Perceptions of Inherited Wealth and the Support for Inheritance Taxation*

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Abstract

We study how attitudes to inheritance taxation are influenced by information about the role of inherited wealth in society. Using a randomized experiment in a register-linked Swedish survey, we find that informing individuals about the large aggregate importance of inherited wealth and its link to inequality of opportunity significantly increases the support for inheritance taxation. Changes in the perceived economic importance of inherited wealth and altered views on whether luck matters most for economic success appear to be driving factors behind the treatment effect. Our findings suggest that the low salience of inherited wealth could be one explanation behind the relatively marginalized role of inheritance taxation in developed economies.

Keywords: Capital taxation, Preferences for redistribution, Equality of opportunity, Randomized experiment

JEL classification: D31, H20, H31.

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1 Introduction

The taxation of inheritance and gifts has declined in many countries over the recent decades.[1] This decline occurs at a time when the economic significance of inherited wealth in society appears to have increased. Studies of France and Sweden show that aggregate bequest and gift flows have doubled in size over the last twenty years (Piketty 2011, Ohlsson, Roine and Waldenström 2019) and microdata evidence shows that heirs with the highest income and wealth receive the largest bequests.[2] Furthermore, a recent strand in the optimal taxation literature highlights that inheritance taxation can be a useful component of the tax system, especially if the government cares about equality of opportunity (Farhi and Werning 2013, Piketty and Saez 2013).[3]

The simultaneous decrease in the reliance on inheritance taxation and increase in the economic importance of inherited wealth may seem puzzling from a scholarly point of view. One potential explanation could be related to people's awareness of the recent trends in the role of inherited wealth in household portfolios. If people do not perceive that the societal importance of inheritance has changed, they are less likely to alter their political stance on its taxation. Policymakers take the public opinion into account when they balance the social and economic desirability of taxes against their political feasibility, and this balance appears to be particularly difficult to achieve in the case of capital taxes (Mankiw, Weinzierl and Yagan 2009, Scheuer and Wolitzky 2016, Scheve and Stasavage 2016). Therefore, to understand the evolution of inheritance taxation in developed economies, it is necessary to study the factors determining the social acceptance of the inheritance tax. In particular, it may require an inquiry into what people know about inherited wealth in the economy and how such knowledge translates into political views of taxation.

This study analyzes attitudes towards inheritance taxation and how they depend on perceptions of the economic importance of inherited wealth in society. The analysis is based on new data from a recent household survey in Sweden that targeted a large, nationally representative, sample of register-linked respondents. A key part of the survey was a randomized information experiment in which randomly selected

[1] According to Tax Foundation (2015), thirteen countries (of which eight are European) have repealed their inheritance or estate taxes since 2000. Finland and Denmark have recently witnessed parliamentary initiatives to abolish their inheritance taxes.

[2] Boserup, Kopczuk and Kreiner (2016) and Elinder, Erixson and Waldenström (2018) document, for Denmark and Sweden, respectively, a positive correlation between bequests and heirs' income and wealth. They also find that bequests are more important in relative terms lower down in the income and wealth distributions. Nikoeï and Seim (2018) find similar evidence for Sweden but also highlight that poor and wealthy heirs have different consumption patterns which can imply different effects of inheritance on inequality in the short and long run. Adermon, Lindahl and Waldenström (2018) find that bequests account for a large, perhaps half, of intergenerational wealth correlations in postwar Sweden, and Boserup, Kreiner and Kopczuk (2018) find strong links between bequests and early childhood wealth status.

[3] See Bastani and Waldenström (2018) for a recent synthesis of the research literature.

individuals were exposed to different research-based facts about inherited wealth.[4] One of these facts was that approximately half of all household wealth in Sweden has been inherited. Furthermore, we informed about the fact that heirs with higher income receive larger bequests and that half of Sweden's billionaires have inherited their fortunes.

The estimated treatment effect shows that the popular support for an inheritance tax increases significantly in response to our information treatment; the support is 30 percent higher in the treatment group than in the control group. Since the treatment was randomly assigned, this effect has a causal interpretation.[5] Using linked administrative register data, we analyze heterogeneous treatment effects across income, wealth, age, marital status, family circumstances, educational attainment and political views. Even though many of these variables are correlated with the support for inheritance taxation, we do not detect any strong interaction effects between them and the treatment, but this could be due to insufficient power. Using the binning estimator of Hainmueller et al. (2019), allowing for nonlinear interaction effects, we highlight some interesting patterns, such as a tendency for treatment effects to be decreasing in the respondents' net wealth position.

To understand how the treatment effect operates, we first propose a simple theoretical model that highlights three key factors behind people's support for an inheritance tax: (i) their perceived share of total wealth in the economy that has been inherited, (ii) their preferences for redistribution, and (iii) their expected personal tax burden. The basic lesson is that support for inheritance taxation is likely to be low when people who are open to the idea of inheritance taxation, and who prefer to live in a society where the government intervenes to foster equality of opportunity, underestimate the importance of inherited wealth. The model also captures the idea that concerns over private economic circumstances can curtail desires to promote equality in society.

We empirically evaluate the role of perceptions by using a question asked early in the survey about the share of total household wealth that respondents think derives from past inheritance. Comparing the distributions of perceived shares in the treatment and control group, we find that untreated individuals systematically underestimate the fraction of inherited wealth in household portfolios, and that the distribution of perceived shares in the treatment group is substantially shifted to the right, in the direction of the actual fraction. We then link this perception-shift to the increase in sup-

[4] In an unpublished companion paper, we make an in-depth descriptive analysis of the survey.

[5] We do not know how persistent our treatment effect is. Results from previous related studies suggest that effects are stable at least for a few weeks after the initial experiment. For example, Kuziemko et al. (2015) run a follow-up survey four weeks after their initial survey and find that the estimated positive effect on the support for estate taxation seems to have persisted. Alesina et al. (2018) found that their treatment effect of an increased support for income redistribution persisted in a follow-up survey one week later. An important topic for future research is to analyze the persistence of the effects from information experiments over longer time horizons.

port for inheritance taxation using an instrumental variable approach and a mediating variable analysis along the lines of Imai et al. (2011). We also perform a descriptive decomposition analysis where we condition the dependent variable on the perceived economic importance of inherited wealth, estimating the effects of the treatment on the joint probability that an individual supports inheritance taxation and contemporaneously believes that a large share of household wealth has been inherited. These exercises suggest that the treatment effect on tax support is significantly driven by people who change their perception of the economic importance of inherited wealth.

The mechanisms underlying the treatment responses can be further examined by using some other questions in the survey. Perhaps, most importantly, we show that the treatment has a strong influence on whether or not people believe luck or unfairness is the most important determinant of economic success. The effect is strikingly similar in magnitude to the treatment effect on inheritance tax support, which is in line with the equality of opportunity-justification for inheritance taxation. This suggests that respondents associate a high economic importance of inherited wealth with inequality of opportunity.[6] We also asked about people's support for differentially designed inheritance taxes. Our baseline inheritance tax question referred simply to a "tax on bequests" and it was preceded by a brief background about the Swedish inheritance tax that existed until 2004. This tax had an exceptionally low exemption threshold, approximately 7,000 EUR per heir, and most heirs were therefore exposed to this tax.[7] We then asked about a tax restricted to "large" bequests, allowing us to differentiate between *low exemption* inheritance taxes (like the Swedish one) and *high exemption* inheritance taxes (like those in other countries). By doing this, we are able to study to what extent self-interested motives play a role in determining individuals' support for inheritance taxation.[8] Our results show that the support for the high exemption inheritance tax is considerably larger than for the baseline low exemption inheritance tax. We also find that the treatment effect is smaller for the high exemption inheritance tax. Both these findings are consistent with our theoretical framework.

[6]Previous empirical work from different countries has shown that people attach considerable weight to how incomes have been obtained when forming their views about income redistribution (Alesina and La Ferrara 2005, Weinzierl 2017, 2018, Almås, Cappelen and Tungodden 2017) and wealth redistribution (Fisman, Gladstone, Kuziemko and Naidu 2017). Lergetporer, Werner and Wößmann (2018) use a survey experiment in a different context, showing that equality of opportunity-based arguments are important for motivating the support for certain education policies.

[7]Exemption thresholds vary between 20,000 and 500,000 EUR in in other European countries and the exemption threshold is over 5 million USD, see Appendix A.1.

[8]Kuziemko et al. (2015) study how attitudes to the US estate tax are affected by an experimental treatment informing people that that only a tiny fraction of US households are wealthy enough to be subject to the estate tax. They find that this drastically increases the support for the tax. Thus there seems to be a strong tendency for people to support inheritance taxes that they no not expect to pay. This also suggests that if one would to perform our experiment in the US context, taking the current US implementation of the estate tax as given, it would be difficult to separate between self-interested forces and other determinants of inheritance tax support as the former probably would overshadow the latter.

A number of sensitivity checks suggest that our results are robust across several dimensions. The treatment effect is consistent across different survey answer categories (reflecting different degrees of intensity of support) and types of tax design (such as proposing to make the inheritance tax revenue-neutral or exempting family firms from inheritance taxation). Moreover, we find that the effect of the inheritance tax treatment on other capital taxes is negligible, reinforcing the link between providing information about the importance of inherited wealth and an increased support for inheritance taxation. Finally, we also test for potential experimental setting (Hawthorne) effects and discuss psychological framing effects, and analyze the effects for individuals who responded to our survey with different time lags.

Our paper connects to research on the relationship between perceived or actual levels of inequality and preferences for redistribution. Models by, for example, Piketty (1995) and Bénabou and Ok (2001) analyze how preferences for redistribution are shaped by individual experiences and perceptions of the income-generating process, and a large empirical literature addresses these questions in different ways.[9] A recent strand in the literature uses information experiments and survey data to identify causal links between perceptions of inequality and the demand for taxation, and are therefore more directly related to our study (see, for example, Cruces, Perez-Truglia and Tetaz 2013 , Kuziemko, Norton, Saez and Stantcheva 2015, Ashok, Kuziemko and Washington 2015, Karadja, Möllerström and Seim 2017, Weinzierl 2017, 2018, Fisman, Gladstone, Kuziemko and Naidu 2017, and Alesina, Stantcheva and Teso 2018).

Kuziemko et al. (2015) use survey responses among internet-based task-performers, so-called Amazon Mechanical Turks, to assess the disconnect between rising inequality and lack of support for redistribution, in particular, in terms of the taxation of estates of deceased individuals. While they mainly focus on income taxation, one of their results is that when informing people that only a tiny fraction (less than a percent) of all decedents in the US are sufficiently wealthy to be subject to the estate tax, this increases the support for the estate tax substantially. Whether this effect reflects a self-serving interest (people support taxes that they do not expect to pay themselves) or equity concern (people infer from the treatment information that the distribution of estates is highly skewed) is not clear. Alesina et al. (2018) ask about attitudes to estate taxation in a cross-country survey context. Their experimental treatment is to expose people to facts about income mobility and this does not appear to influence people's support for estate taxation. Fisman et al. (2017) use an experimental design where they confront a survey population of Amazon Mechanical Turks with different hypothetical scenarios in which wealth and income have been generated in different ways. One of their main findings is that respondents become more supportive of wealth taxation when wealth is perceived to have been inherited rather than having been generated

[9] See Alesina, Giuliano, Bisin and Benhabib (2011) for an overview of the literature

through lifecycle savings. They also highlight the importance of distinguishing between the optimality and political feasibility of tax policy. Another related paper is Sides (2016) who finds that providing correct information about who is potentially subject to estate tax increases support for the estate tax.

We complement these papers in several ways. First, we analyze the support for inheritance taxation, and how it responds to information about inherited wealth in the economy, rather than information about the structure of capital taxes or about intergenerational income mobility. Second, we study a nationally representative sample where individuals are drawn from administrative population registers which is especially valuable when one studies the factors behind the social acceptance of tax policies. Third, all our background variables are obtained from administrative registers. Fourth, we present a simple theoretical framework to help us understand how shifts in people's perceptions of inheritance can translate into changing political support for inheritance taxation.

The remainder of the paper is organized as follows. Section 2 describes the dataset and the experimental design. Section 3 presents the baseline results of how the treatment influences the support for inheritance taxation. Section 4 presents a theoretical framework for understanding how the treatment effect works via shifts in perceptions of inherited wealth and Section 5 evaluates this relationship empirically. Section 6 presents extensions and sensitivity analyses, and Section 7 concludes.

2 Experimental design, data and institutional setting

This section presents our survey and register data, describes the information experiment, as well as response patterns and randomization outcomes.

2.1 Survey of tax attitudes

We use data from a survey of tax attitudes that was designed by us and implemented by Statistics Sweden. The survey was distributed by postal mail to 12,000 individuals during May-June 2017. A sample population was randomly selected from the adult population (a total of approximately 8 million individuals) within 54 predefined strata constructed from four register variables: income (3 groups), housing wealth (3 groups), age (3 groups) and gender (2 groups). For each stratum, weights were created to enable the computation of results representative for the total population.

Responses were received from 5,776 persons, a response rate of 49 percent.[10] This

[10]Out of 12,000 sampled individuals, 212 were deceased or had emigrated. As part of a standard procedure for surveys administered by Statistics Sweden, the survey contained a set of reminders (one where the respondent received a postcard and another reminder containing a new copy of the survey). In Appendix B.4 we analyze differences between respondents who handed in the survey early versus those who handed it in later (after one or two reminders).

is an unusually high response rate for a mail-based non-governmental survey, which may partly be explained by the fact that we did not need to ask people about their personal economic circumstances since these are observed in the registers.[11] Analyzing the balance of responses using the register information, we find that survey participation is positively associated with being married, middle-aged or elderly, born in Sweden, highly educated and being a high-income earner.[12] Therefore, we use calibration weights designed by Statistics Sweden from observed background characteristics in order to account for these response patterns. In Section 6.6 and Appendix A.3, we discuss the stratification and weighting in greater detail as well as present descriptive statistics across samples showing that the populations are similar and that the calibration works as intended.[13]

A central objective when designing the survey was to keep it short and simple. Previous research suggests that complicated questions or long surveys deteriorate both response rates and the quality of answers.[14] In total, the survey posed 16 questions on a four-page questionnaire. The first two pages contained introductory questions about occupational status and housing (which complement the register information), general attitudes towards government spending on welfare services and military defense, views on inequality of opportunity (whether "luck and circumstance" or "hard work" matters most for economic success) and, finally, two questions about the aggregate economic importance of inherited wealth and housing wealth. As will be discussed later, one of these last questions will play a prominent role in the paper as it reflects people's perceptions of the importance of inherited wealth.

Our main interest in this study are two questions about inheritance taxation. The first question was phrased in the following way: "A tax on inheritance should be introduced". The second question was "A tax only on large inheritances should be introduced". In both questions, the response alternatives were "Agree fully", "Agree to a large extent", "Agree to some extent", "Do not agree", and, "No opinion".

The first inheritance tax question had a brief vignette informing respondents about what an inheritance (and gift) tax is, and how it was designed in 2004 when it was removed. Importantly, we inform about the (by international standards) low exemption

[11] Other similar research-based surveys in the Nordic countries have a response rate of around 30–35 percent (see the discussion in Karadja et al. 2017).

[12] A detailed examination of response patterns across survey questions shows no strong systematic patterns across groups of respondents.

[13] To assess the representativeness of our sample population, we test for differences between the calibrated sample of respondents and the design-weighted sample of respondents and non-respondents. The results show that the variables in the calibrated sample are close to population averages but the variables pertaining to marriage, children at home and taxable income exhibit some discrepancies. As a robustness check, we have in Section 6.6 carried out our main regression analysis under different weighting schemes and verified that the main insights from our analysis remain intact.

[14] Experimental evidence shows that the cognitive burden of survey questions affects both response time, dropout rates and the quality of answers (Lenzner, Kaczmirek and Lenzner 2009).

amount of 7,000 euros. Hence, respondents are induced to think about an inheritance tax that not only affects very wealthy people, but also those who expect to inherit or bequeath relatively modest amounts. In contrast, the purpose of the second question was to induce individuals to think about an inheritance tax with a large exemption threshold, affecting only the wealthiest. Throughout the paper, we will use the notation τ^{LE} to refer to the inheritance tax with a low exemption threshold and use τ^{HE} to refer to the inheritance tax with a high exemption threshold.

The Swedish institutional setting (that we describe in more detail in Appendix A.1) actually provides an interesting laboratory to approach certain important questions. When we ask about an inheritance tax with a low exemption amount, we provide an anchoring to the historical implementation of the Swedish inheritance tax. This enables us to analyze how our information treatment increases the willingness of individuals to support an inheritance tax that not only promotes egalitarian objectives, but also entails personal economic sacrifices. Conducting a similar experiment in a different context, where the institutional anchoring is such that only a very small fraction of the population would expect to be burdened by inheritance taxation, would make it more difficult to assess whether the effect of our treatment is due to individuals receiving information about the economic importance of inherited wealth, or whether the effect is due to informing individuals that they are unlikely to be burdened by the proposed inheritance tax.[15]

2.2 Register variables

A key advantage with our dataset is that the survey respondents (and their household members) are linked to administrative registers. This enables the selection of a nationally representative, stratified sample and provides access to precisely measured background characteristics. It also reduces the required length of the survey, as we do not need to ask about variables that we can observe in the registers.

