French Favored Redistribution Derived From Surveys

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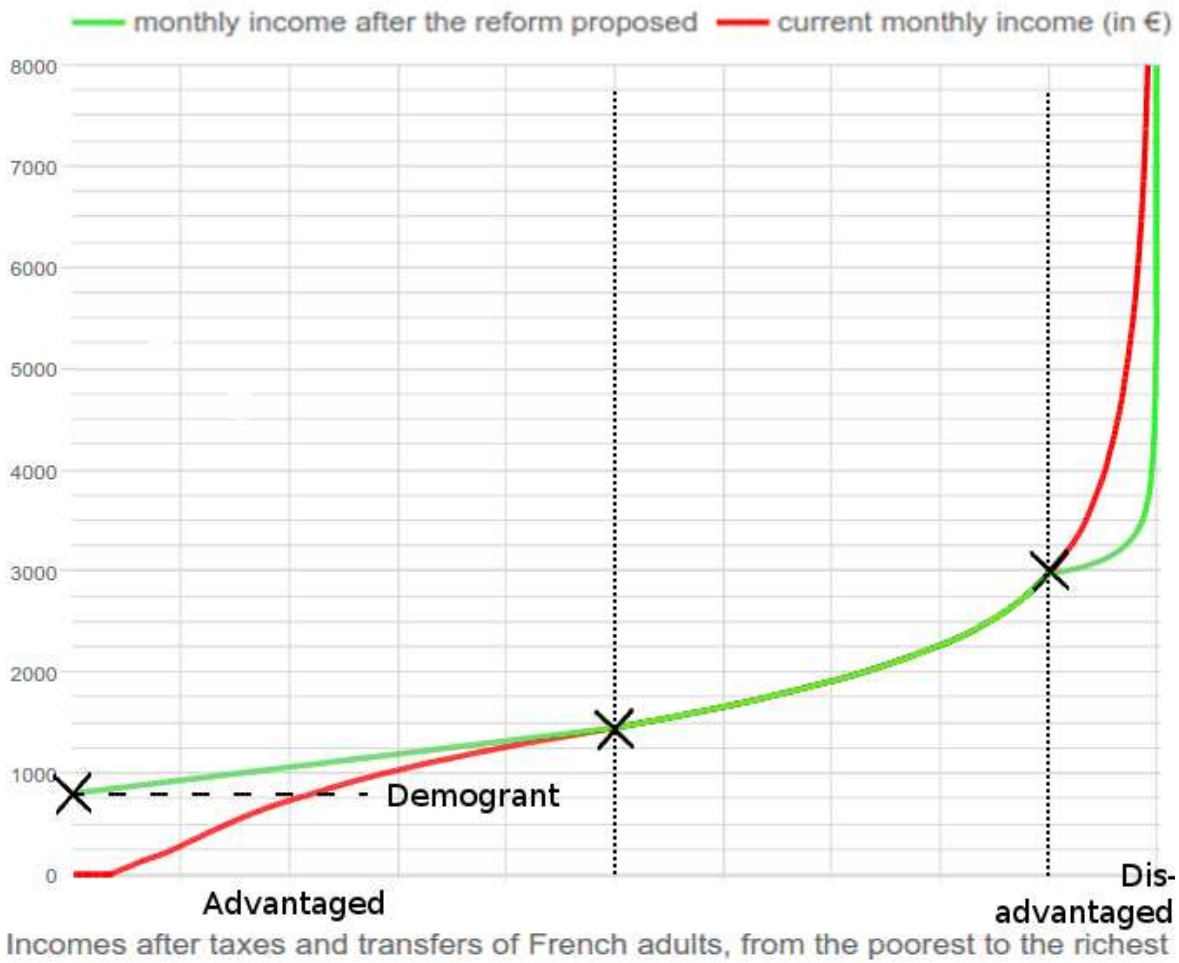
Overview

- In almost every country, a majority of people supports that it is "the government's responsibility to reduce income differences" (ISSP 2009)
- In France: 60% are favorable (strongly or not) to "an increase of taxes in order to redistribute the surplus to the least fortunate" (PISJ 2009); 89% agree (strongly or not) that "differences between high and low incomes should be reduced" in their country
- Which reform do they want? What redistribution(s) would satisfy their desire for a reform while still obtaining a majority support?
- Few studies quantify the preferred distribution: Singhal (2008), Forsé & Parodi (2014) and Weinzierl (2013)

Data, Sources and Variables

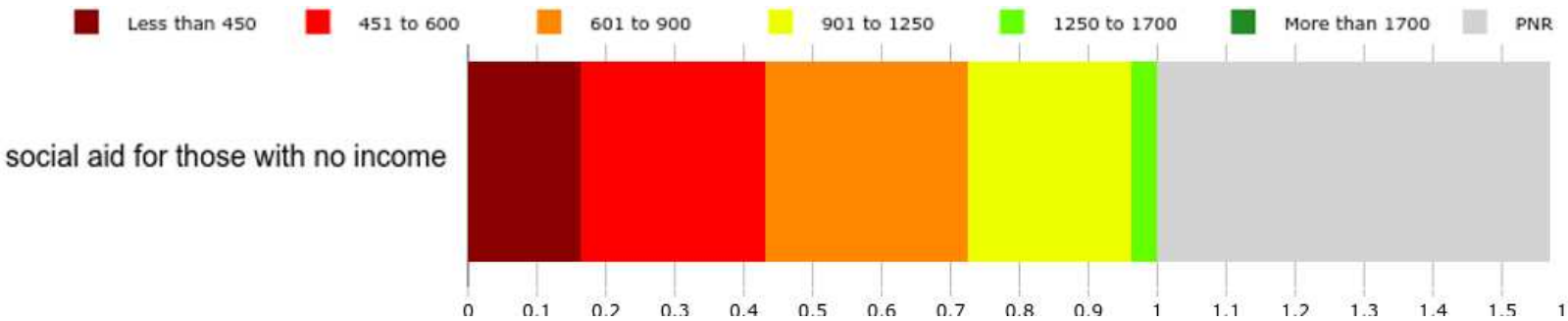
- Two surveys in autumn 2016: 1000 respondents each
- Special care for phrasing and quality of answers
- Data from Enquête sur les Revenus Socio-Fiscaux (INSEE 2012)
- Main variable used: *individual disposable income*: Non-contributive social benefits imputed to the least contributor(s) of the household / other incomes imputed to their respective entitled person

Method



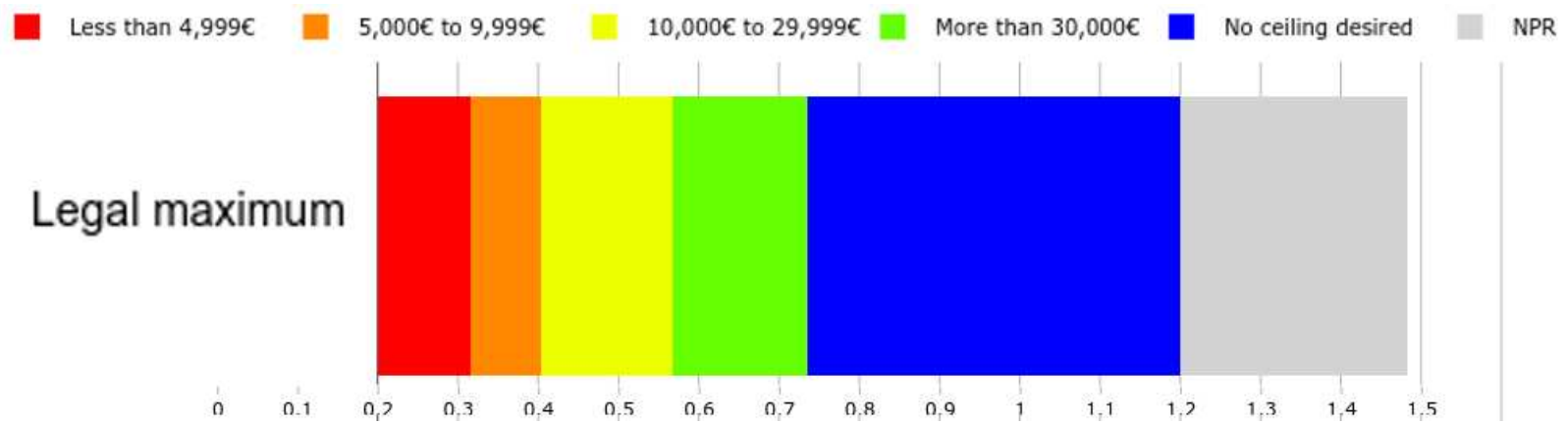
Incomes after taxes and transfers of French adults, from the poorest to the richest

Demogrant (€/month)



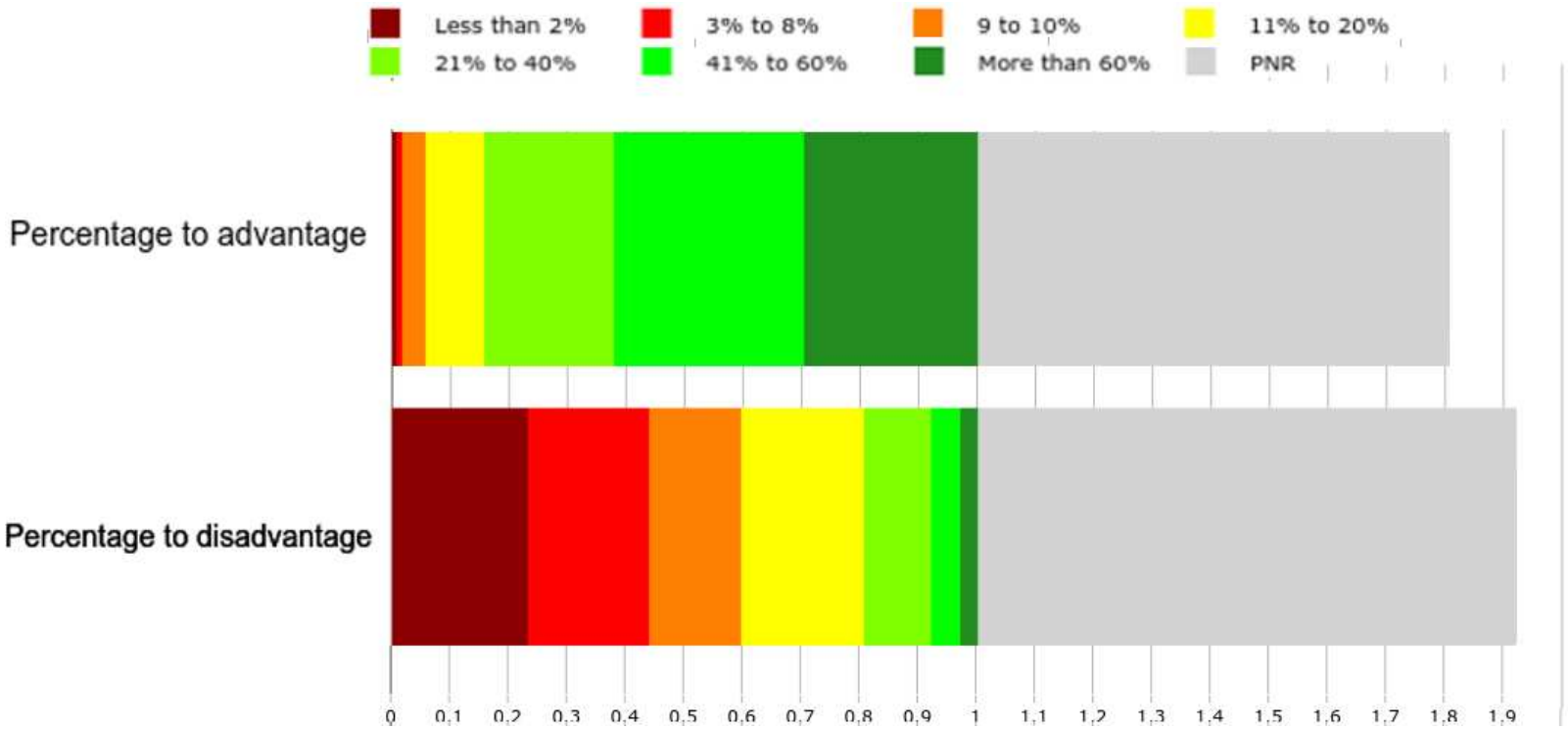
Median (1st sample): 800€/month

Maximal (monthly) income



Median (1st sample): 100,000€/month

Proportion to dis/advantage



Median: 50% (to advantage) / 10% (to disadvantage) slider

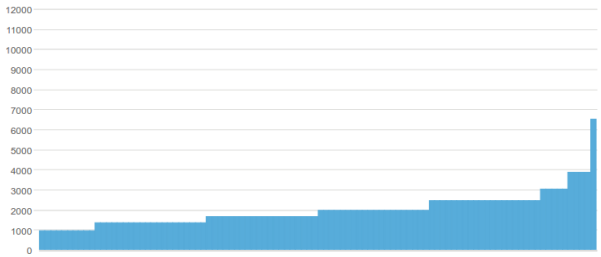
Algorithm Dis/adv: "median"

