

Appendix

Taxing the 1 percent: Public opinion vs. public policy

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06 June, 2023

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1 Methodological Details

1.1 Estimating support for tax cuts among different social groups (Study 1)

The estimates presented in Manuscript Figure 2 are conditional means obtained from three OLS regression models on a pooled dataset (Norwegian National Election Studies 1965, 1977-1997; n=13,573). For each variable of interest (income, education, and party, respectively), an OLS-model was specified with support for high-income tax cuts as the DV. On the IV-side, the variable of interest was interacted with a categorical survey-wave variable. Before running the regression models, the income and education variables were transformed to deciles. They were then included as categorical variables in the regression models.

1.2 Measuring actual effective tax rates for different incomes (Study 2)

In order to capture the actual tax rate paid at different levels of income, the quantity of interest is the *average effective income tax rate*; that is, the total amount of paid income tax as a share of gross income. To that end, Statistics Norway included two measures of paid tax: *total assessed tax* and *wealth tax*. Total assessed tax is the sum of all income tax and wealth tax paid to municipality, county, and state, as well as National Insurance Scheme members' contributions. To obtain a measure of average income tax rate, I subtracted the wealth tax from total assessed tax, and divided the remaining amount on gross income. This adjustment is important for two reasons. First, as the name suggests, the wealth tax is not a tax on any flow of income but a tax on capital stock.¹ Second, even though one could conceive of the wealth tax as a tax on the return to capital, it would be misleading to include it when measuring a person's income tax rate, if one does not simultaneously

¹As of February 2021 the rate is 0.85 percent (see <https://www.skatteetaten.no/satser/formuesskatt/>, accessed 02.08.2021)

include total return to capital (i.e. both realized and unrealized capital gains) in the concept of income. In theory, including wealth tax but not total wealth *gains* could lead one to the obviously erroneous conclusion that some people in Norway pay more than 100 percent in tax.² Unrealized capital gains are not included in Statistics Norway’s concept of income, and therefore the wealth tax should not be included in the concept of income tax. It is important to emphasize however, that a more complete measure of income and tax, including unrealized capital gains on the income side and wealth tax and corporate tax on the tax side, leads to *lower*, not higher, tax rates for the highest incomes than what I present here (Aaberge, Modalsli, and Vestad 2020).

1.3 Eliciting respondents’ tax rate knowledge (Study 2)

As part of the NCP 2020 survey, respondents were asked to guess how much tax (as % of gross income) they thought a person with a given income would pay in Norway today. The following question was put to respondents:

With the current tax system, what do you think the average tax rate is for a person earning [X] kroner a year? In other words, how much of their entire income do you think the person pays in income tax? Here, 0% would mean that you think the person does not pay any income tax on their income.

The survey item was coded so that X was randomly replaced with one of the ten annual incomes listed in Manuscript Table 2. Each respondent evaluated one income.

All estimates from the NCP survey are weighted according the post-stratification weight provided by the surveyor. They are based on gender, age, education, and region of

²Such a claim was in fact made by one Norwegian newspaper in 2015. It said that the Norwegian business magnate Bjørn Kjos “had to pay 1,900 percent in tax”. The seemingly extraordinary number is simply explained by the fact that the newspaper chose to include wealth tax as part of Kjos’ tax, but to ignore his capital income as part of his income, only considering his relatively modest \$170,000 salary as CEO (<https://www.nettavisen.no/kjos-ma-betale-1-900-prosent-i-skatt/s/12-95-8522427>, accessed 01.30.2021).

residence.

1.4 YouGov survey questionnaire (Study 3)

The goal of the YouGov survey was to elicit respondents' preferred tax rates for specific incomes covering the full income distribution, broken down by the source of the income (labor vs. capital).

The respondents are randomly assigned into either Group 1 or Group 2. The difference between the groups is that Group 1 evaluates first labor income then capital income, while Group 2 gets the opposite order. All respondents enter 10 tax rates in each of the batteries (one for each of the people in the table below the question text). The respondents are able to enter any integer between 0 and 100 (0, 1, 2, ... 100). Numbers below 0 or above 100 are not allowed. Both questions are forced.

Question text for Group1_Q1:

In the next two questions, we want to know how much you think different made-up people should pay in taxes on their income. We will first show you people who have their income solely from work, and then people who have their income solely from investments of capital.

We first ask you to look at the list below, which contains a number of people with different annual incomes. Common to them all is that their income is earned income (i.e. wages they receive from their jobs).

Please enter for each of them what you think the tax rate on their earned income should be, ie how much of the entire income you think they should pay in taxes. 0% will mean that you think the person should not pay any tax on the income.

Question text for Group1_Q2:

In this question, we have also listed a number of imaginary people with different

annual incomes. In this case, however, it is not a question of earned income, but so-called capital income (i.e. income the persons have received from investments, such as the sale of shares, dividends, or rental of housing).

Please enter for each of them what you think the tax rate on their capital income should be, ie how much of the entire income you think they should pay in tax. 0% will mean that you think the person should not pay any tax on the income

Question text for Group2_Q1:

In the next two questions, we want to know how much you think different made-up people should pay in taxes on their income. We will first show you people who have their income exclusively from investments of capital, and then people who have their income exclusively from work.

