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Women's Voice on Redistribution: From Gender Norms to Taxation

Abstract

Gender norms, i.e. the role of men and women in the society, are a fundamental channel through which culture may influence preferences for redistribution and public policies. We consider both cross-country and individual level evidence on this mechanism. We find that in countries that are historically more gender-equal the tax system today is more redistributive. At the individual level, we find that in more gender equal countries gender differences in redistributive preferences are significantly larger. This effect is driven by women becoming systematically more favorable to redistribution, while there are no significant changes for men. Interestingly, there is no gender-based difference in preferences for redistribution among left-leaning citizens, while this difference is significant among moderates in the expected direction: ideologically moderate women are more favorable to redistribution than moderate men, and this effect is even stronger among right-leaning individuals.

JEL-Codes: H100, H200, N300, Z180.

Keywords: gender inequality, comparative public finance, tax mix, institutions, historical origins.

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1 Introduction

Women and men have different preferences in a variety of domains, which belong to both the private and public sphere (Bertrand 2011, Edlund and Pande 2002). In democracies citizens' preferences are expected to crucially shape public policies, among which redistribution plays a paramount role. Thus, gender-specific differences in preferences about redistributive policies might influence the amount of redistribution taking place in different countries at different times.

Moreover, gender differences in preferences depend on cultural, social and economic factors. Among those factors, the level itself of gender equality might enlarge or reduce gender differences in preferences (Falk and Hermle 2018) and ultimately affect public policies such as redistribution. Does more gender equality translate into more redistribution, i.e. more income equality?

2 Hypotheses

According to Falkle and Hermle (2018), in a variety of different economic and social areas (risk-taking, patience, altruism, trust, and positive and negative reciprocity) when gender equality is stronger the preferences of women vs. men significantly diverge. Ex ante, there are two possible hypotheses that entail opposite predictions on how gender differences in preferences evolve in more gender equal societies: they may disappear, since gender-specific social roles are attenuated (the social role hypothesis), or they may increase, because women and men have their own, independent objectives that are "socially" allowed to emerge (the resource hypothesis). Their empirical analysis on individual preferences thus provides strong support for the resource hypothesis.

In representative democracies citizens' preferences translate into policies through the

political process. How does this increased divergence in preferences between women and men trickle down to actual public policies? In this context, the most natural policy to be investigated is the one about (income) redistribution.

We contrast two competing hypotheses that make opposite predictions concerning the correlation between gender equality and redistribution as an aggregate policy outcome. The first hypothesis refers to the role of women: when gender equality, which has historical roots, increases, women become more vocal in promoting income redistribution through taxation which would benefit them since on average they are poorer than men and/or are more altruistic (Crozon and Gneezy 2009). Traditionally, women are found to prefer more redistribution than men (Alesina and Giuliano 2011, Luttmer and Singhal 2011). Thus we expect a positive correlation between measures of gender equality and measures of income redistribution. Action goes through women becoming more vocal about redistribution. Gender equality trickles down to income equality: a sort of spillover effect from long term gender equality to income equality.[1]

The second hypothesis instead refers to the role of men: when men feel "endangered" by more gender equality they react by being more adverse to redistribution, and this is reflected in the political equilibrium (less income redistribution through taxation). In other words, men are more focused on issues that can block the potential rise of women voice. This is consistent with the evidence in other spheres of inequality (e.g. ethnic diversity (Alesina and La Ferrara 2005), migration (Alesina *et al.* 2019), pensions (Galasso and Profeta 2002).

In the rest of the paper we will test these two competing hypotheses first in the policy domain –i.e., the level of redistribution observed in a specific country as proxied by the

[1] A very recent paper by Nelson and Goel (Nelson and Goel 2021) is exactly focused on this relationship between gender and income equality, by analysing a panel of 150 countries during the 1985-2019 period.

ratio between direct and indirect taxation (Saez 2004)– and then in the preferences domain –i.e., individual preferences about redistribution[2].

Consistently with an expanding literature on the historical determinants of policy outcomes, including the role of the family structure –e.g. on social security (Galasso and Profeta 2018) and on education outcomes (Bertocchi and Bozzano 2015, 2019)– and the role of women's enfranchisement –e.g. on the tax structure (Aidt and Jensen 2009) and on the size and scope of government (Aidt and Dallal 2008, Lott and Kenny 1999, Bertocchi 2011)–, we directly exploit in the empirical analysis the long term roots of gender equality, measured by the timing of women's enfranchisement and the role of women within the family, as a driver of today's gender equality and income redistribution through taxation.

3 Data and measures

Our empirical analysis is based on both aggregate macroeconomic data and individual level survey data. First, we assemble a new macro-level cross-country dataset spanning the period 1980-2016. Our dependent variable is the ratio of direct taxes over indirect taxes as a measure of redistribution through the tax system. Historical roots of gender equality are captured by two different variables which reflect political and social factors: (i) the timing of women's electoral enfranchisement and (ii) the degree of feminism in historical family structures. The franchise extension to women is a central event in the democratization process: historically, it has been adopted over a long period of time across different countries. Our chosen variable is the date in which the suffrage has been extended to women for the first time, in some cases with restrictions of income or age or education level. Regarding the degree of feminism in historical family structures,

[2]While the analysis of country-specific policies is done at the world level, because of data availability the analysis of individual preferences is confined to EU citizens.

we construct a specific variable which builds on Todd's categorization on the status of women within a family system dating back to the Middle Ages (Todd 1987). Additional details on the data can be found in the Online Appendix.

Fig. 1A shows the timing of women's enfranchisement, while fig. 1B shows the degree of feminism in historical family structures around the world.

[Fig 1 about here]

Fig. 1C shows that in countries where the right to vote has been granted to women earlier, the ratio between direct and indirect taxes is higher. For example, New Zealand and Australia extended the suffrage to women in 1893 and 1902, respectively, then followed by Finland in 1906 and Norway in 1907. These countries show a high ratio of direct taxes over indirect ones. On the contrary, countries such as Bahrein, Oman, and The United Arab Emirates granted the suffrage after year 2000 and show a low ratio between direct and indirect taxes. Similarly, fig. 1D shows that –in countries where the role of women within the family was more relevant in the past– again the ratio between direct and indirect taxation is higher.

We also collect data on standard economic, demographic, and political controls (Kenny and Winer 2006) as well as potentially confounding historical factors. The economic variables are: GDP per capita, GDP growth rate, the share of oil rents over GDP, the share of trade over GDP and the labor force participation rate. Demographic variables are: population density, the share of total population living in urban areas, the share of young population aged 0-14 and the share of the elderly aged 65 or more. Political variables are: the Gastil index of democracy, the ideological position on economic policy matters of the prime minister's or president's party and a categorical variable that captures the regime type. Finally, historical variables are: English or French legal

origins (Shleifer *et al.* 2008), the importance of Catholicism in each country in 1900s and the existence of a Communist regime in each country in 1970s (Barro 2003), the total number of years of interstate conflicts in each country between 1800 and 2010 (Sarkees and Wayman 2010), and the use of the plough in agriculture as a proxy of the origins of gender roles (Alesina *et al.* 2013). Details on all these variables are reported in the Online Appendix.

The second part of our dataset includes individual data from the European Social Survey (ESS), a biennial, repeated cross-section dataset gathering information on attitudes and behaviors across 34 European countries and over time. Data is drawn from 8 rounds between 2002 and 2016. As dependent variable, we rely on the question –repeated across all waves– which most closely captures preferences for redistribution as follows: "To what extent do you agree or disagree with the statement: the government should reduce differences in income levels?". We recode this variable so that the higher the value, the more favorable to redistribution the individual is. We also include a standard set of individual controls: sex, age, legal marital status, the main source of household income, household total net income, the presence of children at home, education and religiosity. Moreover, we include a three-way categorical variable which captures the political ideology of the respondent (i.e. left, center, right). Finally, we match these individual level variables with country level variables, i.e. current gender equality and GDP per capita.

As a measure of current gender equality we employ the Global Gender Gap Index (hereafter GGGI), devised by Lopez-Claros and Zahidi and computed by the World Economic Forum every year since 2006 (World Economic Forum 2006). This index explicitly measures gender-based disparities in outcomes between women and men regarding four dimensions: health and survival, educational attainment, economic participation and

opportunity, and political empowerment.

As shown in fig. 2, in more gender-equal countries (i.e., in countries where the average GGGI is higher) there is a significantly larger difference between women and men in their preferences for redistribution.

[Fig 2 about here]

4 Historical roots of gender equality and redistribution

Table 1 displays results on the relationship between the ratio of direct versus indirect taxes in country i at time t and our two main explanatory variables that capture the historical roots of gender equality, i.e. women's suffrage year and degree of feminism. We first include baseline standard current economic, demographic, and political variables (Column 1), further current controls (Column 2), and then a set of historical potential confoundings, i.e. legal origins, Catholicism in 1900s, Communism in 1970s, years of interstate conflicts, and the presence of plough (Column 3). We run the models by using Generalized Least Squares (GLS) estimator with regions and year dummies. Moreover, we cluster standard errors at the country level in order not to inflate the precision of our estimates in the presence of within-cluster correlation of the error term (Bertrand *et al.* 2004).[3]

[Table 1 about here]

We find that both the timing of the extension of the suffrage to women and the role of women in the family have a statistically significant relationship with the ratio of direct over indirect taxes. In particular, in countries where women have been enfranchised

[3]For a more detailed description of the methodology refer to the Online Appendix.

earlier and/or women played a relevant role within the family the ratio of direct over indirect taxes is significantly higher.

In terms of magnitudes, based on the estimates from column 1, one-standard-deviation increase in the timing of women's suffrage (20.96) is associated with a reduction of the ratio of direct to indirect taxes of 0.145 (20.96 * 0.007). Since the standard deviation of the dependent variable is 0.587, the implied variation is about 25 percent of that standard deviation. On the other hand, a one-standard-deviation increase in the relevance of the role of women in the family (0.36) is associated with an increase in the ratio between direct and indirect taxes of 0.158 (0.36 * 0.44), i.e. about 27 percent of the standard deviation of the dependent variable.

We can also compute the proportion of the total variation in the tax mix that our historical gender-related variables are able to explain, controlling for confounding factors. The inclusion of our two historical gender measures increases the R-squared by 0.067 (from 0.4736 to 0.5409): they account for 6.7 percent of the total variation in the ratio of direct to indirect taxes and 12.7 percent of the residual variation that is left unexplained by the control variables.[4]

Our results are robust to the following checks: (i) using as separate dependent variable both direct taxes as a share of total tax revenue and indirect taxes as a share of total tax revenue; (ii) using as dependent variable the ratio of direct over indirect taxes and including other geographical, cultural, and demographic potentially confounding variables to our regressions; (iii) using an alternative measure for women's suffrage and recoding the degree of feminism within the family according to a slightly different rule,

[4]The inclusion of the timing of women's suffrage increases the R-squared by $0.5197 - 0.4721 = 0.048$, i.e. it accounts for 4.8 percent of the total variation in our dependent variable and 9.1 percent of the residual variation. On the other hand, the inclusion of the role of women in the family increases the R-squared by $0.5049 - 0.4721 = 0.033$, i.e. 3.3 percent of the total variation in the dependent variable and 6.3 percent of the residual variation.

thus obtaining a more polarized measure of the degree of feminism, or alternatively including a full set of indicator variables that would separately capture the different family types.

