# CAPITAL VS. LABOUR: THE EFFECT OF INCOME SOURCES ON ATTITUDES TOWARD THE TOP 1 PERCENT

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# Capital vs. Labour: the Effect of Income Sources on Attitudes Toward the Top 1 Percent*

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**Abstract**

We examine the impact of providing information on the income of the top 1% earners on attitudes towards this group. We focus on the income at the top derived from capital and labour, an aspect scarcely studied in previous literature. We carried out a randomized online survey with 2000 French respondents. Our findings reveal that: (i) at the baseline, respondents tend to overestimate the income of the top 1%, have no clear priors on their capital vs. labor shares, and want them to pay a higher income tax rate than the current one; (ii) providing quantitative information about the income sources at the top consistently shifts attitudes toward the rich to the unfavorable spectrum. This shift does not result from experimenter demand effects; (iii) individuals most responsive to our treatments vote for left-wing candidates and have egalitarian notions of justice.

**Keywords:** Top 1 percent, income tax, capital income shares.

**JEL Codes:** H20, H24, P16.

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# 1 Introduction

Academic research on top earners has increased dramatically since the consequential analysis on top incomes by Piketty (2001) and Piketty and Saez (2003) in France and the United States. Moreover, society's concerns about inequality and accumulation at the top have significantly mounted.[1] In line with these concerns, in recent years, researchers have carried out experimental surveys to test the effect of information on people's perceptions of inequality, social justice, or taxation (Kuziemko et al., 2015; Fernández-Albertos and Kuo, 2015; Di Tella et al., 2016; Sides, 2016; Alesina et al., 2018; Atria, 2018; García-Sánchez et al., 2018; Trump, 2018; Bischoff and Kusa, 2019; Almås et al., 2020; Becker, 2020; Fisman et al., 2020; Bastani and Waldenström, 2021; Campos-Vazquez et al., 2022). The main purpose of this paper is to build on this literature by conducting a randomized online experiment that tests a crucial dimension of the income at the top: how much of the income earned by rich individuals comes from capital and how much comes from labour.

Studying the effects of providing information on capital income versus labour income is crucial to understanding how attitudes toward top earners and income taxes are formed; as a priori, the direction of the effect of this information on peoples' perceptions is not obvious. Respondents may perceive it as unfair that top earners get most of their income from capital (rents, interests, returns on assets, among others) due to a perceived lack of merit or effort in obtaining this income. On the other hand, respondents could perceive it as fair that top earners get a large share of their income from capital, as they are entitled to have returns on their property. Our research aims to shed light on perceptions about this important aspect of incomes at the top.

Previous research has studied how people's perceptions and beliefs change when they are exposed to information on inequality (Kuziemko et al., 2015; Fernández-Albertos and Kuo, 2015; García-Sánchez et al., 2018; Trump, 2018; Almås et al., 2020; Becker, 2020), mobility (Alesina et al., 2018; Campos-Vazquez et al., 2022), or inheritances (Sides, 2016; Fisman et al., 2020; Bastani and Waldenström, 2021). However, information on the income sources of rich individuals has been scarcely studied in the literature. One exception is the paper by Fisman et al. (2020). Their research aims to test if individuals are willing to tax income and wealth simultaneously. They find that respondents want a positive wealth tax, and their results are robust to defining income as coming from both capital and labour or exclusively from labour. We expand on this effort to test the capital versus labour component of income by placing it at the core of our experiment. Moreover, we measure the effect of providing information on capital versus labour income not only on taxes but also on another set of important attitudes towards the richest individuals. In addition, we examine the heterogeneous impact of such information across different political preferences and

[1] Surveys indicate that in 2001, 60 percent of the French population thought that inequality was increasing. A decade later, the share of people thinking that inequality was growing climbed to nearly 90 percent. In addition, people who think that society is unfair rose from around 60 percent in 2001 to 80 percent in 2016. Source: *Baromètre d'opinion de la Drees, Ministère des Solidarités et de la Santé*.

notions of justice, among other relevant variables. Individuals have different perspectives regarding accumulation at the top and tax policy.[2] Therefore, investigating the impact of information about income sources across different groups can provide valuable insights of academic interest (to understand preferences toward top earners) and policy relevance (to design tax policies).

We mainly expose respondents to quantitative information to test the income sources (capital vs. labour) factor. Namely, the plain shares of income at the top earned from capital and labour. However, we also expose a set of participants to qualitative information. We do this to test for experimenter demand effects. These arise when survey participants anticipate a particular attitude or response that the survey conductors expect, leading them to adapt their responses accordingly (Zizzo, 2010). Demand effects impede detecting actual changes in attitudes from respondents. The qualitative treatment arm explicitly signals respondents an expectation from the experimenter, and we test if respondents react to this stimulus.[3]

With this aim, we conduct an online survey with 2,000 French adult respondents. We randomly expose two-thirds of the sample to our *quantitative treatment arm*. This arm consists, first, of showing the amount of income that the top 1 percent in France earns, and second, of informing how much of the income of top earners comes from capital versus labour sources. In addition, half of the respondents that received the quantitative treatment were randomly selected to receive complementary qualitative interpretations on the consequences of inequality and large capital income shares at the top; we call this our *quantitative+qualitative treatment arm*. We assigned the remaining one-third of the respondents to the control group. This design allows, firstly, to test the effect of exposing people to information on the income sources at the top of the distribution, which is this study's main purpose; secondly, to isolate the marginal impact of providing additional qualitative interpretations on this matter.

We study three dimensions of respondents' perceptions towards top earners: 1) concentration of income, 2) merit, and 3) role in society. In addition, we study preferences towards a policy variable: the income tax rate at the top. We focus on the top 1 percent, as literature analyzing top income groups has stressed the evolution of incomes of the top 1.[4] Additionally, different social movements in the last decades have specifically targeted the top 1 percent earners (occupy, *indignados*). Moreover, it is easier to graphically depict the top 1 percent than a group of top earners beyond that (such as the top 0.1 or 0.01). All these factors facilitate respondents' comprehension of the treatments.

We obtain important findings regarding respondents' attitudes at the baseline (control group).

[2]Conservative or libertarian people may have more optimistic attitudes toward the rich and view progressive income taxes as a threat to individual freedom. On the other hand, left-wing voters and egalitarians may support progressive income taxes due to their redistribution effects, among other reasons.

[3]We take various additional measures recommended in the literature to deal with demand effects such as respondent's anonymity or obfuscating the purpose of the study (Haaland et al., 2020). Section B of the Online Appendix explains these in more detail.

[4]The paper by Alvaredo et al. (2013) presents evidence on the evolution of incomes of the top 1 percent and summarizes the literature on the driving forces behind this evolution.

First, a large share of respondents overestimate the average income of the top 1 percent.[5] About 60 percent of individuals in the control group think that the top 1 percent earn, on average, more than they earn. Moreover, respondents in the control group do not show consistent beliefs regarding the share of income of the top 1 earned from capital or labour. In addition, untreated respondents are already highly concerned about the rich having too much income; on a scale from 0 to 10 (where 10 is highly concerned), their mean answer is around 7 points. Opinions concerning the merit and role of the rich in society are neutral or slightly favor the top 1 percent earners. Finally, at the baseline, respondents think that the top 1 percent earners should have an average income tax rate of close to 37 percent. This rate is higher than the average income tax rate that the top 1 percent earners pay in France.[6]

Concerning the quantitative arm of our experiment, we find that showing the income level of the richest 1 percent earners, in most cases, does not affect respondents' attitudes towards the top 1 percent. This result might be due to people overestimating, at the baseline, the income of the top 1. On the other hand, our results indicate that showing information on the income sources at the top (once people have seen the income levels) shifts attitudes on the top 1 percent earners significantly towards the unfavorable spectrum. I.e., respondents judge top earners more unfavorably after they are exposed to information on the income sources. We test this at the extensive (how many respondents shift attitudes as they are exposed to information on income sources at the top) and the intensive (by what amount attitudes are shifted) margins. On the extensive margin, we find that the income sources' quantitative information makes participants 4.5 to 6.5 percent more likely to change attitudes toward the top one percent to the unfavorable spectrum. In addition, respondents receiving information on the sources of income at the top are 6.2 percent more likely to prefer a higher income tax rate at the top than the control group. On the intensive margin, the income sources treatment shifts attitudes on top earners by 0.12 to 0.26 points (on a zero to ten scale) towards the unsympathetic spectrum. These effects amount to a change of 0.06 to 0.1 standard deviations. This is a substantial effect considering that respondents are exposed to our treatment information for a brief period (about three to five minutes). Finally, we did not find a significant effect on the income tax rate at the intensive margin. So, overall, the effect of the income source information is stronger on outcomes that reflect perceptions about rich individuals per se than on the income tax rate that these individuals should pay. This is in line with research by Kuziemko et al. (2015), Di Tella et al. (2016), Trump (2018), and Campos-Vazquez et al. (2022) that indicates that preferences towards taxation may not be modified even as concerns on inequality and fairness are shifted by exposure to information.

Regarding the quantitative+qualitative treatment arm, the qualitative texts we show have a clear

[5]This is in line with research by Campos-Vazquez et al. (2022) for Mexican respondents, as they also find that people overestimate the income of rich individuals.

[6]This finding aligns with research by Mathisen (2021) in Norway. He finds that the Norwegian tax schedule closely matches Norwegians' desired schedule. However, for the top 1 percent, the actual tax rate is well below the level desired by the population.

egalitarian bent. These texts should signal respondents a surveyor's expectation of their responses. The expectation is that responses be unfavorable towards top earners. However, our results indicate that exposing people to egalitarian descriptions of consequences of inequality and high capital income shares at the top does not have an additional effect on the outcomes we test. These results strongly indicate that demand effects are not pervasive in our experiment. As if they were, respondents exposed to the qualitative information should display more unfavorable views towards top earners than respondents not exposed to it. In this respect, our findings contrast those of Sides (2016). His results may signal that qualitative egalitarian information shifts preferences on taxes of rich individuals. Here we give evidence that not all egalitarian qualitative treatments will lead to that result.

As for differences among respondents, we find that the eldest, the poorest, and left-wing individuals have, at the baseline, relatively unfavorable views towards top earners. In addition, the respondents most impacted by our treatments vote for left-wing candidates and have relatively more egalitarian notions of justice. Since these individuals have, at the baseline, more unfavorable views towards top earners, our experiment widens already existing gaps among different types of respondents. I.e., the effects we find do not seem to come from changing opinions of people who favor the rich but from reinforcing opinions of people who are unfavorable towards them. This polarization based on political preferences is consistent with findings by Alesina et al. (2018). They show that left-wing respondents are more supportive of redistributive policies at the baseline and become even more supportive of these policies when they are exposed to information about social mobility.

The rest of the paper proceeds as follows: in Section 2, we describe the general structure of our online survey. Section 3 describes the treatments in detail. Section 4 presents the main results. Section 5 discusses possible mechanisms. Finally, Section 6 provides concluding remarks.

# 2 The survey

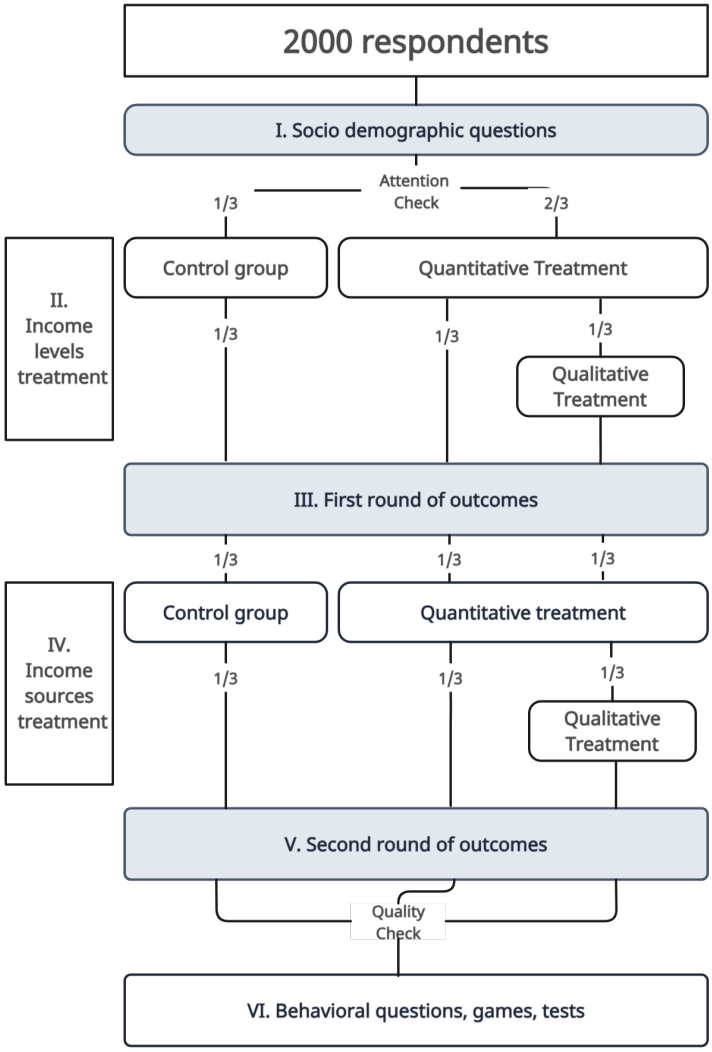
We conducted an online survey experiment with 2000 voting-age French individuals between January 25th and February 21st, 2022. We drafted the online questionnaire using the Qualtrics software. The average response time is close to ten minutes.[7] Respondents were drawn randomly from a pool of subscribers to Qualtrics.[8] The structure of the survey is illustrated in the diagram below.

**I. Background socio-demographic questions.** The first part of the survey profiles all respondents regarding their demographics and socioeconomic background. The questions include information on age, gender, income, education, employment status, marital status, religion, place

[7]Average time response varies according to the treatment assigned. However, the differences in response time between groups are minor, ranging from one to two minutes.

[8]Participants were informed of a compensation fee for participating in the survey plus the link to access it. Once respondents clicked on the survey link and accepted participating, all responses were automatically redirected and stored on our servers.

of birth, lodging, and primary type of remuneration. We use the age, education, and gender questions to force our sample of respondents to be representative of the general French population. More on this in Section A of the Online Appendix.[9]




**II. First treatment battery: income levels.** At this point of the survey, two-thirds of respondents were randomly exposed to treatment. This consists of quantitative information on the amount of income earned by the top one percent earners in France. We name this the *income levels quantitative treatment*. Moreover, half of the respondents exposed to the quantitative treatment (one-third of the total sample) were randomly selected to receive a qualitative academic description of the consequences of income inequality. We name this the *income levels qualitative treatment*. One-third of the total respondents who did not receive treatment (the control group) were shown information unrelated to the outcome variables. We describe the exact information shown to each

[9]At the start of the questionnaire, respondents are presented with a consent form to participate. Following Institutional Review Board (IRB) guidelines, this consent form informs respondents on the aim of the study (in general terms), the length of the questionnaire, the risks associated with participating, compensation, and the privacy of information. The complete consent form is shown in the questionnaire in Section D of the Online Appendix.

group in Section 3.

**III. First round of outcomes.** In this part of the questionnaire, all three groups (control, quantitative, and qualitative) are shown the first round of outcome questions. Here, we measure four dimensions related to the richest 1 percent in France:

1. ***Concentration:*** *Do you think the richest 1% individuals in France concentrate too much income in their hands?*. Respondents choose on a 0 to 10 scale, 0 - "strongly disagree" and 10 - "strongly agree".

2. ***Merit:*** *Which statement about the richest 1% in France do you agree with the most?*. Respondents choose on a 0 to 10 scale, 0 - "they deserve their income" and 10 - "they do not deserve their income".

3. ***Role in society:*** *Which statement about the richest 1% do you agree with the most?*, being 0 - "they are beneficial for society" and 10 - "they are harmful to society".

4. ***Income tax rate:*** *In France, someone earning the minimum wage pays around 10 percent of her revenue in income tax (including social contributions). What percent of their revenue should the richest 1% French pay in income taxes?*.[10] A bar is displayed where respondents must choose a number from 0 to 100.[11]

The order of the questions is randomized to avoid endogenous effects across the outcomes.

