

Preferences for Taxing Personal Characteristics*

Julien Senn[†]

Krishna Srinivasan[‡]

Job Market Paper #1

November 5, 2025

[latest version] [Link to JMP #2]

Abstract

While tagging—the conditioning of taxes on personal characteristics correlated with earning ability—can improve efficiency, it is often assumed to lack political support because it violates horizontal equity, which stipulates treating equals equally. To empirically test this view, we conducted an online vignette experiment with a U.S. general population sample ($N = 3,012$) and report three results that challenge it. First, support for tagging varies substantially across tags and individuals. Consistent with theoretical prescriptions, it is higher for characteristics with a strong correlation with ability or reflecting needs. However, the immutability of a tag does not predict support, contrary to theory. Second, variation in support reflects both horizontal and vertical equity concerns. Third, other considerations, such as efficiency, also matter but less so. Incorporating fairness can either limit or amplify optimal tagging relative to a canonical utilitarian benchmark. Finally, we compare our results with the tags used in the U.S. tax code and those discussed in the literature.

Keywords: Taxation; Tagging; Inequality; Equity; Fairness

JEL Classification: D63, H21, I31

*We thank Matthew Weinzierl, Roberto Weber, Dmitry Taubinsky, Simona Sartor, Canishk Naik, Ben Lockwood, Emanuel Hansen, Antoine Germaine, Ernst Fehr, Francesco Capozza, Spencer Bastani, Pierre Boyer, Björn Bartling, Sandro Ambühl, and various seminar participants for their helpful comments. We thank Prisha Sharma for her excellent research assistance. This study was pre-registered: <https://doi.org/10.1257/rct.14473-1.0>

[†]Sorbonne University: julien.senn@econ.uzh.ch

[‡]UniDistance: krishna.srinivasan@unidistance.ch

1 Introduction

Income taxation is a primary tool for governments to raise revenue and reduce inequalities. In most countries, individuals’ tax liability depends not only on income but also on personal characteristics, such as age, number of children, and disability status (Mankiw et al. 2009). Data collected in this paper shows that the U.S. tax code conditions taxes on several characteristics, including marital status and sector of employment. Determining which characteristics should be used as a basis for taxation is important for tax policy design.

The theoretical literature on optimal taxation argues that taxes should be based on any largely immutable characteristic correlated with earning ability because doing so improves efficiency (Mirrlees 1971, Akerlof 1978).¹ If ability were observed, taxing ability (the “first-best”) would not distort choices; since ability is unobserved, income and characteristics serve as proxies. Taxes on personal characteristics, to the extent that they do not depend on choices, are more efficient since they do not distort choices, while income taxes, which depend on labor choices, can distort such choices. Conditioning taxes jointly on income and characteristics—commonly referred to as “tagging”—has been the focus of a growing literature on various characteristics, including height (Mankiw et al. 2009), gender (Cremer et al. 2010), and sector of employment (Gomes et al. 2018).

Despite its theoretical appeal, tagging is commonly assumed to be socially unacceptable—that is, at odds with widely held normative views—because it conflicts with horizontal equity, which stipulates treating “equals” equally (e.g., Fleurbaey & Maniquet 2018, Mankiw & Weinzierl 2010, Saez & Stantcheva 2016). For example, height-based taxation is inappropriate if tall and short individuals are deemed equal. Yet there is little direct evidence on whether citizens view tagging as socially unacceptable. Our paper addresses this gap by conducting an experiment with the U.S. general population ($N = 3012$) that (i) provides descriptive evidence on support for tagging across various characteristics, (ii) examines which types of characteristics people are willing to use, (iii) assesses whether support aligns with theoretical prescriptions, and (iv) analyzes the determinants of support.

To provide descriptive evidence on people’s support for conditioning income taxes on various characteristics (or “tags”), we elicit their support for various tags discussed in the literature and those employed by the U.S. tax system. Each tag divides the population into two groups, a “tagged” and an “untagged” group, with the tagged group earning lower

¹Conditioning taxes on characteristics correlated with labor supply elasticities or preferences can also improve efficiency (e.g., Karabarbounis 2016, Alesina et al. 2011); however, this is not the focus of our paper. Other motivations for conditioning taxes on characteristics include improving redistribution across groups (e.g., Gaubert et al. 2021, Cremer et al. 2003), correcting externalities (e.g., Bovenberg & Jacobs 2005, Lockwood et al. 2017), and encouraging socially desirable behaviors (e.g., Milligan 2005).

incomes on average. Because the tag is correlated with earning ability (proxied by income), optimal tax theory prescribes setting lower taxes for the tagged group relative to the untagged group to increase efficiency. Participants indicate their support for setting lower taxes for the tagged group (henceforth referred to as “receiving a tax break”) on a 7-point scale ranging from “+1: Slightly support” to “+3: Strongly support.” To make responses consequential, we inform participants that their responses will be shared with U.S. policymakers.

While support for tags is generally low, several tags receive high levels of support. Participants exhibit low support for providing tax breaks for groups such as minorities (16% support this tag), women (19%), and the young (25%); moderate support for tax breaks for individuals living in low-income regions (39%); and high support for providing tax breaks for individuals with dependents (63%), disabilities (60%), and visual impairments (49%). These results are robust to various specifications, including restricting the sample to participants with strong preferences for having their views considered in policymaking and those aware that the tax system already employs tagging, indicating that participants hold meaningful preferences. In addition to observing variation in support across tags, we also observe variation across individuals: while the median participant supports about a third of tags, about 19% support none of the tags, and 3% support all of them. Taken together, the observed variation in support across tags and individuals suggests that attitudes toward tagging are likely shaped by both the characteristics of the tags and individual beliefs and preferences. Furthermore, these findings point to a more nuanced view than accounts in the literature that anticipate finding universally low public support.