Among these further analyses, as shown in table A1, columns 1 and 2, in the Online Appendix, it is noteworthy to notice that our two historical variables are not significantly related to the share of *indirect* taxes over total tax revenue, while strongly related to the share of *direct* taxes over total tax revenue. This would suggest that the role of gender norms might mainly act through an increase in direct taxes in more gender egalitarian countries.

5 Gender equality and preferences for redistribution

To the extent that policy choices largely reflect citizens' preferences in democracies, we explore whether in more gender-equal societies preferences on redistribution are stronger, at least for some politically-relevant subgroups. Therefore, we turn to micro-level survey data from the European Social Survey and investigate (i) to what extent preferences about income redistribution are gender-specific, and (ii) whether gender-specific differences in preferences depend on the societal climate about gender, i.e. gender norms.

We measure the gender environment at the country-year level with the GGGI index. Our dependent variable is the answer to the survey question on whether –according to the respondent– the government should reduce income differences among citizens.[5]

We then move to the multivariate regression analysis. We use pooled OLS models, i.e. we merge the various years of the ESS survey, add year-of-interview fixed effects but do not include country fixed effects (similarly to Alesina and Giuliano 2011 and Luttmer and Singhal 2011). The rationale behind this choice is that a relevant part of

[5]Here is the exact wording of the question: "To what extent do you agree or disagree with the statement: the government should reduce differences in income levels."

the variation in gender norms is *between* countries, with much less year-to-year variation *within* countries.[6]

We find that women are more favorable to income redistribution than men but this difference becomes significantly *wider* in more gender-equal countries. Fig. 3 provides a graphical summary of our regression results (which are displayed in table 2): the partial correlation of the female dummy with pro-redistribution preferences is almost always positive and increasing with the GGGI variable, i.e. in more gender-equal environments the (positive) difference between women and men in their pro-redistribution attitudes is significantly larger. This difference is insignificant in those environments with the lowest level of gender equality. Column (2) in table 2 shows that the increased difference in redistributive preferences as a function of more equal gender norms is entirely driven by *women* becoming more favorable to redistribution in more gender equal environments, with no significant change for the baseline category of men.[7,8]

[Fig 3 about here]

Overall, our findings are firmly consistent with the resource hypothesis, i.e. gender differences in preferences –in our case: preferences for redistribution– are larger in more gender equal contexts: in those contexts women and men are allowed "[...] to express preferences independently from each other" (Falk and Hermle 2018). Delving into the resource hypothesis, we find that the increased gender cleavage is driven by women

[6] Again, standard errors are clustered at the country level.

[7] According to our estimates of the marginal effects for our variables of interest, being a woman is not significantly associated with stronger preferences for redistribution at the minimum level of the GGGI variable, while the difference between women and men in redistributive preferences is 0.106 at the average level of the GGGI variable, and 0.209 at the highest value of the GGGI variable: these two differences are significantly different from zero. In relative terms, since the standard deviation of the dependent variable is 1.02, those differences are about one-tenth and one-fifth vis-a-vis that standard deviation.

[8] In tables A7-A10 in the Online Appendix we look at the role of each component of GGGI on gender-based preferences, and show that women are more favorable to redistribution vis-a-vis men in politically and economically more equal environments.

becoming more favorable about redistribution in more gender-equal environments, rather than men counter-reacting with less redistributive preferences.

We also explore the role of per capita GDP and the ideology of the respondent, as shown in table 2, columns 3-6. The gender-based cleavage in preferences for redistribution is significantly increasing with per capita GDP. Unsurprisingly, self-declared left-leaning respondents are more favorable to redistribution than moderate respondents, and the opposite holds for right-leaning respondents. Interestingly, there is no gender-based difference in preferences for redistribution among left-leaning respondents, while this difference is significant among moderates in the expected direction: ideologically moderate women are more favorable to redistribution than moderate men, and this effect is even stronger among right-leaning individuals. See the Online Appendix for further details on these results.

5.1 From preferences to redistributive policies

The GGGI index that measures the equality of gender norms in a country in a given year might be significantly correlated with other unobserved factors at the country-year level, thus biasing your estimates. To deal with this potential omitted variable bias we use again our country-specific historical variables –the year when women's suffrage was first introduced and the traditional role of women in the family– as instruments within an Instrumental Variables (IV) specification. This empirical approach is valid to the extent that those historical variables (i) are significantly correlated with the GGGI index and (ii) they have an effect on our dependent variable (redistributive preferences at the individual level) only through this channel of influence, i.e. the current level of gender equality, as measured by the GGGI index.

We instrument both (i) the GGGI index and (ii) the interaction between the GGGI

index and the female dummy with women's suffrage year and the role of women in the family, by themselves and interacted with the female dummy, thus obtaining four instruments.[9].

The outcome of this exercise is shown in table 3. In the top panel we display the outcome of the first stage, i.e. the regressions where the GGGI index and the GGGI index interacted with the female dummy are the dependent variables. The set of explanatory variables include all the ones we used in table 2, column 2, *and* the four instruments. Women's suffrage year is negatively and significantly correlated with the GGGI, in the expected direction. On the other hand, the interaction between the degree of feminism and the female dummy is positively and significantly correlated with the GGGI interacted with the female dummy.[10]

The second stage of the IV specification is displayed in the bottom part of table 2, and confirms our core findings: the differences in redistributive preferences between women and men are positively and significantly associated with the equality in gender norms at the country level, and it is driven by women becoming more favorable to redistribution in more gender-equal environments. The marginal effect of being a woman on redistributive preferences is indistinguishable from zero at the minimum level of gender norms, while it is significantly different from zero and positive at the average level of gender norms and even larger at their maximum level.[11]

[Table 3 about here]

[9]For the rationale of this modelling specification see Wooldridge (2010), Chapter 9.

[10]Since the dependent variable is the interaction between the GGGI index and the female dummy, all its relevant variation happens in the case of women, because the dependent variable is –by definition– zero in the case of men. We check the *overall* effect of the degree of feminism, which is made of the coefficient on the degree of feminism by itself and the coefficient on its interaction with the female dummy. The former coefficient is negative and significant, while the latter is positive and significant, but larger in size. One can reject at ordinary confidence level the null hypothesis that the sum of those two effects is zero.

[11]The size of those estimated effects are almost identical to the ones derived from the OLS analysis (table 2, column 2).

6 Concluding remarks

We show that gender norms, as measured by the timing of women's enfranchisement and the role of women in the family, are significantly associated with the redistributive features of tax systems across countries: in countries with earlier women's enfranchisement and/or where women historically played a more relevant role within the family, the share of direct taxes (over indirect taxes or total tax revenue) is higher than in countries with a later enfranchisement and with historical gender inequality within the family.

At the individual level, consistently with the resource hypothesis we find that gender differences in redistributive preferences are larger in more gender-equal environments, where the "action" comes from women becoming systematically more favorable to redistribution, and with no significant changes for men.

We show that the longer the history of gender equality and enhanced opportunities for women, the stronger the level of gender equality, which in turn increases the likelihood that women's preferences are translated into policies. So, equality in the gender domain appears to be trickling down to equality in the income domain. From a predictive point of view, it would be interesting to explore whether in the long run the increased pro-redistribution "voice" of women in more gender-equal environments would translate into faster reduction of gender differences in income and wealth (Goldin 2006).

Overall, understanding the roots of gender gaps and their relationship with policies is of paramount importance for all stakeholders engaged in reaching goal 5 of the 2030 UN Sustainable Development Goals: achieve gender equality and empower all women and girls.

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Online Appendix

Materials and Methods

Supplementary Text

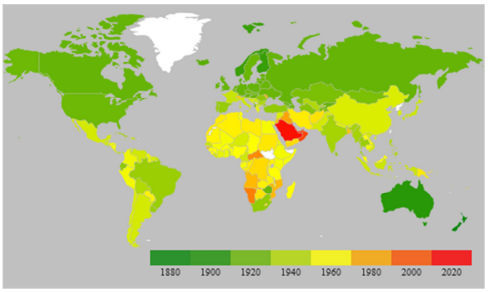
Figures A1 to A4

Tables A1 to A10

Additional references

Figures and Tables

(A)



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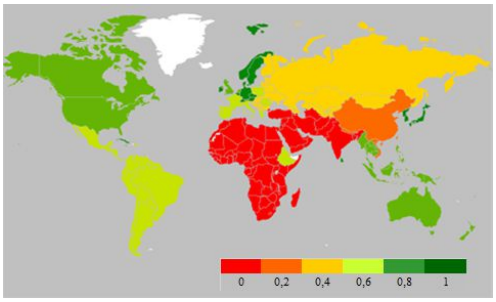

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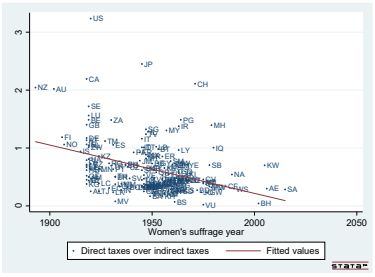

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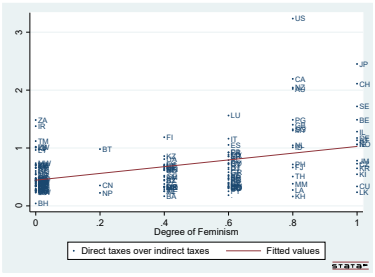

Fig. 1: Women's suffrage, Degree of Feminism and Direct taxes over indirect taxes.
Panels (A) and (B) show world maps visualising the timing of women's enfranchisement and the degree of feminism, respectively. Panels (C) and (D) show the correlations between the timing of women's enfranchisement, or the degree of feminism, and the share of direct taxes over indirect taxes.

