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Eliciting preferences for income redistribution: A new survey item

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ABSTRACT

This paper introduces a new survey item through which to measure people's preferences toward income redistribution. Respondents construct their preferred distribution of after-tax income by changing the tax rates of the bottom four income quintiles. Taxes for the top quintile update automatically in order to keep government revenues fixed and take into account behavioral effects on pre-tax income. Data from a large, representative sample of the Dutch population indicates that around 50–60% of the respondents construct distributions that are more equal overall than the status quo, as measured by the Gini coefficient. Indeed, only 5% of respondents opt for greater inequality, but not beyond a flat-tax. Income ratios for the bottom and top half of the distribution indicate greater support for additional redistribution among those on higher rather than lower incomes. The validity of the responses to the new item is supported by their predictive power for voting behavior in the parliamentary elections almost three years later, even when controlling for a Likert scale. Two information provision experiments illustrate the richness of the new data.

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1. Introduction

Redistribution of income and provision of social insurance via taxes and transfers are the two fundamental objectives of the modern welfare state (Alesina and Giuliano, 2011). Within democratic systems, the extent of redistribution is closely aligned with the preferences of voters, at least in the long term (Corneo, 2001; Corneo and Neher, 2015). Moreover, attitudes towards income redistribution yield insight into the nature of other-regarding preferences (Alesina and Giuliano, 2011). There is extensive literature within economics investigating individuals' preferences for income inequality and redistribution (see Alesina and Giuliano, 2011, for a review). Recent trends in inequality, intergenerational mobility, and migration have reinvigorated this research (e.g., Kuziemko et al., 2015; Alesina et al., 2018; Alesina et al., 2019; Alesina et al., 2020; Fisman et al., 2021).

Existing research applies a wide variety of approaches to measure preferences for redistribution, ranging from qualitative survey questions, such as, for example, Likert scales, to quantitative measures such as indices that combine different atti-

tudes to inequality and related policies. In addition to surveys, researchers have analyzed experiments in which participants divide payoffs, either in the lab or online. This paper proposes a new survey item through which to measure preferences for government redistribution. Respondents construct their preferred distribution of after-tax income by adjusting the tax rates for the lower four income quintiles. The taxes of the top quintile are updated automatically in order to keep total revenues constant. The survey item incorporates behavioral responses to taxation, by which pre-tax income adjusts in response to changes in tax rates (e.g., labor supply adjustments and tax evasion). The preferred distributions can then be used to calculate measures of inequality, such as, for example, Gini coefficients and income ratios, and other quantities such as the total amount redistributed relative to the status quo. We fielded the new redistribution question in a large, representative household panel survey drawn from the Dutch population.

Inequality of after-tax income is relatively low in the Netherlands: the Gini coefficient was around 0.27 at the time of the survey compared to an OECD average of 0.32. Inequality increased between the mid-1980s and mid-1990s and declined thereafter (OECD, 2015). The Netherlands was one of the few OECD countries in which inequality of income before taxes and transfers decreased between 2007 and 2011, in the wake of the financial crisis (OECD,

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2015). The Dutch system of taxes and transfers is relatively progressive by international standards and reduces income inequality among the working age population by 29%, compared to an OECD average of 26% (OECD, 2015).

The new survey item that elicits preferences for income redistribution presents a unique combination of features. These attributes allow respondents to give meaningful and realistic answers, which, in turn, provide researchers with measures of preferred inequality that are quantitative, policy-relevant, and actionable. The question elicits desired *levels* of after-tax income and taxes, which respondents may find more relatable than changes. Moreover, building on earlier work that used charts to elicit distributional preferences (e.g., Norton and Ariely, 2011), the presentation is interactive and updates numerical and graphical representations of the income distribution after each change to the tax rates. Such interactivity further improves the level of respondent engagement and data quality (Kuziemko et al., 2015). In order to provide context to respondents, the item depicts the status quo by showing the current distributions of after-tax income and tax rates. On the one hand, this serves to mitigate the influence of mistaken preconceived beliefs and thus enhance the comparability between individuals. On the other hand, anchoring responses to the status quo may affect the results, either because information on the current situation affects actual attitudes toward redistribution (Trump, 2018), or because it erects a psychological barrier to expressing one's true preferences. In light of evidence demonstrating how misperceptions affect preferences (Cruces et al., 2013; Karadja et al., 2017), we believe the benefits in terms of interpretation outweigh the costs.

The question enforces realism by emphasizing the trade-offs inherent in redistribution, since it does not allow one to simply cut the governmental budget (in contrast to, for example, Singhal, 2008). In so doing, it shows clearly both the winners and losers within each alternative tax scheme. The new survey item uses taxation as the lever by which to manipulate the income distribution, since income tax is primarily redistributive. Therefore, it explicitly connects instrument and outcome. Previous studies often fail to mention how redistribution would be achieved (for example, Fisman et al., 2021), while many individuals do not make the connection between inequality concerns and governmental policy needed to reduce inequality (Kuziemko et al., 2015). Furthermore, the use of income tax as the instrument for redistribution allows one to leverage existing estimates of the tax elasticity of taxable income to incorporate realistic adaptations of before-tax income to tax changes (Saez et al., 2012, conducted a review of this literature). We randomize respondents over elasticities of 0.25 and 0.35, where the former represents the best estimate currently available and the latter probes the robustness of our results.

The question design also delivers rich and interesting data for researchers. One notable advantage is the flexibility it affords: respondents construct a complete distribution of after-tax income, which gives researchers considerable latitude to compute measures of inequality that are appropriate for their research question. For instance, Gini coefficients measure overall inequality while quantile ratios hone in on certain regions of the distribution. These measures have clear quantitative interpretations, are comparable between individuals, and focus on redistribution without simultaneously changing social insurance or the size of the government. The fact that the question specifies the redistribution to be achieved through income tax makes the responses more actionable than general expressions of attitudes that are divorced from actual policy instruments. Finally, respondents construct their preferred distribution of income among the population at large, rather than, say, dividing limited payoffs among

fellow participants in an experiment. While such experimental measures predict real world behavior, including, among others, career choices and voting behavior (Fisman et al., 2015b; Fisman et al., 2017), our approach ensures external validity for the population-wide distribution of income (which is highly relevant for policy).

The results for desired Gini coefficients show that the Dutch are roughly evenly split between the current distribution and a preference for a more equal distribution of after-tax income. While 5% of the sample reported that they would prefer a *less* equal income distribution, this never went beyond a flat-tax. Interestingly, the new item indicates more support for additional redistribution in the top half of the income distribution, where close to 45% of the respondents increased equality, compared to the bottom half, where only 25–30% of the respondents opted for a more equal distribution. The new question thus indicates greater support for the current situation than a 5-point scale elicited five months prior, which showed that two-thirds preferred a more equal distribution and only one-third preferred the status quo. The difference between the two items is driven primarily by those on the left and middle of the political spectrum. In line with Nathan et al. (2022) on the U.S., we found that the gap in redistributive preferences between the political left and right is much smaller according to the new question that specifically refers to income tax than on the broader Likert scale that does not mention concrete policies. Broad and abstract questions present a more dramatic picture of political polarization than more specific and concrete items do.

While the new question correlates positively with the qualitative scale, the correlation coefficients are small at 0.13–0.19. This is much lower than the year-over-year correlation of the qualitative item of 0.64, which indicates that the two questions measure different objects. The tendency to express inconsistent preferences with respect to the two items is not associated with a lack of understanding of the new survey according to self-reports. Moreover, the quality of the new data is supported by its predictive power for voting behavior in the 2021 election, which was almost three years after the survey was conducted. This predictive power persists when controlling for the Likert scale.

Finally, given that survey experiments have become a prominent research design within the field following early examples such as Cruces et al. (2013), two information provision experiments illustrate how researchers can implement such experiments in the context of the new question. The treatments focus on the primary income sources across the income distribution, which illustrate the importance of transfers for low incomes, and the efficiency costs of taxation that have been the subject of much prior investigation (for example, Durante et al., 2014). We found that information on the most important income sources for each income quintile makes respondents 5 percentage points more likely to adhere to the status quo as opposed to constructing a more equal distribution. Conversely, additional information on the response of before-tax income to tax changes was not found to affect the tendency to implement changes, but did result in 10% smaller deviations in terms of the money (euros) redistributed.

The rest of the paper is organized as follows. Section 2 provides an overview of different approaches through which to measure preferences for income redistribution, before then proceeding to describe the new survey item and information treatments in detail. Section 3 presents descriptive statistics and illustrative examples of income distributions constructed by the respondents. The main results describing the respondents' preferences for redistribution; the comparison with a qualitative scale; the predictive power for the 2021 election; the covariates of the new data; and the informa-

tion treatments are all presented in Section 4. Finally, Section 5 concludes.

2. Measuring preferences for redistribution

Many different approaches have been used to elicit preferences for redistribution. Appendix A provides an overview of the methods used during the first two decades of the 21st century. The present paper relates to three broad shifts in terms of measurement, study design and samples.

The first of these shifts pertains to measurement, which has developed from a single qualitative question on an ordinal scale to complex measures based on surveys or experiments (Alesina and Giuliano, 2011, presents research based on Likert scales and Alesina et al., 2018, 2020, 2022; Almås et al., 2020; Fisman et al., 2015a, 2021; Karadja et al., 2017; Charité et al., 2015, are examples of other approaches). One such recent approach combines different questions, both qualitative and quantitative, into an index (for example Karadja et al., 2017; Alesina et al., 2018; Alesina et al., 2022). The aggregation of multiple items into a single measure allows researchers to capture attitudes toward both different aspects of inequality and the policies intended to address it, while, simultaneously, potentially reducing the influence of measurement error. However, there is a cost in terms of interpretability, due to the combination of disparate qualitative and quantitative items related to policies that range from more purely redistributive (taxes) to social insurance (welfare).

In closely related research, Fisman et al. (2021) elicited distributional preferences by means of pairwise comparisons between hypothetical income distributions that are anchored on the current distribution in the U.S. Their research identifies the features of income distributions that are most relevant to distributional preferences. A key aspect of their approach is that it requires respondents to imagine themselves at different ranks of the income distribution. Conversely, the new survey item proposed in this paper aims to measure public opinion toward income redistribution given people's own income rank, taking into account the costs of redistribution. The setting closely reflects the real world which, combined with its focus on income taxation, enhances policy relevance. Given that Cruces et al. (2013) and Karadja et al. (2017) both show that misperceptions of the current income distribution influence preferences for redistribution, an important feature of our new survey item is that it presents the current situation to respondents.

The second shift has taken place in study design, where large-scale survey experiments have gained primacy over observational studies of the correlates of attitudes and small-scale lab experiments. For example, the random assignment of different types of information has been used to establish the causal impact of beliefs regarding the actual income distribution (Cruces et al., 2013); reference points (Charité et al., 2015); and how views on immigration (Alesina et al., 2022) and inter-generational mobility (Alesina et al., 2018) impact upon support for redistribution. Survey experiments are attractive, because they combine the internal validity of an experiment with the external validity of a large and demographically diverse sample. The latter is particularly important for gathering views on inequality, because previous research indicates that results are sensitive to the subject pool that is investigated (Fehr et al., 2006). The present study thus includes randomized information treatments among a nationally representative sample, in order to ensure both types of validity.

The third and final shift pertains to the types of samples that are analyzed. Here the focus has broadened from scientific panels (for

observational studies) and small groups of students (for lab experiments) to commercial platforms, especially Mechanical Turk.¹ Such platforms let task owners pay individuals to carry out jobs, which include responding to surveys or dividing payoffs between other workers (for example, Charité et al., 2015; Cohn et al., 2019; Almås et al., 2020; Fisman et al., 2021). While this method allows for rapid data collection and, in turn, affords flexibility to run follow-up experiments, participation is based on self-selection. We analyze the LISS panel, which is based on a true probability sample drawn from the Dutch population registry by Statistics Netherlands. Hence, self-selection does not play a role.

2.1. The new survey item

The new survey item through which to measure preferences for redistribution was designed to elicit reasonable preferences from respondents under realistic constraints, rather than asking them to indicate a hypothetical income distribution that could never be realized in practice. In order to achieve this, it starts from the current distribution and presents tax rates and after-tax income in one single frame. Respondents are then asked to choose the tax rates for the lower four income quintiles from drop-down menus. The tax levied on the highest income quintile adjusts automatically after each change in order to keep the total tax revenue constant. Moreover, the distribution of after-tax income changes in response to each tax reform. These changes to tax rates and incomes reflect two mechanisms. The first of these is a direct effect: if a respondent lowers the taxes on the first quintile, for example, this increases their after-tax income. The price is paid by the top quintile, for which taxes increase and after-tax income drops. The second effect pertains to behavioral responses, namely the fact that workers in the first quintile will choose to increase pre-tax income, while those in the top quintile reduce it in response to the changes in taxes. The increase in pre-tax income for the first quintile thus mitigates the increase in the top tax rate that is required to keep tax revenue constant. However, the negative effect for the top quintile amplifies the increase in taxes required, which, in turn, creates a deadweight loss of taxation. Such adjustments of gross income in response to changing tax rates may reflect different types of behavior, such as, for example, labor supply and tax evasion.

The exact wording of the question for the baseline treatment is as follows:²

Redistribution

Finally, we would like to ask you what you think the distribution of after-tax income in the Netherlands should be.

The figures below show the income distribution in the Netherlands. Everybody is lined up from poor to rich. Group 1 is the group of people with the lowest incomes, group 5 is the group of people with the highest incomes.

In the figure you see that someone in the poorest group has an average after-tax income of 1059 euro per person per month, while those in the richest group on average have an after-tax income of 4449 euro per person per month (based on a household that consists of a single person). People in group 1 pay on average 25% of their gross income in taxes, the corresponding tax rate for group 5 is 41%.

The left figure is there to provide information. In the figure on the right you can indicate how you want income to be distributed.

¹ While recent research draws on a broader variety of data sources that includes commercial on-line platforms, scientific panels that focus on representativeness are still being analyzed. Examples such as Fehr et al. (2019), Fisman et al. (2020), Alesina et al. (2021) and Stantcheva (2021) present results from tailored surveys that elicit preferences for redistribution in large representative panels.

² The original text in Dutch is included in Appendix B.

This can be done as follows. You can increase or decrease the taxes of the first four income groups. Your choices will sometimes be limited, because people in the lower income groups cannot have a higher income than those in higher income groups. The taxes of the richest group adjust automatically, so that all five groups together pay as much tax as they currently do. If you want you can go back to the initial situation by refreshing/renewing this page.

Initially, both panels in Fig. 1 show the actual state of affairs in 2018, while the figure on the right is updated after every change to taxes. By manipulating incomes through taxes the respondent are thus pulling meaningful levers, while, simultaneously, keeping track of the consequences in terms of monetary amounts, which we expect is easier for them to comprehend than tax rates alone. The question presents bar graphs, because previous research has shown that laypeople find them intuitive (Fisman et al., 2021). Moreover, the question ensures both revenue neutrality and a sensible ordering of income quintiles by dynamically adjusting the content of drop-down menus based on selected tax rates. The fact that this happens in drop-down menus means that it is hidden from the respondent, which reduces the burden of response. Tax rates of income groups 1–4 can be set in increments of 5 percentage points. The baseline survey only mentions the average income and tax rate by income quintile, thus focusing on *vertical* redistribution between rich and poor as opposed to *horizontal* redistribution between groups defined in terms of another characteristic (Wagstaff et al., 1999).

The information on actual tax rates and incomes was obtained from Statistics Netherlands. Reported incomes include all components that are subject to income tax, such as, for example, earnings, pensions and government transfers. The question does not specify whether the newly proposed tax schedule is permanent or temporary. However, the Dutch system of income taxation is rather stable: the 2018 tax system had been in place since 2001. Hence, most respondents would probably interpret the change as being permanent.

Behavioral responses that result in adjustments to income before taxes are implemented after each change in tax rates. Respondents are randomly assigned to elasticities of 0.25 or 0.35. 0.25 reflects the current consensus on the sensitivity of before-tax incomes to taxes (Saez et al., 2012; Mastrogiacomo et al., 2017). It is instructive to note here that we underestimate the true deadweight loss, since we are using, for reasons of simplicity, average tax rates per income quintile rather than marginal tax rates.

Therefore, we assign half of the respondents a higher elasticity of 0.35 and we investigate the sensitivity of the results.

The question emphasizes both the winners and losers from changes to taxes, which is in line with the ‘redistribution’ treatment in Stantcheva (2021). However, that treatment is static, insofar as it uses instructional videos to alert individuals to the fact that progressive redistribution entails both gains and losses. The new item interactively updates information based on all changes to income taxes. Moreover, it bears similarities to a question on the desired tax rates for different income groups that Alesina et al. (2018) and Alesina et al. (2022) incorporate into their index for general attitudes toward redistribution. That question uses sliders to elicit the preferred tax rates for the top 1%, next 9%, next 40% and bottom 50% of the income distribution. Like our approach, it restricts choices in order to keep total tax revenues fixed. However, it does not mention corresponding income levels, which respondents may find more relatable than tax rates. As a result, it does not link policy to outcomes. That question also abstracts away from the efficiency costs generated by changes to pre-tax income in response to tax reforms.

Appendix C describes the algorithm through which taxes and incomes are updated. To help researchers adopt the new survey item, we provide a Stata do-file that implements the question as presented in this study. Furthermore, we provide Fortran code to allow researchers to easily expand upon our method, by, for example, allowing for integer tax rates, a larger number of income groups (instead of quintiles), or by changing the base group that settles the governmental budget. More information can be found in the Online Supplementary Material.

2.2. Information treatments

Respondents are randomly assigned to one of the two information treatments. In addition to the aforementioned baseline in which respondents are only informed about the current income distribution, one-third of the respondents received information about the *costs of redistribution*. Another one-third of the respondents received information about the *most important income sources* of each income quintile.

With respect to the costs of redistribution, respondents receive additional information on exactly how much they redistribute relative to the current situation. Moreover, they are informed about the costs per euro redistributed. The question explains this in layperson’s terms (emphasis in original):

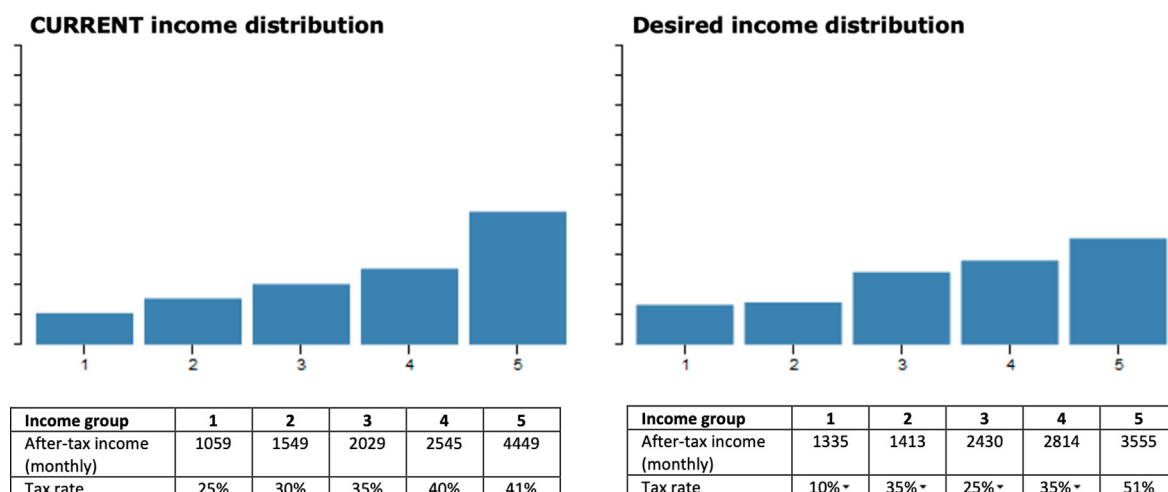


Fig. 1. Screenshot from the survey, illustrating how the status quo and the preferred situation are shown side-by-side.



Fig. 2. Screenshot from the information treatment that shows the primary income sources for each quintile of the distribution.

According to this choice:

- people in income groups [1, 3 and 4] would pay on average [246] euro **less in taxes** per person (if they would not change how much they work)
- people in income groups [2 and 5] would pay on average [433] euro **more in taxes** per person (if they would not change how much they work)

For each additional euro for the people in groups [1, 3 and 4], the average taxes in groups [2 and 5] increase by [1.17] euro per person. Hence, for each euro that is redistributed [17 cent is lost] in groups [2 and 5]. This is due to the fact that people in groups [2 and 5] will work less when taxes increase.

Note: the numbers in the figure correspond to the after-tax income that **does** take into account changes in how much people work. Therefore, the numbers in the figure are not exactly equal to those in the bullets.

All numbers in square brackets are updated dynamically as respondents change tax rates, according to the algorithm described in Appendix C. The average cost per euro of redistribution across all income distributions available to the respondents is 1.25 euro for the elasticity of 0.25 and 1.38 euro for the elasticity of 0.35. While the vast majority of possible distributions result in larger deadweight losses than the current distribution, with costs up to around 2.15 euros per euro redistributed, respondents can also opt for alternatives that *decrease* the size of the deadweight loss. For both elasticities the minimal cost of redistribution is 0.93 euro per euro redistributed, which can be achieved by minimizing the maximum tax rate (for example, by setting tax rates equal to 30%; 30%; 35%; 40%; 40%). If respondents construct such a distribution, they are informed that “7 cents are gained” for each euro redistributed. We regard the ability to communicate efficiency costs of taxation in a straightforward way as constituting an important advantage of the survey item. The salience of the costs of redistribution may reduce the willingness to redistribute.

The efficiency costs treatment is similar in spirit to the one found in Stantcheva (2021), where individuals were shown

instructional videos that explain how people may change their behavior in response to income tax. However, it differs insofar as it uses current estimates of the elasticity of taxable income to update before-tax incomes dynamically as respondents construct their preferred distribution. Communicating these adjustments to respondents provides a continuous reminder of precisely how efficiency costs occur relative to the status quo.

The second information treatment is novel and concerns the sources from which people in different income quintiles draw their income. This treatment extends the table that refers to the current distribution, by adding the primary income source for individuals in the five income quintiles (see Fig 2).

The additional information shows that a larger proportion of people in higher income groups derive most of their income from earnings (82% in group 5 compared to 37% in group 1). On the other hand, unemployment and disability benefits are more prevalent among the lowest income group, while pensions are particularly important in quintiles 2 and 3. The information on income sources was obtained from Statistics Netherlands. Alerting people to the prevalence of social transfers in the bottom of the income distribution may serve to reduce the willingness to further reduce income inequality.

3. Data

The new survey item was fielded in the Longitudinal Internet Studies for the Social sciences (LISS) panel. The LISS panel is an address-based sample from the Dutch population, which limits self-selection and thus safeguards representativeness (Van der Laan, 2009). The panel is managed by CentERdata, which is affiliated with Tilburg University.³ Monthly surveys are administered online and panel members are provided with a computer and internet access if necessary. Members are paid for each completed questionnaire. In addition to yearly data on income, wealth, political attitudes and other topics, basic demographics are available on a

³ See <http://www.lissdata.nl> and Scherpenzeel (2011) for more information on LISS.

monthly basis. Researchers can also design additional modules to be fielded alongside the recurring surveys.

The module containing the item that constitutes the focus of this study was fielded in May and June of 2018. The sample was limited to individuals aged 25 years and older, who were either household head or partner, and who lived in households with a net monthly income of at least 800 euro. These restrictions excluded both very young people and students, and were motivated by other parts of the survey that concern issues related to pensions and retirement. Appendix D provides an overview of both the content of the survey and the different routings as a function of a respondent's age and work status. The entire survey was designed by the authors of this paper and the full codebook and resulting dataset are available online.⁴

This section briefly presents descriptive statistics for relevant variables that will be analyzed jointly with the new survey item. It then proceeds to delineate some illustrative examples of preferred income distributions that were constructed by respondents as well as metadata from timestamps and evaluation questions that provide measures of the data quality.

3.1. Descriptive statistics

Descriptive statistics for socio-economic variables can be found in Appendix E. In addition to basic demographics, Table E1 also contains information on dimensions of political and economic views that have been used in the literature to measure or predict attitudes towards redistribution. In particular, we observe whether respondents think that income differences should increase or decrease relative to the current situation, which was measured on a 5-point Likert scale in January 2018 (five months prior to our survey). As explained in the introduction, much of the literature uses such scales to measure attitudes toward income redistribution. On average the LISS would prefer smaller income differences: the mean is 2.1 while 3 would indicate a preference for the status quo. We analyze how the responses to this Likert scale compare with the new item in Section 4.2. Data on left/right political orientation and attitudes towards foreigners are also available from the January 2018 survey, and for both measures the average lies close to the middle of the scale. The balance tests reported in Table E1 do not indicate any problems with the randomization of elasticity and information treatments. Moreover, while the average net household income in the sample is lower than the corresponding population figure, the sample is broadly similar to the population in terms of both demographics and labor market status.