**IV. Second treatment battery: income sources.** In this part of the survey, again, we expose two-thirds of respondents to quantitative information on the share of income of the top one percent that comes from capital and the share that comes from labour; we call this the *income sources quantitative treatment*. The two-thirds of respondents exposed to this treatment are the same as those exposed to the *income levels quantitative treatment* in Part II of the survey. Half of the respondents exposed to the quantitative treatment (one-third of all respondents) are exposed to qualitative academic descriptions on the consequences of high capital income shares at the top; we call this the *income sources qualitative treatment*. Respondents who receive this qualitative treatment at this stage are the same as those that received the *income levels qualitative treatment* in Part II of the survey. Respondents in the *control group* received information unrelated to the outcome variables again. We explain in detail the information received at this survey stage in Section 3.

**V. The second round of outcomes.** In this part of the survey, all respondents are shown again the same outcome questions shown in Part III. The aim is to test the additional effect of the income sources treatment battery.

[10] Information about the average tax rate by income level comes from the World Inequality Lab and Bozio et al. (2020).

[11] We do not include in this question any mention of the actual tax rate paid by the top 1 percent earners because we aim at avoiding any hint on directing respondents' answers on their desired rate at the top.

**VI. Behavior questions, games, tests.** In this part, common among all respondents, we expose individuals to games, ask questions about their behavior, and test their learning. We place these questions at the end of the questionnaire for two reasons: first, to ensure that they do not affect our outcomes; second, to inspect if our results are driven by demand effects that may be present in our experiment.[12]

As respondents progress through the different parts of the questionnaire, they cannot return to a previous part once they have advanced to the next part. Finally, note that to ensure attention and quality of responses, we deploy an attention and a quality check along the questionnaire.[13] The complete questionnaire is shown in Section D of the Online Appendix.[14]

Our survey is representative of the general French population across numerous dimensions such as gender, level of education, religion, occupation, employment status, and (mostly) electoral preferences. However, individuals over 55 years old, retired, and people with monthly incomes below 1,000 euros are under-sampled. The lack of representativeness in such variables is associated with online surveys usually being less representative of the oldest individuals and the poorest households. So, at the baseline, a fully representative survey of the French population would probably display more unfavorable views toward the rich than ours. Section A of the Online Appendix presents descriptive statistics and representativeness of our sample of respondents in detail, as well as balance tests of observable variables across treatment groups.

# 3 Treatments

As mentioned in Section 2, in Parts II and IV of the survey, we show treatments on two different subjects: 1) the income level of the richest one percent in France (in Part II), and 2) the income sources (capital vs. labour) of the top one percent (in Part IV). Below, we explain both treatment batteries in detail in our experiment's quantitative and quantitative+qualitative arms.[15]

[12] Among others, we include a justice game (it obtains respondents' preferences towards utilitarianism, egalitarianism, and property rights), questions on trust in authorities (politicians, scientists, economists, among others), behavior questions (political leanings, willingness to help others, access to media), test questions associated with the treatments (they allow us to verify if respondents update their knowledge related to the information presented in the treatments), a bias question. (perception of bias in the survey).

[13] The attention check, set right after Part I of the questionnaire, reminds respondents that they must respond honestly and consciously, as otherwise, the research cannot be valid. The quality check, placed right after Part V, asks respondents about their favorite color and forces them to read a text to get the correct answer. About 25 percent of the sample responded incorrectly to our quality check. They were replaced with respondents that answered correctly.

[14] In addition, the questionnaire can be consulted online at `https://survey.eu.qualtrics.com/jfe/form/SV_7U8LAtCHrvEmZZI`.

[15] The control group is also shown two information batteries, but these are non-related to our outcomes. In the first battery, we show information about agricultural production in France. In the second, we show a text about the railway system in France. Both texts can be seen in detail in the questionnaire in Section D of the Online Appendix.

## 3.1 Quantitative Arm

This is the main treatment arm of our experiment, as it is shown to two-thirds of the total respondents in our sample. Indeed, all treated individuals in our experiment are exposed to the quantitative arm. As mentioned above, our main purpose in this treatment arm is to test a factor that has been barely studied in surveys that expose individuals to information on inequality, i.e., the effects that information on the sources of income may have on people's attitudes towards top earners. To test this, first, as a benchmark, we expose respondents to information on the amount of income top earners receive. The aim is to see if this information may cause an effect on people's attitudes different from the one that the information on the income sources may cause. And then, we present the information on the sources of income, which is our main focus.

**Income levels.** This treatment battery is presented in Part II of the questionnaire. It presents information on the mean annual income of France's top 1 percent earners. The information is presented in the simplest terms to facilitate comprehension among respondents. We show the following text:

> *"According to research published by the World Inequality Lab, in France, the richest 1% of adults earn around 375 000 € per year on average. The poorest 50% French earn around 15 500 € per year".*[16]

Right after this text, respondents are shown an animation that depicts the same information in graphic terms. We do this to make the information intuitive and easy to understand. The animation uses one hundred human dummies, showing that one represents the richest person. Then, we graphically compare the average annual income of the top one percent and the bottom fifty percent. This way, the disparities between the amounts earned by the top and the bottom are more apparent.[17] We display the income of the rich in the amount they earn and not in the share of the total income they capture since it is easier for people to think of amounts of money instead of percentages of some undetermined –and difficult to imagine– sum. Indeed, research by Guay et al. (2016) shows that survey interviewees have difficulty understanding mathematical concepts. Thus, we prefer to show information that facilitates comprehension.

**Income sources.** This treatment battery is presented in Part IV of the survey. Here, the quantitative group is exposed to quantitative information on the income sources of the top 1 percent

[16]These amounts refer to pre-tax income. The information comes from the World Inequality Lab and Garbinti et al. (2018). We choose not to specify that the figure is in pre-tax income to keep simplicity in our treatment text.

[17]The complete animation can be seen at `https://youtu.be/vd0jBO7aepA`. Note that the animation helps us transition between household income and individual income. Indeed, when respondents are asked about their income, we ask them to think about their *household* income. Later, when we inform them about the income of the top 1, we display individual income. It would be a concern if respondents keep thinking about the household level when observing incomes at the top. However, note that our animations explicitly display individuals when we introduce the incomes at the top. This facilitates respondents' transition from the household level to the individual level.

earners, i.e., the share of income from capital and labour.[18] We show respondents in this group the following text:

> *"According to research published by the World Inequality Lab, in France, the richest 1% get around 65% of their income from rents, interests, or business dividends. 35% of the income of the richest 1% comes from labour (such as wages). On the other hand, most people get around 90% of their income from labour, and 10% from rents, interests or dividends".*[19]

Right after this text, we show a short animation illustrating the information.[20] As mentioned above, the capital versus labour dimension of incomes at the top has been scarcely studied in previous literature. Our experiment aims to contribute to filling this gap. We argue that this is an important dimension to test, as it shows peoples' perceptions towards earning income from different production factors. If labour is associated with effort in peoples' perceptions, respondents may see it unfair that top earners get a tiny part of their income from labour. On the other hand, if people mostly favor property rights, they may see it as legitimate that the top 1 percent earners get the lion's share of their income from capital, as they are entitled to get returns from their property.

## 3.2 Quantitative+Qualitative Arm

We randomly select half of the respondents exposed to the quantitative treatment, and we show them a qualitative egalitarian account of the consequences of the quantitative information. As mentioned, our purpose here is to test for demand effects and to study whether a qualitative analysis further affects respondents' beliefs. We frame our qualitative information as coming from academia, so the qualitative information is set on the same "standard" as the quantitative one. This way, the different effects we might find do not result from the type of authority framed in our texts.

**Income levels.** This treatment battery is presented in Part II of the survey. Here, the quantitative+qualitative group is exposed to the same quantitative information on the income levels as the quantitative group, plus a text that gives an egalitarian interpretation of the consequences of inequality. The text reads as follows:

> *"According to research published by Harvard University Press, the concentration of income in a few hands harms social well-being today and the chances of future generations moving upwards in the social ladder. This leads to social conflict and economic instability".*

[18] As defined by the World Inequality Lab datasets, pre-tax capital income is the sum of all pre-tax personal income flows accruing to the individual owners of capital as a production factor: income from housing assets, equity assets, interests, and pensions. Pre-tax labour income is the sum of all pre-tax personal income flows accruing to the individual owners of labour as a production factor: compensation of employees, labour component of mixed-income, pensions, and social insurance income.

[19] This refers to pre-tax capital and pre-tax labour income. Source: World Inequality Lab with information from Garbinti et al. (2018).

[20] The complete animation can be seen at `https://youtu.be/iUErGPJ-fH0`.

This text includes some elements of the discussion on inequality by Atkinson (2015). We pick key aspects related to inequality and its consequences. The harm to social well-being comes from the notion that an additional dollar for a rich individual gives less welfare than an additional dollar for a poor individual. The part on damaging chances to move upwards comes from inequality of outcome affecting inequality of opportunity, as beneficiaries of inequality today can transmit advantages to their children tomorrow. The final part on conflict and economic instability comes from evidence linking inequality to macroeconomic instability and unsustainability, as well as the use of violence in different forms, such as crime. Our aim with this qualitative treatment on the income levels is to transmit in a couple of sentences, and in a way that is easy to understand to the regular reader, key dimensions that relate to harmful consequences of inequality.

**Income sources.** This treatment battery is presented in Part IV of the questionnaire. In this battery, the quantitative+qualitative group is exposed to the same quantitative information on the income sources as the quantitative group, plus the following qualitative egalitarian interpretation of the consequences of high capital income shares for the rich:

> *"According to research published in the Journal Explorations in Economic History, we may be approaching a society where rich individuals live from their rents and have lifestyles beyond what their labour and merit permit".*

This text includes conclusions from Piketty et al. (2014). The authors carry out an analysis of Paris from 1872 to 1927. They call the Paris of that time a "rentier" society. This is a society in which a large majority (70 percent) of the top 1 percent is a rentier: a person who consumes more than their labour income. These individuals consumed, on average, 80 times the average Parisian labour income from returns on their (mostly inherited) capital. So, these individuals could have lifestyles "far beyond what their labour income and individual merit alone would have permitted" just by spending their returns from their wealth and capital. Moreover, they could leave the next generation of rentiers enough wealth to enjoy the same living standards. Although Piketty et al. (2014) study a society separated by a century from today's France, including their analysis in our treatment is not futile. Indeed, the authors give a cautionary tale on current conditions, as their exploratory computations predict that current shares of rentiers in France are approaching those of late nineteenth and early twentieth-century rentier Paris society. Moreover, respondents are not informed that Piketty et al. (2014) analysis focuses mainly on the past. So, they cannot deduce if it is no longer relevant. As with the income levels treatment, we aim to keep the text easy to understand for the general reader. Our treatment includes a part that warns about France approaching a rentier society (without including the "rentier" word explicitly). It also indirectly describes a rentier: an individual with a lifestyle beyond what labour income permits. The text also leads to the fact that the main part of the income of these individuals comes from capital (rents).

Our qualitative descriptions come from an egalitarian perspective that sees inequality and high capital shares at the top as undesirable. As mentioned above, the negative bent of the texts is

meant to test for experimenter demand effects. These appear when respondents anticipate a particular attitude or response that the surveyors expect from them, leading respondents to adapt their responses accordingly (Zizzo, 2010). So, with our qualitative treatments, we signal to respondents that we expect them to give unfavorable answers toward top earners and see if they react to this stimulus. There are other perspectives in academia, such as the libertarian one, that may frame inequality and high capital income shares at the top in a more positive light.[21] Including a qualitative treatment from a libertarian perspective in a study like ours may be interesting. Still, we preferred to expose individuals to egalitarian texts because of the expected direction of responses caused by the quantitative treatments. If the quantitative treatments cause respondents to shift their attitudes toward rich earners to the unfavorable spectrum, then the demand effects should be tested by showing information signaling that the surveyor's expectations are adverse toward the rich.

# 4 Results

## 4.1 Control

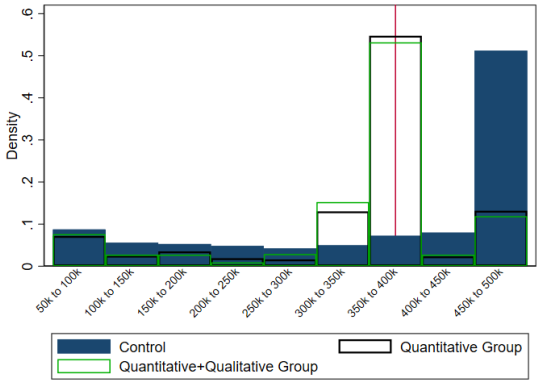
Let us start by studying the main results at the baseline (control group). First, let us discuss respondents' perceptions (at the baseline) on factors related to our treatments. Panel (a) of Figure 1 shows the distribution of responses to question *"What is the annual average income of the richest 1% individuals in France?"*.[22] Blue bars correspond to the control group. The red line shows the correct answer. The figure shows that a majority (around 60 percent) of respondents in the control group *overestimate* the income of the top 1 percent earners in France. Note that the majority in the control pick the largest possible income amount. So, most likely, their beliefs on the average income of the top 1 percent are larger than the figure shows. This result might seem surprising, but it aligns with previous research results. In particular, Campos-Vazquez et al. (2022) show that Mexican respondents also overestimate the incomes of the richest individuals. In addition, Panel (b) of Figure 1 shows the distribution of responses to question *"What percent of the income of the richest 1% in France comes from capital?"*.[23] The distribution of responses in the figure suggests that respondents in the control group give any guess, as there is no clear pattern in the choice layout. So, they appear to have no prior beliefs on the part of top earners' income that comes from capital.

[21] A libertarian view may justify a high level of inequality if it comes from free and non-coercive exchanges in the market or if it gives incentives to the most productive and creative individuals to reap the rewards from their investments. A libertarian perspective on high capital income shares at the top may argue that individuals have a legitimate claim on their property and can thus receive the fruits from their legally possessed capital. The fact that labour income composes a small part of total income at the top would not be relevant as property rights are assured. A review of egalitarian views about these matters can be consulted in work by Hayek (1948) or Rothbard (2006).

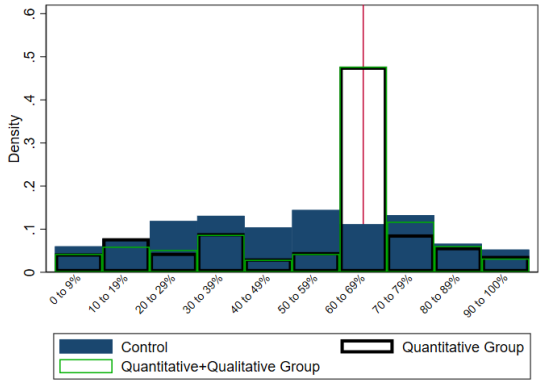
[22] This is one of the test questions that we show in the final part of the questionnaire (see Part VI of Section 2).

[23] The question shows in parenthesis: *"rents, interests and dividends"*. This question is shown right after the one that asks for the mean income of the top 1 percent earners.

Figure 1: Update of knowledge across groups




((a)) What is the income of the richest 1 percent?



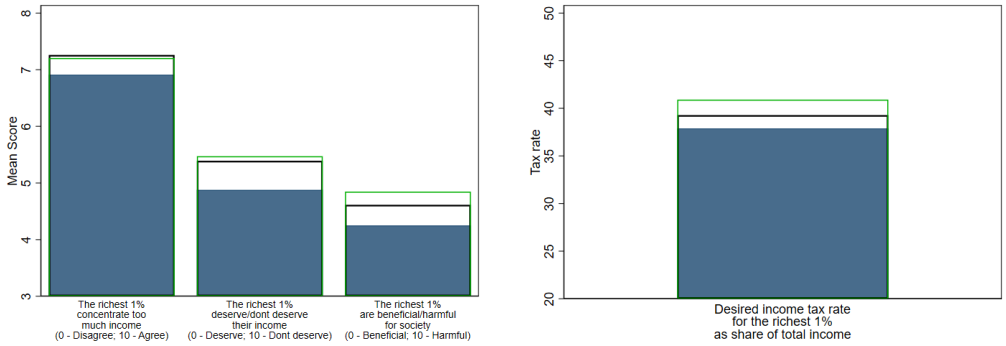

((b)) What part of the income of the richest 1 percent comes from capital?

This figure shows the distribution of responses to questions *"What is the annual average income of the richest 1% individuals in France?"* (Panel a), and *"What percent of income of the richest 1% in France comes from rents, interests and dividends?"* (Panel b), among respondents in the control group, the quantitative group, and the quantitative+qualitative group. The correct answer is marked with a red line.