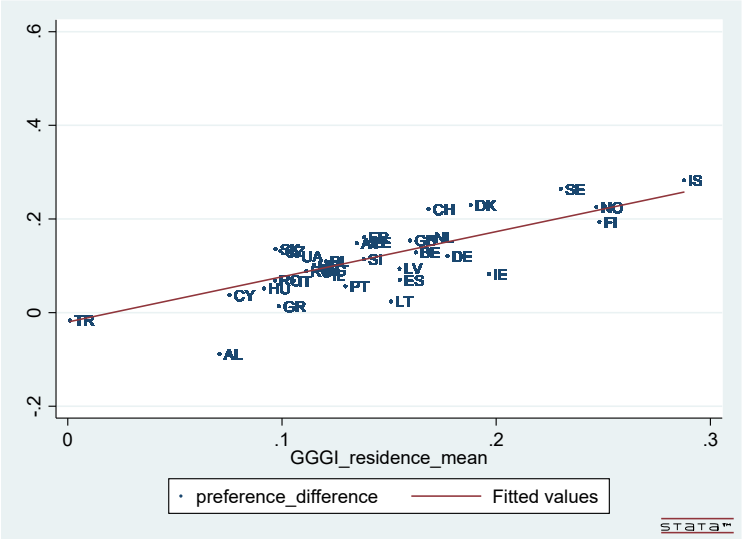

Fig. 2: GGGI and differences in preference for income redistribution.
Fig.2 shows the correlation between GGGI and the differences between the redistribution preferences of women and men.

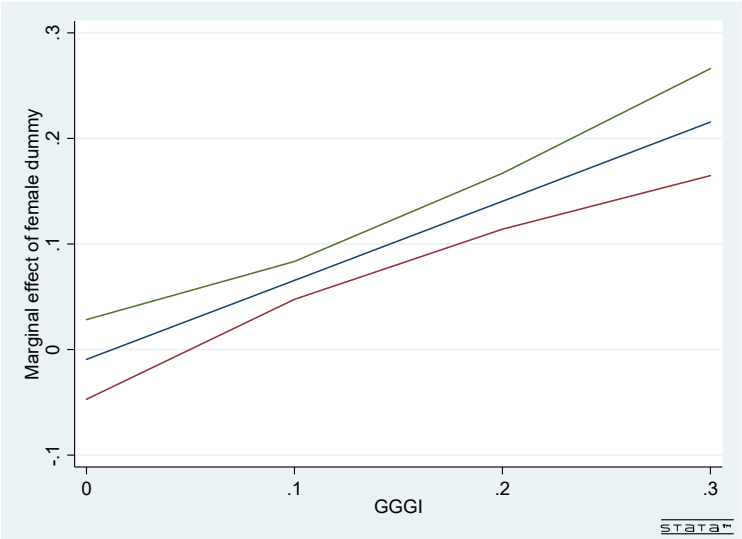

Fig. 3: Subjective preference for income redistribution: gender difference
The blue line corresponds to the estimated values shown in Table 2, Column (2), while the red and green lines identify the upper and the lower bounds of 95% confidence intervals. When they are both above (or below) the zero line, female dummy has a statistically significant effect on redistributive preferences.

Dep.var.: Direct taxes over Indirect taxes	(1)	(2)	(3)
	b/se	b/se	b/se
Women's suffrage year	-0.007***	-0.008***	-0.009***
	(0.002)	(0.002)	(0.002)
Degree of Feminism	0.440***	0.523***	0.389**
	(0.162)	(0.155)	(0.174)
GDP per capita	0.000	0.003	0.001
	(0.002)	(0.002)	(0.003)
GDP growth	-0.003**	-0.002	-0.002
	(0.001)	(0.003)	(0.003)
Population density	-0.093***	-0.041	-0.035
	(0.023)	(0.029)	(0.030)
Urban population	0.008***	0.011***	0.010***
	(0.003)	(0.003)	(0.003)
Gastil index	0.006	0.005	0.000
	(0.011)	(0.013)	(0.013)
Left government	0.026***	0.021***	0.021***
	(0.007)	(0.007)	(0.007)
LFP rate	.	0.002	0.002
	.	(0.003)	(0.003)
Young people 0-14	.	0.003	0.004
	.	(0.007)	(0.006)
Elderly people over 65	.	-0.039***	-0.041***
	.	(0.014)	(0.016)
Regime type	.	0.000	0.000
	.	(0.000)	(0.000)
English legal origins	.	.	0.033
	.	.	(0.161)
French legal origins	.	.	-0.110
	.	.	(0.121)
Catholicism in 1900s	.	.	-0.020
	.	.	(0.101)
Communist regime in 1970s	.	.	-0.258**
	.	.	(0.126)
Years of interstate conflicts	.	.	0.009*
	.	.	(0.005)
Plough	.	.	0.012
	.	.	(0.094)
Obs.	3574	2894	2844
Countries	144	143	139
R-squared between	0.600	0.551	0.597

Standard errors in parentheses are clustered at the country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 1: Tax Mix.
GLS estimates with the inclusion of region- and year- fixed effects. In all the regressions we also control for Oil rents over GDP, and Trade over GDP. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

Dep.var.: Redistributive pref	(1)	(2)	(3)	(4)	(5)	(6)
	b/se	b/se	b/se	b/se	b/se	b/se
Female dummy	0.106***	-0.009	0.041**	0.100***	-0.031	0.020
	(0.014)	(0.023)	(0.016)	(0.015)	(0.026)	(0.017)
GGGI	0.252	-0.134	0.259	0.247	-0.177	0.254
	(0.824)	(0.843)	(0.822)	(0.824)	(0.848)	(0.823)
GDP per capita	-0.008***	-0.008***	-0.009***	-0.008***	-0.008***	-0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Left-wing dummy	0.358***	0.358***	0.358***	0.415***	0.410***	0.411***
	(0.037)	(0.037)	(0.037)	(0.042)	(0.042)	(0.042)
Right-wing dummy	-0.079**	-0.078**	-0.078**	-0.120***	-0.126***	-0.127***
	(0.034)	(0.034)	(0.034)	(0.041)	(0.040)	(0.040)
Household total net income	-0.047***	-0.047***	-0.048***	-0.047***	-0.047***	-0.047***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Children at home	-0.029*	-0.030**	-0.030**	-0.029*	-0.029*	-0.029*
	(0.015)	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)
Highest level of education	-0.062***	-0.062***	-0.061***	-0.061***	-0.062***	-0.061***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Religiosity	0.004	0.004	0.004	0.004	0.004	0.004
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Female dummy x GGGI	.	0.749***	.	.	0.820***	.
	.	(0.165)	.	.	(0.174)	.
Female dummy x GDP per capita	.	.	0.002***	.	.	0.002***
	.	.	(0.000)	.	.	(0.000)
Female dummy x Left-wing dummy	.	.	.	-0.108***	-0.100***	-0.101***
	.	.	.	(0.022)	(0.022)	(0.022)
Female dummy x Right-wing dummy	.	.	.	0.073***	0.087***	0.090***
	.	.	.	(0.020)	(0.020)	(0.020)
Obs.	210014	210014	210014	210014	210014	210014
Countries	34	34	34	34	34	34
R-squared	0.098	0.098	0.098	0.098	0.099	0.099

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 2: Subjective preference for income redistribution (GGGI).
OLS estimates with the inclusion of interview year- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

First Stage Dep.var.:	GGGI	Female dummy x GGGI
	(1)	(2)
	b/se	b/se
Female dummy	2.450**	2.450**
	(0.048)	(1.162)
Women's suffrage year	-0.001***	0.000
	(0.000)	(0.000)
Female dummy x Women's suffrage year	0.000	-0.001**
	(0.000)	(0.001)
Degree of Feminism	-0.027	-0.057***
	(0.034)	(0.008)
Female dummy x Degree of Feminism	-0.001	0.085**
	(0.002)	(0.032)
Left-wing dummy	-0.002	-0.000
	(0.001)	(0.001)
Right-wing dummy	-0.000	-0.001
	(0.001)	(0.001)
Household total net income	0.000	0.000
	(0.001)	(0.000)
Children at home	-0.001	0.000
	(0.001)	(0.001)
Highest level of education	0.001	0.001
	(0.001)	(0.001)
GDP per capita	0.002***	0.001***
	(0.000)	(0.000)
Religiosity	-0.000	-0.000
	(0.000)	(0.000)
Obs.	208624	208624
Countries	33	33
R-squared	0.717	0.908

Second Stage Dep.var.: Redistributive pref	(1)
	b/se
Female dummy	-0.005
	(0.051)
GGGI	-2.138
	(1.940)
GDP per capita	-0.005*
	(0.003)
Left-wing dummy	0.346***
	(0.036)
Right-wing dummy	-0.078**
	(0.032)
Household total net income	-0.046***
	(0.005)
Children at home	-0.029*
	(0.016)
Highest level of education	-0.058***
	(0.009)
Religiosity	0.003
	(0.007)
Female dummy x GGGI	0.727**
	(0.354)
ME female dummy for GGGI min	-.005
p-value	0.926
ME female dummy for GGGI average	.106
p-value	0.000
ME female dummy for GGGI max	.190
p-value	0.000
Obs.	208624
Countries	33
R-squared	0.094

Standard errors in parentheses are clustered at the country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 3: Subjective preference for income redistribution: IV regression (GGGI).

IV estimates with the inclusion of year of interview- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

Online Appendix for Women's Voice on Redistribution: from Gender Equality to Taxation

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This PDF file includes:
Materials and Methods
Supplementary Text
Figs. A1 to A5
Tables A1 to A10
References

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Contents

1 Extended Materials and Methods **3**

Extended Materials and Methods **3**
1.1 Definition of country-level variables (including sources) 3
Definition of country-level variables (including sources) 3
1.2 Definition of individual-level variables (including sources) 6
Definition of individual-level variables (including sources) 6
1.3 Details on statistical analysis 7
Details on statistical analysis 7

2 Supplementary Text **9**

Supplementary Text **9**

Figs. A1 to A5 **12**

Tables A1 to A10 **13**

1 Extended Materials and Methods

1.1 Definition of country-level variables (including sources)

Ratio of direct taxes over indirect taxes. We compute the ratio between direct and indirect taxes by taking the ratio of direct taxes –excluding social contributions and revenues from natural resources– as percentage of GDP to indirect taxes, excluding again revenues from natural resources, as percentage of GDP. Taken from ICTD/UNU-WIDER Government Revenue Dataset (`https://www.wider.unu.edu/project/government-revenue-dataset`). According to the source, direct and indirect taxes variables are the most consistent and complete across countries. Thus they are recommended for econometric analysis.

Share of direct taxes over total tax revenue. Direct taxes excluding social contributions and revenue from natural resources as percentage of total tax revenue. Taken from ICTD/UNU-WIDER Government Revenue Dataset (https://www.wider.unu.edu/project/government-revenue-dataset).

Share of indirect taxes over total tax revenue. Indirect taxes, non-resource component, as percentage of total tax revenue. Taken from ICTD/UNU-WIDER Government Revenue Dataset (https://www.wider.unu.edu/project/government-revenue-dataset).