We first ask you to look at the list below, which contains a number of people with different annual incomes. Common to them all is that their income is so-called capital income (that is, income the persons have received from investments, such as the sale of shares, dividends, or rental of housing).

Please enter for each of them what you think the tax rate on their capital income should be, ie how much of the entire income you think they should pay in tax. 0% will mean that you think the person should not pay any tax on the income.

Question text for Group2_Q2:

In this question, we have also listed a number of imaginary people with different annual incomes. In this case, however, it is not a question of capital income, but earned income (i.e. wages they receive from their jobs).

Please enter for each of them what you think the tax rate on their capital income should be, ie how much of the entire income you think they should pay in tax. 0% will mean that you think the person should not pay any tax on the income.

1.5 Actual tax rates for labor incomes and capital incomes (Study 3)

In the Norwegian system, labor income is taxed progressively from 0 to 46.4 percent (53 percent if one includes employer’s national insurance contributions). Capital income is taxed at a flat 22 percent rate. Certain capital incomes—capital gains and stock dividends—are taxed at a somewhat higher effective rate of 31.68 percent (See <https://www.skatteetaten.no/satser/>; accessed October 27, 2021).

When it comes to dividends people sometimes report the combined rate of the personal dividends tax and the corporate tax, assuming that the corporate tax falls completely on the investor. However, economists who have studied the incidence of the corporate tax often find that most of it falls on labor wages. A recent review of the literature noted that “[t]hese studies appear to show that labor bears between 50 percent and 100 percent of the burden of the corporate income tax, with 70 percent or higher the most likely outcome” (Enthlin 2017).

The effective tax rates for labor incomes and capital incomes used for the comparison with public opinion estimates in Study 3 were derived from the tax calculator provided by The Norwegian Tax Administration (available at <https://skattekalkulator.app.skatteetaten.no/#/>; accessed October 26, 2021). Thus, they are not based on any actual people’s tax bills (like the average tax rates in Study 2; see Section 1.2 here). This is because the hypothetical income earners that respondents evaluate in the YouGov survey are ideal types: They have *all* of their income from either labor or capital, and are thus not easily matched with any actual tax payer.

1.6 Revenue gain from increasing taxes on the top 1 percent

There are many possible ways one could try to estimate the government revenue gain from increasing taxes on the top 1 percent according to the average public preference. Here, I

do a rough calculation based on the current incomes and tax rates for the top 1 percent reported by Aaberge, Modalsli, and Vestad (2020).³ Specifically, I calculate the percentage change in government revenue of implementing citizens' average preferred tax rate for the top 1 percent (as reported in the manuscript), using the following formula:

$$\% \Delta Revenue = \frac{\mu n (t_p - t_a)}{R} 100$$

Where:

μ is the average gross income among earners in the top 1%⁴

n is the number of earners in the top 1%⁵

t_p is the average preferred tax rate for the top 1%⁶

t_a is the average actual tax rate for the top 1%⁷

R is government's total revenue for 2021⁸

Filling in values based on the data indicated in footnotes gives:

$$\% \Delta Revenue = \frac{8.251m * 43806 * (0.446 - 0.198)}{1294332m} 100 = \frac{89638m}{1294332m} 100 = 6.93\%$$

Where m is million Norwegian kroner (NOK). This estimate suggests that increasing the average tax rate paid in the top 1 percent from what it is today to what Norwegians on

³I use the numbers reported by Aaberge, Modalsli, and Vestad (2020) instead of the ones used in the paper because the ones in the paper were constructed to capture average tax rates for *points* in the income distribution whereas the numbers reported by Aaberge, Modalsli, and Vestad (2020) are averaged across the whole top 1 percent. They are also more complete in terms of calculating revenue effects because they use a more comprehensive measure of income.

⁴Extracted from <https://www.ssb.no/inntekt-og-forbruk/artikler-og-publikasjoner/ulikheten-betydelig-storre-enn-statistikken-viser?tabell=432469> (accessed 17 January 2023).

⁵Extracted from <https://www.ssb.no/statbank/table/08409/tableViewLayout1/> (accessed 17 January 2023).

⁶The average tax rate given by respondents across the four income amounts within the top 1 percent in Manuscript Table 2 is 44.6%.

⁷Extracted from <https://www.ssb.no/inntekt-og-forbruk/artikler-og-publikasjoner/ulikheten-betydelig-storre-enn-statistikken-viser?tabell=432469> (accessed 17 January 2023).

⁸Extracted from <https://www.ssb.no/offentlig-sektor/statlige-finanser/statistikk/statsregnskapets-inntekter-og-utgifter/> (accessed 19 January 2023). Expressed in 2015 NOK to be comparable to data for μ .

average prefer, would raise roughly 90 billion NOK, which is equivalent to ~7 percent of total government revenues for 2021.

Of course, this calculation is a simplification. It does not take into account how changing the tax rates paid by the rich might alter economic incentives for investment, or the extent to which the rich might try to retaliate against an increased tax burden by e.g. moving abroad. What it does however, is to give a rough indication of how much money is at stake when it comes to the gap between actual tax rates and those preferred by citizens.