The Swedish register databases are kept for population and tax-related purposes and contain information about age, gender, marital status and household composition, as well as tax-based records on income (wage, business income, pension income, interest payments, dividends and capital income, realized capital gains and losses, mutual fund returns), taxes paid and cash transfers received. Individual pretax taxable labor income (including self-employment income) is our main income variable and in our analysis we use dummy variables to separate between three income groups: the bottom half of the distribution (P0-50), the next 40 income percentiles (P50-90) and

[15]Kuziemko et al. (2015) find that approximately 50 percent of the population supports the estate tax when treated with information about the small fraction of the population that actually pays it. This is similar to the 41 percent baseline support we find in Sweden for the "large" inheritance tax.

the top decile (P90-100).[16] Household wealth is calculated using register information on values of property (houses) and condominium (tentant-owned) apartments, and a combination of observed and capitalized financial assets and liabilities (see Appendix A.2 for details). We create four wealth fractiles in the same way as for income. Using a specification with relatively broad wealth categories mitigates the problem of measurement error in the wealth variable.

Educational information is reported in the education register, and contains data about each individual's years of education and field of his/her educational degree. We also use information about political party vote shares in the Swedish 2018 general elections for each of the 6,004 election districts in Sweden. More specifically, we use data from the election authority and then link them to each respondent at the election district level. Our purpose is to use the geographical location of an individual as a proxy for individual political beliefs. We explain the election district data in greater detail, and show a clear relationship between local vote shares and ideological questions in our survey (support for defense spending, support for general raises or cuts in taxes and/or spending) in Appendix A.4.

2.3 Experimental setup and treatments

We randomly divided the sampled population into three equally sized groups, each containing 4,000 individuals. The first group received research-based information about inherited wealth, the second group received information about housing wealth, and the third group received no special information at all. In this paper, we focus on the inheritance treatment.[17] The purpose of the treatments was to convey information about the aggregate importance and distribution of each wealth category. The treatments came in the form of highlighted facts boxes on the front page of the cover letter of the survey, but all other information in that letter was identical for all groups. All three groups also received identical questionnaires.[18] Our ambition was to make the treatment information as neutral and descriptive as possible, avoiding information that could be interpreted as biased or misleading. The different arms of the survey experiment were of very similar length, reducing concerns about differential survey fatigue. Moreover, there were no differences in average time to response between individuals in the three groups.[19]

The inheritance treatment consisted of three research-based facts about inherited

[16] We try several alternative income definitions: individual vs household income, labor vs total income, one-year vs three-year averaged income, pretax vs disposable income. The results are qualitatively the same across these definitions as shown in Appendix B.2.

[17] We analyze the housing treatment in a separate paper. However, we use it in one place in this paper, namely in a robustness check analyzing the occurrence of "Hawthorne effects" (see Section 6.5).

[18] On our websites, translated versions of all cover sheets and the questionnaire are available.

[19] All three groups had an average time to response of around 19 days.

wealth in Sweden, presented in bullet points: "Inherited wealth represents about half of all wealth in the population.", "Those with the highest incomes inherit the most." and "A majority of Swedish billionaires have inherited their fortunes." The first fact refers to estimates of aggregate inherited wealth in Sweden by Ohlsson et al. (2019) and Adermon et al. (2018). The second fact is based on population register data on inheritances in Sweden, in which estates and bequests of all decedents and their heirs are linked to income tax registers.[20] The third fact relates to journalistic evidence on the wealthiest billionaires in Sweden (published in the Swedish variant of the Forbes 400) reported in Bastani and Waldenström (2018).[21] To signal the trustworthiness of the provided information, it was written in a footnote that the findings derive from research conducted at Uppsala University and Stockholm School of Economics.

The key message of the inheritance treatment is that inheritances are quantitatively important, that there is an income gradient in the amount inherited, and that inheritances matter particularly for the wealthiest in society. The treatment effectively combines information about the horizontal equity and social mobility implications of inheritance (through information about its overall scale) with information about the vertical equity implications (through information about how much of inheritances that go to the rich). Informing the general public about the economic role of inherited wealth is complex and difficult, and we are aware of that our selection of research facts captures central, though not all aspects of bequests and their distributional impact.[22]

We perform balancing checks of the randomization outcome across the treatment and control group in Table 1. The main message is that there are no strong indications of any systematic differences across the groups. Nonetheless, since the response rate is slightly different for the two groups, we will also compute bounds on our treatment effects along the lines of Lee (2009).

[20]The data comes from the Swedish inheritance tax register analyzed by Elinder et al. (2018) (which focused on the pre-inheritance wealth distribution of heirs.

[21]Additional support for these statements are found in studies of Denmark (Boserup et al. 2016, Boserup et al. 2018), France (Piketty 2011), Sweden (Nikoeï and Seim 2018) and the US (Wolff 2015). Furthermore, Di Tella, Drubra and Lagomarsino (2016) show how attitudes towards business elites influence people's attitudes towards progressive taxation.

[22]For example, some of the above-mentioned studies find that inheritances are relatively larger in relation to the pre-inheritance wealth of low-wealth heirs and may therefore decrease certain wealth inequality measures such as the Gini coefficient. These patterns are found in several contexts, but they must still be regarded preliminary due to data limitations. For example, there may be problems with under-reporting of inter-generational transfers due to tax avoidance and tax evasion (especially among the wealthiest). There is also limited information about funded pension wealth or durable consumer assets, which are relatively more important among less wealthy households. A different aspect is that inheritance can be seen as an undeserved advantage and therefore contributes to inequality of opportunity, independently of the effect of inheritance on the inequality of economic outcomes.

Table 1: Balancing test of the experiment

	Inheritance treatment (1)	Control group (2)	Inheritance−Control Difference (3)	p-value (4)
Male	0.51	0.52	-0.01	0.72
Age	48.91	49.83	-0.92	0.53
Married	0.41	0.47	-0.07	0.09
Children	0.36	0.43	-0.07	0.09
Foreign-born	0.17	0.22	-0.05	0.21
Taxable income, ind.	278	279	-1	0.96
Taxable income, hh.	511	541	-29	0.29
House value, hh.	1,443	1,689	-247	0.09
Wealth, ind.	1,224	999	225	0.35
Wealth, hh.	2,030	1,942	88	0.77
Primary school	0.19	0.20	-0.01	0.74
Secondary school	0.42	0.40	0.02	0.61
University	0.39	0.40	-0.01	0.81
Employee	0.50	0.48	0.02	0.62
Self-employed	0.06	0.08	-0.02	0.33
House ownership	0.38	0.41	-0.03	0.39
Apartment ownership	0.25	0.20	0.05	0.12
Observations	1,884	1,944		
Response rate (%)	47.4	49.1		

Note: All variables are stratification-weighted group averages among survey respondents, and measured as shares, except age, which is measured in years, and taxable income, house value and net wealth, which are measured in terms of thousands of euros (using exchange rate $EUR/SEK = 10$) for individuals ("ind.") and households ("hh.").

3 Effects on the support for inheritance taxation

In this section, we present the main empirical estimation of treatment effects on the individual support for inheritance taxation. We first run reduced form regressions and then examine effects for different response categories, and analyze potential heterogeneity in responses across socio-economic groups.

3.1 Baseline treatment effects

Our main specification is a reduced-form regression that tests the relationship between individual i's support for taxation, $Support_i$, an indicator of belonging to the treatment group, $Treatment$, individual controls X_i and a random error term u_i:

$$Support_i = \alpha + \beta Treatment + \delta' X_i + u_i. \quad (1)$$

In our baseline specification, $Support_i$ is a dummy equal to one if an individual express any degree of support for inheritance taxation. Table 2 and Figure 1 present coefficient estimates of β, the parameter of interest. In the case of a low exemption

tax, we find a positive and statistically significant effect of the inheritance treatment. Average support in the control group is 24.5 percent and the treatment effect is about eight percentage points, which suggests that the treatment increases support by about 30 percent. Since the treatment was randomly assigned, this effect has a causal interpretation. Including individual controls does not affect the result, which reinforces the above finding of a successful randomization. We have also computed bounds on the treatment effects under different assumptions regarding the nature of any potential attrition, based on Lee (2009) (see Appendix B.5).

Table 2: Treatment effect on the support for inheritance taxation

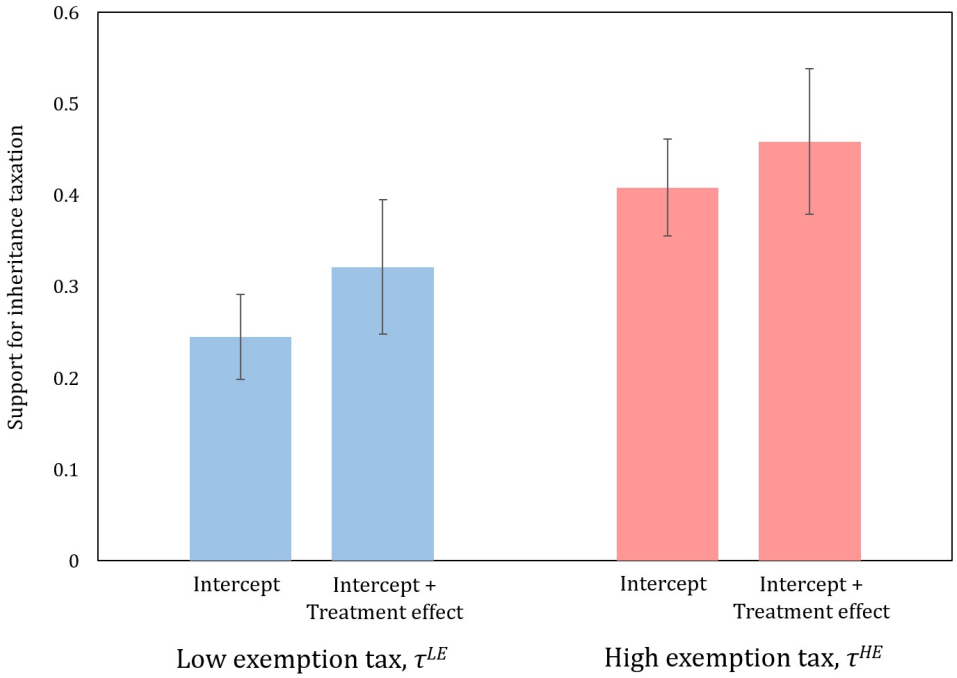
	Low exemption tax, τ^{LE}		High exemption tax, τ^{HE}	
	(1)	(2)	(3)	(4)
Treatment	0.080**	0.078**	0.043	0.052
	(0.036)	(0.034)	(0.041)	(0.037)
Married		0.052		0.029
		(0.037)		(0.039)
Children		0.013		-0.046
		(0.045)		(0.048)
Foreign-born		0.097		0.061
		(0.061)		(0.062)
University		0.121*		0.088
		(0.062)		(0.065)
Self-employed		-0.115**		-0.165***
		(0.052)		(0.052)
House owner		-0.032		0.056
		(0.047)		(0.049)
Apartment owner		0.039		0.179***
		(0.060)		(0.060)
Income P50-90		-0.050		-0.046
		(0.043)		(0.045)
Income top 10%		-0.164***		-0.124**
		(0.052)		(0.058)
Wealth P50-90		0.033		-0.072
		(0.043)		(0.044)
Wealth top 10%		0.003		-0.162***
		(0.053)		(0.055)
Constant	0.237***	0.159**	0.410***	0.319***
	(0.023)	(0.076)	(0.027)	(0.087)
Observations	3,687	3,568	3,674	3,561
Controls	No	Yes	No	Yes
Control mean	0.237	0.245	0.410	0.408

Note: The table shows regression coefficients where the dependent variable is support for a low or high exemption inheritance tax. Gender and age dummies are included in the regression but are suppressed for space considerations. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at 10%-, 5%-, and 1%-levels.

It is worth noting that several background characteristics are significantly correlated with supporting inheritance taxation. For example, university-educated respondents are significantly more positive to the tax. This is in line with the model of educational gradients in the political support for left or right-wing parties in Piketty (2018).

High earnings and self-employment are negatively correlated with the support for inheritance taxation, even after controlling for personal wealth.[23]

Figure 1: Main treatment effects



Note: The figure shows treatment effects retrieved from the regressions presented in Table 2, along with 95% confidence intervals.

When asking about a high exemption inheritance tax (columns 3 and 4), this generates a much higher overall support: 40.8 percent against 24.5 percent support for a broad tax on inheritance. This higher baseline support could reflect that individuals prefer a more progressive tax, but self-serving, or "pocketbook", motives could also be at play; people tend to support taxes they do not have to pay.[24] We will return to how to interpret the difference in baseline support, as well as the differential effects of the treatment on the support for the two taxes in section 4 below where we outline a simple model framework.

Notice that the estimates in Table 2 represent average treatment responses in the treatment group, sometimes referred to as intention-to-treat (ITT) effects. These effects approximate the impact of information campaigns in "real world"-settings where information reaches individuals through broadly distributed channels, such as tele-

[23]The result that high income but not high wealth individuals are more negative to inheritance taxation may seem puzzling. However, the high wealth group is likely to be rather heterogeneous consisting of individuals who obtained their wealth in different ways (some through their own hard work, and others by having wealthy parents). We provide a further analysis of the relationship between wealth heterogeneity and the treatment effect in section B.1.

[24]Slemrod (2006) is an early contribution showing that people in the US tend to misperceive the progressivity of taxes, especially the estate tax. Kuziemko et al. (2015) discovered that informing people that only a tiny fraction of the U.S. population (the richest elite) would pay the U.S. estate tax, people became significantly more supportive of the estate tax.

vision commercials. Some individuals can be reached through such communication and can therefore be said to have "received" the treatment. Others pay no attention, do not understand or do not accept the information. Thus, some individuals are untreated even if they belong to the treatment group. The ITT effect captures the average treatment effect across all potential recipients, both those who receive the treatment and those who do not, and hence does not consider the fact that only a fraction of the treated population complies with the treatment. In Section 5, we discuss average treatment effects on the treated.

3.2 Heterogeneous treatment effects

We now turn to examine if treatment effects differ across individuals with different observable characteristics in our register data, following the binning approach of Hainmueller et al. (2019) allowing for nonlinear interaction effects and safeguarding against excessive extrapolation.

Figure 2 shows the extent to which treatment effects on the support for a low and high exemption inheritance tax vary over the distribution of taxable income, net wealth, years of education and the political support for left-green parties in the respondent's election district. We use the inference-based approach to estimate conditional marginal treatment effects in a flexible way developed by by Hainmueller et al, allowing for a graphical illustration of binned point estimates along the distribution of each interacted variable. In our setting, we choose to illustrate our results using bins representing the bottom 10 percent, the middle 80 percent and the top 10 percent of each variable. Each graph also shows a straight line representing the estimate of a standard linear interaction term, with grey confidence bands indicating the statistical uncertainty of the estimate taking into account the density of observations pertaining to the interacted variable.

In the panels of figure 2, the treatment effects are indicated by dots together with confidence intervals that allow testing whether the effects are statistically significantly different from zero. In addition, the panels allow for testing whether the conditional marginal treatment effect is linear. If a dot lies outside the gray confidence band associated with the linear interaction term, the assumption of linearity should be rejected.