Women's suffrage year (and time since women's suffrage). We construct a categorical variable which records the date in which the suffrage has been extended to women for the first time, in some countries with restrictions of income, age or education level. Moreover, we construct an alternative index measuring the time since women's suffrage was granted. Taken from the World Economic Forum Global Gender Gap Report 2006 (`http://www3.weforum.org/docs/WEF_GenderGap_Report_2006.pdf`). Where two dates are shown in the source, the first refers to the first partial recognition of the right to vote or stand for election. We accept the date of the partial recognition when it is given to a reasonable representative share of the female population (30+, educated). We accept the observation referring to state or national elections; we do not accept local or municipal elections. Data are double-checked with `http://womensuffrage.org/`.

Degree of Feminism (first and second versions). Building on the taxonomy made by Todd (Todd 1987), we build two measures capturing the status of women in historical family structures dating back to the Middle Ages, i.e. the Degree of Feminism. The degree of feminism can be traced back to the standard anthropological trichotomous typology of patrilinearity vis a vis bilaterality and matrilinearity. A gender equal family system is defined as bilateral when property is transmitted equally through both men and women, and both the father and the mother are equally important in the procreation of a child. As a first and preferred measure, we code a categorical variable that ranges between 0 and 1, where 0 means the lowest degree of feminism, which coincides with patrilinearity (at its strongest expression) and polygyny, 0.2 is assigned to patrilinearity (medium), 0.4 to patrilinearity (weak), 0.6 to bilaterality (paternal bias), 0.8 to bilateral (maternal bias), while 1 represents the highest degree of feminism, which refers to bilaterality (in its pure form) and matrilinearity. Therefore, an increase in this variable has to be interpreted as a more relevant role of women within the family. As a second alternative version, we code the Degree of Feminism within the family according to a slightly different rule. More precisely, we construct a more polarized variable, i.e. all categories belonging to patrilineal systems and polygyny are given values between 0 and 0.2, whereas bilateral and matrilineal systems are assigned values between 0.8 and 1. Similarly to the first version, an increase in this variable is associated with a more relevant role of women within the family.

Women's status and Women's status dummies. We combine the Degree of Feminism with a further dimension which takes into account the degree of parental authority, also

called verticality (Todd 1987). This further dimension of family structures captures parent-child relationship, whereas a family is considered as vertical if parents cohabit with their married children, so that three generations potentially live together. We obtain an ordinal variable on women's status which ranges between 0 and 8, geographically coinciding with Todd's family types (Todd 1985). The ordered categories are defined as follows: polygyny; patrilineal non-vertical; patrilineal vertical (strong aptitude); patrilineal vertical (medium aptitude); patrilineal vertical (weak aptitude); bilateral non-vertical (patrilineal bias); bilateral non-vertical (matrilineal bias); matrilineal vertical; bilateral vertical. Thus, the higher the variable, the more favorable the status of women. To distinguish the impact of each family setting, we also transform our ordinal variable on women's status into a set of nine dummies.

GDP per capita. GDP per capita, constant 2010 U.S. dollars. Taken from World Development Indicators (https://data.worldbank.org/indicator/NY.GDP.PCAP.KD) and OECD Stats (`https://stats.oecd.org/index.aspx?queryid=60702`).

GDP growth rate. Taken from World Development Indicators (`https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG`).

Population density. Individuals per squared kilometer. Taken from UN World Population Prospects - The 2017 revision (`https://population.un.org/wpp/Download/Archive/Standard/`).

Urban population. Share of population living in urban centers as a percentage of total population. Taken from World Development Indicators (`https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS`).

Gastil index. This index is the average of two different indicators, i.e. civil liberties and political rights. Each country is graded on a 7-point rating scale from 1 (the highest degree of freedom) to 7 (the lowest degree of freedom) in both dimensions, according to several aspects, such as the freedom of expression and belief, rule of law, associational and organizational rights, personal autonomy and individual rights, political pluralism and participation, electoral process, and the functioning of the government. Taken from the Freedom house (`https://freedomhouse.org/report/freedom-world`).

Left government. The leftist orientation with respect to economic policy of the party of the prime minister or president. The index takes on a value of 1 for right, 2 for center and 3 for left wing party. Taken from Database of Political Institutions (DPI-The World Bank) (https://datacatalog.worldbank.org/dataset/wps2283-database-political-institutions).

Oil rents (% GDP). The share of oil rents as a percentage of GDP, where oil rents are the difference between the value of crude oil production at world prices and total costs of production. Taken from World Development Indicators (`https://data.worldbank.org/indicator/NY.GDP.PETR.RT.ZS`).

Trade (% GDP). The share of trade as a percentage of GDP, where trade is the sum of exports and imports of goods and services measured as a share of gross domestic product. Taken from World Development Indicators (`https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS`).

Young people 0-14. Population group aged 0-14 (% of total). Taken from World Development Indicators (`https://data.worldbank.org/indicator/SP.POP.0014.TO`).

Elderly people over 65. Population group aged 65 and above (% of total). Taken from World Development Indicators (`https://data.worldbank.org/indicator/SP.`

POP.65UP.TO.ZS).

LFP rate. Labor force participation rate, total (% of total population aged 15-64) (modeled ILO estimate). Taken from World Development Indicators (https://data.worldbank.org/indicator/SL.TLF.ACTI.ZS).

Regime type. Categorical variable which classifies authoritarian regimes around the world according to three modes of political power maintenance: hereditary succession (lineage), corresponding to monarchies; actual or threatened use of military force, corresponding to military regimes; and popular elections, designating electoral regimes. Non-authoritarian regimes are classified as democracies. Data are available for 192 countries. Taken from the Authoritarian Regimes Dataset version 6.0 (https://sites.google.com/site/authoritarianregimedataset/data).

English and French Legal origins. Dummy variables which indicate whether the legal system of a country belongs to the English or French legal tradition, as defined and coded by Shleifer et al. (2008). Taken from http://faculty.tuck.dartmouth.edu/rafael-laporta/research-publications.

Catholicism in 1900s. Share of total population that adhered to Catholicism in 1900. Taken from Barro's Religion Adherence Dataset (Barro 2003) at https://scholar.harvard.edu/barro/publications/religion-adherence-data.

Communist regime in 1970s. Dummy for Communist regime in 1970. Taken from Barro's Religion Adherence Dataset (Barro 2003) at https://scholar.harvard.edu/barro/publications/religion-adherence-data.

Years of interstate conflicts (between 1816 and 2007). Taken from Correlates of War Project database elaborated by Sarkees and Wayman 2010 at https://correlatesofwar.org/data-sets/COW-war.

Plough. An estimate of the fraction of the population currently living in a district (or country) with ancestors that traditionally engaged in plough agriculture. Taken from Alesina et al. (2013).

Latitude and Longitude. Expressed in decimal degrees, for the geographical centroid of the country. Taken from https://diegopuga.org/data/rugged/.

Tropical zones (% Total surface). Percentage of the land surface of each country where any of the four Kppen-Geiger tropical climates is present, as calculated by Nunn and Puga (2012). Taken from https://diegopuga.org/data/rugged/.

Desert zones (% Total surface). The percentage of the land surface area of each country covered by sandy desert, dunes, rocky or lava flows. Taken from https://diegopuga.org/data/rugged/.

Terrain Ruggedness Index. A measure of topographic heterogeneity which captures the amount of elevation difference between different areas of the same country, calculated by Nunn and Puga 2012. Taken from https://diegopuga.org/data/rugged/.

Country's land area and Percentage of arable land. Country's total area (squared kilometers) and the fraction of land within a country which is arable (FAO definition). Taken from the World Bank Development Indicators (https://data.worldbank.org/indicator/AG.LND.TOTL.K2 and https://data.worldbank.org/indicator/AG.LND.ARBL.ZS).

Ethnic, Religious, and Linguistic Fractionalization. These variables capture the probability that two randomly selected individuals from the same country will belong to the same ethnic, religious, or linguistic group respectively. Each index is arranged so that the higher it is, the more fractionalized the country. Taken from Alesina et al. (2003).

GGGI. Global Gender Gap Index, a multidimensional composite measure of gender equality, devised and calculated by the World Economic Forum since 2006. This index explicitly measures gender-based disparities in outcomes between women and men, independently from the level of development of the country, along four dimensions: health and survival (HSGGGI), educational attainment (EDUGGGI), economic participation and opportunity (ECOGGGI), and political empowerment (POLGGGI). Taken from the World Economic Forum Global Gender Gap Reports 2006-2016.

1.2 Definition of individual-level variables (including sources)

Data on individual attitudes are taken from the European Social Survey (ESS) (`https://www.europeansocialsurvey.org/data/`). Data are for 34 European countries for the period 2002-2016 and include information for more than 210,0000 respondents.

Redistributive preferences. It is the answer to the following question: "To what extent do you agree or disagree with the statement: the government should reduce differences in income levels." The variable is called *gincdif* and takes on values on the range from 1 (Agree strongly) to 5 (Disagree strongly). We recoded this variable so that the higher the value, the more favorable to redistribution the individual is. The question is repeated across all 8 waves between 2002 and 2016.

Female dummy. It equals 1 for female respondents and 0 for male respondents.

Left-wing dummy. We build an indicator which equals 1 if the original ESS variable "Placement on left right scale" (*lrscale*), that goes from 0 (Left) to 10 (Right), is ≤ 2; 0 otherwise.

Right-wing dummy. We build an indicator which equals 1 if the original ESS variable "Placement on left right scale" (*lrscale*), that goes from 0 (Left) to 10 (Right), is ≥ 8; 0 otherwise.

Household total net income. Different increasing classes of household's total net income, summing up all income sources: from less than €1800 to €120000 or more per year. The variable is called *hinctnt*.

No children at home. The variable is called *chldhm* and equals 1 if respondent lives with children at household grid, while it equals 2 if he/she does not.

Highest level of education. Different increasing levels of respondent's education: from "Less than lower secondary education" to "Tertiary education completed". The variable is called *edulvla*. In some waves, both the name and the ranking of the variable change. Thus, we homogenize them to those of the reference variable *edulvla*.

Religiosity. It is the answer to the following question: "How religious are you?". The variable is called *rlgdgr* and takes on values from 0 (Not at all religious) to 10 (Very religious).

Age and age-squared. Respondent's age (*agea*) and respondent's age squared.

Legal marital status. We construct a set of indicator variables according to respon-

dent's legal marital status: married, divorced or separated, widowed, never married. Married is the omitted category in the estimated regressions. The variable is called *marital*. In some waves, both the name and the ranking of the variable change. Thus, we homogenize them to those of the reference variable *marital*.

Main source of household income. We construct a set of indicator variables according to respondent's primary income source: salary and wages, self-employment, pension, unemployment benefits, social benefits, investment, other. Salary and wages as main income source is the omitted category when running regressions. The variable is called *hincsrc*. In some waves, both the name and the ranking of the variable change. Thus, we homogenize them to those of the reference variable *hincsrc*.

1.3 Details on statistical analysis

This section describes the details of the statistical analysis. We first provide information on the empirical strategy we used to estimate the relationship between historical gender norms and the tax structure. Then, we provide details on the estimation strategy for the individual-level analysis on redistributive preferences.

