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A Note on Aggregating Preferences for Redistribution¹

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Abstract

The policy predictions of standard heterogeneous agent macroeconomic models are often at odds with observed policies. We use the 2021 General Social Survey to investigate the drivers of individuals' preferences over taxes and redistribution. We find that these preferences are more strongly associated with political identity than with economic status. We discuss the implications for quantitative macroeconomic models with endogenous policy determination.

KEYWORDS: Political Economy; Redistribution; Heterogeneous Agents; Voting;
JEL CLASSIFICATION CODES: E62, D72, H20

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1 Introduction

Over the past several decades, modern macroeconomics has given more attention to the endogenous determination of government policy in environments with rich household heterogeneity and highly unequal distributions of income and wealth. Solving these models requires aggregating the preferences of heterogeneous households into an equilibrium policy. The most common approach for preference aggregation conjectures the existence of a social planner that designs government policy to maximize some social welfare function in the Ramsey tradition. Recent work following this approach uncovers optimal policies that are highly redistributive, meaning that they combine high levels of distortionary taxes with large lump-sum transfers (Boar and Midrigan, 2022; Ferriere et al., 2023; Dyrda and Pedroni, 2023; Carroll et al., 2024). An alternative approach aggregates preferences by endogenizing the political process. In models utilizing this method, political preferences typically display the same degree of richness as the economic heterogeneity, in which each household’s preferred policy is strongly tied to its economic circumstances, and finds similar tax-transfer outcomes (Krusell and Ríos-Rull, 1999; Azzimonti et al., 2008; Bachmann and Bai, 2013; Carroll et al., 2021).

These predictions, however, do not align with observed government policies (Mendoza et al., 1994; Carey and Rabesona, 2003; McDaniel, 2007; Trabandt and Uhlig, 2011). For example, the optimal transfer in Ferriere et al. (2023) is around 20 percent of GDP, far in excess of those in even the most redistributive welfare states (OECD, 2023).² This discrepancy between model-predicted outcomes and empirical observations is particularly puzzling. Economic logic suggests that democratic countries with high degrees of pre-tax inequality should display high levels of redistribution, since the majority of citizens have a self-interest in taxing progressively to fund generous transfer programs. By tying tax policy preferences solely to economic variables, these models seem to be missing other crucial determinants affecting the choice of policy in reality (de Souza, 2022). This mismatch holds whether a social welfare function or a pure majority voting mechanism is used for aggregation (Carroll et al., 2024).

In this paper we investigate the empirical evidence for assuming a tight link between

²In this case, lump-sum transfers are understood as accounting for government programs designed for income support of the working age population, thus not including Social Security benefits (or similar pensions) and health care. For the US, this value lies within the range of 1.3 to 2.7 percent of GDP (CBO, 2019; Ferriere et al., 2023; Guner et al., 2023; Luduvic, 2024).

voters' economic circumstances and their preferences over taxation and redistribution. To this end, we regress attitudes about taxes and government redistribution on household characteristics (e.g., income, class status) as well as broad measures of political preference, such as party identification, past voting choices, and interactions between voting behavior and ideology in the spirit of [Stantcheva \(2021\)](#). Using the 2021 sample of the General Social Survey (GSS), we find evidence that political ideology, rather than economic characteristics, is more strongly predictive of an individual's preferences toward government taxation and redistribution.

We run four regressions. The dependent variables measure, respectively, respondents' desire for the government to reduce income inequality, the level of their own federal income taxes, the level of taxes on "high incomes," and the shares of tax burdens across high and low income (i.e., progressivity). We find that the only variables that are significant in all four cases are those related to political preference. Also, in each case the specification that measures political preference through an interaction between ideological self-identification (e.g., "Conservative" or "Liberal") and past voting behavior increases the explanatory power of the regression.

There have been attempts to reconcile the model's predictions with observed policy by adjusting the aggregation mechanism. Some examples include biasing policy toward the rich, either through wealth-weighted voting ([Bachmann and Bai, 2013](#)) or by tilting the Pareto weights in the social welfare function toward the wealthy ([Chang et al., 2018](#); [Wu, 2021](#)). Others employ alternative notions of political equilibria that relax the link between economic factors and political outcomes. A widely used approach in this vein is probabilistic voting, which includes a "non-economic" shock in the household policy preference ([Persson and Tabellini, 2002](#)).

Our findings suggest that the first approach is unlikely to resolve the disparity between model-based outcomes and the data because this approach still omits non-economic factors underlying the households' tax policy preferences. The second approach appears more promising, but it requires additional structure over the distribution of shocks than is generally assumed. In order for equilibrium policy to be less redistributionary, the variance must be negatively correlated with income/wealth. While our results indicate that income and wealth are not strong determinants of policy preference, we cannot identify these correlations from our exercises.

Related Literature This paper is informed by studies from the political science literature that analyzes citizens’ preferences toward redistribution and tax progressivity. For instance, [Barnes \(2015\)](#) also uses the GSS and distinguishes preferences over taxation levels and structure and finds that the modal respondent prefers lower tax levels but favors redistribution. [Ballard-Rosa et al. \(2017\)](#) show that both economic self-interest and concerns about fairness have an effect on individual tax preferences and that the primary conflict is over how much to tax higher incomes. [Berens and Gelepithis \(2019\)](#) argue that the structure of the welfare state shapes public attitudes toward progressive taxation: high-income households’ support for redistribution is attenuated in the presence of larger welfare spending aimed at lower-income households. [Solano-García \(2022\)](#) analyzes a Downsian two-party political competition and shows that political views dominate income motives in individuals’ choices on the size of the welfare state. Our results connect these findings with the quantitative macroeconomic literature and identify ways to minimize the distance between model-based outcomes and the empirical tax policy choices.