Regarding the outcome questions, Panel (a) of Figure 2 shows the unconditional mean response across groups on three of the outcomes about the top 1 percent earners in France that we test: 1) *Do you think they concentrate too much income?*, 2) *do you think they deserve/don't deserve their income?*, and 3) *do you think they are beneficial/harmful for society?*. The figure shows that respondents in the control group are concerned about the rich holding too much income: the unconditional mean for this outcome is close to 7 points out of 10 (where 0 means strongly disagree and 10 means strongly agree). Indeed, if we look at the distribution of responses in Figure 3 (top left plot), most respondents agree when asked if the top 1 holds too much income. Most of the density responses are concentrated at 5 points and above. These facts appear consistent with people in the control group thinking that the richest 1 percent have large amounts of income (even more than they have), as shown in Figure 1. Beliefs towards top earners are more favorable with regards to the other two outcomes we show in Figure 2: respondents are, on average, neutral regarding the richest 1 percent individuals deserving their income (mean close to 5), and they slightly favor the rich being beneficial for society (mean close to 4,5).

Moreover, Panel (b) of Figure 2 shows the mean response to the desired income tax rate for the top 1 percent earners. Respondents in the control group think France's richest 1 percent earners should pay an average income tax rate of around 37 percent. Note that this desired rate is higher than the actual average income tax rate paid by the top 1 percent earners in the country. According to Bozio et al. (2020), individuals in the top 1 pay from 20 to 30 percent of their income in income taxes, depending on the part of the distribution where they are located. Indeed, Figure 3 (bottom right plot) shows that more than 65 percent of respondents want the top 1 percent earners to pay an average income tax rate higher than 30 percent.

Figure 2: Unconditional means per outcome (after both the income levels treatment and the income sources treatment are shown)



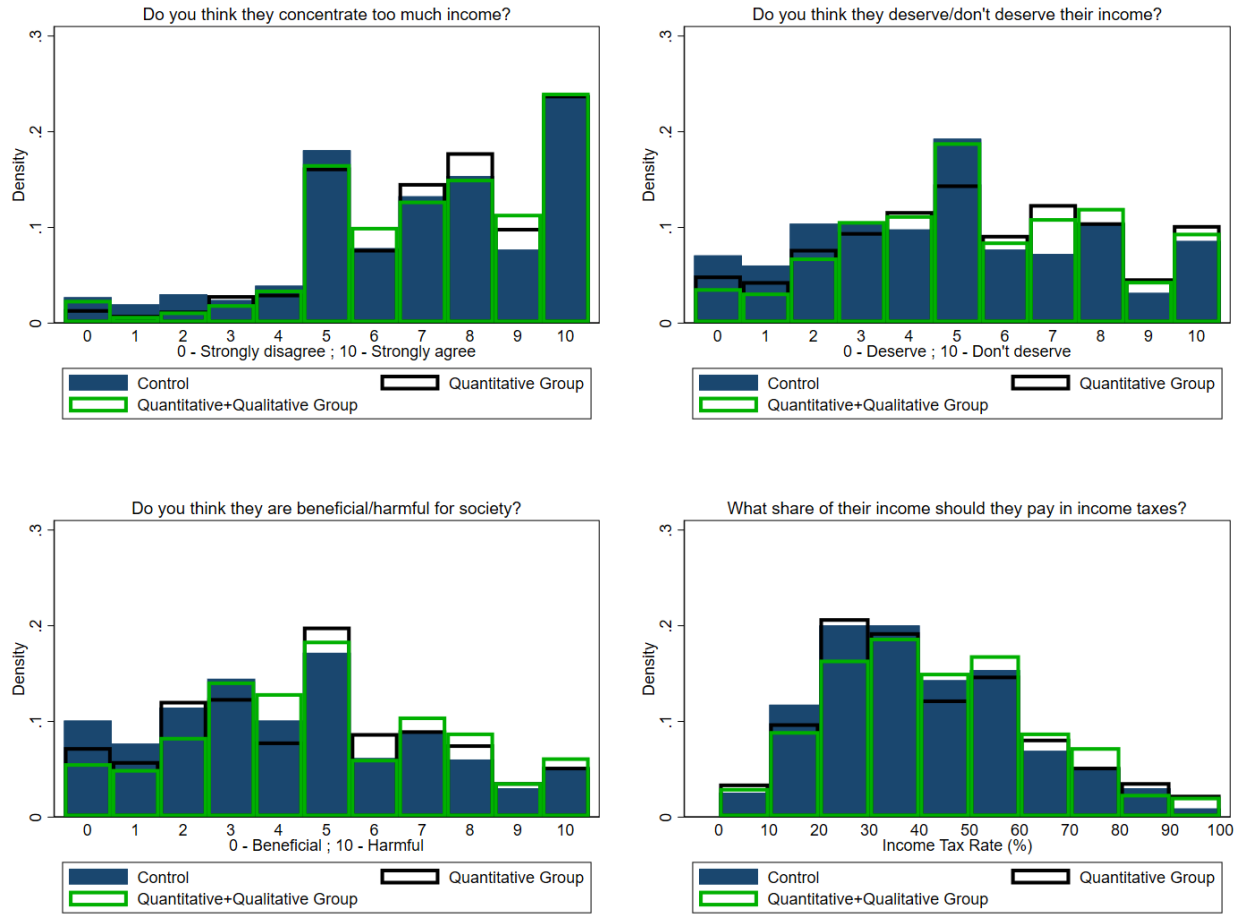

((a)) Views towards the top 1 percent - Control group (blue), quantitative group (black line), quantitative+qualitative group (green line)

((b)) Tax rate of the top 1 percent - Control group (blue), quantitative group (black line), quantitative+qualitative group (green line)

This figure shows the unconditional mean response for the following outcomes about the top 1 percent earners in France: 1) *Do you think they concentrate too much income?*, 2) *do you think they deserve/don't deserve their income?*, and 3) *do you think they are beneficial/harmful for society?* (Panel a), and *"What share of their income should they pay in income taxes?"* (Panel b), among respondents in the control group (blue bars), quantitative group (black line bars), and quantitative+qualitative group (green line bars).

To close this section, let us briefly discuss the responses to our outcomes across different types of individuals unconditionally on being treated. Table 1 shows coefficients from dummy variables on socio-demographic characteristics. The table shows that the level of education does not lead respondents to answer our outcome questions in a particular way. The sign of the coefficients is unclear and mostly not significant for mid- or highly-educated (the reference group being low-educated). Regarding age, estimates indicate that belonging to the eldest groups is associated with more unfavorable attitudes toward rich individuals and higher desired income tax rates at the top. Coefficients for respondents 55 years and older are positive and statistically significant across most outcomes (the reference group is individuals younger than 35). Higher income is associated with more favorable views toward the top 1 percent. The coefficients for persons earning 2,000 to 5,000 euros and 5,000 euros and above are negative for all outcomes and statistically significant in many cases (the reference group is individuals earning less than 1,000 euros per month). Moreover, voting for the center (E. Macron) or right-wing (M. Le Pen, F. Fillon, or N. Dupont) candidates is associated with more favorable views towards the rich (the reference group being individuals that vote left). The relation here is more robust than the income variable, as the coefficients for the center and right voters are always negative and statistically significant for all outcomes.

Figure 3: Distribution of responses per question about the top 1 percent (after both the income levels treatment and the income sources treatment are shown)




This figure shows the distribution of responses to the following questions about the top 1 percent earners in France: *Do you think they concentrate too much income?* (top left), *do you think they deserve/don't deserve their income?* (top right), *do you think they are beneficial/harmful for society?* (bottom left), and *"What share of their income should they pay in income taxes?"* (bottom right), among respondents in the control group (blue bars), quantitative group (black line bars), and quantitative+qualitative group (green line bars).

## 4.2 Quantitative Treatment

Moving to the quantitative arm of our experiment, first, we show the effectiveness of this treatment regarding updating the knowledge of treated individuals. The black-line bars in Figure 1 show the distribution of responses for individuals who received the quantitative treatment but did not receive the qualitative treatment (correct answer marked in red). The figure shows that our quantitative treatment by itself updates the knowledge of many respondents in this group. Indeed, nearly half of them chose the correct answer to the income level of the top 1 percent (Panel a) and the capital income share (Panel b).

Table 1: Main covarites and attitudes towards the rich

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| Mid Educated | 0.161 | -0.009 | -0.213 | 0.141 |
| | (0.139) | (0.168) | (0.163) | (1.253) |
| High Educated | 0.162 | -0.097 | -0.414** | 1.588 |
| | (0.160) | (0.181) | (0.177) | (1.337) |
| Between 35 and 54 years old | 0.134 | 0.111 | 0.033 | 0.329 |
| | (0.140) | (0.156) | (0.151) | (1.168) |
| Above 55 years old | 0.515*** | 0.482*** | -0.278 | 6.570*** |
| | (0.151) | (0.168) | (0.163) | (1.280) |
| Income between 1K and 2K | 0.065 | -0.353 | -0.287 | -2.356 |
| | (0.190) | (0.222) | (0.209) | (1.732) |
| Income between 2K and 5K | -0.113 | -0.351 | -0.644*** | -4.586*** |
| | (0.186) | (0.216) | (0.203) | (1.653) |
| Income Larger than 5K | -0.224 | -0.693*** | -0.961*** | -3.436 |
| | (0.301) | (0.310) | (0.297) | (2.400) |
| Vote center candidates | -1.042*** | -1.402*** | -1.103*** | -2.867 |
| | (0.168) | (0.194) | (0.191) | (1.464) |
| Vote right-wing candidates | -1.036*** | -1.067*** | -0.839*** | -4.911*** |
| | (0.158) | (0.186) | (0.185) | (1.372) |
| Observations | 2003 | 2003 | 2003 | 2003 |
| Adjusted $R^2$ | 0.040 | 0.041 | 0.039 | 0.042 |

Note: This table presents the coefficients from OLS regressions that examine the relationship between attitudes towards the richest 1 percent earners in France and a set of relevant covariates, including the main stratification variables. Each row corresponds to the coefficient of a dummy variable that equals one for each controlling variable. The outcomes analyzed include: (1) the perception of whether the richest 1 percent concentrate too much income, (2) whether they deserve or don't deserve their income, (3) whether they are harmful or beneficial for society, and (4) the average income tax rate that they should pay. Standard errors are shown in parentheses. ** p$\leq$ 0.05, *** p$\leq$ 0.01

Figure 2 shows visual evidence of the effect of our battery of quantitative treatments. The black line bars show the unconditional mean response to each outcome among respondents who received the quantitative (but not the qualitative) treatment. The differences between the means in the control and quantitative groups are minor. In panel (a), the difference is the smallest for the question about the top 1 having too much income. In contrast, the difference is larger for

the remaining two outcome measures featured in Panel (a). In panel (b), we see that the desired average income tax rate at the top for respondents in the quantitative group is somewhat similar to the desired rate for the control, the difference between both groups being around two percentage points. Note that the means shown in Figure 2 are obtained from the second round of outcomes of our questionnaire, i.e., this mean response includes the effects of both quantitative treatment batteries: the income levels (information on the amount of income at the top), and the income sources (information about the capital income share at the top). In Figure 3, all plots indicate that the distribution of responses shifts to the right for respondents exposed to quantitative (but not qualitative) information compared to the control individuals, meaning that the quantitative treatment moves the distribution of responses to a relatively more negative spectrum of attitudes towards the top 1.

To inspect with more detail the effects of our quantitative treatment, we estimate the following OLS model:

$$Y_i^m = \alpha + \beta QT_i + \gamma QL_i + \Pi X_i + \varepsilon_i \tag{1}$$

where $Y_i^m$ is the outcome of interest for respondent $i$. $m = [1,2]$ denotes whether $Y$ comes from the first round of outcomes ($m = 1$), i.e., when respondents have only been exposed to information on income levels at the top (Part III in the questionnaire), or from the second round ($m = 2$), i.e. when respondents have been exposed to information on income levels and income sources at the top (Part V in the questionnaire). $QT_i$ is a dummy variable equal to 1 if respondent $i$ was exposed to quantitative information, i.e., two-thirds of the total sample of respondents. $QL_i$ is a dummy variable equal to 1 if respondent $i$ was exposed to qualitative information, i.e., half of the respondents exposed to quantitative information (one-third of the total sample). $X_i$ is a vector of dummy controls that includes our stratifying variables: age, gender, and education level. Note that estimates of $\beta$ show the net effect of our quantitative information treatments on outcome $Y_i^m$, as $\gamma$ nets out the effects that may come from exposure to qualitative information captured by respondents included in $QT_i$.

Table 2 shows estimates of equation (1). In Panel A, we show the combined effect of the income levels treatment and the income sources treatment ($m = 2$). Row "Quantitative Treatment" shows the $\beta$ estimate. Columns (1) to (3) display outcomes that reflect sentiments towards the top 1 percent: Do you think they concentrate too much income? (column 1), do you think they deserve/don't deserve their income? (column 2), do you think they are beneficial/harmful to society? (column 3). The coefficients are positive and statistically significant for the three outcomes, which means that exposure to information on the income level of the rich and that this income comes mostly from capital shifts opinions on the richest 1 percent towards the unfavorable spectrum.

Table 2: Effect of the Quantitative and Qualitative treatments

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A: Overall effect* | | | | |
| Quantitative treatment | 0.334** | 0.500*** | 0.360** | 1.320 |
| | (0.134) | (0.154) | (0.149) | (1.091) |
| Qualitative treatment | −0.057 | 0.079 | 0.235 | 1.614 |
| | (0.130) | (0.149) | (0.146) | (1.131) |
| Mean control | 6.910 | 4.876 | 4.248 | 37.882 |
| *Panel B: Effect of the income levels battery* | | | | |
| Quantitative treatment | 0.091 | 0.337** | 0.248 | 0.909 |
| | (0.129) | (0.150) | (0.151) | (1.115) |
| Qualitative treatment | 0.039 | −0.078 | 0.267 | 2.541** |
| | (0.126) | (0.147) | (0.149) | (1.164) |
| Mean control | 7.316 | 4.968 | 4.284 | 37.028 |
| *Panel C: Effect of the income sources battery* | | | | |
| Quantitative treatment | 0.260*** | 0.231*** | 0.153** | 0.564 |
| | (0.082) | (0.089) | (0.075) | (0.560) |
| Qualitative treatment | −0.088 | 0.142 | 0.012 | −0.499 |
| | (0.082) | (0.096) | (0.080) | (0.560) |
| Mean control | 6.910 | 4.876 | 4.248 | 37.882 |
| 1st round of outcomes | *Yes* | *Yes* | *Yes* | *Yes* |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table displays the results of our experiment and evaluates the effects of both the quantitative and qualitative treatments on the outcomes related to income levels and sources. Panel A shows the combined effect of the income levels and income sources texts, while Panel B and C show the effect of income levels and income sources texts, respectively. The row labeled "Quantitative treatment" presents the coefficient of a dummy variable that equals one if the respondent was exposed to the quantitative treatment administered to two-thirds of the participants. The row labeled "Qualitative treatment" presents the coefficient of a dummy variable that equals one if the respondent was exposed to the qualitative treatment administered to one-third of the participants. The regressions control for gender, age, and education level, which are our stratifying variables. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

The outcome most affected by our treatments concerns the merit of the rich (column 2). Unfavorable views increase the most here, in absolute (0.5 points on a 0 to 10 scale) and relative terms (11 percent increase with respect to the average in the control group). The second most affected outcome is rich people's beneficial or harmful societal role (column 3). The increase here is 8 percent with respect to the control group, while attitudes on the accumulation of income by the rich change less (5 percent increase). In Table C2 of the Online Appendix, we present our results in terms of standard deviations, which helps grasp the size of our results. The exposure to income levels and income sources information increases negative views on the top 1 percent earners from 0.13 to 0.175 standard deviations. Individuals were exposed to this information for a relatively short period, typically ranging from 3 to 5 minutes. Considering this brief exposure, we find the magnitude of these results to be substantial.

Note that the shift in negative opinions towards the rich does not translate into choosing a higher income tax rate at the top (compared to the control). Although the coefficient is positive for this outcome, it is not statistically different from zero (column 4). So, it appears that our quantitative treatments do not produce a strong enough liaison between concerns towards the rich and a policy –in this case, the income tax rate–, that could alleviate accumulation at the top. This aligns with previous findings on attitudes towards inequality, taxes, and re-distributive policies. Kuziemko et al. (2015), Campos-Vazquez et al. (2022), and Trump (2018) indicate that showing information on inequality affects concerns towards inequality itself, but the effect on views on taxes and transfer policies is relatively moderate.[24]

Let us inspect the separate effects of each of our quantitative treatments. Panel B in Table 2 shows the effect of the income levels treatment ($m = 1$). Again, row "Quantitative Treatment" shows the $\beta$ estimate. Panel B indicates that the income level text has little impact on respondents' attitudes towards the richest 1 percent. The coefficients are positive but, in most cases, not significant at the conventional acceptance levels. In addition, the size of the coefficients is small. The absence of effects of the income levels treatment may be driven by the fact that, at the baseline, most respondents think that the top 1 percent earn more income than the actual amount they do. So, showing information on the income that the rich hold may not substantially modify perceptions against them.

