Preferences over Taxation of High-Income Individuals: Evidence from a Survey Experiment*

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Abstract

The mobility of high-income individuals across borders puts pressure on governments to lower taxes. A central tenet of the corresponding textbook argument is that mobile individuals react to tax differentials through migration and immobile individuals vote for lower taxes. We investigate to which extent this argument is complete. In particular, political ideology may influence voting on taxes. We vary mobility and foreign taxes in a survey experiment within the German Internet Panel (GIP), with more than 3000 individuals participating. We find that while the treatment effects qualitatively confirm model predictions of how voters take the mobility of high-income earners into account when choosing domestic taxes, ideology matters: left-leaning high-income individuals choose higher taxes and emigrate less frequently than right-leaning ones. These findings are in line with the comparative-static predictions of a simple model of inequality aversion when the aversion parameters vary with ideology.

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1 Introduction

There is now widespread evidence about tax-induced mobility of taxpayers, in particular of high-income individuals, who change their residence to reduce income and wealth tax burdens (Kleven et al., 2020; Moretti and Wilson, 2023). When barriers to international mobility fall, the existence of tax-induced mobility should lead to lower taxes on mobile factors, according to standard inverse elasticity arguments. Since high-income and high-wealth individuals are particularly mobile, the progressiveness of tax systems should decline. It has already been established that globalization affects tax progressiveness through trade integration (Egger et al., 2019). However, mostly due to data problems, it is less clear how globalization impacts tax rates by lowering hurdles to migration.

In this paper, we run a survey experiment in which we exogenously vary the experimental income as well as the possibility to migrate.¹ Furthermore, we match the experimental data to questions on political and redistributive preferences. We can thus investigate whether net beneficiaries of the tax-transfer system anticipate the degree of mobility of the rich and how their reaction varies with political ideology. A consensus has emerged in the literature on behavioral public economics that redistribution is driven by subjective beliefs about givers and receivers, as well as by social preferences.² Importantly, both such beliefs and preferences are heterogeneous. It is hence plausible that political ideology - as a composite of redistribution-related beliefs and preferences - may play a major role when it comes to taxing the rich and the migration choices of the rich.

Almås et al. (2020) support the idea that ideology matters for distributional preferences in an experiment that compares Norwegian and US citizens (two populations who arguably differ in their political ideology). In a survey experiment in Sweden, Karadja et al. (2017) find that informing participants that they rank higher in the income distribution than they thought makes them prefer less redistribution. Interestingly, this effect is entirely driven by self-declared right-wing participants. Furthermore, in an experiment with students as well as in surveys of politicians, Janeba (2014) finds that party

¹ Whenever we refer to income in the context of our experiment, we refer to the randomly determined experimental income.

² For the role of beliefs, see, e.g., Alesina and Angeletos (2005) or Benabou and Tirole (2006). For the role of preferences, see Engelmann and Strobel (2004, 2007) or Höchtl et al. (2012).

preferences correlate with the tax choices of students while party affiliation correlates with the beliefs of politicians about tax-induced mobility of firms.

Based on these insights, we hypothesize that left- and right-leaning individuals differ in their expectations regarding the mobility of the rich and therefore in their views on how progressive taxes should be. In addition, we are interested in studying the question of whether individuals hold on to purely ideological views about appropriate taxation that are independent of their beliefs about the migration behavior of the rich. By answering these issues, we are able to evaluate the race-to-the-bottom argument that the increasing mobility of labor leads to sub-optimally low tax rates (Keen and Konrad, 2013).

We address these questions in a large, incentivized survey experiment with a representative sample of subjects. It implements a stylized setting in which rich and poor voters collectively choose the tax rate to impose on the rich, conditional on which tax rate prevails in a (fictitious) neighboring country to which the rich may migrate. Embedding the experiment in the 18th wave of the German Internet Panel (GIP), a large online panel that is representative of the German population aged 16 to 75, we elicit experimental tax choices, migration beliefs, and migration choices of more than 3000 individuals. We randomly assign participants to the roles of rich and poor by providing them with high and low endowments, respectively. While the poor are always immobile, the mobility of the rich varies across treatments. For them, incentives to migrate when mobile can be positive or negative. These migration incentives depend on the domestic tax rate and the exogenous tax rate in the fictitious neighboring country. The latter tax rate varies across treatments. After the domestic tax is chosen, the rich may migrate to a foreign country after bearing some migration costs. Apart from voting and migration decisions, we also elicit beliefs about the choices of participants in the other role, i.e., what the poor believe about the choices of the rich, and vice versa. Importantly, participants are incentivized since a randomly chosen sub-sample of the participants is paid based on the outcome of the game.

We match our experimental data with response data obtained in earlier waves of the German Internet Panel, in particular self-declared attitudes on redistribution, party adherence, and demographic variables like age, gender, and education. Using regressions, we analyze the determinants of tax and migration choices to isolate the treatment effects and effects of political ideology. Eliciting the beliefs of the poor about the migration choices of the rich allows us to investigate whether beliefs as well as tax choices vary with political ideology. Hence, we can separate whether possible differences in tax choices between more left-leaning and more right-leaning subjects are driven by differences in beliefs about migration choices or by differences in preferences.

We develop a simple model of taxation with inequality-averse voters, where the left-leaning individuals are more inequality-averse than the right-leaning ones, to derive a number of testable hypotheses. We find that the possibility of migration affects tax choices qualitatively as predicted by the model. The poor understand the migration incentives of the rich and react to these incentives by voting for lower taxes when the rich are mobile than when they are not. The rich also strongly respond to migration incentives as they are substantially more likely to migrate when it pays, but not as much as expected by the poor. Regarding the role of political ideology, we find that the left-leaning rich, compared to the right-leaning rich, vote for higher taxes and are less willing to migrate when it pays in material terms, in line with our model predictions. In contrast, there is no difference in tax choices between the left- and right-leaning poor and no migration difference between the left- and right-leaning rich, when migration does not pay in material terms, as predicted by our model. We also find that migration beliefs are not systematically related to political attitudes. Hence, we conclude that political ideology relates to preferences rather than beliefs. These results do not depend on how we measure ideology, as attitudes toward redistribution, or as self-declared support for left-of-center or right-of-center political parties. Last, we find that the poor do not tax the rich maximally even when migration is not possible, and although being poor or rich in our experiment is entirely due to luck. This generosity of the poor toward the rich exceeds what our model can rationalize.

Our experimental setup is highly stylized, and one may wonder to what extent our findings hold in the field. While we cannot easily test this, we note that some very wealthy individuals postulate higher taxes on themselves and jointly organize to push for the political implementation of such reforms (see for example the organizations "Tax me now" and "Millionaires for humanity"). In line with such demands, we do not expect them to avoid taxation by emigration, and indeed, they criticize multinational firms that use international tax planning to minimize their tax burdens (see, for example, in the first letter by "Millionaires for humanity"). The tax proposals of these individuals highly correspond with those from left-of-center parties in many countries, who also aim for higher taxes on top incomes and wealth. These calls are in line with the behavior of many of our participants in the role of the rich, in particular those who are more

left-leaning. The relevance of wealthy individuals migrating to escape high tax rates is also illustrated by an intense discussion in the Norwegian press in 2022 and 2023 about the migration of rich Norwegians to other countries, in particular Switzerland, for tax reasons after an increase in wealth tax rates.³ On the other hand, several wealthy Norwegians publicly noted that they have no intention to leave the country and some even called for higher taxes, pointing to ideological differences between these groups of wealthy Norwegians.⁴ These observations suggest that the mobility of the rich should not be taken for granted and political leanings may correlate with tax choices against apparent material self-interest.