Our work is also related to the seminal literature in economics that shows that preferences toward redistribution and progressive policies could vary by individuals’ characteristics, including race, religion, and immigration animosity, as well as self-perceptions of deservingness and mobility. ([Roemer, 1998](#); [Alesina and La Ferrara, 2005](#); [Alesina and Angeletos, 2005](#); [Lee and Roemer, 2006](#)).³ Our analysis is largely inspired by [Stantcheva \(2021\)](#), who finds that policy views are defined more by concerns about the fairness of inequality and by broader views of government than they are by concerns about efficiency. These results, as well as ours, are consistent with the evidence in [de Souza \(2022\)](#), who uses American National Election Studies (ANES) data and finds that ideological motives for preferences over redistribution dominate income motives. Reconciling the discrepancy between preferences for redistribution in the data and the model-based outcomes based mostly on economic gains, [de Souza \(2022\)](#) estimates a quantitative macroeconomic model from the micro-evidence on political attitudes and shows that agents would choose larger government if their ideological views on redistribution were disregarded. Our work supports these findings using evidence from the GSS. We also disentangle the impact of political preferences on various aspects of government redistribution and taxation policy. Furthermore, we outline the relevance of our results for other aggregation concepts in quantitative macroeconomic models and argue

³See [de Souza \(2022\)](#) for a comprehensive literature review.

that small adjustments to these concepts are unlikely to bring model predictions in-line with observed policy.

2 Data

Our data are taken from the 2021 sample of the General Social Survey (GSS). The GSS is a series of nationally representative cross-sectional interviews in the US that date back to 1972. The GSS is widely used in sociological and political science research and collects data on contemporary issues in American society with a wide range of topics. It provides standard demographic characteristics and detailed variables on political behavior and preferences over taxes and redistribution. The sample is composed of adults 18 or older in the US who live in non-institutional housing at the time of the interview. For the 2021 sample, interviews were web-based and supplemented by phone. The final sample size of the survey is 4,032 respondents.

For our sample selection and overall analysis, we follow [Stantcheva \(2021\)](#) and restrict respondents' age to a maximum of 69 years. To improve the precision in our income variable, we exclude respondents who did not answer questions about their income. [Table 1](#) summarizes the main characteristics of our sample and compares them to those of the representative US population and to the Income Tax Survey data, as shown in [Table I](#) of [Stantcheva \(2021\)](#). While our variable definitions are largely consistent with those of [Stantcheva \(2021\)](#), there are slight differences. These are mainly in the income variable, for which the pre-defined brackets of the GSS differ moderately from the brackets of the Income Tax Survey, but also in the addition of "Indigenous American" as a separate group in the race variable. We keep all possible income brackets from the two surveys in the table for ease of comparison.

Overall, our sample is representative of the US population and approximates well the one measured by the Income Tax Survey. In particular, income, race, employment status, and party affiliation align well with the US population in 2019. The main discrepancy in our sample lies in the percentage of high school graduates, which is higher than in the data and thus mechanically reduces the sample percentage of respondents with a college degree or more. Our sample also overstates the relative share of respondents who are 18 to 29 years old. Given that our income distribution is well-aligned with the population, with the usual exception of the top bracket, we expect that the overall effect of the variables on tax

preferences as well as the relative effect from political views will be preserved.

Table 1: Sample characteristics and comparison to [Stantcheva \(2021\)](#)

	GSS 2021	US Population	Income Tax Survey
Male	0.53	0.49	0.48
18-29 years old	0.36	0.24	0.23
30-39 years old	0.19	0.2	0.2
40-49 years old	0.17	0.18	0.19
50-59 years old	0.15	0.19	0.21
60-69 years old	0.14	0.19	0.18
\$0-\$19,999	0.18	0.13	0.15
\$20,000-\$39,999	0.16	0.21	0.23
\$40,000-\$74,999	0.28	-	-
\$75,000-\$109,999	0.17	-	-
\$70,000 - \$109,999	-	0.2	0.19
\$110,000+	0.21	0.31	0.24
Four-year college degree or more	0.19	0.34	0.48
High-school graduate or less	0.68	0.38	0.19
Employed	0.62	0.7	0.63
Unemployed	0.12	0.03	0.07
Self-employed	0.10	0.07	0.07
Married	0.44	0.53	0.55
White	0.70	0.61	0.76
Black/African-American	0.13	0.12	0.06
Hispanic/Latino	0.07	0.18	0.06
Asian/Asian American/Other	0.13	0.06	0.07
Indigenous American	0.03	-	-
Democrat	0.30	0.3	0.34
Republican	0.21	0.26	0.31
Independent	0.49	0.42	0.33
Voted for Clinton in the 2016 presidential election	0.27	0.48	0.44
Voted for Trump in the 2016 presidential election	0.17	0.46	0.44
Sample size	2731	-	2784

Notes: The table displays in the first column the characteristics of our sample from the GSS 2021 and compares them to the statistics for the overall US population and for the Income Tax Survey, in the second and third column, respectively, both taken directly from the numbers shown in Table I in [Stantcheva \(2021\)](#). We restrict our sample to respondents who are less than 69 years old and exclude any respondent who refused to answer questions about income. All of the statistics are adjusted using the survey design and sample weights.