The overall message of this analysis is that we cannot detect any strong signs of heterogeneity of treatment effects along the distribution of taxable income, education, wealth and political orientation. Inspecting the point estimates reveals, however, some interesting patterns. First of all, the treatment effects appear to be increasing with income for the low-exemption inheritance tax, but decreasing with income for the high-exemption tax. There also appears to be a tendency for treatment effects to be increasing with education, at least for the case of the high-exemption inheritance

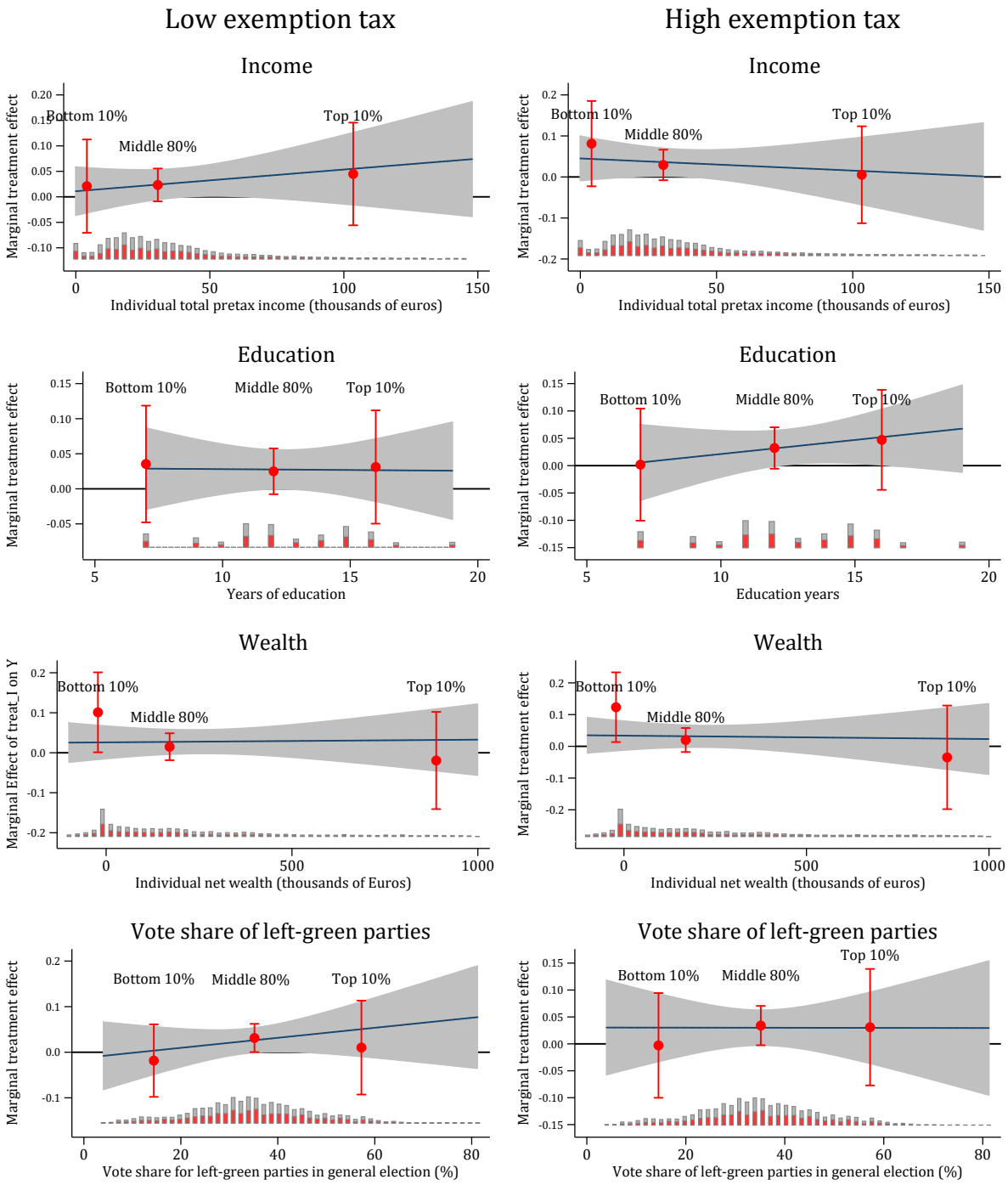
tax. The perhaps clearest pattern arises in the case of wealth, where treatment effects appear to be decreasing in net wealth for both types of inheritance taxes, with an especially pronounced tendency for low-wealth individuals to be in favor of inheritance taxation, and high wealth individuals to be against inheritance taxation.[25]

Table 3 presents additional results using a standard OLS regression with linear interactions.[26] The main effects are in several cases statistically significant with the expected signs, but the interaction terms are statistically insignificant and, in many cases, close to zero. The main exception is high-wealth individuals, who appear to be less inclined to support inheritance taxation when receiving the treatment. This finding is consistent with the results in figure 2.

[25]We have also examined treatment effects across the wealth distribution by partitioning the sample based on the age of respondents, hypothesizing that younger individuals face greater uncertainty (or know less about) their own current or future wealth status and thereby may be less dominated by self-interested motives when expressing their views on inheritance taxation. However, we find no evidence of statistically significant age differences along these lines.

[26]These are multivariate regressions, showing interaction effects conditional on other variables and interactions. Appendix Tables B1 and B1 show that bivariate variants yield roughly the same results.

Figure 2: Heterogeneous effects



Note: The panels show interaction effects of the inheritance treatment and different covariates on the support for inheritance taxation, using the method of Hainmueller et al. (2019). Four different register-based covariates are analyzed: individual total pretax income, individual net wealth, years of education and the vote share of left-green parties in the 2018 general elections in the respondent's election district. The output shows a linear interraction effect with a 95% confindent interval, estimated in a flexible way over the entire support of the covariate distribution, and also three point estimtes (in red) which are binned estimates of the interaction effect in the bottom 10%, middle 80% and top 10% of the distribution.

Table 3: Heterogeneous treatment effects

	Low exemption tax, τ^{LE} (1)	High exemption tax, τ^{HE} (2)
Treatment	0.045	-0.058
	(0.075)	(0.081)
University	0.048	0.025
	(0.071)	(0.075)
Treat × University	0.100	0.129
	(0.078)	(0.082)
Top income decile	-0.154***	-0.129*
	(0.058)	(0.070)
Treat × Top income decile	0.006	0.046
	(0.079)	(0.092)
Top wealth decile	0.080	-0.025
	(0.065)	(0.067)
Treat × Top wealth decile	-0.147*	-0.268***
	(0.085)	(0.085)
Cut taxes/spending	-0.068	-0.075
	(0.047)	(0.052)
Treat × Cut taxes/spending	0.010	0.052
	(0.074)	(0.078)
More defense spending	-0.119***	-0.243***
	(0.044)	(0.050)
Treat × Defense	0.023	0.184**
	(0.084)	(0.090)
Left-green party support	0.083*	0.036
	(0.045)	(0.049)
Treat × Left-green support	-0.019	0.013
	(0.071)	(0.076)
Observations	3,417	3,407
Controls	Yes	Yes
Control mean	0.245	0.408

Note: The table presents estimated linear interactions between the treatment and a selected set of covariates in regressions where the dependent variable is either the support for a low exemption inheritance tax or a high exemption inheritance tax. The average support for each tax in the control group is shown in the bottom of the table for reference purposes. *, **, *** denote statistical significance at the 10%-, 5%-, and 1%-level.

4 A simple model of support and perceptions

4.1 Baseline model

This section outlines a simple model framework to aid us in understanding how informing individuals about the economic importance of inherited wealth may influence the support for inheritance taxation. In very broad terms, there are two main channels through which informing people about the importance of inherited wealth could influence their support for inheritance taxation. First, conveying that inheritances are quantitatively important may suggest that there is substantial scope for inheritance taxation to increase the level of redistribution in society and combat inequality in out-

comes.[27] Second, the importance of inherited wealth in society is directly linked to social mobility, which might influence the support for an inheritance tax since it is usually perceived to be an effective to combat inequality of opportunity.

For the purpose of structuring the discussion, we proceed to illustrate potential mechanisms with a simple model. Suppose that individuals differ in their perceptions of how important or skewly distributed inherited wealth is in society, and that this perception is represented by the fraction of total wealth that has been inherited, $p \in [0, 1]$. Our interpretation here is that a higher share of inherited wealth implies a higher general degree of inequality in society. We also assume that people differ in their preferences, captured by a vector of preference parameters θ. The individual support for inheritance taxation, denoted $s(p, \theta)$, is assumed to be determined by these two quantities: the perceived importance of inherited wealth and policy preferences.

The effect of our information treatment is to transform s into a *post-treatment* support for inheritance taxation $\hat{s} = s(q, \theta)$ where $q = q(p, a)$ is the transformed post-treatment perception of the importance of inherited wealth. The post-treatment perception q depends on the pre-treatment perception p and the factual statement contained in our information treatment, denoted by a.[28] We assume that the treatment shifts p in the direction of the treatment fact, $|q - a| < |p - a|$.

Denoting by $f(p, \theta)$ the joint probability distribution of p and θ, and by $\hat{f}$ the joint probability distribution of q and θ, the treatment effect, denoted by Δ, is given by:

$$\Delta = \int s(q, \theta)\hat{f}(q, \theta)dpd\theta - \int s(p, \theta)f(p, \theta)dpd\theta. \tag{2}$$

The formulation $s(p, \theta)$ for the support for inheritance taxation is stylized, yet it allows to capture an important feature of how the support for taxing a specific tax base is determined, namely, *jointly* by preferences for redistribution and information. For example, if groups of the population who have preferences for an egalitarian wealth distribution underestimate the extent of wealth inequality, this will result in less support for redistributive policies as compared to a world with perfect information.

To make additional progress, we postulate a simple decision-rule determining the support for inheritance taxation where s takes the form

$$s(p, \theta) = \mathbf{1}[p > \theta], \tag{3}$$

where θ is assumed to have statistical support on $[0, 1)$ and $\mathbf{1}[\cdot]$ is the indicator func-

[27] For example, simple tax reforms, such as implementing positive inheritance taxation together with a redistribution of the tax proceeds in a uniform lump-sum manner would unambiguously make the distribution of disposable income more egalitarian.

[28] We assume that the preference parameter θ is unaffected by our treatment, which can be motivated by the fact that in our setting the treatment was designed to be neutral and conveying information rather than political messages.

tion. This special case implies that an individual supports inheritance taxation if the perceived importance of total wealth that is inherited exceeds the personal preference threshold θ. If θ is independent from p and q, and θ, p and q are distributed according to the marginal probability density functions $h(\theta)$, $f(p)$, and $g(q)$ (with corresponding CDFs H, F, and G), respectively, we have that:

$$\Delta = E_{\hat{f}}[s] - E_f[s] = \int_0^1 \int_\theta^1 \hat{f}(q,\theta) dq d\theta - \int_0^1 \int_\theta^1 f(p,\theta) dp d\theta = \\ = \int_0^1 \left[F(\theta) - G(\theta)\right] h(\theta) d\theta. \tag{4}$$

To interpret this expression, note that if all individuals underestimate the importance of inherited wealth and the effect of the treatment is to make individuals believe that the importance of inherited wealth is greater than their pre-treatment perceptions, we have that G first order stochastically dominates F, namely, $G(\theta) \leq F(\theta)$, which implies that $\Delta > 0$. From (4) we can also see that the treatment effect will be substantial if the effect on perceptions $F(\theta) - G(\theta)$ is large for preference thresholds θ shared by many individuals (that is, $h(\theta)$ is large). For example, the treatment effect will be substantial if a large fraction of the population consider a just society to be one where inherited wealth does not exceed $\theta = 1/3$, but where for many individuals the pre-treatment perception satisfies $p < 1/3$ whereas the post-treatment perception satisfies $q > 1/3$.

4.2 The role of ideological convictions and self-interested motives

The model above describes how shifting perceptions of inherited wealth can lead to an increased support for inheritance taxation. It applies to individuals who would be willing to support inheritance taxation, provided that the perceived economic importance of inherited wealth is sufficiently large.

In reality, there are individuals who never support inheritance taxation and individuals who always support inheritance taxation *independently* of how they perceive the importance of inherited wealth. For example, some people might appreciate inheritance taxation even if the economic importance of inherited wealth is very small (for example, if they consider every dollar of inheritance as an undeserved advantage that should be taxed). At the same time, there are people who think that inheritance taxation is a violation of property rights, and that inheritance should not be taxed even in situations where almost all the wealth in the economy has been inherited.

Self-interested motives can also be important. Some people expect to inherit or bequeath large fortunes whereas others expect to inherit or bequeath modest amounts, or nothing at all. This is likely to create heterogeneity in inheritance tax support, since attitudes to taxes also depend on how they affect people's own economic situation. Thus, a person might support inheritance taxation, not because he or she considers

this to be important from an equality perspective, but because the person does not think that he or she will be burdened by it.[29]

The presence of self-interested motives can be analyzed formally by extending the model above envisioning that individuals, in addition to differing in terms of perceptions and preferences for equality, differ in terms of their wealth z. The wealth level z could be interpreted as the wealth associated with two linked generations, reflecting either the wealth that the parent generation is planning to bequeath to their children, or the wealth that the child generation is expecting to inherit. In line with how actual inheritance taxes differ across countries, and to obtain sharp results, we focus on inheritance taxes that differ in terms of an *exemption threshold*, denoted by m and assume that the expected inheritance tax payment is zero if $z < m$.[30]

Suppose, for the purpose of illustration, that individuals who do not expect to pay the inheritance tax ($z < m$) *always* support inheritance taxation, and that individuals who face a positive expected inheritance tax payment ($z > m$) *may* be in favor of inheritance taxation. Building on the simple formulation of the support function in equation (3), and letting $\vee$ denote the logical "OR" sign, we let the support for an inheritance tax be given by:

$$\tilde{s}(p, \theta, z, d) = \mathbf{1}[p > \theta \vee z < m]. \tag{5}$$

Assuming that individuals' expected inheritances are unrelated to their perceptions and preferences, and letting $R(z)$ denote the CDF of the inherited wealth distribution over some interval $[0, \bar{z}]$, the expected support in the total population can be written:

$$E_f[\tilde{s}] = \Pr\{p > \theta\} + \Pr\{z < m\} - \Pr\{p > \theta \cap z < m\} \tag{6}$$

$$= E_f[s] \cdot [1 - R(m)] + R(m). \tag{7}$$

We then see that

$$\frac{dE_f[\tilde{s}]}{dm} = R'(m)(1 - E_f[s]), \tag{8}$$

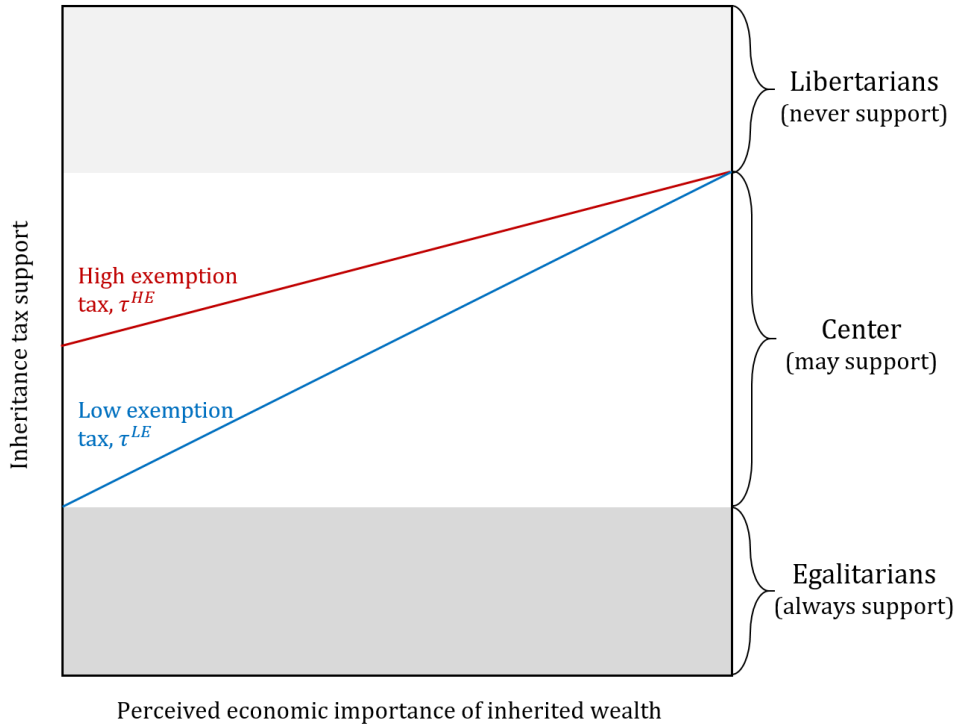
which is strictly positive whenever $R'(m) > 0$ and $E_f[s] < 1$ implying that a tax with a greater exemption threshold always has a higher average support in the population. Furthermore, $\frac{dE_f[\tilde{s}]}{dm}$ is decreasing in the number of people who would support an inheritance tax in the absence of any personal wealth concerns $E_f[s]$, which is given by the statistical relationship between p and θ (recall that $E_f[s] = \int_0^1 \int_\theta^1 f(p, \theta) dp d\theta$).

[29] In our empirical analysis, we find that there is a higher general support for an inheritance tax with a large exemption (41 percent) compared to a tax with a low exemption (25 percent).

[30] Recall that in the empirical parts of the paper, we focus on two discrete values of m, corresponding to the survey questions asking about taxes with a low exemption threshold τ^{LE} and with a high exemption threshold τ^{HE}.

What this means is that if the perceived inequality is high, equity motives dominate self-interested motives, and the support for inheritance taxation is not very sensitive to the level of the exemption threshold.

Figure 3: Graphical illustration of the model of support for inheritance taxation



Note: The figure provides an illustration of the relationship between pre-treatment inheritance perceptions and the support for inheritance taxation in our model, highlighting the potential impact of individuals' personal wealth status and ideological convictions.