Contribution to the literature We relate to a large theoretical and empirical literature on taxation and migration. As Mirrlees (1971, p. 176) famously noted, "the threat of migration is a major influence on the degree of progression in actual tax systems". Spelling out this idea in more detail, the theoretical literature robustly finds that if labor is mobile, particularly at the top of the income distribution, then tax competition between governments reduces redistribution from high-income earners to lower segments of the income distribution. However, this literature largely ignores behavioral factors such as social preferences or biased beliefs. If, for instance, low-income voters are inequality-averse with respect to the inhabitants of their own country but do not take other countries into account, they may tend to vote for highly progressive taxes even if such taxes drive the top earners out of the country. Alternatively, if high-income earners are sufficiently averse to advantageous inequality, they may refrain from migrating despite high taxes in their domestic country. Moreover, beliefs about the willingness to migrate might be biased among voters. Hence, it is important to turn to empirically testing the standard predictions about tax competition in an open political economy.

In fact, the question of how taxation affects the migration choices of high-income individuals has already been the subject of empirical research. For example, Kleven

³ This included the publication of lists of names of those who moved and about their estimated wealth (see, e.g., this article of E24 from December 9, 2022).

⁴ See, e.g., this article from Dagbladet from January 5, 2023, in which the tenth-richest person in Norway calls for financial support for the poorest people, and notes his gratitude for the conditions found in his home country.

⁵ The standard approach to optimal income taxation by Mirrlees (1971) applied to a closed economy situation. Subsequent literature considered mobile individuals and advanced from linear taxation (Wilson, 1980) to non-linear taxation (see Simula and Trannoy, 2010). Recently, authors have analyzed income taxation when governments of several countries compete for mobile individuals (Bierbrauer et al., 2013; Blumkin et al., 2015; Lehmann et al., 2014; Morelli et al., 2012).

et al. (2013) analyze the role of taxes on the incentives of professional football players to play abroad. They find that the elasticity of the number of foreign players with respect to their net-of-tax rate is around 1, and substantially higher for younger and top players. Qualitatively, the result is in line with Kleven et al. (2014) who estimate high elasticities of migration of foreign high-income individuals with respect to the net-of-tax rate of around 1.5 to 2 in a study of preferential income taxation in Denmark. Similarly, Muñoz (2019) finds an elasticity of above 1 in Europe for the responsiveness of the number of foreign top earners with respect to the net-of-tax rate. A (stock) elasticity around 1 is reported by Akcigit et al. (2016) for foreign superstar inventors, while much lower elasticities prevail for domestic inventors. Agrawal and Foremny (2019) conclude that tax-induced mobility is large within Spain, in particular in certain industries like the health sector, but with only moderate tax revenue consequences. Overall, empirical studies suggest that the mobility of top earners is substantial (see Kleven et al., 2020, for an overview).

However, it is difficult to construct counterfactuals regarding mobility conditions, in particular with respect to voting decisions, with field data only. Here, experimental work can complement standard empirical research. We experimentally test a simple model of optimal taxation and migration in the presence of inequality aversion to investigate to which extent behavioral factors such as social preferences or biased beliefs play a role. In doing so, we contribute to a growing literature on tax choices and redistributive preferences. For instance, Weinzierl (2017), in a survey among 2500 U.S. citizens reports that between 50% and 95% of respondents believe that full equalization of endowments that are due to luck would be unjust. Instead, they advocate the idea that post-tax incomes should depend on pre-tax endowments and that there is an entitlement to one's own endowments even in the absence of effort. Relatedly, Charité et al. (2022) report results from two experiments suggesting that subjects redistribute less when knowing pre-tax endowments of the better-off or when reference points are more deeply ingrained.⁶ Our finding that the poor are on average not voting for the maximal tax on the rich even in absence of mobility resonates with these two contributions. More generally, we contribute to this literature in two ways. First, we experimentally investigate an open economy in which the top earners can avoid high taxation if they

⁶ Casal et al. (2019) experimentally analyze the role of the preferential tax treatment of high-income earners for the tax compliance decisions and equity perceptions of low-income earners. They find that exogenously given motivations for the preferential tax treatment of the rich have negative effects on tax compliance and equity perceptions of the poor.

migrate. Second, we relate individual tax and migration choices in our experiment to survey data about political attitudes and beliefs.

In related work, Kerschbamer and Müller (2020) analyze the distribution of social preferences in Germany. They focus on the correlation of these preferences with socioeconomic characteristics, attitudes towards redistribution as well as the support for immigration of refugees. Kerschbamer and Müller (2020) find that the majority of participants are inequality-averse, which supports our theoretical modeling assumption. Moreover, in line with our hypothesis of how social preferences correlate with political orientation, they find that selfish participants tend to be right-leaning, whereas preference types that are benevolent towards players with lower payoffs are more likely left-leaning.

Our work is complementary to the literature on preferences for redistribution in the presence of immigration (see, for example, Alesina et al., 2023; Dahlberg et al., 2012). In this literature, immigration is typically taken as given and thus not endogenous to government policy in the sending country. Furthermore, preferences for redistribution are elicited through unincentivized survey questions, in contrast to our approach, where participants make choices that have material consequences, albeit with a small probability.⁷

The rest of the paper is organized as follows. In Section 2, we first explain in detail the setup of the survey experiment within the German Internet Panel and then discuss the hypotheses based on the comparative-static predictions of a simple model of redistributive taxation, which we present in Online Appendix A. In Section 3, we present the results of our survey experiment. Section 4 concludes.

2 Survey Experiment

2.1 German Internet Panel (GIP)

We implement a simple game of redistributive taxation with migration in an experimental setting using the German Internet Panel (GIP), a probability-based longitudinal panel survey conducted by the Collaborative Research Center "Political Economy of Reforms" (SFB 884) at the University of Mannheim. Although the GIP is online-based, it is

⁷ We note, though, that studying choices with material consequences in a survey comes at a cost because we have to substantially simplify the setting compared to more realistic scenarios that could be used for hypothetical questions.

representative with respect to collected observable variables of the general population in Germany aged from 16 to 75 living in private households. This is achieved by providing households without internet connection with the necessary devices to participate in the panel, as well as clear technical instructions on their usage (Blom et al., 2015). The selection of the panel is based on a stratified random sample of both the online and offline population. In comparison to other population statistics, the GIP shows high congruence with regard to personal characteristics like age, unemployment, urbanity, and regionality (Blom et al., 2015).

All participants of the GIP are first recruited in face-to-face interviews and then take part in bi-monthly surveys of around 20 minutes resulting in a panel data set. The GIP started in September 2012 and has a special focus on opinions and preferences with regard to political reforms. The surveys are accompanied by quality-assurance measures such as extensive plausibility tests conducted by an expert team of the GIP, as well as a pre-test concerning the technical implementation. These provisions are in place to ensure the comprehensibility of questions about complex issues for the general population. In order to maintain the GIP's high retention rates (73% - 80%) there is an incentive scheme in place (Blom et al., 2015). Participants are getting $4 \in$ for every survey that they take part in and on top of that there is a bonus for those who participated in every survey of the year ($10 \in$) and those who only missed one survey ($5 \in$), respectively.

2.2 Experimental Design and Survey Data

Our survey experiment implements the following simple game. Each participant is randomly assigned either a low income $(y_p=20)$ or a high income $(y_r=90)$. Two such "poor" and one "rich" participant form a "country" and vote upon a purely redistributive tax-transfer system.⁸ The set of feasible tax rates is limited to three - low, medium, high - with the following values: $t_L=10$, $t_M=20$, $t_H=40$. Voting is done by a random-dictator mechanism, i.e., each participant suggests a tax level and then one of these tax levels is randomly chosen to be implemented. A rich individual pays the tax t, which is then divided between the two poor.

In the experiment, every participant is randomly assigned to a treatment group. One quarter is acting as the control group by playing under the *no-mobility* treatment con-

⁸ Note that we use "low-income earner" instead of the potentially stigmatizing term "poor" in the instructions. For all other terms, we use the same terminology in the survey experiment as in the paper in order to make it as easy as possible for participants to understand the setting (see Online Appendix D for a translation of the survey).