3 Empirical Analysis

Using the 2021 sample of the GSS, we regress measures of attitudes toward taxation and redistribution policy on income and political preferences. The regressions include controls for respondents' gender, age, race, parental status, education, employment status, and self-

perception of class.⁴ For each attitude measure, we run four distinct regression specifications, where each specification constructs the political preference variable differently. The four constructs are party affiliation, political view as captured by the distinction between “liberal” and “conservative,” vote in the 2016 presidential election, and the interaction between vote and political view as in [Stantcheva \(2021\)](#). The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure.⁵

The most important takeaway message from the analysis is that respondents’ perceptions of tax levels, taxes on high incomes, and redistribution are remarkably different depending on how they identify themselves along the political spectrum. There is clear disagreement between groups on each of our four political preference variables. In every one of our regressions, nearly all the coefficients are of significant magnitude and of opposite signs.⁶ As in [Stantcheva \(2021\)](#), the specification containing the interaction between choice in the 2016 presidential election and ideological identification yields the most explanatory power and the richest set of political preferences.

The first regression captures views about redistribution and income inequality. The dependent variable takes a higher value based on the strength of the respondent’s disagreement with the assertion that “the government should reduce income differences between the rich and the poor.” For example, the minimum value of “1” indicates a high preference for the government to reduce income differences. [Table 2](#) displays the results under our four political preference specifications.

⁴See [Appendix A](#) for expanded regressions.

⁵We have also conducted the same analysis and regressions using a simple OLS estimator instead of the survey-weighted generalized linear model method used in the regressions shown in all tables in the main text and appendix. The results are similar both in sign and in order of magnitude of the coefficients.

⁶Our results are consistent with recent evidence using different data regarding the growth of the partisan divide over views about the fairness of the US tax system; see [Pew Research Center \(2019\)](#).

Table 2: Regressions on the determinants of redistribution preferences

	<i>Government Redistribution</i>			
	(1)	(2)	(3)	(4)
Middle Income (40,000 to 74,999 USD)	0.211 (0.143)	0.202 (0.144)	0.043 (0.175)	0.010 (0.172)
High Income (> 74,999 USD)	0.420*** (0.145)	0.578*** (0.133)	0.519*** (0.164)	0.479*** (0.155)
Republican	1.420*** (0.151)			
Democrat	-1.053*** (0.117)			
Conservative		1.733*** (0.151)		
Liberal		-1.573*** (0.107)		
Trump			0.879*** (0.293)	
Clinton			-1.717*** (0.279)	
Didn't Vote			0.051 (0.597)	
Trump x Conservative				2.477*** (0.179)
Trump x Moderate				1.413*** (0.188)
Clinton x Liberal				-1.464*** (0.124)
<i>N</i>	1,774	1,762	1,202	1,172
Adj. R^2	0.22	0.27	0.42	0.46

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “EQLWTH” of the GSS 2021, which asks respondents whether the government ought to reduce the differences between the rich and the poor, on a scale from 1 to 7, achieving the lowest value if the answer is “the government should reduce income differences,” and the highest value if the answer is “the government should not concern itself with reducing income differences.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. We report only the coefficients more related to the discussion in the text for exposition purposes; the full table can be found in Appendix A. *p<0.1; **p<0.05; ***p<0.01

The next question asks about respondents’ feelings toward their own federal tax burden. The possible answers are “too high,” “about right,” or “too low.” Once again, we report results from the four different political preference specifications. These results are displayed in Table 3. As before, there are clear and significant disagreements along the political spectrum. In contrast, while both “middle income” and “high income” are more likely than “low income” to report that their tax burden is too high, there is strong agreement across

all income brackets that the tax level is “too high.” Importantly, the differential effect from political views is of sufficient magnitude to sometimes more than offset the differential effect from income.

Table 3: Regressions on the determinants of tax levels

	<i>Level of Federal Income Tax</i>			
	(1)	(2)	(3)	(4)
Middle Income (40,000 to 74,999 USD)	-0.109** (0.043)	-0.113*** (0.044)	-0.147*** (0.052)	-0.143*** (0.051)
High Income (>74,999 USD)	-0.114*** (0.042)	-0.136*** (0.042)	-0.178*** (0.051)	-0.172*** (0.050)
Republican	-0.157*** (0.037)			
Democrat	0.092** (0.038)			
Conservative		-0.029 (0.042)		
Liberal		0.233*** (0.043)		
Trump			-0.261*** (0.067)	
Clinton			0.056 (0.067)	
Didn't Vote			-0.129 (0.124)	
Trump x Conservative				-0.231*** (0.045)
Trump x Moderate				-0.269*** (0.045)
Clinton x Liberal				0.189*** (0.051)
<i>N</i>	1,779	1,760	1,210	1,180
Adj. <i>R</i> ²	0.09	0.09	0.25	0.26

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “TAX” of the GSS 2021, which asks respondents whether they consider the amount of federal income tax they have to pay as “too high,” “about right,” or “too low.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. We report only the coefficients more related to the discussion in the text for exposition purposes; the full table can be found in Appendix A. *p<0.1; **p<0.05; ***p<0.01

While it may not be surprising that many households would prefer to lower their own tax burden, there could be more disagreement about taxing other people’s income. The next question asks whether taxes on those with “high incomes” are sufficiently high. The five possible responses range from “much too high” (1) to “much too low” (5). Since we control

for whether respondents perceive themselves as “upper class,” the effect of the income variable is potentially less confounded with the usual misperception of lower-income individuals regarding their own position in the distribution (Hvidberg et al., 2023). Again, we find that political views are significantly correlated with respondents’ attitudes toward the taxation of high incomes, with substantial disagreement between groups in each of the regressions and magnitudes that offset the effect of income whenever it is significant. The results are shown in Table 4.