To estimate the effect of the income sources treatment, we use a slightly modified version of equation (1), concretely:

$$Y_i^2 = \alpha + \beta QT_i + \gamma QL_i + \delta Y_i^1 + \Pi X_i + \varepsilon_i \tag{2}$$

The dependent variable here is the second round of outcomes, and the regression controls for the response in the first round of outcomes. Estimates of $\beta$ in equation (2) should be interpreted as the effect of the income sources quantitative treatment, conditional on respondents having been

[24] A different piece of evidence along these lines comes from Di Tella et al. (2016). They show that support for higher tax rates does not increase across all treatments but only when the legitimacy of business leaders is low.

exposed to the income levels treatment. These estimates are shown in Panel C of Table 2, in row "Quantitative Treatment". The effect of the income sources treatment is positive and statistically significant for most of our study outcomes, except for the desired tax rate of the richest 1 percent. So, contrary to information on how much the top 1 percent earns, providing information on how much of this income comes from capital does shift respondents' attitudes vis-à-vis the rich across most outcomes. This is a novel finding in the literature, and it provides evidence that respondents consider factors other than disparities in income level when they form opinions toward the richest individuals.

Another way to test the effect of our income sources quantitative treatment is by estimating the following equation:

$$\Delta Y_i = \alpha + \beta QT_i + \gamma QL_i + \Pi X_i + \varepsilon_i \tag{3}$$

Firstly, we define $\Delta Y_i = 1$ as $Y_i^2 - Y_i^1 > 0$ and $\Delta Y_i = 0$ otherwise. If $\Delta Y_i = 1$, respondent $i$ moved her attitudes towards the *unfavorable* spectrum after she received the income sources treatment. This way, $\beta$ measures the share of respondents that shift their attitudes on the rich towards the unfavorable spectrum after they are exposed to information on the sources of income at the top. The estimates of equation (3) for $Y_i^2 - Y_i^1 > 0$ and $\Delta Y_i = 0$ otherwise, are shown in Panel A of Table 3. The results show that the quantitative sources of income treatment change opinions towards the unfavorable spectrum across all outcomes, including the income tax rate. The magnitude of the coefficient is similar across outcomes, ranging from 4.5 percent to 6.5 percent. This means that around 6 percent of respondents that received the quantitative income sources information shift to more negative perceptions about the top 1 percent in France.[25]

Equation (3) measures the extensive margin of the income sources treatment, i.e., how many people shift perceptions, regardless of the effect size. Equation (2) measures the intensive margin of the income sources treatment, as it estimates in what amount attitudes towards the richest 1 percent change. The evidence from Panel A in Table 3 (eq. 3), combined with that of Panel C in Table 2 (eq. 2), indicates that perceptions measured in columns (1) - how concentrated is income at the top, (2) - whether rich earners deserve or not their income, and (3) - if they are beneficial or harmful; are affected both at the extensive and the intensive margin by the income sources treatment. However, the desired income tax rate at the top (column 4) is only affected at the extensive margin, meaning that the sources of income quantitative treatment induces some respondents to desire a higher income tax rate at the top. But, when all responses are averaged out, the effect is not strong enough to produce a statistically significant higher rate, in absolute terms,

[25]This share of respondents that moved their attitudes is *on top* of the share of respondents in the control group that changed their attitudes between the first and the second round of outcomes. Respondents in the control group received information unrelated to the outcomes between the first and second rounds. Table 3 indicates that the mere fact of receiving information in between or being asked the same question twice produces a shift in attitudes (see columns "Mean control"). Our experimental design allows us to control for this effect, as coefficient $\beta$ in equation (3) measures the pure effect of the income sources treatment.

with respect to the control group. Finally, Panel B in Table 3 shows estimates of equation (3) with $\Delta Y_i = 1$ if $Y_i^2 - Y_i^1 < 0$ and $\Delta Y_i = 0$ otherwise. In this case, $\beta$ measures the share of respondents that shift their attitudes on the rich towards the *favorable* spectrum after they see the income sources treatment. None of the estimates in row "Quantitative treatment" are statistically significant. Thus, this evidence indicates that providing information on the income sources at the top does not lead people to change their views towards the rich.

The results presented in Tables 2 and 3 suggest that exposing people to quantitative information on the income sources of top earners (capital vs. labour) turns their perceptions about rich individuals towards the unfavorable spectrum. This shift may come from the fact that respondents do not show consistent prior beliefs regarding the part of the income at the top that comes from capital (as shown in Panel B of Figure 1). And, as respondents are shown the high capital income shares at the top, they may perceive it as unfair that rich individuals get most of their income from sources such as rents or dividends, while most people get their incomes mainly from labour. Since our *quantitative* income sources treatment shifts attitudes toward the negative spectrum and not the other way around, respondents may be, on average, not inclined to have libertarian notions regarding capital income shares of the rich. As if libertarian beliefs favoring property rights above all were dominant, likely our *quantitative* income sources treatment would cause no shift (or a shift towards the favorable spectrum). Some prior evidence of this comes from Fisman et al. (2020). Their results also suggest that respondents do not favor property rights above all else. In particular, Fisman et al. (2020) find that people's attitudes differ according to hypothetical sources of wealth, as respondents want to tax wealth at higher rates if it comes from inheritances rather than savings.

So, people appear to take into account considerations such as merit when forming their beliefs about the richest individuals. Respondents may view it as illegitimate or unfair that most of the income at the top does not come from labour but from a source that may evoke the image of a "rentier". Consequently, exposure to *quantitative* information on the large shares of capital income at the top produces negative sentiments towards top earners.

## 4.3 Qualitative Treatment

In this section, we investigate the impact of our qualitative treatments, where participants were provided with egalitarian descriptions emphasizing the consequences of inequality and capital income concentration, as detailed in Section 3.2. Half of the participants who received the quantitative information treatment were also exposed to these qualitative materials. The primary aim of incorporating qualitative information is to mitigate a common source of bias: experimenter demand effects. These effects encompass changes in participants' behavior driven by their perception of the experimenter's hypothesis, posing threats to the study's internal and external validity.

We initially demonstrate in Figure 1 that individuals exposed to qualitative information, in addition to quantitative data, exhibited knowledge updates comparable to those receiving quantitative

Table 3: Share of respondents that shift attitudes after they are exposed to the income sources information

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A: Probability of a positive change* | | | | |
| Quantitative treatment | 0.045** | 0.065*** | 0.062*** | 0.062*** |
| | (0.020) | (0.023) | (0.022) | (0.024) |
| Qualitative treatment | 0.009 | 0.071*** | 0.015 | 0.032 |
| | (0.022) | (0.025) | (0.023) | (0.025) |
| Mean Control | 0.144 | 0.188 | 0.171 | 0.222 |
| *Panel B: Probability of a negative change* | | | | |
| Quantitative treatment | −0.014 | −0.005 | 0.003 | 0.027 |
| | (0.024) | (0.023) | (0.021) | (0.021) |
| Qualitative treatment | 0.043 | −0.030 | −0.000 | 0.008 |
| | (0.025) | (0.022) | (0.021) | (0.022) |
| Mean Control | 0.278 | 0.225 | 0.180 | 0.170 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table presents the proportion of respondents who changed their attitudes towards the rich after being exposed to information on the income sources of the top earners. The estimates are obtained from equation (3). Panel A shows the share of respondents who shifted their attitudes toward the unfavorable spectrum. Panel B shows the share of respondents who shifted their attitudes towards the favorable spectrum. The row labeled "Quantitative Treatment" displays the coefficient of a dummy variable that equals one if the respondent belongs to the group that received the quantitative treatment. The row labeled "Qualitative Treatment" displays the coefficient of a dummy variable that equals one if the respondent belongs to the group that received the qualitative treatment. All regressions control for gender, age, and education level, which are our stratifying variables. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

information alone. Subsequent graphical analysis in Figure 2 indicates that introducing qualitative information did not significantly alter attitudes toward top earners, as mean outcomes exhibited no substantial differences between groups. Further examination in Table 2 suggests that the qualitative component had limited additional influence on attitudes beyond the quantitative information alone. Rows "Qualitative treatment" show the estimates of coefficient $\gamma$ in equations (1) or (2). Under both equations, $\gamma$ shows the net effect of the qualitative information, as the quantitative information is netted out with $QT_i$. In Panels A, B, and C, the qualitative information produces a statistically significant effect in just one out of 12 estimators. Similarly, concerning the extensive margin, in Table 3, we show that the qualitative text concerning capital income shares did not substantially modify respondents' attitudes.

Thus, evidence presented here indicates that informing on the consequences of high capital income shares at the top does not consistently push attitudes against top earners further than the quantitative information already had, even though our qualitative text has an egalitarian bent. From this, we can deduce that experimenter demand effects do not drive the results we get from the quantitative treatment, as participants do not choose answers that are more unfavorable towards the rich when they read a text that signals a negative connotation about top earners. Note that the qualitative treatment neither produces more favorable responses towards top earners, meaning there is no backlash effect from the texts we display. Section B of the Online Appendix describes other techniques we use in our experiment to account for demand effects.

# 5 Mechanisms

The key findings in our paper can be summarized as follows: firstly, providing quantitative information on the income levels at the top does not significantly impact the measured outcomes. Secondly, informing people about the capital income shares of the top one percent earners consistently shifts attitudes toward the unfavorable spectrum. Thirdly, the qualitative texts we present do not reinforce the effect of quantitative information. We argue that these findings are not a result of experimenter design effects (EDE) but actual changes in attitudes. Section B of the Online Appendix provides a detailed discussion of how we deal with EDEs in our experiment. This section explores the channels that may drive the actual effects.

Table 4: Treatment effects across political preferences

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A. Left wing voters* | | | | |
| Quantitative treatment | 0.719** | 0.820** | 0.455 | 8.008*** |
| | (0.294) | (0.364) | (0.354) | (2.715) |
| Qualitative treatment | −0.160 | 0.197 | 0.471 | −1.600 |
| | (0.254) | (0.347) | (0.356) | (2.724) |
| Mean control | 7.569 | 5.552 | 4.731 | 39.097 |
| *Panel B. Voters from the center* | | | | |
| Quantitative treatment | 0.490 | 0.547 | 0.578 | −0.101 |
| | (0.292) | (0.313) | (0.298) | (2.312) |
| Qualitative treatment | 0.104 | 0.482 | 0.140 | 1.052 |
| | (0.288) | (0.307) | (0.305) | (2.504) |
| Mean control | 6.529 | 4.183 | 3.614 | 40.156 |
| *Panel C.Right wing voters* | | | | |
| Quantitative treatment | 0.319 | 0.359 | 0.263 | 0.739 |
| | (0.268) | (0.296) | (0.288) | (1.971) |
| Qualitative treatment | −0.174 | 0.057 | 0.374 | 2.335 |
| | (0.257) | (0.283) | (0.279) | (2.032) |
| Mean control | 6.776 | 4.842 | 4.060 | 37.350 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table shows the effects of our treatments by political preferences. We divided voters into three categories based on their political leanings: (i) left-wing voters (J.L. Mélenchon and F. Hamon); (ii) center voters (E. Macron); and (iii) right-wing voters (M. Le Pen, F. Fillon, and N. Dupont). Each panel regresses the respective outcome variable on the Quantitative and Qualitative treatments and the interaction terms between each treatment and each political group (interaction terms are not reported). In Panel A, the reference group is left-wing voters; in Panel B, the reference group is centrist voters; and in Panel C, right-wing voters are the reference. Only treatment coefficients for the reference groups are reported in each panel. All regressions control for political affiliation, gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

**The role of political preferences**. Table 4 reports the effect of our treatment across political preferences. We also show the mean of the control group. We aggregate the respondents into groups according to their reported votes in the 2017 first-round presidential election: (i) left-wing voters (JM. Melenchon and F. Hamon), (ii) center (E. Macron), and (iii) right-wing voters (M. Le Pen, F. Fillon, and N. Dupont).[26] The estimates indicate that a particular type of voter is affected by our quantitative treatments, namely, left-wing voters (Panel A). In this group of respondents, the means in the control group are larger than for other voting groups. This indicates that left-wing voters, ex-ante, have more negative attitudes towards the rich than any other voting group. The quantitative treatment increases the negative attitudes toward the rich by around 4 to 8 percentage points, depending on the outcome. Likewise, the effect of the quantitative treatment amounts to an eight percentage point increase in the income tax rate with respect to the 39 percent tax rate baseline. On the other hand, centrist (Panel B) and right-wing (Panel C) voters are not responsive to the quantitative treatment as none of the coefficients are statistically different from zero. So, there is a clear partisan divide regarding the people responsive to the information in our quantitative treatments. Confronting these results with those of Table 1, we see that left-wing voters show the most unfavorable views towards the top 1 at the baseline, and our treatments increase their unfavorable views. Hence, our treatments enlarge the distance in opinions of left-wing respondents versus those of the center and the right wing.[27]

**The role of notions of justice**. Similarly to what was found in Stantcheva (2020), we believe individuals may have divergent views on what is "fair" or "just". Moreover, informing individuals about the sources of income among top earners can influence fairness judgments. Specifically, individuals may view it as unfair that the richest individuals earn significantly more from capital than labour. To test this idea, we included a game in the final part of the questionnaire that aims to test individuals' notions of fairness. The game is a slightly modified version of the one presented by Sen (2009). It asks respondents to choose a child to give a flute to based on why the child argues she should have it. There are three children, and their arguments are: Anne says she should have the flute because she can play it, Berte says she should have it because she has no other toys,

[26] In each panel, we take the specification presented in Table 2, adding interaction terms between dummies for voting left-wing, center, or right-wing, and the treatment dummies. Panel A shows the effect of treatment for left-wing voters, Panel B for center voters, and Panel C for right-wing voters. About one out of five respondents are aggregated as left-wing voters; a similar number of voters were assigned as centrist, whereas about 28 percent of the sample voted for right-wing candidates. In addition, we have two more categories not reported in the table, (iv) other votes and (v) abstentions. We do not observe an interaction effect between treatments and those groups of voters.

[27] In Section C of the Online Appendix, we show heterogeneous effects across two other variables that do not display as clear a divide. These are education levels (Table C5), age (Table C6), and income (Table C7). Panels A and B on Table C5 show that our treatments do not affect middle (secondary and technical studies) or highly educated (bachelor and above) individuals. In contrast, Panel C indicates that our quantitative treatments somewhat affect low-educated (no diploma, primary studies) individuals. This is consistent with existing literature suggesting that providing different types of information (Barrera et al., 2020b) or too much information (Cortes et al., 2021) to low-educated households might overwhelm and confuse individuals, leading to often opposite results from what is expected. Table C6 shows no clear pattern among the different age groups. Table C7 indicates that our quantitative treatments are the most effective at shifting outcomes (unfavorably towards the rich) in income groups in the middle of the distribution.

and Clara says she should have the flute because her father gave it to her. The game intends to identify a particular individual's prevalent notion of justice. Respondents who choose Berte may have egalitarian notions of justice, as they place reducing economic hardship and gaps above other considerations. Those who choose Clara may be libertarian, as they prefer her property rights over the flute. Those who choose Anne tend towards utilitarianism, as they place the ability to play higher in their justice preferences.

Table 5: Treatment effect on respondents' notions of justice

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Utilitarian | Egalitarian | Libertarian | Do not know |
| | (1) | (2) | (3) | (4) |
| Quantitative Treatment | −0.029 | 0.058** | −0.013 | −0.016 |
| | (0.024) | (0.025) | (0.026) | (0.015) |
| Qualitative Treatment | 0.013 | 0.014 | −0.038 | 0.011 |
| | (0.023) | (0.026) | (0.026) | (0.015) |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table presents the impact of our treatments on individuals' perceptions of justice. The outcome variables are represented by dummies indicating the choice made by respondents in question 27. Specifically, the Utilitarian dummy takes the value of one if the respondent chooses "Anne", the Egalitarian dummy takes the value of one if the respondent chooses "Berthe", and the Libertarian dummy takes the value of one if the respondent chooses "Clara". All regressions control for gender, age, and education level, which are our stratifying variables. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

The first evidence that our treatments affect respondents' notions of justice comes from Table 5. The table indicates that our quantitative treatments have a positive effect on the individuals whose primary idea of justice is the egalitarian one. This means that a possible channel through which our treatments work is turning individuals towards more egalitarian attitudes. This, in turn, may affect individuals' views toward rich earners. The effect being that attitudes are shifted against rich earners.[28] To inspect this further, in Table 6, we study the heterogeneous effects of our treatments by combining respondents' notions of justice with the variable that showed the clearest heterogeneous divide, i.e., respondents' political preferences. As we segment our total sample of respondents among different groups of individuals, we lose the power to detect heterogeneous effects. However, the table shows that the most statistically significant coefficients are in Panel A, i.e., left-wing voters. And specifically, left-wing voters that show egalitarian notions of justice.