Having documented variation in support across tags, we ask which types of tags garner higher support and whether support aligns with the prescriptions from a canonical utilitarian model of tagging. We develop a simple model that yields comparative statics describing how the optimal tax differentiation between the untagged and tagged groups varies with three features of a tag: (i) correlation with ability (strong vs. weak), (ii) mutability (mutable vs. immutable), and (iii) correlation with consumption needs (correlated vs. uncorrelated). The first two are widely studied (Mankiw et al. 2009, Piketty & Saez 2013), while the third is novel and motivated by the literature (e.g., Boadway & Pestieau 2006, Konow 2001).

To assess how these features shape support, we design a vignette experiment that varies these features by treatment. Participants view a scenario that closely mirrors the ones used to elicit support for specific tags; however, the groups defined by the tag are left unspecified. This abstraction allows us to identify the causal effect of relevant features without being confounded by other features that vary across tags. We find that participants are more likely to support tagging when the tag is a strong signal of ability or relates to consumption needs, consistent with theoretical prescriptions. However, the immutability of the tag does

not predict support, contrasting the theoretical prescription of using immutable tags.

To shed light on the concerns underlying support for tagging across individuals and treatments in the vignette experiment, we analyze participants' open-ended explanations using a Large Language Model (LLM). The most prevalent concern among opponents of tagging is horizontal equity, as hypothesized by the literature: participants argue that individuals with the same income should face the same tax burden regardless of group affiliation. Among supporters, vertical equity concerns, conceptualized as reducing inequality across groups, are salient: participants perceive the tagged group as having lower incomes, needs, or disadvantages, and emphasize the need for supporting such groups. These horizontal and vertical equity concerns also help account for the variation across treatments.

While the open-ended analysis hints at the importance of fairness concerns, we also measure such concerns directly. We conceptualize fairness concerns—capturing horizontal and vertical equity—via welfare weights, following the literature (e.g., Berg 2025, Lockwood & Weinzierl 2015, Bergstrom & Dodds 2021). Welfare weights measure society's valuation of an additional dollar of consumption for each group, and are a reduced-form measure of underlying fairness ideals (Saez & Stantcheva 2016). We elicit (qualitative) welfare weights using an incentivized bonus allocation task, following Capozza & Srinivasan (2024). If the tagged and untagged groups have the same average welfare weights, horizontal equity implies no tagging; if their average welfare weights differ, vertical equity supports redistribution from the group with lower to the group with higher welfare weights, thereby rationalizing tagging. We find that fairness concerns—captured by welfare weights—account for the variation in support across individuals and across treatments.

While fairness concerns are a strong predictor of support across individuals and treatments, they do not explain all the variation. We elicit other concerns using closed-ended survey questions and find that efficiency concerns also predict support for tagging across individuals and treatments, though to a lesser extent. Views about the scope of government, implementation concerns, and privacy concerns play a more limited role, helping to explain differences across individuals but contributing little to differences across treatments.

Overall, our results highlight three qualifications to accounts in the literature that anticipate generally low public support for tagging because it violates the fairness principle of horizontal equity: (i) support varies substantially across tags and across individuals, (ii) vertical equity matters alongside horizontal equity, and (iii) concerns beyond fairness also play a role. While the canonical utilitarian model has two goals—improving efficiency and between-group redistribution—our results suggest that participants are likely guided primarily by redistributive motives. Given the importance of such fairness concerns, we incorporate them into our theoretical model to characterize when tagging is socially acceptable.

We model social acceptability via the welfare weights assigned by society to the tagged and untagged groups, which capture their assessment of the value of assigning a \$1 transfer to an individual from each group. The optimal tax differentiation between groups is increasing in the difference between their average welfare weights.

Finally, we compare our results on citizens' support for tags with the tags used in the U.S. tax code and those discussed in the literature. We construct a novel database of tags discussed in the literature and those used in the U.S. federal income tax system (coded from U.S. tax law). There is scope for expanding tagging based on existing research, as well as scope for future research to identify tags that are both economically beneficial and socially acceptable. Furthermore, citizens' preferences and existing tax policies are broadly aligned, with a few exceptions.

Our paper contributes to several strands of the literature. First, we add to the empirical literature on measuring people's support for tagging (e.g., Weinzierl 2014, Drenik & Perez-Truglia 2018, Sausgruber & Tyran 2014).² Compared to Weinzierl (2014) and Drenik & Perez-Truglia (2018), we examine a broader set of tags, provide causal evidence on preferences for types of tags, and explore underlying mechanisms. Sausgruber & Tyran (2014) study tagging with commodity taxes in the laboratory, whereas we study actual income tax policies.

Second, we contribute to the theoretical literature developing general theories of tagging (e.g., Akerlof 1978, Immonen et al. 1998, Broadway & Pestieau 2006, Mankiw & Weinzierl 2010, Cremer et al. 2010) and the literature focusing on the efficiency benefits of specific tags (e.g., Mankiw & Weinzierl 2010, Gomes et al. 2018), which is summarized in Table 5. We show how horizontal and vertical equity concerns can be incorporated into theory via welfare weights to identify socially acceptable tagging.³ Related work also aims to incorporate social acceptability: Saez & Stantcheva (2016) incorporate horizontal equity concerns via welfare weights in a Ramsey tax problem, and Weinzierl (2014) incorporates the principle of "equal sacrifice" as a constraint in a model of tagging.

Third, we contribute to the broader literature on conditioning taxes on personal characteristics. One strand, also under the umbrella of tagging, focuses on the efficiency benefits of tagging with characteristics correlated with individuals' elasticity of taxable income (e.g., Alesina et al. 2011, Karabarbounis 2016). Other strands focus on other goals, such as redistributing across groups (e.g., Gaubert et al. 2021, Cremer et al. 2003), correcting externalities

²A related strand measures support for targeting policies (e.g., Liscow & Pershing 2022).

³Related work conceptualizes horizontal and vertical equity concerns through welfare weights: Berg (2025) decomposes the inverse-optimum welfare weights into horizontal and vertical equity, while other papers model such equity considerations via welfare weights in settings where redistribution addresses ability differences but not differences in preferences (e.g., Fleurbaey & Maniquet 2006, Lockwood & Weinzierl 2015, Bergstrom & Dodds 2021).