Table 4: Regressions on the determinants of taxes on high incomes

	<i>Taxes on High Incomes</i>			
	(1)	(2)	(3)	(4)
Middle Income (40,000 to 74,999 USD)	0.177 (0.113)	0.185* (0.110)	0.270** (0.129)	0.333*** (0.129)
High Income (> 74,999 USD)	-0.037 (0.121)	-0.097 (0.112)	-0.182 (0.130)	-0.119 (0.132)
Republican	-0.544*** (0.114)			
Democrat	0.424*** (0.092)			
Conservative		-0.521*** (0.115)		
Liberal		0.898*** (0.093)		
Trump			-0.492** (0.199)	
Clinton			0.499** (0.193)	
Didn't Vote			-0.942*** (0.325)	
Trump x Conservative				-0.809*** (0.134)
Trump x Moderate				-0.564*** (0.136)
Clinton x Liberal				0.674*** (0.108)
<i>N</i>	1,198	1,190	822	802
Adj. <i>R</i> ²	0.11	0.15	0.29	0.30

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “TAXRICH” of the GSS 2021, which asks respondents how they would describe taxes in America today for those with high incomes, on a scale from 1 to 5, achieving the lowest value if the answer is “much too high” and the highest value if the answer is “much too low.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. We report only the coefficients more related to the discussion in the text for exposition purposes; the full table can be found in Appendix A. *p<0.1; **p<0.05; ***p<0.01

Finally, Table 5 shows the relationship of income and political views to respondents' preferences for *progressivity* of the tax schedule, i.e., whether higher-income households should have a higher share of their income taxed. A lower value of the dependent variable indicates that the respondent thinks that people with higher income should pay a "much larger share" of their income in taxes than people with low income. Just as in the previous regressions, political views are highly correlated with respondents' preferences on progressivity and the order of magnitude of the coefficient differentials dominates that of the other relevant characteristics.

Table 5: Regressions on the determinants of share of taxes for high incomes

	<i>Tax Share of High Incomes</i>			
	(1)	(2)	(3)	(4)
Middle Income (40,000 to 74,999 USD)	-0.093 (0.094)	-0.096 (0.090)	-0.122 (0.095)	-0.164* (0.093)
High Income (> 74,999 USD)	-0.045 (0.090)	0.001 (0.083)	0.127 (0.110)	0.093 (0.101)
Republican	0.394*** (0.083)			
Democrat	-0.278*** (0.074)			
Conservative		0.460*** (0.101)		
Liberal		-0.635*** (0.066)		
Clinton			-0.510*** (0.130)	
Trump			0.209 (0.136)	
Didn't Vote			0.301 (0.237)	
Trump x Conservative				0.633*** (0.113)
Trump x Moderate				0.333*** (0.094)
Clinton x Liberal				-0.590*** (0.078)
<i>N</i>	1,223	1,215	839	817
Adj. <i>R</i> ²	0.10	0.17	0.28	0.32

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “TAXSHARE” of the GSS 2021, which asks respondents whether they think people with high incomes should pay a larger share of their income in taxes than those with low incomes, on a scale from 1 to 5, achieving the lowest value if the answer is “much larger share” and the highest value if the answer is “much smaller share.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. *p<0.1; **p<0.05; ***p<0.01

4 Discussion

For quantitative economic models with income heterogeneity, an agent’s relative position within the income distribution is the primary driver of their preference for the level and distribution of tax rates and for the desire for redistribution. However, our regressions indicate that these preferences are more strongly associated with type-specific political identification

than with demographic and socio-economic characteristics. In all our regressions, the interaction variable between 2016 presidential election vote and ideological identification had the most significance for explaining respondents' attitudes towards taxes and transfers.

We view this result as evidence that there is much more “noise” in the decision process of a household when voting for a tax policy than the analysis of pure economic factors would imply. One implication of this for quantitative modeling is that one must add features that decouple voting activity from economic variables. For this reason, probabilistic voting could be a promising modeling strategy because it explicitly accounts for “non-economic” aspects of voting behavior. Under probabilistic voting, a household's tax or redistribution preference may be attenuated by other unrelated policy. The likelihood that a household supports a candidate's tax policy is a function of the distance between the household's ideal tax policy and the candidate's tax platform distorted by a “non-economic” shock. As explained in [Persson and Tabellini \(2002\)](#), the winning tax policy is the one that aligns most closely with the tax preferences of the most “swingable” voters (i.e., those with the lowest variance of “non-economic” shocks).

Within this framework, a subset of low-income households may vote against redistributionary policy if their “non-economic” preference shock is large enough to counteract their economic interest. However, if the model predictions for progressivity and redistribution are to match observed policies, then it must be the case that the variance of the noise distribution is asymmetric across the income distribution. Specifically, the variance of these “non-economic” *shocks* must be greater for those agents who stand to benefit the most from redistributionary policies, namely, the poor. While our findings do not offer evidence for or against this conjecture, we believe it warrants future research.