Yes: 52% **No: 26%**

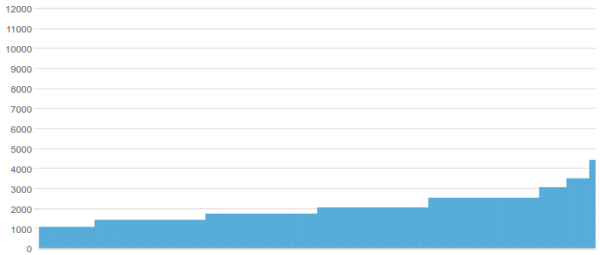
	Approval of a reform		
	(1)	(2)	(3)
Constant	0.675***	0.508***	
	(0.041)	(0.036)	
Income (k€ per month)	−0.045***		0.091
	(0.013)		(0.075)
Left - Right leaning (-2 to +2)	−0.078***		−0.087***
	(0.012)		(0.014)
Disadvantaged		−0.125***	−0.072
		(0.031)	(0.053)
Misunderstanding of graphics		−0.090***	0.022
		(0.024)	(0.032)
Wealth (0 to 6)		−0.019*	−0.016
		(0.010)	(0.014)
Future wealth (0 to 6)		0.023***	0.017*
		(0.007)	(0.009)
Age (1 to 8)			−0.005
			(0.010)
Gender: female			−0.019
			(0.032)
Highest degree (0 to 6)			0.003
			(0.009)
Observations	1,146	1,658	1,048
R^2	0.064	0.032	0.501
Note:			*p<0.1; **p<0.05; ***p<0.01

Evaluated Distributions

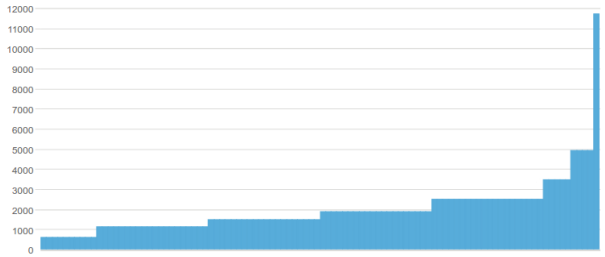
Demogrant median



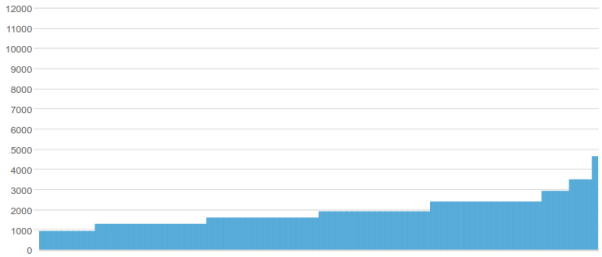
Median



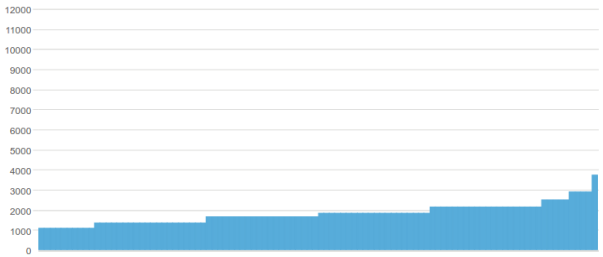
Actual



Utilitarian optimal taxation



Rawlsian optimal taxation



Egalitarian

Evaluations of the Distributions

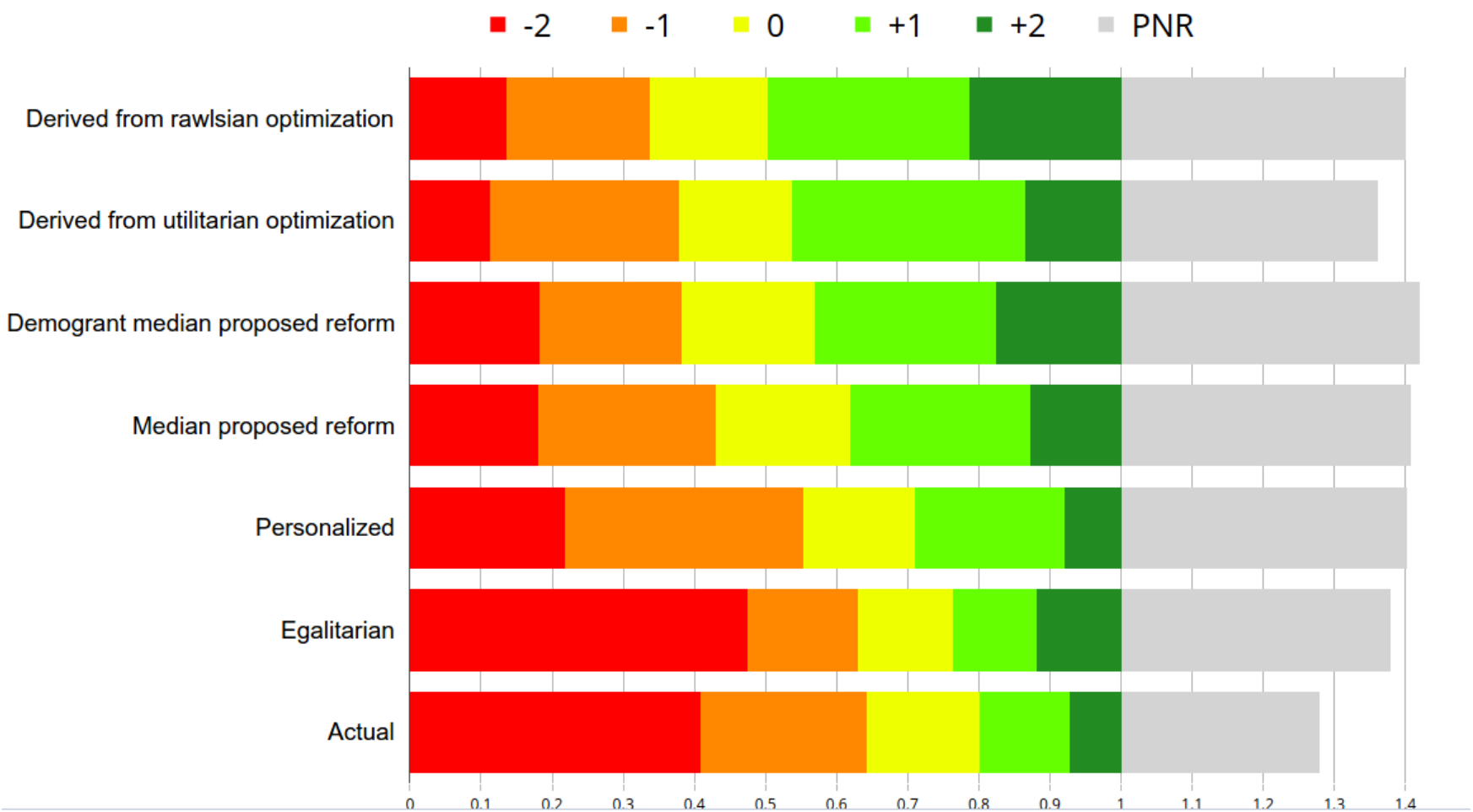
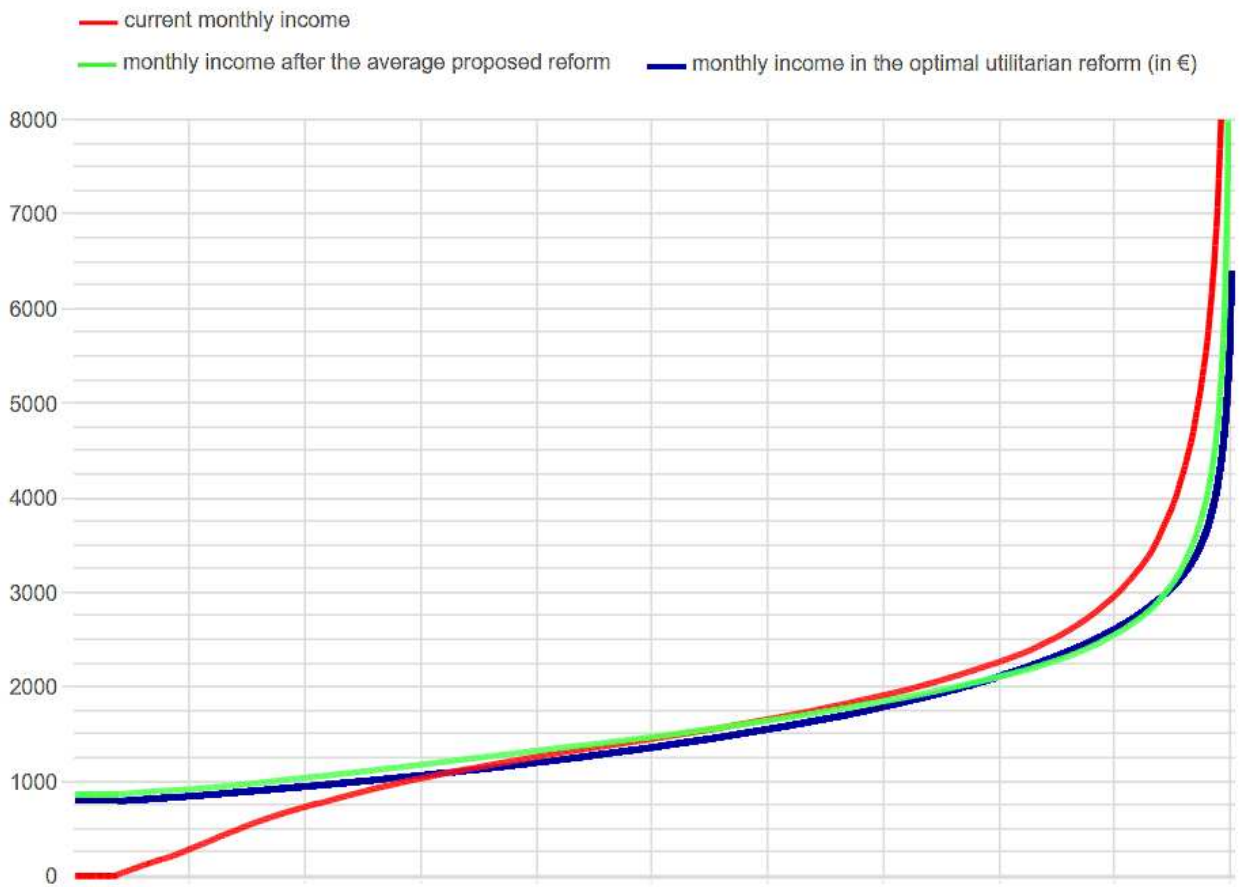


Figure: Comparison between *average* of ▸ Custom interactive reform and optimal utilitarian