Table 1: Treatment and role assignment

mobility foreign tax	no –		yes low		yes medium		yes high		total	
	N	in %	N	in %	N	in %	N	in %	N	in %
poor	513	16.99	614	20.33	609	20.17	302	10.00	2038	67.48
rich	257	8.50	293	9.70	285	9.44	147	4.87	982	32.52
total	770	25.50	907	30.33	894	29.60	449	14.87	3020	100.00

Notes: Slight deviations from the expected share of treated individuals occur because of individuals not completing the survey. 40 out of 3060 participants did not complete the survey.

dition, which is referring to the above-described game without migration option, while the rest plays under the *mobility* treatment condition where the rich participant can decide to migrate to a foreign country after the tax rate in the home country is determined. Migration is costly for the rich, however, involving a loss of m=15. If the rich emigrates to the other country, there is no tax revenue generated at home.

The participants in the *mobility* treatment are further exogenously assigned to a foreign tax rate. 40% are facing a low foreign tax rate, 40% are facing a medium foreign tax rate and 20% are facing a high foreign tax rate and they are informed about this foreign tax rate before they make their tax choices (see Table 1 for an overview).

Because of the nature of an online survey, the respondents cannot interact directly and are matched only ex-post to their respective country by a random mechanism. Therefore, questions that condition on others' choices are asked using the strategy method. The questions are described in more detail later in this section.

All participants of the panel are required to go through a detailed explanation of the experiment specifically tailored to their type and treatment. This includes detailed step-by-step descriptions and multiple examples of possible outcomes written in easy language as well as simple graphics illustrating the timing of events and the voting system. Furthermore, tables visualizing all potential outcomes of the model are not only presented during the explanation but also depicted when individuals have to make their decisions. Participants took an average time of about eleven minutes to complete the survey.

After reading the description of the available choices and consequences and before making their tax rate and migration choices, the participants are made aware that there is an extra incentive scheme on top of the general GIP scheme described above. After the experiment, 20 (out of 1020) experimental countries are randomly drawn and the

participants who were part of these countries are getting their hypothetical income from the game as a bonus payment. This translates into 60 out of 3060 participants receiving an average bonus payment of $41.33 \in$. Depending on their type, treatment, and their own decisions, this payment can range between $20 \in$ (poor type when the rich migrates) and $80 \in$ (rich type if she does not migrate and the low tax is chosen).

Finally, all participants are asked the following questions: (1) What tax rate do you vote for? (2) Which tax rate do you think the respective other type will vote for? Participants in the mobility treatment who are in the role of the rich are additionally asked whether they would migrate conditional on every single possible tax rate in their domestic country (low, medium, and high). Analogously, participants of the mobility treatment who are in the role of the poor are asked whether they believe that the rich in their country will migrate, again conditional on every possible domestic tax rate. A translation of the full questionnaire can be found in Online Appendix D.

To sum up, we collect data not only on tax and migration decisions but also on the beliefs about the behavior of other participants. The random assignment of treatments and roles allows us to identify the treatment effects of mobility, type, and foreign tax rate on the tax and migration choices, as well as tax and migration beliefs by (ordered) logistic regressions. Using our rich data set, we can link these variables to various questions about political opinions and party preferences. With regard to political ideology, we can observe participants' stated party preference and redistributive preferences.

In order to study the effect of party preferences in a more systematic way, we follow the sorting of parties by the Comparative Manifesto Project on an economic left-right scheme. The center-left Social Democrats SPD, the environmentalist Greens, the Pirate party, and the far-left party The Left ("Die Linke") are coded as left-wing, while all other parties are coded as right-wing. In order to infer an individual's preference for redistribution, respondents are asked directly: "Should the government employ policies to lower income inequality?" We group those who stated to be "in favor" or "strongly in favor" as in favor of redistribution, those who answered "against" or "strongly against" as against redistribution, and those who chose "neither in favor nor against" as indifferent towards redistribution. We find that redistribution and political preferences are correlated in the expected direction. Left-wing participants are 25.6 percentage points

⁹ Our design aimed at achieving salient incentives for a given budget. We opted for a relatively high reward and a low probability of obtaining the reward because increasing the probability would likely not have made much of a difference to participants as long as this probability would still be perceived as relatively low, whereas reducing the payoff would substantially reduce the salience of the incentives. We did provide incentives for the belief questions.

(p < 0.01) more likely to be in favor of redistribution than right-wing participants. It is important to differentiate these variables from our treatment variables since political ideology or redistributive preferences are not randomly assigned and are likely correlated with other characteristics. Therefore, we use a gender dummy, five age dummies, marital status, three household size dummies, and education levels as control variables in all our regressions that test the effect of ideology or redistributive preferences. Furthermore, we construct nine net household income dummies which we gather from another survey wave. Since we can observe net household income for only two-thirds of our participants, we do not use it as a control variable in our baseline specification. However, we show in the Online Appendix that including them does not change our results (see Appendix Tables C.6 to C.8). Results are also very similar when using (ordered) probit regressions (see Appendix Tables C.14 to C.18). In Appendix Table B.1, we display summary statistics for all variables we use.

2.3 Hypotheses

In Online Appendix A, we develop a model of taxation choices with inequality-averse agents based on the simple game that underlies our survey experiment. The key insights are the following. First, sufficiently inequality-averse rich agents will vote for higher than minimum taxes and will not migrate even if it pays in material terms because this reduces inequality at a moderate cost to them. In case migration does not pay materially, their migration choice is independent of their inequality aversion. Second, the preferred tax rate of the poor is weakly lower if the rich player has the material incentive to migrate. In contrast, the preferred tax rate of the poor is weakly increasing in their expectation of the inequality aversion of the rich. Third, the inequality aversion of the poor is only relevant if it is very strong. The reason is that already the selfish poor would choose the highest tax rate when the rich have no possibility or no incentive to move (when the foreign tax rate is high). In turn, only strongly inequality-averse poor would want to tax the rich so much that they migrate because the reduced inequality due to the migration costs of the rich comes at a high cost in terms of the poor's own income.

We derive testable hypotheses with respect to both tax and migration choices from the comparative statics of our model, combined with the assumption that participants

¹⁰ In Appendix Table B.3, we show the correlation between political ideology or redistributive preferences and all of our control variables.

in favor of redistribution, as well as left-leaning participants, are more inequality averse, which is supported by Kerschbamer and Müller (2020). For ease of exposition, we will call both left-wing participants and those in favor of redistribution left-leaning and other participants right-leaning. According to theory, the tax choices of the poor depend on their beliefs about the migration choices of the rich, whereas the tax and migration choices of the rich are independent of their beliefs about the choices of the poor. Therefore, we begin with the tax and migration choices of the rich, then move to the beliefs of the poor about the migration choices of the rich, and conclude with the tax choices of the poor.

Hypothesis 1 (tax choices and political preferences of the rich). *Left-leaning rich players* vote for a higher tax rate than right-leaning rich players.

Concerning the migration choices of the rich, Lemma 1 in Online Appendix A implies that for any level of inequality aversion, the rich should only migrate if the domestic tax is high and the foreign tax is not because under this condition migration pays materially whereas otherwise, migration does not pay materially and also increases inequality. Assuming that not all our participants are strongly inequality averse, this implies Hypothesis 2a. Assuming that the left-leaning participants are more inequality averse than the right-leaning participants, Lemma 1 further yields Hypothesis 2b (see also Comparative Static 3a). By contrast, if migration does not pay materially, migration choice is not affected by a rich player's inequality aversion (see Comparative Static 3b), leading to Hypothesis 2c.

Hypothesis 2 (migration choices and political preferences of the rich).

- a) Rich players more frequently migrate when the domestic tax is high and the foreign tax is not high than in the remaining constellations.
- b) If the domestic tax is high and the foreign tax is not high, the left-leaning rich are less likely to migrate than the right-leaning rich.
- c) If the domestic tax is not high or the foreign tax is high, the migration choices of the rich do not vary with their political preferences.