5 Conclusion

We have shown that household preferences over taxation and redistribution are more strongly associated with non-economic factors, such as political identity than with other demographic and socio-economic characteristics. This fact could underlie a number of anomalies in quantitative models of endogenous tax determination, where the selected tax systems often diverge substantially from observed ones. Careful empirical work to uncover the nature of the correlations of these political identifications and economic variables could provide a pathway to

a better foundation for macroeconomic models to account for how policies are determined in reality.

References

- Alesina, Alberto and George-Marios Angeletos (2005). “Fairness and Redistribution.” *American Economic Review*, 95(4), pp. 960–980. doi:[10.1257/0002828054825655](https://doi.org/10.1257/0002828054825655).
- Alesina, Alberto and Eliana La Ferrara (2005). “Preferences for redistribution in the land of opportunities.” *Journal of Public Economics*, 89(5-6), pp. 897–931. doi:[10.1016/j.jpubeco.2004.05.009](https://doi.org/10.1016/j.jpubeco.2004.05.009).
- Azzimonti, Marina, Eva De Francisco, and Per Krusell (2008). “Aggregation and Aggregation.” *Journal of the European Economic Association*, 6(2-3), pp. 381–394. doi:[10.1162/JEEA.2008.6.2-3.381](https://doi.org/10.1162/JEEA.2008.6.2-3.381).
- Bachmann, Rüdiger and Jinhui H. Bai (2013). “Politico-economic inequality and the co-movement of government purchases.” *Review of Economic Dynamics*, 16(4), pp. 565–580. doi:[10.1016/j.red.2012.09.008](https://doi.org/10.1016/j.red.2012.09.008).
- Ballard-Rosa, Cameron, Lucy Martin, and Kenneth Scheve (2017). “The Structure of American Income Tax Policy Preferences.” *The Journal of Politics*, 79(1), pp. 1–16. doi:[10.1086/687324](https://doi.org/10.1086/687324).
- Barnes, Lucy (2015). “The size and shape of government: preferences over redistributive tax policy.” *Socio-Economic Review*, 13(1), pp. 55–78. doi:[10.1093/ser/mwu007](https://doi.org/10.1093/ser/mwu007).
- Berens, Sarah and Margarita Gelepithis (2019). “Welfare state structure, inequality, and public attitudes towards progressive taxation.” *Socio-Economic Review*, 17(4), pp. 823–850. doi:[10.1093/ser/mwx063](https://doi.org/10.1093/ser/mwx063).
- Boar, Corina and Virgiliu Midrigan (2022). “Efficient redistribution.” *Journal of Monetary Economics*, 131, pp. 78–91. doi:[10.1016/j.jmoneco.2022.07.003](https://doi.org/10.1016/j.jmoneco.2022.07.003).
- Carey, David and Josette Rabesona (2003). “Tax Ratios on Labour and Capital Income and on Consumption.” *OECD Economic Studies*, 2002(2), pp. 129–174. doi:[10.1787/eco_studies-v2002-art11-en](https://doi.org/10.1787/eco_studies-v2002-art11-en).

- Carroll, Daniel R., Jim Dolmas, and Eric R. Young (2021). “The politics of flat taxes.” *Review of Economic Dynamics*, 39, pp. 174–201. doi:[10.1016/j.red.2020.06.016](https://doi.org/10.1016/j.red.2020.06.016).
- Carroll, Daniel R., André Victor D. Luduvicé, and Eric R. Young (2024). “Optimal fiscal reform with many taxes.” Working paper (Federal Reserve Bank of Cleveland). doi:[10.26509/frbc-wp-202307r](https://doi.org/10.26509/frbc-wp-202307r). Series: Working paper (Federal Reserve Bank of Cleveland).
- CBO (2019). “Mandatory spending in 2018: An infographic.” Technical report, Congressional Budget Office, Washington, D.C.
- Chang, Bo Hyun, Yongsung Chang, and Sun-Bin Kim (2018). “Pareto weights in practice: A quantitative analysis across 32 OECD countries.” *Review of Economic Dynamics*, 28, pp. 181–204. doi:[10.1016/j.red.2017.08.002](https://doi.org/10.1016/j.red.2017.08.002).
- de Souza, Gustavo (2022). “On the Political and Economic Determinants of Redistribution: Economic Gains, Ideological Gains, or Institutions?” Working paper 2022-47, Federal Reserve Bank of Chicago. doi:[10.21033/wp-2022-47](https://doi.org/10.21033/wp-2022-47).
- Dyrda, Sebastian and Marcelo Pedroni (2023). “Optimal Fiscal Policy in a Model with Uninsurable Idiosyncratic Income Risk.” *The Review of Economic Studies*, 90(2), pp. 744–780. doi:[10.1093/restud/rdac031](https://doi.org/10.1093/restud/rdac031).
- Ferriere, Axelle, Philipp Grübener, Gaston Navarro, and Oliko Vardishvili (2023). “On the Optimal Design of Transfers and Income Tax Progressivity.” *Journal of Political Economy Macroeconomics*, 1(2), pp. 276–333. doi:[10.1086/725034](https://doi.org/10.1086/725034).
- Guner, Nezih, Remzi Kaygusuz, and Gustavo Ventura (2023). “Rethinking the welfare state.” *Econometrica*, 91(6), pp. 2261–2294. doi:[10.3982/ECTA19921](https://doi.org/10.3982/ECTA19921).
- Hvidberg, Kristoffer B, Claus T Kreiner, and Stefanie Stantcheva (2023). “Social Positions and Fairness Views on Inequality.” *Review of Economic Studies*, 90(6), pp. 3083–3118. doi:[10.1093/restud/rdad019](https://doi.org/10.1093/restud/rdad019).
- Krusell, Per and José-Víctor Ríos-Rull (1999). “On the Size of US Government: Political Economy in the Neoclassical Growth Model.” *American Economic Review*, 89(5), pp. 1156–1181. doi:[10.1257/aer.89.5.1156](https://doi.org/10.1257/aer.89.5.1156).