Historical gender norms and the tax structure: empirical specifications

We perform the cross-country analysis by estimating the following pooled OLS model:

$$\begin{aligned} Y_{ct} = \alpha + \beta_0 \text{Women suffrage}_c + \beta_1 \text{Feminism}_c + \\ + \beta_2 \text{Eco}_{ct} + \beta_3 \text{Demo}_{ct} + \beta_4 \text{Pol}_{ct} + \theta_j + \eta_t + \varepsilon_{ct} \end{aligned} \quad (1)$$

where Y_{ct} is the ratio between direct and indirect taxes in country c in year t, and Women suffrage$_c$ and Feminism$_c$ are our historical explanatory variables. We include a broad set of standard controls (Kenny and Winer 2006). Eco_{ct} refers to GDP per capita, GDP growth rate, the share of oil rents over GDP and the share of trade over GDP in country c in year t. $Demo_{ct}$ includes population density and the share of urban population over the total population in country c in year t. Pol_{ct} refers to the Gastil index of democracy, i.e. a measure of political rights and civil liberties, and to a measure of the leftist orientation of the incumbent prime minister or president in country c in year t. Finally, θ_j and η_t are region- and time-specific effects respectively, and ε_{ct} is the error term, clustered at country level. Results are shown in table 1, column 1. In a second specification, reported in column 2 of table 1, we extend the set of control variables by including: (i) in Eco_{ct} the labor force participation rate; (ii) in $Demo_{ct}$ other demographic variables (i.e., the share of young population aged 0-14 and the share of the elderly, aged 65 or more); and (iii) in Pol_{ct} an institutional variable that captures the regime type. Finally, in the model reported in column 3 of table 1, we add to our baseline specification Hist$_c$, i.e. some additional country-specific historical variables: English and French legal origins, Catholicism in 1900s, Communist regime in 1970s, Years of interstate conflicts, Plough.

Preferences for redistribution and gender equality: empirical specifications

In a pooled OLS setting, we first estimate the following specification (table 2, column 1):

$$\begin{aligned} y_{it} = \alpha_{it} + \beta_0 \text{Female}_{it} + \beta_1 \text{GGGI}_{ct} + \beta_2 \text{GDP per capita}_{ct} + \\ \beta_3 \text{Ideology}_{it} + \beta_4 X_{it} + \eta_t + \varepsilon_{ict} \end{aligned} \quad (2)$$

The dependent variable y_{it} measures the preferences for redistribution of respondent i in interview-year t. Female$_{it}$ is the Female dummy for respondent i in year of interview t, while both GGGI$_{ct}$ and GDP per capita$_{ct}$ refer to the respondent's country of residence

c in year of interview t. Ideology$_{it}$ stands for the Left-wing and Right-wing dummies for respondent i in year of interview t. X_{it} is a set of other individual-level features, i.e. household total net income, a dummy for no children at home, highest level of education, religiosity, age, age-squared, legal marital status, and the main source of household income. Finally, η_t stands for fixed effects that are year of interview-specific. Standards errors are clustered at the country of residence level.

Then, we include in Equation (2) the interaction term between the female dummy and the GGGI (table 2, column 2), the interaction term between the female dummy and GDP per capita (table 2, column 3), and the interaction terms between female dummy and both the left-wing dummy and the right-wing dummy (table 2, column 4). Finally, these last interaction terms between female dummy and ideology are included together with the interaction term between female dummy and the GGGI (table 2, column 5) and together with the interaction term between female dummy and GDP per capita (table 2, column 6).

From preferences to redistributive policies: an IV estimate

Starting from the specification shown in column 2 of table 2, in table 3 we show the output of an Instrumental Variable specification. The second stage is specified as follows:

$$y_{it} = \alpha_{it} + \beta_0 \text{Female}_{it} + \beta_1 \text{GGGI}_{ct} + \beta_2 \text{GDP per capita}_{ct} + \beta_3 \text{Ideology}_{it} + \beta_4 X_{it} + \beta_5 (\text{Female}_{it} * GGGI_{ct}) + \eta_t + \varepsilon_{ict} \quad (3)$$

In Equation (3), we include all variables that appear in Equation (2) above, plus the interaction between the GGGI index and the female dummy. Then, we instrument (i) the GGGI index (4) and (ii) the interaction between the GGGI index and the female dummy (5) with womens suffrage year and the role of women in the family, by themselves and interacted with the female dummy, thus obtaining four instruments. We obtain the following first stages:

$$GGGI_{ct} = \alpha_{it} + \beta_0 \text{Female}_{it} + \beta_1 \text{Women suffrage}_c + \beta_2 \text{Feminism}_c + \beta_3 (\text{Womensuffrage}_c * \text{Female}_{it}) + \beta_4 (\text{Feminism}_c * \text{Female}_{it}) + \beta_5 X_{it} + \eta_t + \varepsilon_{ict} \quad (4)$$

$$(GGGI_{ct} * \text{Female}_{it}) = \alpha_{it} + \beta_0 \text{Female}_{it} + \beta_1 \text{Womensuffrage}_c + \beta_2 \text{Feminism}_c + \beta_3 (\text{Women suffrage}_c * Female_{it}) + \beta_4 (\text{Feminism}_c * \text{Female}_{it}) + \beta_5 X_{it} + \eta_t + \varepsilon_{ict} \quad (5)$$

2 Supplementary Text

This section describes the details of the supplementary analysis. Its purpose is threefold: (i) we perform a series of robustness exercises regarding the cross-country analysis, by separately looking at direct or indirect taxes over total tax revenue and enlarging the set of control variables; (ii) again within the cross-country analysis, we employ alternative measures for women's suffrage and the degree of feminism within the family; and (iii) we explore the robustness of our results on redistributive preferences, e.g. by decomposing the GGGI index into its four different components.

Results on tax structure: direct and indirect taxes over total tax revenue

Since our main dependent variable is a measure of the tax mix as the ratio between direct taxes over indirect taxes, we check whether only one of the two components is driving our results. We therefore run our basic specification as in column 1 of table 1 by replacing the baseline dependent variable first with the share of direct taxes over total tax revenue, and then with the share of indirect taxes over total tax revenue. In column 1 of table A1 we show that direct taxes have statistically significant partial correlations with our historical gender measures, with the expected signs. Instead, in column 2, indirect taxes are not significantly correlated with the historical gender measures. This allows us to argue that our baseline results on direct taxes over indirect taxes are in fact driven by higher *direct* taxes in historically more egalitarian countries.

In terms of magnitude, based on the estimates shown in column 1 of table A1, one-standard-deviation increase in the timing of women's enfranchisement (21.22) is associated with a reduction of the share of direct taxes over total tax revenue of 4.7 percent ($21.22 * 0.0022$). Since the standard deviation of the dependent variable is 0.129, the implied variation is about 36 percent of that standard deviation. On the other hand, one-standard-deviation increase in the importance of the role of women in the family (0.35) is associated with an increase in the share of direct taxes over total tax revenue of 6 percent ($0.35 * 0.17$), i.e. 46 percent of its standard deviation. In addition, we compute how much of total variation our historical gender-related variables are able to explain: their inclusion increases the R-squared by 0.139 (from 0.3535 to 0.4927), i.e. they account for 13.9 percent of the total variation in the share of direct taxes over total tax revenue, and 21.5 percent of its residual variation unaccounted for by the control variables. When entered separately, one at a time, the inclusion of the timing of women's suffrage increases the R-squared by $0.4435 - 0.3535 = 0.09$. Therefore, it accounts for 9 percent of the total variation in direct taxes over total tax revenue and 13.9 percent of the residual variation unaccounted for by the control variables. The inclusion of the role of women in the family increases the R-squared by $0.4229 - 0.3535 = 0.069$. As such, it represents 6.9 percent of the total variation in direct taxes over total tax revenue, and 10.7 percent of its residual variation unaccounted for by the control variables.

Results on tax structure controlling for geography

As a robustness check we also include a set of geographical controls, in order to take into account differences in factor endowments. We add Latitude, Longitude, Tropical zones, Desert zones, Terrain Ruggedness Index, and Country's Land area, and Percentage of arable land. As shown in column 3 of table A1, our results still hold.

Results on tax structure controlling for cultural and demographic factors

Analogously to the previous exercise, we include other cultural and demographic characteristics such as ethnic, religious, and linguistic fractionalization. Our results are robust to this further check (table A1, column 4).

Results on tax structure: all controls

Finally, we include all geographical, cultural, and demographic controls, together with all the explanatory factors that are already included in the baseline specification shown in column 3 of table 1. Results are reported in column 5 of table A1 and again

show the robustness of the relationship between higher direct taxes over indirect taxes and higher historical importance of women.

Results on tax structure controlling for time since women's suffrage and alternative measures of Feminism

In a further specification, with reference to Equation (1), we substitute the date of women's suffrage with an alternative indicator, which is calculated as the time in years elapsed since the suffrage was granted to women for the first time. The relative coefficient is now positive and always significant ($p<0.001$).

Then, we also look at alternative measures of the degree of feminism. We substitute the Degree of Feminism –first version– with its alternative and more polarized version, and then with the Women's status variable. In both cases, our results (not reported) still hold and remain qualitatively and quantitatively unchanged.

At last, in order to focus on the role of women within different family settings, we also include the set of Women status' dummies. From a geographical point of view these dummies mostly coincide with Todd's family types which are widely employed in the recent economic literature (Todd 1990, Duranton et al. 2009, Bertocchi and Bozzano 2015, Galasso and Profeta 2018, Tur-Prats 2018).

Table A2 shows our results when this set of dummies is included. Column 1 largely confirms the above described ranking across family types: when bilateral vertical family system is the omitted reference group, the dummies for patrilineal categories and polygyny show negative and statistically significant coefficients (at 1 percent confidence level), which is consistent with a significantly lower degree of feminism. The same results hold true when in column 2 the whole group of bilateral and matrilineal types is omitted.

Results on redistributive preferences: the role of economic development and ideology on gender differences

Panel A in figure A1 is similar to Panel A in figure 3, with the only difference that we analyze the gender-based difference in redistributive preferences as a function of the level of economic development of the country (as measured by per capita GDP), instead of its aggregate level of gender equality. We find again that the gender-based cleavage in preferences for redistribution is significantly increasing in per capita GDP.

Panel B in figure A1 shows the estimated preferences for redistribution *separately* for women and men, again as a function of per capita GDP: differently from the case of gender norms, both men and women are significantly less favorable to redistribution in environments with higher per capita GDP, but the relationship is significantly steeper for men. Indeed, in column 3 of table 2 we show that the marginal effect of being a woman is 0.046 for the minimum level of per capita GDP, 0.105 at its average level, and 0.201 at the maximum one, i.e. very similar in size to the marginal effects for the different levels of the GGGI index. The only exception is that the marginal effect of being a woman at the minimum level of per capita GDP is statistically significant at ordinary confidence levels, while it was not in the case of the minimum level of the GGGI variable.