Data from a one-off survey in February 2013 showed that panel members find income tax by far the most important instrument for income redistribution. Sixty-one per cent of the linked sample expected income taxes to be the primary lever by which the government would influence income differences, while 55% of the sample preferred the government to use income tax (see Table E2). Income-dependent premiums for health insurance and pensions were the second most mentioned measure, with around 20% of the respondents expecting/preferring that instrument, while government transfers were a distant third at around 10%. Only 6% of the respondents indicated that they did not know by which measure income redistribution would or should occur. The perceived importance of income taxation for redistribution indicates that the new survey item suits the preferences and expectations of a large share of the panel. It also confirms the appropriateness of income tax as the lever by which to manipulate the distribution of after-tax income.

3.2. Illustrative examples

Fig. 3 provides three illustrative examples of preferred income distributions constructed by respondents with the new survey item. In particular, it shows distributions with low and high overall inequality as measured by the Gini coefficient and the most common deviation from the status quo among all respondents who were assigned a tax elasticity of 0.25. The preferred distribution with low inequality, panel 4a, reduces the tax rates for the bottom three income groups by 20 percentage points (pp), 15 pp and 10 pp, respectively, relative to the status quo. It keeps taxes unchanged for group four, which, as a result, raises taxes on the highest income group from 41% to 57%. While the resulting distribution of after-tax income is more equal overall, as reflected in the Gini of 0.13 compared to 0.27 for the status quo, this is primarily driven by much smaller income differences in the top rather than the bottom half of the distribution. The ratio of the middle to the lowest income barely changes, dropping from 1.9 to 1.7, while that of the top to the middle income is reduced much more substantially from 2.2 to 1.3. The modal deviation, selected by 5% of the sample, also reduces overall inequality relative to the current situation, but less drastically as it lowers taxes for each of the bottom four groups evenly by 5 pp. As a result, the tax rate for the highest earners increases to 50%. The modal distribution keeps inequality in the bottom half of the distribution unchanged, while, simultaneously, reducing inequality only in the top half. On the other hand, the distribution with high inequality in panel 4c is less equal than the status quo. It sets the same tax rate of 35% for all of the bottom four quintiles, which results in an unchanged tax rate of 41% for the fifth quintile. Such a distribution is as close to a flat tax as is permitted by the survey item, because tax rates are set in increments of 5 pp. The increase in overall inequality is driven by the bottom half of the distribution: the ratio of the income of the third to the first group increases from 1.9 to 2.3 while the ratio of group five to group three stays roughly constant at 2.2.

The illustrative examples in Fig. 3 underscore a key advantage of the new question: the resulting data are rich and afford the possibility to hone in on different aspects of inequality. Given data on the tax rates and distributions constructed by survey respondents, researchers have considerable freedom to look at global measures of inequality, such as the Gini, or focus instead on particular regions of the distribution that are of interest to one's research question. While there are other approaches that yield distributional data, such as, for example, Fisman et al. (2021), framing the issue in terms of income tax and the actual population distribution of income provides a unique combination of data that is rich, policy-relevant and actionable.

The new measures of redistributive preferences may be influenced by a status quo bias. Trump (2018) shows that information about actual income inequality affects which income differences are considered legitimate. However, whereas Trump (2018) investigates this adjustment to the status quo, our new survey instrument focuses on the measurement of redistributive preferences, while, simultaneously, showing the inherent trade-offs of redistribution. Depicting the current state may raise a psychological barrier to deviate. However, although framing it in relation to the status quo may affect the answers, it is reassuring that the timestamps show that the vast majority of respondents did not use the status quo to skip through the question. Showing the status quo does limit the influence of mistaken prior beliefs.

The survey item helps respondents to express their preferences by graphically and numerically presenting information they can relate to, namely levels of after-tax income, and interactively updating that information after each subsequent change to the tax rates. Perhaps as a result, many of the respondents spent considerable time constructing their distribution. Appendix F shows

⁴ https://www.dataarchive.lissdata.nl/study_units/view/967

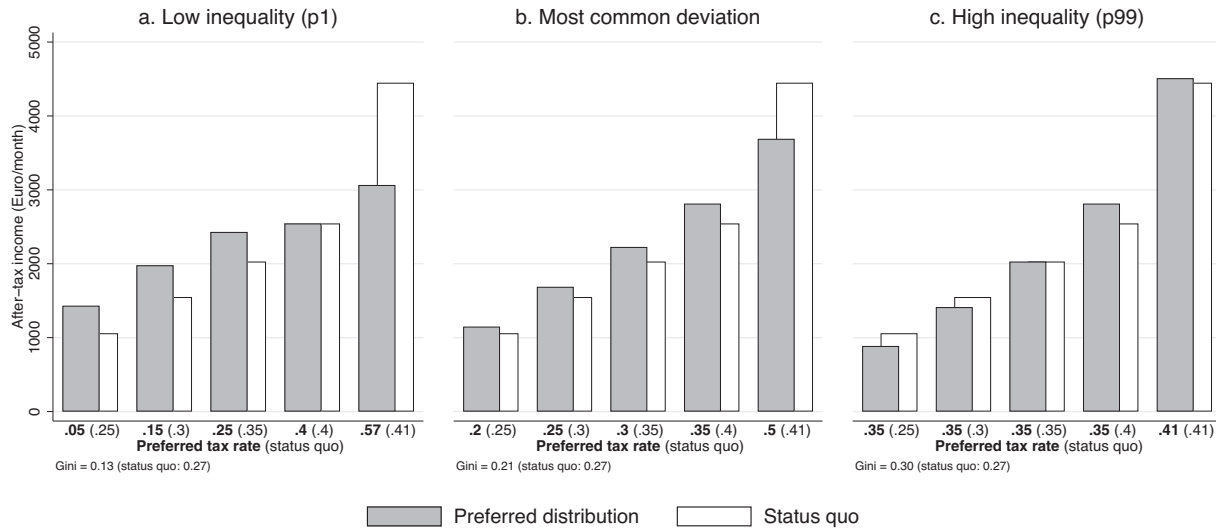


Fig. 3. Examples of income distributions constructed by respondents (elasticity 0.25).

that the average timestamp is 150 s with a median of 102, while around three-quarters of the respondents took more than half a minute. Response times varied across the information treatments: those who were given information on the costs of redistribution took, on average, 11% longer than the baseline. Quantile regressions demonstrate that both information treatments substantially increased response times in the upper half of the distribution: at the 75th percentile the costs and income source-treatments increased the time spent by 39 and 22 s, respectively, on a baseline of 170 s. If time investment is a proxy for effort, this suggests that the vast majority of the respondents took the question seriously.

Every questionnaire fielded in the LISS panel ends with evaluation questions regarding the difficulty and clarity of the questions as well as the extent to which the respondents found the topics interesting. While this evaluation refers to the survey as a whole, the redistribution question was the final one in the questionnaire so it is likely to exert a disproportionate influence on the evaluations. Indeed, both information treatments significantly increased the perceived difficulty of the survey (see Appendix G). They did not, however, significantly affect the extent to which questions were perceived as clear, interesting or enjoyable. It is reassuring that only 5% of the respondents found the questions unclear, especially if the redistribution question weighed heavily in that assessment.

4. Results

This section comprises five steps. The first involves a detailed description of the preferences for redistribution elicited by the new question. We then compare the answers to the new survey item with a Likert scale for preferred income inequality. Section 4.3 shows the added value of the new item as measured by its predictive power for voting behavior in the 2021 parliamentary election. Next, we analyze associations between preferred inequality and socio-economic characteristics. Finally, Section 4.5 presents the effects of the information treatments upon different aspects of the income distributions constructed by the respondents.

4.1. Descriptive statistics of preferred redistribution

Table 1 contains summary statistics for the preferred tax rates and other statistics related to the income distributions constructed

by the respondents. The table restricts the sample to those who received the baseline information, that is, the status quo and a tax elasticity of income equal to 0.25 (Appendix H provides descriptives for all the information and elasticity treatments). The mean tax rates of the bottom four income quintiles are slightly below the status quo, while the resulting mean for the fifth rate is 4 pp above the status quo of 41%. The standard deviations are between 3 pp and 6 pp and indicate that preferred tax rates for the bottom two income groups are more variable than those for groups three and four. This is confirmed by the proportion of those who keep the tax rates at the status quo, which increases from 55% for the first income quintile to 72% for quintile four. Among those who do change taxes, most revise the tax rates downward. For the bottom income quintile, for example, 42% of the respondents choose to reduce taxes and 3% opt to raise taxes, while the corresponding proportions for the fourth quintile are 21% and 7%, respectively. Just under half of the respondents set the tax rates for the lower quintiles so that taxes for the top quintile stay constant.

One key advantage of the new question is that it provides researchers with rich data on preferred income distributions, which, in turn, affords them the flexibility to calculate different measures of inequality (see Trapeznikova, 2019, for an overview of such different measures). We analyze the Gini coefficients of the preferred distributions of after-tax income as a measure of overall inequality and calculate three different quantile ratios to look at overall inequality and income differences in the top and bottom half of the distribution. The mean Gini of the preferred distributions is 0.24, which is below the status quo of 0.27.⁵ 48% of respondents do not change the level of overall inequality relative to the current situation. Among those who do change the Gini, the

⁵ The Gini index measures the overall inequality of the optimal distributions of disposable income constructed by the respondents. We calculate the Gini index for each respondent's preferred distribution as follows

$$\text{Gini} = 0.8 - 0.4 \sum_{i=1}^4 \text{cumulperc}_i$$

where $\text{cumulperc}_i = \sum_{j=1}^i \frac{\text{income}_j}{\text{totinc}}$ and $\text{totinc} = \sum_{j=1}^5 \text{income}_j$. Note that this index ranges from zero (complete equality) to 0.8 (complete inequality), because the distribution of income is discretized into five bins. The highest attainable inequality assigns 100% of total income to the top 20% of earners with an equal distribution within that bin.

Table 1
Descriptive statistics of preferred income distributions.

Treatment: no additional information; elasticity 0.25											
	Status quo	Mean	SD	Min	p25	Quantiles Med	p75	Max	Lower	Fraction Unchanged	Higher
Tax rate 1	25	21	6	0	20	25	25	40	0.42	0.55	0.03
Tax rate 2	30	27	5	5	25	30	30	40	0.38	0.59	0.03
Tax rate 3	35	33	3	25	30	35	35	45	0.30	0.66	0.04
Tax rate 4	40	39	3	25	40	40	40	50	0.21	0.72	0.07
Tax rate 5	41	45	5	32	41	41	48	63	0.05	0.49	0.46
Gini index	0.27	0.24	0.04	0.08	0.21	0.27	0.27	0.33	0.47	0.48	0.05
Quantile ratio: Q5/Q1 ^a	4.2	3.7	0.7	1.7	3.2	4.2	4.2	6.2	0.48	0.48	0.04
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.1	1.7	2.2	2.2	3.1	0.46	0.48	0.06
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.2	1.8	1.9	1.9	2.8	0.31	0.51	0.18
N		659									
Amount redistrib. (euro/month) ^b		476	259	70	252	479	622	1223			
Cost of redistrib. (euro) ^{b,c}		1.28	0.21	0.93	1.20	1.23	1.29	2.14			
N		343									

^a Quantile ratio Qa/Qb is the ratio of the average after-tax income in quintile a over that in quintile b . Q5/Q1 measures inequality between the highest and lowest income groups and the other two ratios measure inequality in the top and bottom half of the distribution of after-tax income.

^b Conditional on deviating from the status quo.

^c Costs in euro per euro redistributed (numbers larger than 1 indicate a deadweight loss).

vast majority opts for greater equality: 47% of the sample prefer a lower Gini, while only 5% prefer an increase.

While the Gini coefficient measures inequality over the entire distribution of after-tax income, quantile ratios provide local measures of inequality. They compare incomes at different percentiles of the distribution. The Q5/Q1-measure of inequality, that is, the ratio of the after-tax income of the highest over the lowest quintile, corroborates the patterns observed for the Gini. The status quo has a Q5/Q1 ratio of 4.2 and the mean preferred Q5/Q1 is lower at 3.7 with an approximate 50/50 split between those who keep inequality unchanged and those who prefer a more even distribution of disposable income. Preferred inequality in the top half of the distribution as measured by Q5/Q3 follows a similar pattern, but preferences for inequality among lower income groups are markedly different. Q3/Q1 shows that the Dutch are less in favor of reducing inequality in the bottom half of the income distribution beyond the status quo. While 46% of the respondents prefer a distribution with a lower Q5/Q3 than the status quo, only 31% adjust the bottom half towards greater equality. Eighteen per cent *increase* inequality in the bottom half, compared to only 6% for the top half and 4% for Q5/Q1, respectively.

The bottom two rows in Table 1 describe the amount that was redistributed between income groups *conditional* on changing the distribution (i.e., excluding zeros). The half of the respondents who deviate from the status quo redistribute a substantial 476 euros per month on average with a standard deviation of 259 euros. This redistribution implies large deadweight losses, as every euro given to one (lower income) group costs 1.28 euro on average due to reductions in before-tax income for those who pay higher taxes. Some individuals prefer a distribution with a smaller deadweight loss than the status quo: the minimum cost is 93 cents per euro handed out, which is obtained by lowering the maximum tax rate. However, analogous to the general preference for greater overall equality, the vast majority of those who deviate from the current distribution incur large deadweight losses, ranging from 20 cents to 1.14 euro for every euro handed out.

Appendix H shows descriptives for the subsamples that were exposed to the information experiments and/or to a higher tax elasticity of income equal to 0.35 (rather than 0.25). We corroborate the same patterns described above for all other combinations of information and elasticities. Both when deadweight losses are made explicit and the most important income sources are shown, redistribution to low income groups declines somewhat. Furthermore, for the baseline we found that a higher tax elasticity of

income increases the proportion of people that adhere to the status quo from 48% to 54%.

The online Appendix OA1 probes the robustness of the distribution of answers with respect to two indicators of data quality: response time and logically inconsistent responses to one of the other sets of questions in the survey (which may indicate a low degree of attention). Tables OA1a–OA1d present descriptive statistics for all measures of preferred inequality and redistribution reported in Table 1. Regarding response times, those tables indicate that we obtain a very similar distribution of responses if we drop the 5% quickest and 5% slowest responses or the 10% quickest. The same holds true when all respondents who make a logical error in another part of the survey are omitted.

4.2. Correspondence of the new item with qualitative measure of attitudes to income differences

Responses to the new question can be compared with those to a more conventional Likert scale that asks whether income differences should be smaller or larger than they currently are. The 5-point scale was elicited in January 2018, five months prior to the main survey, and was phrased as follows:

Some people believe that differences in income should increase in our country. Others feel they should decrease. Still others hold an opinion that lies somewhere in between. Where would you place yourself on a scale from 1 to 5, where 1 means that differences in income should increase and 5 means that these should decrease?

In accordance with the inequality measures discussed above, we reverse the Likert scale so that 1 means income differences should decrease and 5 means they should increase.

Panel a of Table 2 shows the marginal distributions of the Likert scale and the inequality measures deriving from the new item for all respondents who answered both questions. The qualitative scale indicates more widespread preference for equality beyond the status quo compared to the new measures. On the Likert scale 61% of the respondents indicate that income differences should be smaller than the status quo, compared to 45% based on the Ginis of the preferred distributions. The qualitative question produces a correspondingly smaller proportion of respondents who wish to keep the distribution as it is (34% vs. 52%). The two measures do yield a similar proportion who would prefer a less equal distribution of around 4–5%. A similar picture emerges for Q5/Q1 as well

Table 2
Marginal distributions and correlations of Likert scale and quantitative measures of preferred inequality.

a. Marginal distributions (fractions)					
	Likert scale	Gini	New measures		
			Q-ratio: Q5/Q1	Q-ratio: Q5/Q3	Q-ratio: Q3/Q1
Income differences should					
1. Decrease	0.33	0.45	0.45	0.43	0.28
2.	0.28				
3.	0.34	0.52	0.52	0.53	0.54
4.	0.04				
5. Increase	0.01	0.04	0.03	0.04	0.17
N	3,706	3,706	3,706	3,706	3,706
b. Correlations					
	Likert scale ^a	Gini	New measures		
			Q5/Q1	Q5/Q3	Q3/Q1
Likert scale ^a	1				
Gini	0.19***	1			
Quantile ratio: Q5/Q1	0.18***	0.97***	1		
Quantile ratio: Q5/Q3	0.13***	0.92***	0.87***	1	
Quantile ratio: Q3/Q1	0.16***	0.38***	0.50***	0.03*	1

*** $p < 0.01$, * $p < 0.1$.

^a The year-over-year correlation between consecutive Likert scales is around 0.64.

as for inequality in the top half of the income distribution as captured by Q5/Q3. The appetite for redistribution beyond the status quo in the bottom half of the income distribution is substantially lower, with 17% of respondents wishing to increase income inequality, which is in contrast to the other qualitative and quantitative measures.

Additional analysis in [Appendix I](#) reveals that the difference between the Likert scale and the new measures is driven by left-wing respondents and moderates. While 50–60% of those on the right of the political spectrum prefer the status quo on both questions, only 15% of left-wing respondents do so on the Likert scale compared to 40% on the desired income distributions. Furthermore, the gap between left and right-wing respondents is much wider on the traditional scale than it is on the new question. These findings are in line with [Nathan et al. \(2022\)](#) for the U.S., which documents that a broad question that does not mention specific policies is likely to engender a much larger partisan divide than do actual tax appeals and more specific survey questions.

Panel 2b presents the correlation matrix and illustrates that all measures of preferred inequality are significantly positively correlated with the Likert scale. However, at 0.13–0.19 the magnitude of the correlations for the quantitative measures is modest compared to the year-over-year correlation among consecutive Likert scales of 0.64.⁶ The different measures of preferred inequality deriving from the new item are strongly positively correlated with each other, especially the Gini, Q5/Q1 and Q5/Q3 with correlations ranging from 0.87–0.97. All three are less strongly associated with bottom-half inequality, for which the correlations are only 0.03–0.50. The overall conclusion that emerges here is while responses to the qualitative and quantitative items are positively correlated, the new question elicits substantially different attitudes than the qualitative scale. Furthermore, bottom-half inequality is clearly the odd one out among the new measures of preferred inequality, both in terms of the level of support for equality beyond the status quo and in terms of its weak correlation with the other measures.

⁶ The estimated slope coefficients in OLS regressions of the new measures on the Likert scale (all standardized) are almost identical to the correlations in panel 2b (by construction). For instance, a one standard deviation increase in the qualitative scale is associated with a 0.19 standard deviation increase in the preferred Gini and a 0.16 standard deviation increase in the preferred Q3/Q1.

[Appendix I](#) provides a more detailed analysis of the correspondence between the qualitative and quantitative survey questions. It confirms the general picture of intuitive but nevertheless weak associations between the two items. Moreover, an analysis of the inconsistencies between responses to the two questions shows that 50% of the sample provide consistent answers, while 31% of them indicate a weaker preference and 19% a stronger preference for income equality on the new measure. Importantly, the tendency to answer consistently is not lower among those who either found the questionnaire difficult or unclear or those with a higher level of education. Hence, the data do not suggest that such inconsistencies reflect an inability to answer the new survey question. We do find that the direction of inconsistencies covaries significantly with certain predictors such as, for example, education and income. Respondents with high income and respondents with more years of education are more likely to prefer more equality according to the new measure compared to the traditional question. Furthermore, this tendency to construct more equal income distributions than suggested by the answer to the qualitative scale varies particularly strongly with political attitudes. Compared to those on the left, right-leaning respondents are substantially more likely to use the new item to express a stronger desire for equality compared to the Likert scale.

The difference in support for redistribution beyond the status quo between the qualitative scale and the new measure is noteworthy. Part of that difference may reflect the fact that the new question provides extensive information on the status quo. That is to say, while the Likert scale explicitly asks respondents to express their preference relative to the status quo, it provides no information on the current income distribution or income tax. Consequently, an expressed preference for smaller income differences could reflect either a true preference for more redistribution, or a mistaken preconceived view of the current situation. Another factor may be the fact that the new question redistributes income by means of income tax, whereas the Likert scale does not mention how these income differences would be manipulated. In light of both the differences between the two questions and the resulting weak correlations between the data, we investigate the extent to which the new item provides additional information as measured by its predictive power for votes in the 2021 Dutch parliamentary election.

Table 3
Predictive power of preferred inequality as measured by Gini coefficients for votes in 2021 parliamentary election.

	Dependent variable: vote in 2021 Dutch parliamentary election									
	Liberals (VVD)	Freedom Party (PVV)	Christian dem. (CDA)	Prog. liberals (D66)	Greens (GroenLinks)	Socialists (SP)	Labor (PvdA)	Christian Union (ChristenUnie)	Animal Party (Partij vd Dieren)	Other party
Predicted probs ^a	0.21 (0.009)	0.09 (0.006)	0.14 (0.008)	0.15 (0.008)	0.05 (0.005)	0.09 (0.006)	0.09 (0.006)	0.03 (0.004)	0.04 (0.004)	0.13 (0.007)
a. No other controls										
Standardized Gini ^b	0.037*** (0.0097)	0.014* (0.0075)	−0.001 (0.0069)	0.006 (0.0067)	−0.014*** (0.0037)	−0.019*** (0.0052)	−0.022*** (0.0053)	0.001 (0.0035)	−0.004 (0.0039)	0.002 (0.0072)
Log-likelihood N					−5280.51 2450					
b. Controlling for Likert scale^c										
Standardized Gini ^b	0.015 (0.0095)	0.016** (0.0074)	−0.003 (0.0071)	0.008 (0.0069)	−0.010*** (0.0036)	−0.011** (0.0053)	−0.015*** (0.0051)	0.001 (0.0037)	−0.002 (0.0040)	−1.8e−4 (0.0074)
Log-likelihood N					−5128.04 2450					
c. Controlling for Likert scale and demographics^{c,d}										
Standardized Gini ^b	0.016* (0.0095)	0.008 (0.0071)	0.004 (0.0071)	0.012* (0.0071)	−0.007* (0.0036)	−0.013** (0.0052)	−0.012** (0.0051)	0.002 (0.0039)	−0.003 (0.0038)	−0.008 (0.0074)
Log-likelihood N					−4628.47 2382					

Panels a–c. report sample average marginal effects from multinomial logit models of votes in the 2021 election on Gini coefficients and (for panels b. and c.) other predictors. Robust standard errors in parentheses, clustered at household level (1984 clusters, 1927 clusters for the model with demographics in panel c.). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

^a Sample average predicted probabilities of voting for each party, based on the multinomial logit model in panel a. The specification is $y_j^* = \beta_{0j} + \beta_{1j}\text{Gini} + \varepsilon_j$, where y_j^* is a latent index for party j ; β_{0j} is a party-specific constant; β_{1j} is a party-specific slope on the preferred Gini coefficient; and ε_j is an idiosyncratic error.

^b Gini coefficients are standardized based on the mean and standard deviation in the full sample of 3964 distributions constructed by survey respondents.

^c The specification controls for the Likert scale by means of three dummies, combining the two levels most in favor of inequality into a single category: $y_j^* = \beta_{0j} + \beta_{1j}\text{Gini} + \beta_{2j}\mathbb{I}\{\text{Likert} = 2\} + \beta_{3j}\mathbb{I}\{\text{Likert} = 3\} + \beta_{4j}\mathbb{I}\{\text{Likert} \in \{4, 5\}\} + \varepsilon_j$ where the β are party-specific parameters and $\mathbb{I}\{\cdot\}$ denotes an indicator variable for the condition in curly braces.

^d Specification controls for all demographic variables in Table E1 according to: $y_j^* = \beta_{0j} + \beta_{1j}\text{Gini} + \beta_{2j}\mathbb{I}\{\text{Likert} = 2\} + \beta_{3j}\mathbb{I}\{\text{Likert} = 3\} + \beta_{4j}\mathbb{I}\{\text{Likert} \in \{4, 5\}\} + \mathbf{x}\gamma_j + \varepsilon_j$ where $\mathbf{x}$ contains demographic variables.

4.3. Predictive power for votes in the 2021 parliamentary election

One way through which to assess the quality of the new data is in terms of its predictive power for relevant outcomes. From that perspective, a new measure is useful insofar as it provides additional explanatory power relative to the conventional one(s). One key motivation for investigating preferences for redistribution among the general public is the notion that, at least in democratic societies, these preferences determine government policy in the long run. Consequently, we analyze the predictive power of the new item for voting behavior in the 2021 Dutch parliamentary election.