- Lee, Woojin and John E. Roemer (2006). “Racism and redistribution in the United States: A solution to the problem of American exceptionalism.” *Journal of Public Economics*, 90(6-7), pp. 1027–1052. doi:[10.1016/j.jpubeco.2005.08.008](https://doi.org/10.1016/j.jpubeco.2005.08.008).
- Luduvicé, André Victor Doherty (2024). “The macroeconomic effects of universal basic income programs.” *Journal of Monetary Economics*, p. 103615. doi:[10.1016/j.jmoneco.2024.103615](https://doi.org/10.1016/j.jmoneco.2024.103615).
- McDaniel, Cara (2007). “Average Tax Rates on Consumption, Investment, Labor, and Capital in the OECD 1950-2003.” Technical report. URL <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=c7f5ff20102c4434e653ba2af3f2acb114daf1da>.
- Mendoza, Enrique G., Assaf Razin, and Linda L. Tesar (1994). “Effective tax rates in macroeconomics: Cross-country estimates of tax rates on factor incomes and consumption.” *Journal of Monetary Economics*, 34(3), pp. 297–323. doi:[10.1016/0304-3932\(94\)90021-3](https://doi.org/10.1016/0304-3932(94)90021-3).
- OECD (2023). “Sizing up Welfare States: How do OECD countries compare?” URL <https://oecdstatistics.blog/2023/02/02/sizing-up-welfare-states-how-do-oecd-countries-compare/>.
- Persson, Torsten and Guido Tabellini (2002). *Political Economics: Explaining Economic Policy*. MIT Press.
- Pew Research Center (2019). “Growing Partisan Divide Over Fairness of the Nation’s Tax System.” Report, Pew Research. URL <https://www.pewresearch.org/politics/2019/04/04/growing-partisan-divide-over-fairness-of-the-nations-tax-system-2/>.
- Roemer, John E. (1998). “Why the poor do not expropriate the rich: an old argument in new garb.” *Journal of Public Economics*, 70(3), pp. 399–424. doi:[10.1016/S0047-2727\(98\)00042-5](https://doi.org/10.1016/S0047-2727(98)00042-5).
- Solano-García, Ángel (2022). “Income inequality, voters’ support for public spending and the size of the welfare state. A simple political model.” *PLOS ONE*, 17(11), p. e0277256. doi:[10.1371/journal.pone.0277256](https://doi.org/10.1371/journal.pone.0277256).
- Stantcheva, Stefanie (2021). “Understanding Tax Policy: How do People Reason?” *The Quarterly Journal of Economics*, 136(4), pp. 2309–2369. doi:[10.1093/qje/qjab033](https://doi.org/10.1093/qje/qjab033).

Trabandt, Mathias and Harald Uhlig (2011). “The Laffer Curve revisited.” *Journal of Monetary Economics*, 58(4), pp. 305–327. doi:[10.1016/j.jmoneco.2011.07.003](https://doi.org/10.1016/j.jmoneco.2011.07.003).

Wu, Chunzan (2021). “More unequal income but less progressive taxation.” *Journal of Monetary Economics*, 117, pp. 949–968. doi:[10.1016/j.jmoneco.2020.07.005](https://doi.org/10.1016/j.jmoneco.2020.07.005).

Appendix

A Expanded Regressions

We show in Tables 7 to 9 the expanded regressions shown in Tables 3 to 5. The expanded tables display the coefficients for all the control variables.