This means that the strongest effects of our treatments are among a group of respondents that, at the baseline, display more unfavorable opinions towards the richest earners and tend to have more egalitarian notions of justice. While those that, at the baseline, display more favorable attitudes are

[28]Figure C3 in the Online Appendix portrays the distribution of justice notions across treatment arms.

mostly unaffected. An explanation behind this finding could be due to individuals' "confirmation bias" or "cognitive dissonance". These biases help people adapt to the world by rejecting information that does not align with their preconceptions (Festinger and Carlsmith, 1959). As right-wing or libertarian individuals are affronted with the information we provide in our experiment, they may reject it, as it goes against their core beliefs.

On the other hand, as left-wing or egalitarian individuals are exposed to the information in our treatments, they reinforce the beliefs they previously had and turn to more unfavorable opinions towards top earners.[29] This would mean that our quantitative treatments do not close the gap in attitudes towards rich earners among different groups of individuals. Instead, the pre-existing gap at the baseline between different groups appears to be widened. The polarization we find is consistent with evidence from Alesina et al. (2018). They show respondents information on social mobility and find that this information increases preferences toward redistributive policies. However, the effects are concentrated among left-wing respondents, who, at the baseline, are more sympathetic toward redistributive policies. They refer to this effect as "preaching to the choir".

# 6 Conclusion

Our research indicates that showing only information about the amount of money the rich earn is insufficient to produce shifts in attitudes toward top earners. Information on other aspects of the income at the top, specifically the sources of income (capital versus labour), produces a shift. Thus, academics and policymakers may be interested in using a harmonic approach when discussing top incomes. Our experiment can be extended in many ways. First, it would be interesting to address how qualitative treatments from other schools of thought may perform. In particular, we could test qualitative libertarian descriptions. These descriptions may paint the qualitative information on inequality and high capital shares at the top favorably. In addition, follow-ups to our survey could test different policy outcomes. Thus far, we have studied the impact of our treatments on the average income tax rate. The reason is that it is the policy most related to our treatments. However, a follow-up survey can test other policies, such as another type of tax (capital, wealth) or public spending targeted to individuals at the lower parts of the income distribution.

[29] Festinger and Carlsmith (1959) also propose that given the social nature of human beings, individuals often aspire to be accepted and respected in a particular social group. To achieve this, they strategically adopt the dominant beliefs of the group. Challenging the prevailing views of the group may result in punishment or expulsion. Trying to change people's ideas may be akin to asking them to change their social group.

Table 6: Treatment effect by partisanship and idea of justice

| | *Dependent variable:* | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Income concentration | | | Deserve / Don't Deserve | | | Beneficial / Harmful | | | Avg. Income Tax Rate | | |
| | Utilitarism | Egalitarian | Libertarian | Utilitarian | Egalitarian | Libertarian | Utilitarian | Egalitarian | Libertarian | Unitilitarian | Egalitarian | Libertarian |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| *Panel A. Treatment effect on left wing voters* | | | | | | | | | | | | |
| Quantitative treatment | 0.100 | 0.774* | 1.123 | 0.469 | 1.570*** | 0.942 | 0.021 | 0.873 | 0.511 | 0.707 | 14.095*** | 9.381 |
| | (0.583) | (0.404) | (0.650) | (0.663) | (0.559) | (0.685) | (0.708) | (0.557) | (0.679) | (5.910) | (4.505) | (4.505) |
| Qualitative treatment | 0.151 | −0.556 | 0.006 | −0.196 | -0.218 | 1.412 | 0.176 | 0.301 | 0.690 | 4.431 | −6.097 | −3.215 |
| | (0.578) | (0.349) | (0.516) | (0.715) | (0.502) | (0.626) | (0.760) | (0.546) | (0.656) | (5.540) | (4.090) | (5.330) |
| *Panel B. Treatment effect on center wing* | | | | | | | | | | | | |
| Quantitative treatment | 0.292 | 0.257 | 0.772 | 0.866 | 0.297 | 0.653 | 0.781 | 0.080 | 0.832 | 0.449 | −0.137 | 0.105 |
| | (0.582) | (0.485) | (0.558) | (0.580) | (0.579) | (0.564) | (0.580) | (0.556) | (0.518) | (4.440) | (3.779) | (4.932) |
| Qualitative treatment | 0.316 | 0.126 | −0.287 | 0.716 | 0.173 | 0.377 | 0.241 | 0.077 | −0.539 | 2.634 | 3.468 | −3.812 |
| | (0.546) | (0.448) | (0.649) | (0.537) | (0.538) | (0.682) | (0.590) | (0.545) | (0.595) | (4.686) | (4.416) | (5.262) |
| *Panel C. Treatment effect on right wing voters* | | | | | | | | | | | | |
| Quantitative treatment | −0.173 | 0.853 | 0.120 | 0.648 | -0.000 | 0.240 | 0.184 | −0.129 | 0.472 | −2.334 | −0.614 | 2.445 |
| | (0.579) | (0.496) | (0.428) | (0.618) | (0.526) | (0.444) | (0.574) | (0.548) | (0.438) | (3.386) | (4.307) | (3.016) |
| Qualitative treatment | 0.144 | −0.121 | −0.288 | 0.465 | -0.053 | 0.069 | 0.875 | 0.499 | 0.152 | 4.986 | 3.179 | −0.536 |
| | (0.553) | (0.427) | (0.425) | (0.553) | (0.519) | (0.449) | (0.551) | (0.552) | (0.434) | (3.576) | (4.197) | (3.245) |
| Observations | 493 | 650 | 686 | 493 | 650 | 686 | 493 | 650 | 686 | 493 | 650 | 686 |

Note: This table presents the effects of our treatments on individuals' notions of justice, stratified by political preferences. The variable of justice is categorized into three types: Utilitarian (dummy equals one if the respondent chooses "Anne" in question 27), Egalitarian (dummy equals one if the respondent chooses "Berthe"), and Libertarian (dummy equals one if the respondent chooses "Clara"). The three political categories are left-wing voters (J.L. Melenchon and F. Hamon), center voters (E. Macron), and right-wing voters (M. Le Pen, F. Fillon, and N. Dupont voters). Each panel displays the regression results of the respective outcome variable on the Quantitative and the Qualitative treatment and the interaction terms between each treatment and each income group (interaction terms are not reported). In Panel A, the reference group is left-wing voters; in Panel B, the reference group is centrist voters; and in Panel C, right-wing voters are the reference. Only treatment coefficients for the reference groups are reported in each panel. All regression results control for political aggregation, gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: columns (1 - 3) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (4 - 6) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (7 - 9) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, (10 - 12) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. * p≤ 0.1, ** p≤ 0.05, *** p≤ 0.01

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# Online Appendix

## Capital vs. labour: the Effect of Income Sources on Attitudes Towards the Top 1 Percent

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# A Descriptives, balance, and representativeness

Table C1 reports the balancing tests, descriptive statistics, and sample representativeness across the randomized groups. These are: 1) the control group, which is exposed to information that is not related to the outcomes; 2) the group that is exposed only to quantitative information on the income level and income sources at the top (quanti group); 3) the group that is exposed to quantitative information plus the qualitative descriptions (quanti+quali group). Columns (1) to (3) depict the means in the three groups. In column (4), we present means for the same set of variables for the adult French population.[1] We report the p-values for the equity test across treatment groups in columns (5) to (7). The likelihood of making false discoveries increases when we attempt to test many hypotheses. Therefore, in column (8), we adjust for multiple hypothesis testing.[2]

Panel A describes the means and balancing tests of the stratification variables (gender, age, and education) across groups. Panel B reports socio-economic characteristics. In Panel C, we show the distribution of voting behavior in the 2017 presidential election in France across groups and the French general population. Finally, Panel D portrays variables on behavioral traits recorded after the treatments. The table shows, overall, that the three randomized groups are well balanced in observable characteristics, and the sample is representative of the French population in most variables we measure.

When we gathered our responses, we introduced sampling quotas on education, age, and gender to make the sample as representative of the French adult population as possible. Panel A confirms that our sample is representative of gender and education levels. For age, note that our sample is close to fully representative. However, we have a lower share of respondents above 55 years old than the French adult population. Whereas the share of respondents over 55 in our sample is about 34 percent (columns 1 to 3), in France, the percentage of individuals over 55 is 44 percent (column 4). The difficulty of reaching the older population in online surveys might explain the gap.

Panel B reports the socio-demographic variables collected in the survey. Even though the survey was not stratified in any of these variables, they are close to the national-level figures reported by INSEE (column 4). A notable exception is the share of retired individuals, which is 21 percent in our sample, whereas in France, one out of three adult individuals is retired. Again, this issue

[1] We use data produced by INSEE for 2021. We use data from the 7th edition of the World Value Survey 2017 - 2021 for religion.

[2] We report "yes" if any p-values in columns (5) to (7) turn significant, and "No" otherwise.

is associated with online surveys being less representative of the oldest groups. In addition, our sample is fairly representative across income groups. However, we struggle to capture respondents with incomes under 1,000 euros per month. The share of respondents earning less than this figure is about five percentage points lower than the actual number of households under that threshold in the general population.[3]

Panel C shows similarities in the electoral preferences of our respondents and the general French population. In our sample, about 28 percent of the control group voted for Emmanuel Macron in the first round of the 2017 presidential election. This is very close to his actual outcome (24 percent). Likewise, about 25 percent of the sample voted for Marine Le Pen, which is slightly higher than the actual share of votes that the candidate received. In addition, note that the share of people who did not vote in the survey corresponds reasonably well with France's abstention rate in 2017. However, Panel C shows considerable differences in the electoral outcome of candidate François Fillon. We observe that only 6 percent of our sample declared to vote for the conservative candidate, whereas, in the actual election, he gathered about 20 percent of the vote in the first round. We associate such a gap with the fact that Fillon appears to be the candidate for the elderly.[4]

We register a set of general behavior questions recorded after the treatments in Panel D. We use these questions to test the heterogeneous effects of our treatments and verify if our interventions are subject to demand effects. Most of the tested variables do not show any significant difference across groups, suggesting that treatments hardly influence respondents' answers concerning questions different than our outcomes. The most considerable imbalance in Panel D is on the variable trust in economists. On average, respondents in the quantitative group trust four percentage points less in economists than in the qualitative group and seven percentage points less than the control group. Such differences are significant at 95 percent confidence levels. Nevertheless, these differences turned insignificant with the multiple hypothesis tests.

Finally, we note that the variable measuring the perception of bias in the survey is slightly unbalanced across groups. Contrary to our intuition, 13 percent of respondents in the quantitative group noted some bias towards either the left or right compared to 18 percent in the other two groups. This difference is significant at a 95 percent confidence level. However, after controlling for multiple hypothesis tests, this difference turned insignificant.

[3]French national income groups data at household level was downloaded from `WID.world` on 19/04/2022.

[4]According to Ipsos, 45 percent of people over 70, and 36 percent of retirees voted for the candidate François Fillon in the 2017 presidential election in France. Therefore, as noted above, this gap is mainly explained by our sample being under-representative of the elderly groups. Indeed, 28 percent of our sample, aged over 75, reported voting for the conservative candidate in 2017.

# B Experimenter design effects

**Priming Effects.** Priming refers to the phenomenon in which exposure to one stimulus can affect an individual's response to a subsequent stimulus without conscious guidance or intention (Reis and Judd, 2000). We argue that our findings are unlikely to be influenced by priming effects for two main reasons. First, our quantitative treatment was formulated to avoid framing the top income groups in a negative light. In addition, it presents information not only about the top 1 percent but also about other groups in the income distribution.[5] This allows respondents to compare the earnings of the top 1 to other groups, get information on different parts of the distribution, and avoid framing only the top 1 percent.

The second reason is related to the main finding in our paper: informing the treated group about the sources of income of the top 1 percent earners shifts the attitudes toward the richest individuals to the unfavorable spectrum. As explained in Section 2, the control group receives information non-related to the outcomes we measure.[6] We do this mainly to prime the control group with any information. Suppose the effect we capture in the second round of outcomes for the quantitative treatment (after respondents have seen the income sources information) is purely due to exposure to any information. In that case, we should have obtained, on average, the same for respondents in the control group. However, that is not what we get in our estimations. Individuals in the control group changed their attitudes after exposure to the priming text. As presented in column "Mean control" in Panel A of Table 3, 14 to 20 percent of individuals in the control group exhibit more unfavorable attitudes towards rich individuals in the second round of outcomes compared to the first. This confirms that priming respondents with any information can influence their responses. However, we also find a statistically significant coefficient for individuals exposed to the quantitative income sources treatment. Estimates of column "Quantitative treatment" in Panel A of Table 3 show the net effect of the quantitative information. So, the income sources information we show generates an effect beyond the priming effects of exposure to any information between the first and second round of outcomes.

**Demand Effects**. Experimenter demand effects appear when survey participants anticipate a particular attitude or response that the survey conductors expect, leading them to adapt their responses accordingly (Zizzo, 2010). In contrast, actual changes in attitudes involve changes in behavior, choices, or actions exhibited by individuals. In our study, this would entail an effective shift in respondents' thoughts about rich earners.[7] As mentioned in Section 3.2, the main strategy

[5] Specifically, in the initial stage of treatment, we display to participants the average income of the top 1 percent richest individuals and the bottom 50 percent. In the second stage, we provide information about the income composition of the top 1 percent and the bottom 90 percent of the distribution.

[6] For further details on the information shown to the control group, see the questionnaire in Section D of the Online Appendix.

[7] Actual attitude changes could be temporary or permanent over time. This paper does not explore the temporal dimension, as respondents are not exposed to the treatments over many periods. However, even if exposure to information is short in time duration, small pieces can play a critical role in the decision-making process. Several studies suggest that information acquired through social media platforms in the campaign's final week can have a significant

we follow to test for demand effects is explicitly including a demand treatment in our experiment. In particular, the qualitative treatment texts have an egalitarian bent that signals to respondents that experimenters expect unfavorable attitudes towards the rich from their answers. The fact that we do not get consistent statistically significant effects from the qualitative treatments indicates that demand effects are not pervasive in our survey.

Nonetheless, to deal with demand effects in other parts of the survey, we aim to mitigate the possibility of subjects perceiving cues about what constitutes expected behavior. For this reason, we employ neutral language in the quantitative treatment and focus on describing data on income levels and sources. We also refrain from naming researchers that could introduce bias. Concerning our outcome questions, we adopt neutral language for their presentation. Most questions allow for responses on a 0 to 10 scale, where the word "Neutral" is placed in the middle of the scale (option 5) to serve as a reference point for respondents. In addition, most questions present positive and negative statements towards top earners.[8]

We also test if individuals perceive a political direction in the language or tone of the survey. To do this, we include a question at the end of the questionnaire asking whether respondents perceived the survey as biased.[9] 80 percent of the sample found no bias in the survey. As presented in Figure C1, among those who perceived bias, there was a balance between those who felt it was biased toward the left (around 11 percent) and those who thought it was biased toward the right (around 9 percent).[10] Finally, we examine the possibility of unintended effects of the treatment. As stated in our study, the treatments were designed to impact only attitudes toward top earners and not other behavioral variables. To verify this, we conduct an analysis to assess whether our treatment had any impact on other variables that were not expected to be affected. Our findings reveal no significant effects of our treatments on a set of questions collected after the treatment, such as the likelihood of discussing politics with relatives, attitudes towards work, the importance of money, and disposition to help other people (see Figure C2).

**Numbers in experimental designs**. Authors such as Guay et al. (2016) have proposed that

impact on individuals' electoral preferences (Allcott and Gentzkow, 2017; Barrera et al., 2020a; Henry et al., 2022; Petrova et al., 2017).

[8]For two questions, participants were presented with the following sentence: "Which statement about the richest 1 percent in France do you agree with the most?" The 0-10 scale ranged from "They deserve their income" on the left-hand side to "They do not deserve their income" on the right-hand side. Another question used the same introductory sentence with the 0-10 scale being "They are beneficial for society" on the left-hand side to "They are harmful to society" on the right-hand side. The question "Do you think the richest one percent of individuals in France concentrate too much income in their hands?" does not present positive and negative statements, but the 0-10 scale ranges from "Strongly disagree" on the left-hand side to "Strongly agree" on the right-hand side.