2 Additional Results

2.1 Respondents' beliefs about actual tax rates

Are citizens aware of the discrepancy between their preferences and the actual tax system shown in Figure 1 in the manuscript? Figure A11 plots both the average preferred rates, and actual rates from 2018. In addition, it plots what respondents in the NCP survey *believed* to be the effective tax rate paid at the different income levels. Consistently, respondents overestimate what people at “normal” incomes pay in tax. One possible explanation for this is that respondents try to guess rates based on their own income tax rate each month. However, the tax rate on labor income that is drawn each month from a Norwegian worker’s pay check is somewhat higher (about 5 points) than their actual annual tax rate. This is because tax is only drawn during 10.5 months of the calendar year.

On the other hand, respondents are surprisingly skilled at guessing what earners at the top pay: For the six highest incomes, respondents are off by less than 3 percentage points for all but the very highest income. Overall, citizens correctly identify the “flatness” of the structure: they believe a person earning \$55,000 pays about as much as someone earning \$11,000,000, a belief that turns out to be quite accurate (except for the fact that both earners pay less than what respondents believe to be the case). However, they do not seem to know about the regressivity at the top of the distribution. Respondents on average set the tax

rate for both the \$550,000 earner and the the \$11 mil. earner to around 35%. This is correct for the former, but for the latter it is about 10 points to high (the \$11 mil. earner pays about 25%). It seems that Norwegians are relatively pessimistic in their assessment of the progressivity of the income tax, but, as it turns out, not pessimistic enough.

2.2 Additional Figures

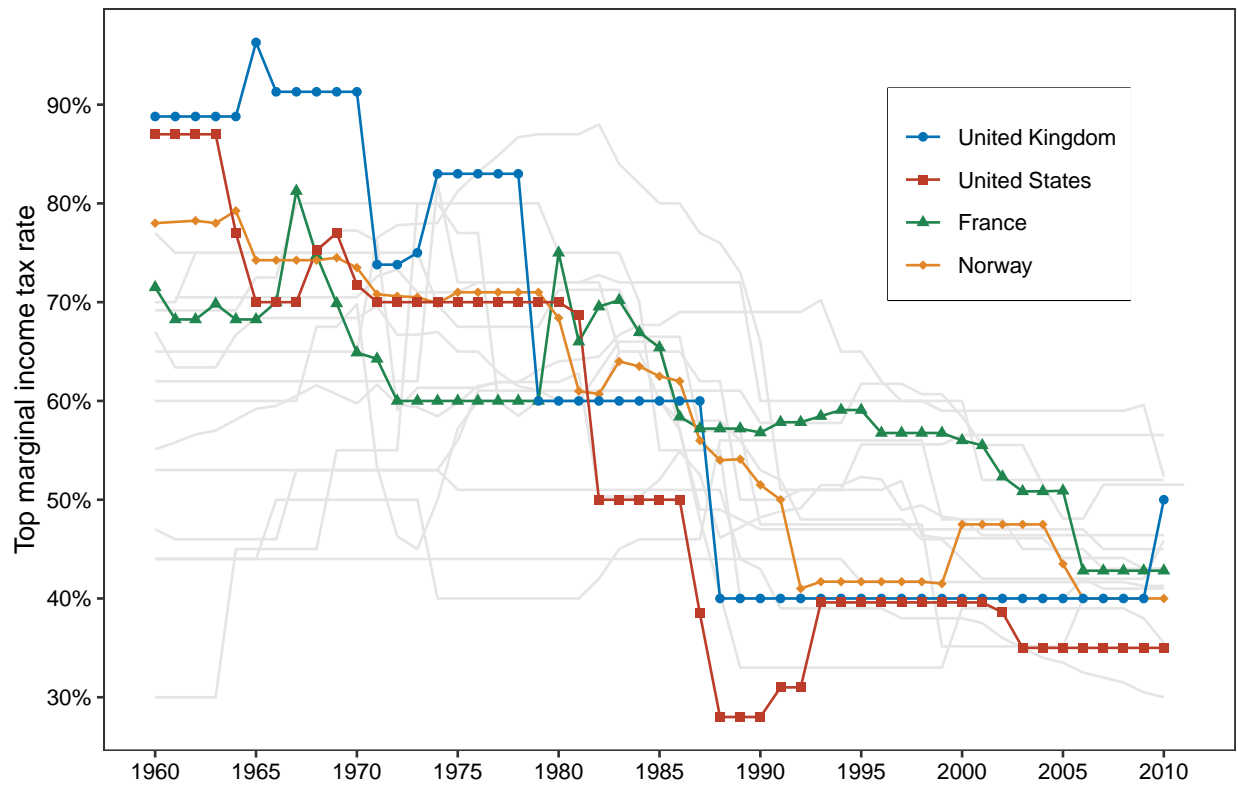


Figure A1: The evolution of the top marginal income tax rate in OECD countries. Source: Tax rates from Piketty, Saes, and Stantcheva (2014).