Given that the domestic and foreign tax rates affect the incentives for the rich to migrate, they should also affect the beliefs of the poor about the migration choices of the rich. This in turn affects the optimal tax level from the perspective of the poor. We

first address the beliefs of the poor. Hypothesis 3a follows directly from assuming that the poor understand the incentives of the rich. In our model, the beliefs of the poor about the migration choices of the rich are independent of the poor players' own political ideology. However, a more leftist political perspective might also make participants more optimistic that the rich will not migrate even when it pays materially, for example, because the left-leaning expect others to be more inequality averse. ¹¹ This implies Hypothesis 3b.

Hypothesis 3 (migration beliefs and political preferences of the poor).

- a) The expectation of the poor that the rich will migrate is higher when the domestic tax is high and the foreign tax is not high than in the remaining constellations.
- b) When migration pays (high domestic tax and low or medium foreign tax), left-leaning poor players tend to be less convinced than right-leaning ones that the rich will migrate.

The material migration incentives of the rich and the beliefs of the poor about whether the rich will act on these incentives are expected to affect the tax choices of the poor. Specifically, the poor should vote for lower taxes if the rich are mobile and foreign taxes are low or medium than if the rich are immobile or foreign taxes are high, implying Hypothesis 4a (see also Comparative Static 2a). The poor may, however, also expect the rich to migrate when both domestic and foreign taxes are high. Assuming that the poor maximize their expected earnings, then for any level of foreign taxes, if they believe the rich will migrate when domestic taxes are high, the poor should be less likely to choose high taxes, implying 4b (see also Comparative Static 2b).

Now consider the impact of political ideology on tax choices of the poor. If the left-leaning poor are indeed more optimistic than the right-leaning poor that the rich will not migrate even if this pays materially (Hypothesis 3b) and if in their tax choices, the poor take their beliefs about the migration choices of the rich into account (Hypothesis 4b), then the left-leaning poor should choose higher taxes than the right-leaning poor, leading to Hypothesis 4c. High tax choices by the left-leaning poor compared to the right-leaning poor that are not explained by differences in beliefs (i.e. support for Hypothesis 4c, even though 3b is violated) could be interpreted that the left-leaning are

¹¹ If the left-leaning are more averse towards advantageous inequality than the right-leaning participants, it is also plausible that they expect others to be more averse towards advantageous inequality due to the (false) consensus effect, (Engelmann and Strobel, 2000), i.e., a correlation of a participant's expectation about other participants with their own type.

more likely than the right-leaning to be strongly inequality averse ($\alpha > 4$ in our model, see Comparative Static 2c).¹²

Hypothesis 4 (tax choices and political preferences of the poor).

- a) The poor vote for lower tax rates in the mobility treatment with the foreign tax being low or medium compared to no mobility or the foreign tax being high.
- b) The poor are less likely to vote for high taxes if they believe that the rich will migrate when domestic taxes are high.
- c) Left-leaning poor participants vote for higher taxes than right-leaning poor participants.

3 Results

As a first step, in order to make sure that the randomization worked properly, we regress treatment dummies on observable characteristics, and reassuringly, we do not find any significant effects (see Appendix Table B.2). Following standard conventions, we understand statistical significance being at the 5% level and will note weak significance at the 10% level explicitly. We now move on to testing our hypotheses.

3.1 Testing the Comparative-Static Predictions

Following the order of our hypotheses, we begin with the analysis of the tax choices of the rich and continue with their migration choices, with a focus on the relation to their political ideology. We then address whether the comparative statics of the migration choices of the rich are reflected in the beliefs of the poor and whether these beliefs are affected by the political ideology of the poor. Finally, we investigate whether these migration beliefs and the poor's ideology affect their tax choices.

We test Hypothesis 1 by examining the relationship between the tax choices of the rich and their political party preferences and redistribution preferences. In line with

¹² As pointed out in footnote 11, it is also plausible that the belief data will be subject to the (false) consensus effect. There is substantial evidence for the presence of the consensus effect in the experimental literature and the consensus effect can be responsible for patterns in the choice data that may be misinterpreted as evidence of certain preference patterns (see, e.g., Blanco et al., 2014). Similarly, in our setting, the consensus effect would allow for a different underlying channel for support of Hypothesis 4c. If strongly inequality-averse poor vote for high taxes due to their inequality aversion and expect the rich to be strongly inequality averse (and hence not to migrate) due to the consensus effect.

Table 2: Tax choices and ideology: by role

	only rich players			only poor players			
	(1)	(2)	(3)	(4)	(5)	(6)	
tax choice	low	medium	high	low	medium	high	
Panel A <i>ideology</i> reference category: right-wing							
left-wing	-0.068***	0.022**	0.046***	-0.022	0.001	0.020	
	(0.025)	(0.010)	(0.017)	(0.015)	(0.002)	(0.014)	
controls	yes	yes	yes	yes	yes	yes	
mean	0.169	0.724	0.106	0.146	0.717	0.136	
N	686	686	686	1429	1429	1429	
Panel B redistribution	ı preference re	ference categ	ory: against r	edistribution			
indifferent	-0.062**	0.020*	0.042**	-0.024	0.001	0.023	
	(0.030)	(0.011)	(0.021)	(0.019)	(0.002)	(0.018)	
pro redistribution	-0.084***	0.027**	0.058***	-0.062***	0.002	0.060***	
	(0.027)	(0.011)	(0.019)	(0.016)	(0.004)	(0.016)	
controls	yes	yes	yes	yes	yes	yes	
mean	0.170	0.723	0.107	0.147	0.712	0.140	
N	887	887	887	1825	1825	1825	

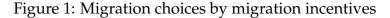
Notes: * p<0.1, ** p<0.05, *** p<0.01. The presented coefficients are average marginal effects of the following ordered logistic regression: $Y_i = \beta P_i + \gamma X_i + \epsilon_i$, where Y_i is the tax choice, P_i is either a left-wing dummy or dummies for redistribution preferences and X_i represents control variables including dummies for gender, marital status, higher education, four age dummies (30-39, 40-49, 50-59, > 60), and two dummies for household size (2 and 3 or more household members). Robust standard errors in parentheses.

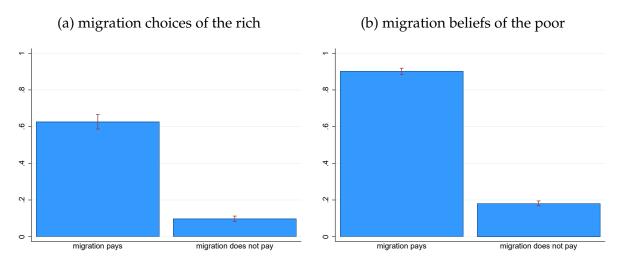
the hypothesis, the rich who support left-of-center parties are 6.8 percentage points less likely to choose the low tax rate and 4.6 percentage points more likely to choose the high tax rate than the rich who support right-of-center parties (see columns 1 to 3 in Panel A of Table 2).¹³ Similarly, those participants who state to be in favor of redistribution are significantly less likely to choose the low tax rate and more likely to choose the medium or high tax rate than those opposed to redistribution (see Panel B of Table 2). We summarize these findings in

Result 1 (tax choices and political attitudes of the rich). *In the role of the rich player, left-leaning participants vote for higher tax rates than right-leaning participants, as predicted in Hypothesis 1.*

Next, we turn to Hypothesis 2a, i.e., we test whether the rich understand and act on the migration incentives given by different domestic and foreign tax rates. We first plot migration rates of the rich both for the setting in which migration pays in material

¹³ Results for individual political parties can be found in Appendix Table C.1.