Table 6: Regressions on the determinants of redistribution preferences

	<i>Government Redistribution</i>			
	(1)	(2)	(3)	(4)
Female	-0.115 (0.109)	-0.169* (0.102)	0.124 (0.120)	-0.054 (0.113)
Age: 30 to 49	0.421*** (0.161)	0.365** (0.162)	0.202 (0.219)	0.158 (0.201)
Age: 50 to 69	0.764*** (0.167)	0.582*** (0.169)	0.388* (0.230)	0.195 (0.214)
Black/African-American	-0.273 (0.170)	-0.613*** (0.175)	0.021 (0.196)	-0.373* (0.192)
Hispanic/Latino	-0.494* (0.264)	-0.526** (0.217)	-0.494 (0.388)	-0.569 (0.430)
Asian, Pacific Islander, or Other	-0.170 (0.203)	-0.292* (0.169)	-0.130 (0.256)	-0.257 (0.240)
Indigenous American	-0.265 (0.287)	-0.326 (0.304)	-0.910** (0.372)	-0.952** (0.393)
Parent	0.021 (0.122)	-0.232* (0.123)	0.078 (0.149)	-0.185 (0.145)
College Degree	-0.140 (0.114)	-0.110 (0.103)	-0.180 (0.125)	-0.063 (0.119)
Employed	0.169 (0.136)	0.096 (0.129)	-0.040 (0.152)	-0.011 (0.145)
Unemployed	-0.444* (0.228)	-0.482** (0.202)	-0.624** (0.272)	-0.580** (0.255)
Middle Income (40,000 to 74,999 USD)	0.211 (0.143)	0.202 (0.144)	0.043 (0.175)	0.010 (0.172)
High Income (> 74,999 USD)	0.420*** (0.145)	0.578*** (0.133)	0.519*** (0.164)	0.479*** (0.155)
Upper Class	-0.034 (0.261)	0.063 (0.241)	0.253 (0.275)	0.223 (0.279)
Republican	1.420*** (0.151)			
Democrat	-1.053*** (0.117)			
Liberal		-1.573*** (0.107)		
Conservative		1.733*** (0.151)		
Clinton			-1.717*** (0.279)	
Trump			0.879*** (0.293)	
Didn't Vote			0.051 (0.597)	
Trump x Conservative				2.477*** (0.179)
Trump x Moderate				1.413*** (0.188)
Clinton x Liberal				-1.464*** (0.124)
<i>N</i>	1,774	1,762	1,202	1,172
Adj. <i>R</i> ²	0.22	0.27	0.42	0.46

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “EQLWTH” of the GSS 2021, which asks respondents whether the government ought to reduce the differences between the rich and the poor, on a scale from 1 to 7, achieving the lowest value if the answer is “the government should reduce income differences” and the highest value if the answer is “the government should not concern itself with reducing income differences.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. *p<0.1; **p<0.05; ***p<0.01

Table 7: Regressions on the determinants of tax levels

	<i>Level of Federal Income Tax</i>			
	(1)	(2)	(3)	(4)
Female	-0.063*	-0.053*	-0.061*	-0.061*
	(0.032)	(0.032)	(0.034)	(0.034)
Age: 30 to 49	-0.016	-0.009	0.021	0.018
	(0.052)	(0.051)	(0.065)	(0.066)
Age: 50 to 69	-0.069	-0.058	-0.024	-0.010
	(0.053)	(0.053)	(0.066)	(0.068)
Black/African-American	-0.079	-0.011	-0.257***	-0.207***
	(0.051)	(0.049)	(0.052)	(0.053)
Hispanic/Latino	0.097	0.117	-0.102	-0.070
	(0.100)	(0.107)	(0.120)	(0.123)
Asian, Pacific Islander, or Other	0.070	0.109*	0.072	0.066
	(0.068)	(0.066)	(0.082)	(0.081)
Indigenous American	-0.129	-0.104	-0.224***	-0.179**
	(0.082)	(0.086)	(0.085)	(0.086)
Parent	-0.023	-0.011	0.020	0.036
	(0.037)	(0.037)	(0.041)	(0.042)
College Degree	0.146***	0.146***	0.135***	0.123***
	(0.033)	(0.034)	(0.037)	(0.038)
Employed	-0.111***	-0.095**	-0.096**	-0.080*
	(0.039)	(0.040)	(0.044)	(0.043)
Unemployed	-0.128*	-0.109	-0.172**	-0.156*
	(0.072)	(0.073)	(0.080)	(0.083)
Middle Income (40,000 to 74,999 USD)	-0.109**	-0.113***	-0.147***	-0.143***
	(0.043)	(0.044)	(0.052)	(0.051)
High Income (> 74,999 USD)	-0.114***	-0.136***	-0.178***	-0.172***
	(0.042)	(0.042)	(0.051)	(0.050)
Upper Class	0.263**	0.229**	0.266***	0.264***
	(0.112)	(0.108)	(0.100)	(0.096)
Republican	-0.157***			
	(0.037)			
Democrat	0.092**			
	(0.038)			
Liberal		0.233***		
		(0.043)		
Conservative		-0.029		
		(0.042)		
Clinton			0.056	
			(0.067)	
Trump			-0.261***	
			(0.067)	
Didn't Vote			-0.129	
			(0.124)	
Trump x Conservative				-0.231***
				(0.045)
Trump x Moderate				-0.269***
				(0.045)
Clinton x Liberal				0.189***
				(0.051)
<i>N</i>	1,779	1,760	1,210	1,180
Adj. <i>R</i> ²	0.09	0.09	0.25	0.26

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “TAX” of the GSS 2021, which asks respondents whether they consider the amount of federal income tax they have to pay as “too high,” “about right,” or “too low.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. *p<0.1; **p<0.05; ***p<0.01