Parliamentary elections are the most important events on the Dutch political calendar, because they determine both the composition of the parliament and the parties that take the lead in the formation of a new government. In March 2021, almost three years after the new question was fielded, LISS panel members were presented an online exit poll the day after the vote. We observed the self-reported votes cast by 2450 respondents to both the new item and the qualitative scale. The top row of Table 3 shows sample average predicted probabilities of voting for the nine largest parties in the sample and any “other” party, based on a multinomial logit model that only controls for Ginis of the preferred distributions (panel a). These are sample proportions of votes for the parties. The Liberal Party received 21% of the votes in the sample, followed by the progressive liberals of D66 (15%) and the Christian democrats (14%). While the vote shares in the sample are roughly in line with the outcome of the election, the Freedom Party and Greens did worse in the sample, while Labor received more support (receiving 13%, 9% and 6% respectively of the national vote, respectively).

Panels a–c in Table 3 contain sample average marginal effects of multinomial logit models that explain voting behavior by the standardized Gini coefficients of the preferred income distributions.⁷ Panel b also controls for the Likert scale and panel c controls for both the Likert scale and for the demographics summarized in Table E1. The specification without controls in panel a shows that respondents who construct distributions that are more unequal are less likely to vote for the main left-wing parties (Greens, Socialists and Labor), and are instead more likely to vote for the right (Liberal Party and Freedom Party). A one standard deviation increase in preferred inequality predicts a 1.4–2.2 pp lower probability of voting for each of the left-wing parties three years later, while it increases the likelihood of voting for the right-wing parties by 1.4–3.7 pp. These associations are strong relative to the baseline proportions and result in a pseudo r-squared of 0.6% (not reported). While they are attenuated when the Likert scale is added to the model, most remain statistically significant and economically meaningful (note that the p -value for the Liberal Party in panel b. is 0.103). The Likert scale by itself has predictive power for voting behavior with a pseudo r-squared of 2.8%. The associations between preferred Ginis and subsequent votes remain significant in the model with a full set of demographic controls in panel c. While the Likert scale explains a larger share of votes, Table 3 indicates that the new measure captures politically relevant aspects of preferences for redistribution that are not reflected in the qualitative scale.

Appendix J presents estimates of an analogous analysis predicting 2021 voting behavior, but distinguishes between preferred top-

⁷ Standardized Gini coefficients in all the tables are standardized based on the mean and standard deviation in the full sample of 3964 observations in order to increase the comparability of the results in both this and the following subsections.

half inequality (Q5/Q3) and bottom half inequality (Q3/Q1). It shows that votes for the right-wing Liberal Party are predicted primarily by preferred top-half inequality: a one standard deviation increase in Q5/Q3 predicts a 1.9–3.3 pp greater likelihood of voting for that party. Conversely, bottom-half inequality becomes insignificant and negative once we control for the Likert scale. Regarding the left-wing Socialist and Labor parties, preferred top-half inequality is also the strongest predictor, with estimated marginal effects between –1.2 and –2.0 pp. That pattern is reversed for the Greens, for whom inequality in the bottom half of the income distribution is the strongest predictor and the marginal effect is –1.2 to –1.7 pp. While preferences regarding top-half inequality are more predictive of votes overall, certain types of voters appear to care more about inequality in the bottom half of the distribution.

4.4. Covariates of preferred inequality

Table 4 displays estimates of regressions that explain responses to the new item by socio-economic covariates. The models analyze indicators for deviating from the current distribution and standardized Gini coefficients in the overall sample as well as the subsample of deviations. The table contains two specifications for each combination of dependent variable and sample: one that only includes socio-economic background variables and one that adds left/right political orientation as well as attitude towards foreigners.

Only a few variables are significantly associated with the tendency to change the current distribution. Widows are 19 pp more likely to adhere to the status quo than those who have never been married. Homemakers and retirees are around 10 pp more likely to deviate than salary workers. Education also plays an important role: those who finished vocational training and university are 9 pp and 19 pp more likely, respectively, to implement changes than their less educated peers. Income is positively related to changing the distribution, with those in the upper two thirds of the distribution of net household income 5–7 pp more likely to adjust taxes. All of these associations are robust when controlling for self-reported difficulty and clarity of the questions. In this respect, they can be said to reflect true differences of opinion as opposed to mere variation in the extent to which the respondents could formulate meaningful answers (estimates for models that control for difficulty in understanding the survey are reported in the online Appendix OA2).

The second column of Table 4 shows that the patterns described above persist when controlling for left–right political orientation and attitudes toward foreigners. Both of these variables strongly predict deviation from the current distribution: those at the middle and right of the political spectrum are 10 and 13 pp less likely, respectively, to change at least one tax rate. Attitudes toward foreigners have predictive power even when controlling for broader political views: those who are either neutral or agree that there are too many foreigners in the Netherlands are 5–8 pp more likely to leave taxes unchanged than those who disagree with this statement. These results are in line with previous work on attitudes toward income inequality.

The rightmost panel of Table 4 shows inequality of the constructed distributions as measured by Gini coefficients. When the regression is run on the overall sample, the most important covariates outside of politics are age, living with a partner, being a widow, being unemployed or a homemaker, and education level. Compared to those with no education beyond secondary school, university graduates prefer the income distribution to be significantly more equal (their Gini is 0.2 standard deviation lower on average, which does not change when controlling for difficulty in understanding the survey). Both those that are currently unem-

ployed and homemakers construct more equal distributions than salary workers, with coefficients of –0.27 and –0.15, respectively. This may stem from the fact that they are more dependent on redistribution themselves. Similarly, older respondents also prefer a more equal distribution, while those living with a partner prefer significantly greater inequality than those living alone. This could be related to the fact that they are less vulnerable, due to insurance within the household (De Nardi et al., 2021). Interestingly, widows, but not widowers, are remarkably tolerant of inequality: their average Gini is 0.3 standard deviation larger than those who have never been married. Household income does not predict Ginis significantly.

As was the case for the tendency to change the current distribution, controlling for political views does not change the estimates for the equation explaining Ginis. Moreover, both dimensions of politics do predict preferred inequality. The difference between the two sides of the political spectrum is 0.42 standard deviation. Attitudes toward foreigners also predicts Ginis, that is, those who think there are too many foreigners in the country prefer less equal distributions.

The final two columns in Table 4 report the same regressions for the subsample of respondents who change at least one tax rate. Most demographics are no longer significant once the sample is limited in this way. Age is an exception in this regard: older individuals prefer less inequality. Among those who change at least one tax rate, the top tertile of net household income prefers more inequality (the difference is large at 0.3 standard deviation). While differences across the left–right political spectrum are highly significant and of a similar magnitude to those observed in the full sample, attitudes toward foreigners do not have additional explanatory power. Appendix K shows that the results are robust to taking the log of the Gini, or using the income ratio Q5/Q1 as an alternative measure of inequality.

Previous work on attitudes toward income redistribution found that the perceived importance of luck and effort as drivers of economic success is a significant predictor. Specifically, those who think success is primarily based on luck tend to view redistribution more favorably. However, our data shows no evidence for such a pattern: the relative importance of luck and skill is insignificant in all the models (see Appendix L, Tables L1 and L2).

Appendix M contains analyses that relate respondents' ranks in the sample distribution of personal income to the tax rates chosen for the bottom four income quintiles (Tables M1 and M2). The models in Table M1 show that most income groups do not choose systematically different tax rates for their own quintile. In fact, only the bottom income quintile sets their own tax rate 1.5 pp lower on average when they implement a change. Conversely, they are 6 pp less likely to change the tax rate of the first income quintile than respondents in the other income groups. Table M2 illustrates that the top two quintiles deviate from the current distribution relatively often across the board: relative to the bottom quintile, they are 6–10 pp more likely to change any of the tax rates. Furthermore, they set 1–3 pp higher tax rates on average for the bottom two income quintiles when they do implement changes. Overall, Appendix M does not suggest that that most people systematically set different tax rates for themselves or for the quintiles either directly below or above theirs. This may stem from the fact that, unlike Fisman et al. (2021), the question did not alert respondents to their own position in the distribution. However, the top 40% of personal income do tend to impose higher taxes on the bottom 40% compared to poorer individuals.

4.5. Information experiment

Given that information experiments have recently emerged as an expedient approach through which to investigate the drivers

Table 4
Covariates of preferences for redistribution.

	Dummy dependent variable: I{changed at least 1 tax rate}			Dependent variable: standardized Gini ^a		
	All obs.	All obs.	All obs.	All obs.	If change	If change
Elasticity 0.35	−0.0319* (0.0171)	−0.0316* (0.0169)	0.0206 (0.0344)	0.0207 (0.0338)	−0.0613 (0.0501)	−0.0638 (0.0494)
Info: deadweight loss	−0.00773 (0.0210)	−0.00686 (0.0209)	0.0700* (0.0425)	0.0645 (0.0420)	0.108* (0.0599)	0.107* (0.0595)
Info: income source	−0.0574*** (0.0210)	−0.0545*** (0.0209)	0.0853* (0.0435)	0.0765* (0.0430)	0.00557 (0.0635)	−0.00279 (0.0625)
Female	−0.0115 (0.0178)	−0.0232 (0.0179)	−0.0371 (0.0365)	−0.00819 (0.0363)	−0.0994* (0.0532)	−0.0650 (0.0529)
Age	0.00133 (0.000997)	0.00107 (0.000986)	−0.00710*** (0.00196)	−0.00639*** (0.00190)	−0.0114*** (0.00290)	−0.0103*** (0.00283)
Lives w partner	−0.0420 (0.0334)	−0.0381 (0.0327)	0.149** (0.0655)	0.144** (0.0636)	0.124 (0.1000)	0.144 (0.0980)
No. children	−0.0118 (0.0115)	−0.0113 (0.0114)	0.0231 (0.0210)	0.0210 (0.0202)	0.0221 (0.0343)	0.0197 (0.0329)
Homeowner	0.0377 (0.0231)	0.0488** (0.0228)	−0.0143 (0.0474)	−0.0471 (0.0467)	0.0959 (0.0682)	0.0542 (0.0679)
<u>Civil status (baseline: never married)</u>						
Married	−0.0395 (0.0324)	−0.0304 (0.0319)	−0.0147 (0.0599)	−0.0379 (0.0573)	−0.0950 (0.0910)	−0.135 (0.0870)
Separated	−0.0187 (0.0336)	−0.0135 (0.0331)	0.0109 (0.0702)	−0.00139 (0.0685)	9.99e−05 (0.0974)	−0.0160 (0.0959)
Widow	−0.0252 (0.0585)	−0.00101 (0.0577)	−0.0648 (0.142)	−0.122 (0.140)	−0.146 (0.179)	−0.189 (0.180)
Female × widow	−0.160** (0.0657)	−0.163** (0.0650)	0.357** (0.159)	0.353** (0.158)	0.122 (0.223)	0.0918 (0.225)
<u>Primary activity (baseline: salary worker)</u>						
Self-employed	−0.0219 (0.0383)	−0.0179 (0.0375)	0.0270 (0.0714)	0.00891 (0.0685)	0.0479 (0.113)	0.0455 (0.110)
Unemployed	0.100* (0.0605)	0.0815 (0.0603)	−0.271** (0.132)	−0.223* (0.131)	−0.203 (0.170)	−0.164 (0.169)
Homemaker	0.111*** (0.0379)	0.110*** (0.0377)	−0.151* (0.0814)	−0.150* (0.0800)	0.000612 (0.115)	−0.00178 (0.113)
Retired	0.0825*** (0.0306)	0.0772** (0.0303)	−0.0993 (0.0621)	−0.0896 (0.0612)	0.0363 (0.0819)	0.0469 (0.0808)
Disabled	0.0124 (0.0460)	−0.00431 (0.0460)	0.0645 (0.0866)	0.108 (0.0867)	0.160 (0.140)	0.187 (0.140)
Volunteer	0.0387 (0.0599)	0.0330 (0.0598)	0.0683 (0.132)	0.0814 (0.133)	0.220 (0.210)	0.224 (0.212)
Other	0.0146 (0.0683)	−0.00431 (0.0663)	−0.0985 (0.147)	−0.0463 (0.139)	−0.185 (0.210)	−0.124 (0.197)
<u>Education (baseline: lower secondary)</u>						
Educ.: vocational	0.0866*** (0.0244)	0.0720*** (0.0244)	−0.0737 (0.0503)	−0.0413 (0.0502)	0.112 (0.0786)	0.138* (0.0790)
Educ.: university	0.185*** (0.0248)	0.147*** (0.0255)	−0.205*** (0.0516)	−0.124** (0.0511)	0.0904 (0.0788)	0.160** (0.0794)
Educ.: other	−0.0280 (0.0619)	−0.0397 (0.0616)	0.135 (0.136)	0.155 (0.137)	0.161 (0.248)	0.156 (0.252)
<u>Tertiles of net household income (baseline: <2250 euro/month)</u>						
2250–3500	0.0700*** (0.0253)	0.0725*** (0.0250)	−0.0724 (0.0537)	−0.0863 (0.0530)	0.0748 (0.0729)	0.0357 (0.0733)
≥ 3500	0.0528* (0.0298)	0.0555* (0.0296)	0.0716 (0.0594)	0.0503 (0.0588)	0.303*** (0.0818)	0.259*** (0.0825)
<u>Political orientation (baseline: left)</u>						
Center		−0.0969*** (0.0223)		0.313*** (0.0474)		0.305*** (0.0611)
Right		−0.126*** (0.0250)		0.417*** (0.0514)		0.446*** (0.0701)
<u>Attitude to foreigners (baseline: does NOT think there are too many foreigners in NL)</u>						
Neutral		−0.0508** (0.0220)		0.0702 (0.0434)		0.0202 (0.0590)
Too many		−0.0834*** (0.0246)		0.106** (0.0465)		−0.00739 (0.0686)
Constant	0.331*** (0.0598)	0.482*** (0.0630)	0.368*** (0.118)	6.08e−05 (0.122)	−0.342* (0.184)	−0.645*** (0.189)
Observations	3,274	3,274	3,274	3,274	1,671	1,671
R-squared	0.045	0.063	0.039	0.070	0.077	0.104

Robust standard errors in parentheses (clustered at household level, 2662 clusters for the full sample and 1445 clusters for sample that changes at least one tax rate).

*** p < 0.01, ** p < 0.05, * p < 0.1.

^a Gini coefficients are standardized based on the mean and standard deviation in the full sample of 3964 distributions constructed by survey respondents.

of preferences for redistribution, we conclude this section with an illustration of the possibilities of running such experiments on the new survey item. Two-thirds of the respondents were randomly assigned to two information treatments. As explained in Section 2.2, these groups received information regarding either the deadweight loss of taxation or the most important income sources across the distribution of after-tax income.

Table 5 indicates that both treatments significantly affect the distributions constructed by the respondents, albeit in different ways. Panel a shows that being provided with information on the primary income source for different quintiles makes the respondents 5 pp more likely to stick with the current situation, on a baseline of 49%. This increased support for the current distribution corresponds to a 5 pp reduction in terms of the proportion of the respondents that construct a more equal income distribution. Separate models for each quintile show that the effect is significantly stronger for the bottom quintile than it is for the other three quintiles (see Appendix N, Table N1). When comparing the income sources of the lowest income quintile with the other groups, the main difference is the much higher prevalence of unemployment and welfare benefits. These benefits are taxed in the Netherlands, so the tax rate imposed on the bottom quintile applies equally to welfare recipients as well as others in that group. Perhaps the realization that these benefits are the primary source of income for 24% of the poorest households, in comparison to no more than 2% in the other quintiles, reduced the willingness to redistribute income to the bottom income quintile.

Panel a of Table 5 also shows that providing information on efficiency costs does not cause respondents to deviate from the status quo at a significantly different rate. Nonetheless, panel b indicates that both treatments make the optimal income distributions significantly more unequal: the resulting Gini coefficients are 0.08–0.09 standard deviation higher on average compared to those who received no additional information. This suggests that information on the deadweight loss affects the magnitude rather than the prevalence of deviations from the status quo. Indeed, the treatment focused on efficiency costs increases the Gini by 0.15 standard

deviation among those who deviate from the status quo, while the 'income source'-treatment is not significant in that subsample. The rightmost columns in panel 5b confirm the different effects of the information treatments on the amount of redistribution relative to the current distribution. Both types of information lead respondents to redistribute 27 euros less on average, compared to a baseline of 240 euros. Among those who opt to change the distribution, the deadweight loss treatment lowers the amount redistributed by 48 euros while the effect of the income source treatment is an insignificant 5 euros. Appendix N corroborates this pattern for the Q5/Q1 measure of inequality. Interactions between the elasticity of 0.35 and the information treatments are both jointly and individually insignificant in all of the models reported in Table 5 (estimates in the online Appendix OA3). One could analyze a wider range of elasticities to increase the statistical power to find interactions, or alternatively rely on a within-subject design.⁸

The data do not indicate effect heterogeneity of the information treatments across demographics, political views or attitudes toward income differences elicited prior to the survey. In particular, the effects of the information treatments do not vary significantly with income, education, either dimension of political attitudes, or the importance of luck and skill in determining economic success.

5. Conclusion

Attitudes toward income inequality and redistribution play an important role in political economy and public economics, because they relate to key issues such as widening inequality (Kuziemko et al., 2015), immigration (Alesina et al., 2020, 2022) and intergenerational mobility (Alesina et al., 2018). Existing work typically measures such attitudes in one of three ways: as a single qualitative (Likert) scale; by combining multiple quantitative and qualitative survey items on taxation and welfare programs into a single index; or through conducting an experiment in which participants either set taxes or divide pay-outs between other players (see Appendix A for examples of each of these approaches).

Table 5
Effect of information treatments on preferred income distributions.

a. Dependent variables: deviations relative to status quo				
	Dummy: I{Any change}	Lower Gini	Multinomial logit Gini unchanged	Higher Gini
Baseline probs ^a		0.46 (0.0162)	0.49 (0.0163)	0.04 (0.00676)
Elasticity 0.35	−0.0246 (0.0158)	−0.0221 (0.0159)	0.0248 (0.0159)	−0.00266 (0.00650)
Info: deadweight loss	−0.00711 (0.0195)	−0.00524 (0.0194)	0.00712 (0.0195)	−0.00188 (0.00784)
Info: income source	−0.0520*** (0.0195)	−0.0465** (0.0193)	0.0521*** (0.0195)	−0.00567 (0.00754)
Constant	0.505*** (0.0162)			
Observations	3,964		3,964	
b. Dependent variables: preferred inequality and amount redistributed				
	Standardized Gini ^b		Amount redistributed (eu/mth)	
	All obs.	If change	All obs.	If change
Elasticity 0.35	−0.00467 (0.0318)	−0.112** (0.0497)	−18.45** (8.925)	−15.17 (11.44)
Info: deadweight loss	0.0789** (0.0390)	0.145** (0.0589)	−26.78** (11.01)	−47.94*** (14.04)
Info: income source	0.0859** (0.0401)	0.0325 (0.0632)	−26.60** (11.39)	−4.63 (14.62)
Constant	−0.0535 (0.0331)	−0.719*** (0.0493)	240.4*** (9.599)	476.1*** (11.72)
Observations	3,964	1,876	3,964	1,876

Robust standard errors in parentheses, clustered at household level (3141 clusters, 1614 in the sample that changed at least one tax rate).

*** p < 0.01, ** p < 0.05, * p < 0.1.

^a Predicted probability for elasticity 0.25 and no additional information based on the multinomial logit model in panel a.

^b Gini coefficients are standardized based on the mean and standard deviation in the full sample of 3964 distributions constructed by survey respondents.

In this paper we propose a new survey question that measures attitudes quantitatively. Respondents manipulate the current income distribution by changing tax rates for the bottom four income quintiles. Taxes for the fifth quintile adjust automatically in order to keep total revenues constant, taking into account behavioral responses to tax changes (for example, labor supply adjustments and tax evasion). Hence, respondents are faced with realistic trade-offs. The resulting distributions can then be used to calculate their preferred level of inequality, by means of, for instance, the Gini coefficient or the ratios of average after-tax incomes in different quintiles.

The new measure presents several advantages. The optimal distributions yield measures of inequality that are comparable between respondents and have clear interpretations. The question also helps respondents by presenting the status quo as the benchmark. As a result, the responses are not affected by variation in perceptions of the current situation. The question elicits desired levels of incomes and taxes rather than deviations from the status quo, which respondents may find easier to understand. The survey item updates numerical and graphical depictions of the income distribution after every subsequent change to the taxes. Previous research emphasizes that such interactivity increases engagement and enhances the data quality (Kuziemko et al., 2015). The new question yields rich data on the distributions that panel members prefer, in turn, affording researchers the freedom to either compute overall measures of preferred inequality or hone in on certain regions of the income distribution. Moreover, while qualitative measures typically conflate the issues of redistribution and social insurance (Alesina and Giuliano, 2011), the new measure focuses on income tax which is primarily redistributive. It keeps the government budget fixed. Furthermore, the question combines outcomes (the income distribution) and policy instruments (taxes), thus bridging the disconnect found in Kuziemko et al. (2015) as well as emphasizing the fact that redistribution towards one group entails costs for another. We model these trade-offs using recent research on the tax elasticity of taxable income, in order to incorporate realistic responses to tax changes (Saez et al., 2012, reviews this literature). Finally, it explicitly refers to the income distribution among the population at large, which enhances the external validity compared to the more artificial settings provided by experiments.

Data were collected in the LISS-panel, a representative household panel from the Dutch population. According to desired Gini coefficients computed from the new data, respondents are relatively evenly split between the current distribution and preferring greater equality. Five per cent of the sample prefers less equality, yet virtually nobody moves beyond a flat rate to implement regressive taxes. Income ratios show more widespread support for additional redistribution in the top rather than the bottom half of the income distribution: while around 40% of respondents reduce the ratio of income in the fifth quintile compared to the third, only 30% of respondents lower the ratio Q3/Q1. In comparison to a qualitative Likert scale, the new measures show less support for additional redistribution (under 50% of the respondents compared with two-thirds) and more support for the status quo (under 50% of the respondents compared with one-third). This difference between the Likert scale and the new measures is driven by self-reported left-wingers and moderates. In line with Nathan et al. (2022), the gap in redistributive preferences between those on the left and right of the political spectrum is much larger on the broad and vague Likert scale than it is on the new measures that are more concrete and specify the policy via which redistribution is to be achieved.

While significant and positive, the correlations between the new data and the qualitative scale are low at 0.13–0.19 (the year-over-year correlation between consecutive Likert scales is

around 0.64). Self-reported difficulties with the survey do not account for the inconsistencies between the two, thus suggesting that the inconsistencies do not primarily reflect measurement error. Indeed, the preferred level of inequality deriving from the new question predicted voting behavior in the 2021 Dutch parliamentary election, even when controlling for demographics and the qualitative scale. This indicates that the new survey item provides relevant information that is complementary to the conventional Likert scale in terms of predicting voting.

Finally, two information treatments illustrate how the new item can be used to carry out survey experiments, which is a prominent research design in the literature. Information on the most important income sources by quintile makes people 5 pp less likely to construct a more equal distribution and more likely to remain with the status quo. Further analysis reveals that this is primarily driven by the bottom quintile, which relies much more heavily on government transfers compared to the others. Information on efficiency costs of tax changes that result from the adjustment of before-tax income does not affect the tendency to deviate from the status quo, but it does reduce the amount redistributed by 10% among those who do deviate.

In terms of future research, it would be interesting to investigate the impact of various design choices on the responses. Three elements that may be relevant are how the status quo is presented, the use of the top quintile to settle the government budget, and the restriction that taxes are set in increments of five percentage points. Future work could use randomized survey experiments to see whether these features systematically affect the data. The online supplementary material can help researchers conduct such work by providing code that implements the algorithm that forms the basis of this paper. In particular, we provide computer code that is sufficiently flexible to allow for integer tax rates, rather than set taxes on a grid with a resolution of five percentage points. It also allows researchers to choose any income group as the one for which taxes automatically adjust in order to keep tax revenues fixed.

The overall message is that, depending on the goal, an appropriate method should be chosen to measure preferences for redistribution. We propose a new quantitative survey item, which we believe has important advantages over qualitative scales, including, among other things, interpretability and interpersonal comparability. A single scale may yield a broad measure of gut-feelings, while a more elaborate one is likely to reflect a more reasoned response toward a policy instrument such as income tax. The question as to which of these is ultimately the most relevant depends on the specific question to be addressed.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Measurement of preferences for redistribution

Table A1

Table A1
Measurement of preferences for redistribution.