(e.g., Bovenberg & Jacobs 2005, Lockwood et al. 2017), and encouraging socially desirable behaviors (e.g., Milligan 2005).

Finally, we contribute to the broader literature of preferences for redistribution (e.g., Cappelen et al. 2007, Saez & Stantcheva 2016, Drenik & Perez-Truglia 2018, Blesse et al. 2019, Kuziemko et al. 2015, Stantcheva 2021, Fehr et al. 2024, Konow 2001, Capozza & Srinivasan 2024). Many of these papers aim to identify which considerations shape preferences for redistribution. A key finding is that people are willing to redistribute based on differences in effort but not differences in preferences (Cappelen et al. 2007, Saez & Stantcheva 2016, Drenik & Perez-Truglia 2018, Blesse et al. 2019). Another finding, consistent with our results, is that people are willing to redistribute based on differences in needs (e.g., Cappelen et al. 2013, Konow 2001). Our paper contributes to this literature by providing a theoretical foundation and a reduced-form empirical measure of horizontal and vertical equity concerns (in the spirit of Capozza & Srinivasan (2024)), which can help account for the observed variation in redistributive preference across contexts.

The remainder of the paper is structured as follows. Section 2 presents the theoretical framework. Section 3 describes the experimental design. Section 4 presents the results. Section 5 synthesizes theory, practice, and citizens’ support. Finally, Section 6 concludes.

2 Theoretical Framework

Following Mankiw & Weinzierl (2010), we present a simple theoretical framework that formalizes tagging. We extend this framework to derive comparative statics that characterize how tagging depends on the properties of the characteristic. Finally, we highlight how fairness concerns can be incorporated into the framework.

2.1 Setup

Consider an economy comprising individuals partitioned into two mutually exclusive and exhaustive groups based on an immutable personal characteristic (or *tag*). We denote these groups by $g \in \{t, u\}$, where t denotes the *tagged* group and u denotes the *untagged* group. Individuals in each group are differentiated by their exogenous wages (or *ability*), with I discrete wage levels. Let $\pi_{g,i}$ denote the share of individuals in Group g earning wage w_i , with $\sum_i \pi_{g,i} = 1 \forall g \in \{t, u\}$. Individuals choose their labor supply $\ell_{g,i}$, earning income $y_{g,i} = w_i \cdot \ell_{g,i}$. Individuals’ wages and labor effort are unobserved, while income and group status are observed. Consumption $c_{g,i}$ equals after-tax income, where tax liability varies within groups but not between groups. When the planner can observe group status, the

planner can also use aggregate lump-sum transfers, which vary between groups but not within groups. Denote the aggregate lump-sum transfer paid by Group g as r_g . Individuals' utility is a function of consumption and labor, given by

$$U_{g,i} = u(c_{g,i}, \ell_{g,i}), \quad (1)$$

which is assumed to be increasing and concave in consumption and decreasing and convex in labor effort. The disutility from labor and the elasticity of taxable income are identical across tagged and untagged groups; heterogeneity in preferences or labor-supply elasticities across groups provides an alternative rationale for tagging (e.g., Alesina et al. 2011, Karabarbounis 2016).

2.2 Optimal Taxes

In the standard Mirrleesian framework, the *first-best* solution involves taxing (observable) ability, because this achieves redistribution without distorting choices. Since ability is unobserved, the *second-best* solution involves taxing income—determined by ability and labor effort—which involves balancing the social welfare benefits (redistribution) against the social welfare costs (labor supply distortions).

When the planner can also observe group status, the planner can condition transfers on group status. Formally, the social planner's objective is to choose income and consumption bundles to maximize a utilitarian social welfare function that is uniform and linear in individuals' utilities (formalized in Appendix Section A).⁴ The planner is subject to two constraints: (i) ability and effort are unobserved (though income and group status are observed), and (ii) taxes are purely redistributive, requiring the budget to be balanced. A well-known result in the literature is that the optimal consumption bundles must satisfy

$$\sum_{i=1}^I \pi_{t,i} u_c(c_{t,i}, \ell_{t,i}) = \sum_{i=1}^I \pi_{u,i} u_c(c_{u,i}, \ell_{u,i}) \quad (2)$$

where $u_c(c_{g,i}, \ell_{g,i})$ is the marginal utility of consumption of an individual with wage w_i in Group g . Condition (2) states that, at the optimum, the average marginal utility of consumption is equalized across groups. Intuitively, if the averages differed, social welfare can be increased by transferring \$1 from the group with the lower to the group with the higher marginal utility of consumption. The proof can be found in Appendix Section A.

⁴The results extend to any social welfare function that is concave in individuals' utilities (Mankiw & Weinzierl 2010).

When the tagged group has a higher average ability and, consequently, a higher average marginal utility of consumption, a lump-sum transfer is paid from the untagged to the tagged group. With the budget constraint on the transfers $r_t + r_u = 0$, the between-group transfer paid to the tagged group is given by $r = -r_t = r_u$. Because this transfer depends only on group status, it improves equity (redistribution across ability types) without decreasing efficiency. The following proposition formalizes the intuition that tagging emerges as part of the optimal policy.

Proposition 1 *When an observable and immutable personal characteristic is correlated with earning ability, it is optimal to condition taxes on that characteristic.*

The preceding discussion shows that tagging achieves two objectives. First, it improves efficiency by reducing the reliance on distortionary income taxes and instead relying on non-distortionary between-group transfers. Second, it reduces the between-group consumption inequality using between-group transfers.

2.3 Comparative Statics

We derive three comparative statics that describe how the optimal between-group transfer (r) varies with three properties of tags: (i) immutability, (ii) strength of the correlation with ability, and (iii) correlation with needs. The first two relate to efficiency and have been widely studied (Mankiw et al. 2009, Piketty & Saez 2013), while the third relates to welfare and is motivated by the discussion of needs in the taxation literature (Piketty & Saez 2013, Boadway & Pestieau 2006, Konow 2001). Proofs of the propositions can be found in Appendix Section A. These results have appeared in various forms in Parsons (1996), Immonen et al. (1998), Viard (2001 *a,b*), and Salanié (2002).