Unsurprisingly, our regression results show that self-declared left-leaning respondents are significantly more favorable to redistribution than moderate respondents, and that the opposite holds for right-leaning respondents, again vis-a-vis the moderates. However, to our knowledge, there is no available evidence on the gender-based differences in redistributive preferences as a function of the ideological leaning of the respondent, i.e. whether the redistributive preferences of women vis-a-vis men are in fact different as a function of self-declared ideology.

The outcome of this exercise is shown in figure A1, panel C. The message is clear: there is no gender-based difference in preferences for redistribution among left-leaning respondents, while this difference is statistically significant among moderates –in the expected direction: women are significantly more favorable to redistribution than men– and is even stronger among right-leaning individuals: right-leaning women are significantly more favorable to redistribution than right-leaning men. Interestingly, the marginal ef-

fects estimated out of column 5 in table 2 show that left-leaning women are significantly *less* favorable to redistribution at the minimum level of the GGGI variable (a −0.13 difference with men). On the other hand, for right-leaning respondents the marginal effect of besing a woman in redistributive preferences is positive and significant at all levels of the GGGI variable –i.e., at the minimum level as well– and it reaches 0.295 (about one-third of a standard deviation of the dependent variable) at its maximum level.

Discussion on the relevance of IV estimation

To check the strength and relevance of our instruments in Section *From preferences to redistributive policies*, we apply three different statistical tests to the outcome of the first stage regressions. Since we are in the presence of heteroskedasticity and clustering, we look at the Sanderson-Windmeijer (SW) multivariate F test of excluded instruments (Sanderson and Windmeijer 2016). Following the standard rule of thumb, the F-statistics of excluded instruments should be greater than 10. In our case, we are able to reject the joint null hypothesis of weak instruments separately for each equation (GGGI, SW F=40.15; interaction between GGGI and female dummy, SW F=10.73, for both p-value<0.0000). In both cases, according to SW F-tests our instruments are satisfactory also according to the Stock-Yogo weak ID F test critical values for the case of 2 instrumented endogenous variables and 4 excluded instruments (Stock and Yogo 2005). Looking at the Kleibergen-Paap Wald rk F statistic, where the null hypothesis is that instruments are jointly weakly identified, we obtain analogous results (10.72). Finally, according to the SW Chi-sq tests, we also significantly reject the null of underidentification (respectively, SW Chi-sq=124.25 p-value<0.0000, and SW Chi-sq=33.20 p-value<0.0000).

Results on redistributive preferences and different components of GGGI

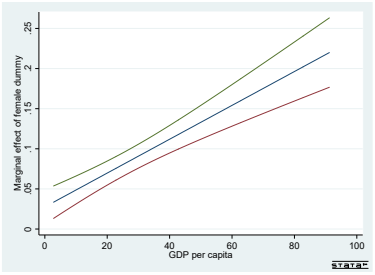
With reference to Equation (2) and specifications as in table 2, columns 2 and 3, we further investigate gender-specific differences in redistributive preferences by replacing the overall GGGI index with its components: political empowerment (POLGGGI), economic participation and opportunity (ECOGGGI), educational attainment (EDUGGGI), and health and survival (HSGGGI). Results are shown in tables S3-S6 and figures S2-S5, respectively.

Overall, we notice that no change in redistribution preferences occurs for men when gender equality goes up according to ECOGGGI and POLGGGI, while women become more pro-redistribution. Instead, when we include EDUGGGI an unanticipated result occurs: in more gender equal environments education-wise, men become less favorable to redistribution, while the opposite is true for women. Finally, no significant effect emerges when HSGGGI is employed: gender equality in health is not statistically significant in explaining gender differences in redistributive preferences, both conditionally (i.e., when interacting it with the female dummy) and unconditionally.

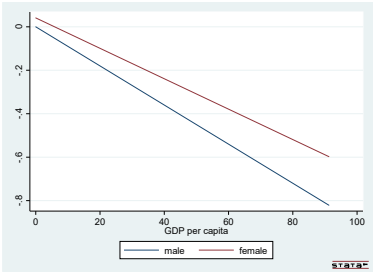
Then we replicate our IV approach for the specific components of the GGGI variable (table A7-A10). Again, our results confirm that women are more favorable to redistribution vis-a-vis men in politically more equal environments. We also find a similar effect, but only mildly significant in more economically equal countries, while the health and education related components of gender equality are no longer statistically significant by themselves as well as when interacted with the female dummy.

Looking at the first stages, we notice that as in the specification with GGGI, the interaction terms between the female dummy and the women's suffrage variable and the degree of feminism, respectively, are statistically significant instruments when the dependent variable is the interaction of the female dummy and POLGGGI, and with the expected sign. When we look at the interactions of the female dummy with ECOGGGI or EDUGGGI only the interaction terms between the women's suffrage variable and the female dummy is significant, always with the expected sign. Finally, with HSGGGI no effect emerges, confirming our previous observations.

(A)



(B)



(C)

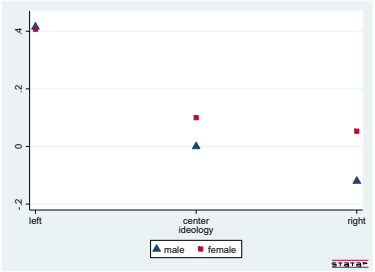


Fig. A1: Preferences for income redistribution: gender difference.
In panel (A) the blue line corresponds to the estimated values shown in table 2, column (3), while the red and green lines identify the upper and the lower bounds of 95% confidence intervals. When they are both above (or below) the zero line, female dummy has a statistically significant effect on redistributive preferences. Panels (B) and (C) show authors' elaborations from table 2, column (3) and column (4) respectively.

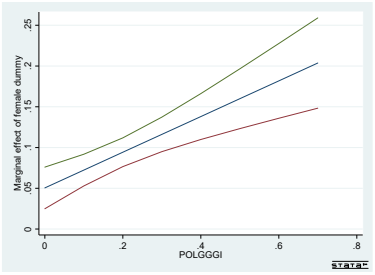
Dep.var.:	Direct taxes over Total Revenue	Indirect taxes over Total Revenue
	(1)	(2)
	b/se	b/se
Women's suffrage year	-0.002***	-0.001
	(0.000)	(0.001)
Degree of Feminism	0.169***	-0.099
	(0.039)	(0.062)
Baseline controls	Yes	Yes
Geographic controls	No	No
Cultural controls	No	No
All further controls	No	No
Obs.	3269	3426
Countries	142	146
R-squared between	0.578	0.651

Dep.var.:	Direct taxes over Indirect taxes	Direct taxes over Indirect taxes	Direct taxes over Indirect taxes
	(3)	(4)	(5)
	b/se	b/se	b/se
Women's suffrage year	-0.007***	-0.007***	-0.008***
	(0.001)	(0.001)	(0.002)
Degree of Feminism	0.434***	0.435***	0.368**
	(0.157)	(0.168)	(0.152)
Baseline controls	Yes	Yes	Yes
Geographic controls	Yes	No	Yes
Cultural controls	No	Yes	Yes
All further controls	No	No	Yes
Obs.	3535	3433	2756
Countries	143	138	136
R-squared between	0.620	0.619	0.631

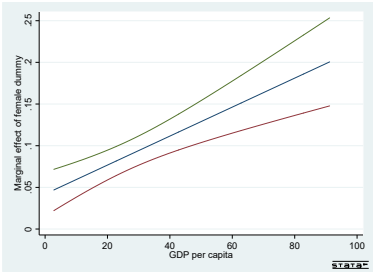
Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A1: Tax Mix.
GLS estimates with the inclusion of region- and year- fixed effects. Baseline controls include: GDP per capita, GDP growth, Population density, Urban population, Gastil index, Left government, Oil rents over GDP, and Trade over GDP. Geographic controls include: Latitude, Longitude, Tropical zones, Desert zones, Terrain Ruggedness Index, and Country's Land area and Percentage of arable land. Cultural controls include: Ethnic, Religious and Linguistic Fractionalization. All further controls include: LFP rate, Young people 0-14, Elderly people over 65, Regime type, English and French legal origins, Catholicism in 1900s, Communist regime in 1970s, Years of interstate conflicts, Plough (see table 1, column 3).

(A)



(B)



(C)

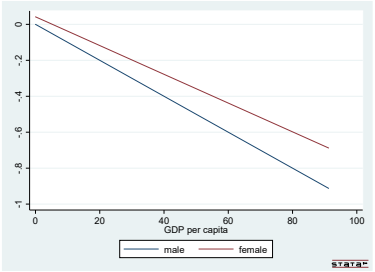
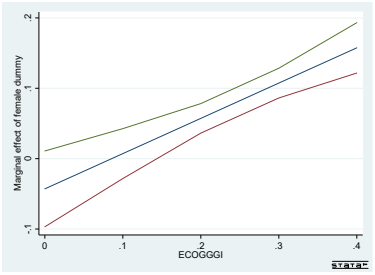
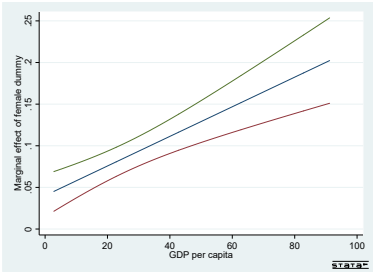


Fig. A2: Preferences for income redistribution: gender difference (POLGGGI).
In panels (A) and (B) the blue lines correspond to the estimated values shown in table A3, column (2) and column (3) respectively, while the red and green lines identify the upper and the lower bounds of 95% confidence intervals. When they are both above (or below) the zero line, female dummy has a statistically significant effect on redistributive preferences. Panel (C) shows authors' elaborations from table A3, column (3).

(A)



(B)



(C)

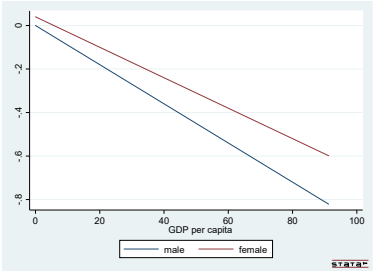
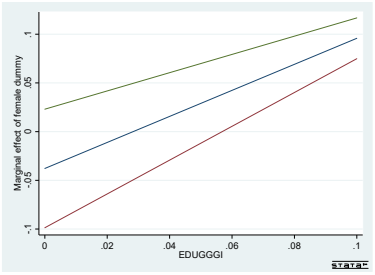
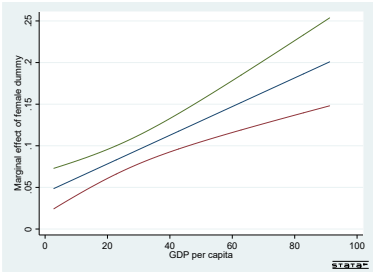


Fig. A3: Preferences for income redistribution: gender difference (ECOGGGI).
In panels (A) and (B) the blue lines correspond to the estimated values shown in table A4, column (2) and column (3) respectively, while the red and green lines identify the upper and the lower bounds of 95% confidence intervals. When they are both above (or below) the zero line, female dummy has a statistically significant effect on redistributive preferences. Panel (C) shows authors' elaborations from table A4, column (3).