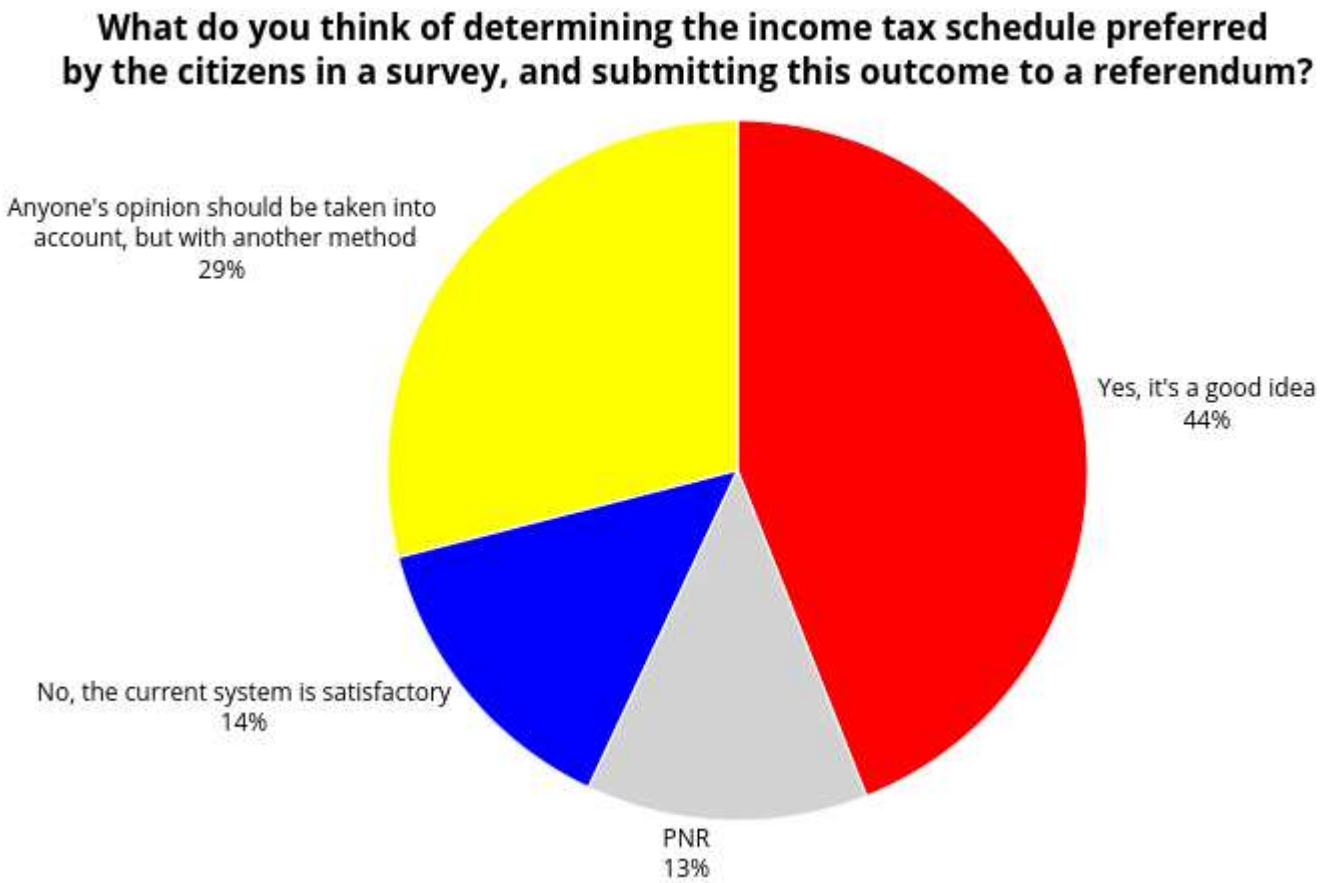


Limits of This Work

- Choice of the individual disposable income
- Simplification of the redistribution sought
- Framing

Steps of the Process

1. The parliament commands a survey to characterize a reform
2. Administration of the survey
3. Referendum
4. Progressive implementation



Conclusion

- Thank you for your attention !
- You can find everything on-line (the paper, the presentation, the data, a documentation, the codes, the figures, the questionnaire...):

adrien-fabre.com/documents.php#sondages

- You can even play with the algorithms to shape interactively your favored redistribution:

Dis/adv:
http://adrien-fabre.com/sondage/Politique%20des%20francais.html#q191
Demogrant:
http://adrien-fabre.com/sondage/Fiscalite%20des%20francais.html#q219

[1] Adrien Fabre. International preferences for income distribution: Evidence from issp, 1987-2009. Master's thesis, Paris School of Economics, 2016.

[2] Michel Forsé and Maxime Parodi. Les français et la justice fiscale. *Revue de l'OFCE*, 2014.

[3] Laurence Jacquet, Étienne Lehmann, and Bruno Van der Linden. Optimal redistributive taxation with both extensive and intensive responses. *Journal of Economic Theory*, 2013.

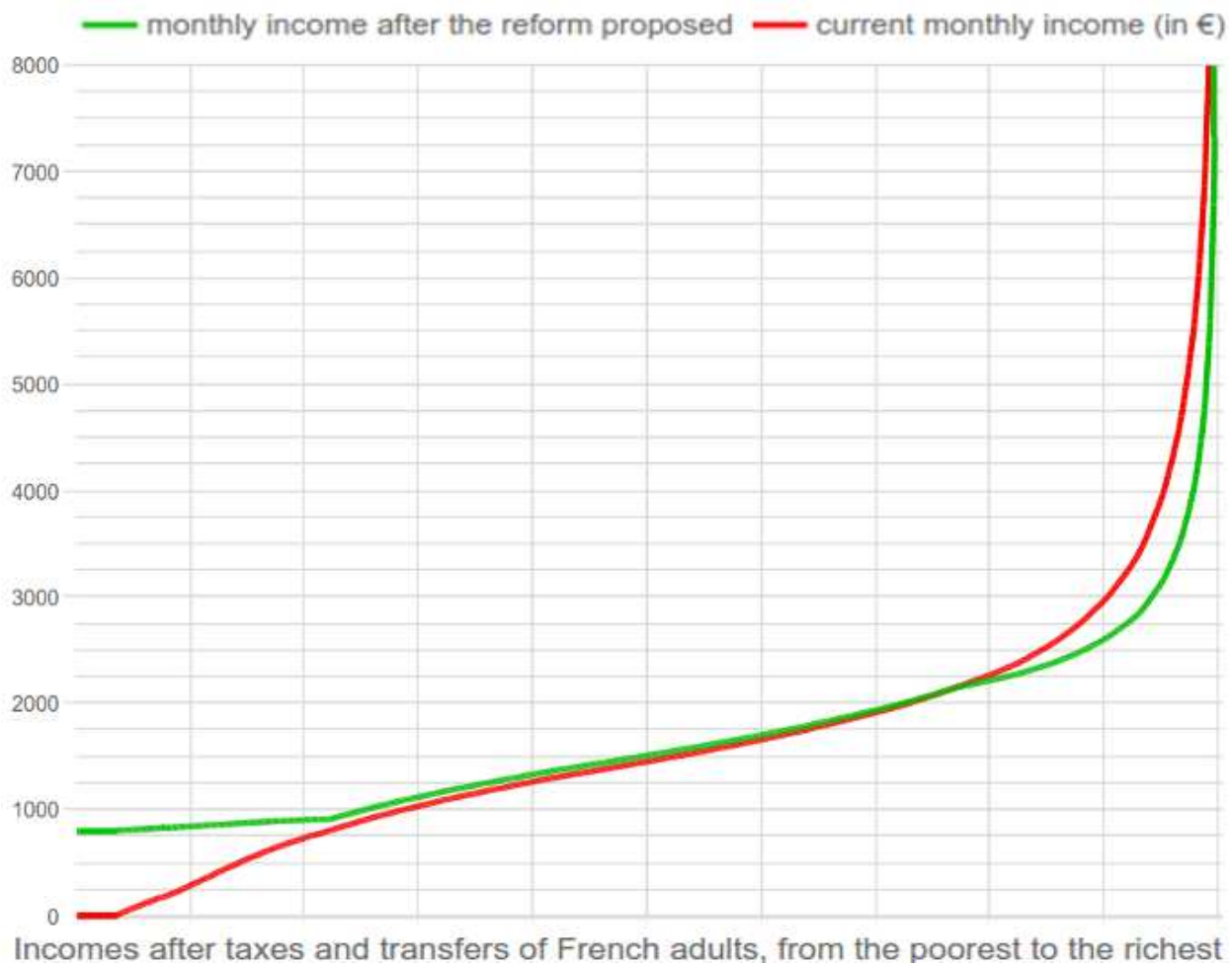
[4] Monica Singhal. Quantifying preferences for redistribution. 2008.

[5] Matthew Weinzierl. The promise of positive optimal taxation: Normative diversity and a role for equal sacrifice. *Journal of Public Economics*, 2014.

4 proposed reforms

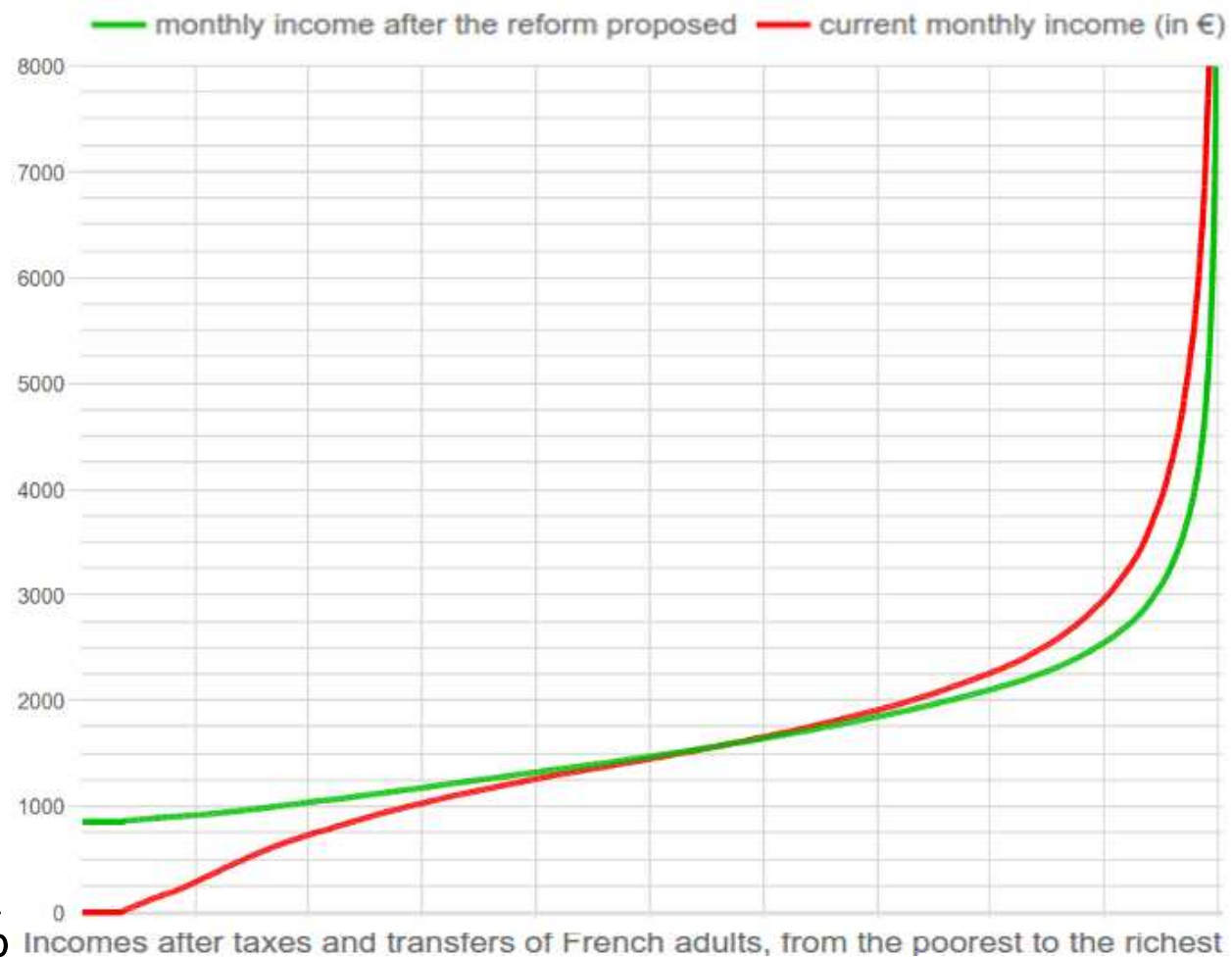
proposed reform	*demogrant median*	*average*	*median*	*distortionary median*
algorithm	demogrant	demogrant	Dis/adv	Dis/adv
distorsion	No	No	No	Yes
method	median params	average customized	median params	close to median params
demogrant	800	859	800	550
advantage	77	58	50	50
disadvantage	23	42	10	12
Gini (current: 0.43)	0.29	0.25	0.24	0.25
Transfer-to-GDP	0.09	0.12	0.12	0.12

Algorithm Demogrant: "median demogrant"



Yes: 42% No: 38%

Algorithm Demogrant: "average"



Yes: 39% No: 37%

Algorithm Dis/adv: "median"