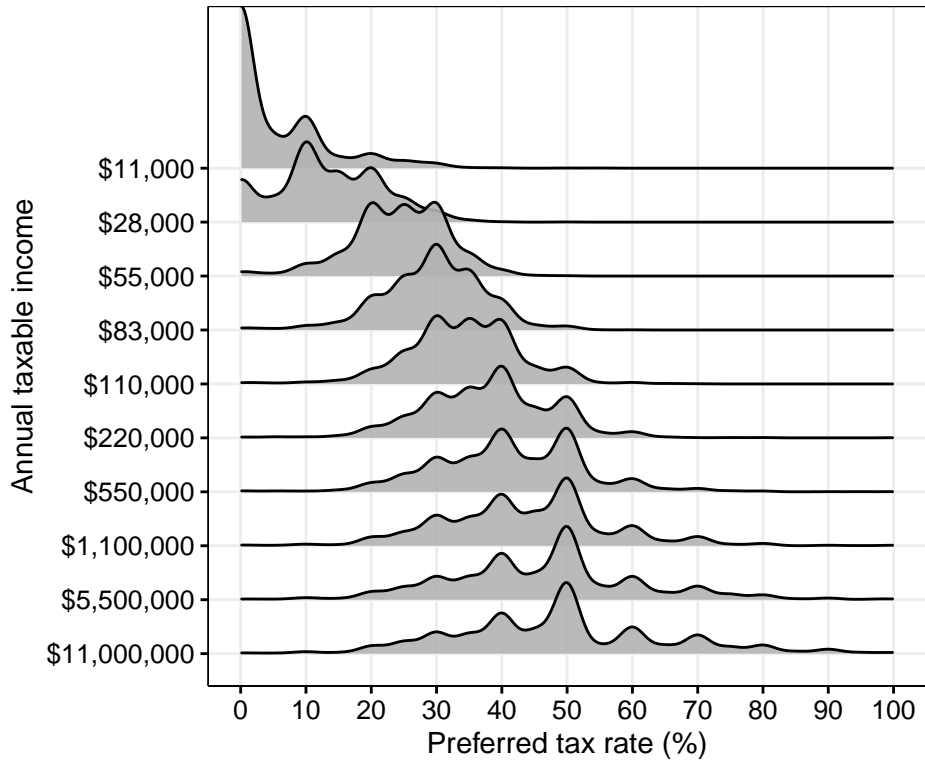


Figure A2: Distributions of preferred tax rates for different annual incomes

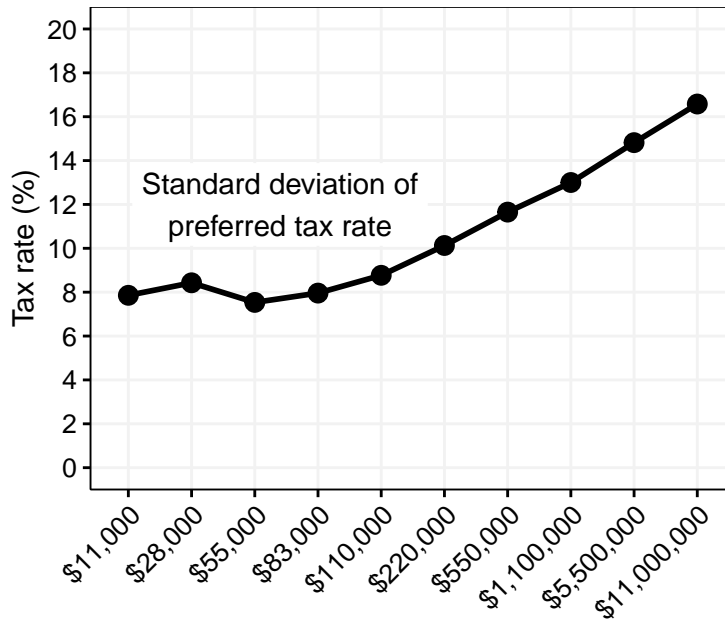


Figure A3: Standard deviation of tax rate preferences for different annual incomes.