Figure 3 shows an attempt to graphically illustrate the above discussion. The bottom panel of the figure shows a group of individuals, we may call them "Egalitarians", who support inheritance taxation independently of how they perceive the economic importance of inherited wealth. The top panel shows a group of people, we may call them "Libertarians", who always oppose inheritance taxation. Our formal discussion above pertains to the group of individuals in the middle panel, who we refer to as "Center" individuals, whose attitudes to inheritance taxation are elastic and can be affected by the treatment. For these "centrist" individuals, the support for a high exemption tax is higher than the support for a low exemption tax, following condition (8). The large gap in support for low values of the inheritance share can be explained by the fact that even when the perceived inheritance share is very small, there are individuals who support the inheritance tax for selfish reasons. For higher values of the perceived inheritance share, the difference in support between the two taxes is smaller (an increase in $E_f[s]$ lowers the derivative in equation 8). We will show the empirical counterpart of Figure 3 in Figure 5 in the next section.

The effect of an information treatment that increases the average perceived share of inherited wealth can be thought of as a movement along the lines in figure 3. Formally, the treatment effect on the support for an inheritance tax with an exemption threshold of m, can be written as:

$$\begin{aligned}\Delta_m &= E_{\hat{f}}[\tilde{s}] - E_f[\tilde{s}] = E_{\hat{f}}[s] \cdot [1 - R(m)] + R(m) - \Big(E_f[s] \cdot [1 - R(m)] + R(m)\Big) \\ &= \Delta \cdot [1 - R(m)].\end{aligned} \tag{9}$$

This result illustrates that the predicted treatment effect is a decreasing function of the exemption threshold m of the inheritance tax. The greater is the number of individuals who support an inheritance tax because they do not expect to pay it, the fewer are the individuals who can be induced to support it through exposure to information about the importance of inherited wealth. This feature of inheritance tax support is reflected in the smaller slope of the upper line in Figure 3.

Notice that if the exemption threshold is very high, such that $R(m) \approx 1$, we get $\Delta_m \approx 0$. In other words, the effect of information about distributional outcomes is likely to be very small in economies where the vast majority of individuals understand that they are very unlikely to pay the inheritance tax. This aspect is consistent with Kuziemko et al. (2015) who document a dramatic increase in the support for estate taxation when informing respondents that only a tiny fraction of US households actually are exposed to it. If that study had in addition informed respondents about the importance of inherited wealth in the economy, the effect of this additional information would likely have been small. In the Swedish context, in contrast, given the anchoring of individuals to the broad-based Swedish inheritance tax, most people would expect to potentially be exposed to the inheritance tax proposed in our baseline inheritance tax question. This makes Sweden a good laboratory to study the effect of information about the importance of inherited wealth on the support for inheritance taxation, as self-interested motives that make individuals mechanically support inheritance taxation are likely to be smaller than in other contexts.

In Table 4, we summarize the findings in this section with a list of theoretical predictions about how the treatment will affect the support for the low and high exemption inheritance taxes depending on people's pre-treatment support for inheritance taxes, their wealth status and their ideology. For exposition purposes, we focus on a binary representation of perceptions, using the terminology "Flat" if the perceived inheritance share is low, and "Skewed" if the inheritance share is perceived to be high. For simplicity, we focus on the "compliers" of our experiment, namely those who update their perception to "Skewed" if their pre-treatment perception was "Flat". We divide the population into three wealth groups where the "Poor" group can be thought of those who do not expect to inherit or bequeath anything, the "Middle" group rep-

resents those who expect to be burdened by the low exemption inheritance tax but not the high exemption inheritance tax, and finally, the "Wealthy" group that is expected to burdened by both types of inheritance taxes.

The table shows how libertarians never support and egalitarians always support inheritance taxes, regardless of their knowledge about the distribution of inherited wealth. In the center group, the baseline (pre-treatment) support is higher for the high exemption tax than for the low exemption tax. However, the reverse is true for the treatment effect: it is higher for the low exemption tax and lower for the high exemption tax. These patterns are broadly in line with our empirical findings.

Table 4: Theoretical predictions

Ideology	**Wealth status**	**Pre-treatment support**				**Post-treatment support**			
		Perceive	**No tax**	τ^{LE}	τ^{HE}	**Perceive**	**No tax**	τ^{LE}	τ^{HE}
Libertarian	Poor	Flat	x			Skewed	x		
		Skewed	x			Skewed	x		
	Middle	Flat	x			Skewed	x		
		Skewed	x			Skewed	x		
	Wealthy	Flat	x			Skewed	x		
		Skewed	x			Skewed	x		
Center	Poor	Flat		x	x	Skewed		x	x
		Skewed		x	x	Skewed		x	x
	Middle	Flat			x	Skewed		x	x
		Skewed			x	Skewed		x	x
	Wealthy	Flat	x			Skewed		x	x
		Skewed	x			Skewed		x	x
Egalitarian	Poor	Flat		x	x	Skewed		x	x
		Skewed		x	x	Skewed		x	x
	Middle	Flat		x	x	Skewed		x	x
		Skewed		x	x	Skewed		x	x
	Wealthy	Flat		x	x	Skewed		x	x
		Skewed		x	x	Skewed		x	x

Note: The table shows theoretically predicted inheritance tax support based on our model, referring to the support-rule in equation (5) and the depicted relationships in Figure 3, for different cases of the respondents' ideological position, wealth status and pre-treatment inheritance perception.

5 Perceptions of inherited wealth

What is the empirical relationship between the perceived economic importance of inherited wealth and the support for inheritance taxation, and how do these perceptions differ depending on treatment status? We measure an individual's perceived economic importance of inherited wealth using a question asked early in the survey:

"How large share of the wealth of Swedish households is represented by past inheritance?". This question corresponds directly to the inheritance treatment fact "Inherited wealth represents about half of all wealth in the population." Notice that the share of total wealth that has been inherited is tightly connected to wealth inequality since inherited wealth tends to be, and is likely to be perceived as being, unequally distributed as well as closely related to inequality of opportunity.

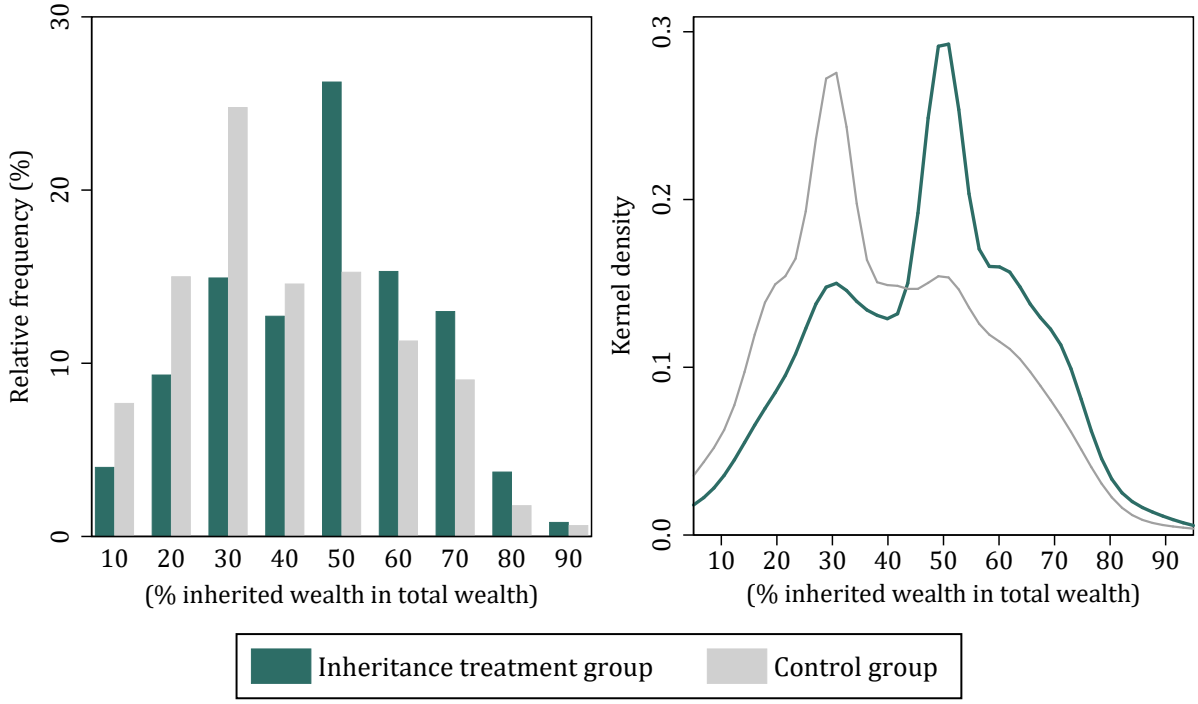
In Section 5.1 below, we begin by presenting graphical evidence on how the information treatment affected the perceived importance of inherited wealth. The following three sections deal with various parametric econometric approaches that can be used to analyze the role of perceptions in explaining the treatment effect. Section 5.2 discusses the possibility to view the treatment as an instrument for the perceived importance of inherited wealth. Section 5.3 uses the mediation approach of Imai et al. (2011) to analyze to which extent the treatment effect is *mediated* by changing perceptions of inherited wealth. Finally, Section 5.4 estimates the joint probability that individuals support inheritance taxes and contemporaneously believe that a large share of household wealth has been inherited.

5.1 A graphical analysis

Figure 4 shows the distribution of perceived inheritance shares in the treatment and control group. We see immediately that untreated individuals systematically underestimate the extent of inherited wealth in the population. A majority in the control group believes that at most 40 percent of household wealth derives from past inheritance, and the density peaks at 30 percent. For treated individuals, on the other hand, the distribution of perceptions is shifted to the right and peaks at a 50 percent inheritance share. The peak directly corresponds to the information treatment that "about half" of household wealth has been inherited. We therefore regard 50 percent as the "correct" answer. Notice that responses at 60, 70 and 80 percent inheritance shares are also substantially higher in the treatment group (90 percent is the largest alternative respondents can choose). This could in part be explained by the fact that we never stated that the inheritance share was exactly 50 percent but "about half". However, it could also reflect a signal that "inheritance matters" stemming from the other treatment facts, for example, that heirs with the highest income inherit more. For this reason, we interpret answers in the range 50 to 90 percent as reflecting a general perception among respondents that the inherited wealth is economically important.

One may wonder why not everyone in the treatment group answered correctly to the question. It is possible that some respondents never looked at the information provided on the cover sheet and instead jumped directly to the questionnaire. The concept "share of inherited wealth" might be too complex for many individuals, or

Figure 4: Distribution of responses to question about inherited share



Note: Both panels show responses to the survey question "How large share of household wealth do you think derives from past inheritance?". The left panel shows the response distribution in the form of relative frequencies and the right panel in terms of estimated Gaussian kernel densities.

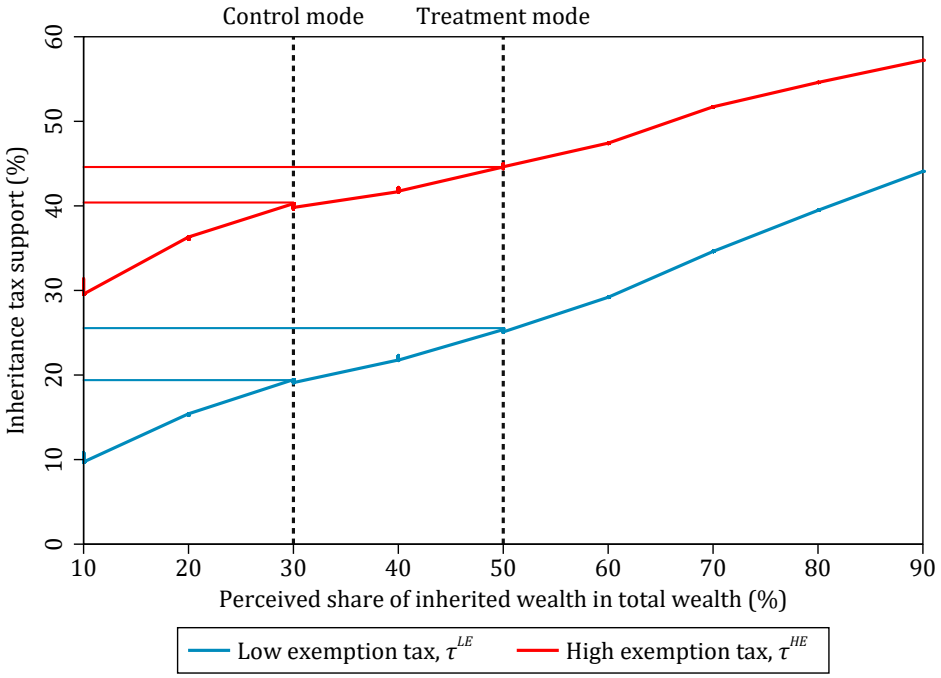
respondents might reject the stated fact if they are reluctant to accept research results in general or if the information provided is too far from their own prior expectations.

Next, we combine the information about how the treatment shifts perceptions with the empirical relationship between the perceived economic importance of inherited wealth and the support for inheritance taxation in the *control group*. This relationship, which is presented in Figure 5, is the empirical counterpart to the conceptual illustration that we showed in Figure 3.

The first thing to notice is that, consistent with Figure 3, there is a positive relationship between the perceived economic importance of inherited wealth and the support for inheritance taxation. This reflects that people who have a high preference for economic equality and support policies such as inheritance taxation, also perceive inherited wealth to be economically important. The mapping also shows that the support is consistently higher for the high exemption tax, in line with the "self-interested hypothesis", that an inheritance with a high exemption threshold has a higher number of supporters than a tax with a low exemption threshold.

The next thing to notice in Figure 5 is the pair of vertical dashed lines indicating the modes (peaks) of the perception distributions in the treatment and control group (obtained from Figure 4). Suppose (somewhat heroically) that the "structural" relationship between perceptions and support in the control group is unaffected by the

Figure 5: Relationship between perceived share and support in control group



Note: The figure shows the relationship between the support for inheritance taxation and perceived inheritance shares in the control group (estimated as coefficients of smoothed local linear regressions). The vertical dashed lines shows the most common observation (mode) of the perceived share in the treatment and control group.

treatment. Then we can use the control-group relationship to calculate by how much the treatment-induced change in perceptions would affect support. This is done by moving from the control mode to the treatment mode, and measuring the corresponding change on the y-axis, as indicated in the figure.

Notice that the amount by which the support for inheritance taxation is increased by a corresponding increase in perceptions is determined by the local slope of the respective curves. Consistent with our theoretical reasoning, and our regression results in Figure 1, the slope (and the corresponding treatment effect) is smaller for the tax on large bequests.

5.2 Dividing the reduced-form with the first-stage

Our baseline treatment effect in Table 2 is an intention-to-treat (ITT) effect, reflecting the average effect across all individuals in the treatment group irrespective of whether their perceptions of the economic importance of inherited wealth were affected by the treatment or not. As evident from Figure 4, there was imperfect take-up of the treatment. A standard approach is to scale the reduced-form ITT effect by the share of individuals taking up the treatment (the "first-stage"), thereby obtaining an instrumental variable-type of average treatment effect on the treated (ATT). For this purpose, we define a dummy variable to capture an individual's perceived economic importance

of inherited wealth, *PerceiveHigh*, equaling one for individuals who perceive that 50 percent or more of household wealth has been inherited.[31] We then run the following "first stage" regression:

$$PerceiveHigh_i = \beta_0 + \beta_1 Treatment + \delta' X_i + e_i. \tag{10}$$

The results are presented in Table 5 and confirm that the treatment affects the perceived economic importance of inherited wealth. The likelihood that a person believes that inheritance represents a majority of household wealth increases by almost 17 percent as a result of the treatment, an increase by more than one-third of the control group average of 40 percent.

Table 5: Treatment effect on perceptions of inherited wealth

	"Inheritance share is 50 percent or higher"	
	(1)	(2)
Treatment	0.170***	0.166***
	(0.040)	(0.040)
Observations	3,771	3,653
Controls	No	Yes
Control mean	0.389	0.397

Note: *** denotes statistical significance at the 1%-level.

If we divide the reduced-form by the "first-stage" effect, we obtain a ratio of

$$\frac{0.082}{0.166} \approx 0.49.$$

This can be interpreted to imply that 49 percent of the individuals who change their perceptions in response to the treatment become favorable of an inheritance tax. While this instrumental variable approach is intuitive, it suffers from the problem that the treatment is likely to have a direct impact on the outcome variable (the support for inheritance taxation) thus violating the exclusion restriction. One reason why the exclusion restriction is likely to be violated is that the information treatment contained three pieces of information (that roughly half of all wealth has been inherited, that high-income heirs inherit more, and that half of all billionaires have inherited their wealth) that each might affect the support for inheritance taxation. Our perception measure *PerceiveHigh* captures one of these. It is therefore possible that people are affected by the treatment in a way that influences their support, even if *PerceiveHigh* is unaffected. In addition, there is the possibility of survey framing effects. For instance, if we had a treatment arm that said "inheritance taxes are the only taxes that tax the

[31] We have also defined a dummy variable equal to one if an individual answers exactly 50 percent on the inheritance-share question. The results are similar and are shown in appendix B.3.

value of property with no transaction taking place", we would provide no information at all about the aggregate importance and distribution of inherited wealth, but it is still imaginable that the support for inheritance taxation could be affected.