Notes: This figure plots the share of the rich who choose to migrate (Panel a) and the share of the poor who believe that the rich will migrate (Panel b) for the case that migration does or does not pay materially. 95% confidence bands are displayed.

terms (high domestic tax and low or medium foreign tax) and for the setting in which it does not pay. As Figure 1a shows, 62.6% of rich players migrate if it pays. By contrast, if migration does not pay, only 9.8% do migrate. The regression analysis in column 1 of Table 3 confirms these findings and reveals their significance. Compared to the constellation where migration does not pay materially, the propensity to migrate increases significantly when migration pays in material terms. To summarize, the rich seem to understand and react to migration incentives, confirming Hypothesis 2a.

While the rich migrate much more often when it pays in material terms than when it does not, more than a third of them still do not migrate even when it pays. In line with our model, this can be driven by inequality aversion, which we expect to be reflected in their political ideology. We hence compare migration choices of the left- and the right-leaning rich, both when migration pays and when it does not pay.

As one can see in columns 1 and 2 of Table 4, participants supporting left-of-center parties or being in favor of redistribution are 12 to 14 percentage points less likely to migrate than right-wing participants when migration pays, supporting Hypothesis 2b. When migration does not pay, however, migration choices are unrelated to the political party preferences (see columns 3 and 4 of Table 4) or the redistribution preferences,

¹⁴ When looking at individual political parties, the effect is mainly driven by supporters of the right-wing populist party AfD. Ironically, thus, supporters of an anti-immigration party are most likely to be economic migrants in our study (see Appendix Table C.2).

Table 3: Migration choices and beliefs

	(1) migration choice	(2) migration belief
migration incentives refere migration does pay	ence category: migration does no 0.348*** (0.007)	ot pay 0.492*** (0.007)
mean N	0.238 2175	0.378 4442

Notes: * p<0.1, *** p<0.05, *** p<0.01. The presented coefficients are average marginal effects of the following logistic regression: $Y_i = \beta T_i + \epsilon_i$, where Y_i is either a dummy equaling one if i migrates or a dummy equaling one if i believes that the rich will migrate and T_i is a dummy equaling one if migration pays (high tax rate in the home country and low or medium tax rate in the foreign country). Robust standard errors in parentheses are clustered at the individual level.

as predicted in Hypothesis 2c. We summarize our results on the impact of political ideology on migration choices in

Result 2 (migration choices and political attitudes of the rich).

- (i) The rich react to material migration incentives as predicted by Hypothesis 2a.
- (ii) The left-leaning rich are less likely to migrate than the right-leaning rich when migration pays materially, confirming Hypothesis 2b.
- (iii) There is no difference in the migration choices with respect to political ideology when migration does not pay, confirming Hypothesis 2c.

We have seen that the rich react to the incentives to migrate. We have also seen, though, that the degree to which they do so depend on their ideology. In order to understand whether the migration incentives of the rich affect the tax choices of the poor, we analyze whether the beliefs of the poor are affected by the incentives to migrate for the rich. Further, in order to understand if and how the tax choices of the poor are affected by their own political ideology, we need to understand whether it influences their beliefs that the rich would migrate. Hence, we move on to test Hypothesis 3.

As a first step, we plot migration beliefs both for the setting in which migration pays in material terms and for the setting in which migration does not pay. As Figure 1b shows, the migration beliefs of the poor closely align with our model with 90.2% of the poor expecting the rich player to migrate when it pays materially, compared to only 18.1% when it does not pay. The difference is shown to be highly significant by

Table 4: Migration and ideology

	migrati	on pays	migration does not pay				
	(1)	(2)	(3)	(4)			
	migration choice	migration choice	migration choice	migration choice			
Panel A <i>ideology</i> reference category: right-wing							
left-wing	-0.137***	-0.124***	0.012	0.013			
_	(0.046)	(0.048)	(0.018)	(0.018)			
controls	no	yes	no	yes			
mean	0.625	0.626	0.084	0.081			
N	405	401	1146	1123			
Panel B redistribution	on preference referen	ce category: agains	t redistribution				
indifferent	-0.063	-0.054	-0.012	-0.036			
	(0.064)	(0.063)	(0.025)	(0.024)			
pro redistribution	-0.137**	-0.129**	-0.009	-0.034			
	(0.055)	(0.055)	(0.022)	(0.021)			
controls	no	yes	no	yes			
mean	0.629	0.629	0.095	0.093			
N	536	529	1477	1448			

Notes: * p<0.1, *** p<0.05, *** p<0.01. The presented coefficients are average marginal effects of the following logistic regression: $Y_i = \beta P_i + \gamma X_i + \epsilon_i$, where Y_i is a dummy equaling one when i migrates, P_i is either a left-wing dummy or dummies for redistribution preferences and X_i represents control variables including dummies for gender, marital status, higher education, four age dummies (30-39, 40-49, 50-59, > 60), and two dummies for household size (2 and 3 or more household members). Standard errors in parentheses are clustered at the individual level. Columns (1) and (2) show results when the domestic tax is high and the foreign tax is low or medium, while columns (3) and (4) cover all other combinations of the domestic and foreign tax rates.

the regression analysis presented in column 2 of Table 3. Hence, the migration threat seems to be perceived as credible by most of the poor players, supporting Hypothesis 3a. In fact, the beliefs of the poor even vary more with the migration incentives for the rich than the actual migration choices of the rich themselves. This suggests that a substantial part of the rich in our sample are driven by inequality aversion, given that only 62.6% of them migrate when it pays materially, but that this is not anticipated by the poor, 90.2% of whom expect the rich to migrate.

That the migration threat is perceived to be real by the majority of the poor raises the question of whether this perception is affected by their ideology. As Table 5 and Appendix Table C.3 show, there is no difference in migration beliefs by political party preference or redistribution preferences when we restrict the analysis to the constellations in which migration pays. When migration does not pay, there is also no difference by party preference, but those who are indifferent towards redistribution are significantly more likely to state that they expect the rich to migrate than those who oppose

Table 5: Migration beliefs and ideology

	migrati	on pays	migration does not pay				
	(1)	(2)	(3)	(4)			
	migration belief	migration belief	migration belief	migration belief			
Panel A <i>ideology</i> reference category: right-wing							
left-wing	0.003	0.002	0.025	0.023			
	(0.020)	(0.020)	(0.016)	(0.016)			
controls	no	yes	no	yes			
mean	0.907	0.906	0.177	0.175			
N	872	855	2348	2300			
Panel B redistribution	Panel B redistribution preference reference category: against redistribution						
indifferent	-0.028	-0.025	0.057***	0.045**			
	(0.026)	(0.026)	(0.021)	(0.021)			
pro redistribution	-0.004	-0.004	0.033*	0.026			
	(0.023)	(0.023)	(0.019)	(0.019)			
controls	no	yes	no	yes			
mean	0.902	0.901	0.183	0.182			
N	1113	1086	2990	2921			

Notes: * p<0.1, ** p<0.05, *** p<0.01. The presented coefficients are average marginal effects of the following logistic regression: $Y_i = \beta P_i + \gamma X_i + \epsilon_i$, where Y_i is a dummy equaling one when i beliefs that the rich will migrate, P_i is either a left-wing dummy or dummies for redistribution preferences and X_i represents control variables including dummies for gender, marital status, higher education, four age dummies (30-39, 40-49, 50-59, > 60), and two dummies for household size (2 and 3 or more household members). Standard errors in parentheses are clustered at the individual level. Columns (1) and (2) show results when the domestic tax is high and the foreign tax is low or medium, while columns (3) and (4) cover all other combinations of the domestic and foreign tax rates.

redistribution. Given that there is no good reason to migrate in this setting, this difference is likely just due to random variation. Therefore, we reject Hypothesis 3b. We can hence rule out differential migration beliefs as a possible reason for potential differences in tax choices between the left- and the right-leaning poor. We summarize the results of the poor players' beliefs about the rich players' migration choices in

Result 3 (beliefs and political attitudes of the poor).