Yes: 52% **No: 26%**

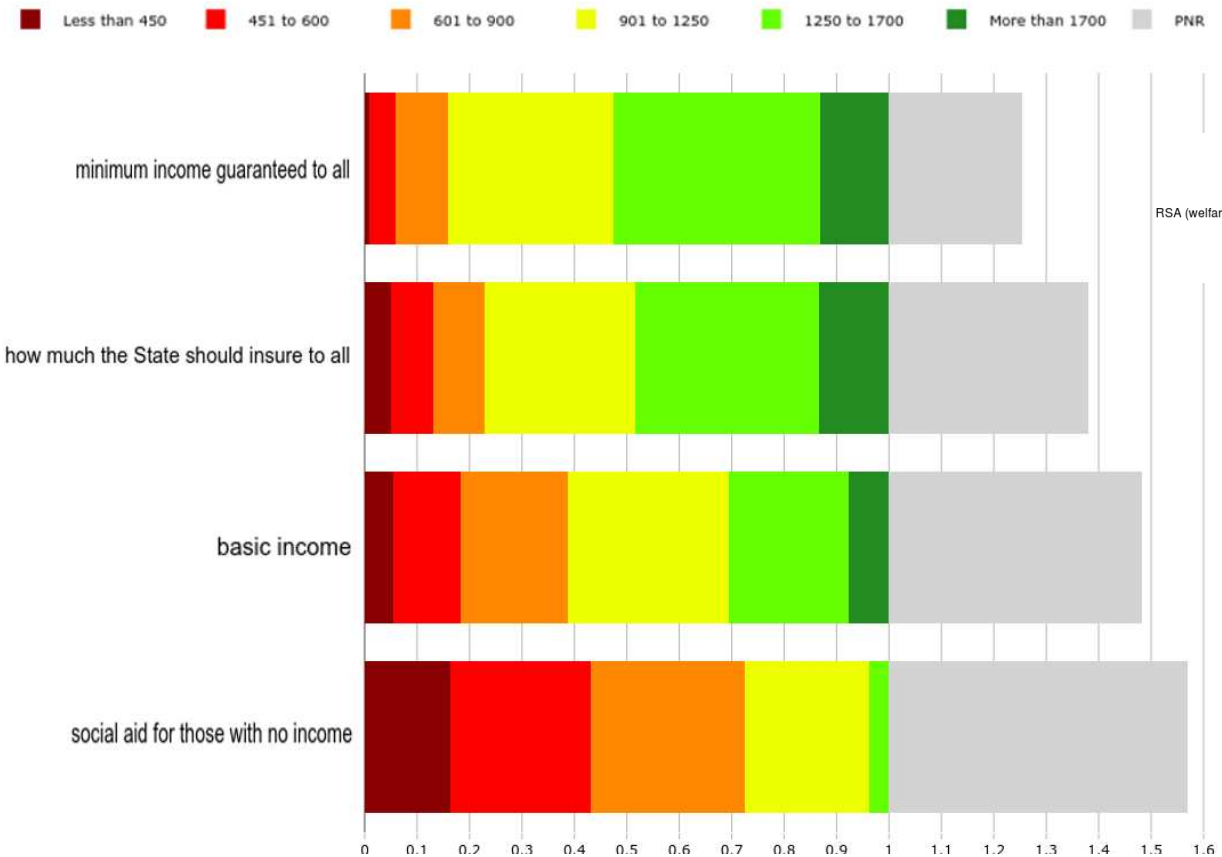
Algorithm Dis/adv: "distortionary median"

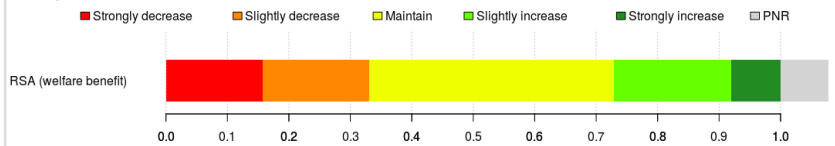
Yes: 46% No: 28%

Table: Rate of approval of different proposed redistribution (in %). 95% confidence intervals are reported inside square brackets.

Proposed reform	*Demogrant median*	*Average*	*Median*	*Distortionary median*	*Personalized*
Number of respondents	*488*	*509*	*505*	*492*	*1007*
Yes	**42**	**39**	**52**	**46**	**50**
	[37.9; 46.5]	*[35.1; 43.7]*	*[47.8; 56,4]*	*[41.1; 50.0]*	*[46.4; 52.6]*
No	38	37	26	28	28
	[34.1; 42.6]	*[33.0; 41.4]*	*[22.5; 30.1]*	*[23.7; 31.7]*	*[25.6; 31.1]*
PNR	20	24	22	27	22
(People Not Responding)	*[16.4; 23.3]*	*[20.1; 27.5]*	*[18.4; 25.5]*	*[23.2; 31.1]*	*[19.8; 24.9]*
Yes, excluding PNR	**52**	**51**	**67**	**62**	**64**
	[47.6; 57.3]	*[46.4; 56.4]*	*[61.9; 71.0]*	*[57.1; 67.2]*	*[60.2; 66.9]*

Demogrant: variants





- 65% in favor of an increase in the minimum wage rather than an increase in welfare benefits (7%)

Maximal (monthly) income: variants

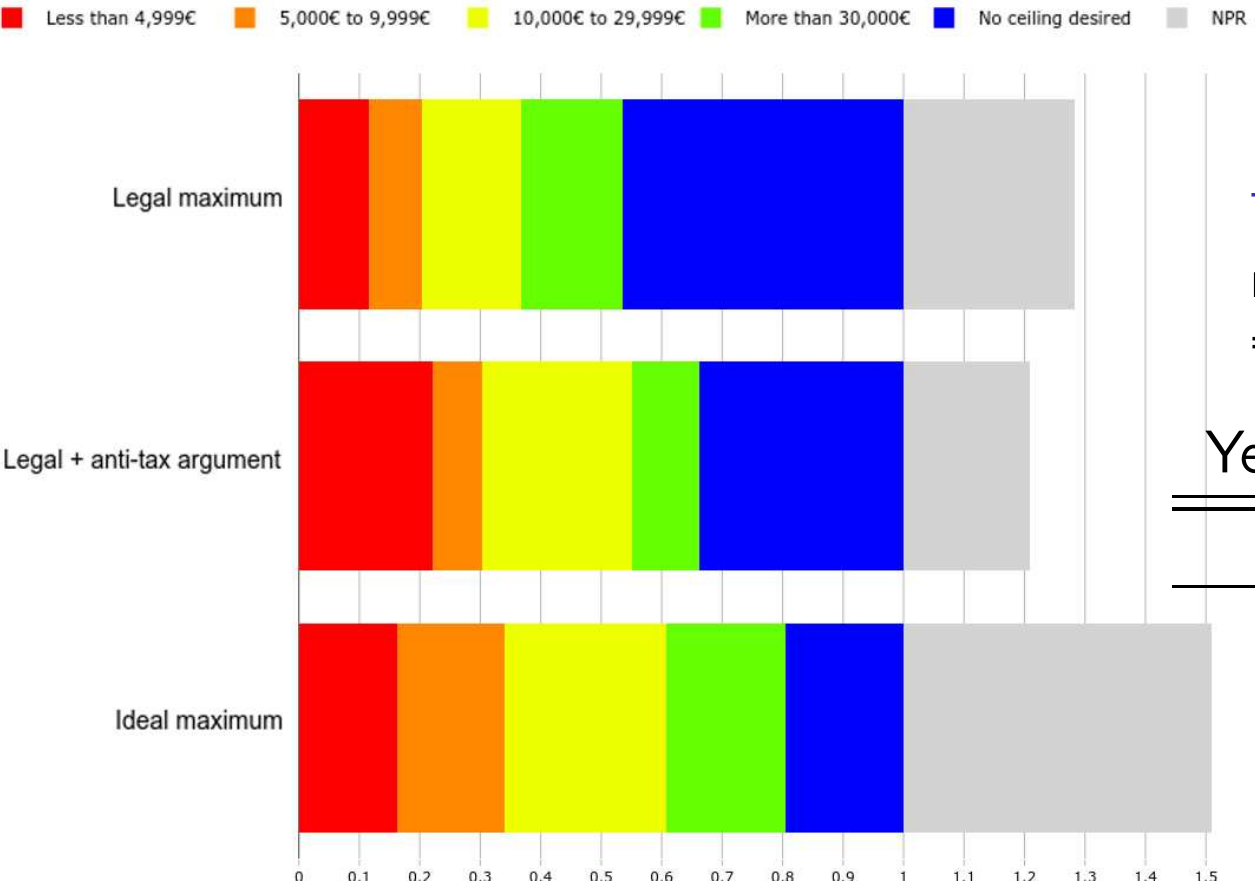


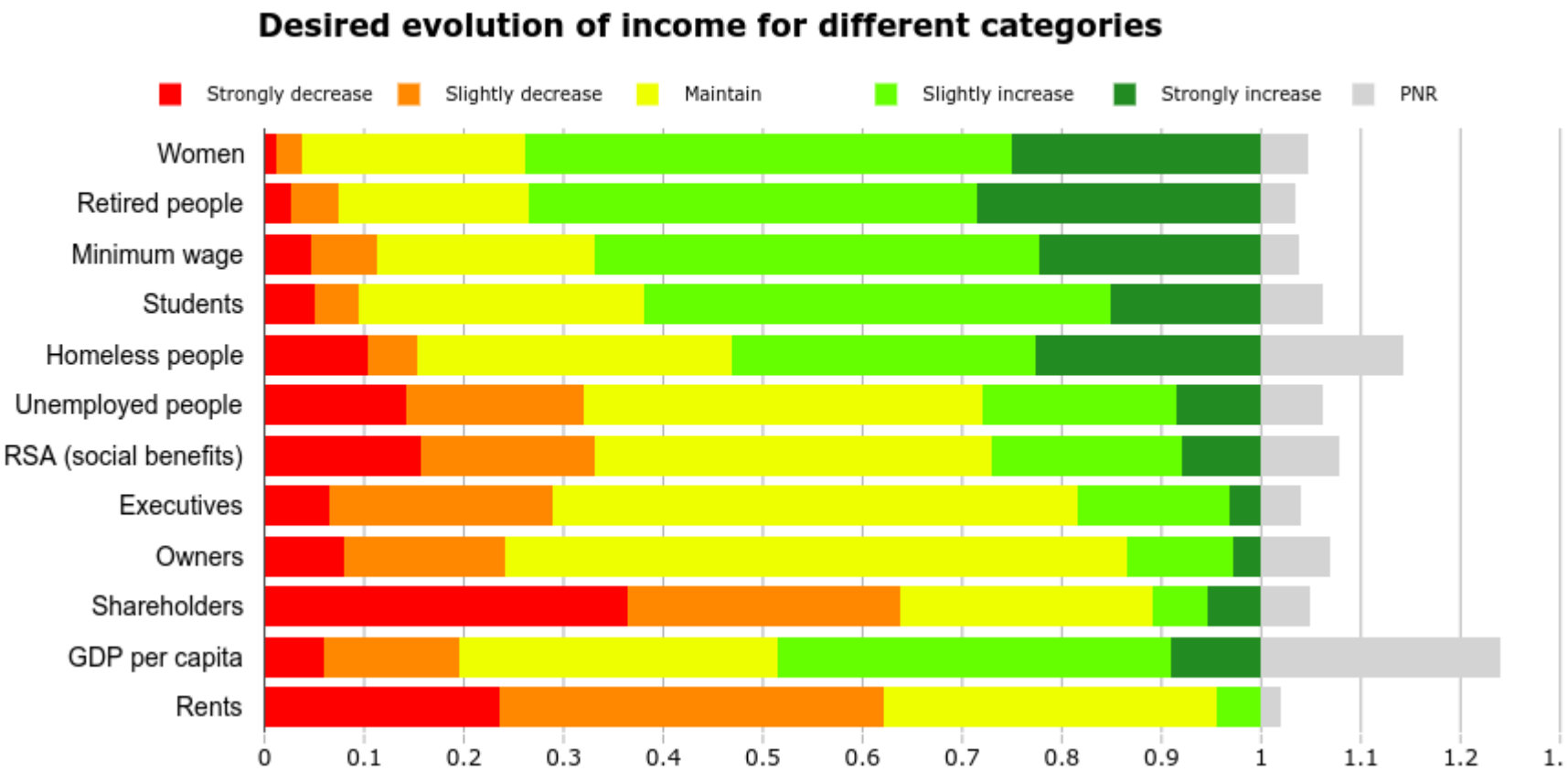
Table: Approval of a legal maximal income (in €/month)

Yes/No (%)	100k	3M
France	40/**41**	**40**/32
World	**41**/37	**38**/28

Other features of the tax system

- Approval of the marital quotient: 57% in favor; 26% against
- Net effect of the priming: 69% vs. 45% support
- 88% in favor of a simplification of the tax system (5% against)
- Majority for a merge between income tax and social contrib.
- Majority for taxation of imputed rents
- Majority to take into account life expectancy for the value of retirement pensions (and allow more flexibility)
- Majority support for an European basic income and corporate tax, but no majority for a common unemployment insurance
- Strong support for international redistribution: 80% in favor of a tax on the top 1% to finance the development of LDC, majority support for a transfer of 5% of the income of rich countries to poor countries, for a global tax on capital, for a cap and share system, for a global basic income, etc.