The IV-analysis corrects for the endogeneity of *PerceiveHigh* under the assumption that the treatment has no direct effect on the outcome. In the next section, we use mediation analysis which allows the the treatment to have a direct effect on the outcome (on top of the effect going through *PerceiveHigh*), under the assumption that *PerceiveHigh* is exogenous to unobserved determinants of the outcome.

5.3 Perceptions as a causal mechanism

Having provided graphical evidence on how our treatment changes individuals' perceptions of inherited wealth, and discussed the instrumental variable approach, we now turn to systematically explore to which extent changing perceptions of the distribution of inherited wealth can be viewed as a *causal mechanism* explaining the treatment effect documented in section 3. Expressed in a different way, we are interested in investigating to which extent our treatment effect is *mediated* by changing perceptions of inherited wealth. The simplest form of mediating analysis departs from the specification (1) and adds the mediating variable (in our case, the perceived importance of inhered wealth) as a control to see how the parameter estimate $\hat{\beta}$ is affected.[32] Here, we follow the systematic approach for analyzing causal mechanisms in Imai et al. (2011).

We define a dummy variable to capture an individual's perceived economic importance of inherited wealth, $PerceiveHigh_i$, equaling one for individuals who perceive that 50 percent or more of household wealth has been inherited.[33] We consider the following set of equations:

$$Support_i = \alpha_1 + \beta_1 Treatment_i + \delta_1' X_i + \varepsilon_{i1} \tag{11}$$

$$PerceiveHigh_i = \alpha_2 + \beta_2 Treatment_i + \delta_2' X_i + \varepsilon_{i2} \tag{12}$$

$$Support_i = \alpha_3 + \beta_3 Treatment_i + \gamma PerceiveHigh_i + \delta_3' X_i + \varepsilon_{i3}, \tag{13}$$

where X_i is a vector of observed pre-treatment confounders (such as age and gender) and $\varepsilon_{ij}, j = 1, 2, 3$ are error terms. In the first equation, $\hat{\beta}_1$ measures the *average total effect* (ATE) of the treatment. When the set of confounders is the same as in (1), the ATE is the same as the main treatment effect studied in section 3. The second equation is essentially a regression-based variant of the graphical analysis contained in section 5.1. In the third equation, $\hat{\beta}_3$ measures the *average direct effect* (ADE) of the treatment,

[32] A common approach is to use a so-called Sobel test to determine whether the reduction in the effect of the independent variable, after including the mediator in the model, is a significant reduction and therefore whether the mediation effect is statistically significant.

[33] We have also defined a dummy variable equal to one if an individual answers exactly 50 percent on the inheritance-share question. The results are similar and are shown in appendix B.3.

namely, the part of the treatment effect that does not operate through changing perceptions of inherited wealth, as reflected by $PerceiveHigh_i$.

We are interested in the *average causal mediation effect* (ACME), namely, the part of the treatment effect that operates through the mediating variable ($PerceiveHigh_i$). This effect can be obtained in a numerically equivalent way either as the product of coefficients $\hat{\beta}_2\hat{\gamma}$ (where $\hat{\beta}_2$ and $\hat{\gamma}$ are obtained by separately fitting OLS regressions based on (12) and (13)) or by the difference $\hat{\beta}_1 - \hat{\beta}_3$, where $\hat{\beta}_1$ and $\hat{\beta}_3$ derive from separate OLS regressions of equations (11) and (13).

The fact that we have a randomized experiment implies that the ATE is identified, but to identify the ACME (and the ADE) requires that the *sequential ignorability* assumption is satisfied. To satisfy this assumption, we must also assume that the observed mediator ($PerceiveHigh_i$) is exogenous in equation (13), conditional on the actual treatment status and the the set of observable pre-treatment covariates. In order for the sequential ignorability assumption to be satisifed, there should be no unmeasured pre-treatment or post-treatment covariates that counfound the relationship between perceptions of inherited wealth and the support for inheritance taxation. Intuitively, one might think that education has an effect on both perceptions and support (as more educated individuals might have better knowledge about the actual share of inherited wealth, and simultaneously support inheritance taxation to a greater extent). Hence, if we add perceptions as a mediating variable, without having controlled for education, there will be a bias in the estimate of the mediating effect of perceptions, as it will indirectly pick up effects of education on support that runs through other variables than perceptions.

Notice that the set of covariates X_i in the sequential ignorability assumption must be measured *before* treatment. Thus, the fact that our background variables are obtained from the linked register data not only implies that they are more precisely measured (as compared to if they would have been measured in the survey) but also that they are not influenced by the treatment, which is required if they are to serve as valid conditioning variables.

Even though we have access to a rich set of background variables measured before treatment, we cannot, of course, rule out that we are missing some important unobserved variable that affects both perceptions and support. Imai et al. (2011) describe this as a common challenge when investigating the role of causal mechanisms in the context of randomized experiments where the mechanism itself is not randomized.[34]

We present the baseline results of our mediating variable analysis in Table 6. We begin by showing that the treatment influences the perceived economic importance of inherited wealth. The estimate in column (1) tells us that the likelihood that a person

[34]They also point to the general difficulty of identifying causal mechanisms using experimental methods.

believes that inheritance represents more than 50% of household wealth increases by almost 17 percent as a result of the treatment, an increase by more than one-third of the control group average of 40 percent.

Next, we show that the treatment effect on the support for a low exemption tax is mediated by changing perceptions of inherited wealth in society. The share of the effect that is mediated is about 20 percent (shown by the last row's "ACME/Total effect") with a confidence interval well above zero. To investigate the role of control variables for the mediation process, we have re-run the same analysis without controls. The results, presented in Appendix table B6, show that the inclusion of covariates has a minor impact on the share of the treatment effect that is mediated by perceptions. The finding that covariates seem play a minor role for the mediation analysis is further reinforced by the fact that the effects of the treatment on perceptions is not systematically related to covariates, see Appendix figures B1 and B2. This is somewhat reassuring with respect to endogeneity concerns, though by no means conclusive with respect to unobserved potential confounders.

Table 6: Mediating analysis

	PerceiveHigh	Low exemption tax, τ^{LE}		High exemption tax, τ^{HE}	
	(1)	(2)	(3)	(4)	(5)
Treatment	0.166***	0.081**	0.064*	0.054	0.046
	(0.040)	(0.034)	(0.035)	(0.038)	(0.038)
PerceiveHigh			0.094***		0.046
			(0.035)		(0.038)
Observations	3,653	3,529	3,529	3,524	3,524
Controls	Yes	Yes	Yes	Yes	Yes
Control mean	0.397	0.245	0.245	0.408	0.408
ACME		0.016 [0.003, 0.031]		0.007 [-0.005, 0.021]	
Direct effect		0.064 [-0.004, 0.130]		0.046 [-0.029, 0.119]	
Total effect		0.080 [0.011, 0.195]		0.053 [-0.021, 0.125]	
ACME/Total Effect		0.195 [0.104, 0.826]		0.117 [-1.324, 1.394]	

Note: The table shows the results from a mediating variable analysis using the methodology of Imai et al. (2011). The dependent variable in column (1) is a dummy equal to one if the respondent percieves the share of inheritance in total wealth to exceed one half, and in columns 2-5 dummies indicate support for low or high exemption inheritance taxes. "ACME" refers to the average causal mediating effect and is the part of the treatment effect that operates through the mediating variable, that is, the difference between the total and direct treatment effets. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

5.4 Conditioning the dependent variable on perceptions

Our final parametric approach to studying the role of perceptions in explaining the treatment effect is a decomposition of the dependent variable across the values of

PerceiveHigh.[35] More specifically, we are interested in estimating the joint probability that individuals support inheritance taxes and contemporaneously believe that a large share of household wealth has been inherited. We interpret this as a descriptive decomposition analysis. Formally, we estimate the following three equations:

$$\begin{aligned} \mathbf{1}[Support_i = 1] &= \alpha + \gamma_0 Treat + \beta' X_i + u_i \\ \mathbf{1}[Support_i = 1, PerceiveHigh_i = 1] &= \alpha + \gamma_1 Treat + \beta' X_i + u_i \ , \\ \mathbf{1}[Support_i = 1, PerceiveHigh_i = 0] &= \alpha + \gamma_2 Treat + \beta' X_i + u_i \end{aligned} \tag{14}$$

where $\mathbf{1}[\cdot]$ denotes the indicator function. The estimate $\hat{\gamma}_0$ is the baseline treatment effect on tax support, $\hat{\gamma}_1$ is the treatment effect on tax support among respondents who perceive a high inheritance share (at least 50 percent) and $\hat{\gamma}_2$ is the treatment effect on respondents who perceive a low share (less than 50 percent). Table 7 presents estimation results that are similar to the preceding analysis, namely that perceptions appear to play a key role in explaining the treatment effect on inheritance tax support. While the unconditional effect is 7.8 percent (this is our baseline effect in section 3), the treatment effect increases to 11.4 percent for those who perceive a high inheritance share. For individuals who perceive a relatively low inheritance share, the treatment information has no effect at all (or even a slightly negative effect).

Table 7: Conditioning support on perceiving a high inheritance share

	Low exemption tax, τ^{LE}			High exemption tax, τ^{HE}		
	(1)	(2)	(3)	(4)	(5)	(6)
	Support	Support, $PerceiveHigh = 1$	Support, $PerceiveHigh = 0$	Support	Support, $PerceiveHigh = 1$	Support, $PerceiveHigh = 0$
Treatment	0.078**	0.114***	-0.034	0.052	0.126***	-0.072**
	(0.034)	(0.028)	(0.025)	(0.037)	(0.029)	(0.031)
Observations	3,568	3,570	3,570	3,561	3,561	3,561
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.245	0.245	0.245	0.408	0.408	0.408

Note: The dependent variable is support for inheritance taxation (expressed in column headings) and the table shows estimated treatment effects in regressions with covariates. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

In table 7, we also examine the conditional treatment effect on the support for a tax on "large" inheritances, and find the same pattern. There is a large and statistically significant treatment effect on respondents who perceive inherited wealth to be economically important, and no such effect (not even a negative effect) on respondents who do not.

[35] We thank Lars Kirkebøen for suggesting this approach to us.

6 Extensions and sensitivity analysis

6.1 Equality of opportunity and inheritance taxation

There could, in principle, be several reasons why individuals increase their support for inheritance taxation when they change their perceptions about the economic importance of inherited wealth. One possibility could be that individuals consider the inheritance tax to be efficient, and therefore become more supportive of inheritance taxation, once they acknowledge that the inheritance tax base is large. While this certainly could be the case for some individuals, we do not think efficiency considerations are likely to be first-order explanations behind the support for inheritance taxation in the general population.[36] Here we test the very common equality of opportunity justification for inheritance taxation by examining if our information treatment, in addition to increasing the support for inheritance taxation, also makes people believe luck and circumstances to be important for economic success. In Table 8, we present the results from treatment regressions, similar to those above in equation (14), where the dependent variable is a dummy equal to one if an individual answered that "luck or unfairness" is most important for economic success.

Table 8: Treatment effect on views of luck and unfairness

	"Luck and unfairness most important behind economic success"		
	All respondents	Respondents with $PerceiveHigh = 1$	Respondents with $PerceiveHigh = 0$
	(1)	(2)	(3)
Treatment	0.090**	0.148***	-0.057
	(0.039)	(0.032)	(0.034)
Observations	3,526	3,526	3,526
Controls	Yes	Yes	Yes
Control mean	0.436	0.436	0.436

Note: The dependent variable is dummy equal to one if an individual believes that "luck and unfairness" is more important than "hard work" for economic success. The table reports estimated treatment effects in regressions containing controls for other covariates. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%, 5%, and 1% level.

[36] For example, Almås et al. (2017) find that fairness considerations are much more fundamental for inequality acceptance than efficiency considerations in their study of the US and Norway. Fisman et al. (2017) study how people motivate their preferences for taxing income and wealth, and find suggestive evidence that equity considerations tend to dominate efficiency considerations. See also Lergetporer et al. (2018) for a similar argument in the case of education spending. In the case of inheritance taxation, the efficiency effects also appear to be somewhat ambiguous. While inheritances imply a negative income effect on heir's labor supply (see Kindermann, Mayr and Sachs 2018), the possibility to bequeath can be an important motivation for parents to work. Moreover, positive inheritance taxation in optimal tax models is typically discussed on the basis of equity considerations, and not efficiency considerations (see Piketty and Saez 2013 and Farhi and Werning 2013).

The analysis shows that the treatment makes individuals significantly more inclined to respond that luck and unfairness is the most important factor behind success. The share of respondents who believe that luck matters the most increases by almost ten percent (a coefficient estimate of 0.09) in the treatment group relative to the control group. In relation to the number of individuals who already considered luck to be most important for economic success, this corresponds to an increase of about 20 percent. The estimated coefficients are strikingly similar to those in Tables 2 and 7 for the support for inheritance taxation, suggesting that considerations relating to equality of opportunity play an important role in explaining the treatment effect.

6.2 Treatment effects on different support categories

Our main analyses used a coding of the outcome variable reflecting ”any support” for inheritance taxation, but our survey allowed respondents to express three different levels of support as well as opposition. In Table 9 we examine whether these nuances in response matter for our treatment effect and its interpretation. In column 1 we first have our our baseline estimate of 7.8 percent. In column 2 we display the effect on ”full” support, which is equal to 4.2 percent and only slightly statistically significant. The difference between the estimates in column 1 and column 2 suggests that the treatment also increased levels of less intense support in the categories ”support to a large extent” and ”support to some extent”. Column 3 shows that opposition ("do not support") decreased significantly by 7.6 percent, a decrease offsetting the increase in total support. This implies that the baseline treatment is mainly driven by individuals who would otherwise have been against the tax becoming positive, rather than indecisive individuals becoming positive. Column 4 shows a specification where the dependent variable is a multilevel variable where the response alternatives are considered cardinal, with a coding from 0 to 3 (with 0 indicating opposition, and the three positive support categories coded 1 to 3). The size of the coefficient estimate is not crucial and the key result is instead that there is a positive and statistically significant treatment effect even when considering the joint effect on all different response categories. Finally, we present Probit and Logit estimates of the multi-level specifications in columns 5 and 6, which both are strongly significant. The overall message of this section is that our main results are robust to the specific coding of the dependent variable.

Table 9: Treatment effects on different support categories

	Degree of support for inheritance taxation					
	Any support	Full support	Opposing	All responses (multi-level)		
				(OLS)	(Probit)	(Logit)
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.078**	0.038*	-0.076**	0.149*	0.236**	0.387**
	(0.034)	(0.023)	(0.037)	(0.078)	(0.103)	(0.177)
Observations	3,568	3,570	3,570	3,378	3,378	3,378
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.245	0.055	0.678			

Note: The dependent variable is a dummy for "Any support" (baseline), "Full support" (respondents who agrees "fully" or "to a large extent" with introducing a tax), "Opposing" or a multilevel variable "All responses", taking integer values between 0 and 3, corresponding to different levels of support for a low exemption inheritance tax. In the last case, we use three different specification: linear probability model (OLS), ordered probit (Probit) and ordered lofit (Logit). The table reports estimated treatment effects in regressions including controls. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

6.3 Revenue neutrality and family-firm successions

There are two important additional aspects of inheritance tax design that we have not yet discussed but that was asked about in the survey. The first one is the possibility of a *revenue neutral* inheritance tax. In the survey we ask about the support for an inheritance tax that is described as being offset by reductions in other taxes. This question is relevant in a high-tax country like Sweden where the overall tax burden could overshadow the support for any new taxes. The second aspect is tax treatment of *family firms successions*, which has attracted much attention in policy debates about inheritance taxation in most countries, including Sweden.[37] Our survey contains questions that refer explicitly to both of these aspects of inheritance taxation.

Table 10 shows treatment effects, based on equation (14) for both revenue neutral and family-firm exempting inheritance taxes. The results suggest smaller effects than in our baseline regressions, which indicates that the increased support for inheritance taxation documented in our main analysis is by no means conditional on lowering other taxes or exempting family firm successions.[38] The effects among respondents who perceive a high economic importance of inherited wealth, are larger and statistically significant. For this subgroup, the treatment effects are only slightly smaller than for the baseline inheritance tax (see Table 7).

[37]Issues relating to the succession of family-firms were common objections to the Swedish inheritance tax. See Henrekson and Waldenström (2016) for an in-depth historical analysis of the Swedish inheritance tax debate 1885-2004.