First, consider the strength of the correlation between the tag and ability, defined as the difference in average ability across groups. As this correlation strengthens, the tagged group's average ability falls further below that of the untagged group, widening the gap in their incomes and (hence) consumptions. Since marginal utility is strictly decreasing in consumption, the tagged group's average marginal utility rises relative to the untagged group's. To restore the optimality condition in Equation (2), the planner increases the between-group transfer to the tagged group. We summarize this in Proposition 2.

Proposition 2 *The optimal between-group transfer is increasing in the strength of the correlation of the tag with ability.*

Second, we compare immutable tags with mutable tags. With immutable tags, group membership is fixed; with mutable tags, some individuals in the untagged group may mis-report their group status to benefit from the lower taxes afforded to those in the tagged group. For example, if taxes depend on disability status, non-disabled individuals might falsely claim to be disabled to take advantage of reduced tax rates. Such switching weakens the tag's information about underlying ability, which induces the planner to reduce the size of the between-group transfer.⁵ This yields Proposition 3.

Proposition 3 *The optimal between-group transfer is higher when the tag is immutable than when it is mutable.*

Third, consider differences in consumption needs. Following Broadway & Pestieau (2006), define needs-adjusted consumption as $\tilde{c}_{g,i} = y_{g,i} - t_{g,i} - n_{g,i}$, where $n_{g,i}$ denotes consumption needs.⁶ Individuals with higher consumption needs require more resources to attain the same utility as others. We assume that needs are not observable at the individual level, but the distribution of needs of the two groups is observed. We measure the strength of the correlation of the tag with needs by the difference in average needs across groups. As this correlation strengthens, the tagged group's average needs-adjusted consumption falls relative to the untagged group's, raising its average marginal utility of consumption. To satisfy Equation (2), the planner increases the between-group transfer to the tagged group. This is formally stated in Proposition 4.

Proposition 4 *The optimal between-group transfer is increasing in the strength of the correlation of the tag with consumption needs.*

Propositions 2 and 4 both address disparities in consumption across groups. We state them separately because citizens may distinguish ability-driven from needs-driven differences in consumption when they know the distribution of needs across groups.

2.4 Incorporating Fairness Concerns

We now incorporate fairness concerns into the framework to identify when tagging is socially acceptable. A common view is that citizens may oppose tagging because it violates *horizontal equity*—the principle that “equals” should be treated equally (e.g., Fleurbaey & Maniquet

⁵If switching occurs due to behavioral responses other than evasion, such as individuals intentionally incurring health risks to be classified as disabled, there are additional efficiency costs that arise from such choice distortions, which further lower the appeal of mutable tags.

⁶See Pestieau & Racionero (2015) for tagging with *leisure needs*—needs increase with ability.

2018, Saez & Stantcheva 2016, Mankiw et al. 2009). In our context, horizontal equity implies that if the tagged and untagged groups are perceived as equals, they should face the same tax treatment. However, horizontal equity alone is not sufficient: it does not explain why we observe differential treatment of groups in practice (see evidence in Section 5) and citizens supporting some tags (see evidence in Section 4.1). A concern for reducing inequality across groups deemed different is captured by *vertical equity*. Thus, horizontal equity requires no tagging for groups judged as equals, while vertical equity provides a justification for tagging when the groups are deemed different. To incorporate such fairness concerns, we introduce *Pareto weights* $\omega_{g,i}$, which capture the planner's normative priority on the utility of an individual with wage w_i in Group g . With Pareto weights, Equation (2) changes to

$$\sum_{i=1}^I \pi_{t,i} \omega_{t,i} u'(c_{t,i}) = \sum_{i=1}^I \pi_{u,i} \omega_{u,i} u'(c_{u,i}), \quad (3)$$

where the term $\omega_{g,i} u'(c_{g,i})$ is the *social marginal welfare weight* (henceforth welfare weights) for an individual in group g with wage w_i . Welfare weights measure society's valuation of providing an additional dollar of consumption to different individuals. They are a reduced-form representation of underlying fairness ideals (Saez & Stantcheva 2016).

Welfare weights provide a unified way to represent both horizontal and vertical equity.⁷ In the canonical benchmark model, the Pareto weights are uniform across groups—redistribution between groups is driven solely by differences in their average marginal utility of consumption. There are four deviations from this benchmark achieved by modifying the Pareto weights. First, assigning a higher average Pareto weight to the tagged group strengthens the case for tagging relative to the benchmark: the planner increases the between-group transfer toward the tagged group beyond what consumption differences alone would imply. Second, assigning a higher average Pareto weight to the untagged group weakens the case for tagging relative to the benchmark. Third, if Pareto weights are chosen to equalize the welfare weights across groups, horizontal equity requires no between-group transfers. Fourth, if the untagged group's average Pareto weight is sufficiently high, the direction of the between-group transfer reverses: the transfer flows to the untagged group, even though it has a higher average consumption.

⁷(for related approaches, see Berg 2025, Lockwood & Weinzierl 2015, Bergstrom & Dodds 2021). Modeling both horizontal and vertical equity with welfare weights is consistent with work arguing that horizontal equity lacks an independent normative basis (e.g., Kaplow 1989, Galbiati & Vertova 2006, Berg 2024).

3 Survey Design and Data

To provide descriptive evidence on citizens’ support for tagging based on various tags, we elicit participants’ support for policy proposals involving tagging with various tags (Section 3.1). Next, to understand which types of tags garner higher support, we conduct a vignette experiment (Section 3.2). Finally, we include several questions to understand which concerns drive citizens’ support for tagging (Section 3.3). Appendix Figure A1 provides an overview of the survey. The full set of instructions can be found in Appendix Section F. We pre-registered the experimental design and adhered to this plan without deviations.⁸

3.1 Support for Tags

We elicit participants’ support for tagging based on various tags. Each tag divides the population into two mutually exclusive groups: a “tagged” and an “untagged” group.⁹ Following the theoretical setup, we provide participants with information about the incomes of the groups, which is a proxy for their underlying ability. In particular, we inform participants that the tagged group has a lower average pre-tax income than the untagged group, and the income distributions of the groups overlap. Figure 1 presents a screenshot of one of the tags presented to participants, in which the tagged group includes individuals with visual impairments and the untagged group includes all others. We omit the exact incomes to reduce the cognitive burden on participants.

