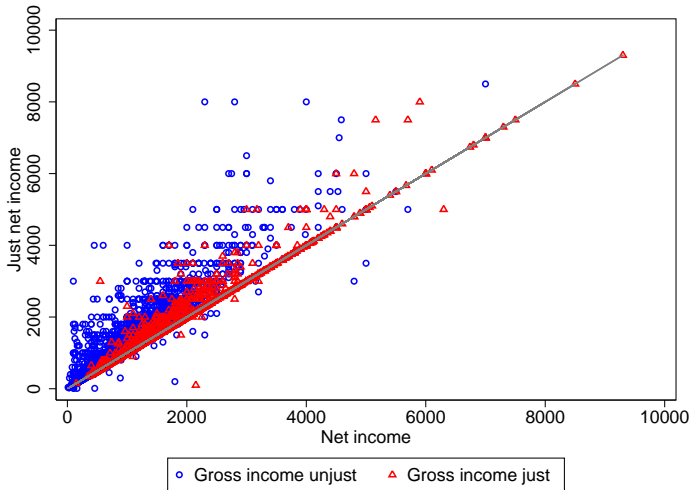
No..... Yes ➔ *Question 71!*

↓

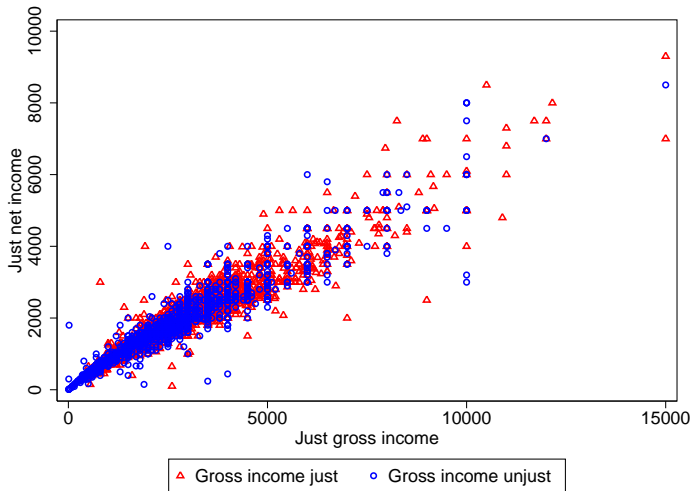
70. How high would your net income have to be in order to be just?

Net: euros per month Don't know

How high would your just net income be?



How high would your just net income be?



Frequency of justness

Is the gross (net) income that you earn at your current job just, from your view?

	Net income is just	Net income is unjust	
Gross income is just	55 percent	7 percent	62 percent
Gross income is unjust	1 percent	37 percent	38 percent
	56 percent	44 percent	

The table contains information on singles only.