Redistribution among different categories



Using a Broader Sample

Table: Approval of proposed redistributions in the *augmented* sample

	Headcount (additional)	Approval (of any reform) (2)	(3)	Non-answer
In *augmented* (constant)	1,007	0.353***	0.563***	0.373***
		(0.015)	(0.019)	(0.013)
In *restricted*	1,994	0.100***	0.021	−0.150***
		(0.019)	(0.023)	(0.017)
Includes non-answers	Yes	Yes	No	Yes
Observations	3,001	3,001	2,231	3,001

Note: *p<0.1; **p<0.05; ***p<0.01

Non Weighted Results

Table: Effect of weighting on approval of a reform

	Approval of a reform
Effect of weighting	−0.004
	(0.007)
Constant	0.452***
	(0.011)
Observations	1,994
Note:	*p<0.1; **p<0.05; ***p<0.01

Quality of Responses

	Approval of any reform				Non-answer	
	(1)	(2)	(3)	(4)	(5)	(6)
log of time response (for approval)	0.083***	0.027			−0.128***	
	(0.022)	(0.027)			(0.017)	
Misunderstanding graphical questions			−0.088***	0.008		0.165***
			(0.022)	(0.026)		(0.018)
Constant	0.141**	0.410***	0.490***	0.566***	0.594***	0.135***
	(0.071)	(0.088)	(0.015)	(0.016)	(0.056)	(0.012)
Includes non-answers	Yes	No	Yes	No	Yes	Yes
Observations	995	803	1,994	1,586	995	1,994

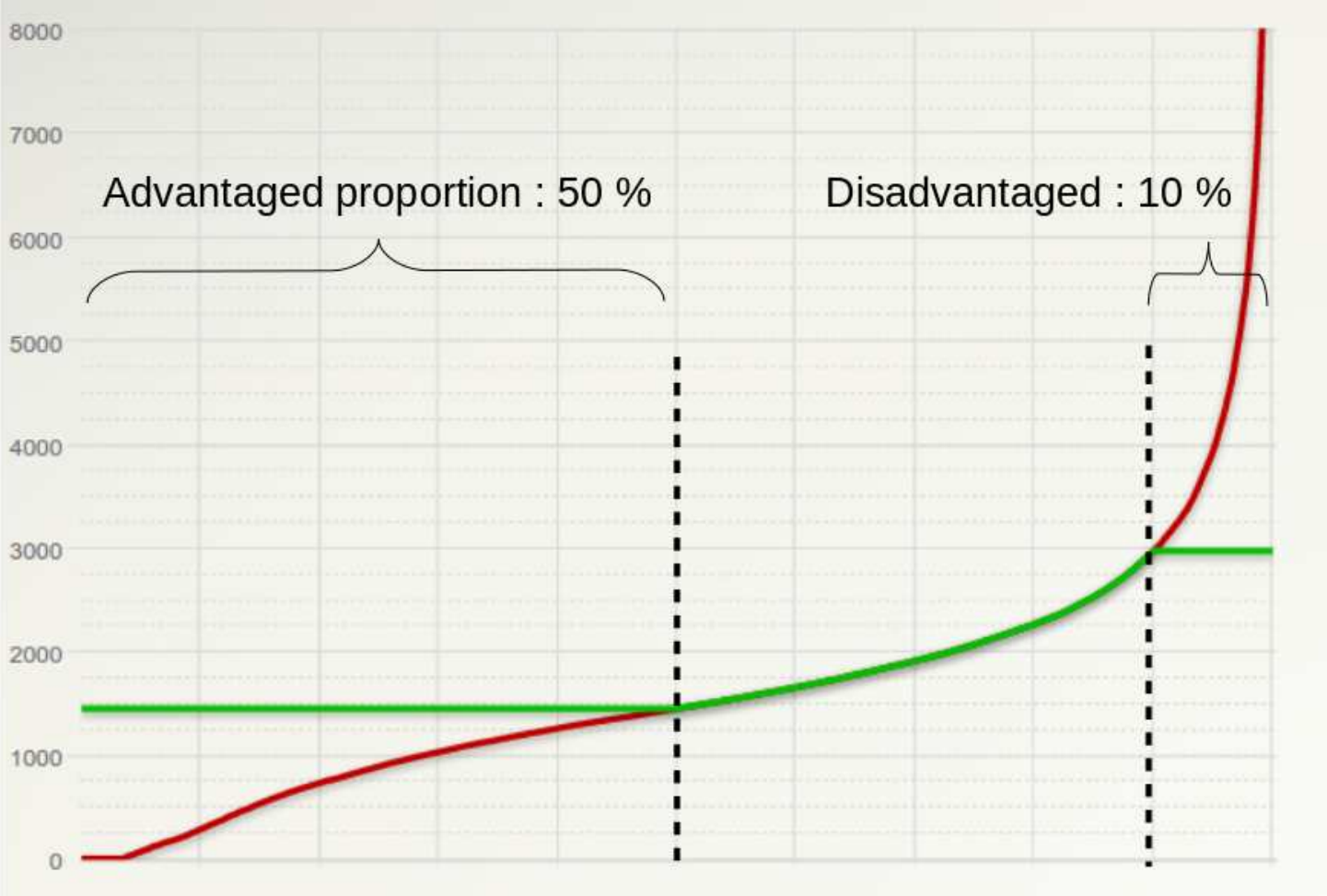
Note: *p<0.1; **p<0.05; ***p<0.01

Comparison with an Earlier and Indirect Estimation

Table: Characteristics of Distributions of Income

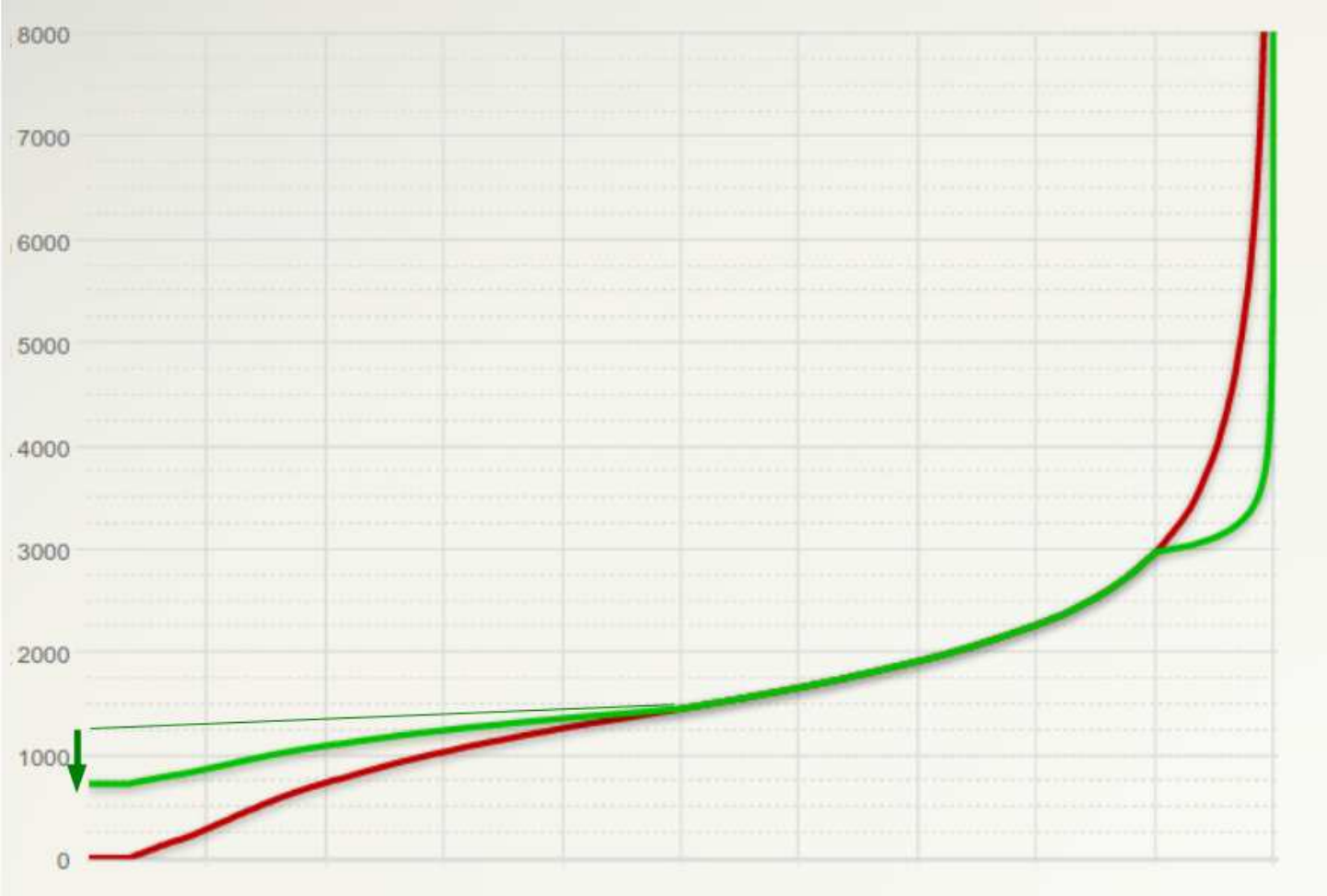
	Gini	D9/D1	Bott.50	Top10	Top1	Top0.1	Min	Dis-	Adv-	Transfer
equivalised disposable	0.308	3.441	0.298	0.258	0.072	0.031	-47			
actual	0.434	10.326	0.224	0.335	0.128	0.076	0			
demogrant median	0.286	3.101	0.306	0.242	0.074	0.040	800	23	77	0.094
median	0.241	3.194	0.331	0.202	0.036	0.015	802	10	50	0.117
distortionary	0.251	3.815	0.321	0.186	0.026	0.008	550	12	50	0.116
average	0.250	2.797	0.331	0.224	0.053	0.019	859	42	58	0.117
earlier median	0.295	5.429	0.304	0.237	0.056	0.022	550	10	73	0.109

1. *reference* curve

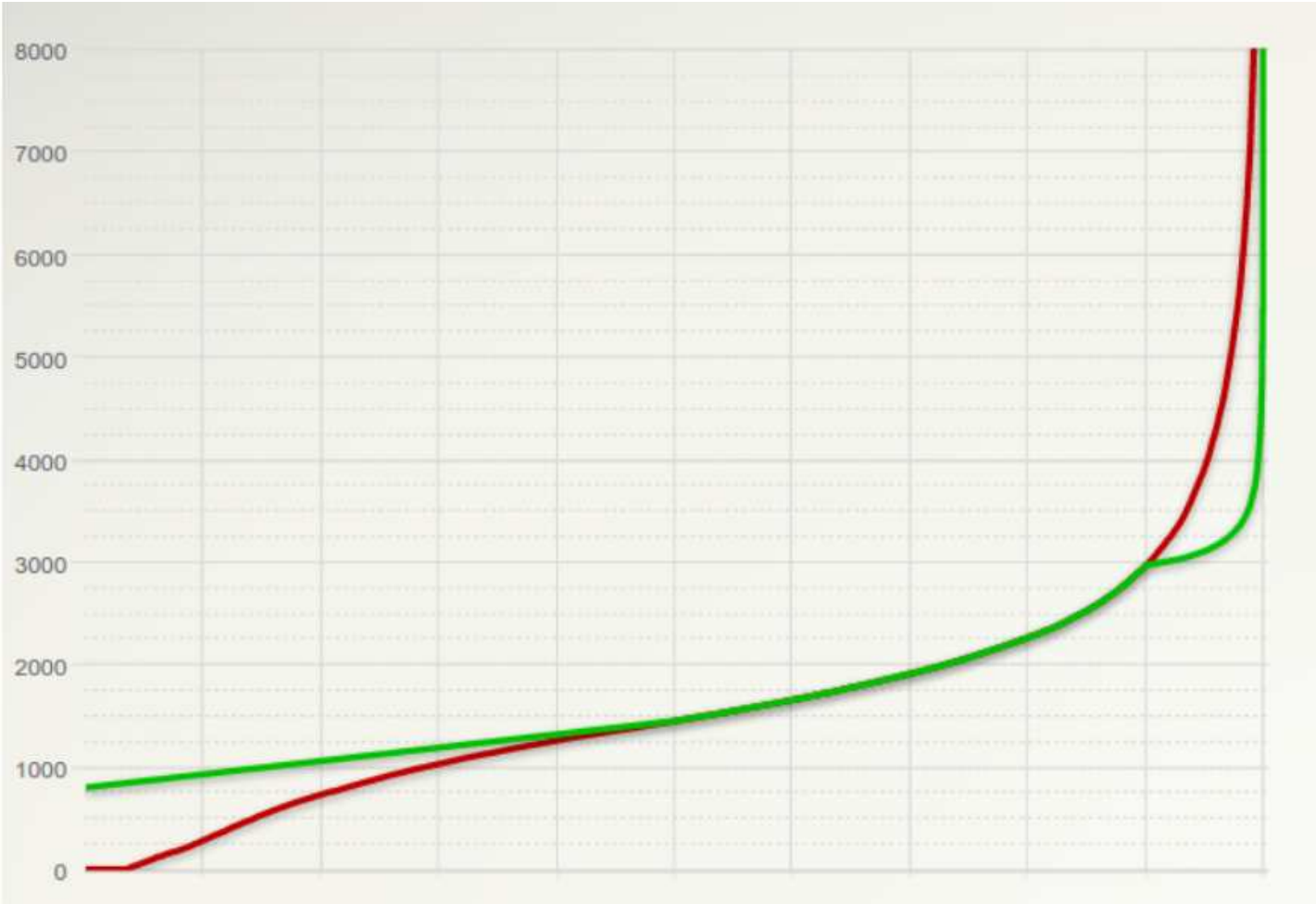


2. narrowing the gap

3. adjust for budget neutrality



3.5 "linearize" the left end



4. correct for behavioral responses

Empirical and Dynamical Computation

- behavioral response $\rho = \Delta z$
- aggregate change in pre-tax distribution is borne by a change in tax revenues and in aggregate disposable income: $\int \rho = \int \Delta T + \int \Delta c$
- $z_t = z_{t-1} + \rho_t = c_t + T_t =$ $c_{t-1} + \mathbf{E}_{t-1}[\Delta c_t] + T_{t-1} + \mathbf{E}_{t-1}[\Delta T_t] + \rho_t - \mathbf{E}_{t-1}[\rho_t]$
-

$$\begin{aligned} T_{t+1}(q) &= T_t(q) + \mathbf{E}_t[\rho_{t+1}(q)] - \mathbf{E}_t[\Delta c_{t+1}(q)] \\ T^z_{t+1}(z) &= T_{t+1}(\mathbf{E}_t[q_{t+1}(z)]) \end{aligned}$$