For each tag, participants are presented with a policy proposal in which individuals in the tagged group would owe slightly lower income taxes than those in the untagged group.¹⁰ We highlight the horizontal distributional implications of the policy by informing participants that, for any given income, an individual in the tagged group would owe lower taxes than an individual in the untagged group. Under optimal tax theory, such a policy can increase efficiency (see Proposition 1). Participants indicate their support for the policy on a 7-point scale ranging from “-3: Strongly oppose” to “+3: Strongly support.”

Participants evaluate ten policy proposals, each corresponding to a different tag. We include tags discussed in the literature, as well as those employed by the federal income tax system. When a tag appears in the literature, we define the tagged group based on the

⁸See <https://doi.org/10.1257/rct.14473-1.0>

⁹Many tags naturally divide the population into two groups (e.g., visual impairment status). For tags that can be divided into multiple groups (e.g., age), we split them into two groups for simplicity.

¹⁰We use a “gain” frame that focuses on the gains to the tagged group rather than a “loss” frame that focuses on the losses of the untagged group. If participants are loss-averse, the loss frame would garner lower support. Thus, levels of support from a gain frame can be interpreted as an upper bound. However, the difference in fairness perceptions between the two frames is likely to be small (Capozza & Srinivasan 2024), particularly in domains where participants do not make decisions for themselves (Andersson et al. 2016).

The population is divided into two groups:

Group A: **Individuals with visual impairments**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (with visual impairments) is lower than the average pre-tax income of individuals in Group B.

Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy proposal: Individuals in Group A (with visual impairments) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

Figure 1: Screenshot of a Policy Proposal

groups in the numerical simulations; when it is not, we instead rely on the groups that receive tax breaks in practice. Table 5 indicates the selected tags and groups, which include: (1) dependents (presence of dependents), (2) disability status (disabled), (3) visual impairment status (visually impaired), (4) region of residence (residing in the bottom 1% of regions by average income and poverty rate), (5) age (individuals aged 18 to 30), (6) marital status (not married), (7) level of education (highest education is a high school diploma or less), (8) gender (women), (9) race and ethnicity (ethnic/racial minorities), and (10) sector of employment (not service sector).¹¹ The order of the policies is randomized across participants.

The average income differences between the tagged and untagged groups vary across tags (see Appendix Figure A3). The largest difference is by region: individuals in low-income regions earn \$82,033 less on average than those in other regions. The second-largest difference is by education: low-educated individuals earn about \$49,073 less on average than others. Differences for all remaining tags range from roughly \$19,000 to \$31,000.

¹¹ Among the tags documented in the literature, we exclude genes and accidental bequests because they are difficult to define in policy-relevant terms. We exclude height (an immutable tag) to maintain a balance between immutable and mutable tags. We exclude presence of children because, in the U.S., individuals with children earn higher incomes on average. Among the tags used in practice, we drop homeownership status, veteran status, and self-employment status because these groups earn higher incomes. Although veterans and the self-employed have lower labor incomes, their total incomes—the measure of income described in the instructions—are higher. We exclude students because they have very little labor income.

3.2 Vignette Experiment

To understand which types of tags garner higher support, we conduct a vignette experiment. The experimental control allows us to isolate features common across tags that influence support, while minimizing the influence of idiosyncratic features. We focus on features that affect the optimal level of between-group transfers (see Section 2), which allows us to test whether people’s support for tagging aligns with the theoretical prescriptions.

In the vignette experiment, participants view a scenario that closely mirrors the ones used to elicit support for specific tags (Section 3.1); however, the groups defined by the tag are left unspecified and labeled merely as Group A and Group B. This abstraction enables us to minimize the influence of idiosyncratic features of tags. Appendix Figure A2 presents a screenshot of the instructions in one of the scenarios. We elicit participants’ support for a policy proposal in which individuals in the tagged group (Group A) would owe slightly lower taxes than those in the untagged group (Group B). Theory would prescribe such a policy (see Proposition 1). Their responses can range, on a 7-point scale, from “-3: Strongly oppose” to “+3: Strongly support.”

Treatments

Participants are randomly assigned to one of eight treatments in a $2 \times 2 \times 2$ between-subjects design. These treatments consist of variations of the scenario described above. Each treatment dimension considers a feature of tags that affects the optimal level of between-group transfers in theory (see Section 2). Table 1 provides an overview of the treatments.

The first treatment dimension varies the strength of the correlation between the tag and individuals’ ability—conceptualized as the overlap in the ability distributions across the tagged and untagged groups. Because ability is unobserved, we implement this by varying the overlap of the groups’ income distributions. In Treatment Low-Corr, participants learn that “many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income.” In Treatment High-Corr, participants learn that “very few individuals in Group A earn a high income, and very few individuals in Group B earn a low income.” The tag has a stronger correlation with ability in Treatment High-Corr because of the lower overlap in the income distributions of the groups.

The second treatment dimension varies whether the tag distinguishing the two groups is immutable or mutable. In Treatment Immutable, participants learn that individuals “cannot influence the group to which they belong,” while in Treatment Mutable, they learn that “individuals might be able to influence the group to which they belong.”

The third treatment dimension varies whether the tag is correlated with individuals’

consumption needs, measured by the expenditure required to meet a basic needs benchmark. In the Uncorr-Needs treatment, “individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs.” In the Corr-Needs treatment, “individuals in Group A have to spend more money, on average, compared to individuals in Group B to meet their basic needs.” Thus, the tag is correlated with needs in Treatment Corr-Needs and uncorrelated with needs in Treatment Uncorr-Needs. Participants are presented with a description of basic needs adapted from Liscow & Pershing (2022).