[9]Response options were as follows: "yes, it was biased toward the left", "yes, it was biased toward the right", or "no, it was not biased".

[10]We conduct three separate tests with this question. Firstly, we control for individual perceptions of bias in the survey as a covariate in the leading specification. The results remain robust when we account for this potential source of bias (see Panel A of Table C3). Secondly, we stratify our study participants into three groups: those who perceived no bias in the survey and those who perceived some form of bias (either left or right-leaning). The main results were primarily driven by the respondents who did not perceive any bias in the survey (see Panels B, C, and D of Table C3). This indicates that demand effects do not drive our results.

individuals experience difficulty understanding numbers, which can hinder their ability to adjust their beliefs and adapt their attitudes when exposed to numerical information. Considering these findings, we designed our quantitative treatments as simple as possible and accompanied the texts with animations that facilitate comprehension of the numerical information. To investigate this further, as mentioned in Section 4.2, we administered a test to participants after our experiment to evaluate their comprehension of the numerical information. Our findings indicate that individuals exposed to our quantitative treatments did update their beliefs, as illustrated in Figure 1. However, while understanding numerical information and learning from the treatment may play a role in the learning process, it does not appear to be the driving mechanism behind attitude changes. In Table C4, we interact our treatments with a dummy variable taking the value of one when the individual responds correctly to the test on the sources of income. The interaction terms along all our outcome variables are not significant, suggesting no statistical difference between individuals responding correctly and incorrectly to the test. This implies that learning the exact figures in our treatments or being accurate with numbers is not the factor that drives changes in people's attitudes. Respondents appear to have understood the main message of our treatments, even if they do not remember the exact figures.

# C Additional Tables and Graphs

Table C1: Means and balancing tests across randomized groups

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Mean of variable by treatment | | | | P-value for the test of equality of means | | | Signif. under |
| | Quanty | Qualitative | Control | France | Quanty vs Control | Qualit vs Control | Quanty vs Qualit | multiple hypotheses testing: |
| **Panel a: Stratification variables** | | | | | | | | |
| Women | 0.52 | 0.50 | 0.52 | 0.53 | 1.00 | 0.51 | 0.51 | No |
| 18-24 | 0.11 | 0.10 | 0.13 | 0.11 | 0.27 | 0.04 | 0.32 | No |
| 25-34 | 0.19 | 0.16 | 0.17 | 0.15 | 0.17 | 0.96 | 0.15 | No |
| 35-44 | 0.16 | 0.19 | 0.16 | 0.16 | 0.77 | 0.18 | 0.29 | No |
| 45-54 | 0.18 | 0.21 | 0.20 | 0.17 | 0.50 | 0.47 | 0.16 | No |
| 55+ | 0.34 | 0.34 | 0.34 | 0.44 | 0.98 | 0.80 | 0.83 | No |
| No diploma or Brevet | 0.20 | 0.22 | 0.22 | 0.24 | 0.20 | 0.78 | 0.33 | No |
| Bac, CAP or BEP | 0.47 | 0.43 | 0.42 | 0.44 | 0.06 | 0.53 | 0.23 | No |
| Higher | 0.34 | 0.35 | 0.36 | 0.31 | 0.40 | 0.68 | 0.68 | No |
| **Panel b: Socio-economic characteristics** | | | | | | | | |
| No religion* | 0.54 | 0.56 | 0.54 | 0.57 | 0.83 | 0.37 | 0.49 | No |
| Catholic* | 0.32 | 0.30 | 0.33 | 0.34 | 0.82 | 0.22 | 0.32 | No |
| Muslim* | 0.04 | 0.06 | 0.04 | 0.04 | 0.61 | 0.17 | 0.06 | No |
| Full time Job | 0.48 | 0.48 | 0.46 | 0.44 | 0.52 | 0.96 | 0.56 | No |
| Student | 0.06 | 0.05 | 0.05 | 0.05 | 0.34 | 0.25 | 0.88 | No |
| Employment | 0.67 | 0.65 | 0.65 | 0.67 | 0.97 | 0.52 | 0.49 | No |
| Unemployed | 0.07 | 0.07 | 0.09 | 0.08 | 0.10 | 0.24 | 0.65 | No |
| Retired | 0.20 | 0.21 | 0.18 | 0.32 | 0.37 | 0.13 | 0.53 | No |
| Waged Job | 0.61 | 0.61 | 0.61 | 0.53 | 0.99 | 1.00 | 0.99 | No |
| Home owner | 0.54 | 0.55 | 0.54 | 0.52 | 0.76 | 0.63 | 0.86 | No |
| Income less than 1K | 0.11 | 0.11 | 0.13 | 0.17 | 0.17 | 0.34 | 0.69 | No |
| Income between 1K and 2K | 0.28 | 0.30 | 0.30 | 0.31 | 0.47 | 0.71 | 0.27 | No |
| Income between 2K and 5K | 0.55 | 0.52 | 0.52 | 0.44 | 0.23 | 0.76 | 0.13 | No |
| Income Larger than 5K | 0.06 | 0.07 | 0.05 | 0.08 | 0.45 | 0.23 | 0.64 | No |
| **Panel c: Prior voting behavior 2017** | | | | | | | | |
| Emmanuel Macron | 27.17 | 25.33 | 28.44 | 24.01 | 0.45 | 0.24 | 0.67 | No |
| Marine Le Pen | 23.77 | 29.33 | 25.65 | 21.30 | 0.19 | 0.40 | 0.03 | No |
| Jean-Luc Melenchon | 17.55 | 15.43 | 14.68 | 19.58 | 0.43 | 0.92 | 0.49 | No |
| François Fillon | 7.36 | 7.81 | 7.43 | 20.01 | 0.83 | 0.90 | 0.74 | No |
| Benoît Hamon | 6.60 | 8.95 | 8.18 | 6.36 | 0.20 | 0.78 | 0.12 | No |
| Nicolas Dupont-Aignan | 4.15 | 3.05 | 3.53 | 4.70 | 0.83 | 0.56 | 0.43 | No |
| Other | 13.40 | 10.10 | 12.08 | 4.04 | 0.69 | 0.23 | 0.11 | No |
| Did not vote | 22.40 | 19.97 | 18.98 | 22.23 | 0.05 | 0.24 | 0.41 | No |
| **Panel d: Prior knowledge and behavior** | | | | | | | | |
| Discuss with relatives | 0.39 | 0.39 | 0.40 | - | 0.87 | 0.72 | 0.85 | No |
| Help other Human Beings | 0.57 | 0.57 | 0.58 | - | 0.98 | 0.96 | 0.98 | No |
| Workaholic | 0.28 | 0.29 | 0.28 | - | 0.83 | 0.85 | 0.69 | No |
| Trust Politics | 0.07 | 0.06 | 0.09 | - | 0.27 | 0.07 | 0.45 | No |
| Trust Economist | 0.20 | 0.24 | 0.27 | - | 0.00 | 0.26 | 0.08 | No |
| T Health Workers | 0.71 | 0.69 | 0.68 | - | 0.16 | 0.49 | 0.48 | No |
| Trust Scientists | 0.59 | 0.56 | 0.59 | - | 0.94 | 0.42 | 0.38 | No |
| T Religions Leaders | 0.11 | 0.12 | 0.15 | - | 0.04 | 0.15 | 0.56 | No |
| Survey biased | 0.13 | 0.18 | 0.18 | - | 0.01 | 0.80 | 0.02 | No |
| Bias to the left | 0.08 | 0.11 | 0.10 | - | 0.19 | 0.59 | 0.06 | No |
| Bias to the right | 0.05 | 0.07 | 0.08 | - | 0.03 | 0.31 | 0.23 | No |

Note: The mean values for randomized groups are presented in columns (1) to (3), while the mean for the French population is shown in column (4). P-values for testing the differences in means across groups are presented in columns (5) to (7), with standard errors corrected for heteroscedasticity. Balancing test results corrected for multiple hypotheses testing according to Romano and Wolf (2005) are reported in column (8). Information on religion was obtained from the 7th wave of the World Value Survey, while the share of students includes those enrolled in higher education. Income data at the national level were sourced from the World Inequality Dataset. .

Table C2: Effect of the Quantitative and Qualitative Treatments on Standardized Outcomes

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A: Overall effect* | | | | |
| Quantitative treatment | 0.127** | 0.175*** | 0.130** | 0.068 |
| | (0.051) | (0.054) | (0.054) | (0.056) |
| Qualitative treatment | −0.021 | 0.028 | 0.085 | 0.083 |
| | (0.049) | (0.052) | (0.053) | (0.058) |
| Mean control | 0.0 | 0.0 | 0.0 | 0.0 |
| *Panel B: Effect of the income levels battery* | | | | |
| Quantitative treatment | 0.037 | 0.120** | 0.089 | 0.045 |
| | (0.052) | (0.054) | (0.054) | (0.056) |
| Qualitative treatment | 0.016 | −0.028 | 0.096 | 0.127** |
| | (0.051) | (0.052) | (0.054) | (0.058) |
| Mean control | 0.0 | 0.0 | 0.0 | 0.0 |
| *Panel C: Effect of the income sources battery* | | | | |
| Quantitative treatment | 0.099*** | 0.081*** | 0.055** | 0.029 |
| | (0.031) | (0.031) | (0.027) | (0.029) |
| Qualitative treatment | −0.033 | 0.050 | 0.004 | −0.026 |
| | (0.031) | (0.034) | (0.029) | (0.029) |
| Mean control | 0.0 | 0.0 | 0.0 | 0.0 |
| 1st round of outcomes | *Yes* | *Yes* | *Yes* | *Yes* |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table displays the results of our experiment and evaluates the effects of both the quantitative and qualitative treatments on the outcomes related to income levels and sources on standardized outcomes. Panel A shows the combined effect of income levels and income sources texts, while Panel B and C show the effect of income levels and income sources texts, respectively. The row labeled "Quantitative treatment" presents the coefficient of a dummy variable that equals one if the respondent was exposed to the quantitative treatment administered to two-thirds of the participants. The row labeled "Qualitative treatment" presents the coefficient of a dummy variable that equals one if the respondent was exposed to the qualitative treatment administered to one-third of the participants. The regressions control for gender, age, and education level, which are our stratifying variables. The estimates are given in Standard Deviations. Outcomes distributions are standardized to mean = 0 and Standard deviation 1 and refer to France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** p<0.05, *** p<0.01

Table C3: Treatment effects by perception of bias in the survey

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A. Baseline results controlling by biased perception* | | | | |
| Quantitative treatment | 0.329** | 0.513*** | 0.391*** | 1.503 |
| | (0.135) | (0.154) | (0.148) | (1.090) |
| Qualitative treatment | −0.050 | 0.076 | 0.223 | 1.528 |
| | (0.130) | (0.149) | (0.146) | (1.131) |
| Controlling for bias | *YES* | *YES* | *YES* | *YES* |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel B. Treatment effects among those perceiving the survey unbiased* | | | | |
| Quantitative treatment | 0.471*** | 0.695*** | 0.481*** | 2.520** |
| | (0.146) | (0.168) | (0.161) | (1.174) |
| Qualitative treatment | −0.159 | 0.101 | 0.218 | 0.462 |
| | (0.139) | (0.160) | (0.157) | (1.223) |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel C. Treatment effects among those perceiving the survey biased toward the left* | | | | |
| Quantitative treatment | 0.054 | −0.398 | −0.290 | 0.360 |
| | (0.406) | (0.420) | (0.417) | (3.061) |
| Qualitative treatment | −0.063 | 0.149 | 0.251 | 0.883 |
| | (0.133) | (0.152) | (0.150) | (1.164) |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel D. Treatment effects among those perceiving the survey biased toward the right* | | | | |
| Quantitative treatment | −0.294 | −0.525 | 0.295 | −2.207 |
| | (0.458) | (0.501) | (0.476) | (4.025) |
| Qualitative treatment | −0.129 | 0.045 | 0.199 | 1.251 |
| | (0.135) | (0.156) | (0.152) | (1.186) |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table presents the effects of our treatments on perceptions breaking down the sample by the perception of bias in the survey. In Panel A, we report our baseline estimates controlling for the perception of bias. In Panels B, C, and D, we interact the treatment variables with the perception of bias in the survey, with different reference groups in each panel. Specifically, in Panel B, the reference group consists of respondents who perceive the survey as unbiased. In Panel C, the reference group comprises those who perceive the survey as biased toward the left. In Panel D, the reference group includes those who perceive the survey as biased towards the right. We only report the treatment coefficients for the reference groups in each panel. All regressions control for income groups, gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** p≤ 0.05, *** p≤ 0.01

Table C4: Treatment effects interacting with correctness on the test questions

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A. Those responded correctly the test* | | | | |
| Quantitative treatment | 0.289 | 0.618*** | 0.546*** | 2.177 |
| | (0.159) | (0.186) | (0.181) | (1.408) |
| Qualitative treatment | −0.111 | −0.046 | 0.224 | 1.615 |
| | (0.169) | (0.200) | (0.197) | (1.651) |
| Quantitative X Correct test | 0.243 | −0.266 | −0.567 | −1.052 |
| | (0.392) | (0.406) | (0.402) | (2.829) |
| Qualitative X Correct test | 0.114 | 0.263 | 0.026 | 0.013 |
| | (0.262) | (0.299) | (0.294) | (2.263) |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table shows the effects of our treatments interacting with responding correctly to the question on sources of income at the end of the survey. Both treatments are interacted with a dummy taking the value of one if the individual responded correctly to the source of income. All regression control for gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

Table C5: Treatment effects by education levels

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A. Treatment effects among High educated group* | | | | |
| Quantitative treatment | 0.269 | 0.485 | 0.238 | 2.258 |
| | (0.227) | (0.255) | (0.250) | (1.867) |
| Qualitative treatment | −0.011 | 0.440 | 0.436 | 1.972 |
| | (0.229) | (0.258) | (0.252) | (1.884) |
| Mean control | 6.882 | 4.602 | 4.008 | 37.317 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel B. Treatment effects among Middle educated group* | | | | |
| Quantitative treatment | 0.176 | 0.573** | 0.277 | 1.729 |
| | (0.193) | (0.233) | (0.225) | (1.656) |
| Qualitative treatment | 0.116 | −0.100 | 0.260 | 2.482 |
| | (0.187) | (0.226) | (0.220) | (1.665) |
| Mean control | 7.028 | 4.960 | 4.380 | 36.876 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel C. Treatment effects among Low educated group* | | | | |
| Quantitative treatment | 0.790*** | 0.361 | 0.738** | −0.875 |
| | (0.273) | (0.327) | (0.321) | (2.443) |
| Qualitative treatment | −0.517 | −0.128 | −0.161 | −0.721 |
| | (0.265) | (0.333) | (0.323) | (2.605) |
| Mean control | 6.731 | 5.161 | 4.389 | 40.651 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

Note: This table presents the effects of the treatments on different levels of education. The education variable is categorized into low-educated, middle-educated, and highly educated. Low-educated individuals have no diploma or only primary studies. The middle educated group refers to those with secondary classic and technical education. The highly educated are respondents with a bachelor, Master's, and above. Each panel shows the results of the regression of the outcome variable on the Quantitative and Qualitative treatment and the interaction terms between each treatment and each education level (interaction terms are not reported). In Panel A, the reference group is the highly educated category; in Panel B, the reference group is the middle educated group; in Panel C, the reference group is the low educated group. Only treatment coefficients for the reference groups are reported in each panel. The regression controls for gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

Table C6: Treatment effects across age groups

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A. Treatment effects among those aged 18-34* | | | | |
| Quantitative treatment | 0.269 | 0.485 | 0.238 | 2.258 |
| | (0.227) | (0.255) | (0.250) | (1.867) |
| Qualitative treatment | −0.011 | 0.440 | 0.436 | 1.972 |
| | (0.229) | (0.258) | (0.252) | (1.884) |
| Mean control | 6.882 | 4.602 | 4.008 | 37.317 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel B. Treatment effects among those aged 35-54* | | | | |
| Quantitative treatment | 0.254 | 0.766*** | 0.403 | 1.501 |
| | (0.231) | (0.261) | (0.251) | (1.739) |
| Qualitative treatment | 0.193 | 0.162 | 0.414 | 4.694*** |
| | (0.210) | (0.237) | (0.234) | (1.776) |
| Mean control | 6.778 | 4.638 | 4.002 | 36.867 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |
| *Panel C. Treatment effects among those aged 55+* | | | | |
| Quantitative treatment | 0.447** | 0.484 | 0.416 | 3.377 |
| | (0.225) | (0.265) | (0.265) | (1.865) |
| Qualitative treatment | −0.316 | 0.018 | −0.080 | −3.168 |
| | (0.223) | (0.266) | (0.267) | (1.953) |
| Mean control | 7.248 | 5.205 | 4.100 | 42.620 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