- linear implementation of the reform $=>$ $\mathbf{E}_{t-1}[\Delta c_t] = \Delta c_{t-1}$, the response can simply be expected to be constant: $\mathbf{E}_{t-1}[\rho_t] = \rho_{t-1}$ $=>$ tax schedule tractable

Theoretical Approach

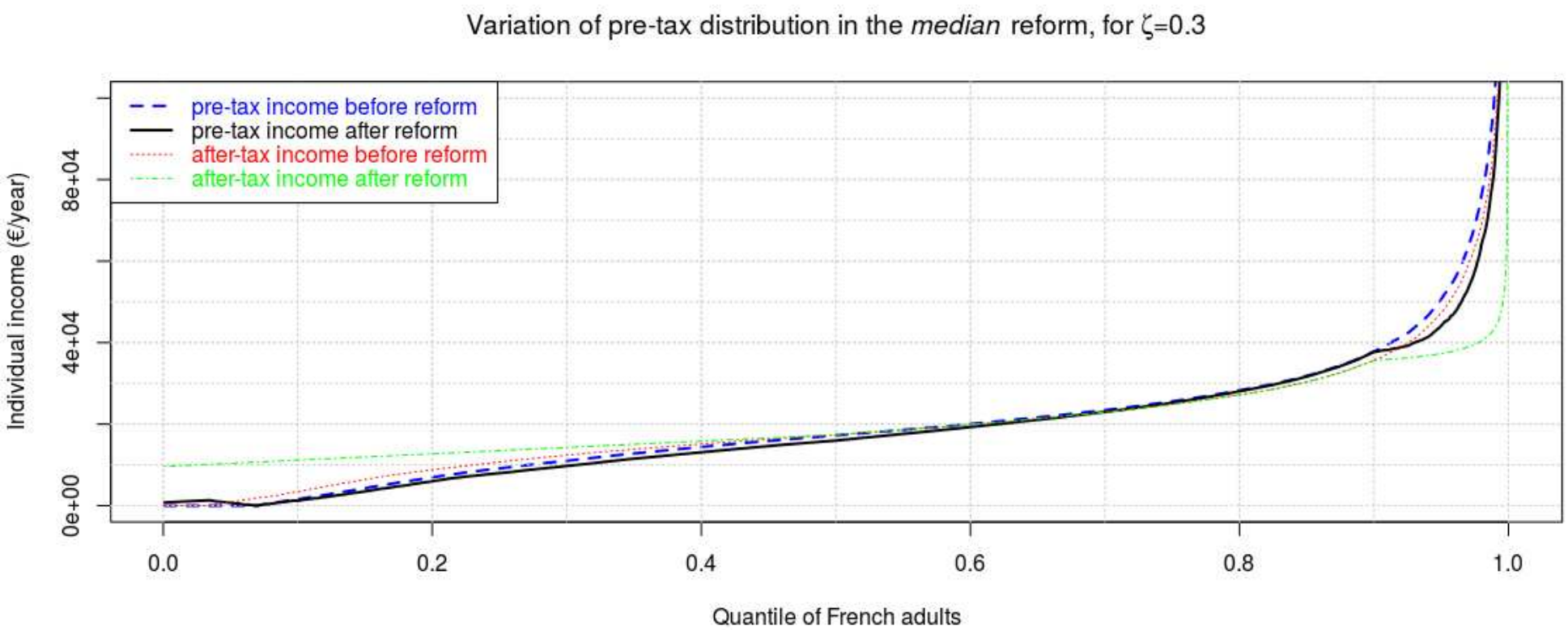
$$\begin{aligned} \zeta_z &:= \frac{1-T'}{z}\frac{\partial z}{\partial(1-T')} \\ c(q,t) &= z(q,t) - T(z(q,t),t) \end{aligned}$$

$$\frac{dc}{dt} = \frac{\partial z}{\partial t}\cdot\left(1-\frac{\partial T}{\partial z}\right) - \frac{\partial T}{\partial t} \tag{1}$$

Using ζ_z, one obtains an Euler-Cauchy differential equation for $\frac{\partial T}{\partial t}$:

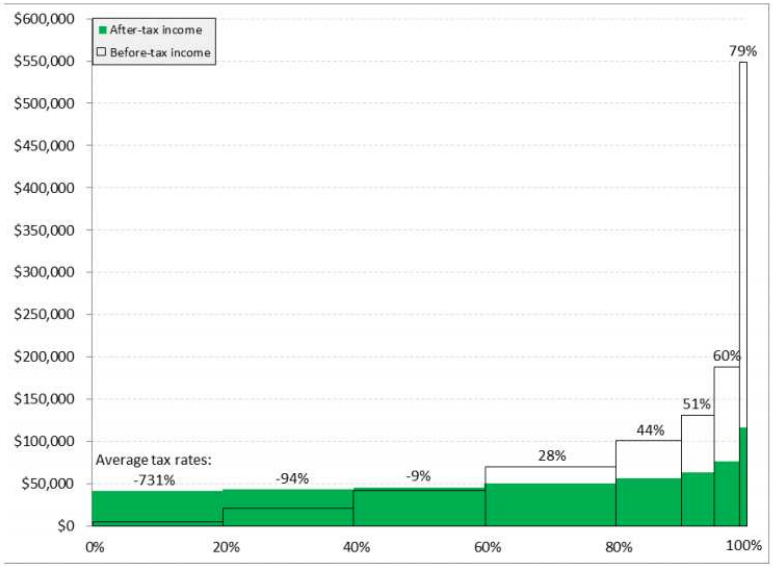
$$\frac{dc}{dt} = -\zeta_z \cdot z \cdot \frac{\partial^2 T}{\partial t \partial z} - \frac{\partial T}{\partial t} \tag{2}$$

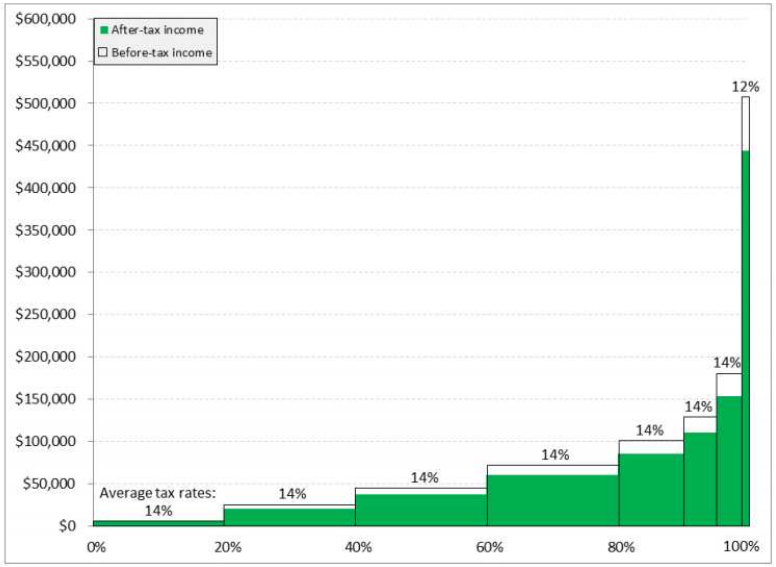
Simulation of behavioral responses



Framing

Figure: Example of question from Weinzierl (2013). Transparent boxes represent pre-tax income while green rectangles stand for after-tax income.





Summary statistics

Figure: Summary statistics of reform parameters for different samples

	first sample *restricted*			first sample *augmented*			final sample (both surveys)			
	median	PNR	obs.	median	PNR	obs.	median	95% C.I.	PNR	obs.
Advantage	50	175	449	50.00	315	645	50.00	[50; 50]	265	621
Disadvantage	10.0	206	500	10	357	699	10	[9; 10]	589	1325
Demogrant	750.00	77	253	800	151	369	738.4	[700; 800]	167	456
Maximal income	50000	44	243	1e+05	92	354	250000	[1e+05; Inf]	130	600

Survey Screen Shots: Disadvantage

À l'occasion d'une réforme fiscale qui opérerait une redistribution des plus riches vers les plus pauvres, **quelle proportion de français faudrait-il désavantager** par la réforme **?** Ce qu'on appelle être désavantagé par la réforme, c'est voir ses revenus après impôts baisser par rapport à la situation actuelle, et cela concernerait les français les plus riches.

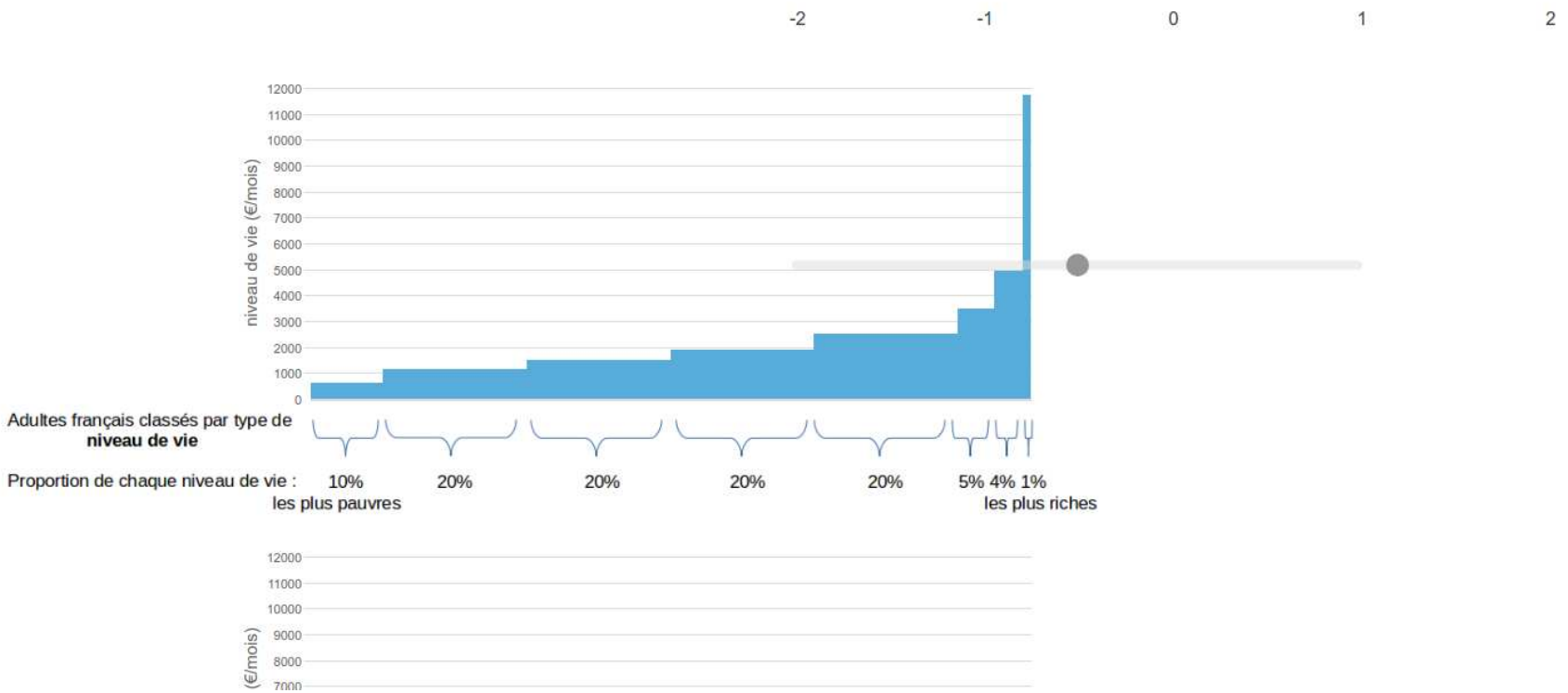
Le curseur ci-dessous vous aide à répondre à la question : le texte en-dessous du curseur change quand vous déplacez le curseur (en maintenant la souris appuyée sur sur le carré et en allant sur le côté). La valeur de ce curseur n'est pas enregistrée, vous devez donc reporter la valeur que vous aurez choisie dans le champs ci-dessous.