Table 1: Overview of Treatments

		Correlation with ability			
		Weak		Strong	
		Correlated with needs?			
Mutable?	No	No	Yes	No	Yes
	No	Immutable ×	Immutable ×	Immutable ×	Immutable ×
		Low-Corr ×	Low-Corr ×	High-Corr ×	High-Corr ×
		Uncorr-Needs	Corr-Needs	Uncorr-Needs	Corr-Needs
	Yes	Mutable ×	Mutable ×	Mutable ×	Mutable ×
		Low-Corr ×	Low-Corr ×	High-Corr ×	High-Corr ×
		Uncorr-Needs	Corr-Needs	Uncorr-Needs	Corr-Needs

Quality of Responses

We take several steps to obtain high-quality responses. First, because the vignette is abstract, we place it after the policy proposals involving various tags so that participants encounter multiple tags before stating their preferences in the vignette. Second, to make participants’ responses consequential, we inform them that the study’s findings will be shared with U.S. policymakers and made publicly available, following the approach of Elias et al. (2019). In addition, we include an incentivized redistribution task and test whether it correlates with support for tagging in the vignette (details in Section 3.3). Third, to reduce the role of social desirability bias, we inform participants that there are no right or wrong answers, emphasizing that we want their honest opinions. Fourth, to motivate attentive responses and ensure comprehension, we included one attention check and three comprehension checks in the survey, excluding individuals who failed one or more checks. The three true-or-false comprehension questions are designed to test participants’ understanding of the key information distinguishing the treatments. For example, in the Uncorr-Needs treatment, participants are asked whether the following statement is true or false: “Individuals in

Group A and Group B spend the same amount of money, on average, to meet their basic needs.”

We also examine support among those with high-quality responses, including two questions that serve as proxies for response quality. First, we assessed participants’ knowledge about tagging by asking them whether the U.S. tax system conditions taxes on personal characteristics. Second, we asked participants to express the extent to which public authorities should consider their support for tags when deciding on tax policies. We reasoned that participants who believe their responses may be of low quality, because of their unfamiliarity with tagging or because of “trembling-hand” mistakes, would have stronger preferences to exclude their views from consideration.

3.3 Concerns Explaining Support for Tagging

We employ three complementary strategies to uncover participants’ concerns regarding tagging. First, to capture participants’ “first-order” concerns (Haaland et al. 2025), we include an open-ended question immediately after the vignette experiment that asks participants to explain their reasoning for their support.

Second, we capture fairness concerns, conceptualized as welfare weights (see Section 2). We measure welfare weights using an incentivized bonus allocation task, following Capozza & Srinivasan (2024). After the vignette experiment, participants choose whether to allocate a \$500 bonus to (i) an individual from the tagged group, (ii) an individual from the untagged group, or (iii) either individual (indicating indifference). Participants’ decisions are incentivized: the choice of one randomly selected participant in the study will be implemented.¹² Allocating the bonus to the tagged group reflects higher average welfare weights to the tagged group, which we refer to as progressive weights as the tagged group has a lower average income. Similarly, allocating the bonus to the untagged group reflects regressive welfare weights and indifference implies an equal weight to the groups.¹³

Third, to capture overarching concerns, we include several closed-ended items that measure specific concerns highlighted in the literature (e.g., Stantcheva 2021, Blesse et al. 2019, Slemrod 2025), grouped into five categories: equity, efficiency, scope of government, implementation, and privacy. Appendix Section B provides the definitions of the variables constructed from these questions.

¹²We will recruit the recipient of the bonus such that their characteristics match those described in the vignette experiment.

¹³If a participant assigns average welfare weights g_T to the tagged group and g_N to the untagged group, they value a payment of \$500 to the tagged group at $g_T \times 500$ and to the untagged group at $g_N \times 500$. Allocating the bonus to the tagged group implies $g_T \times 500 > g_N \times 500$, or $g_T > g_N$. Similarly, allocating the bonus to the untagged group implies $g_T < g_N$, and indifference implies $g_T = g_N$.

3.4 Background Characteristics

We collected a rich set of background characteristics to compare the sample to the U.S. population and to explore support for tagging among various sub-groups. These include state of residence, birth year, gender, education, household income, region of residence (zip code), marital status, number of dependents, ethnicity (whether Hispanic), race, employment status, sector of employment, visual impairment status, disability status, and political affiliation.

3.5 Implementation and Sample

We recruited participants from the U.S. general population using the data service provider Bilendi, which is commonly used in the literature (e.g., Stantcheva 2021, Jäger et al. 2024). Participants were rewarded by Bilendi using various methods, such as cash and points in reward programs. At the start of the survey, participants provide their age, gender, education, state of residence, and income. We defined demographic quotas based on these characteristics and excluded participants when the quotas were full. We included an attention check and three comprehension checks, dropping participants failing one or more checks. The data collection began on October 8, 2024, and lasted three weeks. After dropping participants based on our pre-registered criteria, our final sample includes 3,012 participants.¹⁴ The median response time for the survey was 15 minutes.

Table 2 presents the average characteristics of our sample and the U.S. population. Since we included demographic quotas, our sample closely matches the population. However, there are small differences (less than 6 percentage points) for some characteristics because we relaxed the quotas towards the end of the data collection. As an additional check of representativeness, we compare responses in our sample to a question on trust in government with those from Pew Research Center, which used a similarly worded question.¹⁵ In our sample, 19% trust the government “most of the time” or “just about always,” closely matching the share (22%) reported in Pew’s national poll in 2023. The sample characteristics are balanced across the eight treatments, except for those aged 55 to 65 (Appendix Table A2).

¹⁴We recruited 8296 participants. We dropped participants who did not consent to participate in the study (2.3%), who arrived after the demographic quotas were full (23.8%), who failed the attention check (6.5%), and who failed the comprehension checks (40.1%). The shares failing the first comprehension question (17.8%), the second question (18.8%), and the third question (19.4%), are not statistically significantly different from each other ($F = 2.17, p = 0.12$).