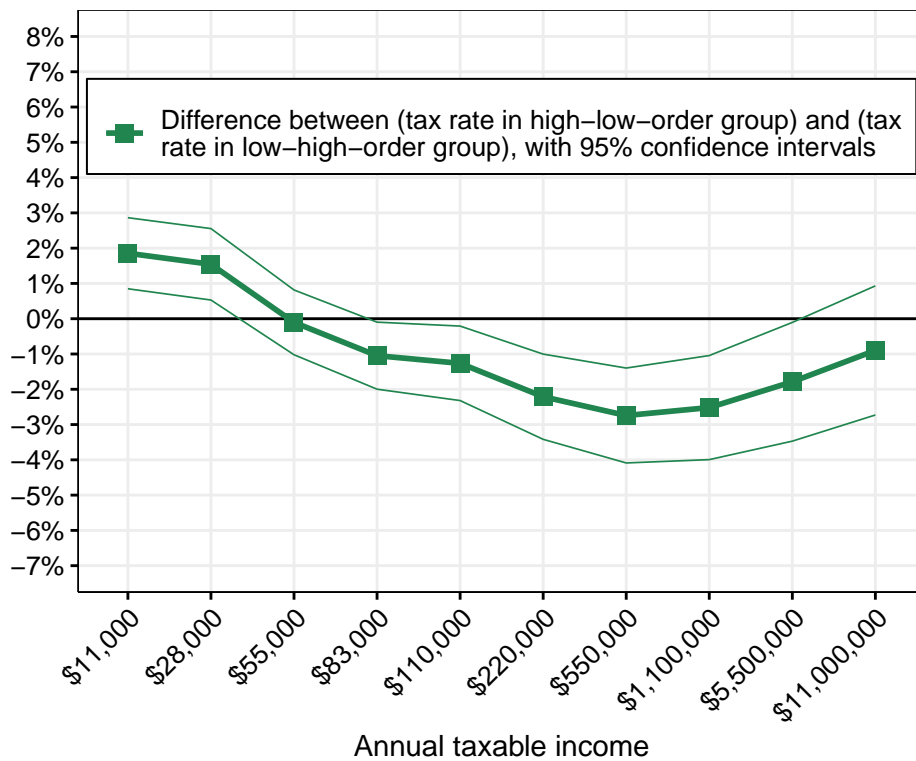


Figure A4: Limited effect of the order of incomes on average preferred tax rates

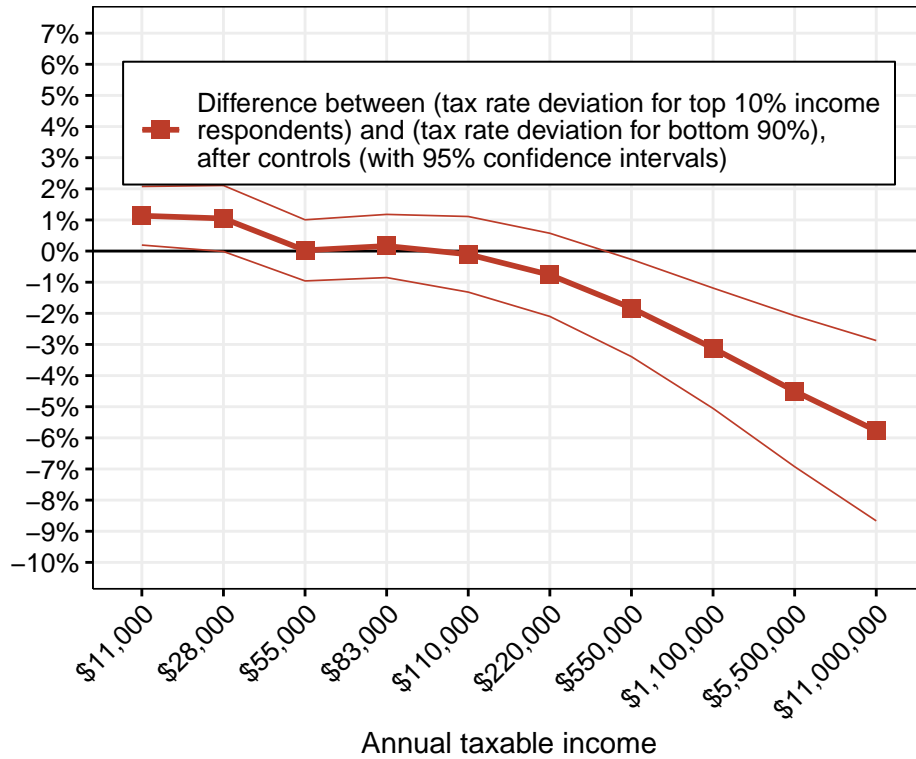


Figure A5: Actual tax rates for high incomes are closer to the preferences of high income respondents than the rest. Note: Estimates are regression coefficients for a dummy variable indicating whether the respondent belongs to the top 10 percent or bottom 90 percent of the income distribution. Control variables include education, occupation, age, gender, region, and tax rate knowledge. All except tax rate knowledge are included as factor variables using the original categories from the survey. See replication materials for full regression outputs.