Parmi les français, 20% gagnent plus de 2450€/mois

- Il faudrait désavantager une proportion de (en %) :
- NSP (Ne sait pas, ne se prononce pas)

Survey Screen Shots: Evaluations

Trois graphes représentant les niveaux de vie des adultes français, des plus pauvres au plus riches, vous sont présentés **les uns en-dessous des autres**. Par exemple, d'après le premier graphique, les 1% les plus riches auraient un niveau de vie de 11700€ par mois (on peut lire les valeurs des graphiques en restant sur les barres bleues avec la souris). Les différents graphes montrent comment le revenu national de la France peut être réparti entre les français, de façon plus ou moins égalitaire. Selon vos préférences en matière d'inégalités, vous pouvez **noter chaque graphe**, par une note entre -2 (je n'aime pas cette répartition) et +2 (j'aime cette répartition) : il suffit de déplacer le curseur à côté de chaque courbe. Il est vivement recommandé d'**aller jusqu'en bas de la page pour voir tous les graphes avant de leur donner une note**.



Survey Screen Shots: Process of decision for the tax schedule

Actuellement, les taux d'imposition sont votés au Parlement. Ce n'est pas le seul processus possible : par exemple, il serait possible de déterminer le barème d'imposition préféré des citoyens à partir d'un sondage, puis de soumettre la proposition qui ressortirait du sondage à référendum. Pensez-vous qu'il faudrait consulter les citoyens de la sorte pour déterminer les taux d'imposition ?

- Oui, c'est une bonne idée
- Non, le système actuel est satisfaisant
- Il faudrait mieux prendre en compte l'avis de chacun, mais à l'aide d'une autre méthode
- NSP (Ne sait pas, ne se prononce pas)

Survey Screen Shots: Demogrant

Quel devrait être le montant des aides de l'État pour les gens qui n'ont aucun revenu ?

- Celles et ceux qui ont pour seuls revenus les aides de l'État devraient toucher (en €/mois) :
- NSP (Ne sait pas, ne se prononce pas)

Quel devrait être le montant mensuel du revenu de base en France ? Le revenu de base serait une allocation versée à chaque adulte sans aucune condition (comme l'âge ou l'activité), en remplacement des minima sociaux (RSA et APL notamment).

- Le revenu de base devrait être de (en €/mois) :
- NSP (Ne sait pas, ne se prononce pas)

Quel devrait être le montant mensuel minimal garanti à tous les français ?

- Le revenu mensuel minimal garanti à tous devrait être de (en €/mois) :
- NSP (Ne sait pas, ne se prononce pas)

Quel est le revenu mensuel minimal que l'État devrait assurer à chacun·e en France ?

- Le revenu minimal mensuel que l'État devrait assurer à chacun·e est de (en €/mois) :
- NSP (Ne sait pas, ne se prononce pas)

Survey Screen Shots: Maximal income

Si la France était une société idéale, quel serait le revenu mensuel le plus élevé
Précisons qu'on ne demande pas ici s'il faudrait imposer une limite légale aux revenus des français : il s'agit simplement de savoir quel serait le revenu le plus élevé dans une société avec le niveau approprié d'inégalités.

- Idéalement, les revenus ne dépasseraient pas (en €/mois) :
- NSP (Ne sait pas, ne se prononce pas)
- Il pourrait y avoir des français infiniment plus riches que d'autres dans une société idéale.

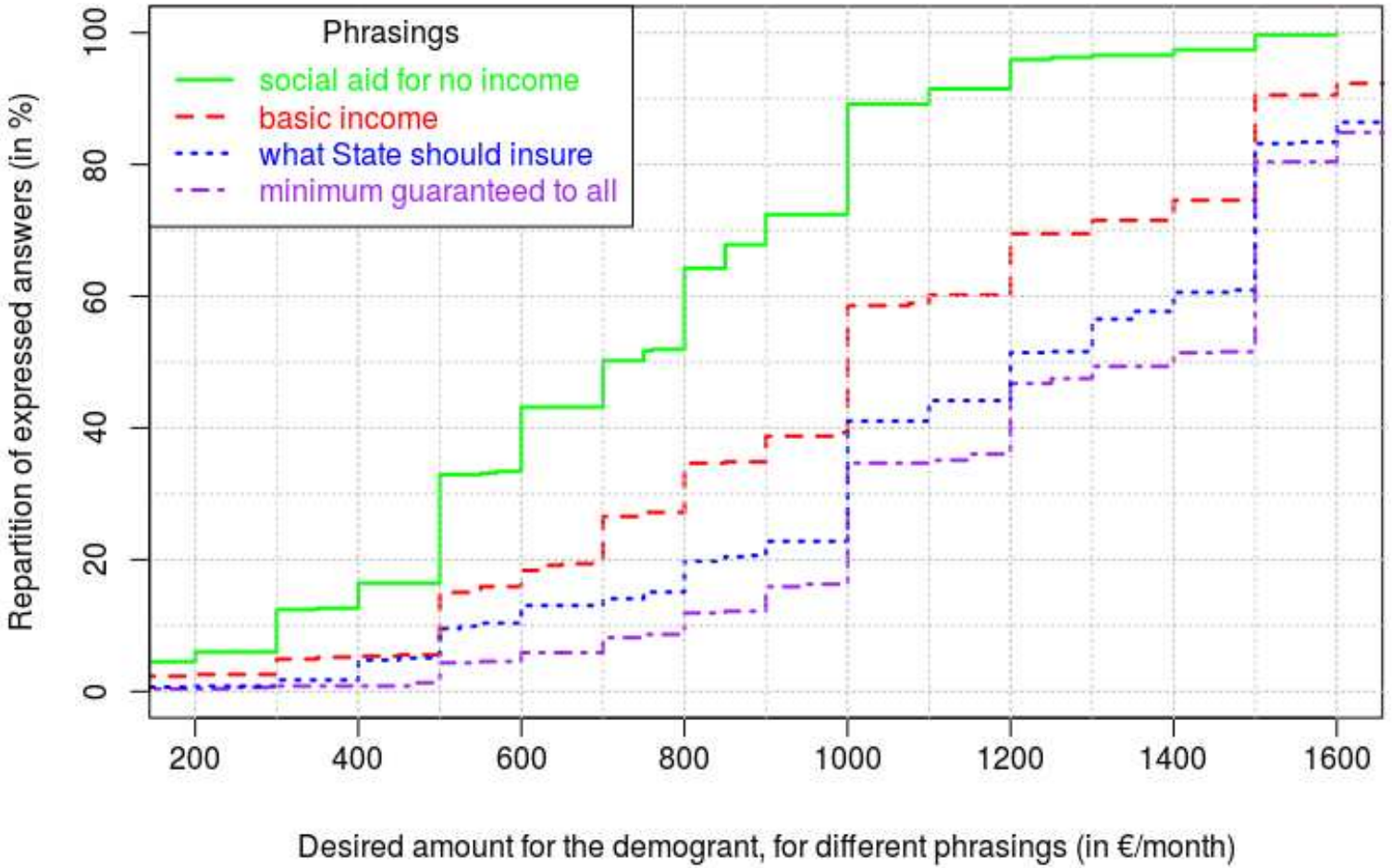
Selon vous, quel est le revenu maximal qui devrait être instauré légalement en France ? (revenu net par mois)

- Le revenu maximal devrait être de (en €/mois) :
- On ne devrait pas instaurer de revenu maximal en France
- NSP (Ne sait pas, ne se prononce pas)

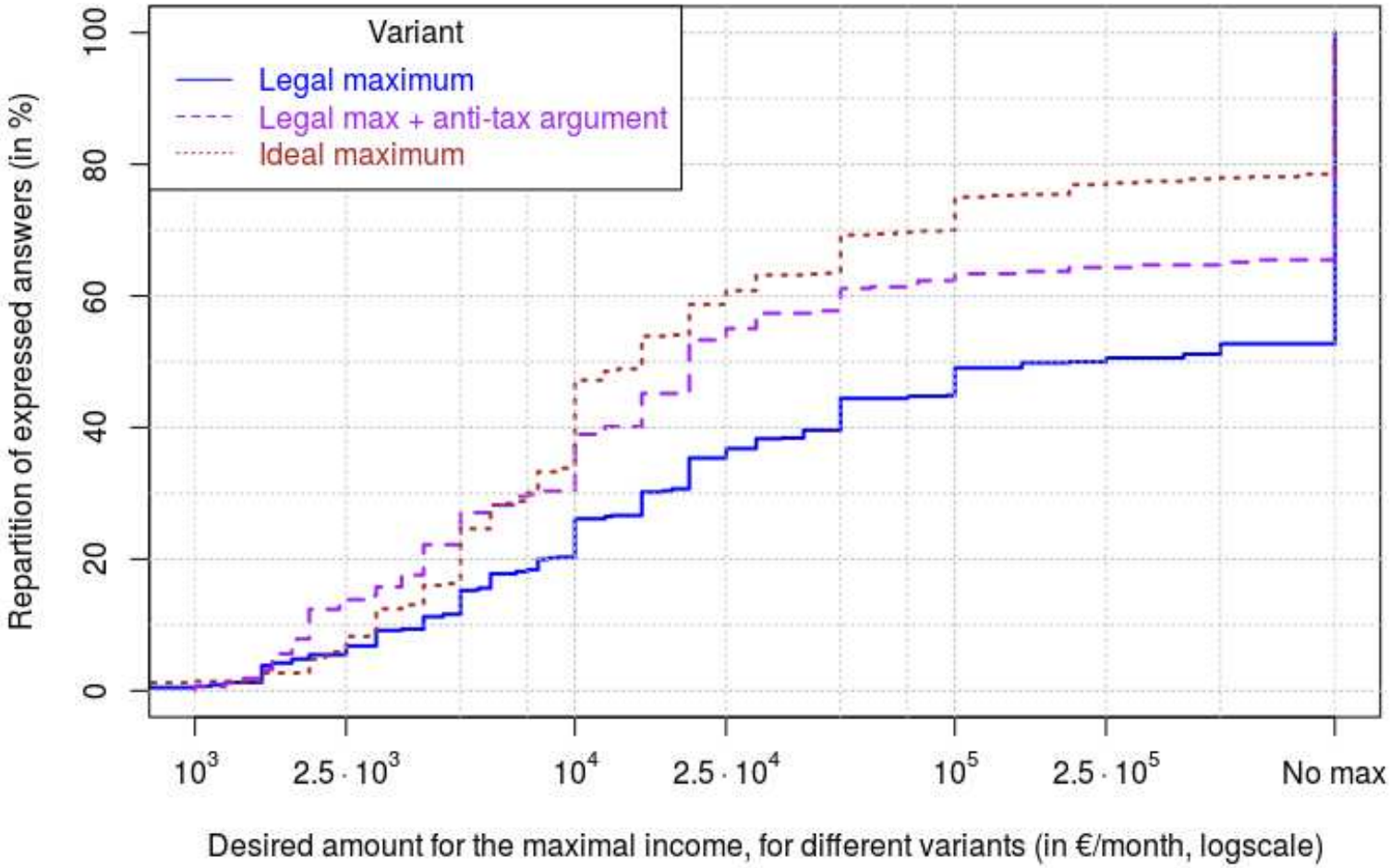
Selon vous, quel est le revenu maximal qui devrait être instauré légalement en France ? (revenu net par mois) Il peut être utile ici de rappeler qu'au-delà d'un certain seuil, l'imposition des plus riches est souvent contre-productive, puisque ces derniers partent à l'étranger ou réduisent leur activité pour éviter la hausse des taxes.