¹⁵See <https://www.pewresearch.org/politics/2024/06/24/public-trust-in-government-1958-2024/>

Table 2: Summary Statistics

Variable	Sample	Population
Female	0.55	0.51
Income: < 30,000	0.18	0.13
Income: 30–59,999	0.23	0.18
Income: 60–99,999	0.22	0.23
Income: 100–149,999	0.17	0.20
Income: ≥ 150,000	0.20	0.26
Education: Up to Highschool	0.34	0.37
Education: Some college	0.18	0.20
Education: Bachelor or Associate	0.33	0.30
Education: Masters or above	0.15	0.13
Age: 18–34	0.13	0.11
Age: 25–34	0.12	0.17
Age: 35–44	0.16	0.17
Age: 45–54	0.17	0.16
Age: 55–64	0.18	0.16
Age: 65+	0.25	0.23
Region: Northeast	0.19	0.17
Region: Midwest	0.20	0.20
Region: South	0.34	0.39
Region: West	0.27	0.24
Republican	0.30	0.27

Notes: The table presents the average background characteristics of our sample and the U.S. population. The U.S. population demographics are computed using the 2023 American Community Survey (ACS) 1-year estimates for individuals aged 18 and older. The population share of Republicans is the average share of individuals identifying as Republican, based on multiple surveys conducted by Gallup in 2023.

4 Results

4.1 Descriptive Evidence on Support for Various Tags

We begin by presenting descriptive evidence on participants’ support for tagging based on various tags. Each tag identifies a tagged group that would owe lower taxes (henceforth referred to as “receiving a tax break”). A participant is defined as supporting a tag if their responses range from “+1: Slightly support” to “+3: Strongly support.”

Variation in support across tags: Support for tags is generally low, but several tags receive high levels of support (see Figure 2). Participants exhibit low support for tax breaks

for those not employed in the service sector (15%), minorities (16%), women (19%), those with low education (20%), the unmarried (22%), and the young (25%); moderate support for tax breaks for individuals living in low-income regions (39%); and high support for providing tax breaks for individuals with dependents (63%), disabilities (60%), and visual impairments (49%). Averaging across all tags, 33% of participants support tagging. Support levels are very similar when applying sampling weights to match the population (Appendix Figure A4). Furthermore, the ranking of tags is very similar when support is measured using a continuous scale rather than a binary indicator (Appendix Figure A5).

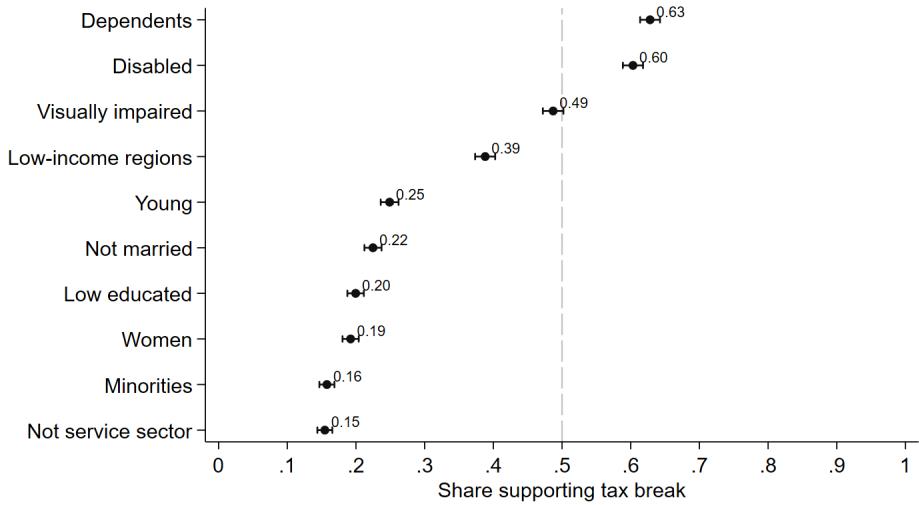


Figure 2: Share Supporting Tags

Notes: The figure presents the share of participants who support providing a tax break to various groups. The y-axis lists the groups, and the x-axis indicates the share of participants supporting a tax break for each group. A participant is defined as supporting a tax break if their responses range from “+1: Slightly support” to “+3: Strongly support.” The bars represent the 95% confidence intervals around the means.

Robustness to Quality of Responses and Self-Interest Motives: We test whether participants’ support is robust to low-quality responses. We find that support for tags is very similar among the 38% of participants who express strong preferences for their responses to be considered by policymakers and among the 74% of participants who are aware that the tax system already employs tagging (Appendix Figures A6 and A7). Reassuringly, the high share of participants (74%) aware that the tax system already employs tagging suggests that participants are familiar with the context described in the experiment. Next, we test whether participants’ support is robust to self-interest motives. Following the tradition in welfare economics, support for policies unconfounded by self-interest motives provides a normatively appealing policy prescription. We find that support for tags is very similar when

we exclude would-be beneficiaries for each tag—those whose support is prone to self-interest motives (Appendix Figure A8).¹⁶

Variation in support across individuals: There is also considerable variation in support across participants (Appendix Figure A9). About 19% of the participants support none of the tags, while 3% support all. The median participant supports about a third of tags. There is also heterogeneity across participants within each tag (Appendix Figure A10).

Correlation structure: We summarize the observed variation in support using a principal components analysis (PCA), which identifies components that are weighted averages of participants' support for tags (details in Appendix Section E.1). We identify two components that explain 63% of the variation in the data. The first component, which accounts for about half of the overall variation in the data, assigns positive weights to all tags—it captures a general tendency to be more or less supportive of tagging overall. Consistent with this result, we observe that all pairwise correlations in support for tags are positive (Appendix Figure A11). The second component, which explains 13% of the variation, assigns positive weights to tags with high support (including dependents, disabled, and visually impaired) and negative weights to tags with low support (such as young, not married, or not in the service sector)—it reflects the contrast between popular and unpopular tags.