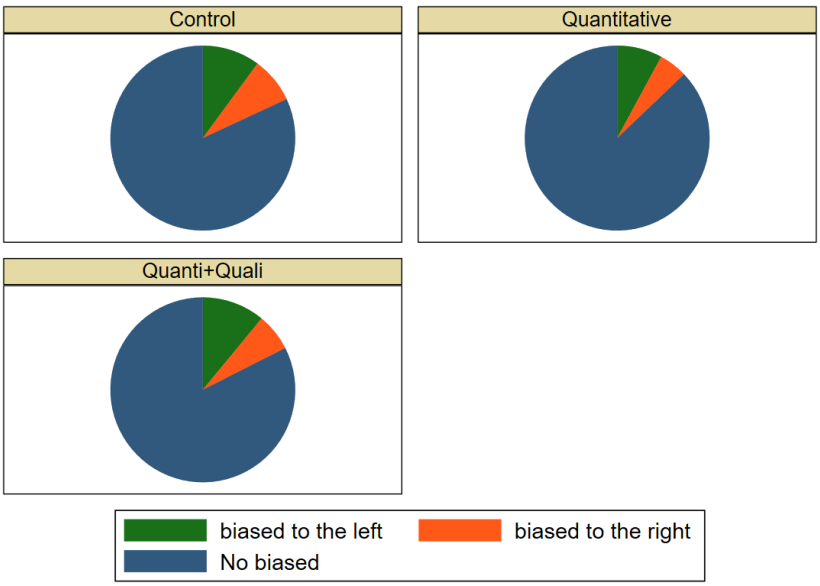
Note: This table shows the effects of our treatments by age groups. We aggregated the age variable into three categories: young, middle, and old. Each panel regresses the respective outcome variable on the Quantitative and the Qualitative treatment and the interaction terms between each treatment and each income group (interaction terms are not reported). In Panel A, the reference group is the 18-34 age category; in Panel B, the reference group in are those aged between 35 and 54; in Panel C, those over 55 years old are the reference group. Only treatment coefficients for the reference groups are reported in each panel. All regression control for gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** $p \leq 0.05$, *** $p \leq 0.01$

Table C7: Treatment effects across income groups

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | Income Concentration | Deserve / Don't Deserve | Beneficial / Harmful | Avg. Income Tax Rate |
| | (1) | (2) | (3) | (4) |
| *Panel A. Treatment effects on incomes above 5K* | | | | |
| Quantitative treatment | −0.030 | 1.208 | 0.734 | 3.704 |
| | (0.643) | (0.619) | (0.606) | (4.520) |
| Qualitative treatment | 0.388 | 0.023 | −0.209 | −0.888 |
| | (0.586) | (0.561) | (0.532) | (4.332) |
| Mean control | 6.800 | 3.857 | 3.485 | 37.142 |
| *Panel B. Treatment effects on incomes between 2k and 5k* | | | | |
| Quantitative treatment | 0.397** | 0.618*** | 0.478** | 3.585** |
| | (0.184) | (0.206) | (0.201) | (1.402) |
| Qualitative treatment | 0.152 | 0.221 | 0.203 | 1.026 |
| | (0.175) | (0.203) | (0.204) | (1.494) |
| Mean control | 6.802 | 4.764 | 3.971 | 36.142 |
| *Panel C. Treatment effects on incomes between 1k and 2k* | | | | |
| Quantitative treatment | 0.458 | 0.667** | 0.305 | −1.770 |
| | (0.246) | (0.292) | (0.284) | (2.127) |
| Qualitative treatment | −0.642*** | −0.203 | 0.386 | 2.884 |
| | (0.241) | (0.279) | (0.272) | (2.169) |
| Mean control | 7.097 | 4.831 | 4.494 | 39.770 |
| *Panel D. Treatment effects on incomes below 1k* | | | | |
| Quantitative treatment | 0.053 | −0.561 | 0.028 | −1.383 |
| | (0.379) | (0.465) | (0.416) | (3.434) |
| Qualitative treatment | 0.173 | 0.149 | 0.147 | 2.080 |
| | (0.382) | (0.471) | (0.418) | (3.711) |
| Mean control | 6.955 | 5.809 | 5.078 | 40.741 |
| Observations | 2,003 | 2,003 | 2,003 | 2,003 |

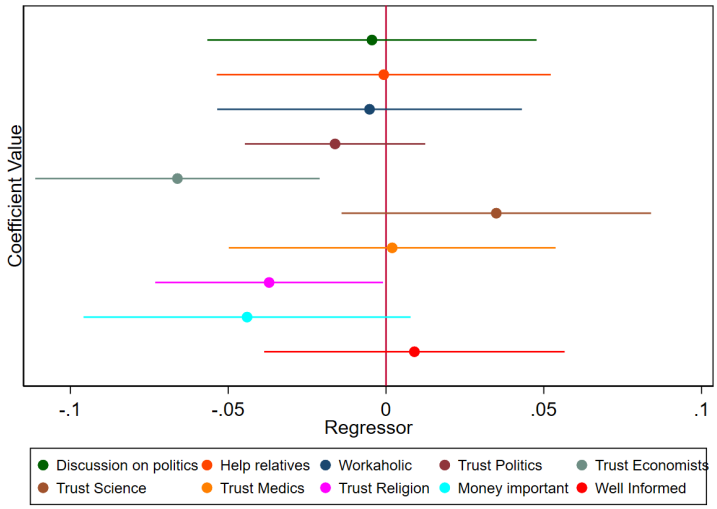
Note: This table presents the effects of our treatments on different income groups, categorized into households earning more than a certain amount per month. The four income groups are: households earning more than 5K, households earning between 2K and 5K, households earning between 1K and 2K, and households earning less than 1K monthly. Each panel of the table regresses the respective outcome variable on the Quantitative and the Qualitative treatment and the interaction terms between each treatment and each income group (interaction terms are not reported). In Panel A, the reference group is households earning more than 5K; in Panel B, it is households earning between 2K and 5K; in Panel C, it is households earning from 1K to 2K; and in Panel D, it is households earning less than 1K per month. Only the treatment coefficients for the reference groups are reported in each panel. All regressions control for income level, gender, age, and education level. Outcomes about France's richest 1 percent earners are the following: column (1) *Do you think they concentrate too much income? (0- Disagree; 10- Agree)*, (2) *do you think they deserve/don't deserve their income? (0- Deserve; 10- Don't deserve)*, (3) *do you think they are harmful/beneficial for society? (0- Beneficial; 10- Harmful)*, column (4) *What is the average income tax rate they should pay?*. Standard errors are shown in parentheses. ** p≤ 0.05, *** p≤ 0.01

Figure C1: Share of respondents by the perception of bias in the survey



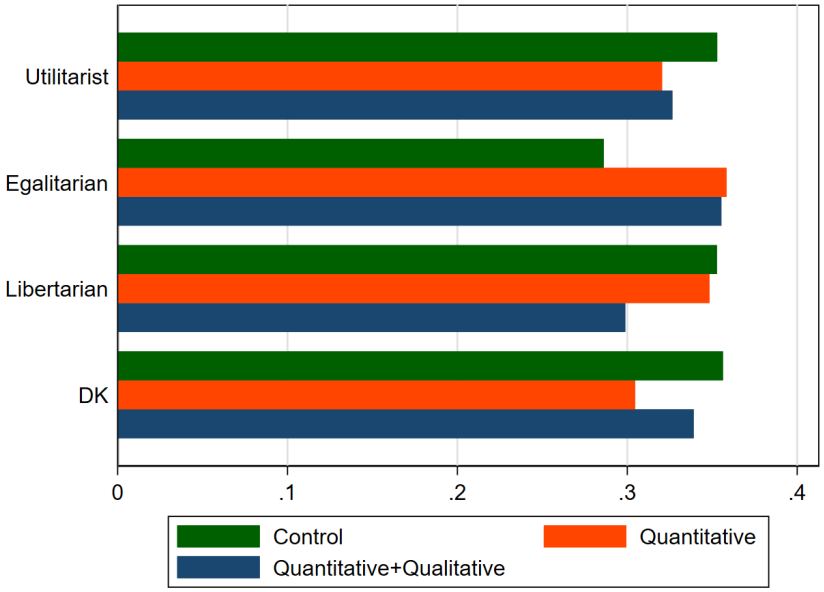

Caption for pie chart: Share of respondents who perceived the survey as unbiased, biased towards the left, or biased towards the right by treatment group. The control group is displayed in the top left segment. The top right segment shows respondents who only received the quantitative information, and the bottom left segment displays respondents who received the quantitative plus qualitative information.

Figure C2: Effect of the quantitative treatment on non-related outcomes




Note: This figure shows estimates of equation (1) on ten outcomes that are expected to be unaffected by any of our treatments. These outcomes are taken from questions asked after the treatments are shown.

Figure C3: Share of respondents by notions of justice




Note: This bar chart displays the distribution of respondents by notions of justice across each treatment group. The Utilitarian category represents respondents who choose "Anne" in question 27, Egalitarian represents respondents who choose "Berthe", and Libertarian represents respondents who choose "Clara".

# D Questionnaire

This questionnaire is part of a study about economics in France. Before you decide to answer the questionnaire, it is important that you understand why the research is done and what your role is. Please read the following information carefully:

1. This research aims to study the views of French people towards different economic matters. This questionnaire will allow you to express your views. It is important that you answer honestly. If you do not know an answer, give your best guess.

2. You will be asked to answer questions on a short online survey. There are no right or wrong answers. The questionnaire takes around 7 minutes to respond.

3. There are no foreseeable risks associated with participating in our survey. Participation is completely voluntary, and you may withdraw at any time without any penalty.

4. You will be compensated with the rewards listed by Qualtrics.

5. All responses to this questionnaire are confidential. Your responses will be kept private. We will not publish any information that will make it possible to identify you.

**Supplementary information on the treatment of your data** The person in charge of this survey is Emmanuel Chavez, doctoral student at Ecole d'Hautes Etudes en Sciences Sociales. The information you will provide in this questionnaire will be accessed only by the researchers associated with this study. The data will not be transmitted to any other recipient. And it will not be used for any other purpose than the one described above for this study. The information is preserved under strict security and confidentiality conditions in all research phases (from the data collection to the publication). In conformity with European rules regarding protecting personal data, you have the right to access, rectify and erase the information you provide. If you want to use this right, you can contact the main researcher by email at emmanuel.chavez@psemail.eu.

Do you agree to proceed?

- Yes, I would like to participate in this study and confirm that I am a French national and I am 18 years of age or older

- No, I would not like to participate in this study

## Part I

**1. What is your age?**

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75 - 84
- 85 or older

**2. What is your gender?**

- Male
- Female
- Other

**3. What is your marital status?**

- Single (never married)
- Married, or in a domestic partnership
- Widowed
- Divorced
- Separated

**4. Do you consider yourself practicing of any religion? if so, which one?**

- No: I do not profess a religion
- Yes: Catholic
- Yes: Protestant
- Yes: Orthodox (Russian / Greek / etc.)
- Yes: Jewish
- Yes: Muslim
- Yes: Hindu
- Yes: Buddhist
- Yes: Other
- Refusal

**5. Are you?**

- French by birth
- French by acquisition
- Other

**6. Place of birth (if French by acquisition)**

- West Europe
- East Europe
- East Asia
- South Asia
- Southeast  Asia
- Sub-Saharan Africa
- North Africa
- Middle East
- Latin America
- United States/Canada
- Other

**7. Country/Region of birth of your Mother**

- France
- West Europe
- East Europe
- East Asia
- South Asia
- Southeast  Asia
- Sub-Saharan Africa
- North Africa
- Middle East
- Latin America
- United States/Canada
- Other

**8. Country/Region of birth of your Father**

- France
- West Europe
- East Europe
- East Asia
- South Asia
- Southeast  Asia
- Sub-Saharan Africa
- North Africa
- Middle East
- Latin America
- United States/Canada
- Other

**9. What is the highest degree or level of school you have completed?**

- No diploma
- Certificate of Primary Studies
- Old patent, B.E.P.C.

- Certificate of Professional Aptitude (CAP)
- Professional Teaching Certificate (BEP)
- BAC in technical or vocational education
- BAC of general education
- Bac +2 (BTS, DUT, DEUG, health and social training schools ...)
- Bac +3 (license ...)
- Bac +5 or more (master's degree, engineering or business school, doctorate, medicine, master's degree, DEA, DESS ...)

**10. What is your current employment status?**

- Employed full time (35 or more hours per week)
- Employed part time (up to 35 hours per week)
- Self-employed
- Business owner
- Homemaker
- Student
- Retired
- Unemployed and currently looking for work
- Unemployed not currently looking for work
- Unable to work

**11. Regarding your lodging, you are…**

- Owner
- Renter
- Other

**12. What is the primary source of your income?**

- Salary
- Independent or entrepreneurial activity
- Pension
- Social benefits (unemployment, allocations familials)
- Rent
- Savings
- Stock market investments or capital gains
- Dependent

**13. In the last month, what was the total net income of your household?**

- Less than 500 euros per month
- Between 501 and 750 euros per month
- Between 751 and 1000 euros per month
- Between 1001 and 1250 euros per month
- Between 1251 and 1500 euros per month
- Between 1501 and 1750 euros per month
- Between 1751 and 2000 euros per month

- Between 2001 and 2500 euros per month
- Between 2501 and 3000 euros per month
- Between 3001 and 3500 euros per month
- Between 3501 and 4000 euros per month
- Between 4001 and 5000 euros per month
- Between 5001 and 6000 euros per month
- Between 6001 and 7000 euros per month
- More than 7001 euros per month

**14.** Before proceeding to the next set of questions, we want to ask for your feedback about the responses you provided so far. It is vital to our study that we only include responses from people who devoted their full attention to this study. This will not affect in any way the payment you will receive for taking this survey. In your honest opinion, should we use your responses, or should we discard your responses since you did not devote your full attention to the questions so far?

- Yes, I have devoted full attention to the questions so far and I think you should use my responses for your study
- No, I have not devoted full attention to the question so far and I think you should not use my responses for your study

## Part II

### *Control Group*

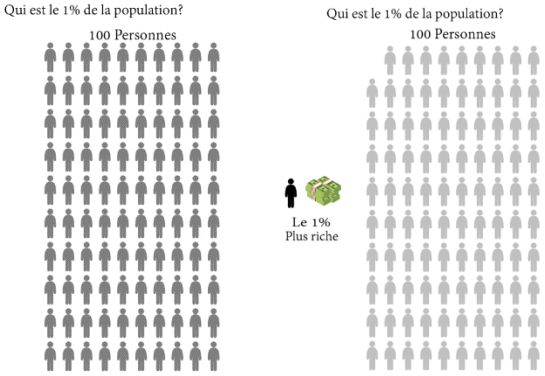
Now we will present to you some figures about the French economy. Please pay attention to the figures.

France is the world's sixth largest agricultural producer and EU's leading agricultural power, accounting for about one-third of all agricultural land within the EU. In the early 1980s, France was the leading producer of the three principal grains of wheat, barley, and maize. Back in 1983, France produced around 24.8 million tons, which was a long way ahead of the United Kingdom and West Germany, the next two largest wheat producers.