- (i) The poor believe the rich to be more likely to migrate when it pays in material terms than when it does not, confirming Hypothesis 3a.
- (ii) Migration beliefs do not differ between the left- and the right-leaning poor, contrary to Hypothesis 3b.

Finally, we turn to Hypothesis 4 and investigate how migration incentives for the rich, migration beliefs of the poor, and political attitudes of the poor affect the tax

Table 6: Tax choices, mobility, and migration beliefs

tax choice	(1)	(2)	(3)			
	low	medium	high			
Panel A <i>mobility</i> reference category: immobile or foreign tax high						
foreign tax low or medium	0.062***	-0.004	-0.059***			
	(0.013)	(0.004)	(0.013)			
mean	0.151	0.710	0.139			
N	2038	2038	2038			
Panel B migration belief reference category: rich does not migrate if domestic tax is high						
rich migrates if domestic tax is high	0.092***	-0.018**	-0.074***			
	(0.024)	(0.008)	(0.020)			
mean	0.159	0.717	0.123			
N	1511	1511	1511			

Notes: * p<0.1, ** p<0.05, *** p<0.01. The presented coefficients are average marginal effects of the following ordered logistic regression: $Y_i = \beta T_i + \epsilon_i$, where Y_i is the tax choice and T_i is either a dummy equaling one if the foreign tax rate is low or medium or a dummy equaling one if i beliefs that the rich will migrate if the home tax rate is high. Robust standard errors are in parentheses.

choices of the poor. Given the credible threat of the rich leaving the country, the poor have the incentive to vote for a lower tax rate (Hypothesis 4a). We test this hypothesis by comparing the tax choices of the poor in the mobility treatment with low or medium foreign taxes to the tax choices of the poor pooled from the no-mobility treatment and from the mobility treatment with a high foreign tax. Figures 2a and 2b show that the threat of migration indeed induces the poor to be less likely to vote for the high tax. As Panel A of Table 6 shows, this difference amounts to 5.9 percentage points and is statistically significant at the 1% level. This result is in line with Hypothesis 4a. Even though the effect size is only moderate in the context of our model, it is a sizeable shift compared to the sample average in the data.

In line with Hypothesis 4b, we also find that the poor are significantly less likely to vote for the high tax if they believe that the rich will migrate when the tax rate is high (see Panel B of Table 6).

Regarding the impact of political ideology on the tax choices of the poor, we consider two possible channels on how the political ideology of the poor could affect their tax choices. First, the left-leaning poor could be more optimistic than the right-leaning poor about the migration choices of the rich. Second, the left-leaning poor could be more likely to be extremely inequality averse. Since we do not find an impact of the political ideology of the poor on their beliefs about the migration choices of the rich (see

Result 3(ii)), there is no evidence for the belief difference underlying the first channel. Hence, support for 4c would point to the second channel. We find mixed support for this hypothesis. While there is no difference between the poor who support left-of-center parties and right-of-center parties (see columns 4 to 6 of Panel A in Table 2), we do find that the poor who are in favor of redistribution are significantly more likely to vote for the high tax than those opposed to redistribution (see Panel B of Table 2). This could indicate that some participants have extreme inequality aversion and that this affects both stated redistribution preferences as well as tax choices in our experiment. The incidence of extreme inequality aversion, however, does not appear to be systematically related to party preferences. We summarize our results on political ideology and tax choices of the poor in

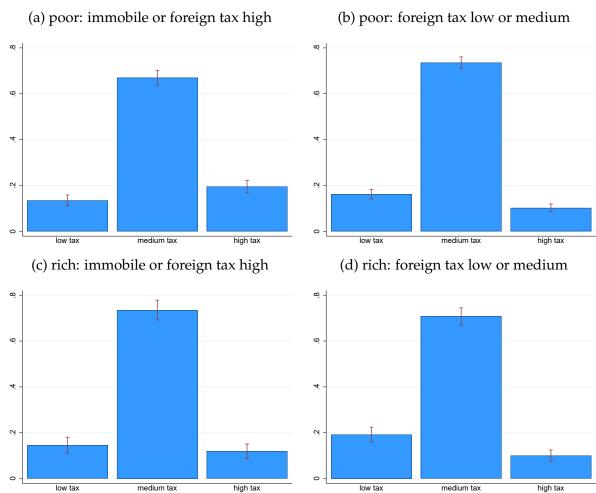
Result 4 (tax choices and political attitudes of the poor).

- (i) The tax choices of the poor react to the possibility of the rich migrating as predicted by Hypothesis 4a.
- (ii) The poor are less likely to choose high taxes if they believe that the rich will migrate when domestic taxes are high, supporting Hypothesis 4b.
- (iii) The poor players' political party preference is not significantly related to their tax choices, but those with a high preference for redistribution vote for a higher tax rate. Hence, we find mixed evidence with respect to Hypothesis 4c.

As the main insight regarding the role of political ideology in tax choices, we find that it matters when our participants are in the role of the rich but it does not when they are in the role of the poor. This is in line with our model as far as inequality aversion relates to political ideology because for the rich already moderate levels of inequality aversion can affect their choices, while only extreme levels do so for the poor. We do find some weak evidence of extreme aversion towards disadvantageous inequality, which does not seem to be systematically related to political party orientation, though. An alternative channel that predicts political preferences to impact the tax choice of the poor via their beliefs does not find support, either. Therefore, our results suggest that political attitudes can moderate the effects of mobility on tax competition and a race to the bottom. The channel is not, however, over-optimistic beliefs or ideology-driven taxation choices of the (left-leaning) poor but rather the benevolence of a sizable part of the (left-leaning) rich.

Overall, our findings confirm the hypotheses derived from the comparative statics of our model. However, one finding is notable. Although the poor, when choosing taxes, react to migration incentives of the rich as predicted, the effect is quantitatively small (Result 4(i)). This is puzzling in light of the fact that migration beliefs of the poor react strongly to migration incentives (Result 3(i)). In the next section, we discuss this result in more detail.

Figure 2: Tax choices by migration incentives



Notes: This figure plots the tax rates chosen by the poor (Panels a and b) and the rich (Panels c and d) when mobility is not possible or the foreign tax is high (Panels a and c) and when mobility is possible and the foreign tax is low or medium (Panels b and d). 95% confidence bands are displayed.

3.2 Levels of Tax Choices

Considering levels of tax choices in our experiment, we find a strong concentration on the medium tax and a relatively weak difference between the rich and the poor as well as among treatments (see Figure 2). The choice of the rich, choosing medium instead of low taxes, is in principle consistent with our model, because, for an intermediate level of inequality aversion, they could be indifferent between all tax rates (see Comparative Static 1). However, it appears surprising that such a high share of the rich is concentrated on the intermediate level of inequality aversion that just makes them indifferent among tax rates and break indifference in favor of the medium tax.¹⁵ More importantly, the poor also primarily choose medium taxes even when the rich are not mobile or foreign taxes are high, which can no longer be rationalized within our model.

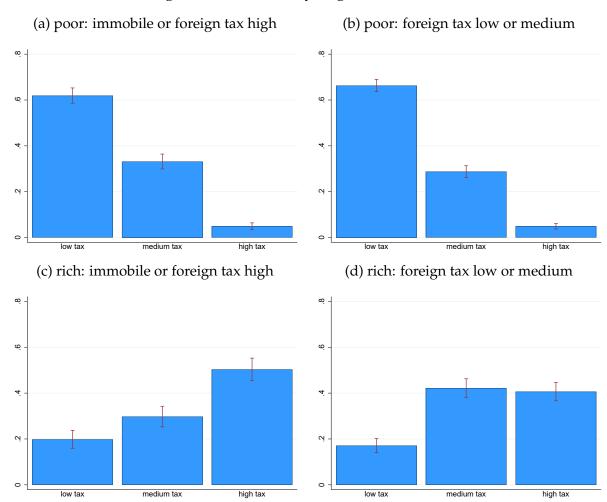
A possible reason for the concentration of tax choices on the medium tax rate is a potential misunderstanding of the experimental task, which is arguably more likely in a survey than in a laboratory experiment because participants in the former cannot ask clarifying questions, and the more diverse sample in the survey experiment may on average have more problems understanding the task compared to the typical student sample in the lab (Snowberg and Yariv, 2021). For two reasons, we do not believe that misunderstanding is the dominant factor behind our relatively weak support for the point predictions of our model. First, note that beliefs are much closer to the point predictions of the benchmark model without inequality aversion than choices are (see Figure 3). This suggests that most participants do understand the monetary incentives in the tax game.