- Le revenu mensuel maximal devrait être de (en €/mois) :
- On ne devrait pas instaurer de revenu maximal en France
- NSP (Ne sait pas, ne se prononce pas)

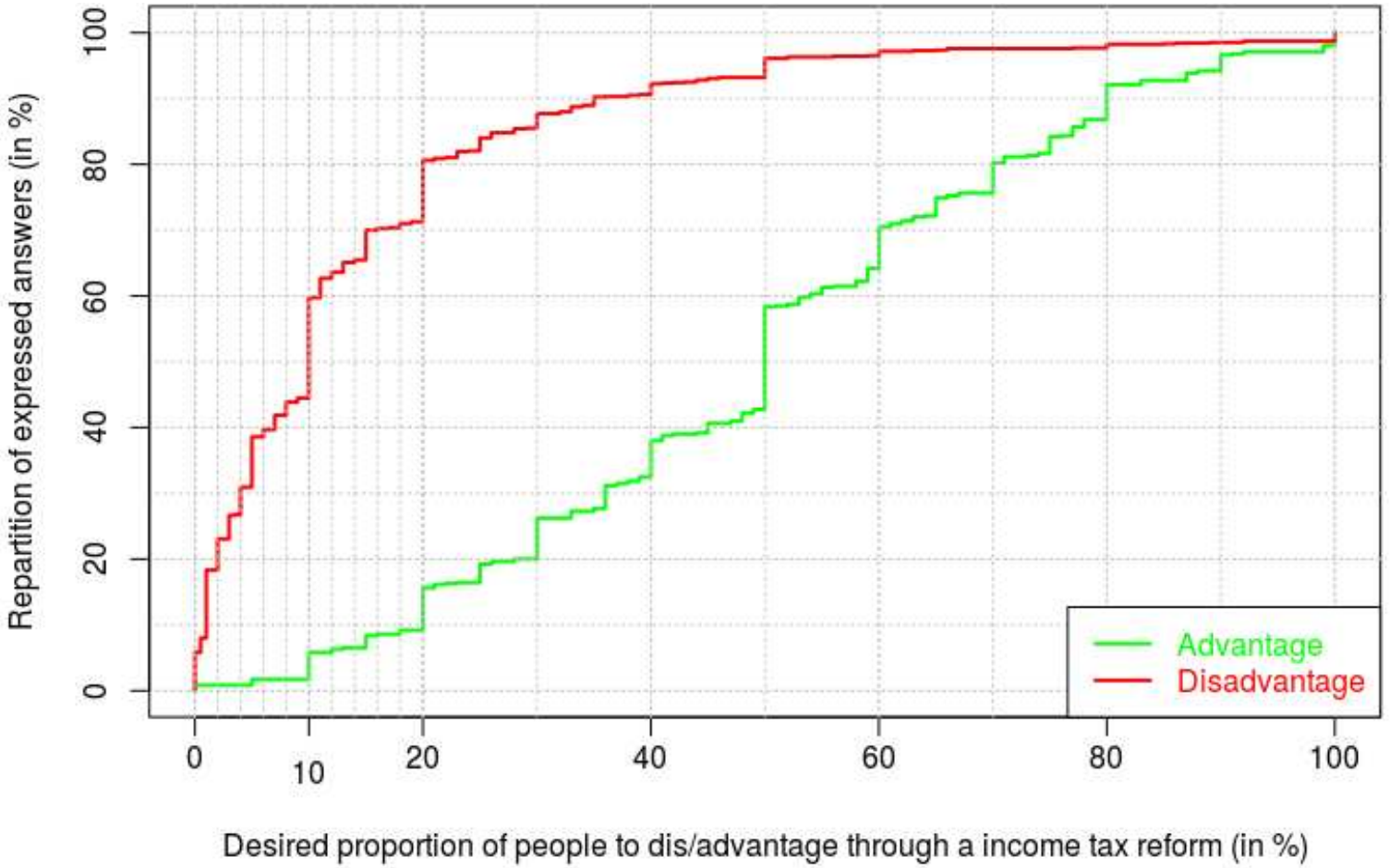
Raw Results: Demogrant



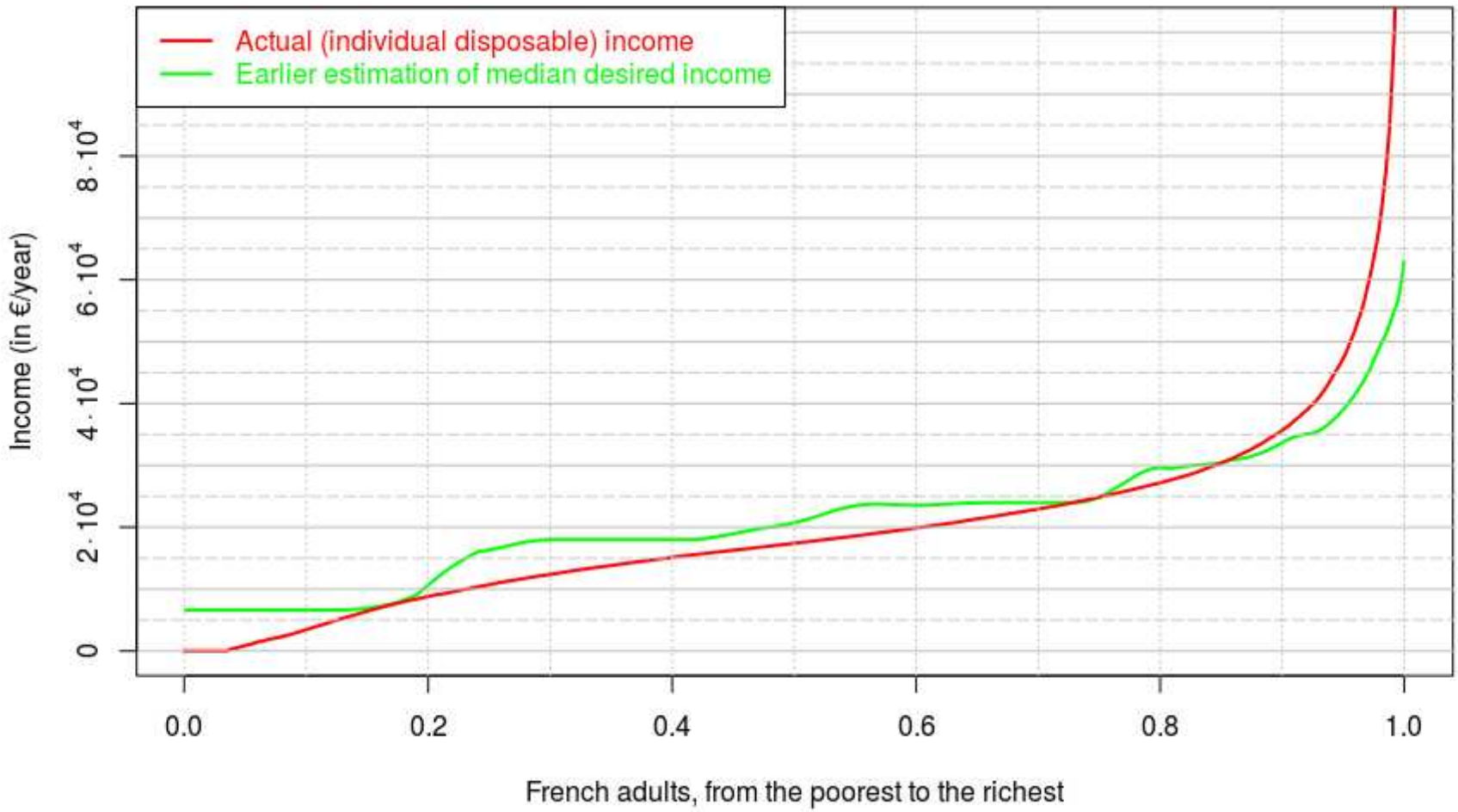
Raw Results: Maximal income



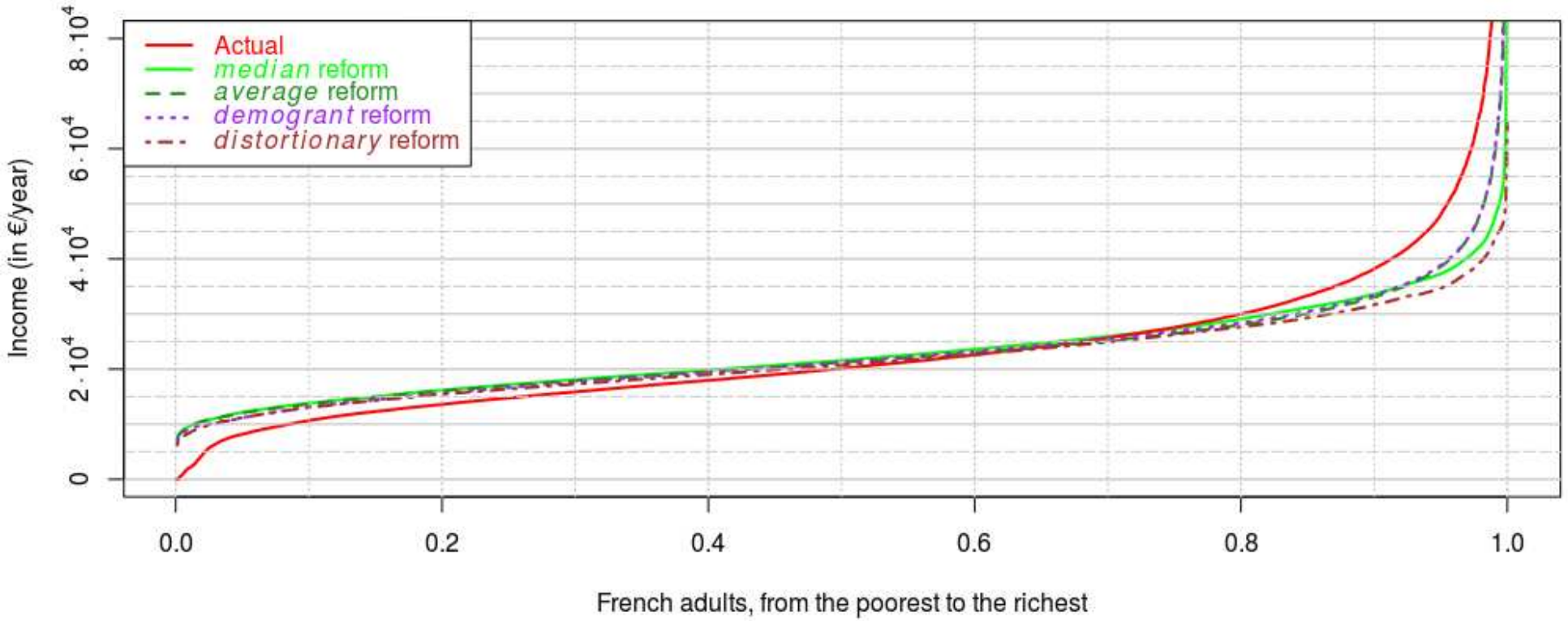
Raw Results: Dis/advantage



Earlier estimation (Fabre 2016)



Distribution in terms of equivalised disposable income



Regressions: Effect of anti-tax argument

Table: Effect of an anti-tax argument on the desired maximum income

	$\log_{10}$ desired maximum income	
	Excluding *infinities*	Setting $\infty := 10^9$
	(1)	(2)
Anti-tax priming	-0.221^{***}	-0.751^{***}
	(0.071)	(0.201)
Constant	4.195^{***}	6.424^{***}
	(0.043)	(0.113)
Observations	392	686

Regressions: Differences in average distributions' evaluations

	Evaluation of distributions
Optimal utilitarian (Constant)	0.159^{***}
	(0.048)
Median	-0.140^{**}
	(0.069)
Actual	-0.926^{***}
	(0.059)
Demogrant median	-0.078
	(0.069)
Egalitarian	-1.027^{***}
	(0.069)
Personalized	-0.569^{***}
	(0.069)
Optimal rawlsian	0.058
	(0.069)
Observations	5,883

Regressions: Effect of displaying the impact of the reform on one's income

	Approval	Approval (any reform)		Person Not Responding		
	(1)	(2)	(3)	(4)	(5)	(6)
No display of impact on one's income	−0.008			0.013	−0.023	−0.054
	(0.032)			(0.027)	(0.034)	(0.038)
Misunderstanding the graphics		−0.095***	−0.004		0.262***	0.310***
		(0.022)	(0.029)		(0.038)	(0.045)
Left - Right leaning			−0.074***			0.016
			(0.012)			(0.013)
Misunderstanding & No display					−0.103*	−0.146**
					(0.055)	(0.065)
Constant	0.531***	0.495***	0.466***	0.230***	0.165***	0.142***
	(0.023)	(0.015)	(0.019)	(0.020)	(0.025)	(0.028)
Observations	958	1,994	1,196	958	958	614
R^2	0.0001	0.009	0.031	0.0002	0.063	0.092

Note: *p<0.1; **p<0.05; ***p<0.01

Regressions: Approval by political leaning

	Proportion	Misunderstanding	Approval among any reform			Approval of *median* reform	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Extreme-left	0.019	0.180	0.583	0.788	0.647	0.844	0.590
Left	0.218	0.384	0.565	0.691	0.683	0.769	0.743
Center	0.096	0.387	0.405	0.496	0.509	0.643	0.657
Right	0.156	0.424	0.371	0.439	0.484	0.627	0.604
Extreme-right	0.098	0.368	0.355	0.417	0.401	0.519	0.459
Indeterminate	0.413	0.509	0.443	0.634	0.613	0.648	0.635
Includes non-answers	Yes	Yes	Yes	No	No	No	No
Augmented sample	No	No	No	No	Yes	No	Yes
Average		0.442	0.448	0.582	0.578	0.666	0.638
Observations	2,004	2,004	1,994	1,586	2,196	399	559