Study	Measure ^a	Sample
Ravallion and Lokshin (2000)	Do you agree or disagree that the government must restrict the income of the rich? [Agree/Disagree]	Russian Longitudinal Monitoring Survey
Luttmer (2001)	We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money on it, or about the right amount. Issue: <i>welfare</i>. [Too much/Too little/About right]	General Social Survey
Fong (2001)	- People feel differently about how far a government should go. Here is a phrase which some people believe in and some don't. Do you think our government should or should not redistribute wealth by heavy taxes on the rich? [Agree/Disagree] - Some people feel that (1) the government in Washington, DC should make every possible effort to improve the social and economic position of the poor. Others feel that (2) the government should not make any special effort to help the poor, because they should help themselves. How do you feel about this? [(1)/(2)] - Which of the following groups do you think has the greatest responsibility for helping the poor: churches, private charities, the government, the families and relatives of poor people, the poor themselves, or someone else? [Other group/Poor themselves] - Do you feel that the distribution of money and wealth in this country today is fair, or do you feel that the money and wealth in this country should be more evenly distributed among a larger percentage of the people? [Fair/Should be more even] - Do you think that the fact that some people in the United States are rich and others are poor (1) represents a problem that needs to be fixed, or (2) is an acceptable part of our economic system? [(1)/(2)]	Gallup Poll Social Audit Survey
Corneo (2001)	It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes. [(1) Strongly agree, ..., (5) Strongly disagree]	International Social Survey Program
Corneo and Grüner (2002)	It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes. [(1) Strongly agree, ..., (5) Strongly disagree]	International Social Survey Program
Checchi and Filippin (2004) Alesina and La Ferrara (2005)	☆ Experimental: tax rate over future income chosen by experimental subjects. - The government should reduce income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor. [(1) Completely agree, ..., (7) Completely disagree]	Collected by authors General Social Survey
Bernasconi (2006)	- Generally, how would you describe taxes in [respondent's country] today? We mean all taxes together, including national insurance, income tax, VAT, and all the rest. [(1) Much too high, ..., (5) Much too low] - For those with high/middle/low incomes, are taxes... [(1) Much too high, ..., (5) Much too low]	International Social Survey Program
Osberg and Smeeding (2006)	- Do you think income differences in your country are too large? [(1) Strongly agree, ..., (5) Strongly disagree] ☆ Gini coefficients based on salaries that people in different occupations <u>do</u> earn and <u>should</u> earn (min. 7 and max. 9 occupations).	International Social Survey Program
Tyran and Sausgruber (2006)	☆ Experimental: votes on proposal to redistribute payoff from 'rich' participant to 'poor' participant	Collected by authors
Rainer and Siedler (2008)	- What do you think: is the amount of taxes paid by an unskilled worker in Germany (1) too much compared to other groups, (2) too little, or (3) exactly appropriate? [(1)/(2)/(3)] - And what do you think about the taxes paid by a manager on the board of directors of a large company? Does he or she pay (1) too much, (2) too little, or (3) an exactly appropriate amount in taxes compared to the other groups? [(1)/(2)/(3)]	German Socio-Economic Panel
Singhal (2008)	☆ Amount paid in taxes for income levels (\$/yr) equal to 1, 2, 4, 8 times the national average.	International Social Survey Program
Murthi and Tiongson (2009)	'Incomes should be made more equal' (1) versus 'Income differences should be larger to provide incentives for individual effort' (10) [(1), ..., (10)]	World Values Survey
Shayo (2009)	'Incomes should be made more equal' (1) versus 'Income differences should be larger to provide incentives for individual effort' (10) [(1), ..., (10)]	World Values Survey
Klor and Shayo (2010) Alesina and Giuliano (2011)	☆ Experimental: linear tax plus lump-sum redistribution scheme. - Some people think that the government in Washington should do everything to improve the standard of living of all poor Americans (they are at point 1 on this card). Other people think it is not the government's responsibility, and that each person should take care of himself (they are at point 5). Where are you placing yourself on this scale? [(1), ..., (5)] 'People should take more responsibility to provide for themselves' (1) versus 'The government should take more responsibility to ensure that everyone is provided for' (10). [(1), ..., (10)]	Collected by authors General Social Survey
Luttmer and Singhal (2011)	The government should take measures to reduce differences in income levels. [(1) Strongly agree, ..., (5) Strongly disagree]	European Social Survey
Norton and Ariely (2011)	☆ Division of total stock of wealth across five quintiles.	Collected by authors

(continued on next page)

Table A1 (continued)

Study	Measure ^a	Sample
Höchtel et al. (2012)	☆ Experimental: redistribution of income between low and high-income groups [3 levels]	Collected by authors
Dahlberg et al. (2012)	● What do you think of the following proposal: "The level of social benefits should be decreased." [(1) Very bad idea, ..., (5) Very good idea]	Swedish National Election Studies Program
Yamamura (2012)	● Agreement with 'It is the responsibility of the government to reduce the differences in income between families with high incomes and those with low incomes.' [(1) Strongly disagree, ..., (5) Strongly agree]	Japanese General Social Survey
Cruces et al. (2013)	● Do you think that the government should help poor people by giving them money/food/a job? [Yes/No; 3 answers]	Survey on Distributional Perceptions and Redistribution
Cojocaru (2014)	● The gap between rich and poor in our country should be reduced [(1) Strongly disagree, ..., (5) Strongly agree]	Life in Transition Survey
Durante et al. (2014)	☆ Experimental: uniform tax rate imposed on a group of 21 subjects with incomes that proportionally mimic the U.S. income distribution	Undergraduate students at Brown University
Yamamura (2014)	● Agreement with 'It is the responsibility of the government to reduce the differences in income between families with high incomes and those with low incomes.' [(1) Strongly disagree, ..., (5) Strongly agree]	Japanese General Social Survey
	● Do you think the amount of income tax you have to pay is too high? [(1) Too low, ..., (5) Too high]	
Corneo and Neher (2015)	● Agreement with <i>Incomes should be made more equal</i> (1) vs. <i>We need larger income differences as incentives</i> (10) [(1), ..., (10)]	World Values Survey and European Values Survey
Charité et al. (2015)	☆ Experimental: redistribution by social planner of unequal payoffs between two other workers.	Amazon's Mechanical Turk
Fisman et al. (2015a)	☆ Tax rate imposed on individual whose income doubles to 250,000 dollar/yr.	Amazon's Mechanical Turk
Fisman et al. (2015b)	☆ Experimental: distributions of payoff between 'self' and 'other' in 50 repeated modified dictator games with varying budgets and relative prices of redistribution. Same as Fisman et al. (2015a).	Collected by authors (students at UC Berkeley)
		Collected by authors (students at Yale Law School and UC Berkeley); American Life Panel
Kuziemko et al. (2015) ^b	● Do you think inequality is a serious problem in America? [(1) Not a problem at all, ..., (5) A very serious problem]	Amazon's Mechanical Turk
	☆ Ideal average income tax rate for top 1%. ^b	
	● Do you think the Federal Estate Tax should be decreased, left as is, or increased? [Decreased/Left as is/Increased]	
	● Do you think income taxes on millionaires should be increased, stay the same, or decreased? [Increased/Stay the same/Decreased]	
	● The minimum wage is currently \$7.25 per hour. Do you think it should be decreased, stay the same, or increased? [Decreased/Stay the same/Increased]	
Lockwood and Weinzierl (2016)	● Upper-income households pay (1) too little taxes; (2) fair share of taxes; (3) too much taxes. [(1)/(2)/(3)]	Amazon's Mechanical Turk
Fisman et al. (2017)	☆ Experimental: distributions of payoff between 'self' and 'other' in 50 repeated modified dictator games with varying budgets and relative prices of redistribution. (Same as Fisman et al., 2015a.)	American Life Panel
Karadja et al. (2017) ^c	● How much should the government influence the income distribution? [(1) Not at all, ..., (10) Full redistribution (everyone receives same income after taxes and subsidies)]	Collected by authors in cooperation with Statistics Sweden
	● Would you vote for the conservative party if elections were held today? [Yes/No]	
	● Would you like to change the income taxes that we have in Sweden today, and if so in what way? [Decrease/No change/Increase]	
Alesina et al. (2018) ^d	☆ Difference between optimal average tax rates for top 1% of incomes and bottom 50%.	Amazon's Mechanical Turk
	● Do you think inequality is serious problem in America? [(1) Not a problem at all, ..., (5) A very serious problem]	
	● How much should the government care about income inequality? [(1) Should not care at all, ..., (7) Should do everything in its power to reduce inequality]	
	● Do you favor spending more on 'schools in poor neighborhoods'/decent housing for those who cannot afford it'/income support programs for the poor'? [(1) Do not favor, ..., (5) Strongly favor; three answers]	
	☆ Shares of total government budget that should go to education, health, safety net, pensions and affordable housing.	
Cohn et al. (2019)	Same as Almás et al. (2020)	YouGov
Fehr et al. (2019)	● Now we will talk about redistribution. Redistribution of income means that the state reduces the income gap between citizens through taxes and transfers. How much redistribution of income do you want between citizens in Germany? No redistribution means that the state does not intervene in the distribution of income. Complete redistribution means that everyone earns the same amount after redistribution has been done. [(1) No redistribution, ..., (10) Complete redistribution]	German Socio-Economic Panel
Almás et al. (2020)	☆ Experimental: spectators decide redistribution of income between two workers who have been assigned unequal incomes in real effort task.	Amazon's Mechanical Turk
Fisman et al. (2020)	☆ Experimental: distributions of payoff between 'self' and 'other' in 50 repeated modified dictator games with varying budgets and relative prices of redistribution. (Same as Fisman et al., 2015a.)	American Life Panel
Alesina et al. (2021) ^e	● The government should take measures to reduce differences in income levels. [(1) Strongly agree, ..., (5) Strongly disagree]	European Social Survey
Fisman et al. (2021)	☆ Experimental: ten pairwise choices between two income distributions within experimental group that approximate the actual income distribution in the U.S.	Amazon's Mechanical Turk

Table A1 (continued)

Study	Measure ^a	Sample
Stantcheva (2021)	- Do you find the current tax system fair? [(1) Not at all, ..., (5) Completely] - Are you satisfied with the current tax system? [(1), ..., (5)] - Do you support increasing the tax to fund [specific program]?	Representative sample managed by survey company Respondi
Alesina et al. (2022) ^f	Same as Alesina et al. (2018)	Amazon's Mechanical Turk

^a • *Italics indicate a qualitative measurement*; ☆ normal font indicates quantitative measurement.

^b The surveys analyzed in this paper include a variety of related questions, such as ideal tax rates for next 9; 40; bottom 50% (total tax revenues are not constrained to be constant). The selection mentioned here is based on a) relevance to the current paper and b) centrality in Kuziemko et al. (2015). That paper does not combine different survey items related to preferences for redistribution in a single index, but analyzes the questions separately.

^c Karadja et al. (2017) analyze these items individually and construct an equally weighted index according to the methods set out in Kling et al. (2007).

^d Alesina et al. (2018) and Alesina et al. (2022) combine the different measures of preferences for redistribution into a single index using the methods set out in Kling et al. (2007).

^e Parts of the analysis in Alesina et al. (2021) use a single index, the first principal component, based on 8 qualitative questions. In addition to the scale in the table, these include 5-point scales for *small income differences are a prerequisite for a fair society*; *government should be responsible to ensure 'reasonable standard of living for the old'/'reasonable standard of living for the unemployed'/'sufficient child care services for working parents'*. Extent of agreement with *social benefits place too great strain on the economy*; *social benefits cost businesses too much in taxes and charges*; *social benefits make people lazy*.

^f Alesina et al. (2018) and Alesina et al. (2022) combine the different measures of preferences for redistribution into a single index using the methods set out in Kling et al. (2007).

Appendix B. Original Dutch text of the survey question

B.1. Baseline

Herverdeling

Tot slot willen we u vragen wat volgens u de verdeling van het besteedbaar inkomen in Nederland zou moeten zijn.

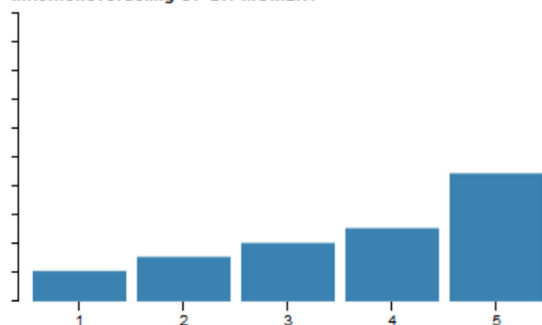
De onderstaande figuren laten de inkomensverdeling in Nederland zien. Iedereen staat op een rij van arm naar rijk. Groep 1 is de groep mensen met de laagste inkomens, groep 5 is de groep mensen met de hoogste inkomens.

In de figuur ziet u dat iemand in de armste groep gemiddeld een besteedbaar inkomen heeft van 1059 euro per persoon per maand, terwijl mensen in de rijkste groep gemiddeld een besteedbaar inkomen hebben van 4449 euro per persoon per maand (op basis van een eenpersoonshuishouden). Mensen in groep 1 betalen gemiddeld 25% van het bruto inkomen aan belasting, in groep 5 is dat 41%.

De linker figuur is ter informatie. In de rechter figuur kunt u aangeven hoe u wilt dat het inkomen verdeeld wordt.

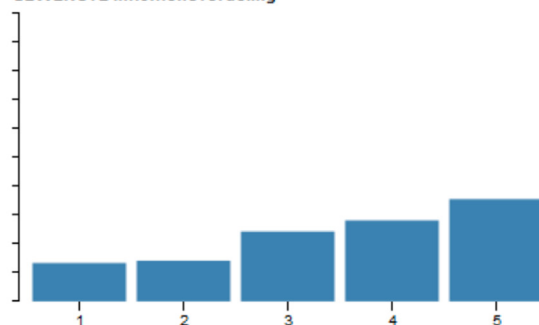
Dit werkt als volgt. U kunt de belastingen van de eerste vier inkomensgroepen verhogen of verlagen. Uw keuzes worden soms beperkt, omdat mensen in lage inkomensgroepen niet een hoger inkomen kunnen krijgen dan de mensen in de hoge inkomensgroepen. Het belastingpercentage van de rijkste groep past zich automatisch aan, zodat alle vijf groepen samen evenveel belasting betalen als nu het geval is. Eventueel kunt u terug gaan naar de beginsituatie door deze pagina te verversen/vernieuwen.

Inkomensverdeling OP DIT MOMENT



Inkomensgroep	1	2	3	4	5
Besteedbaar inkomen (mnd)	1059	1549	2029	2545	4449
Belastingdruk	25%	30%	35%	40%	41%

GEWENSTE inkomensverdeling

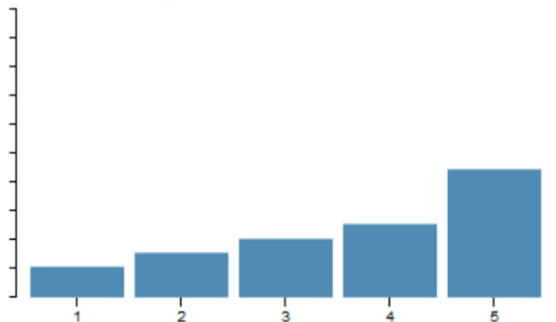


Inkomensgroep	1	2	3	4	5
Besteedbaar inkomen (mnd)	1335	1413	2430	2814	3555
Belastingdruk	10% ▼	35% ▼	25% ▼	35% ▼	51%

B.2. Info treatment: cost of redistribution

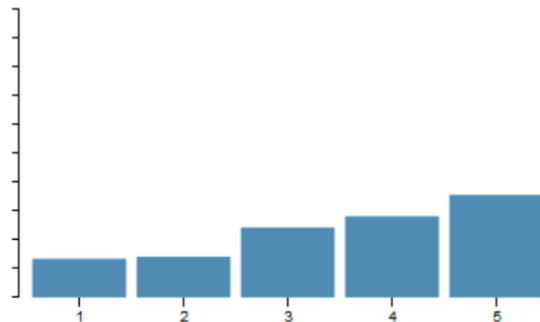
...

Inkomensverdeling OP DIT MOMENT



Inkomensgroep	1	2	3	4	5
Besteedbaar inkomen (mnd)	1059	1549	2029	2545	4449
Belastingdruk	25%	30%	35%	40%	41%

GEWENSTE inkomensverdeling



Inkomensgroep	1	2	3	4	5
Besteedbaar inkomen (mnd)	1335	1413	2430	2814	3555
Belastingdruk	10% ▼	35% ▼	25% ▼	35% ▼	51%

Bij deze keuze:

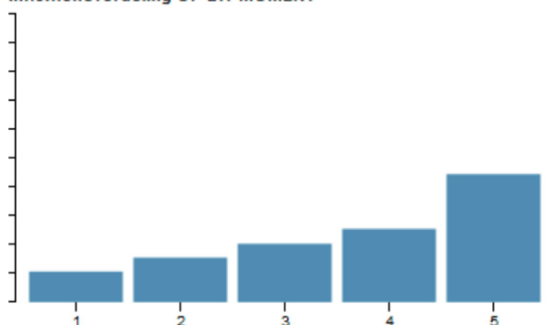
- hoeven de mensen in de groepen [1, 3 en 4] gemiddeld [246] euro **minder belasting** te betalen per persoon (als ze evenveel blijven werken).
- moeten de mensen in de groepen [2 en 5] gemiddeld [433] euro **meer belasting** betalen per persoon (als ze evenveel blijven werken).

Voor elke extra euro voor de mensen in groepen [1, 3 en 4], gaat de belasting in de groepen [2 en 5] met gemiddeld 1.17 euro per persoon omhoog. Voor elke herverdeelde euro gaat er in de groepen [2 en 5] dus **[17 cent verloren]**. Dat komt omdat mensen in de groepen 2 en 5 minder gaan werken door de hogere belastingdruk.

Let wel: de bedragen in de figuur geven het besteedbaar inkomen waarbij we **wel** rekening houden met veranderingen in het aantal uren werk. Daarom komen de getallen in de figuur niet precies overeen met bovenstaande bedragen.

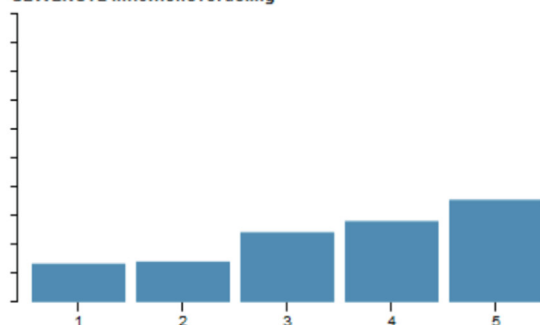
B.3. Info treatment: most important source of income

Inkomensverdeling OP DIT MOMENT



Inkomensgroep	1	2	3	4	5
Besteedbaar inkomen (mnd)	1059	1549	2029	2545	4449
Belastingdruk	25%	30%	35%	40%	41%
Belangrijkste inkomstenbron					
Werk	37%	48%	64%	74%	82%
Werkloosheid/bijstand	24%	2%	1%	1%	0%
Ziekte/AO	9%	4%	3%	1%	0%
Pensioen	22%	45%	31%	24%	17%
Overig	8%	1%	1%	0%	1%
Totaal	100%	100%	100%	100%	100%

GEWENSTE inkomensverdeling



Inkomensgroep	1	2	3	4	5
Besteedbaar inkomen (mnd)	1335	1413	2430	2814	3555
Belastingdruk	10% ▼	35% ▼	25% ▼	35% ▼	51%

Appendix C. Algorithm

As explained in the main text, the new survey question analyzed in this study allows respondents to construct their preferred distribution of after-tax incomes by changing the tax rates for the four lowest income quintiles. The tax rate for the fifth quintile is automatically adjusted to keep total tax revenue constant. The algorithm behind this adjustment takes into account labor supply responses. Moreover, it calculates lower and upper bounds for the tax rates for the bottom four quintiles such that two conditions are satisfied:

1. The logical ordering of average after-tax incomes across quintiles is preserved. In particular, after changing τ_i it must be true that $netinc'_i \geq netinc'_{i-1}$ and $netinc'_i \leq netinc'_{i+1}$. This applies to the quintile for which the tax rate is changed and to the fifth quintile, for which taxes are adjusted to keep total revenue constant.
2. There should exist a new tax rate τ_5' such that total tax revenue is constant.

This appendix explains the algorithm in detail.

The starting point is data regarding the average income before ($grossinc_i$) and after ($netinc_i$) tax for each quintile i of the distribution ($i \in \{1, 2, \dots, 5\}$). We use household income that is equalized to a one-person household; income data and equivalence scales were provided by Statistics Netherlands. Current tax rates are calculated as $\tau_i = 1 - netinc_i/grossinc_i$ and the tax collected as $taxcol_i = \tau_i \times grossinc_i$. Respondents change $\tau_1, \dots, \tau_4$ to $\tau'_1, \dots, \tau'_4$, one tax rate at a time, such that $\sum_{i=1}^5 \tau_i \times grossinc_i = \sum_{i=1}^5 \tau'_i \times grossinc'_i$. The changes from $grossinc_i$ to $grossinc'_i$ reflect behavioral adjustments, e.g. to labor supply or tax evasion.

Step 1: find the tax rate for the fifth quintile

As an example, say the respondent starts from the current distribution and changes the first tax rate τ_1 to τ'_1 . The first step is to calculate the tax rate for the fifth quintile such that total tax revenue is constant. If behavior would not adjust, the Net Income Change (NIC) for group 1 would be $NIC_1 = -1 \times (\tau'_1 - \tau_1) \times grossinc_1$. However, people do change their behavior, generating a Behavior Change (BC) equal to $BC_1 = \frac{NIC_1}{netinc_1} \times \eta$, where η is the elasticity of income with respect to taxes (respondents are randomly assigned $\eta = 0.25$ or $\eta = 0.35$). As a result, gross income changes to $grossinc'_1 = grossinc_1 \times (1 + BC_1)$. This results in a Net Income Change due to Behavior (NICB) equal to $NICB = (grossinc'_1 - grossinc_1) \times (1 - \tau'_1)$. The new after-tax income is given by $netinc'_1 = netinc_1 + NIC_1 + NICB_1$. The new tax revenue collected from the first quintile is equal to $taxcol'_1 = \tau'_1 \times grossinc'_1$.

Total tax revenue should stay constant, which means the tax revenue from the fifth quintile should be $taxcol'_5 = \sum_{i=1}^5 \tau_i \times grossinc_i - \sum_{i=1}^4 \tau'_i \times grossinc'_i$. In order to find this, note that we can apply the same logic used for quintile 1 in reverse:

$$\begin{aligned} \tau_5' \times grossinc_5(\tau_5') &= taxcol'_5 \\ \tau_5' &= \frac{taxcol'_5}{grossinc_5(\tau_5')} = \frac{taxcol'_5}{grossinc_5 \times (1 + BC_5(\tau_5'))} \\ &= \frac{taxcol'_5}{grossinc_5 \times \left(1 + \left(\frac{NIC_5(\tau_5')}{netinc_5} \times \eta\right)\right)} \\ &= \frac{taxcol'_5}{grossinc_5 \times \left(1 + \left(\frac{-1 \times (\tau_5' - \tau_5) \times grossinc_5}{netinc_5} \times \eta\right)\right)} \end{aligned}$$

We set τ_5' such that

$$\tau_5' = f(\tau_5') = \frac{taxcol'_5}{grossinc_5 \times \left(1 + \left(\frac{-1 \times (\tau_5' - \tau_5) \times grossinc_5}{netinc_5} \times \eta\right)\right)}$$

In words: we set the new tax rate such that the amount collected is exactly equal to that required to keep revenues constant, taking into account that changing taxes to τ_5' will change $grossinc_5$ to $grossinc_5(\tau_5')$. Though the equation above is quadratic in τ_5' and thus can be solved analytically, in our code we approximate the solution to $\tau_5' = f(\tau_5')$ by discretization of τ_5' on a grid that runs from zero to one in 10,000 steps. The second step of the algorithm, explained below, computes bounds on tax rates $\tau_1, \dots, \tau_4$ that guarantee the existence of exactly one solution to the equation above for $\tau_5' \in [0, 1]$.

The costs of redistribution are computed from the hypothetical total positive and negative amounts redistributed in absence of behavioral changes. Define the total positive redistribution if there would be no behavioral responses as $TOTpositive = \sum_{i=1}^5 \max\{0, NIC_i\}$. Analogously, define the total negative redistribution as $TOTnegative = \sum_{i=1}^5 \min\{0, NIC_i\}$. The costs of redistribution per euro handed out are equal to $Z = \frac{|TOTnegative|}{TOTpositive}$. Similarly, the hypothetical tax changes per person are given by $PPpositive = \frac{TOTpositive}{\sum_{i=1}^5 \mathbb{I}\{NIC_i > 0\}}$ and $PPnegative = \frac{TOTnegative}{\sum_{i=1}^5 \mathbb{I}\{NIC_i < 0\}}$, where $\mathbb{I}\{\cdot\}$ is an indicator function equal to one if the argument in curly brackets is true and zero otherwise.