Table 8: Regressions on the determinants of taxes on high incomes

	<i>Taxes on High Incomes</i>			
	(1)	(2)	(3)	(4)
Female	-0.006 (0.082)	0.026 (0.080)	-0.039 (0.088)	0.002 (0.088)
Age: 30 to 49	0.008 (0.140)	0.024 (0.131)	0.311** (0.157)	0.331** (0.156)
Age: 50 to 69	0.036 (0.145)	0.122 (0.140)	0.212 (0.153)	0.329** (0.158)
Black/African-American	-0.520*** (0.156)	-0.302** (0.142)	-0.658*** (0.162)	-0.432*** (0.154)
Hispanic/Latino	0.042 (0.242)	0.034 (0.234)	-0.015 (0.223)	-0.030 (0.263)
Asian, Pacific Islander, or Other	-0.223 (0.182)	-0.115 (0.166)	0.222 (0.245)	0.201 (0.233)
Indigenous American	0.141 (0.212)	0.236 (0.193)	0.048 (0.275)	0.118 (0.263)
Parent	0.006 (0.101)	0.165* (0.098)	-0.058 (0.106)	0.023 (0.108)
College Degree	0.366*** (0.090)	0.319*** (0.085)	0.358*** (0.094)	0.279*** (0.094)
Employed	-0.231** (0.105)	-0.189* (0.101)	-0.351*** (0.106)	-0.291*** (0.107)
Unemployed	0.120 (0.159)	0.175 (0.157)	-0.109 (0.164)	-0.030 (0.172)
Middle Income (40,000 to 74,999 USD)	0.177 (0.113)	0.185* (0.110)	0.270** (0.129)	0.333*** (0.129)
High Income (> 74,999 USD)	-0.037 (0.121)	-0.097 (0.112)	-0.182 (0.130)	-0.119 (0.132)
Upper Class	0.234 (0.285)	0.046 (0.252)	-0.119 (0.303)	-0.136 (0.307)
Republican	-0.544*** (0.114)			
Democrat	0.424*** (0.092)			
Liberal		0.898*** (0.093)		
Conservative		-0.521*** (0.115)		
Clinton			0.499** (0.193)	
Trump			-0.492** (0.199)	
Didn't Vote			-0.942*** (0.325)	
Trump x Conservative				-0.809*** (0.134)
Trump x Moderate				-0.564*** (0.136)
Clinton x Liberal				0.674*** (0.108)
<i>N</i>	1,198	1,190	822	802
Adj. <i>R</i> ²	0.11	0.15	0.29	0.30

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “TAXRICH” of the GSS 2021, which asks respondents how they would describe taxes in America today for those with high incomes, on a scale from 1 to 5, achieving the lowest value if the answer is “much too high” and the highest value if the answer is “much too low.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. *p<0.1; **p<0.05; ***p<0.01

Table 9: Regressions on the determinants of share of taxes for high incomes

	<i>Tax Share of High Incomes</i>			
	(1)	(2)	(3)	(4)
Female	-0.030 (0.064)	-0.043 (0.062)	0.096 (0.074)	0.061 (0.070)
Age: 30 to 49	0.086 (0.112)	0.063 (0.108)	0.092 (0.145)	0.083 (0.132)
Age: 50 to 69	0.058 (0.114)	-0.010 (0.111)	0.090 (0.142)	0.015 (0.131)
Black/African-American	0.231* (0.134)	0.090 (0.125)	0.288*** (0.104)	0.141 (0.105)
Hispanic/Latino	-0.229 (0.143)	-0.207 (0.156)	-0.163 (0.137)	-0.185 (0.198)
Asian, Pacific Islander, or Other	0.099 (0.149)	0.029 (0.145)	0.252 (0.262)	0.253 (0.244)
Indigenous American	-0.376** (0.158)	-0.436*** (0.148)	-0.412** (0.186)	-0.484*** (0.175)
Parent	0.063 (0.076)	-0.057 (0.071)	-0.014 (0.088)	-0.120 (0.080)
College Degree	-0.176*** (0.067)	-0.135** (0.063)	-0.187** (0.083)	-0.136* (0.076)
Employed	0.202*** (0.078)	0.165** (0.075)	0.204*** (0.079)	0.164** (0.076)
Unemployed	-0.139 (0.118)	-0.153 (0.115)	-0.005 (0.160)	-0.053 (0.150)
Middle Income (40,000 to 74,999 USD)	-0.093 (0.094)	-0.096 (0.090)	-0.122 (0.095)	-0.164* (0.093)
High Income (> 74,999 USD)	-0.045 (0.090)	0.001 (0.083)	0.127 (0.110)	0.093 (0.101)
Upper Class	0.197 (0.227)	0.314 (0.231)	0.424* (0.232)	0.458** (0.230)
Republican	0.394*** (0.083)			
Democrat	-0.278*** (0.074)			
Liberal		-0.635*** (0.066)		
Conservative		0.460*** (0.101)		
Clinton			-0.510*** (0.130)	
Trump			0.209 (0.136)	
Didn't Vote			0.301 (0.237)	
Trump x Conservative				0.633*** (0.113)
Trump x Moderate				0.333*** (0.094)
Clinton x Liberal				-0.590*** (0.078)
<i>N</i>	1,223	1,215	839	817
Adj. <i>R</i> ²	0.10	0.17	0.28	0.32

Notes: The table shows regressions of political choices on taxation preferences. The dependent variable for columns (1)-(4) is the categorical variable “TAXSHARE” of the GSS 2021, which asks respondents whether they think people with high incomes should pay a larger share of their income in taxes than those with low incomes, on a scale from 1 to 5, achieving the lowest value if the answer is “much larger share” and the highest value if the answer is “much smaller share.” Regressions (1)-(4) all include controls for sex, age, race, self-perceived income class, being a parent, education, and employment status. The omitted category for income is “Low Income” for columns (1)-(4). For column (1), we omit “Independent”; for column (2), we omit “Moderate”; for column (3), we omit “Other”; and for column (4), we omit “Clinton x Moderate.” The regressions are obtained via a survey-weighted generalized linear model using the GSS sampling structure. *p<0.1; **p<0.05; ***p<0.01