Second, we run robustness checks for our tests, excluding participants who appear most likely to be confused, namely those who are either the fastest or the slowest in completing the experiment. Very fast participants have likely not carefully read the instructions, whereas very slow participants have likely had trouble understanding the survey. Excluding both the fastest and the slowest 5% does not overall affect our test results much (see Appendix Tables C.9 to C.13). Furthermore, we create a dummy for deviating from the benchmark equilibrium. We regress this dummy on the respondents' education level, the time they took to complete the survey, and a dummy equaling one if the respondent interrupted the survey at some point. None of these factors can ex-

¹⁵ The inability to explain intermediate choices is a problem that is often encountered in applications of the Fehr-Schmidt model due to its linearity. Assuming instead that the utility loss is convex in the inequality allows for explanations of intermediate choices by intermediate levels of inequality aversion.

plain deviations from the benchmark equilibrium both in tax choices and beliefs (see Appendix Table C.4), thus not pointing towards a possible misunderstanding of incentives, either.¹⁶ For many participants, the experiment was probably an unusual situ-

Figure 3: Tax beliefs by migration incentives



Notes: This figure plots the tax beliefs of the poor (Panel a and b) and rich (Panel c and d) when mobility is not possible or the foreign tax is high (Panels and c) or when mobility is possible and the foreign tax is low or medium (Panels b and d). 95% confidence bands are displayed.

ation. Choosing the "middle" may then have appeared to them a good compromise between conflicting motives, specifically their self-interest and a desire to be fair, or

¹⁶ Another possible explanation is that participants take real tax rates as a sensible benchmark into account. For instance, they may refer to their personal tax rate as a guidance of what is appropriate. If this was true, we would expect tax rate choices in the experiment to correlate with actual household income. However, when using eight net household income dummies as explanatory variables, we do not find such an effect (see Appendix Table C.5).

looking not too greedy, as in the model by Benabou and Tirole (2006).¹⁷ However, even if feeling unsure about the situation is explaining the heavy choice of medium tax rates, this leaves the question of why beliefs about tax choices of the other type are much closer to the predictions for rational selfish individuals than actual choices are. Possibly, while our participants trade off the motives of maximizing earnings with a desire to be fair or not to appear too greedy, they may underestimate how much others share these motives. When thinking about what other people do, it is easy to understand their material incentives, but much more difficult to predict which further motives affect choices.

4 Concluding Discussion

We study voting on taxation in the presence of mobility of high-income earners in a simple game that we implemented in an online survey experiment, based on a fairly large, representative sample of the German population. Tax-induced mobility has been at the center of recent theoretical and empirical research, as it is a key component in understanding and quantifying the link between international economic integration on the one hand, and the government's ability to provide public goods and shape the degree of inequality on the other hand. We contribute to this literature by analyzing the role of political attitudes that may correlate with the preferred choice of tax rates, migration decisions, and beliefs of participants in our experiment. Controlling for demographic characteristics such as age, income, and education, we find that behavior does correlate with political attitudes in a predictable way. In the role of the rich, left-leaning participants tend to be more likely than right-leaning ones to vote for higher taxes despite hurting themselves. Compared to the right-leaning, the left-leaning also migrate less when migration pays, but exhibit no difference when it does not. Beliefs of the poor about the migration choices of the rich, however, are not systematically related to political attitudes. Our finding that the right-leaning are less prone to redistribution when it hurts them is in line with the result by Karadja et al. (2017) that only those right of center become more averse to redistribution when they learn that they rank higher in the income distribution than they thought.

There are three interesting implications of our results. First, our findings attenuate the race-to-the-bottom argument that the increasing mobility of labor (and capital) leads

¹⁷ Choices that avoid extremes and favor compromises between various motives have frequently been observed in other contexts (see, e.g., Simonson, 1989; Simonson and Tversky, 1992).

to sub-optimally low taxes and public spending (for a survey of this literature, see Keen and Konrad, 2013). A sizable share of participants migrate less and choose higher tax rates than would be expected in the absence of social preferences. Second, political attitudes do not simply reflect easily measurable demographic characteristics. Third, the possible impact of political attitudes on behavior does not seem to be the result of politically biased expectations about others' behavior but of a correlation between political attitudes and social preferences.

Of course, generalizing from our experiment to field data should be done with care. In the field, income is endogenous, whereas in our experiment the income distribution depends purely on luck and not on effort or skill. This should make many participants more willing to distribute payoff from the rich to the poor. Almås et al. (2020) indeed find a substantially higher share of participants distributing earnings equally among workers when income differences are driven by luck than when they are driven by effort. Therefore, in the field, more selfish behavior by the rich can be expected than in our data. Income being endogenous may also affect beliefs, such that our results of political ideology not affecting beliefs may not generalize to the field. Furthermore, in the field, political attitudes are likely related to income, either because income over the long term affects attitudes or because political attitudes also affect effort and career choices. This, however, is also a strength of our design, because we can disentangle the effects of income and attitudes. Finally, the highly stylized setting of our experiment limits its generalizability. Arguably, though, the impact of political attitudes we find in our setting is a lower bound of their impact in the field. Political attitudes are likely to affect choices in a richer setting more strongly because there are several additional parameters that can be affected. In particular, views about the degree to which effort and luck affect income differences likely matter in the field, whereas they cannot in our experiment that is fully transparent on the source of the payoff differences.

To summarize, as with laboratory and other stylized experiments such as online experiments, one should not draw quantitative conclusions from our study, but focus on qualitative aspects, in particular, that political attitudes appear to relate to preferences, but not that much to beliefs. Naturally, by making one-third of the population "rich" in our experiment, we enlarge the relevance of the rich migrating. However, adapting parameters such that the phenomenon of interest becomes more relevant as if putting it under a looking glass is a common practice in experiments that want to study qualitative effects. Our results also find parallels in the political debate about the taxation

and mobility of rich individuals, as we outlined in the introduction. Furthermore, while rich individuals moving abroad may not be the main concern of tax policy, companies moving abroad to benefit from lower corporate taxes plays a big role, as is evident from recent agreements among major economies on minimum corporate taxes. Of course, companies are not directly comparable to the individual choices we observe. However, companies are also run by humans, with their political and social preferences and there is evidence the political leaning of CEOs matters for firm outcomes (Bizjak et al., 2022; Cohen et al., 2021). Furthermore, ideological differences of individuals could affect both beliefs about firms' migration intentions as well as preferences about taxing firms in spite of their incentives to migrate.

Our paper also provides a methodological contribution to the analysis of the role of political attitudes. Stated preferences in surveys lack incentive compatibility. A standard alternative to surveys is laboratory experiments. Our study, however, reveals the advantages of a survey experiment over a laboratory experiment. Prior to conducting our survey experiment, we studied the impact of migration on tax choices and their relation to political attitudes in a laboratory experiment. In this laboratory experiment, choices are overall much closer to the selfish equilibrium prediction than in our survey experiment (see Online Appendix E). Furthermore, we find little impact of political preferences on the choices in the laboratory experiment. This is apparently due to the fact that most of our participants support one of the large parties that tend to have moderate views on economic issues. There is some indication in our data that supporters of smaller parties make different choices, but they are too rare in our laboratory sample for a meaningful statistical analysis.