Step 2: construct bounds for tax rates of quintiles one to four

For any combination of tax rates $\tau_1, \dots, \tau_5$, we calculate the bounds between which each tax τ_i must fall in order to preserve the logical ordering of average after-tax incomes across quintiles. For each quintile $i \in \{2, \dots, 5\}$, the upper bound on taxes is given by the condition that $netinc_i \geq netinc_{i-1}$. Take quintile 2 as an example. Analogously to the discussion above, the after-tax income of quintile 2 as a function of the tax rate τ_2' is given by

$$\begin{aligned} netinc_2(\tau_2') &= netinc_2 + NIC_2 + NICB_2 \\ &= netinc_2 + [-1 \times (\tau_2' - \tau_2) \times grossinc_2] \\ &\quad + [(grossinc_2' - grossinc_2) \times (1 - \tau_2')] \\ &= netinc_2 + [-1 \times (\tau_2' - \tau_2) \times grossinc_2] \\ &\quad + \left[\left(grossinc_2 \times \left(1 + \frac{-1 \times (\tau_2' - \tau_2) \times grossinc_2}{netinc_2} \times \eta\right) - grossinc_2\right) \times (1 - \tau_2')\right] \end{aligned}$$

The maximum tax rate $\tau_2^{\max}$ under the constraint that $netinc_2' \geq netinc_1$ is given by

$$\begin{aligned} netinc_1 &= netinc_2 + [-1 \times (\tau_2^{\max} - \tau_2) \times grossinc_2] \\ &\quad + \left[\left(grossinc_2 \times \left(1 + \frac{-1 \times (\tau_2^{\max} - \tau_2) \times grossinc_2}{netinc_2} \times \eta\right) - grossinc_2\right) \times (1 - \tau_2^{\max})\right] \end{aligned}$$

This upper bound is found by means of a grid search across 10,000 values of τ_2' ranging from zero to one.

Similarly, there are two lower bounds that are potentially relevant for τ_2 . The first is given by the fact that $netinc_2 \leq netinc_3$. This lower bound $\tau_2^{\min,1}$ is implicitly defined by

$$\begin{aligned} netinc_3 &= netinc_2 + [-1 \times (\tau_2^{\min,1} - \tau_2) \times grossinc_2] \\ &\quad + \left[\left(grossinc_2 \times \left(1 + \frac{-1 \times (\tau_2^{\min,1} - \tau_2) \times grossinc_2}{netinc_2} \times \eta\right) - grossinc_2\right) \times (1 - \tau_2^{\min,1})\right] \end{aligned}$$

Again, a grid search across 10,000 values of τ_2 is used to locate $\tau_2^{\min,1}$.

The second lower bound results from the fact that taxes on quintile 2 can never be so low that the resulting increase in taxes for the 5th quintile reduces its average income below that of quintile 4. This lower bound is calculated in two steps. First, we calculate the tax rate for the 5th quintile required to keep tax revenues constant for each rate τ_2 on a fine grid. In the second step we check whether each of those tax rates would be compatible with the condition that $netinc_5 \geq netinc_4$.

In particular, for each τ_2 on a grid of 10,000 values we calculate $grossinc_2$ using the procedure described for $grossinc_1$ in step one above. The result is 10,000 values of $taxcol_2$, each of which implies that $taxcol_5 = \sum_{i=1}^5 \tau_i \times grossinc_i - \sum_{i=1}^4 \tau_i \times grossinc_i$. One could do the same grid search described in step 1 again and approximate τ_5 10,000 times. However, to save time we solved the equation analytically:

$$\begin{aligned}\tau_5 &= \frac{taxcol_5}{grossinc_5 \times \left(1 + \left(\frac{-1 \times (\tau_5 - \tau_6) \times grossinc_5}{netinc_5} \times \eta\right)\right)} \\ taxcol_5 &= \tau_5 \times grossinc_5 \times \left(1 + \left(\frac{-1 \times (\tau_5 - \tau_6) \times grossinc_5}{netinc_5} \times \eta\right)\right) \\ taxcol_5 &= \tau_5 \times grossinc_5 - \frac{grossinc_5^2 \times \eta}{netinc_5} \times \tau_5^2 + \frac{\tau_5 \times grossinc_5^2 \times \eta}{netinc_5} \times \tau_5 \\ 0 &= -\frac{grossinc_5^2 \times \eta}{netinc_5} \times \tau_5^2 + \left(grossinc_5 + \frac{\tau_5 \times grossinc_5^2 \times \eta}{netinc_5}\right) \\ &\quad \times \tau_5 - taxcol_5\end{aligned}$$

Having solved the quadratic equation above for each of 10,000 values for τ_2 , and thus obtained a grid of τ_5 , we calculate $netinc_5(\tau_5)$ for each one and locate the value for $\tau_2^{\min,2}$ at which $netinc_5 = netinc_4$. Combining the two lower bounds on τ_2 , the final bound is given by $\tau_2^{\min} = \max\{\tau_2^{\min,1}, \tau_2^{\min,2}\}$.

Starting from a complete grid $\{0, 0.05, 0.10, 0.15, \dots, 0.9, 0.95, 1\}$ for the tax rates for quintiles 1 through 4, we eliminate those combinations for which at least one tax rate is outside the bounds $[\tau_i^{\min}, \tau_i^{\max}]$ as computed above. This automatically drops all combinations of taxes for which it is impossible to raise τ_5 enough to generate constant tax revenue. Eliminating combinations of tax rates this way results in a substantial reduction in the number of possible combinations, which drops from $21^4 = 194,481$ to 16,449 for $\eta = 0.25$ and 14,124 for $\eta = 0.35$.

The lower and upper bounds on tax rates are also used when respondents answer the question, because for any combination of tax rates each drop-down menu is restricted to values between the bounds. Moreover, since answers are provided on a scale with a resolution of 0.05, all lower bounds are rounded up to the nearest multiple of 0.05 and the upper bounds are rounded down similarly.

While the algorithm enforces that taxes on the lower four quintiles can never be so low as to reduce total tax revenue, it is possible to raise taxes on the first four quintiles to unrealistic levels such that total tax revenue increases even when the tax rate for quintile five is set to zero. Such extremely regressive tax schemes yield logically consistent income distributions in the sense that average incomes do not decrease across quintiles. While one could rule out such distributions based on the criterion that total tax revenues should be constant, or that every quintile should attain at least a minimum after-tax income, such upper bounds on taxes were not enforced. The idea was that if respondents take the exercise seriously, they would probably not impose such high tax rates that the poorer groups end up with close to zero income. This is indeed the case, since no respondent opted for a combination of taxes that results in a zero tax rate for the highest quintile. Hence, total tax revenues are constant for all preferred distributions.

The discussion above may seem to suggest that respondents were only offered a limited palette of choices. However, they did have a broad range of distributions to choose from within the constraints imposed. As an illustration of the breadth of options, Fig. C1 shows the distributions of Gini-coefficients available to respondents for each elasticity. Across all distributions that could be reached, inequality varies between a minimum Gini of 0.08 and a maximum of 0.78. The actual Gini of the status quo distribution is 0.27, so respondents were free to either reduce or increase inequality. Fig. C2 shows the income distributions that correspond to the lowest, median and highest Gini attainable for an elasticity of 0.25. The most equal distribution of after-tax income is obtained by reducing the tax rates for quintiles 1–3 to the minimum rates that result in non-decreasing incomes. In order to compensate for those reductions in taxes, the tax rate for the fifth quintile increases from 41 to 63%. On the opposite side of the spectrum, one achieves the highest level of inequality by setting taxes close to 100% for the lower four quintiles. In that scenario the tax rate for quintile 5 drops to zero. As discussed above and in the main text, respondents overwhelmingly opted to keep inequality constant or reduce it relative to the status quo. The highest levels of

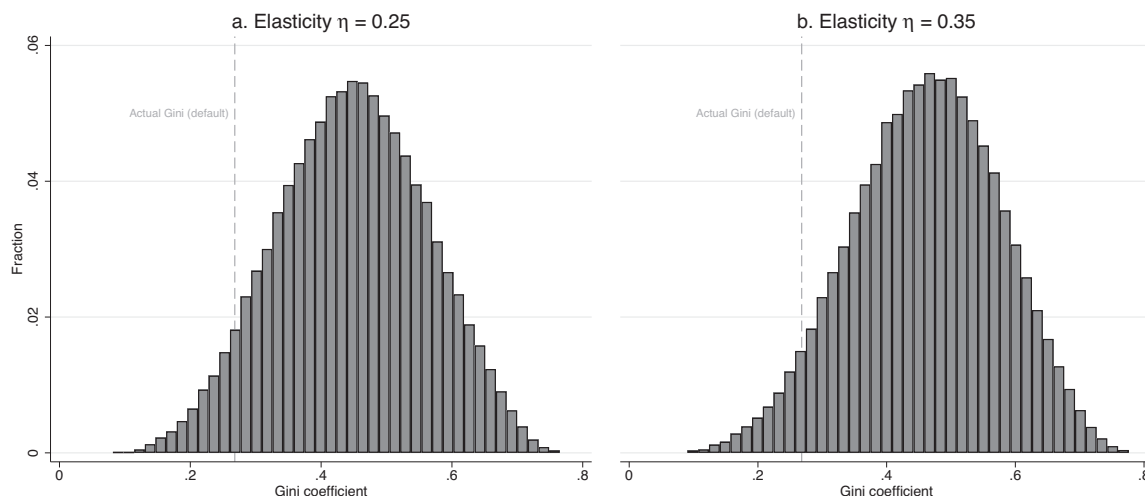


Fig. C1. GINIs for all income distributions available to respondents (16,449 GINIs for $\eta = 0.25$ and 14,124 for $\eta = 0.35$).

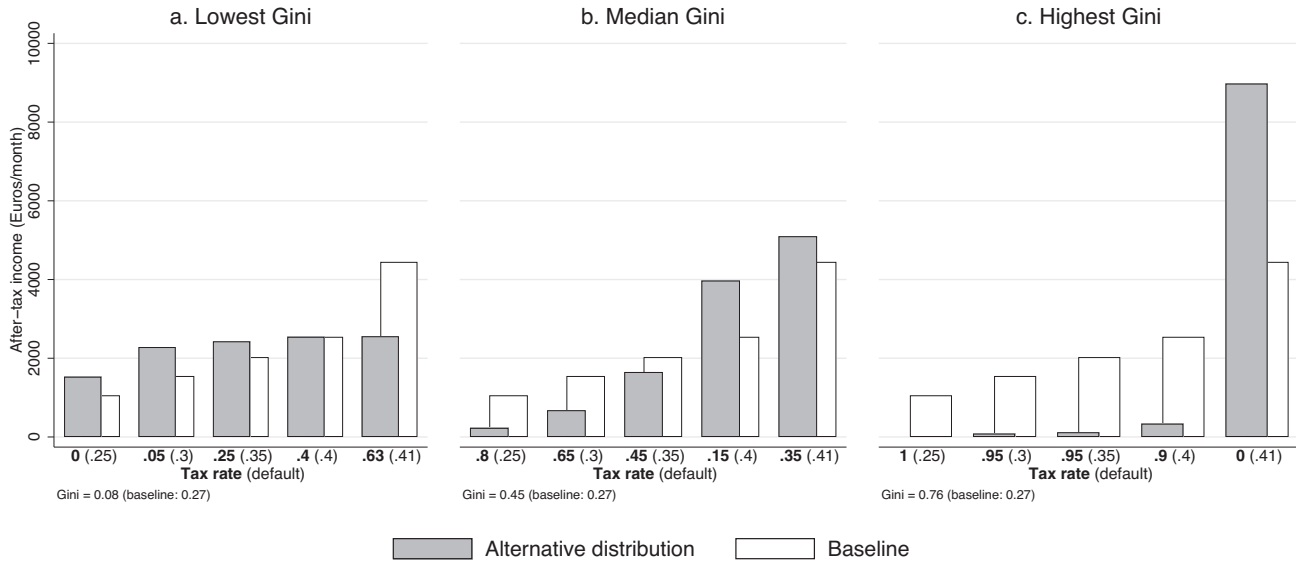


Fig. C2. Examples of distributions available to respondents ($\eta = 0.25$).

inequality that were actually chosen are those for which tax rates are close to equal across income groups, which results in Ginis around 0.3. Figs. C1 and C2 show that even such higher Ginis are substantially below the median of all that could have been chosen. Hence, preferences as elicited by the survey item were not constrained towards greater equality.

Appendix D. Survey content and routing

The survey was presented to panel members who are at least 25 years old; who are either household head or partner; and who live in households with a monthly after-tax income of at least 800 euro. These restrictions exclude students and other young respondents and are imposed because much of the survey concerns issues related to aging and retirement.

Respondents were assigned different routings through the survey depending on their age and labor market status. All employees were first asked to report their gross monthly wages and the work hours specified in their labor contract. Employees below the age of 66 then continued with a block of stated preference questions regarding flexibility in premiums for occupational pensions, which are mandatory and cover almost all employees in the Netherlands. Based on reported gross wages and hours worked, respondents

faced realistic tradeoffs between current net wages and pension income. The second, third, and fourth blocks were presented to all respondents below the age of 66 and elicited perceived expenditure needs in retirement; the expected retirement age; and attitudes to risk and planning. Block five asked all current employees, regardless of their age, about their expectations regarding unemployment and future wages. Blocks six, seven and eight were presented to all respondents aged 50 and older and concerned stated preferences for bequests; expectations regarding future limitations in Activities of Daily Living (ADLs); and one's place in the distributions of income and wealth. Block eight also included a question whether one's economic success is primarily determined by merit or by luck. Finally, block 9 was presented to all respondents and consisted of the item analyzed in this paper. Afterwards, all respondents answered five evaluation questions that the LISS attaches to each survey. These questions ask whether respondents found the questions difficult; whether they found the questions clear; whether the survey made them think; whether they found the topic interesting; and whether they enjoyed answering the questions. All evaluation questions are answered on five-point Likert scales.

Table D1 summarizes the content of the different parts of the survey and lists the additional selection criteria for those parts.

Table D1

Content of the survey.

The full sample consists of individuals who meet the following requirements:		
• Age 25 or older • Household head or partner • Net monthly household income at least 800 euro		
Part	Topic	Additional selection criteria
Preliminaries	Gross monthly wages and work hours	Employees (working for salary)
Block 1	Stated preferences for pension premiums	Employees (working for salary); age < 66
Block 2	Expenditure needs in retirement	Age < 66
Block 3	Expected retirement age	Age < 66
Block 4	Attitudes to risk and planning	Age < 66
Block 5	Expectations of unemployment and future wages	Employees (working for salary)
Block 6	Stated preferences for bequests	Age > 49
Block 7	Expectations of future ADL limitations	Age > 49
Block 8	Place in distributions of income and wealth	Age > 49
Block 9	Preferences for redistribution of income	–
Evaluation	Question difficulty; question clarity; questions made one think; topic interesting; enjoyed answering	–

Appendix E. Descriptives of background variables

Table E1 and E2

Table E1

Descriptive statistics of covariates.

	N	Sample statistics		Balance tests ^a		Population statistics ^b	
		Mean	Std. Dev.	F-stat	p-value	Mean	Std. Dev.
<u>Data collected in main survey (May/June 2018)</u>							
Female	3964	0.51	0.50	0.91	0.47	0.50 ⁱ	
Age	3964	57.1	15.6	0.34	0.89	53.0 ⁱ	
Lives with partner	3964	0.69	0.46	1.64	0.15	0.77	0.42
Homeowner	3963	0.72	0.45	2.21	0.05	0.64	0.48
Head of household	3964	0.68	0.47	0.91	0.47	0.64	0.48
Number of children	3964	0.55	0.97	0.49	0.79	0.68	1.04
Net HH income (euro/month)	3843	3069	1525	0.89	0.49	3895	2398
<u>Marital status</u>							
Married	3964	0.58	0.49	0.94	0.46	0.54 ⁱ	
Separated	3964	0.12	0.33	2.11	0.06	0.11 ⁱ	
Widow	3964	0.08	0.27	2.13	0.06	0.07 ⁱ	
Never married	3964	0.22	0.41	1.03	0.40	0.28 ⁱ	
<u>Education</u>							
Low	3964	0.25	0.43	1.01	0.41		
Middle	3964	0.32	0.47	1.46	0.20		
High	3964	0.40	0.49	0.38	0.86		
Other	3964	0.02	0.15	0.62	0.69		
<u>Primary activity</u>							
Salary worker	3964	0.43	0.49	0.13	0.99	0.49	0.50
Self-employed	3964	0.06	0.24	0.15	0.98	0.08	0.28
Unemployed	3964	0.02	0.15	1.55	0.17	0.01	0.10
Homemaker	3964	0.08	0.28	0.52	0.76		
Retired	3964	0.32	0.47	0.69	0.63	0.27	0.44
Disabled	3964	0.04	0.20	0.21	0.96	0.04	0.20
Voluntary work	3964	0.02	0.15	1.76	0.12		
Other	3964	0.02	0.13	0.74	0.60	0.10	0.31
Luck (not effort) determines success (11-pt scale) ^c	2689	5.06	2.12	0.89	0.49		
<u>Economic/political views from prior survey (January 2018)</u>							
Income differences should increase (5-pt scale)	3706	2.12	0.96	0.75	0.59		
Left – right political orientation (11-pt scale)	3391	5.13	2.29	0.19	0.97		
Too many foreigners (5-pt scale)	3797	3.07	1.07	1.33	0.25		

^a Tests the null hypothesis that all slopes are jointly zero in equation

$$y = \beta_0 + \beta_1 \mathbb{I}\{\text{elasticity} : 0.35\} + \beta_2 \mathbb{I}\{\text{info} : \text{deadweightloss}\} + \beta_3 \mathbb{I}\{\text{info} : \text{incomesources}\} + \beta_4 \mathbb{I}\{\text{elasticity} : 0.35\} \times \mathbb{I}\{\text{info} : \text{deadweightloss}\} + \beta_5 \mathbb{I}\{\text{elasticity} : 0.35\} \times \mathbb{I}\{\text{info} : \text{incomesources}\} + \varepsilon$$

^b Information for the Dutch population in 2018 has been obtained from restricted Statistics Netherlands micro data and StatLine, the public data repository of Statistics Netherlands (<https://opendata.cbs.nl/statline/#/CBS/en/>). The micro data contain records for all individuals living in the Netherlands, but only provide a limited set of socio-economic variables. In line with the selection criteria used for the survey and explained in Table D1, we select individuals who do not live in student or institutional households and who are either household head or partner. These criteria result in a population of 11.8 million individuals. Additional population means are obtained from aggregate data on StatLine and indicated with a †. The only selection criterion applied to the aggregate data is the minimum age of 25, which results in a population of 12.4 million individuals.

^c The sample size for the item on the determinants of success is smaller, because it was only presented to respondents aged 50 years or older (see Table D1).

Table E2

Descriptive statistics of attitudes to redistributive policies (elicited February 2013).

	Income tax	Transfers	Premiums health ins. and pensions	Other	Don't know
Expected measure (%)	61	10	19	4	6
Preferred measure (%)	55	12	22	5	6
Observations			1,061		

Appendix F. Response times

Table F1

Table F1

Effects of information treatments on response time in seconds (response time to the relevant question on preferred income distributions).

a. Descriptives								
	N	Mean	Std. Dev.	p10	p25	Quantiles p50	p75	p90
Response time (sec.)	3963	152	274	10	34	102	190	300
b. Regressions								
			log(time)	p10	p25	p50	p75	p90
Elasticity 0.35			−0.0442 (0.0426)	−0.122 (1.567)	0.243 (3.169)	−4.367 (4.309)	−4.084 (6.548)	−1.198 (12.053)
Info: deadweight loss			0.110** (0.0520)	0.172 (1.959)	0.046 (4.141)	13.870*** (5.246)	38.825*** (8.038)	45.698** (18.985)
Info: income source			0.0612 (0.0524)	0.022 (1.978)	−3.075 (3.930)	2.212 (5.079)	21.564*** (7.640)	27.958** (12.279)
Constant			4.275*** (0.0432)	9.512*** (1.681)	35.212*** (3.377)	99.047*** (3.888)	170.177*** (6.402)	280.219*** (9.805)
N			3963	3963	3963	3963	3963	3963

Robust standard errors in parentheses, clustered at household level (3141 clusters).

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix G. Evaluation questions

Table G1

Table G1

Evaluation questions.

a. Descriptives							
	Mean	Std. Dev.	1 (not)	2	Fraction equal to (%)		
					3	4	5 (very)
Questions difficult	3.2	1.4	19	14	19	24	24
Questions clear	3.6	1.1	5	12	26	31	26
Made you think	3.3	1.2	11	12	32	27	18
Topic interesting	3.4	1.2	9	11	30	29	21
Enjoyable to participate	3.4	1.2	8	11	34	25	21
N	3963						
b. Ordered logits							
			Difficulty	Clarity	Made think	Interesting	Enjoyable
Elasticity 0.35			0.0177 (0.0560)	0.0539 (0.0565)	0.0830 (0.0568)	0.0581 (0.0568)	0.0290 (0.0570)
Info: deadweight loss			0.159** (0.0697)	−0.0438 (0.0697)	−0.00734 (0.0714)	−0.0664 (0.0698)	−0.0300 (0.0703)
Info: income source			0.201*** (0.0702)	−0.0312 (0.0707)	0.106 (0.0684)	−0.0558 (0.0698)	−0.0553 (0.0703)
Log-likelihood			−6300.05	−5823.73	−6039.09	−6000.88	−5890.65
N			3963	3963	3963	3963	3963

Robust standard errors in parentheses, clustered at household level (3141 clusters).

Interaction terms between the higher elasticity and information treatments were not statistically significant in any of the models ($p > 0.73$ in joint tests).*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Appendix H. Descriptives by treatment

Table H1 and H2

Table H1

Descriptive statistics of preferred income distributions; elasticity = 0.25.

	Default	Mean	SD	Min	p25	Quantiles Med	p75	Max	Lower	Fraction At default	Higher
a. Treatment: baseline											
Tax rate 1	25	21	6	0	20	25	25	40	0.42	0.55	0.03
Tax rate 2	30	27	5	5	25	30	30	40	0.38	0.59	0.03
Tax rate 3	35	33	3	25	30	35	35	45	0.30	0.66	0.04
Tax rate 4	40	39	3	25	40	40	40	50	0.21	0.72	0.07
Tax rate 5	41	45	5	32	41	41	48	63	0.05	0.49	0.46
Gini index	0.27	0.24	0.04	0.08	0.21	0.27	0.27	0.33	0.47	0.48	0.05
Quantile ratio: Q5/Q1 ^a	4.2	3.7	0.7	1.7	3.2	4.2	4.2	6.2	0.48	0.48	0.04
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.1	1.7	2.2	2.2	3.1	0.46	0.48	0.06
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.2	1.8	1.9	1.9	2.8	0.31	0.51	0.18
N		659									
Amount redist. (euro/month) ^b		476	259	70	252	479	622	1223			
Cost of redist. (euro) ^{a,c}		1.28	0.21	0.93	1.20	1.23	1.29	2.14			
N		343									
b. Treatment: deadweight loss											
Tax rate 1	25	21	6	0	20	25	25	45	0.40	0.58	0.02
Tax rate 2	30	27	4	10	25	30	30	40	0.37	0.62	0.02
Tax rate 3	35	34	3	25	30	35	35	45	0.25	0.72	0.03
Tax rate 4	40	39	3	25	40	40	40	50	0.18	0.75	0.06
Tax rate 5	41	44	4	35	41	41	47	60	0.04	0.52	0.45
Gini index	0.27	0.25	0.03	0.12	0.23	0.27	0.27	0.32	0.46	0.51	0.03
Quantile ratio: Q5/Q1 ^a	4.2	3.8	0.6	2.0	3.4	4.2	4.2	6.6	0.47	0.51	0.03
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.2	1.9	2.2	2.2	3.0	0.44	0.51	0.04
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.3	1.8	1.9	1.9	2.8	0.32	0.53	0.15
N		668									
Amount redist. (euro/month) ^b		415	237	70	223	370	552	1098			
Cost of redist. (euro) ^{b,c}		1.29	0.24	0.93	1.20	1.23	1.29	2.14			
N		330									
c. Treatment: most important income sources											
Tax rate 1	25	22	6	0	20	25	25	45	0.34	0.64	0.02
Tax rate 2	30	28	5	10	25	30	30	50	0.33	0.65	0.02
Tax rate 3	35	34	3	25	30	35	35	45	0.26	0.70	0.03
Tax rate 4	40	39	3	25	40	40	40	55	0.18	0.75	0.07
Tax rate 5	41	44	5	26	41	41	47	60	0.04	0.57	0.39
Gini index	0.27	0.25	0.04	0.12	0.22	0.27	0.27	0.37	0.40	0.56	0.04
Quantile ratio: Q5/Q1 ^a	4.2	3.8	0.7	1.8	3.3	4.2	4.2	7.4	0.40	0.56	0.04
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.2	1.8	2.2	2.2	3.7	0.39	0.57	0.04
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.2	1.8	1.9	1.9	2.8	0.25	0.59	0.15
N		693									
Amount redist. (euro/month) ^b		486	266	70	252	504	622	1131			
Cost of redist. (euro) ^{b,c}		1.28	0.20	1.04	1.20	1.23	1.29	2.14			
N		307									

^a Quantile ratio Qa/Qb is the ratio of the average after-tax income in quintile a over that in quintile b . Q5/Q1 measures inequality between the highest and lowest income groups and the other two ratios measure inequality in the top and bottom half of the distribution of after-tax income.