Northern France is characterized by large wheat farms. Dairy products, pork, poultry, and apple production are concentrated in the western region. Beef production is located in central France, while the production of fruits, vegetables, and wine ranges from central to southern France

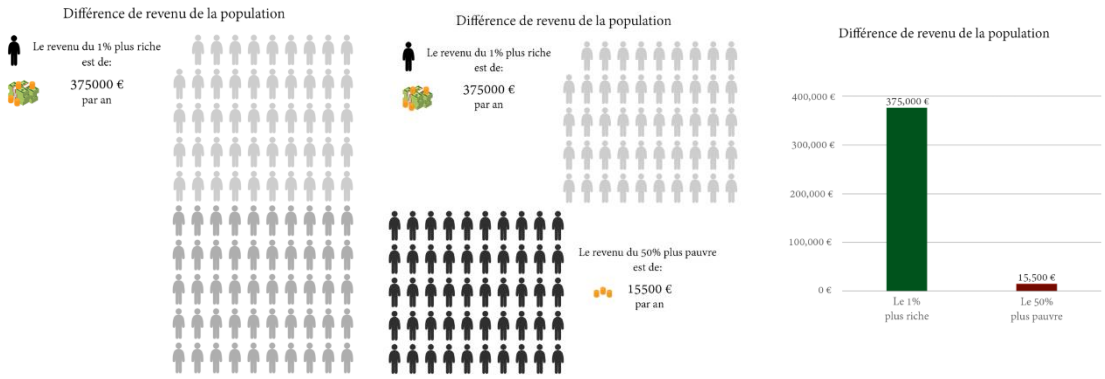
### *Quantitative Group*

Now we will present information about the income of rich people in France. In this part of the research, we define rich people as the 1 percent (%) of the population that earns the most. For example, if the population of France were 100 people in total, then the richest 1% would be the 1 person that earn the most among them (because 1% of 100 is equal to 1). Please watch the following video to clarify these concepts:



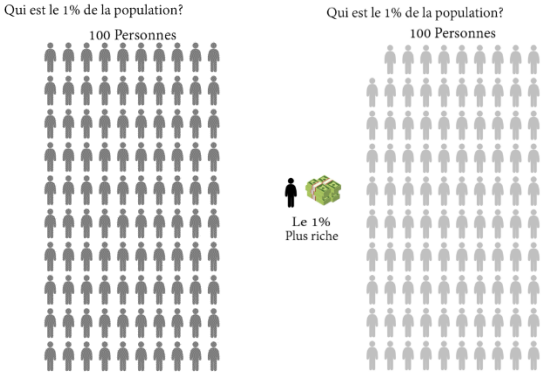

Income inequality in France

According to research published by the World Inequality Lab, in France, the richest 1% of adults earn on average around 375 000 € per year. In contrast, the poorest 50% French earn around 15 500 € per year. Please watch the following video to clarify these concepts:



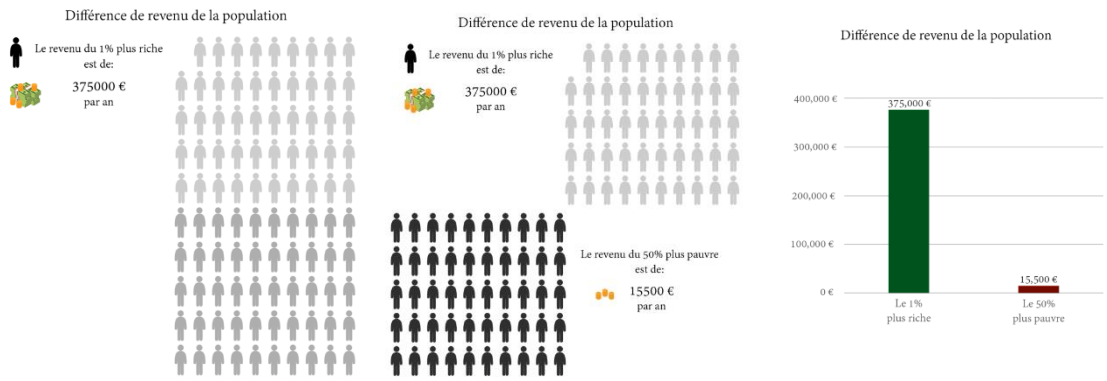

***Qualitative Group***

Now we will present information about the income of rich people in France. In this part of the research, we define rich people as the 1 percent (%) of the population that earns the most. For example, if the population of France were 100 people in total, then the richest 1% would be the 1 person that earn the most among them (because 1% of 100 is equal to 1). Please watch the following video to clarify these concepts:




<u>Income inequality in France</u>

According to research published by the World Inequality Lab, in France, the richest 1% of adults earn on average around 375 000 € per year. In contrast, the poorest 50% French earn around 15 500 € per year. Please watch the following video to clarify these concepts:




*Academic interpretation on income inequality in France*

According to research published by Harvard University Press, the concentration of income in few hands harms social well-being today, and also the chances of future generations to move upwards in the social ladder. This leads to social conflict and economic instability.

## Part III

Now we will present questions about the richest 1% individuals in France. It is important that you answer honestly. If you do not know an answer, just give your best guess.

**15. Should the richest 1% individuals in France pay higher taxes than the rest of the population?**

Strongly disagree — Neutral — Strongly agree

0 1 2 3 4 5 6 7 8 9 10

**16. In France, someone earning the minimum wage pays on average 10 percent of their revenue in income tax (including social contributions). What percent of their revenue should the richest 1% French pay in income taxes?**

Percent (%)

0 10 20 30 40 50 60 70 80 90 100

Tax Rate (%)

**17. Which statement about the richest 1% in France do you agree with the most?**

They deserve their income — Neutral — They don't deserve their income

0 1 2 3 4 5 6 7 8 9 10

**18. Do you think the richest 1 percent individuals in France concentrate too much income in their hands?**

Strongly disagree — Neutral — Strongly agree

0 1 2 3 4 5 6 7 8 9 10

**19. Which statement about the richest 1% in France do you agree with the most?**

They are beneficial for society — Neutral — Rich people are harmful for society

0 1 2 3 4 5 6 7 8 9 10

**20. Should a special tax for the richest 1% of individuals be established to pay for the programs launched in response to the Covid-19 pandemic?**

# Part IV

### *Control Group*

Now we will present you again some figures about the French economy.
Please pay attention to the figures.

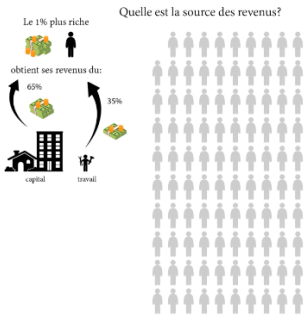
The railway network of France, which as of 2008 stretches 29,473 kilometers, is the second most extensive in Western Europe after that of Germany. It is operated by the SNCF, and high-speed trains include the Thalys, the Eurostar and TGV, which travels at 320 km/h in commercial use.

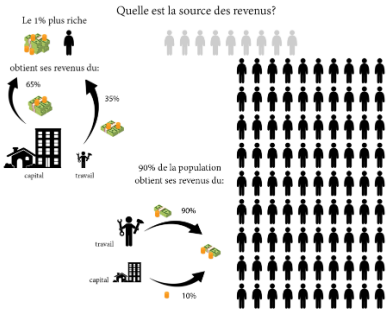
The Eurostar, along with the Eurotunnel Shuttle, connects with the United Kingdom through the Channel Tunnel. Rail connections exist to all other neighboring countries in Europe, except Andorra. Intra-urban connections are also well developed with both underground services (Paris, Lyon, Lille, Marseille, Toulouse, Rennes) and tramway services (Nantes, Strasbourg, Bordeaux, Grenoble, Montpellier) complementing bus services.

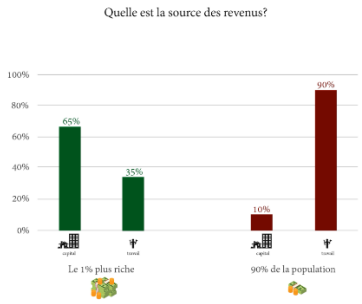
### *Quantitative Group*

Now we will present again information about the richest 1% people in France. Please pay attention to the figures.

<u>Sources of income in the French Society</u>
According to research published in the Journal of Public Economics, in France, the richest 1%, get around 65% of their income from rents, interests or dividends from their businesses. Only 35% of the income of the richest 1% comes from labor (wages). On the other hand, most people get around 90% of their income from their labor, and just 10% from rents, interests, or dividends. Please watch the following video to clarify these concepts:



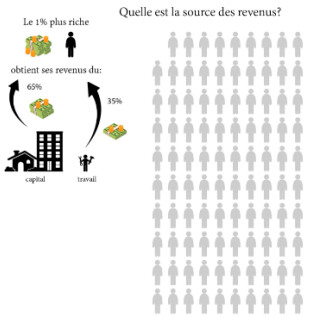



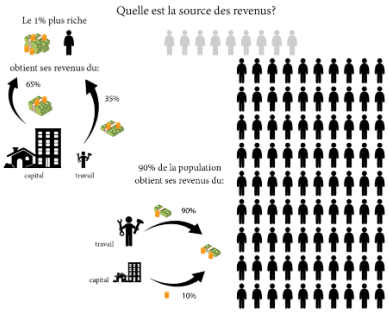

### *Qualitative Group*

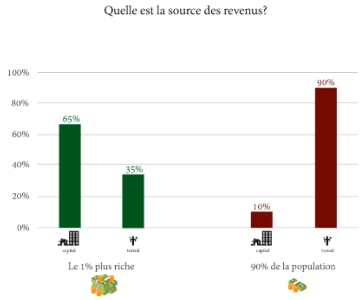
Now we will present again information about the richest 1% people in France. Please pay attention to the figures.

Sources of income in the French Society

According to research published in the Journal of Public Economics, in France, the richest 1%, get around 65% of their income from rents, interests or dividends from their businesses. Only 35% of the income of the richest 1% comes from labor (wages). On the other hand, most people get around 90% of their income from their labor, and just 10% from rents, interests, or dividends. Please watch the following video to clarify these concepts:




*Academic interpretation on sources of income in the French Society*

According to research published in the Journal Explorations in Economic History, we may be approaching a society where rich individuals live from their rents and have lifestyles beyond what their labor and merit permit.

## Part V

**29.** The next question is about the following problem. In questionnaires like ours, sometimes there are participants who do not carefully read the questions and just quickly click through the survey. This means that there are a lot of random answers which compromise the results of research studies. To show that you read our questions carefully, please enter violet as your answer to the next question.

What is your favorite color?

_____

Now we will present again questions about the richest 1% individuals in France. It is important that you answer honestly. If you do not know an answer, just give your best guess.

**21. Should the richest 1% individuals in France pay higher taxes than the rest of the population?**

Strongly disagree — Neutral — Strongly agree

0 1 2 3 4 5 6 7 8 9 10

**22. In France, someone earning the minimum wage pays on average 10 percent of their revenue in income tax (including social contributions). What percent of their revenue should the richest 1% French pay in income taxes?**

Percent (%)

0 10 20 30 40 50 60 70 80 90 100

Tax Rate (%)

**23. Which statement about the richest 1% in France do you agree with the most?**

They deserve their income — Neutral — They don't deserve their income

0 1 2 3 4 5 6 7 8 9 10

**24. Do you think the richest 1 percent individuals in France concentrate too much income in their hands?**

Strongly disagree — Neutral — Strongly agree

0 1 2 3 4 5 6 7 8 9 10

**25. Which statement about the richest 1% in France do you agree with the most?**


**26. Should a special tax for the richest 1% of individuals be established to pay for the programs launched in response to the Covid-19 pandemic?**

## Part VI

**27. You have to give a flute to one of the following kids:**

Anne says the flute should be hers because only she can play it.
Berte says the flute should be hers because she has no other toys.
Clara says the flute should be hers because her father gave it to her.

Who would you give the flute to?

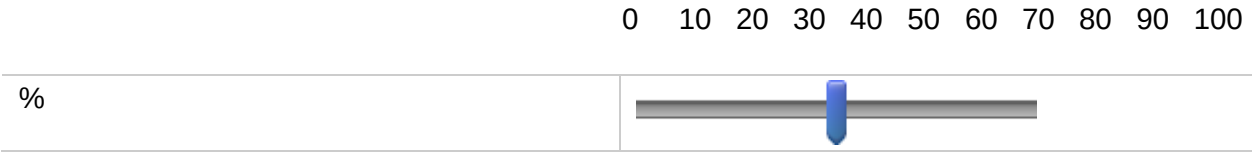
- Anne
- Berte
- Clara
- I do not know

**28. Who did you vote for in the first round of the 2017 presidential elections?**

- Emmanuel Macron
- Jean Luc Mélenchon
- Marine Le Pen
- François Fillon
- Benoît Hamon
- Nicolas Dupont-Aignan
- Other candidate
- Did not vote

**29. Do you participate in political discussions with family, friends or others; either in person or on social media (e.g. Facebook, Twitter, Instagram)?**


**30. What is the current unemployment rate in France?**
**(please do not look up the answer)**

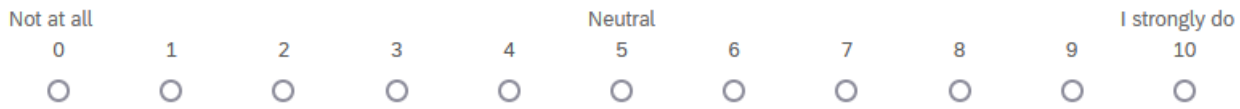



**31. Select the sources of information that you use the most:**
***You can select many sources**

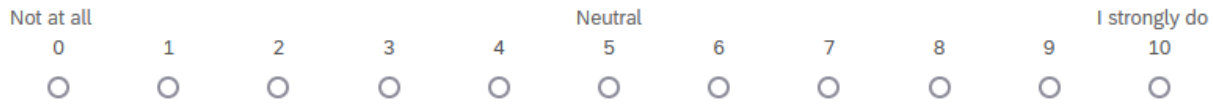
- TV
- Radio
- News papers

- Online news papers
- Twitter
- Facebook
- Instagram
- YouTube
- Whatsapp
- Other

**32. Do you feel obligated to help your fellow human beings?**

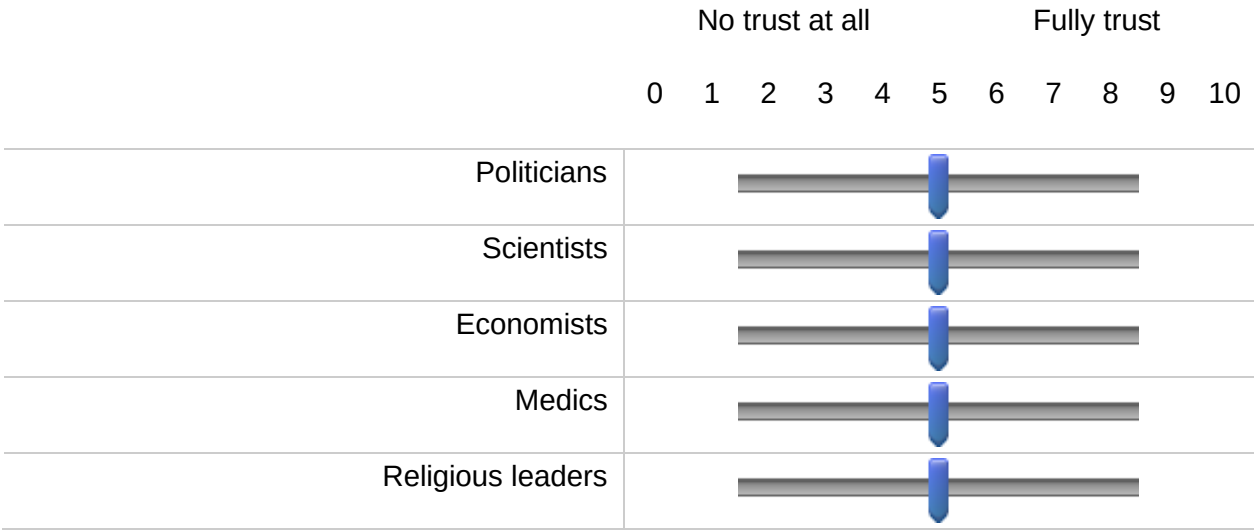



**33. Do you consider yourself a workaholic?**




**34. How important is money for you?**


**35. From 0 to 10, how much trust do you have in:**



**36. If we gave you 1000 Euros, how would you distribute them among the following options?**

***The total amount donated must add to 1000 euros (see it at the bottom).**

_____ Support a talented artist
_____ Support entrepreneur who has a good business project
_____ Support a social project aimed to tackle poverty
_____ You will keep it to yourself
_____ Give it to friends or relatives

**37. What is the annual average income of the richest 1% individuals in France?**

- 50 000 € to 75 000 €
- 75 001 € to 100 000 €
- 100 001 € to 150 000 €
- 150 001 € to 200 000 €
- 200 001 € to 250 000 €
- 250 001 € to 300 000 €
- 300 001 € to 350 000 €
- 350 001 € to 400 000 €
- 400 001 € to 450 000 €
- 450 001 € to 500 000 €

**38. What percent of income of the richest 1% in France comes from rents, interests and dividends?**

- 0 to 9 %
- 10 to 19%
- 20 to 29 %
- 30 to 39 %
- 40 to 49 %
- 50 to 59 %
- 60 to 69 %
- 70 to 79 %
- 80 to 89 %
- 90 to 100 %

**39. Do you feel that this survey was biased?**

- Yes, I felt there was a left-wing bias in the survey.
- Yes, I felt there was a right-wing bias in the survey.
- No, it did not feel bias.