(A)



(B)



(C)

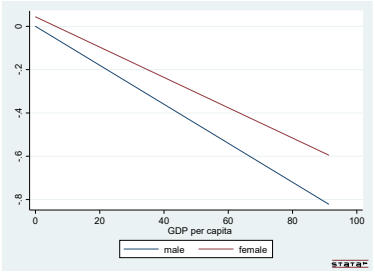


Fig. A4: Preferences for income redistribution: gender difference (EDUGGGI).
In panels (A) and (B) the blue lines correspond to the estimated values shown in table A5, column (2) and column (3) respectively, while the red and green lines identify the upper and the lower bounds of 95% confidence intervals. When they are both above (or below) the zero line, female dummy has a statistically significant effect on redistributive preferences. Panel (C) shows authors' elaborations from table A5, column (3).

(A) **(B)**

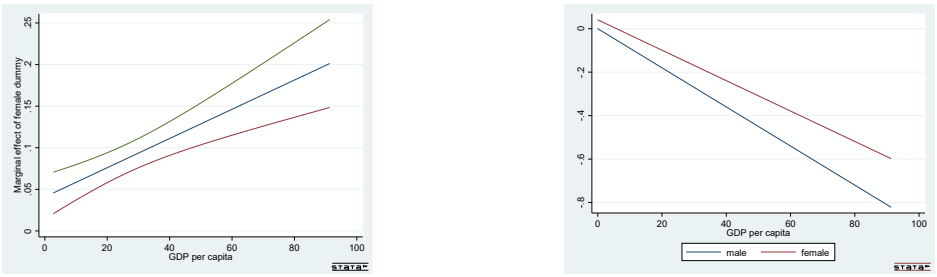


Fig. A5: Preferences for income redistribution: gender difference (HSGGGI).
In this case it is not possible to draw the figure representing the marginal effect of female dummy across the different values HSGGGI assumes in our dataset because the difference between its minimum (0) and maximum value (0.048) is too small. However, notice that, starting from the estimated values shown in table A6, column (2), the marginal effect of female dummy is 0.053 with a p-value equal to 0.599 when HSGGGI takes its minimum value in our dataset; 0.106 with a p-value equal to 0.000 when HSGGGI takes its average value in our dataset; 0.111 with a p-value equal to 0.000 when HSGGGI takes its maximum value in our dataset. In panel (A) the blue lines correspond to the estimated values shown in table A6, column (3), while the red and green lines identify the upper and the lower bounds of 95% confidence intervals. When they are both above (or below) the zero line, female dummy has a statistically significant effect on redistributive preferences. Panel (B) shows authors' elaborations from table A6, column (3).

Dep.var.: Direct taxes over Indirect taxes	(1)	(2)
	b/se	b/se
Women's suffrage year	-0.008***	-0.008***
	(0.002)	(0.001)
Patrilinear non vertical family	-0.341**	-0.312***
	(0.150)	(0.115)
Polygyny	-0.360**	-0.311***
	(0.166)	(0.113)
Patrilinear strong vertical family	-0.566**	-0.554**
	(0.259)	(0.235)
Patrilinear medium vertical family	-0.191	-0.184
	(0.336)	(0.295)
Patrilinear weak vertical family	-0.407**	-0.376***
	(0.161)	(0.105)
Bilateral non vertical (patrilinear bias)	-0.072	.
	(0.134)	.
Bilateral non vertical (matrilinear bias)	0.015	.
	(0.268)	.
Obs.	3550	3550
Countries	143	143
R-squared between	0.621	0.620

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A2: Tax Mix.
GLS estimates with the inclusion of region- and year- fixed effects. In all the regressions we also control for GDP per capita, GDP growth, Population density, Urban population, Gastil index, Left Government, Oil rents over GDP, and Trade over GDP. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported. In column (1) the reference omitted variable is bilateralvertical family, while in column (2) the omitted dummies are all bilateral types of families.

Dep.var.: Redistributive pref	(1)	(2)	(3)	(4)	(5)	(6)
	b/se	b/se	b/se	b/se	b/se	b/se
Female dummy	0.106***	0.050***	0.042**	0.100***	0.033*	0.021
	(0.014)	(0.016)	(0.016)	(0.015)	(0.018)	(0.017)
POLGGGI	0.110	-0.004	0.109	0.110	-0.020	0.108
	(0.279)	(0.287)	(0.279)	(0.279)	(0.289)	(0.279)
GDP per capita	-0.009***	-0.009***	-0.010***	-0.009***	-0.009***	-0.010***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)
Left-wing dummy	0.358***	0.358***	0.357***	0.415***	0.411***	0.410***
	(0.037)	(0.037)	(0.037)	(0.042)	(0.042)	(0.042)
Right-wing dummy	-0.079**	-0.078**	-0.077**	-0.119***	-0.125***	-0.127***
	(0.033)	(0.033)	(0.033)	(0.040)	(0.039)	(0.040)
Household total net income	-0.047***	-0.047***	-0.048***	-0.047***	-0.047***	-0.047***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
No children at home	-0.029*	-0.030*	-0.030*	-0.029*	-0.029*	-0.029*
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Highest level of education	-0.061***	-0.061***	-0.060***	-0.061***	-0.061***	-0.060***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Religiosity	0.004	0.004	0.004	0.004	0.004	0.004
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Female dummy x POLGGGI	.	0.219***	.	.	0.248***	.
	.	(0.062)	.	.	(0.064)	.
Female dummy x GDP per capita	.	.	0.002***	.	.	0.002***
	.	.	(0.000)	.	.	(0.000)
Female dummy x Left-wing dummy	.	.	.	-0.108***	-0.101***	-0.101***
	.	.	.	(0.022)	(0.022)	(0.022)
Female dummy x Right-wing dummy	.	.	.	0.074***	0.088***	0.090***
	.	.	.	(0.020)	(0.020)	(0.020)
Obs.	210014	210014	210014	210014	210014	210014
Countries	34	34	34	34	34	34
R-squared	0.098	0.098	0.098	0.098	0.098	0.099

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A3: Subjective preference for income redistribution (POLGGGI). OLS estimates with the inclusion of interview year- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

Dep.var.: Redistributive pref	(1)	(2)	(3)	(4)	(5)	(6)
	b/se	b/se	b/se	b/se	b/se	b/se
Female dummy	0.106***	-0.043	0.040**	0.100***	-0.052	0.019
	(0.015)	(0.033)	(0.015)	(0.016)	(0.036)	(0.017)
ECOGGGI	0.147	-0.116	0.160	0.142	-0.124	0.156
	(0.457)	(0.460)	(0.457)	(0.457)	(0.462)	(0.457)
GDP per capita	-0.008***	-0.008***	-0.009***	-0.008***	-0.008***	-0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Left-wing dummy	0.358***	0.358***	0.358***	0.415***	0.412***	0.411***
	(0.037)	(0.037)	(0.037)	(0.041)	(0.041)	(0.041)
Right-wing dummy	-0.081**	-0.080**	-0.079**	-0.120***	-0.123***	-0.128***
	(0.035)	(0.034)	(0.034)	(0.041)	(0.041)	(0.041)
Household total net income	-0.047***	-0.047***	-0.047***	-0.047***	-0.047***	-0.047***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
No children at home	-0.030*	-0.030*	-0.030**	-0.029*	-0.029*	-0.030*
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Highest level of education	-0.062***	-0.063***	-0.062***	-0.062***	-0.062***	-0.062***
	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)
Religiosity	0.004	0.004	0.004	0.004	0.004	0.004
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Female dummy x ECOGGGI	.	0.501***	.	.	0.505***	.
	.	(0.123)	.	.	(0.130)	.
Female dummy x GDP per capita	.	.	0.002***	.	.	0.002***
	.	.	(0.000)	.	.	(0.000)
Female dummy x Left-wing dummy	.	.	.	-0.108***	-0.102***	-0.101***
	.	.	.	(0.022)	(0.022)	(0.022)
Female dummy x Right-wing dummy	.	.	.	0.073***	0.077***	0.090***
	.	.	.	(0.020)	(0.020)	(0.020)
Obs.	210014	210014	210014	210014	210014	210014
Countries	34	34	34	34	34	34
R-squared	0.097	0.098	0.098	0.098	0.098	0.099

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A4: Preferences for income redistribution (ECOGGGI).
OLS estimates with the inclusion of interview year- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

Dep.var.: Redistributive pref	(1)	(2)	(3)	(4)	(5)	(6)
	b/se	b/se	b/se	b/se	b/se	b/se
Female dummy	0.108***	-0.038	0.044***	0.101***	-0.052	0.022
	(0.014)	(0.037)	(0.016)	(0.015)	(0.035)	(0.017)
EDUGGGI	-2.384*	-3.084**	-2.375*	-2.392*	-3.128**	-2.383*
	(1.242)	(1.272)	(1.242)	(1.240)	(1.244)	(1.239)
GDP per capita	-0.008***	-0.008***	-0.009***	-0.008***	-0.008***	-0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Left-wing dummy	0.354***	0.354***	0.353***	0.410***	0.410***	0.406***
	(0.036)	(0.036)	(0.036)	(0.041)	(0.041)	(0.041)
Right-wing dummy	-0.080**	-0.080**	-0.079**	-0.121***	-0.122***	-0.128***
	(0.034)	(0.034)	(0.034)	(0.041)	(0.041)	(0.041)
Household total net income	-0.047***	-0.046***	-0.047***	-0.046***	-0.046***	-0.047***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
No children at home	-0.030*	-0.030*	-0.030*	-0.029*	-0.029*	-0.030*
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Highest level of education	-0.058***	-0.058***	-0.057***	-0.058***	-0.058***	-0.057***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
Religiosity	0.003	0.003	0.003	0.003	0.003	0.003
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Female dummy x EDUGGGI	.	1.336***	.	.	1.404***	.
	.	(0.380)	.	.	(0.375)	.
Female dummy x GDP per capita	.	.	0.002***	.	.	0.002***
	.	.	(0.000)	.	.	(0.000)
Female dummy x Left-wing dummy	.	.	.	-0.108***	-0.107***	-0.101***
	.	.	.	(0.022)	(0.022)	(0.022)
Female dummy x Right-wing dummy	.	.	.	0.075***	0.077***	0.091***
	.	.	.	(0.020)	(0.020)	(0.020)
Obs.	210014	210014	210014	210014	210014	210014
Countries	34	34	34	34	34	34
R-squared	0.099	0.099	0.099	0.099	0.099	0.100