^b Conditional on deviating from the status quo.

^c Costs in euro per euro redistributed (numbers larger than 1 indicate a deadweight loss).

Table H2

Descriptive statistics of preferred income distributions; elasticity = 0.35.

	Default	Mean	SD	Min	p25	Quantiles Med	p75	Max	Lower	Fraction At default	Higher
a. Treatment: baseline											
Tax rate 1	25	21	6	5	20	25	25	35	0.39	0.59	0.02
Tax rate 2	30	28	4	10	25	30	30	35	0.34	0.64	0.02
Tax rate 3	35	33	3	20	30	35	35	45	0.27	0.70	0.02
Tax rate 4	40	39	3	30	40	40	40	50	0.19	0.74	0.07
Tax rate 5	41	44	5	33	41	41	47	59	0.04	0.55	0.41
Gini index	0.27	0.24	0.04	0.09	0.22	0.27	0.27	0.33	0.43	0.54	0.04
Quantile ratio: Q5/Q1 ^a	4.2	3.7	0.7	1.7	3.2	4.2	4.2	6.1	0.44	0.54	0.03
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.0	1.8	2.2	2.2	3.0	0.41	0.55	0.04
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.3	1.8	1.9	1.9	2.6	0.28	0.55	0.17
N		622									
Amount redistrib. (euro/month) ^b		460	245	70	252	442	622	1041			
Cost of redistrib. (euro) ^{b,c}		1.34	0.19	0.93	1.24	1.31	1.40	2.14			
N		289									
b. Treatment: deadweight loss											
Tax rate 1	25	22	6	0	20	25	25	60	0.38	0.60	0.02
Tax rate 2	30	28	4	10	25	30	30	40	0.34	0.64	0.02
Tax rate 3	35	34	3	25	30	35	35	50	0.25	0.72	0.03
Tax rate 4	40	39	3	25	40	40	40	55	0.18	0.76	0.06
Tax rate 5	41	44	5	29	41	41	47	59	0.05	0.53	0.42
Gini index	0.27	0.24	0.04	0.09	0.22	0.27	0.27	0.35	0.43	0.52	0.05
Quantile ratio: Q5/Q1 ^a	4.2	3.8	0.7	1.7	3.3	4.2	4.2	10.8	0.44	0.52	0.04
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.0	1.8	2.2	2.2	4.0	0.42	0.53	0.05
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.1	1.8	1.9	1.9	4.3	0.25	0.56	0.19
N		674									
Amount redistrib. (euro/month) ^b		427	243	70	213	364	552	1041			
Cost of redistrib. (euro) ^{b,c}		1.34	0.20	0.93	1.24	1.32	1.40	2.14			
N		322									
c. Treatment: most important income sources											
Tax rate 1	25	22	6	0	20	25	25	50	0.35	0.63	0.03
Tax rate 2	30	28	4	10	25	30	30	40	0.31	0.66	0.03
Tax rate 3	35	34	3	25	30	35	35	45	0.25	0.73	0.02
Tax rate 4	40	39	3	20	40	40	40	45	0.16	0.79	0.05
Tax rate 5	41	44	4	35	41	41	47	59	0.02	0.57	0.40
Gini index	0.27	0.24	0.04	0.09	0.22	0.27	0.27	0.33	0.41	0.56	0.03
Quantile ratio: Q5/Q1 ^a	4.2	3.8	0.7	1.7	3.4	4.2	4.2	7.9	0.41	0.56	0.03
Quantile ratio: Q5/Q3 ^a	2.2	2.0	0.3	1.0	1.8	2.2	2.2	3.1	0.40	0.57	0.03
Quantile ratio: Q3/Q1 ^a	1.9	1.9	0.2	1.3	1.8	1.9	1.9	3.2	0.25	0.58	0.16
N		648									
Amount redistrib. (euro/month) ^b		441	243	70	252	409	591	1041			
Cost of redistrib. (euro) ^{b,c}		1.37	0.23	0.93	1.24	1.33	1.4	2.14			
N		285									

^a Quantile ratio Qa/Qb is the ratio of the average after-tax income in quintile a over that in quintile b . Q5/Q1 measures inequality between the highest and lowest income groups and the other two ratios measure inequality in the top and bottom half of the distribution of after-tax income.

^b Conditional on deviating from the status quo.

^c Costs in euro per euro redistributed (numbers larger than 1 indicate a deadweight loss).

Appendix I. Additional analysis of correspondence between quantitative measures of preferred income inequality and qualitative Likert scale

Fig. 11 presents the marginal distributions of preferences for inequality conditional on self-reported political orientation. The desired level of inequality relative to the status quo is either taken from the Likert scale elicited five months prior to the main survey (panel a), or derived from the distributions constructed by the respondents (panels b-d). Disagreement between those on the political left and right is much more prevalent on the Likert scale compared to the inequality of the desired income distributions. Eighty per cent of left-wing respondents prefer a more equal distribution on the traditional scale, compared to only 40% of those on the right of the political spectrum. However, the corresponding figures based on the preferred Ginis are 60% and 40% respectively, which cuts the gap in half. In general, the distribution of right-wing respondents' preferred level of inequality is much more stable across the survey items than that of left-wingers and moderates. Around 50–60% of the respondents prefer the status quo irrespective of the question, whereas only 15% of progressives

and 35% of moderates prefer the status quo on the Likert scale compared to 40% and 50%, respectively, according to their desired distributions. While there is highly significant variation in all measures of preferred inequality across the political spectrum, the Chi-square statistic on the Likert scale is much larger (413) compared to the other measures (75–88). The finding that political polarization manifests more strongly in broad survey questions that do not refer to specific policies echoes the results of Nathan et al. (2022) in the U.S. context.

Fig. 12 visualizes the associations between the various measures of preferred inequality derived from both the new question and the Likert scale. The latter is shown on the horizontal axes and combines categories 4 and 5 in a single group, since few respondents choose the most extreme response in favor of larger income differences (only 1% of the sample choose 5 on the reversed Likert scale). Panels 12a and b show that the Ginis of the distributions constructed by respondents covary plausibly with the responses on the Likert scale. The proportion of respondents that set a Gini below the status quo decreases from 50% for those who indicate income differences should be smaller to 30% for those in favor of larger income differences. The proportion of respondents that

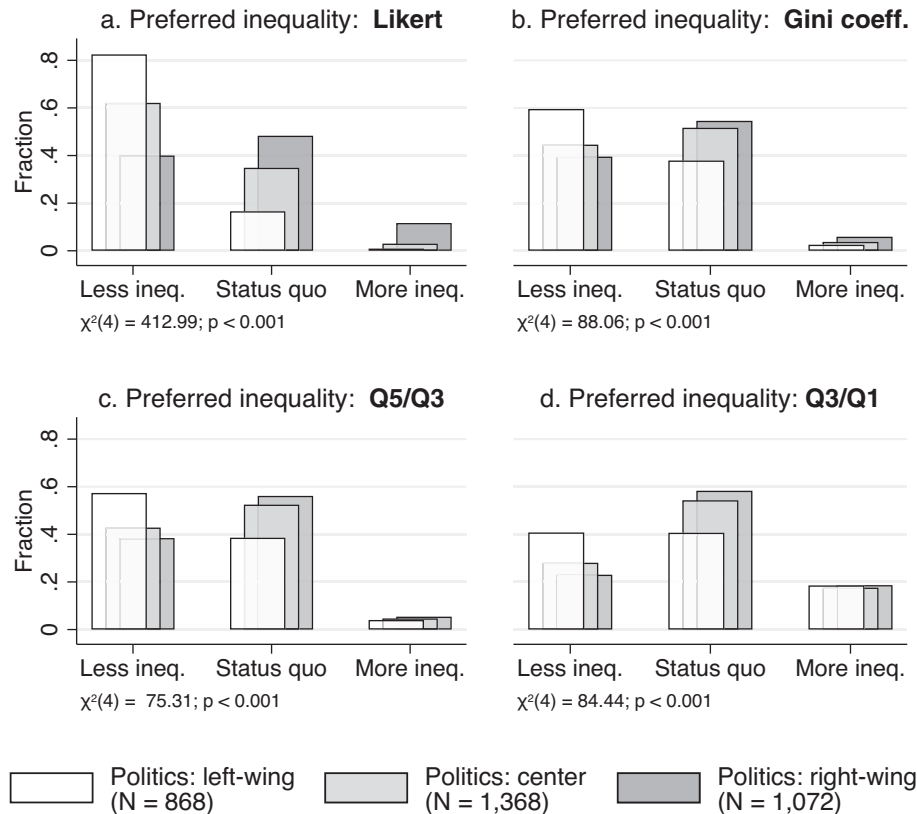


Fig. 11. marginal distributions of preferred inequality by self-reported political orientation (χ^2 statistics are based on a 3×3 design in which political orientation is divided in left/center/right).

increase inequality is below 5% for those who want smaller income differences and around 12% for those who want larger differences. While these associations go in the expected directions, the extent of disagreement between the Likert scale and the Ginis is striking. Fifty per cent of those who report being most in favor of smaller income differences do not change the Gini away from the status quo. Moreover, among the small group that believes that income differences should be larger, almost 60% stick to the status quo, while the proportion of respondents that actually lower the Gini is more than twice as high as those who increase inequality. Analogous associations can be observed for the average Gini in panel 12b.: the average preferred Gini increases monotonically with the Likert scale, but the level of those Ginis is below the status quo even for those who are most tolerant of inequality.

Panels c and d of Fig. 12 document analogous patterns for preferred inequality in the top half of the income distribution. While the new item covaries intuitively with the qualitative scale, the status quo exerts a powerful pull and is chosen by 50–60% of the respondents at all levels of the Likert scale. Furthermore, the average preferred top-half inequality is below the status quo even among those who use the qualitative scale to indicate a preference for larger income differences.

Support for further equalization of incomes in the bottom half of the distribution is lower at all levels of the Likert scale, which is in line with the patterns documented in the main text. Panel e shows that only 35% of the respondents who strongly agree that income differences should be smaller increase equality in the bottom half, while 15% increase Q3/Q1. This inequality measure is the only one for which the proportion of respondents that increase inequality is larger than the proportion who reduce inequality among those most strongly in favor of larger income differences

according to the Likert scale. It is also the only measure for which the average of the preferred distributions is close to the status quo among those at the middle of the qualitative scale (the second point from the right on the black line in Fig. 12f.). The average preferred Q3/Q1 is above the status quo among those who indicate that income differences should be larger.

In order to better understand the differences between the attitudes expressed in the two questions, Table 11 analyzes the covariates of inconsistencies between preferred inequality according to the new item and the Likert scale. For the new question, it uses the Ginis of the preferred distributions of after-tax income to measure inequality, since that is an overall measure of inequality, and, as such, is arguably most in line with the general attitude elicited in the qualitative question. We distinguish between those cases in which the new measure indicates a stronger preference for equality, a weaker preference, and the one in which both are consistent, and apply a multinomial logit to model the fractions that fall into these categories. The top row of Table 11 contains sample average predicted probabilities for the three possible outcomes and shows that half of the sample report consistently on the two items (i.e., report twice that income differences should be smaller, stay constant, or should increase). Thirty-one per cent of the respondents construct income distributions that bely a preference for larger income differences than indicated on the qualitative scale. This occurs either when the respondent stays at the status quo, but yet indicates that the differences should be smaller, or constructs a less equal distribution while indicating that income differences should not increase (i.e. a 3 or lower score on the 5-point scale). Nineteen per cent of respondents do the opposite and construct a more equal income distribution than is consistent with the Likert scale, either because they remain at the status quo while reporting

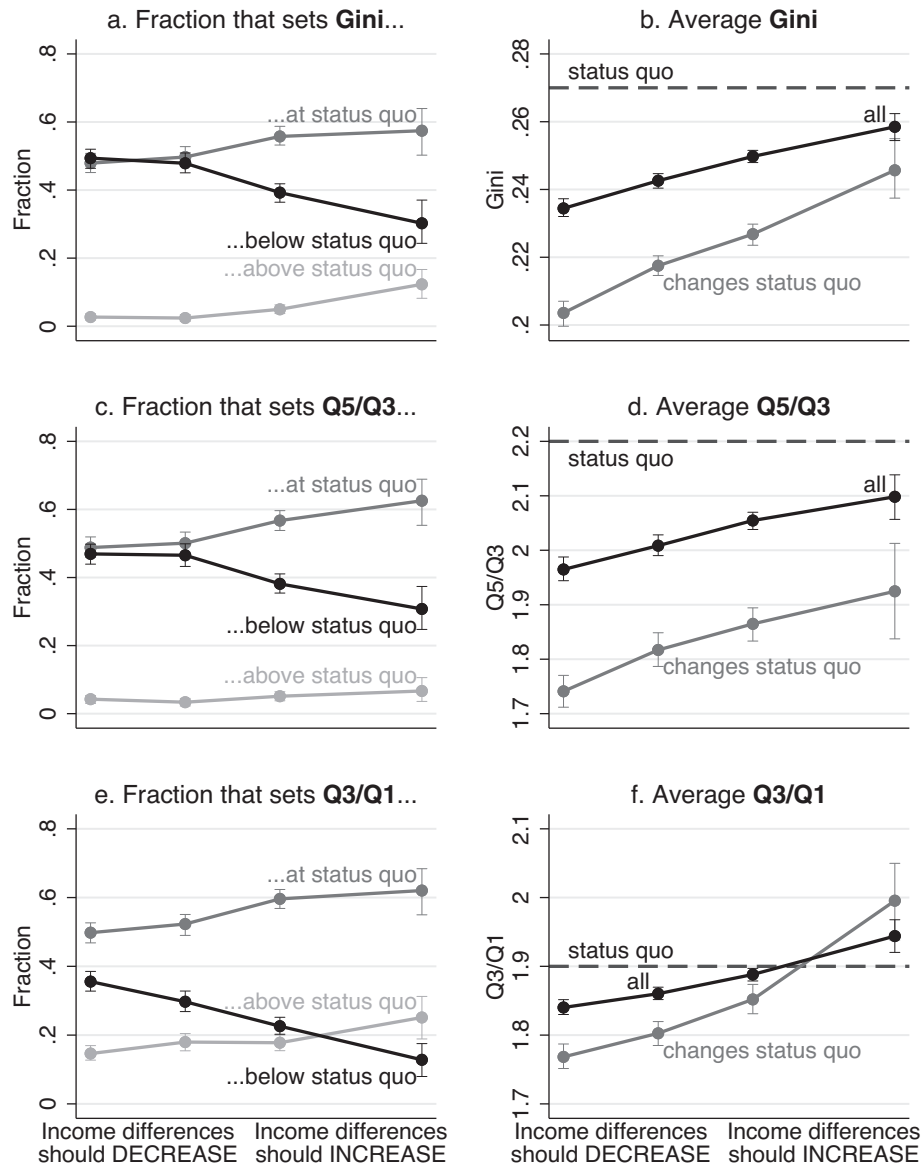


Fig. 12. Correspondence between preferred inequality according to the new question and the Likert scale (Likert scale ranges from 1. differences in income should decrease to 4. differences in income should increase; 3. corresponds to the status quo; spikes are 95% confidence intervals).

that income differences should be larger, or because they construct a more equal distribution in combination with a 3 or higher score on the 5-point scale.

The other rows in Table 11 report sample average marginal effects from a multinomial logit that explains these inconsistencies defined above. Most randomized assignments to different elasticities and information treatments do not have a large effect on response consistency: only providing information on the most important income sources by income quintile makes respondents 5 pp more likely to indicate a lower preference for equality on the new item. This reflects the fact that the income source treatment makes respondents less likely to deviate from the status quo, as documented in the main text.

The evaluation questions are stronger predictors of inconsistent responses, especially those regarding the difficulty of the survey and clarity of the questions. Paradoxically, those who find the survey more difficult are less likely to report a weaker preference for equality on the new item compared to the Likert scale and more

likely to answer both items consistently, albeit the latter is only significant for the difficulty level 4 out of 5. The tendency to give consistent answers varies more strongly with the perceived clarity of the questions: those who find the questions clear are 7–11 pp more likely to indicate a greater preference for equality on the new item. Overall, the evaluation questions do not suggest that discrepancies between the two items are driven by difficulties in understanding the new survey question. We find no evidence that those who find the survey more difficult or less clear are more likely to answer inconsistently.

Table 11 also shows how demographic variables and political attitudes predict inconsistent responses to the Likert scale and the new question. Corroborating the notion that inconsistencies do not reflect poor understanding of the new item, education is not associated with answering consistently. What it does predict is the prevalence of both types of inconsistencies: those with a university education are 12 pp less likely to construct a distribution that suggests a lower preference for equality and over 8 pp more

Table 11
Covariates of inconsistencies between new question and Likert scale.

	New item <i>less</i> equal		Inequality measure: Gini New item and Likert scale are consistent		New item <i>more</i> equal	
Baseline probs. ^a	0.31	(0.0082)	0.50	(0.0089)	0.19	(0.0068)
Elasticity 0.35	0.0216	(0.0159)	−0.0134	(0.0175)	−0.00826	(0.0131)
Info: deadweight loss	0.0191	(0.0190)	0.00533	(0.0215)	−0.0245	(0.0164)
Info: income source	0.0530***	(0.0194)	−0.0366*	(0.0214)	−0.0164	(0.0163)
<u>Question difficulty (baseline: 1 – not difficult)</u>						
2	−0.0730**	(0.0302)	0.0461	(0.0318)	0.0268	(0.0234)
3	−0.0504*	(0.0305)	0.0357	(0.0319)	0.0146	(0.0230)
4	−0.116***	(0.0287)	0.0811***	(0.0303)	0.0347	(0.0220)
5 (very difficult)	−0.0597**	(0.0300)	0.0609*	(0.0319)	−0.00119	(0.0230)
<u>Question clarity (baseline: 1 – not clear)</u>						
2	0.0183	(0.0484)	−0.0894*	(0.0517)	0.0712**	(0.0337)
3	−0.0508	(0.0460)	−0.0239	(0.0493)	0.0747**	(0.0308)
4	−0.0536	(0.0467)	−0.0329	(0.0497)	0.0866***	(0.0312)
5 (very clear)	−0.114**	(0.0469)	−4.20e−5	(0.0511)	0.114***	(0.0324)
<u>Questions made me think (baseline: 1 – not at all)</u>						
2	−0.0755**	(0.0356)	0.0529	(0.0424)	0.0226	(0.0353)
3	−0.0128	(0.0330)	0.0263	(0.0375)	−0.0135	(0.0316)
4	−0.0217	(0.0343)	0.0517	(0.0388)	−0.0300	(0.0316)
5 (yes, very much)	−0.00958	(0.0368)	0.0461	(0.0415)	−0.0366	(0.0327)
<u>Questions were interesting (baseline: 1 – not at all)</u>						
2	0.00427	(0.0482)	0.0208	(0.0515)	−0.0251	(0.0405)
3	−0.0576	(0.0470)	0.0737	(0.0505)	−0.0161	(0.0380)
4	−0.119**	(0.0492)	0.102*	(0.0530)	0.0178	(0.0395)
5 (very interesting)	−0.124**	(0.0538)	0.0914	(0.0589)	0.0330	(0.0456)
<u>Questions were enjoyable (baseline: 1 – not at all)</u>						
2	0.0273	(0.0426)	−0.0421	(0.0530)	0.0148	(0.0423)
3	0.00378	(0.0426)	−0.0140	(0.0528)	0.0102	(0.0398)
4	−0.00575	(0.0459)	−0.0182	(0.0561)	0.0239	(0.0426)
5 (very enjoyable)	0.0679	(0.0514)	−0.0705	(0.0605)	0.00264	(0.0452)
Female	0.0102	(0.0166)	0.00292	(0.0185)	−0.0132	(0.0139)
Age	−0.000758	(0.000935)	0.00106	(0.000987)	−0.000300	(0.000746)
Lives w partner	0.0213	(0.0314)	0.0335	(0.0334)	−0.0548**	(0.0267)
No. children	0.0173*	(0.0103)	0.000406	(0.0112)	−0.0177**	(0.00853)
Homeowner	−0.0628***	(0.0208)	0.0364	(0.0225)	0.0264	(0.0178)
<u>Civil status (baseline: married)</u>						
Separated	−0.00182	(0.0362)	0.0631*	(0.0370)	−0.0613***	(0.0236)
Widowed	0.0510	(0.0442)	0.0122	(0.0453)	−0.0633**	(0.0318)
Never married	−0.0282	(0.0293)	0.0525*	(0.0316)	−0.0243	(0.0236)
<u>Primary activity (baseline: salary worker)</u>						
Self-employed	−0.0544	(0.0352)	0.0437	(0.0384)	0.0107	(0.0295)
Unemployed	−0.00297	(0.0531)	0.0603	(0.0590)	−0.0573	(0.0437)
Homemaker	−0.0226	(0.0336)	0.0370	(0.0387)	−0.0144	(0.0304)
Retired	0.00653	(0.0282)	0.0410	(0.0304)	−0.0476**	(0.0232)
Disabled	0.0929**	(0.0433)	−0.0529	(0.0457)	−0.0399	(0.0378)
Volunteer	0.0512	(0.0581)	−0.0349	(0.0642)	−0.0163	(0.0538)
Other	0.0368	(0.0594)	−0.177***	(0.0626)	0.140**	(0.0660)
<u>Education (baseline: lower secondary)</u>						
Educ.: vocational	−0.0668***	(0.0233)	0.0301	(0.0253)	0.0367**	(0.0178)
Educ.: university	−0.116***	(0.0246)	0.0331	(0.0267)	0.0827***	(0.0193)
Educ.: other	0.0358	(0.0626)	−0.0816	(0.0651)	0.0458	(0.0513)
<u>Tertiles of net household income (baseline: <2250 euro/month)</u>						
2250–3500	−0.0680***	(0.0229)	0.00203	(0.0246)	0.0660***	(0.0181)
≥ 3500	−0.0894***	(0.0268)	0.00201	(0.0294)	0.0874***	(0.0229)
<u>Political orientation (baseline: left)</u>						
Center	0.000988	(0.0214)	−0.0919***	(0.0227)	0.0909***	(0.0152)
Right	−0.0743***	(0.0232)	−0.0889***	(0.0253)	0.163***	(0.0184)
<u>Attitude to foreigners (baseline: does NOT think there are too many foreigners in NL)</u>						
Neutral	0.00790	(0.0204)	−0.0384*	(0.0228)	0.0305*	(0.0175)
Too many	0.0298	(0.0222)	−0.0484*	(0.0251)	0.0187	(0.0187)
Log-likelihood	−3062.45					
N	3221					

Robust standard errors in parentheses (clustered at household level, 2623 clusters).

*** p < 0.01, ** p < 0.05, * p < 0.1.

^a Sample average predicted probabilities. The other estimates are sample average marginal effects.

likely to lean toward greater equality when responding to the new question compared to the qualitative scale. The pattern for household income tells a similar story: individuals in households with incomes in the top two-thirds of the distribution are 7–9 pp less

likely to report a lower preference for equality and more likely to report a stronger preference for equality on the new measure. Finally, consistency in answers covaries strongly with political attitudes. Those who position themselves on the right of the political

spectrum are 16 pp more likely to express a greater desire for equality on the new question and are 7 pp less likely to express a lower preference for inequality and 9 pp less likely to answer both questions consistently than those on the left. This stands in sharp contrast to the analysis of the preferred distributions in the main text, which shows that those on the political right construct distributions that are less equal both overall and when the sample is limited to those who change the status quo distribution. One possible explanation for this is that variation in prior percep-

tions of income taxation across the political spectrum may lead those with right-wing attitudes to respond differently to the provided information on the status quo provided in the new item.

Appendix J. Predictive power of preferred bottom-half and top-half inequality for votes in the 2021 parliamentary election

Table J1

Table J1

Predictive power of the ratio of quintile 5 over 3 (Q5/Q3) and quintile 3 over 1 (Q3/Q1) for votes in 2021 parliamentary election.