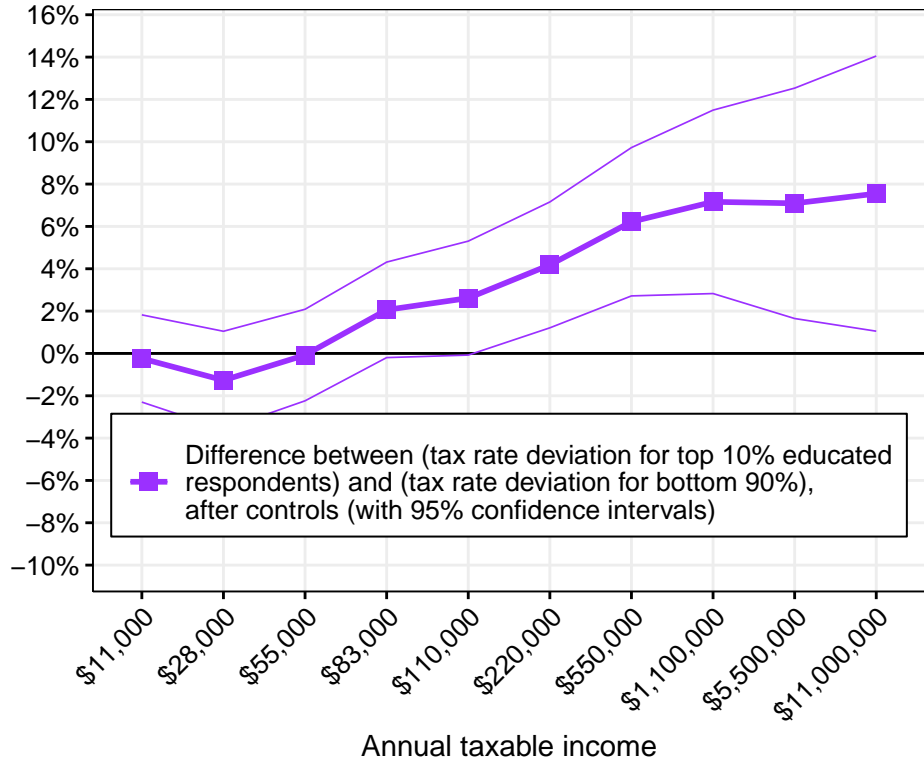


Figure A6: Actual tax rates for high incomes are farther away from the preferences of the highly educated than the rest. Note: Estimates are regression coefficients for a dummy variable indicating whether the respondent belongs to the top 10 percent or bottom 90 percent of the education distribution. Control variables include income, occupation, age, gender, region, and tax rate knowledge. All except tax rate knowledge are included as factor variables using the original categories from the survey. See replication materials for full regression outputs.

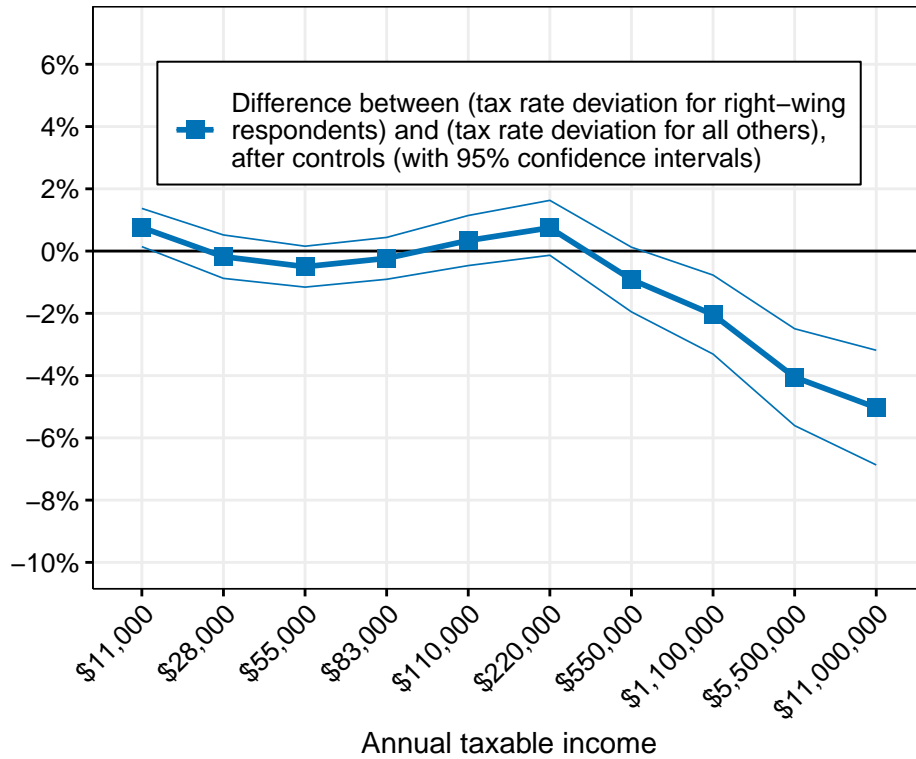


Figure A7: Actual tax rates for high incomes are closer to the preferences of right-party voters than the rest. Note: Estimates are regression coefficients for a dummy variable indicating whether the respondent voted for a right-wing party or not. Control variables include income, education, occupation, age, gender, region, and tax rate knowledge. All except tax rate knowledge are included as factor variables using the original categories from the survey. See replication materials for full regression outputs.