[38]Here it should be noted that family firms represent a very heterogeneous concept as they include not only small business owners but also multi-million dollar firms.

Table 10: Support for revenue-neutral and family-firm exempting inheritance taxation

	Revenue-neutral inheritance tax			Inheritance tax exempting family-firm successions		
	Support	Support, $PerceiveHigh = 1$	Support, $PerceiveHigh = 0$	Support	Support, $PerceiveHigh = 1$	Support, $PerceiveHigh = 0$
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.028	0.082***	-0.054*	0.051	0.105***	-0.054**
	(0.037)	(0.030)	(0.029)	(0.032)	(0.025)	(0.023)
Observations	3,578	3,580	3,580	3,531	3,532	3,532
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.294	0.289	0.301	0.254	0.217	0.281

Note: The dependent variable is the support for an inheritance tax that is either revenue neutral (survey question referring to a "tax on bequests, and lower other taxes") or exempts family firms (survey question referring to a "tax on bequests, but not on family firms"). The table reports estimated treatment effects in regressions with controls. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** refers to statistical significance at the 10%-, 5%-, 1%-level, respectively.

6.4 Effects on the support for other taxes

Our survey also covered questions about the support for other capital and non-capital taxes. If the treatment effect is driven by individuals' changing perceptions of the economic importance of inherited wealth, we would expect a smaller treatment effect on the support for other capital taxes than for inheritance taxation. The reason is that inheritance taxation is a more direct way to tax inherited wealth in comparison to other capital taxes which not only target inheritances but other forms of capital too, such as life-cycle savings. This distinction between the inheritance tax and other capital taxes is particularly important given the link between inheritance tax support and equality of opportunity (see Section 6.1).

Table 11 shows the effects of our inheritance treatment on the support for other capital taxes (columns 1-7) and non-capital taxes (columns 8-12). A wealth tax (column 1) has not existed in Sweden since 2007, but it is still discussed in the contemporary political discourse (Piketty 2014, Atkinson 2015).[39] The estimated effect is small and insignificant, but the overall support for introducing a wealth tax is still high with almost half the population in the control group expressing some support.[40] We ask about several different taxes on capital income, and find no effect on the taxation of realized capital gains on house sales (column 3), stock market transactions (column 4), bank interest income (column 5), dividend income (column 6) or corporate income

[39]While great advances have been made in understanding the distributional importance of wealth, there are few empirical studies analyzing the efficiency costs of wealth taxation. Recent evidence from Denmark in Jakobsen, Jakobsen, Kleven, and Zucman (2018) suggests that the efficiency effects are notable only in the very top of the distribution.

[40]However, "full support" for introducing a wealth tax increases from 0.13 to 0.18 (t-stat 1.7), a 40-percent increase.

(column 7). While there is a relatively high overall support for these taxes, with a control group support between 27 and 49 percent, there are no clear treatment effects. This lack of effects is consistent with the idea that our inheritance treatment primarily increases support for inheritance taxation and "equality of opportunity"-type of policies (one could argue that receiving capital income to a greater extent is associated with the exertion of personal effort in comparison to receiving an inheritance). Property taxation is another important capital tax, which has been reduced in Sweden in recent years. About one third of the population supports the idea of taxing property (column 2), but the inheritance treatment does not shift its support.

Table 11: Treatment effects on other capital taxes

	Support for *capital taxes* (by tax base):						
	Wealth	Property	Capital gains: Houses	Capital gains: Stocks	Bank interest	Dividend income	Corporate profit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treatment	0.029	0.033	0.008	0.032	0.030	-0.020	0.018
	(0.037)	(0.036)	(0.038)	(0.037)	(0.035)	(0.037)	(0.038)
Observations	3,667	3,496	3,699	3,699	3,699	3,699	3,699
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.490	0.301	0.381	0.482	0.270	0.448	0.424

	Support for *non-capital taxes* (by tax base):				
	Labor earnings	Top labor earnings	Vehicles	CO2 (gasoline)	Alcohol
	(8)	(9)	(10)	(11)	(12)
Treatment	-0.048	-0.038	0.044	0.014	0.044
	(0.039)	(0.039)	(0.038)	(0.037)	(0.036)
Observations	3,590	3,579	3,587	3,591	3,602
Controls	Yes	Yes	Yes	Yes	Yes
Control mean	0.577	0.578	0.500	0.570	0.689

Note: The dependent variable is the support for the taxes listed in the column headings. The table reports estimated treatment effects in regressions with controls. The average support in the control group is shown in the bottom of the table for reference purposes.

The support for non-capital taxes is also unaffected by the inheritance treatment. Treatments effects are insignificant and close to zero for the support for taxing earnings through the municipal income tax (column 1), high earnings (approximately the top 15 percent of wage earners) through the central government income tax (column 2), personal vehicles (column 3), personal vehicle carbon-dioxide emissions (column 4) and alcohol (column 5). Once again, these results suggest that our inheritance treatment is not capturing broader aspects of redistribution and taxation, but rather particular aspects of inherited wealth and inheritance taxation.

6.5 Hawthorne effects

A common concern in experimental studies is that the experimental setting might have an independent effect on treated respondents, irrespective of the actual content of the treatment. Such influences are sometimes labeled *Hawthorne effects*.[41] While there was no specific information in our survey indicating to respondents that they were being part of an experiment, one concern could be that the information boxes placed in the opening letter possibly could convey that there is something special with the survey.[42]

To examine the influence of a potential Hawthorne effect contaminating our estimated treatment effect, we use the fact that our survey contained a second treatment, a housing wealth treatment. The housing wealth treatment contained facts structured in a similar way as the inheritance treatment: "Approximately 60 percent of households own their home.", "House prices have increased dramatically, by four times on average in twenty years." and "The wealth gap between owners and renters is widening.".[43] We use this treatment in two different tests: first as the information treatment itself, and then as the control group in the baseline inheritance treatment regression. Table 12 presents the results from these two tests and the main finding is that neither of these two tests indicates any important Hawthorne effects in our experiment. Using the housing treatment as the actual treatment (columns 1-3) generates no large or statistically significant effects on the support for inheritance taxation. Using the housing treatment as reference control (columns 4-6) results in positive and statistically significant effects, reassuringly similar in size and statistical significance as our baseline estimates.

[41] The term "Hawthorne effect" refers to a firm in which workers appeared to become more productive after a reorganization of the work process, but where subsequent research argued that the effect was due to the associated monitoring of the workers rather than the organizational changes. See Levitt and List (2011) for a discussion of the Hawthorne effect in experimental design.

[42] In any experimental context of this kind, there is an important trade-off between increasing the take-up of the experiment (increasing the fraction of compliers) and the risk of introducing salience effects by providing a too eye-catching information treatment.

[43] The first housing fact derives from Statistics Sweden reporting that 60 percent of households live in a detached house or a tenant-owned apartment. Housing is probably the most salient form of "popular wealth", widely held in the Swedish population and the largest single asset of most households.

Table 12: Hawthorne effects

	Support for low exemption inheritance tax (τ^{LE})					
	House treatment			Inheritance treatment (House treatment as control)		
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.016		0.016	0.066*		0.059
	(0.032)		(0.032)	(0.036)		(0.036)
PerceiveHigh		-0.005	-0.005		0.078**	0.069**
		(0.032)	(0.032)		(0.035)	(0.035)
Observations	3,620	3,582	3,582	3,554	3,515	3,515
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.245	0.245	0.245	0.245	0.245	0.245

Note: The dependent variable is support for a low exemption inheritance tax. The table reports estimated treatment effects in regressions with controls. The average support in the control group is shown in the bottom of the table for reference purposes. Columns 1-3 use the housing treatment as the information treatment and the standard control group. Columns 4-6 use the inheritance treatment as the information treatment and the housing treatment group as the control group (thus omitting the standard control group). *PerceiveHigh* defined as one if respondent answers that the inheritance share in total household wealth is 50 percent or higher. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

6.6 Weighting alternatives

Our main analysis uses response-calibrated weights when estimating treatment effects on the support for inheritance taxation. This weighting is motivated by the ambition to study the opinions of a nationally representative sample population. The calibration was determined by the correlation between observable individual characteristics (age, marital status, country of origin, income and education) and group-specific empirical response rates.[44] However, using weighted observations when estimating treatment effects from an information intervention can raise some potential concerns. First, if an individual's response is correlated with unobserved characteristics, for example, attitudes to inheritance taxation, then the use of response-adjusted calibration weights might bias the results. Second, it can be argued that analyses of individual attitudes should not be weighted at all. For example, Gelman (2007) and Solon, Haider and Wooldrige (2015) point out that the use of weights depends on the question at hand, and while they may be important when calculating population statistics or accounting for biased response patterns, they could be less crucial, when estimating effects on individual responses, depending on the type of questions asked.

We address these concerns by presenting, as a robustness check, results using four alternative weighting schemes in our main treatment regression. The first one uses the *design weights* which were constructed in order to adjust for the over-sampling of

[44] In Appendix A.3, we describe the different weighting procedures in greater detail and also present descriptive statistics regarding the representativeness of the respondent population.

certain groups in our stratified sample population. The second uses *response weights*, which account for systematic differences in response rates across groups in the population.[45] The third one, our baseline, uses the *calibrated weights* which are the product of the design and response weights. Finally, the fourth weighting scheme is *uniform weights*, which is equivalent to not using any weights at all. Notice that when abstaining from weighting, we remove both the adjustment for our intentional stratification in the survey design and the adjustments intended to mitigate potential biased response patterns due to some groups (especially elderly, non-migrants, high-income earners) responding more frequently than others.

Table 13 shows treatment effects on the support for inheritance taxes using the four alternative weighting schemes. The main finding is that regardless of weighting approach, the treatment effect on support for a low exemption inheritance tax remains positive and statistically significant. The effect is roughly similar when only adjusting for the stratification (column 2), but drops by about half when one uses individual responses, without adjusting for differential response patterns across groups (columns 3 and 4). The support for a high exemption tax also looks largely the same, and here the differences are smaller. In fact, when not weighting observations at all, the positive effect for the high exemption tax is more precisely estimated.

We conclude that, while the use of different weighting schemes might bring somewhat different aspects of the treatment outcomes to light, the weighting scheme does not take away the paper's main finding of positive and significant information effects on the support for inheritance taxation.

Table 13: Weighting approaches

	Low exemption tax, τ^{LE}				High exemption tax, τ^{HE}			
Weights	Design	Response	Calibr.	Uniform	Design	Response	Calibr.	Uniform
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.067**	0.034*	0.078**	0.027*	0.049*	0.049**	0.052	0.035**
	(0.028)	(0.020)	(0.014)	(0.034)	(0.029)	(0.024)	(0.037)	(0.016)
Observations	3,568	3,687	3,568	3,568	3,561	3,674	3,561	3,561
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.248	0.207	0.245	0.222	0.426	0.407	0.408	0.418

Note: Calibrated weights (columns 1, 5) are the product of design and response weights. Design weights (columns 2, 6) adjust the stratified survey population to make it nationally representative. Response weights (columns 3 and 7) adjust for differential response patterns across population groups in age, marital status, country of birth, income and education. No weights (columns 4, 8) means that individual observations are used without any adjustment for population representativity or systematic response patterns. The table reports estimated treatment effects in regressions with controls The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

[45] Response weights are constructed from partial correlations between responses and observed individual background characteristics.

6.7 Psychological framing

It is possible that providing information about *inheritance* increases attention to issues relating to inheritance, such as providing support for inheritance taxation or becoming more aware about the importance of inherited wealth, irrespective of the actual content provided in our information treatment. Such reactions could reflect *psychological framing* (Tversky and Kahneman 1974, Ariely et al. 2003) or so-called *experimenter demand effects* which might arise if respondents adjust their answers according to what they believe to be the wishes of the survey designer (Zizzo 2010, de Quidt et al. 2018). This is related to the question of how persistent our effects are (as framing effects might be more important when individuals are concurrently asked questions about inheritance taxation and being exposed to an information treatment). Given our experimental design, we cannot rule out the existence of such effects, but it is not obvious how such effects would operate in the current setting. The act of providing information *per se* does also not seem to increase the support for inheritance taxation, shown by the Hawthorne tests (Section 6.5). Furthermore, we find that providing information about the role of inherited wealth makes people believe that luck is more important for economic success, a common justification for taxing bequests. Finally, we test formally if informing respondents about "half" of all household wealth being inherited has generated anchoring of the number "50%" by measuring its impact on treated individuals' responses to the question about the home-ownership share among households. Appendix table B8 show no signs of such anchoring effects.

7 Conclusions

Using a randomized survey experiment on a register-linked Swedish sample, we found that exposing individuals to research-based facts about inherited wealth, increases the support for inheritance taxation significantly. The effect appears to be driven by individuals' changing perceptions about inherited wealth and their altered views on whether luck and circumstance is considered to matter most for economic success. Overall, we find strong evidence that the common equality of opportunity justification for inheritance taxation plays a key role in understanding the determinants of the support for inheritance taxation.

A possible implication of our findings is that the low salience of inherited wealth, which our study has documented, could be one explanation behind the relatively marginalized role of capital taxation in developed economies. If people feel that inequality in general has increased, but without perceiving specifically a growing importance of wealth and wealth inequality, this could trigger increased support for income taxation but not necessarily for wealth taxation. We hypothesize that this could be one

explanation behind the current decline of inheritance taxation in rich countries during a time when the economic importance of inherited wealth appears to have increased.

Our findings have been obtained in a Scandinavian context with low levels of pre-tax inequality and high political support for redistribution. It is often argued that the difference in support for redistribution between the US and the Scandinavian countries reflects a difference in social perceptions regarding the fairness of market outcomes and the underlying sources of income inequality (Alesina and Angeletos 2005, Almås et al. 2017). Our paper suggests that this reasoning might need to be modified since people in different countries do not only differ in terms of preferences for redistribution and thoughts on fairness, but also in terms of their knowledge about the wealth distribution. Thus, the support for tax policy is likely to not only be related to education (Piketty 2018), but also to the narratives adopted in the public debate. Our results suggest that a greater availability and exposure to research findings about the wealth distribution can have real effects on the political support for taxation.

A final remark is in order. To confidently relate our findings to the political economy of inheritance taxation, one would want to know whether the impacts are persistent. Providing facts about inheritances and then immediately asking questions about inheritance taxation is not analogous to the way in which voters consume information and form opinions (or cast votes). An interesting topic for future research would be to conduct a similar experiment, not only seeing whether the treatment effects are persistent through a follow-up study (preferably several months later), but also to see how easily the effects of the original treatment can be canceled out by the propagation of a different set of true facts which might frame the issue differently. Such a study might provide a fuller insight into the way in which people consume information and form opinions in the real world.

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A Data appendix

A.1 Institutional setting

Sweden is a high tax country with an ambitious welfare state and relatively low levels of economic inequality. The tax-to-GDP ratio is around 45 percent, which is among the highest in the world. At the same time, capital taxation in Sweden does not deviate much from other developed countries. Total capital tax revenue is around five percent of GDP, which lies at the OECD average. Sweden's capital tax revenue derives primarily from the corporate tax (about half) while the rest derives from property taxation and personal capital income taxes. There is a broad-based proportional tax rate on capital income of 30 percent.[46]

Since the 2000s, Sweden has experienced a gradual reduction in its reliance on wealth-based capital taxes. The Swedish inheritance and gift tax was abolished in 2004. At the time of its removal, the inheritance tax was levied on a large share of all bequests, with a basic exemption threshold of only 7000 EUR. Tax rates started at 10 percent and reached a top rate of 30 percent for bequests exceeding 60,000 EUR. The exemption level was exceptionally low by international standards, and has been discussed as a factor contributing to the relatively low popularity of the inheritance tax among Swedish households.[47] The wealth tax was abolished in 2007 and the property tax was sharply reduced in 2008.

Table A1: Comparison of the level of inheritance taxation across countries

	Basic deduction (thousand euros)	Marginal inheritance tax rate (%) Lowest	Highest
Denmark	37	15	15
Finland	20	7	19
France	100	5	45
Germany	500	7	30
Netherlands	20	10	20
Sweden	7	10	30
United Kingdom	270	40	40
USA	4,675	18	40

Note: All numbers refer to children-heirs, which typically correspond to the lowest tax rates and the largest exemption thresholds. Sweden refers to 2004 when the inheritance tax was removed. The UK and US refer to estate taxes while the other countries refer to inheritance taxes (paid by the heirs). Basic deduction amounts are converted into euros using 2017 average exchange rates.

The macroeconomic importance of personal wealth and inherited wealth has increased notably in Sweden since the 1980s according to estimates in Waldenström

[46] For an in-depth discussion of capital taxation in Sweden, see Bastani and Waldenström (2018).

[47] See Henrekson and Waldenström (2016) for a historical study of the rise and fall of Swedish inheritance taxation and Hammar, Jagers and Nordblom (2006) for survey evidence on the popularity of Swedish taxes.