	Liberals VVD	Freedom Party PVV	Christian dem. CDA	Dependent variable: vote in 2021 Dutch parliamentary election Prog. liberals D66	Greens GroenLinks	Socialists SP	Labor PvdA	Christian Union ChristenUnie	Animal Party Partij vd Dieren	Other party
Predicted probs ^a	0.21 (0.009)	0.09 (0.006)	0.14 (0.008)	0.15 (0.008)	0.05 (0.005)	0.09 (0.006)	0.09 (0.006)	0.03 (0.004)	0.04 (0.004)	0.13 (0.007)
a. No other controls										
Standardized Q5/ Q3 ^b	0.033*** (0.0091)	0.012* (0.0065)	-0.007 (0.0070)	0.003 (0.0067)	-0.009** (0.0038)	-0.017*** (0.0054)	-0.020*** (0.0057)	0.001 (0.0032)	-0.001 (0.0039)	0.004 (0.0073)
Standardized Q3/ Q1 ^b	0.014* (0.0077)	0.013** (0.0061)	0.010 (0.0061)	0.003 (0.0065)	-0.017*** (0.0041)	-0.007 (0.0060)	-0.011** (0.0057)	-0.002 (0.0034)	-0.006 (0.0044)	0.004 (0.0078)
Log-likelihood N					-5272.45 2450					
b. Controlling for Likert scale^c										
Standardized Q5/ Q3 ^b	0.019** (0.0090)	0.013** (0.0064)	-0.008 (0.0071)	0.003 (0.0068)	-0.005 (0.0038)	-0.012** (0.0054)	-0.014** (0.0055)	0.001 (0.0033)	3.6e-04 (0.0039)	0.003 (0.0074)
Standardized Q3/ Q1 ^b	-0.004 (0.0081)	0.013** (0.0056)	0.009 (0.0064)	0.005 (0.0066)	-0.014*** (0.0040)	-1.6e-4 (0.0059)	-0.004 (0.0057)	-0.003 (0.0035)	-0.004 (0.0045)	0.002 (0.0079)
Log-likelihood N					-5120.81 2450					
c. Controlling for Likert scale and demographics^{c,d}										
Standardized Q5/ Q3 ^b	0.020** (0.0091)	0.006 (0.0063)	-0.002 (0.0069)	0.008 (0.0071)	-0.003 (0.0038)	-0.014*** (0.0053)	-0.012** (0.0053)	0.0017 (0.0033)	-4.0e-4 (0.0039)	-0.004 (0.0075)
Standardized Q3/ Q1 ^b	-0.006 (0.0081)	0.014* (0.0072)	0.012* (0.0062)	0.004 (0.0060)	-0.012*** (0.0039)	6.7e-5 (0.0056)	-4.6e-4 (0.0054)	-0.003 (0.0037)	-0.005 (0.0045)	-0.003 (0.0076)
Log-likelihood N					-4620.47 2382					

Panels a.-c. report sample average marginal effects from multinomial logit models of votes in the 2021 election on quantile ratios and (for panels b. and c.) other predictors. Robust standard errors in parentheses, clustered at household level (1984 clusters, 1927 clusters for the model with demographics in panel c.). *** p < 0.01, ** p < 0.05, * p < 0.1.

^a Sample average predicted probabilities of voting for each party, based on the multinomial logit model in panel a. The specification is $y_j^* = \beta_{0j} + \beta_{1j}Q5/Q3 + \beta_{2j}Q3/Q1 + \varepsilon_j$, where y_j^* is a latent index for party j ; β_{0j} is a party-specific constant; β_{1j} and β_{2j} are party-specific slopes on the preferred ratios of after-tax income; and ε_j is an idiosyncratic error.

^b Quantile ratios are standardized based on the mean and standard deviation in the full sample of 3964 distributions constructed by survey respondents.

^c The specification controls for the Likert scale by means of three dummies, combining the two levels most in favor of inequality into a single category: $y_j^* = \beta_{0j} + \beta_{1j}Q5/Q3 + \beta_{2j}Q3/Q1 + \beta_{3j}\mathbb{I}\{\text{Likert} = 2\} + \beta_{4j}\mathbb{I}\{\text{Likert} = 3\} + \beta_{5j}\mathbb{I}\{\text{Likert} \in \{4, 5\}\} + \varepsilon_j$ where the β are party-specific parameters and $\mathbb{I}\{\cdot\}$ denotes an indicator variable for the condition in curly braces.

^d Specification controls for all demographic variables in Table E1 according to: $y_j^* = \beta_{0j} + \beta_{1j}Q5/Q3 + \beta_{2j}Q3/Q1 + \beta_{3j}\mathbb{I}\{\text{Likert} = 2\} + \beta_{4j}\mathbb{I}\{\text{Likert} = 3\} + \beta_{5j}\mathbb{I}\{\text{Likert} \in \{4, 5\}\} + \mathbf{x}\gamma_j + \varepsilon_j$ where $\mathbf{x}$ contains demographic variables.

Appendix K. Covariates of alternative measures of preferences for redistribution

Tables K1 and K2

Table K1

Covariates of preferences for redistribution: log(Gini).

	All obs.	Dependent variable: log(Gini)		
		All obs.	If change	If change
Elasticity 0.35	0.000973 (0.00615)	0.000969 (0.00606)	−0.0143 (0.00933)	−0.0149 (0.00921)
Info: deadweight loss	0.0138* (0.00756)	0.0128* (0.00749)	0.0218** (0.0111)	0.0215** (0.0110)
Info: income source	0.0143* (0.00787)	0.0127 (0.00778)	0.000335 (0.0120)	−0.00121 (0.0118)
Female	−0.00724 (0.00649)	−0.00238 (0.00645)	−0.0186* (0.00977)	−0.0128 (0.00972)
Age	−0.00121*** (0.000346)	−0.00109*** (0.000336)	−0.00197*** (0.000526)	−0.00177*** (0.000513)
Lives w partner	0.0261** (0.0117)	0.0254** (0.0113)	0.0221 (0.0184)	0.0260 (0.0180)
Married	−0.00239 (0.0105)	−0.00643 (0.00999)	−0.0153 (0.0163)	−0.0226 (0.0156)
Separated	0.00110 (0.0128)	−0.000995 (0.0125)	−0.000717 (0.0188)	−0.00344 (0.0185)
Widow	−0.0163 (0.0266)	−0.0261 (0.0263)	−0.0329 (0.0351)	−0.0404 (0.0352)
Female × widow	0.0660** (0.0296)	0.0652** (0.0295)	0.0275 (0.0433)	0.0222 (0.0437)
No. children	0.00365 (0.00361)	0.00325 (0.00348)	0.00338 (0.00601)	0.00282 (0.00576)
Homeowner	−0.00152 (0.00846)	−0.00729 (0.00834)	0.0184 (0.0127)	0.0108 (0.0126)
<u>Primary activity (baseline: salary worker)</u>				
Self-employed	0.00389 (0.0122)	0.000705 (0.0117)	0.00753 (0.0198)	0.00702 (0.0193)
Unemployed	−0.0487** (0.0235)	−0.0403* (0.0235)	−0.0390 (0.0316)	−0.0318 (0.0317)
Homemaker	−0.0280* (0.0147)	−0.0279* (0.0144)	−0.00437 (0.0217)	−0.00493 (0.0213)
Retired	−0.0191* (0.0111)	−0.0175 (0.0110)	0.00207 (0.0154)	0.00371 (0.0152)
Disabled	0.0107 (0.0157)	0.0182 (0.0158)	0.0265 (0.0269)	0.0312 (0.0270)
Volunteer	0.00891 (0.0228)	0.0112 (0.0230)	0.0314 (0.0364)	0.0318 (0.0368)
Other	−0.0203 (0.0273)	−0.0112 (0.0258)	−0.0389 (0.0415)	−0.0280 (0.0390)
<u>Education (baseline: lower secondary)</u>				
Educ.: vocational	−0.00992 (0.00909)	−0.00434 (0.00906)	0.0247 (0.0151)	0.0292* (0.0151)
Educ.: university	−0.0334*** (0.00933)	−0.0196** (0.00916)	0.0183 (0.0151)	0.0302** (0.0150)
Educ.: other	0.0238 (0.0236)	0.0271 (0.0239)	0.0279 (0.0432)	0.0260 (0.0441)
<u>Tertiles of net household income (baseline: <2250 euro/month)</u>				
2250–2500	−0.0122 (0.00968)	−0.0147 (0.00958)	0.0134 (0.0138)	0.00640 (0.0139)
≥ 3500	0.0139 (0.0105)	0.0101 (0.0104)	0.0552*** (0.0151)	0.0474*** (0.0152)
<u>Political orientation (baseline: left)</u>				
Center		0.0562*** (0.00852)		0.0572*** (0.0115)
Right		0.0737*** (0.00914)		0.0805*** (0.0129)
<u>Attitude to foreigners (baseline: does NOT think there are too many foreigners in NL)</u>				
Neutral		0.0112 (0.00769)		0.00237 (0.0109)
Too many		0.0163** (0.00816)		−0.00475 (0.0125)
Constant	−1.363*** (0.0209)	−1.427*** (0.0215)	−1.484*** (0.0338)	−1.537*** (0.0345)
Observations	3,274	3,274	1,671	1,671
R-squared	0.039	0.068	0.078	0.103

Robust standard errors in parentheses (clustered at household level, 2662 clusters for the full sample and 1445 clusters for sample that changes at least one tax rate).

*** p < 0.01, ** p < 0.05, * p < 0.1.

Table K2

Covariates of preferences for redistribution: Q5/Q1 ratios.

	Dependent variable: std Q5/Q1				Dependent variable: log(Q5/Q1)			
	All obs.	All obs.	If change	If change	All obs.	All obs.	If change	If change
Elasticity 0.35	0.0202 (0.0347)	0.0204 (0.0342)	-0.0522 (0.0501)	-0.0528 (0.0497)	0.000797 (0.00676)	0.000804 (0.00666)	-0.0156 (0.00979)	-0.0160* (0.00966)
Info: deadweight loss	0.0731* (0.0427)	0.0686 (0.0423)	0.116* (0.0606)	0.115* (0.0603)	0.0153* (0.00834)	0.0143* (0.00825)	0.0243** (0.0117)	0.0241** (0.0117)
Info: income source	0.100** (0.0428)	0.0919** (0.0423)	0.0363 (0.0617)	0.0297 (0.0610)	0.0190** (0.00853)	0.0173** (0.00843)	0.00569 (0.0124)	0.00419 (0.0122)
Female	-0.0322 (0.0376)	-0.00163 (0.0373)	-0.0904 (0.0559)	-0.0521 (0.0553)	-0.00820 (0.00720)	-0.00239 (0.00714)	-0.0213** (0.0105)	-0.0142 (0.0104)
Age	-0.00776*** (0.00201)	-0.00705*** (0.00195)	-0.0126*** (0.00298)	-0.0115*** (0.00289)	-0.00153*** (0.000389)	-0.00139*** (0.000379)	-0.00250*** (0.000573)	-0.00228*** (0.000558)
Lives w partner	0.149** (0.0650)	0.143** (0.0630)	0.125 (0.0967)	0.141 (0.0943)	0.0294** (0.0129)	0.0284** (0.0125)	0.0245 (0.0195)	0.0283 (0.0191)
Married	-0.00152 (0.0609)	-0.0248 (0.0585)	-0.0711 (0.0915)	-0.109 (0.0883)	-0.000684 (0.0118)	-0.00532 (0.0113)	-0.0141 (0.0178)	-0.0220 (0.0170)
Separated	0.0406 (0.0685)	0.0280 (0.0669)	0.0550 (0.0912)	0.0389 (0.0901)	0.00668 (0.0137)	0.00422 (0.0134)	0.00886 (0.0188)	0.00573 (0.0185)
Widow	0.00437 (0.138)	-0.0552 (0.136)	-0.0276 (0.172)	-0.0732 (0.172)	-0.00587 (0.0276)	-0.0174 (0.0273)	-0.0164 (0.0347)	-0.0253 (0.0348)
Female × widow	0.318** (0.154)	0.317** (0.153)	0.0730 (0.211)	0.0484 (0.211)	0.0681** (0.0310)	0.0678** (0.0308)	0.0222 (0.0436)	0.0170 (0.0438)
No. children	0.0284 (0.0223)	0.0268 (0.0217)	0.0306 (0.0371)	0.0295 (0.0362)	0.00452 (0.00418)	0.00414 (0.00406)	0.00412 (0.00687)	0.00369 (0.00665)
Homeowner	-0.0246 (0.0503)	-0.0569 (0.0497)	0.0736 (0.0778)	0.0341 (0.0774)	-0.00278 (0.00946)	-0.00925 (0.00933)	0.0186 (0.0140)	0.0104 (0.0139)
<u>Primary activity (baseline: salary worker)</u>								
Self-employed	0.0362 (0.0783)	0.0189 (0.0758)	0.0622 (0.131)	0.0620 (0.128)	0.00467 (0.0145)	0.00121 (0.0140)	0.00792 (0.0234)	0.00773 (0.0228)
Unemployed	-0.282** (0.127)	-0.233* (0.126)	-0.222 (0.153)	-0.184 (0.153)	-0.0568** (0.0257)	-0.0471* (0.0256)	-0.0466 (0.0322)	-0.0388 (0.0323)
Homemaker	-0.144* (0.0797)	-0.143* (0.0787)	0.0126 (0.111)	0.0107 (0.110)	-0.0285* (0.0158)	-0.0283* (0.0156)	0.00207 (0.0221)	0.00149 (0.0218)
Retired	-0.0812 (0.0618)	-0.0700 (0.0608)	0.0714 (0.0789)	0.0865 (0.0777)	-0.0170 (0.0122)	-0.0149 (0.0120)	0.0116 (0.0159)	0.0141 (0.0157)
Disabled	0.0377 (0.0862)	0.0824 (0.0863)	0.0948 (0.130)	0.122 (0.130)	0.00849 (0.0173)	0.0172 (0.0173)	0.0211 (0.0272)	0.0263 (0.0272)
Volunteer	0.0833 (0.134)	0.0973 (0.134)	0.256 (0.216)	0.265 (0.216)	0.0130 (0.0252)	0.0156 (0.0253)	0.0424 (0.0391)	0.0435 (0.0394)
Other	-0.123 (0.146)	-0.0707 (0.138)	-0.234 (0.196)	-0.177 (0.183)	-0.0270 (0.0304)	-0.0167 (0.0288)	-0.0520 (0.0430)	-0.0402 (0.0403)
<u>Education (baseline: lower secondary)</u>								
Educ.: vocational	-0.0934* (0.0486)	-0.0595 (0.0487)	0.0750 (0.0719)	0.105 (0.0730)	-0.0160 (0.00976)	-0.00939 (0.00976)	0.0193 (0.0151)	0.0250 (0.0152)
Educ.: university	-0.210*** (0.0513)	-0.123** (0.0512)	0.0836 (0.0746)	0.166** (0.0768)	-0.0409*** (0.0101)	-0.0243** (0.0100)	0.0167 (0.0153)	0.0320** (0.0155)
Educ.: other	0.162 (0.145)	0.185 (0.146)	0.238 (0.289)	0.250 (0.292)	0.0288 (0.0271)	0.0331 (0.0273)	0.0383 (0.0510)	0.0386 (0.0517)
<u>Tertiles of net household income (baseline: <2250 euro/month)</u>								
2250–3500	-0.0813 (0.0528)	-0.0939* (0.0519)	0.0575 (0.0705)	0.0213 (0.0711)	-0.0149 (0.0105)	-0.0175* (0.0104)	0.0133 (0.0143)	0.00595 (0.0144)
≥ 3500	0.0618 (0.0607)	0.0435 (0.0601)	0.285*** (0.0844)	0.247*** (0.0859)	0.0138 (0.0117)	0.00988 (0.0116)	0.0590*** (0.0163)	0.0510*** (0.0165)
<u>Political orientation (baseline: left)</u>								
Center		0.285*** (0.0488)		0.250*** (0.0627)		0.0601*** (0.00939)		0.0570*** (0.0121)
Right		0.396*** (0.0528)		0.407*** (0.0723)		0.0807*** (0.0102)		0.0850*** (0.0139)
<u>Attitude to foreigners (baseline: does NOT think there are too many foreigners in NL)</u>								
Neutral		0.0978** (0.0456)		0.0689 (0.0641)		0.0165* (0.00865)		0.00899 (0.0119)
Too many		0.144*** (0.0476)		0.0661 (0.0700)		0.0244*** (0.00921)		0.00561 (0.0136)
Constant	0.395*** (0.122)	0.0171 (0.126)	-0.303 (0.189)	-0.625*** (0.196)	1.390*** (0.0235)	1.316*** (0.0242)	1.255*** (0.0366)	1.192*** (0.0376)
Observations	3,274	3,274	1,671	1,671	3,274	3,274	1,671	1,671
R-squared	0.039	0.069	0.072	0.097	0.040	0.071	0.080	0.106

Robust standard errors in parentheses (clustered at household level, 2662 clusters for the full sample and 1445 clusters for sample that changes at least one tax rate).

*** p < 0.01, ** p < 0.05, * p < 0.1.

Appendix L. Models that control for luck vs. skill as driver of economic success

Tables L1 and L2

Table L1

Covariates of preferences for redistribution including luck vs. skill as driver of economic success.

	Changed at least one tax rate					Standardized Q5/Q1			
	All obs.	All obs.	All obs.	All obs.	All obs.	All obs.	If change	If change	If change
Elasticity 0.35	-0.0266 (0.0204)	-0.0272 (0.0204)	-0.0278 (0.0203)	0.0203 (0.0437)	0.0204 (0.0438)	0.0214 (0.0434)	-0.0466 (0.0586)	-0.0486 (0.0588)	-0.0468 (0.0584)
Info: deadweight loss	-0.0232 (0.0248)	-0.0222 (0.0248)	-0.0157 (0.0247)	0.138*** (0.0533)	0.138*** (0.0533)	0.123** (0.0529)	0.186** (0.0721)	0.189*** (0.0719)	0.184** (0.0715)
Info: income source	-0.0876*** (0.0249)	-0.0869*** (0.0249)	-0.0812*** (0.0248)	0.153*** (0.0529)	0.153*** (0.0530)	0.140*** (0.0526)	0.0452 (0.0716)	0.0497 (0.0718)	0.0415 (0.0712)
Female	-0.0139 (0.0219)	-0.0140 (0.0219)	-0.0235 (0.0220)	-0.00820 (0.0490)	-0.00974 (0.0490)	0.00941 (0.0490)	-0.0493 (0.0675)	-0.0526 (0.0679)	-0.0302 (0.0691)
Age	-0.00419** (0.00191)	-0.00414** (0.00191)	-0.00337* (0.00191)	0.00641 (0.00425)	0.00636 (0.00426)	0.00439 (0.00421)	-0.000390 (0.00608)	-0.000443 (0.00610)	-0.00203 (0.00600)
Lives w partner	-0.100** (0.0453)	-0.0990** (0.0454)	-0.0920** (0.0446)	0.159* (0.0933)	0.159* (0.0935)	0.143 (0.0911)	0.0175 (0.129)	0.0199 (0.130)	0.0260 (0.128)
Married	-0.0102 (0.0492)	-0.0117 (0.0492)	0.000593 (0.0483)	0.0321 (0.101)	0.0325 (0.101)	-0.000805 (0.0969)	0.0272 (0.130)	0.0224 (0.131)	-0.0194 (0.127)
Separated	-0.0437 (0.0408)	-0.0450 (0.0409)	-0.0342 (0.0405)	0.106 (0.0871)	0.106 (0.0872)	0.0785 (0.0855)	0.0957 (0.106)	0.0915 (0.107)	0.0656 (0.107)
Widow	-0.0255 (0.0629)	-0.0276 (0.0627)	-0.00216 (0.0620)	-0.0108 (0.149)	-0.0117 (0.149)	-0.0764 (0.147)	-0.0660 (0.183)	-0.0840 (0.185)	-0.130 (0.185)
Female × widow	-0.161** (0.0669)	-0.158** (0.0667)	-0.161** (0.0662)	0.292* (0.157)	0.296* (0.157)	0.306* (0.156)	0.0350 (0.213)	0.0644 (0.214)	0.0636 (0.214)
No. children	-0.0117 (0.0175)	-0.0113 (0.0174)	-0.00926 (0.0173)	0.0618* (0.0374)	0.0614 (0.0374)	0.0557 (0.0364)	0.0866 (0.0565)	0.0850 (0.0565)	0.0775 (0.0548)
Homeowner	0.0541** (0.0269)	0.0518* (0.0271)	0.0589** (0.0268)	-0.0553 (0.0634)	-0.0542 (0.0632)	-0.0740 (0.0625)	0.0464 (0.0991)	0.0406 (0.0978)	0.0146 (0.0972)
<u>Primary activity (baseline: salary worker)</u>									
Self-employed	-0.0177 (0.0477)	-0.0206 (0.0479)	-0.0131 (0.0467)	0.0559 (0.108)	0.0579 (0.109)	0.0433 (0.107)	0.0877 (0.170)	0.0894 (0.171)	0.100 (0.170)
Unemployed	0.134* (0.0762)	0.134* (0.0760)	0.112 (0.0769)	-0.409** (0.163)	-0.414** (0.164)	-0.352** (0.165)	-0.314* (0.161)	-0.325** (0.161)	-0.289* (0.162)
Homemaker	0.109** (0.0457)	0.107** (0.0458)	0.0988** (0.0457)	-0.145 (0.0963)	-0.144 (0.0963)	-0.123 (0.0959)	0.0234 (0.130)	0.0242 (0.130)	0.0322 (0.131)
Retired	0.123*** (0.0364)	0.123*** (0.0364)	0.110*** (0.0364)	-0.191** (0.0751)	-0.190** (0.0751)	-0.156** (0.0747)	-0.0127 (0.0947)	-0.0111 (0.0949)	0.0215 (0.0944)
Disabled	-0.0324 (0.0538)	-0.0297 (0.0539)	-0.0432 (0.0541)	0.113 (0.106)	0.113 (0.106)	0.147 (0.106)	0.135 (0.165)	0.149 (0.164)	0.154 (0.164)
Volunteer	0.0505 (0.0648)	0.0513 (0.0649)	0.0435 (0.0647)	0.0167 (0.149)	0.0163 (0.149)	0.0374 (0.149)	0.169 (0.242)	0.170 (0.240)	0.188 (0.241)
Other	-0.00280 (0.112)	-0.00180 (0.112)	-0.0309 (0.109)	-0.165 (0.245)	-0.160 (0.246)	-0.0876 (0.235)	-0.372 (0.247)	-0.361 (0.241)	-0.297 (0.234)
<u>Education (baseline: lower secondary)</u>									
Educ.: vocational	0.0842*** (0.0268)	0.0829*** (0.0268)	0.0734*** (0.0269)	-0.0598 (0.0547)	-0.0595 (0.0548)	-0.0330 (0.0550)	0.142* (0.0763)	0.141* (0.0763)	0.167** (0.0774)
Educ.: university	0.177*** (0.0278)	0.175*** (0.0278)	0.144*** (0.0288)	-0.223*** (0.0599)	-0.222*** (0.0601)	-0.143** (0.0600)	0.0676 (0.0808)	0.0656 (0.0812)	0.138 (0.0846)
Educ.: other	-0.0133 (0.0660)	-0.0145 (0.0661)	-0.0242 (0.0654)	0.155 (0.160)	0.155 (0.160)	0.179 (0.160)	0.264 (0.311)	0.266 (0.308)	0.284 (0.310)
<u>Tertiles of net household income (baseline: <2250 euro/month)</u>									
2250–3500	0.0612** (0.0284)	0.0611** (0.0284)	0.0627** (0.0281)	-0.0866 (0.0619)	-0.0870 (0.0619)	-0.0909 (0.0610)	0.0243 (0.0820)	0.0275 (0.0817)	0.0137 (0.0819)
≥ 3500	0.0580* (0.0346)	0.0564 (0.0347)	0.0609* (0.0344)	0.0346 (0.0734)	0.0351 (0.0737)	0.0261 (0.0729)	0.234** (0.0987)	0.236** (0.0981)	0.228** (0.100)
<u>Importance of luck vs. skill for economic success (baseline: success is mostly caused by skill)</u>									
Both skill and luck		-0.00703 (0.0249)	-0.0173 (0.0249)		0.0374 (0.0520)	0.0594 (0.0516)		0.0467 (0.0669)	0.0690 (0.0662)
Mostly luck		-0.0317 (0.0284)	-0.0368 (0.0282)		0.0188 (0.0613)	0.0319 (0.0608)		-0.0737 (0.0800)	-0.0541 (0.0793)
<u>Political orientation (baseline: left)</u>									
Center			-0.0792*** (0.0263)			0.245*** (0.0601)			0.207*** (0.0733)
Right			-0.138*** (0.0299)			0.352*** (0.0659)			0.272*** (0.0866)
<u>Attitude to foreigners (baseline: does NOT think there are too many foreigners in NL)</u>									
Neutral			-0.0344 (0.0257)			0.0820 (0.0569)			0.0603 (0.0766)
Too many			-0.0580**			0.125**			0.0872

Table L1 (continued)

	Changed at least one tax rate			Standardized Q5/Q1			If change	If change	If change
	All obs.	All obs.	All obs.	All obs.	All obs.	All obs.			
Constant	0.722*** (0.122)	0.734*** (0.123)	(0.0291) 0.796*** (0.125)	−0.581** (0.271)	−0.601** (0.272)	(0.0579) −0.763*** (0.273)	−1.097*** (0.385)	−1.088*** (0.384)	(0.0812) −1.208*** (0.389)
Observations	2,297	2,297	2,297	2,297	2,297	2,297	1,218	1,218	1,218
R-squared	0.057	0.058	0.073	0.034	0.034	0.056	0.039	0.042	0.056

Robust standard errors in parentheses (clustered at household level, 1872 clusters for the full sample and 1057 clusters for sample that changes at least one tax rate).