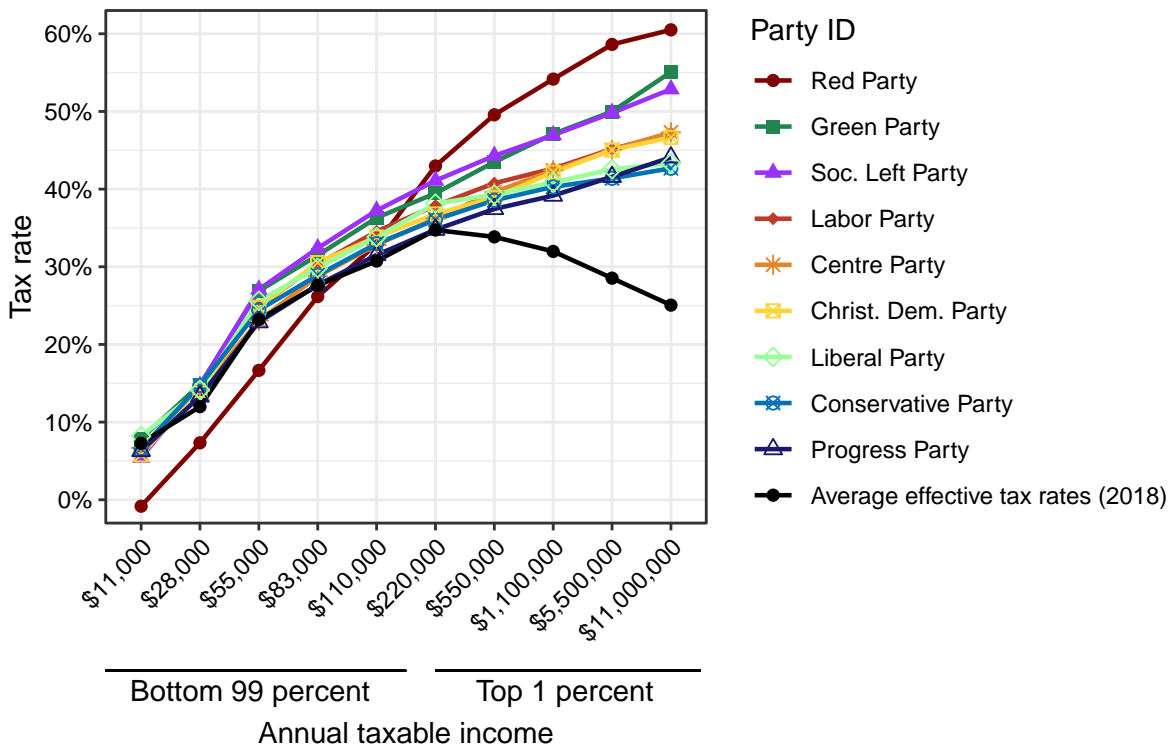


Figure A8: Actual tax rates compared to preferred tax rates, by respondent party ID.

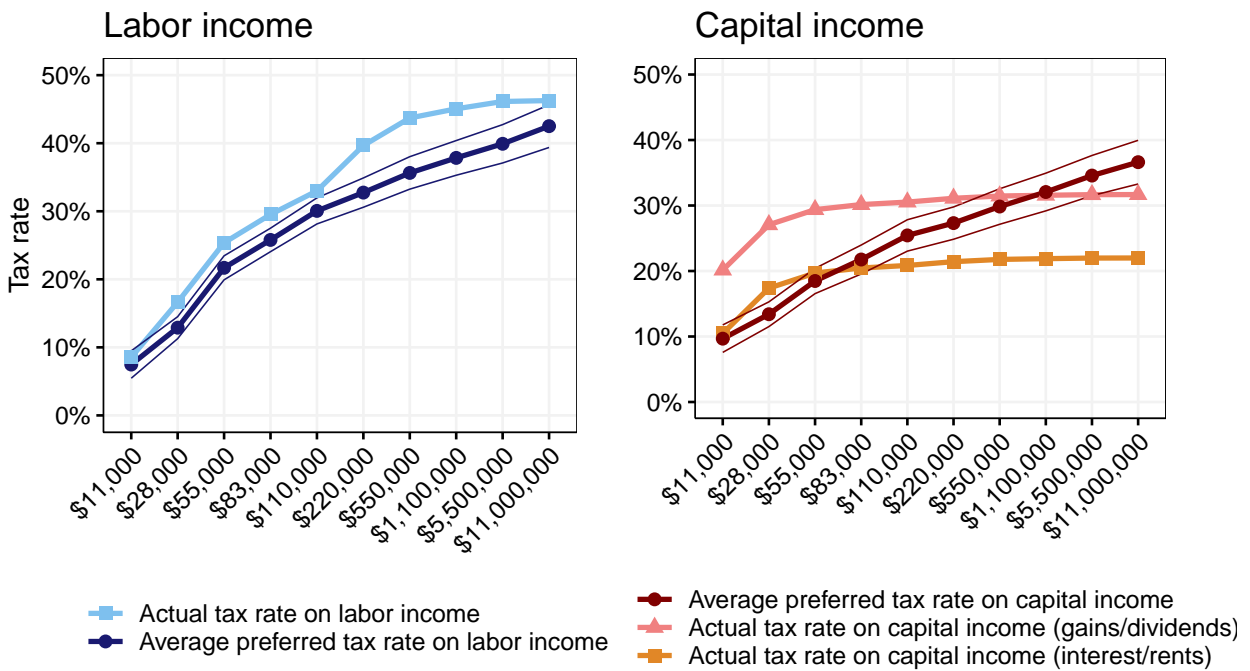


Figure A9: Preferred and effective tax rates for labor and capital income, only right-wing voters (H, FRP).