(2016, 2017) and Ohlsson et al. (forthcoming). The ratio of national wealth to national income increased from around 200 percent in the 1980s to 500 percent in the 2010, with the entire increase being driven by the accumulation of wealth in the private sector. Inherited wealth has also become more important. The total annual inheritance flow, including both bequests and gifts, has doubled in size relative to national income since the 1990s. The aggregate share of inherited wealth in total private wealth has been relatively stable around 50 percent in Sweden in the 2010s, increasing only slightly over the past decades. This level is approximately the same as in other Western countries, as estimated by Piketty (2011) and Piketty and Zucman (2015).

The distributional impact of inheritance in Sweden has recently been studied in several studies. and Adermon et al. (2018). Elinder et al. (2018) find that the distribution of bequests tends to be highly skewed, with a Gini coefficient at around 0.70-0.80. Bequest size increases in the pre-inheritance income and wealth of heirs, which means that heirs with higher income receive larger bequests. Nikoeï and Seim (2018) have found similar evidence for Sweden, and they have also studied how differential consumption behavior among relatively poor and rich heirs differs so that the long-run consequences of inheritance may differ. At the same time, estimates show that the relative importance of bequests, expressed as the bequest share of heir's pre-inheritance income and wealth, is larger in the lower parts of the distribution. This pattern has also been found in the US (Wolff 2015). Finally, these studies have also found that bequests are an important determinant of the persistence of wealth across generations, and may account for approximately half of the intergenerational mobility of wealth. Similar patterns have been found for Denmark (Boserup et al. 2018).

A.2 Constructing net wealth measures at the individual level

We define individual and household wealth as the sum of the value of non-financial and financial assets minus debt (see Table A2 for descriptive statistics). Our wealth measures are calculated using register information on property and apartment values, together with a combination of observed and capitalized financial assets and liabilities. Lundberg and Waldenström (2018) contains a detailed discussion of capitalization approaches to individual wealth estimation in Sweden.

Non-financial assets are essentially owner-occupied housing (houses and apartments) and other assets (land, forest property etc.) The property tax register provides information regarding the tax-assessed values of all properties (houses, holiday homes, apartment buildings, agricultural land), which we have transformed to market values using municipality-level sales-price ratios. The apartment register provides information about apartments (rental vs. owner-occupied apartments, number of square meters, household members etc.). We approximated the market value of owner-occupied

apartments by multiplying their size in square meters by the average sales price per square meter using a special data set containing district-level sales prices divided into different apartment-size classes. We used the data from 2017 that we purchased from Svensk Mäklarstatistik, a company specializing in developing statistics for the Swedish housing market.

Financial assets derive from a variety of register sources. Market values of mutual funds (such as the special investment vehicle known as "Kapitalförsäkring", as well as unit-linked and non-unit-linked mutual funds) and some listed stocks can be calculated based on the taxable imputed rate of return, which is equal to the fund value multiplied by a statutory, flat, imputation rate. Other financial assets are more difficult to assess properly. For these assets, we followed a simple capitalization approach by dividing the observed interest and dividend income by average rates of returns from national aggregate income statistics and stocks as reported in the financial accounts. This procedure implies that we capture business equity; listed and non-listed, only to the extent that it generates dividend income. Pension assets in collectively held occupational pension funds are not included, but private pension savings in mutual funds are observed through the imputed taxed capital income.

Financial liabilities are the sum of capitalized bank debt (mainly mortgage debt) and student loans (register-based). Bank debt is estimated using tax return-reported interest payments and the average interest rate in the financial accounts.

Table A2: Descriptive and distributional statistics

	Mean	SD	Min	P25	P50	P90	P99	Max
Male	0.514	0.5	0	0	1	1	1	1
Married	0.439	0.496	0	0	0	1	1	1
Children	0.681	0.999	0	0	0	2	4	5
Foreign-bortn	0.193	0.395	0	0	0	1	1	1
Primary school	0.191	0.393	0	0	0	1	1	1
Secondary school	0.414	0.493	0	0	0	1	1	1
University	0.395	0.489	0	0	0	1	1	1
Years of education	12.1	2.7	7	11	12	16	17	19
Self-employed	0.0731	0.26	0	0	0	0	1	1
House-owner	0.392	0.488	0	0	0	1	1	1
Apartment-owner	0.227	0.419	0	0	0	1	1	1
Taxable inc., ind	27.8	27	0	13.6	26	48.4	95.3	1295
Total inc., ind	32.1	98	0	14.3	26.8	53.3	133	14320
Disposable inc., ind	25.5	69.6	-16.2	13.7	22.1	40.9	84	11740
Net wealth, ind	112	729	-4447	-0.015	25.5	303	935	40087
Taxable inc., hh	52.6	44.2	0	25.8	46.5	95.3	186	1295
Total inc., hh	59.7	115	0	26.7	48.9	105	242	14320
Disposable inc., hh	47.3	80.2	-16	24.2	39.8	80.8	165	11740
Net wealth, hh	199	1072	-3669	0	61	511	1859	104001

Note: Most characteristics as dummy variables. Income and wealth in thousands of Euros.

A.3 Survey response patterns and calibration

The sample population of 12,000 individuals was drawn randomly from the Swedish administrative register databases so as to be representative for the entire Swedish population. In total, 5,776 individuals responded to our survey, yielding a response rate of 49 percent (after subtracting 209 deceased or migrated individuals).

The sample was stratified according to 54 different strata based on four variables: housing assets, gross total income, age and sex. The housing asset strata were the following: group 1: 0–1 million SEK, group 2: 1–5 million SEK, group 3: above 5 million SEK. We define gross total income as taxable earnings including capital income and realized capital gains and used the following strata: group 1: 0–460,000 SEK, group 2: 460,000–1.1 million SEK, group 3: above 1.1 million SEK. For the age variable, we used the following categorization: group 1: 18–39 years, group 2: 40–64 years, group 3: 65 years and above. Finally, sex corresponded to two groups.

For each individual, a weight is calculated so that the resulting weighted population is representative for the whole Swedish (adult) population. The original *design weights* were based on register variables and the 54 strata. As is the case in most surveys, response was not entirely random in the sampled population and higher response rates were observed for older and higher-earning individuals. Therefore, a regression-based calibration was conducted by Statistics Sweden, resulting in a set of *calibrarion weights* according to a standardized procedure. These calibration weights are then used in our analysis to render it nationally representative. Table A3 compares means across the population sample and the sample of respondents, using either design weights or calibration weights. After calibration, there are few differences across these populations. The main exception is taxable income, which is somewhat lower on average among the respondents. There are also some deviations in terms of the incidence of marriage and having children at home. Note that all of these characteristics are included in the vector of control variables used in the regressions. As shown in section 6.6 in the main text, our main qualitative results are robust to the specific type of weighting used in the analysis.

Table A3: Representativeness of the respondent population

	General population	Respondents		t-statistics	
	(design weights) (1)	(design weights) (2)	(calibration weights) (3)	(2)-(1) (4)	(3)-(1) (5)
Male	0.497	0.505	0.511	0.43	0.75
	(0.008)	(0.012)	(0.017)		
Age	49.4	55.8	49.1	9.29	-0.44
	(0.3)	(0.4)	(0.6)		
Married	0.483	0.571	0.432	4.93	-2.86
	(0.008)	(0.012)	(0.016)		
Children at home	0.439	0.357	0.391	-4.44	-2.60
	(0.008)	(0.012)	(0.016)		
Foreign-born	0.179	0.121	0.200	-3.29	1.19
	(0.006)	(0.008)	(0.016)		
Primary school	0.189	0.143	0.209	-2.97	1.29
	(0.006)	(0.007)	(0.014)		
Secondary school	0.439	0.398	0.423	-2.22	-0.87
	(0.008)	(0.012)	(0.016)		
University/College	0.372	0.459	0.368	4.90	-0.23
	(0.008)	(0.012)	(0.016)		
Taxable income, ind	30,166	34,496	27,643	6.00	-3.50
	(334)	(542)	(639)		
Taxable income, hh	61,269	67,230	53,099	4.83	-6.62
	(518)	(774)	(1,120)		
Wealth, ind	106,218	153,454	106,339	4.78	0.01
	(5,027)	(9,477)	(8,512)		
Wealth, hh	193,103	297,005	194,535	7.30	0.10
	(8,779)	(13,295)	(11,213)		
House value, ind	62,779	80,002	57,989	6.52	-1.81
	(1,382)	(2,274)	(2,253)		
House value, hh	156,014	216,064	156,193	8.64	0.03
	(3,444)	(6,227)	(6,039)		

Note: All variables are stratification-weighted group averages. Units are [0,1]-dummies for all variables except Age (years) and household taxable income, house value and net household wealth, which are all in thousand Euros (using exchange rate 10 to the Swedish krona). The notation "*" denotes statistical significance at the 5%- level.

A.4 Election district variable

We use vote outcome data from Sweden's 6,004 election districts in the 2018 general election. The districts have on average 1,250 eligible adult (18+) voters, with the smallest districts having around 200 voters and the largest around 2,300 voters (median size is 1,252). The election data shows the number and share of votes to each party in the national, county and municipal elections.

In both 2014 and 2018, Sweden's national parliament had eight political parties. The left-green alliance consists of the left-wing party (*Vänsterpartiet*), the Social Democrats (*Socialdemokraterna*), the Green Party (*Miljöpartiet*). The right-wing coalition (which ceased to exist after the 2018 election) conatains the Center Party (*Centerpartiet*), Liberals (*Liberalerna*), Christian Democrats (*Kristdemokraterna*) and the Conservative Party (*Moderaterna*). The eigth party outside these alliances is the Sweden Demorcats (*Sverigedemokra-*

terna), which is social conservative party with a mixed economic policy gradient concerning traditional left-right issues.

In table A4, we present correlation coefficients between three of the "ideological" questions in our questionnaire and the election outcome in the 2018 election for each of the political parties. The first question concerns the support for "more spending on military defense" and it is generally conceived to be positively correlated with right-wing political party support. The second and third questions concern support for a general decrease/increase in the level of both taxes and spending, and they capture central dimensions in political ideology. Each variable is defined in a multi-level sense, taking integer values between 0 and 3 corresponding to different degrees of support.

The correlations indicate a consistent relationship between political party support at the election district-level and individual political views. Respondents who support more spending on military defense tend to reside in districts where right-wing parties receive higher vote shares, and the opposite is true for respondents living in left-leaning districts. The pattern is similar when looking at the support for either a general increase in taxes and spending or a decrease in taxes and spending. Overall, we interpret these results as providing supportive evidence for our use of district-level political party vote shares as indicators of individual political beliefs.

Table A4: Correlation coefficients between respondents' answers to ideological questions and the vote shares of political parties in their election districts.

Political party	(1) More defense spending	(2) Cut taxes and spending	(3) Raise taxes and spending
Left-wing party	-0.112***	-0.066***	0.164***
	(0.000)	(0.008)	(0.000)
Social Democrats	-0.101***	-0.066***	0.109***
	(0.000)	(0.008)	(0.000)
Green party	-0.067***	-0.082***	0.110***
	(0.007)	(0.001)	(0.000)
Sweden Democrats	0.047*	0.054**	-0.079***
	(0.059)	(0.028)	(0.002)
Center party	0.026	-0.017	-0.049*
	(0.299)	(0.504)	(0.053)
Liberals	0.029	0.006	-0.035
	(0.252)	(0.816)	(0.16)
Christian Democrats	0.059	0.062**	-0.094***
	(0.019)	(0.013)	(0.000)
Conservatives	0.106***	0.068***	-0.105***
	(0.000)	(0.006)	(0.000)

Note: *, **, *** denote statistical significance at the 10%-, 5%-, and 1%-level.

B Further robustness checks

B.1 Further analysis of heterogeneous treatment effects

In our main analysis, we found little evidence of heterogeneity of treatment effects across socio-economic dimensions. In this appendix section, we extend the analysis by studying variants of the tests and some further partitions of the respondents. We explore heterogeneous treatment effects on both support and perceptions.

Tables B1 and B2 show bivariate interactions regressions of the treatment and the confounding variables used in Table 3. A comparison of the results shows that the main findings do not change depending on whether one uses multivariate or bivariate interaction regressions to study the heterogeneity of treatment effects.

Table B1: Heterogeneous treatment effects: Low exemption tax

	Support for low exemption inheritance tax					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.043	0.079**	0.088**	0.073	0.069*	0.071*
	(0.041)	(0.040)	(0.040)	(0.055)	(0.041)	(0.042)
University	0.042					
	(0.048)					
Treat × University	0.104					
	(0.076)					
Top income decile		-0.100**				
		(0.046)				
Treat × Top inc. decile		0.038				
		(0.077)				
Top wealth decile			0.034			
			(0.058)			
Treat × Top wealth decile			-0.075			
			(0.082)			
Cut taxes/transfers				-0.087*		
				(0.048)		
Treat × Cut taxes				0.007		
				(0.075)		
Defense spending					-0.148***	
					(0.046)	
Treat × Defense					0.038	
					(0.084)	
Left-green party support						0.069
						(0.045)
Treat × Left-green support						0.012
						(0.072)
Observations	3,655	3,677	3,687	3,524	3,687	3,687
Controls	No	No	No	No	No	No

Note: Regression coefficients from equations where dependent variable is support for low or high exemption inheritance taxation. *, **, *** denote statistical significance at the 10%-, 5%-, and 1%-level.

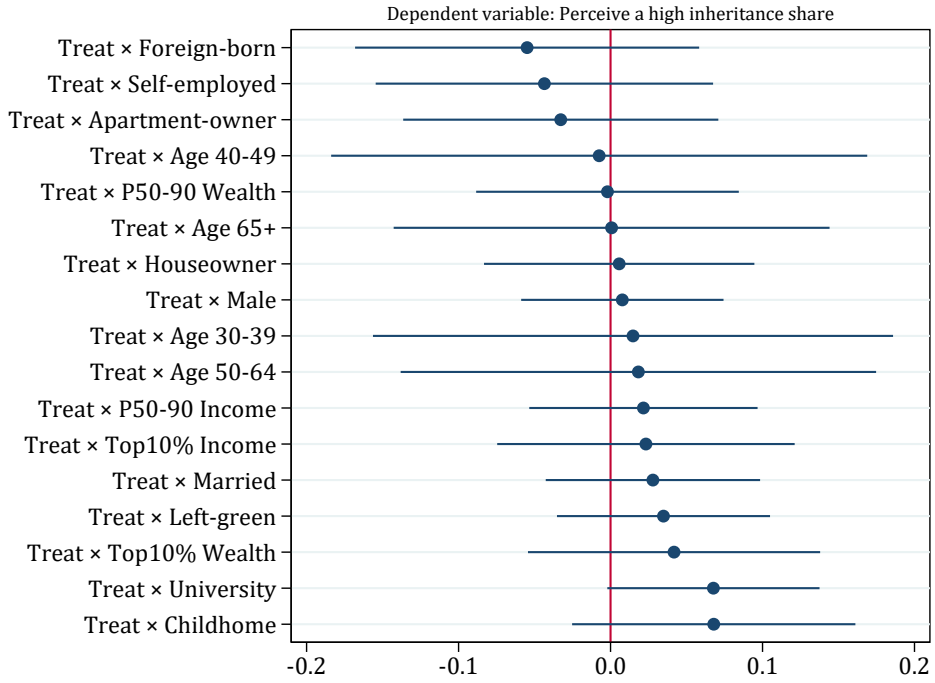
Table B2: Heterogeneous treatment effects: High exemption tax

	Support for high exemption inheritance tax					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.013	0.056	0.064	0.035	-0.011	0.049
	(0.051)	(0.044)	(0.044)	(0.060)	(0.044)	(0.048)
University	-0.025					
	(0.054)					
Treat × University	0.113					
	(0.082)					
Top income decile		-0.099				
		(0.062)				
Treat × Top inc. decile		0.054				
		(0.092)				
Top wealth decile			0.049			
			(0.064)			
Treat × Top wealth decile			-0.205**			
			(0.086)			
Cut taxes/transfers				-0.057		
				(0.056)		
Treat × Cut taxes				0.009		
				(0.083)		
More defense spending					-0.305***	
					(0.049)	
Treat × Defense					0.239**	
					(0.101)	
Left-green party support						0.079
						(0.054)
Treat × Left-green support						-0.016
						(0.080)
Observations	3,643	3,664	3,674	3,510	3,674	3,674
Controls	No	No	No	No	No	No

Note: Regression coefficients from equations where the dependent variable is support for low or high exemption inheritance taxation. *, **, *** denote statistical significance at the 10%-, 5%-, and 1%-level.