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A5: Preferences for income redistribution (EDUGGGI).
OLS estimates with the inclusion of interview year- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

Dep.var.: Redistributive pref	(1)	(2)	(3)	(4)	(5)	(6)
	b/se	b/se	b/se	b/se	b/se	b/se
Female dummy	0.106***	0.053	0.041**	0.100***	0.053	0.020
	(0.014)	(0.100)	(0.016)	(0.015)	(0.102)	(0.017)
HSGGGI	4.545	3.904	4.566	4.534	3.968	4.556
	(4.709)	(5.057)	(4.714)	(4.708)	(5.092)	(4.714)
GDP per capita	-0.008***	-0.008***	-0.009***	-0.008***	-0.008***	-0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Left-wing dummy	0.360***	0.360***	0.359***	0.417***	0.416***	0.412***
	(0.038)	(0.038)	(0.038)	(0.042)	(0.043)	(0.042)
Right-wing dummy	-0.078**	-0.078**	-0.077**	-0.119***	-0.119***	-0.126***
	(0.033)	(0.033)	(0.033)	(0.040)	(0.040)	(0.040)
Household total net income	-0.048***	-0.048***	-0.048***	-0.048***	-0.048***	-0.048***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
No children at home	-0.032**	-0.032**	-0.032**	-0.031**	-0.031**	-0.032**
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Highest level of education	-0.062***	-0.062***	-0.062***	-0.062***	-0.062***	-0.061***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Religiosity	0.005	0.005	0.005	0.005	0.005	0.005
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Female dummy x HSGGGI	.	1.195	.	.	1.055	.
	.	(2.113)	.	.	(2.204)	.
Female dummy x GDP per capita	.	.	0.002***	.	.	0.002***
	.	.	(0.000)	.	.	(0.000)
Female dummy x Left-wing dummy	.	.	.	-0.108***	-0.108***	-0.101***
	.	.	.	(0.022)	(0.022)	(0.022)
Female dummy x Right-wing dummy	.	.	.	0.073***	0.073***	0.090***
	.	.	.	(0.020)	(0.020)	(0.020)
Obs.	210014	210014	210014	210014	210014	210014
Countries	34	34	34	34	34	34
R-squared	0.098	0.098	0.098	0.098	0.098	0.099

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A6: Preferences for income redistribution (HSGGGI).
OLS estimates with the inclusion of interview year- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

First Stage Dep.var.:	POLGGGI	Female dummy x POLGGGI
	(1)	(2)
	b/se	b/se
Female dummy	-0.169	6.239*
	(0.159)	(3.452)
Women's suffrage year	-0.003***	0.000
	(0.001)	(0.001)
Female dummy x Women's suffrage year	0.000	-0.003*
	(0.000)	(0.002)
Degree of Feminism	-0.106	-0.184***
	(0.090)	(0.027)
Female dummy x Degree of Feminism	0.010	0.263***
	(0.007)	(0.093)
Left-wing dummy	-0.000	0.001
	(0.003)	(0.002)
Right-wing dummy	-0.008	-0.007**
	(0.005)	(0.003)
Household total net income	0.001	0.000
	(0.001)	(0.001)
No children at home	-0.004	-0.000
	(0.003)	(0.002)
Highest level of education	-0.003	-0.002
	(0.003)	(0.002)
GDP per capita	0.006***	0.003***
	(0.001)	(0.001)
Religiosity	0.000	0.000
	(0.001)	(0.001)
Obs.	208624	208624
Countries	33	33
R-squared	0.731	0.782

Second Stage Dep.var.: Redistributive pref	(1)
	b/se
Female dummy	0.038
	(0.029)
POLGGGI	-0.562
	(0.707)
GDP per capita	-0.006*
	(0.003)
Left-wing dummy	0.351***
	(0.036)
Right-wing dummy	-0.080**
	(0.032)
Household total net income	-0.046***
	(0.005)
No children at home	-0.030**
	(0.015)
Highest level of education	-0.062***
	(0.008)
Religiosity	0.004
	(0.007)
Female dummy x POLGGGI	0.267**
	(0.129)
ME female dummy for POLGGGI min	.038
p-value	0.193
ME female dummy for POLGGGI average	.105
p-value	0.000
ME female dummy for POLGGGI max	.196
p-value	0.000
Obs.	208624
Countries	33
R-squared	0.096

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A7: Preferences for income redistribution: IV regression (POLGGGI).

IV estimates with the inclusion of year of interview- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

First Stage Dep.var.:	ECOGGGI	Female dummy x ECOGGGI
	(1)	(2)
	b/se	b/se
Female dummy	0.056	3.096**
	(0.091)	(1.453)
Women's suffrage year	-0.001***	0.000
	(0.000)	(0.000)
Female dummy x Women's suffrage year	-0.000	-0.001*
	(0.000)	(0.001)
Degree of Feminism	-0.018	-0.045***
	(0.053)	(0.013)
Female dummy x Degree of Feminism	-0.011***	0.064
	(0.003)	(0.049)
Left-wing dummy	-0.005**	-0.002
	(0.002)	(0.001)
Right-wing dummy	0.006***	0.003**
	(0.002)	(0.001)
Household total net income	0.000	-0.000
	(0.001)	(0.000)
No children at home	0.000	0.000
	(0.002)	(0.001)
Highest level of education	0.007**	0.004**
	(0.003)	(0.002)
GDP per capita	0.001***	0.001***
	(0.000)	(0.000)
Religiosity	-0.001	-0.000
	(0.001)	(0.000)
Obs.	208624	208624
Countries	33	33
R-squared	0.445	0.929

Second Stage Dep.var.: Redistributive pref	(1)
	b/se
Female dummy	-0.084
	(0.111)
ECOGGGI	-2.250
	(1.682)
GDP per capita	-0.006**
	(0.002)
Left-wing dummy	0.338***
	(0.037)
Right-wing dummy	-0.066*
	(0.037)
Household total net income	-0.046***
	(0.005)
No children at home	-0.027
	(0.017)
Highest level of education	-0.048***
	(0.017)
Religiosity	0.002
	(0.008)
Female dummy x ECOGGGI	0.652*
	(0.373)
ME female dummy for ECOGGGI min	-.084
p-value	0.449
ME female dummy for ECOGGGI average	.110
p-value	0.000
ME female dummy for ECOGGGI max	.200
p-value	0.000
Obs.	208624
Countries	33
R-squared	0.086

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A8: Preferences for income redistribution: IV regression (ECOGGGI).

IV estimates with the inclusion of year of interview- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

First Stage Dep.var.:	EDUGGGI	Female dummy x EDUGGGI
	(1)	(2)
	b/se	b/se
Female dummy	0.011	0.450**
	(0.017)	(0.179)
Women's suffrage year	-0.000*	0.000
	(0.000)	(0.000)
Female dummy x Women's suffrage year	-0.000	-0.000*
	(0.000)	(0.000)
Degree of Feminism	0.017	0.001
	(0.019)	(0.002)
Female dummy x Degree of Feminism	-0.000	0.014
	(0.001)	(0.016)
Left-wing dummy	-0.001	-0.001
	(0.001)	(0.000)
Right-wing dummy	0.000	0.000
	(0.001)	(0.000)
Household total net income	0.000	0.000
	(0.000)	(0.000)
No children at home	-0.000	-0.000
	(0.000)	(0.000)
Highest level of education	0.001	0.001
	(0.001)	(0.001)
GDP per capita	-0.000	-0.000
	(0.000)	(0.000)
Religiosity	-0.000*	-0.000*
	(0.000)	(0.000)
Obs.	208624	208624
Countries	33	33
R-squared	0.188	0.967

Second Stage Dep.var.: Redistributive pref	(1)
	b/se
Female dummy	-0.450
	(0.498)
EDUGGGI	-28.903
	(22.646)
GDP per capita	-0.007***
	(0.002)
Left-wing dummy	0.319***
	(0.039)
Right-wing dummy	-0.083**
	(0.038)
Household total net income	-0.039***
	(0.008)
No children at home	-0.033*
	(0.019)
Highest level of education	-0.029**
	(0.014)
Religiosity	-0.008
	(0.007)
Female dummy x EDUGGGI	5.228
	(4.537)
ME female dummy for EDUGGGI min	-.450
p-value	0.367
ME female dummy for EDUGGGI average	.120
p-value	0.000
ME female dummy for EDUGGGI max	.152
p-value	0.000
Obs.	208624
Countries	33
R-squared	-0.009

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A9: Preferences for income redistribution: IV regression (EDUGGGI).

IV estimates with the inclusion of year of interview- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.

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First Stage Dep.var.:	HSGGGI	Female dummy x HSGGGI
	(1)	(2)
	b/se	b/se
Female dummy	0.005	0.112
	(0.007)	(0.070)
Women's suffrage year	-0.000	0.000
	(0.000)	(0.000)
Female dummy x Women's suffrage year	-0.000	-0.000
	(0.000)	(0.000)
Degree of Feminism	-0.001	0.000
	(0.003)	(0.001)
Female dummy x Degree of Feminism	-0.000	-0.003
	(0.000)	(0.002)
Left-wing dummy	-0.001	-0.000
	(0.000)	(0.000)
Right-wing dummy	-0.000	-0.000
	(0.000)	(0.000)
Household total net income	0.000	0.000
	(0.000)	(0.000)
No children at home	0.000**	0.000**
	(0.000)	(0.000)
Highest level of education	0.000*	0.000*
	(0.000)	(0.000)
GDP per capita	-0.000	-0.000
	(0.000)	(0.000)
Religiosity	-0.000	-0.000
	(0.000)	(0.000)
Obs.	208624	208624
Countries	33	33
R-squared	0.106	0.977

Second Stage Dep.var.: Redistributive pref	(1)
	b/se
Female dummy	0.204
	(0.618)
HSGGGI	-16.545
	(75.799)
GDP per capita	-0.009**
	(0.004)
Left-wing dummy	0.345***
	(0.052)
Right-wing dummy	-0.083**
	(0.036)
Household total net income	-0.045***
	(0.010)
No children at home	-0.021
	(0.037)
Highest level of education	-0.058***
	(0.018)
Religiosity	0.002
	(0.011)
Female dummy x HSGGGI	-2.171
	(13.886)
ME female dummy for HSGGGI min	.2036178
p-value	0.742
ME female dummy for HSGGGI average	.1071999
p-value	0.000
ME female dummy for HSGGGI max	.0978791
p-value	0.106
Obs.	208624
Countries	33
R-squared	0.088

Standard errors in parentheses are clustered at country level. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A10: Preferences for income redistribution: IV regression (HSGGGI).

IV estimates with the inclusion of year of interview- fixed effects. In all the regressions we also control for age, age squared, legal marital status, and the main source of household income. For space reasons, the estimates of these coefficients as well as of the constant terms are not reported.