More important than the difference in the overall pattern of choices between the survey experiment and the laboratory experiment is thus the insight that the laboratory sample is not suitable to study the relation of political ideology, tax, and migration choices. Our survey experiment suggests that while the effects of political ideology are relevant, they can only be detected if two conditions are met. First, sample sizes have to be sufficiently large in order to have a sizable share of supporters also for smaller parties, which are more likely to hold strong views. This holds in particular in Germany and similar countries where the majority of people support economically moderate parties. Second, political ideologies need to be sufficiently firmly established. The first condition is hard to meet in a laboratory experiment due to constraints on the budget and subject pool size. The second condition is arguably also harder to satisfy with

a student pool. In contrast to a typical laboratory experiment, our survey experiment is based on a large representative sample of the adult German population, enhancing the external validity of our results. Therefore, for studying the impact of ideology, integrating the experiment into online surveys is a more fruitful approach. It is a general insight that surveys, field experiments, and laboratory experiments are complementary. Survey experiments may be a good compromise for research questions such as ours. They provide exogenous variation, can be incentivized, and have the necessary sample size as well as variation in political ideology to permit a thorough investigation of the effects of political attitudes.

References

- Agrawal, D. R. and D. Foremny (2019). Relocation of the rich: Migration in response to top tax rate changes from Spanish reforms. *Review of Economics and Statistics* 101(2), 214–232.
- Akcigit, U., S. Baslandze, and S. Stantcheva (2016). Taxation and the international mobility of inventors. *The American Economic Review* 106(10), 2930–2981.
- Alesina, A. and G.-M. Angeletos (2005). Fairness and redistribution. *American Economic Review* 95(4), 960–980.
- Alesina, A., A. Miano, and S. Stantcheva (2023). Immigration and redistribution. *The Review of Economic Studies* 90(1), 1–39.
- Almås, I., A. W. Cappelen, and B. Tungodden (2020). Cutthroat capitalism versus cuddly socialism: Are Americans more meritocratic and efficiency-seeking than Scandinavians? *Journal of Political Economy* 128(5), 1753–1788.
- Benabou, R. and J. Tirole (2006). Belief in a just world and redistributive politics. *The Quarterly Journal of Economics* 121(2), 699–746.
- Bierbrauer, F., C. Brett, and J. A. Weymark (2013). Strategic nonlinear income tax competition with perfect labor mobility. *Games and Economic Behavior 82*, 292–311.
- Bizjak, J. M., S. L. Kalpathy, V. T. Mihov, and J. Ren (2022). CEO political leanings and store-level economic activity during the Covid-19 crisis: Effects on shareholder value and public health. *The Journal of Finance* 77(5), 2949–2986.
- Blanco, M., D. Engelmann, A. K. Koch, and H.-T. Normann (2014). Preferences and beliefs in a sequential social dilemma: A within-subjects analysis. *Games and Economic Behavior 87*, 122–135.
- Blom, A. G., C. Gathmann, and U. Krieger (2015). Setting up an online panel representative of the general population: The German Internet Panel. *Field Methods* 27(4), 391–408.
- Blumkin, T., E. Sadka, and Y. Shem-Tov (2015). International tax competition: Zero tax rate at the top re-established. *International Tax and Public Finance* 22(5), 760–776.

- Casal, S., V. Grimm, and S. Schächtele (2019). Taxation with mobile high-income agents: Experimental evidence on tax compliance and equity perceptions. *Games* 10(4), 42.
- Charité, J., R. Fisman, I. Kuziemko, and K. Zhang (2022). Reference points and redistributive preferences: Experimental evidence. *Journal of Public Economics* 216, 104–761.
- Cohen, A., M. Hazan, and D. Weiss (2021). Politics and gender in the executive suite. *NBER Working Paper No* 28893.
- Dahlberg, M., K. Edmark, and H. Lundqvist (2012). Ethnic diversity and preferences for redistribution. *Journal of Political Economy* 120(1), 41–76.
- Egger, P., S. Nigai, and N. M. Strecker (2019). The taxing deed of globalization. *American Economic Review* 109(2), 353–90.
- Engelmann, D. and M. Strobel (2000). The false consensus effect disappears if representative information and monetary incentives are given. *Experimental Economics* 3(3), 241–260.
- Engelmann, D. and M. Strobel (2004). Inequality aversion, efficiency, and maximin preferences in simple distribution experiments. *American Economic Review* 94(4), 857–869.
- Engelmann, D. and M. Strobel (2007). Preferences over income distributions: Experimental evidence. *Public Finance Review* 35(2), 285–310.
- Höchtl, W., R. Sausgruber, and J.-R. Tyran (2012). Inequality aversion and voting on redistribution. *European Economic Review* 56(7), 1406–1421.
- Janeba, E. (2014). Tax policy, tax competition, and fiscal rules: Insights from a classroom experiment and surveys of politicians. *FinanzArchiv: Public Finance Analysis* 70(3), 345–373.
- Karadja, M., J. Mollerstrom, and D. Seim (2017). Richer (and holier) than thou? The effect of relative income improvements on demand for redistribution. *The Review of Economics and Statistics* 99(2), 201–212.
- Keen, M. and K. A. Konrad (2013). The theory of international tax competition and coordination. In *Handbook of Public Economics*, Volume 5, pp. 257–328.

- Kerschbamer, R. and D. Müller (2020). Social preferences and political attitudes: An online experiment on a large heterogeneous sample. *Journal of Public Economics* 182, 104076.
- Kleven, H., C. Landais, M. Munoz, and S. Stantcheva (2020). Taxation and migration: Evidence and policy implications. *Journal of Economic Perspectives* 34(2), 119–42.
- Kleven, H. J., C. Landais, and E. Saez (2013). Taxation and international migration of superstars: Evidence from the European football market. *The American Economic Review* 103(5), 1892–1924.
- Kleven, H. J., C. Landais, E. Saez, and E. Schultz (2014). Migration and wage effects of taxing top earners: Evidence from the foreigners' tax scheme in Denmark. *The Quarterly Journal of Economics* 129(1), 333–378.
- Lehmann, E., L. Simula, and A. Trannoy (2014). Tax me if you can! Optimal nonlinear income tax between competing governments. *The Quarterly Journal of Economics* 129(4), 1995–2030.
- Mirrlees, J. A. (1971). An exploration in the theory of optimum income taxation. *The Review of Economic Studies 38*(2), 175–208.
- Morelli, M., H. Yang, and L. Ye (2012). Competitive nonlinear taxation and constitutional choice. *American Economic Journal: Microeconomics* 4(1), 142–175.
- Moretti, E. and D. Wilson (2023). Taxing billionaires: Estate taxes and the geographical location of the ultra-wealthy. *American Economic Journal: Economic Policy* (forthcoming).
- Muñoz, M. (2019). Do European top earners react to labour taxation through migration? *WID Working Paper* 12.
- Simonson, I. (1989). Choice based on reasons: The case of attraction and compromise effects. *Journal of Consumer Research* 16(2), 158–174.
- Simonson, I. and A. Tversky (1992). Choice in context: Tradeoff contrast and extremeness aversion. *Journal of Marketing Research* 29(3), 281–295.
- Simula, L. and A. Trannoy (2010). Optimal income tax under the threat of migration by top-income earners. *Journal of Public Economics* 94(1), 163–173.

- Snowberg, E. and L. Yariv (2021). Testing the waters: Behavior across participant pools. *American Economic Review* 111(2), 687–719.
- Weinzierl, M. (2017). Popular acceptance of inequality due to innate brute luck and support for classical benefit-based taxation. *Journal of Public Economics* 155, 54–63.
- Wilson, J. D. (1980). The effect of potential emigration on the optimal linear income tax. *Journal of Public Economics* 14(3), 339–353.