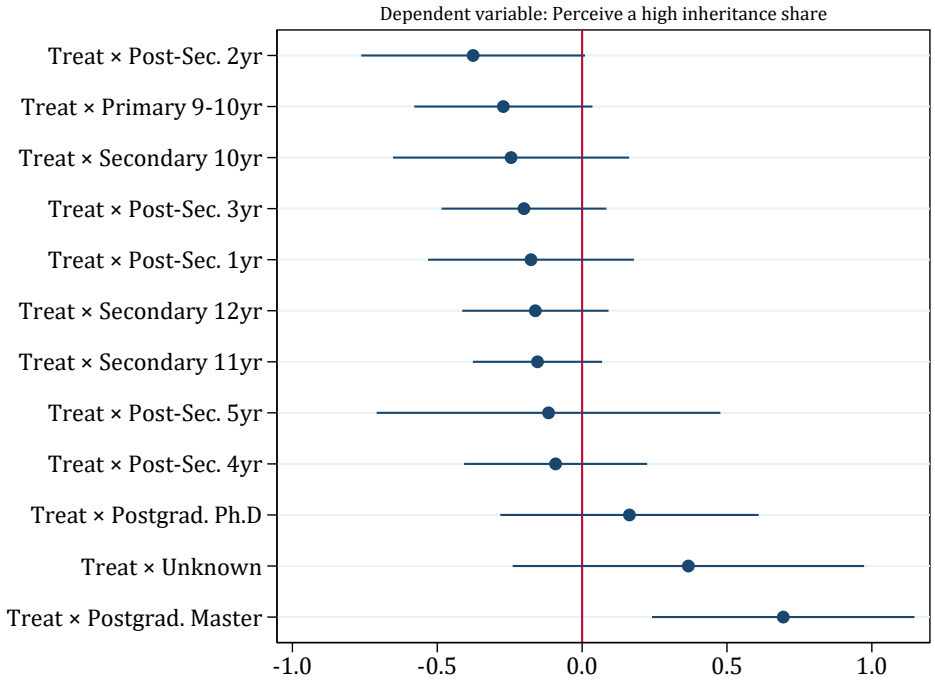
We have also analyzed heterogeneous treatment effects on the likelihood to perceive inheritance to be economically important. Figure B1 presents coefficient estimates with 95-percent confidence intervals, and they indicate no strong heterogeneity in how inherited wealth is perceived across a number of dimensions.

Figure B1: Treatment interaction effects on perception



Note: The graph shows coefficients (with 95% confidence intervals) from our inheritance tax support-regression (equation 1 in the main paper), shedding light on the interaction between the inheritance treatment dummy "Treat" and different individual background characteristics.

Figure B2: Treatment effects on perceptions for different education levels



Note: The graph shows coefficients from our baseline inheritance tax support-regression (equation 1 in the main paper) of interaction terms between is the inheritance treatment dummy "Treat" and different levels of education.

Further analyzing the heterogeneity of treatment effects on perceptions, Figure B2

shows the treatment effect across different *education levels* (as reported in the Swedish administrative education register). There are small differences in treatment effects overall, but the small group of respondents with postgraduate education, particularly with a Ph.D., the treatment seems to have been particularly influential on the respondents' perceived importance of inherited wealth.[48]

B.2 Sensitivity checks with respect to income measures

The main analysis of the inheritance treatment effect in Section 3 uses annual observations of individual taxable labor income. Below, we present an examination of the robustness of those results with respect to the measurement of income. Specifically, we use variants of one- vs three-year income averages (to account for the transitory nature of income), a division between labor and total income (to account for potentially different treatment effects for individuals with different configurations of labor and capital income), pre-tax vs post tax/transfers (to account for how tax preferences possibly differ depending on actual taxes paid or transfers received) and, finally, we examine whether it makes a difference if we measure income at the individual or household level (to account for how tax preferences might be affected by spousal income).

Table B3 shows that the inheritance treatment effect appears to be insensitive to these variations in measurements. The estimated coefficients are statistically significant and relatively stable across different specifications.

Table B3: Robustness of treatment effects with respect to income measurement

	(1)	(2)	(3)	(4)	(5)	(6)
	Pretax labor income		Pretax total income		Disposable income	
	1-year	3-year	1-year	3-year	1-year	3-year
			Individual income			
Treatment	0.078**	0.074**	0.081**	0.076**	0.079**	0.076**
	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)	(0.034)
			Household income			
Treatment	0.073**	0.071**	0.075**	0.071**	0.078**	0.075**
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Observations	3,568	3,568	3,568	3,568	3,568	3,568
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.245	0.245	0.245	0.245	0.245	0.245

Note: "Taxable income" is earnings and self-employment income, "total income" is the sum of earnings and taxable capital income, and "disposable income" is total income net of taxes and untaxed transfers. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

[48] We also examined if treatment effect on perceptions differ across individuals with different *education specializations*, but the differences were small and insignificant.

B.3 Further tests of the role of perceptions for the treatment effect

B.3.1 Mediation analysis: Further estimations

In the main analysis in Section 5.3, we used the systematic approach for analyzing causal mechanisms as laid out in Imai et al. (2011). In the regressions that we presented, we included a set of control variables. In table B4 below, we re-do the same analysis without covariates. The results are very similar to those presented in the main text. Hence, we conclude that confounding factors do not seem to play any substantial role for the mediating effect of perceptions on the support for inheritance taxation.

Table B4: Mediating analysis

	PerceiveHigh	Low exemption tax, τ^{LE}		High exemption tax, τ^{HE}	
	(1)	(2)	(3)	(4)	(5)
Inheritance Treatment	0.170***	0.082**	0.066*	0.044	0.036
	(0.040)	(0.037)	(0.035)	(0.041)	(0.041)
PerceiveHigh			0.095***		0.051
			(0.036)		(0.041)
Observations	3,771	3,643	3,643	3,634	3,634
Controls	No	No	No	No	No
Control mean	0.397	0.245	0.245	0.408	0.408
ACME		0.017 [0.004, 0.034]		0.009 [-0.003, 0.025]	
Direct effect		0.066 [-0.005, 0.135]		0.036 [-0.047, 0.117]	
Total effect		0.082 [0.009, 0.155]		0.045 [-0.039, 0.127]	
ACME/Total Effect		0.204 [0.101, 1.092]		0.149 [-1.751, 2.507]	

Note: The dependent variable in column (1) is a dummy equal to one if the respondent percieves the share of inheritance in total wealth to exceed one half, and in columns 2-5 dummies indicate support for low or high exemption inheritance taxes. "ACME" refers to the average causal mediating effect and is the part of the treatment effect that operates through the mediating variable, that is, the difference between the total and direct treatment effets. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

B.3.2 Perceiving the inherited wealth share to be exactly 50%

This section presents a sensitivity check of the parametric tests that we used in section 5 to assess the role of perceptions in the link between our treatment and the increased support for inheritance taxation. In section 5, we used a dummy variable *PerceiveHigh* that was equal to one if the share of inherited wealth was perceived to be 50% or higher. Here, we consider an alternative specification where we let *PerceiveHigh* be equal to one only of individuals perceive the inherited wealth share to be *exactly* 50 percent, which corresponds to the ”correct’ share of inherited wealth in total wealth.

In Table B5, we can see that the information treatment clearly affected this modified perception measure. Among the treated, 23.7 percent answered ”50 percent” to the question about the inheritance share, which is an almost 50–percent increase from the

control-group level of 16.5 percent.

Table B5: Treatment effect on perceptions of inherited wealth

	"Inheritance share is *exactly* 50 percent"	
	(1)	(2)
Inheritance Treatment	0.072**	0.070**
	(0.035)	(0.034)
Observations	3,653	3,653
Controls	No	Yes
Control mean	0.165	0.165

Note: The table shows $\hat{\beta_1}$ from the regression $Perceive50_i = \beta_0 + \beta_1 Treatment + \delta' X_i + e_i$, where $Perceive50_i$ is a dummy variable equal to one if the respondent selects an inheritance share in household wealth of "50%". The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

We can repeat the exercise we conducted in section 5.2 by calculating an "IV"-estimate by dividing the reduced-form with the "first-stage" effect. Using the modified measure of *PerceiveHigh*, we obtain a ratio of $0.082/0.072 = 1.14$. This can be interpreted to imply that more than 100 percent of individuals who change their perceptions in response to the treatment become favorable to an inheritance tax. The fact that the share exceeds 100 percent most likely reflects that the treatment affects individuals in ways not fully captured by this narrow measure of changing perceptions.

Table B6 shows mediating variable regressions for the low and high exemption inheritance taxes without control variables (in the analysis in the main body fo the paper controls were included). The message is similar to our main analysis, that is, that the perception of inherited wealth being important accounts for around one fifth of the treatment effect on support.

Table B6: Mediating analysis

	PerceiveHigh	Low exemption tax, τ^{LE}		High exemption tax, τ^{HE}	
	(1)	(2)	(3)	(4)	(5)
Treatment	0.170***	0.082**	0.066*	0.044	0.036
	(0.040)	(0.037)	(0.035)	(0.041)	(0.041)
PerceiveHigh			0.095***		0.051
			(0.036)		(0.041)
Observations	3,771	3,643	3,643	3,634	3,634
Controls	No	No	No	No	No
Control mean	0.397	0.245	0.245	0.408	0.408
ACME		0.017 [0.004, 0.034]		0.009 [-0.003, 0.025]	
Direct effect		0.066 [-0.005, 0.135]		0.036 [-0.047, 0.117]	
Total effect		0.082 [0.009, 0.155]		0.045 [-0.039, 0.127]	
ACME/Total Effect		0.204 [0.101, 1.092]		0.149 [-1.751, 2.507]	

Note: The dependent variable in column (1) is a dummy equal to one if the respondent percieves the share of inheritance in total wealth to be exactly 50%, and in columns 2-5 dummies indicate support for low or high exemption inheritance taxes. "ACME" refers to the average causal mediating effect and is the part of the treatment effect that operates through the mediating variable, that is, the difference between the total and direct treatment effets. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

Table B7: Conditioning support on perceiving a 50% inheritance share

	Low exemption tax (τ^{LE})			High exemption tax (τ^{LE})		
	Support	Support, *Perceive*50% = 1	Support, *Perceive*50% = 0	Support	Support, *Perceive*50% = 1	Support, *Perceive*50% = 0
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.078**	0.077***	0.003	0.052	0.075***	-0.022
	(0.034)	(0.023)	(0.030)	(0.037)	(0.024)	(0.034)
Observations	3,568	3,570	3,570	3,561	3,561	3,561
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean	0.245	0.245	0.245	0.408	0.408	0.408

Note: The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, 1%-levels.

In sum, modifying our measure of perception shifts to a narrower indicator (answering exactly 50 percent, corresponding to one of our treatment facts, rather than 50% or more, as in the main analysis) does not affect the qualitative nature of our results. The sensitivity checks therefore confirm our conclusion that the information we provide about the economic importance of inherited wealth is affecting people's attitudes to inheritance taxation.

B.3.3 Testing anchoring at 50% as result of inheritance treatment

We explore whether individuals in the inheritance treatment have a general tendency to answer 50% by examining their response of "50%" to the survey question of the

share of home-ownership among Swedish households. A significant effect of the inheritance treatment on such an answer could indicate a *psychological anchoring*, which may influence the interpretation of the inheritance treatment effects on the perception of a high inheritance share. The results in Table B8 does not suggest such anchoring among treated respondents.

Table B8: Treatment effects on different support categories

	Answering that 50% share of households own their home			
	(1)	(2)	(3)	(4)
Treatment	0.025	0.036	0.005	0.004
	(0.031)	(0.030)	(0.013)	(0.014)
Observations	3,828	3,699	3,828	3,699
Controls	Yes	Yes	Yes	Yes
Control mean	0.139	0.139	0.139	0.139
Weights	Calibration	Calibration	None	None

Note: Dependent variable is chosing "50%" on question about how large share of all households that owns one's home. A significant effect of the inheritance treatment of half of all household wealth being inherited on the house ownership share of 50% could indiate a psychological anchoring of the treatment. The average support in the control group is shown in the bottom of the table for reference purposes. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

B.4 Time to response

We have information about the time it took (in number of days) for each respondent to respond to the survey. Furthermore, as part of Statistics Sweden's normal survey procedure, a postcard reminder was sent out to respondents who had not submitted their survey after two weeks, and a second survey was sent out to those who had not responded four weeks after the original survey was sent out. A delayed response could provide some evidence on the persistence of the treatment effect, for example, if the respondent read the original survey first and then waited to respond for some time. Of course, the delay could also be due to other factors, such as forgetting about the survey for some time or choosing not to read and answer the original survey.

Table B9 shows treatment effects across different variants of responses (any support, full support, opposing, multi-level response variable) and response delays. Looking first at our main support variable (column 1), we can see that our baseline treatment effect is largest and most precisely estimated for individuals who responded immediately, with a 10 percentage point increase (as compared to the 8.6 percent increase which is the baseline estimate for the total population). The treatment effect for the group responding 2–4 weeks after the survey was sent out is 7 percent, though with a wide confidence interval, and the treatment effect for the group responding after 4 to 8 weeks is 5 percent, also with a large standard error. While there seems to be a decline in the treatment effect, the decline is not statistically significant. The point

estimates for those who respond with delay are still economically significant in relation to the control group support. Column 2 shows a spike in treatment effect for the group responding after 2 to 4 weeks, while the effect is smaller for the other groups. Column 3 shows that there is a negative treatment effect on opposition to the tax in all three delay groups that is relatively similar in the first two groups but much smaller in the third group. Finally, column 4 shows the results for the case where the dependent variable reflects a cardinal coding of the response categories (as described in Section 6.2). The effects appear to be consistently positive across the three delay categories.

Table B9: Time to response and treatment effects

	Attitude to inheritance taxation (τ^{LE})			
	Any support	Full support	Opposing	All responses (multi-level)
	(1)	(2)	(3)	(4)
	a) Direct response, <2 weeks			
Treatment	0.092**	0.015	-0.095**	0.128
	(0.042)	(0.030)	(0.043)	(0.099)
Observations	2,331	2,332	2,332	2,220
Control mean	0.227	0.069	0.684	0.684
	b) Response after 2-4 weeks (postcard)			
Treatment	0.079	0.084**	-0.105	0.265**
	(0.075)	(0.039)	(0.075)	(0.134)
Observations	593	593	593	553
Control mean	0.313	0.028	0.666	0.666
	c) Response after 4-8 weeks (new survey)			
Treatment	0.050	0.052	-0.012	0.150
	(0.069)	(0.037)	(0.077)	(0.151)
Observations	644	645	645	605
Control mean	0.237	0.043	0.674	0.674

Note: The table shows estimated treatment effects using our baseline model. The dependent variable is support for, or opposition to, a low exemption inheritance tax, where "multi-level" support represents a four-level categorical variable of support that ranges from 0 ("Opposition") to 3 ("Full support"). The average support in the control group is shown in the bottom of the table for reference purposes. The markers * and ** denote statistical significance at the 10% and 5% level, respectively.

B.5 Bounds on treatment effects

Systematic non-response would violate a key assumption of the treatment assignment. We argue against such selection patterns in Section 2.3, pointing to the similarity in response rates in the treatment and control groups, and in Section 3.2, referring to the limited influence of the background characteristics on the treatment effects.

A more direct test of a potential selective attrition is to apply the methodology of Lee (2009) for estimating bounds on the treatment effects. Specifically, this method

compares the groups of treated and control respondents and computes intervals of the treatment effect size based on different assumptions about selective response and the support for inheritance taxation among these non-respondents. The sample is trimmed to make the two groups equal, and the trimming proportion says how large share of the observed respondents that is trimmed away. In our case, only 1.3 percent is trimmed in the low exemption tax case and 0.6 percent in the high exemption tax case. The Lee bounds are then computed by comparing averages in the trimmed subsamples, either unconditional or tightened using covariates to compute tighter bounds. Table B10 shows that the effect bounds are quite close the baseline estimates in Table 2 in the main analysis and that using covariates to tighten bounds does not change the results. Overall, we conclude from this supplementary analysis that there is little evidence that non-random attrition would affect the main findings of the study.

Table B10: Bounds for non-random sample selection

	Low exemption tax		High exemption tax	
	(1)	(2)	(3)	(4)
Lower bound	0.071***	0.072***	0.041**	0.054***
	(0.016)	(0.016)	(0.017)	(0.017)
Upper bound	0.084***	0.091***	0.047***	0.054***
	(0.015)	(0.016)	(0.017)	(0.017)
Observations	3,828	3,828	3,828	3,828
Tightening	No	Yes	No	Yes
Trimming proportion	0.013	0.013	0.006	0.006

Note: Figure shows Lee (2009) treatment effect bounds for non-random sample attrition. "Trimming proportion" shows the share of the observed sample that is trimmed, "Thightening" indicates whether covariates (here: dummies for being in the top total pretax income decile and top net wealth decile, both using individual income and wealth), which could be indicative of selective response, were used in the estimation. *, **, *** denotes statistical significance at the 10%-, 5%-, and 1%-level.

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