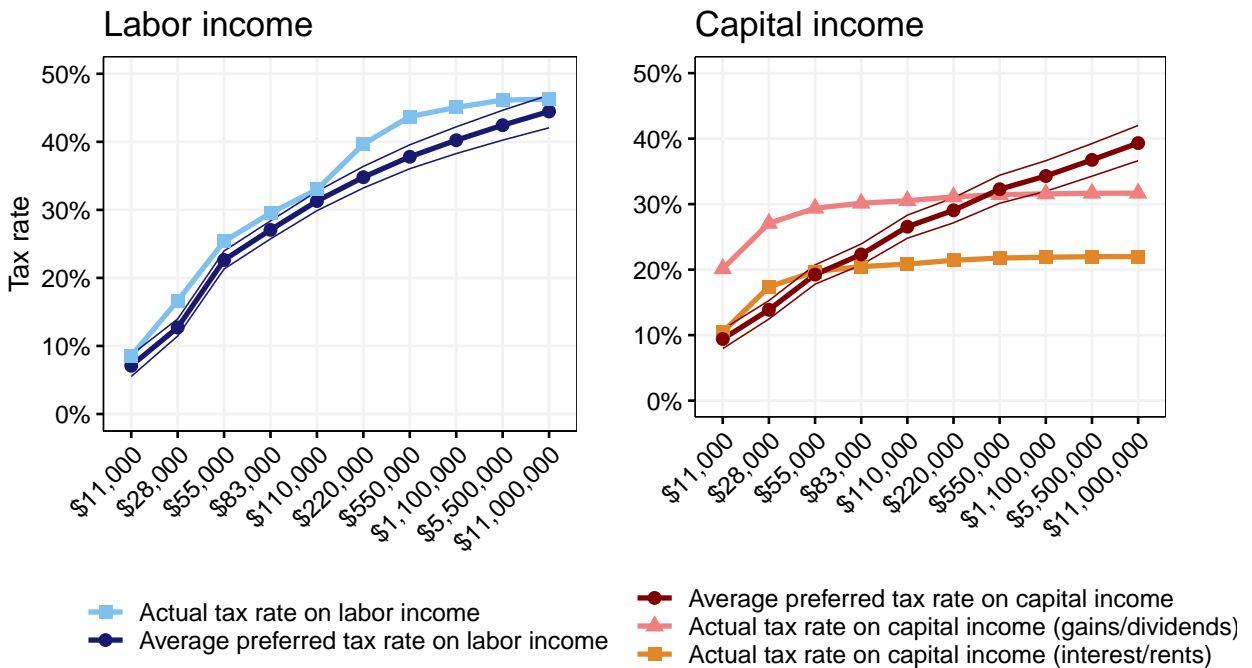


Figure A10: Preferred and effective tax rates for labor and capital income, only high income citizens (household income > USD 77,000.)

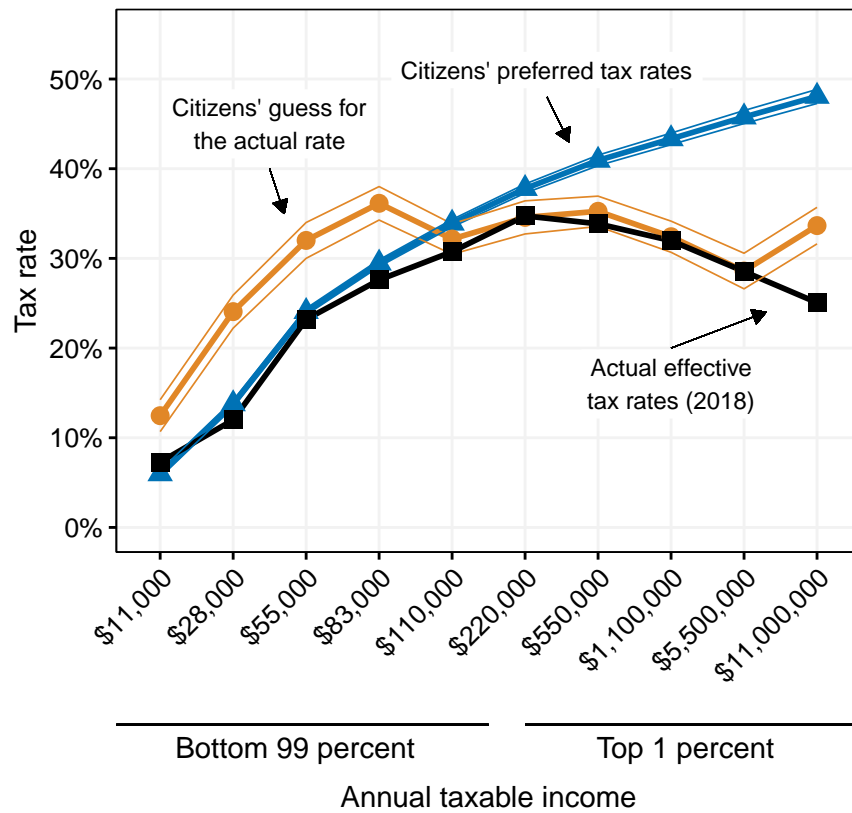


Figure A11: Preferred vs. actual vs. perceived actual tax rates. Thin lines indicate 95 percent confidence intervals (too small to be visible for some of the triangle line).

3 References

Aaberge, Rolf, J Modalsli, and O Vestad. 2020. “Ulikheten—betydelig større enn statistikken viser.” Oslo: SSB.

Enthin, Stephen J. 2017. “Labor Bears Much of the Cost of the Corporate Tax.” Tax Foundation.