*** p < 0.01, ** p < 0.05, * p < 0.1.

Table L2

Covariates of preferences for redistribution including luck vs. skill as driver of economic success.

	Dependent variable: standardized Gini					
	All obs.	All obs.	All obs.	If change	If change	If change
Elasticity 0.35	0.0104 (0.0433)	0.00975 (0.0433)	0.0111 (0.0428)	−0.0741 (0.0591)	−0.0770 (0.0590)	−0.0757 (0.0586)
Info: deadweight loss	0.138*** (0.0535)	0.139*** (0.0536)	0.124** (0.0532)	0.183*** (0.0716)	0.190*** (0.0718)	0.185*** (0.0715)
Info: income source	0.138** (0.0545)	0.139** (0.0546)	0.125** (0.0541)	0.0164 (0.0754)	0.0244 (0.0755)	0.0154 (0.0746)
Female	−0.0215 (0.0475)	−0.0232 (0.0474)	−0.00544 (0.0473)	−0.0739 (0.0643)	−0.0775 (0.0644)	−0.0589 (0.0650)
Age	0.00566 (0.00432)	0.00566 (0.00433)	0.00357 (0.00429)	−0.00195 (0.00631)	−0.00192 (0.00634)	−0.00368 (0.00624)
Lives w partner	0.190** (0.0965)	0.192** (0.0967)	0.176* (0.0940)	0.0661 (0.141)	0.0692 (0.141)	0.0751 (0.139)
Married	−0.0229 (0.103)	−0.0243 (0.104)	−0.0582 (0.0984)	−0.0620 (0.140)	−0.0713 (0.140)	−0.115 (0.135)
Separated	0.0602 (0.0905)	0.0587 (0.0906)	0.0292 (0.0886)	0.0178 (0.116)	0.00970 (0.116)	−0.0231 (0.116)
Widow	−0.0886 (0.155)	−0.0922 (0.155)	−0.156 (0.153)	−0.194 (0.193)	−0.226 (0.194)	−0.274 (0.194)
Female × widow	0.342** (0.163)	0.348** (0.163)	0.355** (0.163)	0.0971 (0.227)	0.144 (0.228)	0.134 (0.229)
No. children	0.0424 (0.0344)	0.0424 (0.0345)	0.0372 (0.0334)	0.0531 (0.0502)	0.0508 (0.0500)	0.0442 (0.0479)
Homeowner	−0.0409 (0.0588)	−0.0425 (0.0593)	−0.0643 (0.0586)	0.0748 (0.0836)	0.0631 (0.0840)	0.0315 (0.0840)
<u>Primary activity (baseline: salary worker)</u>						
Self-employed	0.0402 (0.0964)	0.0387 (0.0971)	0.0221 (0.0942)	0.0700 (0.140)	0.0724 (0.140)	0.0758 (0.138)
Unemployed	−0.397** (0.170)	−0.401** (0.171)	−0.340** (0.172)	−0.291 (0.185)	−0.302 (0.185)	−0.266 (0.186)
Homemaker	−0.145 (0.0983)	−0.145 (0.0984)	−0.122 (0.0974)	0.0282 (0.136)	0.0281 (0.136)	0.0403 (0.135)
Retired	−0.193** (0.0765)	−0.192** (0.0766)	−0.157** (0.0761)	−0.0183 (0.101)	−0.0162 (0.101)	0.0169 (0.100)
Disabled	0.144 (0.106)	0.148 (0.105)	0.183* (0.106)	0.213 (0.178)	0.234 (0.174)	0.240 (0.175)
Volunteer	0.0127 (0.147)	0.0132 (0.147)	0.0354 (0.147)	0.155 (0.237)	0.158 (0.233)	0.174 (0.236)
Other	−0.111 (0.236)	−0.104 (0.236)	−0.0240 (0.226)	−0.260 (0.261)	−0.244 (0.247)	−0.162 (0.246)
<u>Education (baseline: lower secondary)</u>						
Educ.: vocational	−0.0405 (0.0569)	−0.0417 (0.0570)	−0.0169 (0.0571)	0.177** (0.0842)	0.174** (0.0842)	0.197** (0.0845)
Educ.: university	−0.221*** (0.0597)	−0.221*** (0.0599)	−0.147** (0.0593)	0.0717 (0.0856)	0.0669 (0.0855)	0.129 (0.0870)
Educ.: other	0.122 (0.152)	0.121 (0.152)	0.143 (0.151)	0.172 (0.271)	0.175 (0.267)	0.181 (0.268)
<u>Tertiles of net household income (baseline: <2250 euro/month)</u>						
2250–3500	−0.0790 (0.0634)	−0.0796 (0.0634)	−0.0868 (0.0627)	0.0403 (0.0854)	0.0460 (0.0849)	0.0227 (0.0851)
≥ 3500	0.0583 (0.0720)	0.0569 (0.0721)	0.0428 (0.0713)	0.274*** (0.0959)	0.279*** (0.0950)	0.260*** (0.0965)
<u>Importance of luck vs. skill for economic success (baseline: success is mostly caused by skill)</u>						
Both skill and luck		0.0322 (0.0531)	0.0543 (0.0529)		0.0382 (0.0707)	0.0616 (0.0705)
Mostly luck		−0.0177 (0.0624)	−0.00353 (0.0619)		−0.147* (0.0827)	−0.123 (0.0825)

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Table L2 (continued)

	All obs.	All obs.	Dependent variable: standardized Gini			
			All obs.	If change	If change	If change
Political orientation (baseline: left)						
Center			0.278*** (0.0585)			0.266*** (0.0708)
Right			0.390*** (0.0645)			0.340*** (0.0858)
Attitude to foreigners (baseline: does NOT think there are too many foreigners in NL)						
Neutral			0.0463 (0.0544)			9.80e-05 (0.0708)
Too many			0.0844 (0.0577)			0.0112 (0.0812)
Constant	-0.508* (0.276)	-0.515* (0.277)	-0.662** (0.276)	-0.948** (0.399)	-0.915** (0.400)	-1.004** (0.400)
Observations	2,297	2,297	2,297	1,218	1,218	1,218
R-squared	0.033	0.033	0.057	0.047	0.053	0.070

Robust standard errors in parentheses (clustered at household level, 1872 clusters for the full sample and 1057 clusters for sample that changes at least one tax rate).

*** p < 0.01, ** p < 0.05, * p < 0.1.

Appendix M. Preferred tax rates and own rank in distribution of personal income

Tables M1 and M2.

Table M1

Quintile in distribution of personal income and tax rates by income quintile of the preferred distribution.

	a. First quintile			b. Second quintile		
	Any change	Tax rate (%)	Tax rate if change (%)	Any change	Tax rate (%)	Tax rate if change (%)
Elasticity 0.35	-0.0165 (0.0156)	0.356* (0.188)	0.510 (0.327)	-0.0265* (0.0153)	0.312** (0.138)	0.367 (0.250)
Info: deadweight loss	-0.0226 (0.0192)	0.395* (0.230)	0.482 (0.381)	-0.0120 (0.0189)	0.229 (0.166)	0.382 (0.289)
Info: income source	-0.0627*** (0.0191)	0.590** (0.236)	0.0987 (0.419)	-0.0405** (0.0189)	0.269 (0.173)	-0.0231 (0.323)
In quintile pers. Inc.	-0.0587*** (0.0184)	-0.0686 (0.225)	-1.547*** (0.380)	-0.0356* (0.0182)	0.135 (0.169)	-0.286 (0.327)
Constant	0.449*** (0.0166)	21.09*** (0.204)	16.32*** (0.335)	0.406*** (0.0161)	27.20*** (0.149)	23.09*** (0.258)
Observations	3,944	3,944	1,577	3,944	3,944	1,449
Households	3,134	3,134	1,379	3,134	3,134	1,279
	c. Third quintile			d. Fourth quintile		
	Any change	Tax rate (%)	Tax rate if change (%)	Any change	Tax rate (%)	Tax rate if change (%)
Elasticity 0.35	-0.0217 (0.0143)	-0.0419 (0.0995)	-0.507** (0.237)	-0.0218 (0.0136)	0.0108 (0.0925)	-0.227 (0.337)
Info: deadweight loss	-0.0396** (0.0181)	0.257** (0.124)	0.227 (0.286)	-0.0277 (0.0171)	0.112 (0.113)	0.138 (0.401)
Info: income source	-0.0349* (0.0181)	0.165 (0.124)	-0.0289 (0.282)	-0.0403** (0.0168)	0.0985 (0.117)	-0.0821 (0.431)
In quintile pers. Inc.	-0.0111 (0.0173)	0.00542 (0.118)	-0.161 (0.271)	0.0354** (0.0168)	-0.183 (0.119)	-0.324 (0.402)
Constant	0.335*** (0.0158)	33.41*** (0.108)	30.25*** (0.236)	0.273*** (0.0146)	39.26*** (0.103)	37.32*** (0.360)
Observations	3,944	3,944	1,169	3,944	3,944	975
Households	3,134	3,134	1,050	3,134	3,134	894

The models for the four income quintiles are estimated simultaneously. Robust standard errors in parentheses, clustered at household level. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table M2

Quintile in distribution of personal income and tax rates by income quintile of the preferred distribution.

	a. First quintile			b. Second quintile		
	Any change	Tax rate (%)	Tax rate if change (%)	Any change	Tax rate (%)	Tax rate if change (%)
Elasticity 0.35	−0.0153 (0.0156)	0.359* (0.188)	0.552* (0.323)	−0.0275* (0.0153)	0.316** (0.138)	0.374 (0.251)
Info: deadweight loss	−0.0221 (0.0192)	0.397* (0.230)	0.547 (0.378)	−0.0115 (0.0189)	0.233 (0.166)	0.392 (0.286)
Info: income source	−0.0611*** (0.0191)	0.599** (0.236)	0.134 (0.416)	−0.0384** (0.0189)	0.272 (0.174)	−0.00703 (0.322)
Q2 personal income	0.0267 (0.0238)	−0.0287 (0.293)	0.613 (0.503)	0.00684 (0.0234)	0.0958 (0.220)	0.407 (0.412)
Q3 personal income	0.0339 (0.0230)	−0.0872 (0.279)	0.588 (0.458)	0.00362 (0.0227)	0.0544 (0.212)	0.191 (0.373)
Q4 personal income	0.0774*** (0.0242)	0.172 (0.297)	2.137*** (0.526)	0.0556** (0.0239)	−0.00877 (0.219)	0.996** (0.399)
Q5 personal income	0.103*** (0.0246)	0.254 (0.291)	2.769*** (0.497)	0.0671*** (0.0245)	0.225 (0.216)	1.738*** (0.389)
Constant	0.389*** (0.0217)	21.02*** (0.272)	14.72*** (0.450)	0.373*** (0.0214)	27.16*** (0.203)	22.35*** (0.356)
Observations	3,944	3,944	1,577	3,944	3,944	1,449
Households	3,134	3,134	1,379	3,134	3,134	1,279
	c. Third quintile			d. Fourth quintile		
	Any change	Tax rate (%)	Tax rate if change (%)	Any change	Tax rate (%)	Tax rate if change (%)
Elasticity 0.35	−0.0228 (0.0144)	−0.0403 (0.0995)	−0.520** (0.240)	−0.0210 (0.0136)	−0.00312 (0.0922)	−0.279 (0.336)
Info: deadweight loss	−0.0388** (0.0180)	0.256** (0.124)	0.209 (0.284)	−0.0265 (0.0171)	0.106 (0.112)	0.109 (0.400)
Info: income source	−0.0340* (0.0181)	0.165 (0.124)	−0.0233 (0.282)	−0.0374** (0.0168)	0.0844 (0.117)	−0.141 (0.429)
Q2 personal income	0.0364* (0.0220)	0.0395 (0.155)	0.830** (0.391)	0.0165 (0.0207)	0.216 (0.138)	1.185** (0.587)
Q3 personal income	0.0330 (0.0214)	−0.0563 (0.151)	0.449 (0.356)	0.0132 (0.0199)	0.0660 (0.128)	0.490 (0.541)
Q4 personal income	0.0780*** (0.0228)	−0.251 (0.164)	0.553 (0.383)	0.0712*** (0.0215)	−0.215 (0.151)	−0.00777 (0.553)
Q5 personal income	0.0687*** (0.0230)	−0.0427 (0.161)	1.023*** (0.378)	0.100*** (0.0222)	−0.480*** (0.153)	−0.569 (0.524)
Constant	0.290*** (0.0202)	33.47*** (0.141)	29.65*** (0.324)	0.241*** (0.0188)	39.30*** (0.132)	37.11*** (0.498)
Observations	3,944	3,944	1,169	3,944	3,944	975
Households	3,134	3,134	1,050	3,134	3,134	894

The models for the four income quintiles are estimated simultaneously. Robust standard errors in parentheses, clustered at household level. *** p < 0.01, ** p < 0.05, * p < 0.1.

Appendix N. Additional estimates for main effects of information treatments

Tables N1, N2, N3 and N4.

Table N1

Effect of information treatments on tax rates by income quintile of the preferred distribution.

	a. First quintile				b. Second quintile			
	Any change	Multinomial logit			Any change	Multinomial logit		
		Lower tax	Tax unchanged	Higher tax		Lower tax	Tax unchanged	Higher tax
Baseline probs ^a		0.41 (0.0161)	0.56 (0.0162)	0.02 (0.00525)		0.38 (0.0157)	0.60 (0.0159)	0.02 (0.00481)
Elasticity 0.35	−0.0147 (0.0156)	−0.0166 (0.0158)	0.0150 (0.0159)	0.00161 (0.00499)	−0.0265* (0.0152)	−0.0291* (0.0154)	0.0271* (0.0156)	0.00198 (0.00476)
Info: deadweight loss	−0.0223 (0.0192)	−0.0169 (0.0193)	0.0223 (0.0193)	−0.00540 (0.00556)	−0.0111 (0.0189)	−0.00949 (0.0190)	0.0112 (0.0191)	−0.00172 (0.00556)
Info: income source	−0.0640*** (0.0191)	−0.0635*** (0.0191)	0.0645*** (0.0192)	−0.000997 (0.00579)	−0.0412** (0.0189)	−0.0425** (0.0188)	0.0420** (0.0191)	0.000521 (0.00569)
Difference deadweight loss ^b					−0.0112 (0.0127)	−0.00736 (0.0124)	0.0110 (0.0128)	−0.00369 (0.00550)
Difference Inc. source ^b					−0.0228* (0.0123)	−0.0210* (0.0121)	0.0225* (0.0124)	−0.00152 (0.00551)
Constant	0.437*** (0.0161)				0.398*** (0.0157)			
Observations	3,964		3,964		3,964		3,964	

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Table N1 (continued)

	a. First quintile				b. Second quintile			
	Any change	Lower tax	Multinomial logit Tax unchanged	Higher tax	Any change	Lower tax	Multinomial logit Tax unchanged	Higher tax
	c. Third quintile				d. Fourth quintile			
	Any change	Lower tax	Multinomial logit Tax unchanged	Higher tax	Any change	Lower tax	Multinomial logit Tax unchanged	Higher tax
Baseline probs ^a		0.29 (0.0147)	0.67 (0.0155)	0.04 (0.00662)		0.21 (0.0132)	0.72 (0.0147)	0.07 (0.00859)
Elasticity 0.35	−0.0227 (0.0143)	−0.0114 (0.0145)	0.0239 (0.0150)	−0.0125** (0.00618)	−0.0223 (0.0136)	−0.0142 (0.0130)	0.0237* (0.0144)	−0.00947 (0.00838)
Info: deadweight loss	−0.0381** (0.0180)	−0.0347** (0.0176)	0.0388** (0.0184)	−0.00416 (0.00795)	−0.0260 (0.0171)	−0.0181 (0.0157)	0.0268 (0.0176)	−0.00868 (0.0104)
Info: income source	−0.0345* (0.0180)	−0.0293* (0.0174)	0.0355* (0.0184)	−0.00615 (0.00784)	−0.0397** (0.0168)	−0.0282* (0.0154)	0.0409** (0.0173)	−0.0127 (0.0103)
Difference deadweight loss ^b	0.0158 (0.0171)	0.0178 (0.0173)	−0.0166 (0.0173)	−0.00124 (0.00909)	0.00374 (0.0193)	0.00128 (0.0209)	−0.00456 (0.0196)	0.00328 (0.0116)
Difference Inc. source ^b	−0.0295* (0.0159)	−0.0342** (0.0165)	0.0290* (0.0162)	0.00515 (0.00916)	−0.0243 (0.0187)	−0.0353* (0.0205)	0.0236 (0.0191)	0.0117 (0.0117)
Constant	0.332*** (0.0152)				0.280*** (0.0143)			
Observations	3,964		3,964		3,964		3,964	

The models for the four income quintiles are estimated simultaneously. Robust standard errors in parentheses, clustered at household level (3141 clusters). *** p < 0.01, ** p < 0.05, * p < 0.1.

^a Predicted probability for elasticity of 0.25 and no additional information.

^b Difference between effects of info treatments for quintiles 2, 3 and 4 relative to quintile 1.

Table N2

Effect of information treatments on tax rates by income quintile of the preferred distribution.

	a. First quintile			b. Second quintile		
	Any change	Tax rate (%)	Tax rate if change (%)	Any change	Tax rate (%)	Tax rate if change (%)
Elasticity 0.35	−0.0147 (0.0156)	0.353* (0.188)	0.569* (0.326)	−0.0265* (0.0152)	0.301** (0.137)	0.336 (0.249)
Info: deadweight loss	−0.0223 (0.0192)	0.381* (0.229)	0.451 (0.380)	−0.0111 (0.0189)	0.226 (0.166)	0.395 (0.288)
Info: income source	−0.0640*** (0.0191)	0.594** (0.235)	0.0770 (0.419)	−0.0412** (0.0189)	0.271 (0.173)	−0.0343 (0.322)
Constant	0.437*** (0.0161)	21.07*** (0.200)	16.01*** (0.328)	0.398*** (0.0157)	27.23*** (0.145)	23.05*** (0.250)
Observations	3,964	3,964	1,589	3,964	3,964	1,458
Households	3,141	3,141	1,388	3,141	3,141	1,286
	c. Third quintile			d. Fourth quintile		
	Any change	Tax rate (%)	Tax rate if change (%)	Any change	Tax rate (%)	Tax rate if change (%)
Elasticity 0.35	−0.0227 (0.0143)	−0.0462 (0.0992)	−0.542** (0.237)	−0.0223 (0.0136)	−0.00499 (0.0921)	−0.281 (0.337)
Info: deadweight loss	−0.0381** (0.0180)	0.264** (0.124)	0.275 (0.287)	−0.0260 (0.0171)	0.121 (0.113)	0.193 (0.403)
Info: income source	−0.0345* (0.0180)	0.161 (0.123)	−0.0340 (0.281)	−0.0397** (0.0168)	0.102 (0.117)	−0.0596 (0.432)
Constant	0.332*** (0.0152)	33.41*** (0.104)	30.23*** (0.231)	0.280*** (0.0143)	39.23*** (0.100)	37.26*** (0.340)
Observations	3,964	3,964	1,174	3,964	3,964	979
Households	3,141	3,141	1,054	3,141	3,141	898
	e. Fifth quintile					
	Any change	Tax rate (%)	Tax rate if change (%)			
Elasticity 0.35	−0.0266* (0.0158)	−0.198 (0.148)	−0.0417 (0.230)			
Info: deadweight loss	−0.00513 (0.0194)	−0.402** (0.183)	−0.767*** (0.277)			
Info: income source	−0.0560*** (0.0195)	−0.402** (0.187)	−0.0420 (0.294)			
Constant	0.496*** (0.0162)	44.41*** (0.160)	47.87*** (0.237)			
Observations	3,964	3,964	1,833			
Households	3,141	3,141	1,579			

The models for the five income quintiles are estimated simultaneously. Robust standard errors in parentheses, clustered at household level. *** p < 0.01, ** p < 0.05, * p < 0.1.

Table N3

Additional effects of information treatments on preferred income distributions.

a. Gini coefficients					
	All obs.	Standardized Gini If change	All obs.	log(Gini)	If change
Elasticity 0.35	−0.00467 (0.0318)	−0.112** (0.0497)	−0.00356 (0.00573)	−0.0241** (0.00936)	
Info: deadweight loss	0.0789** (0.0390)	0.145** (0.0589)	0.0155** (0.00697)	0.0289*** (0.0110)	
Info: income source	0.0859** (0.0401)	0.0325 (0.0632)	0.0142* (0.00729)	0.00455 (0.0120)	
Constant	−0.0535 (0.0331)	−0.719*** (0.0493)	−1.434*** (0.00596)	−1.547*** (0.00925)	
Observations	3,964	1,876	3,964	1,876	
b. Amount redistributed (euro/month)					
	All obs.	Amount redistributed If change	All obs.	log(redist.)	If change
Elasticity 0.35	−18.45** (8.925)	−15.17 (11.44)	−0.0290 (0.0311)	−0.114*** (0.0385)	
Info: deadweight loss	−26.78** (11.01)	−47.94*** (14.04)	−0.114*** (0.0385)	−0.0175 (0.0391)	
Info: income source	−26.60** (11.39)	−4.63 (14.62)	−0.0175 (0.0391)	5.978*** (0.0313)	
Constant	240.4*** (9.599)	476.1*** (11.72)	5.978*** (0.0313)		
Observations	3,964	1,876	1,876		

Robust standard errors in parentheses, clustered at household level (3141 clusters, 1614 in the sample that changed at least one tax rate). *** p < 0.01, ** p < 0.05, * p < 0.1.

Table N4

Effect of information treatments on quantile ratios of preferred income distributions.

a. Q5/Q1 – inequality across the distribution					
	All obs.	Standardized Q5/Q1 If change	All obs.	log(Q5/Q1)	If change
Elasticity 0.35	−0.00220 (0.0317)	−0.0942* (0.0489)	−0.00336 (0.00624)	−0.0240** (0.00968)	
Info: deadweight loss	0.0770** (0.0391)	0.140** (0.0586)	0.0162** (0.00767)	0.0299*** (0.0115)	
Info: income source	0.102*** (0.0393)	0.0646 (0.0610)	0.0191** (0.00785)	0.0111 (0.0123)	
Constant	−0.0593* (0.0325)	−0.742*** (0.0473)	1.300*** (0.00648)	1.168*** (0.00957)	
Observations	3,964	1,876	3,964	1,876	
b. Q5/Q3 – inequality in the top half of the distribution					
	All obs.	Standardized Q5/Q3 If change	All obs.	log(Q5/Q3)	If change
Elasticity 0.35	−0.0133 (0.0315)	−0.137*** (0.0530)	−0.00461 (0.00542)	−0.0273*** (0.00911)	
Info: deadweight loss	0.0805** (0.0390)	0.151** (0.0639)	0.0150** (0.00670)	0.0284*** (0.0110)	
Info: income source	0.0708* (0.0392)	0.0166 (0.0663)	0.0122* (0.00679)	0.00294 (0.0115)	
Constant	−0.0447 (0.0324)	−0.629*** (0.0520)	0.682*** (0.00558)	0.582*** (0.00892)	
Observations	3,964	1,876	3,964	1,876	
b. Q3/Q1 – inequality in the bottom half of the distribution					
	All obs.	Standardized Q3/Q1 If change	All obs.	log(Q3/Q1)	If change
Elasticity 0.35	0.0203 (0.0318)	0.0552 (0.0642)	0.00126 (0.00279)	0.00326 (0.00555)	
Info: deadweight loss	0.0177 (0.0389)	0.0254 (0.0754)	0.00124 (0.00343)	0.00151 (0.00657)	
Info: income source	0.0807** (0.0382)	0.106 (0.0782)	0.00688** (0.00339)	0.00819 (0.00685)	
Constant	−0.0433 (0.0313)	−0.376*** (0.0588)	0.618*** (0.00282)	0.586*** (0.00522)	
Observations	3,964	1,876	3,964	1,876	

Robust standard errors in parentheses, clustered at household level (3141 clusters, 1614 in the sample that changed at least one tax rate). *** p < 0.01, ** p < 0.05, * p < 0.1.

Appendix O. Supplementary material

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.jpubeco.2022.104724>.

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