Summary and Implications: Overall, we find considerable variation in participants' support for tagging both across tags and across individuals, with support being robust to low-quality responses and self-interest motives. A principal components analysis shows that most of the variation in the data can be summarized by two broad dimensions: an overall disposition toward tagging and a contrast between tags with high and low support. Taken together, these results suggest that attitudes toward tagging are shaped by both the characteristics of the tags and individual beliefs and preferences. The next few sections aim to uncover these determinants. Furthermore, these findings point to a more nuanced view than accounts in the literature that anticipate generally low public support for tagging because it violates horizontal equity.

¹⁶Excluding would-be beneficiaries reduces support by 5–9 percentage points for providing a tax break to the young, those not married, and minorities; because these tags already have low baseline support, our policy prescriptions are unchanged. These results are driven by the low share of would-be beneficiaries for several tags and the limited role of self-interest among these beneficiaries (Appendix Table A13). For several tags, would-be beneficiaries are somewhat more likely to support that tag, but differences are modest or absent for many tags. The largest difference is for age: support for a tax break to the young is 26 percentage points higher among the young than among other participants.

4.2 Which Types of Tags Garner Higher Support?

Our results in the previous section show that there is considerable variation in support across tags. In this section, we analyze the results from the vignette experiment to understand which types of tags garner higher support and test whether participants' support aligns with the prescriptions from optimal tax theory. Figure 3 presents the share of participants who support tagging in the vignette experiment by treatment. In each treatment dimension, the bars average over the treatments in the other two dimensions. Table 3 presents the corresponding regressions, where the dependent variable equals 1 if a participant supports tagging and 0 otherwise, and the explanatory variables are treatment indicators.

First, we compare Treatments Low-Corr and High-Corr. In Treatment Low-Corr, where the tag has a weak correlation with ability, 26% of participants support tagging. In Treatment High-Corr, where the correlation is strong, the share of participants supporting tagging increases to 49%. This 22.7 percentage points difference is statistically significant (Table 3, Column 1). With a baseline support of 26%, the treatment effect corresponds to an 87% increase in support, which is a large effect. This result aligns with Proposition 2, which shows that the optimal between-group transfer increases with the strength of the correlation between the tag and ability.

Second, we compare Treatments Immutable and Mutable. In Treatment Immutable, the individuals described in the vignette cannot influence the group to which they belong, whereas in Treatment Mutable, individuals might be able to influence their group status. The share of participants supporting tagging is very similar between the two treatments: 38% in Treatment Immutable versus 37% in Treatment Mutable. The 1.1 percentage points difference in support across treatments is not statistically significant (Table 3, Column 2). This result contrasts with Proposition 3, which shows that the optimal between-group transfer is higher for immutable than for mutable tags.

Finally, we compare Treatments Uncorr-Needs and Corr-Needs. In Treatment Uncorr-Needs, where the tag is uncorrelated with needs, 31% of participants support tagging. In Treatment Corr-Needs, where the tag is correlated with needs, support rises to 44%. The 12.4 percentage points difference between the treatments is statistically significant (Table 3, Column 3). This finding aligns with Proposition 4, which shows that the optimal between-group transfer is transfer increases with the strength of the correlation between the tag and consumption needs.

While the vignette experiment is designed to study comparative statics, we briefly describe the patterns in the level of support. Support ranges widely across treatments—from 16% when the tag is a weak signal of ability, unrelated to needs, and mutable, to 56% when

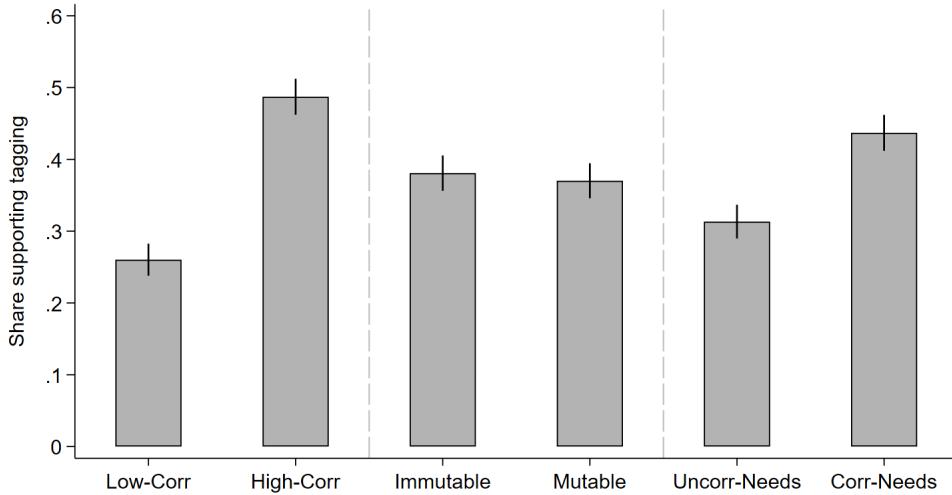


Figure 3: Share Supporting Tagging by Treatments

Notes: The figure presents the share of participants supporting tagging in the vignette experiment by treatment. A participant is defined as supporting tagging if their responses range from “+1: Slightly support” to “+3: Strongly support.” Vertical bars represent the 95% confidence intervals around the means.

Table 3: Share Supporting Tagging by Treatments

	(1)	(2)	(3)	(4)	(5)
High-Corr	0.227*** (0.017)			0.228*** (0.017)	0.227*** (0.017)
Mutable		-0.011 (0.018)		-0.012 (0.017)	-0.018 (0.017)
Corr-Needs			0.124*** (0.018)	0.126*** (0.017)	0.128*** (0.017)
Constant	0.260*** (0.011)	0.381*** (0.013)	0.313*** (0.012)	0.203*** (0.016)	0.303*** (0.025)
Observations	3012	3012	3012	3012	2983
Controls?	No	No	No	No	Yes

Notes: The table reports coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *High-Corr*, *Mutable*, and *Corr-Needs* are treatment indicators. Controls include *Republican*, *High Age*, *High Income*, *High Education*, and *Female*. *Republican* is an indicator for Republicans. *High Age* takes a value of 1 if a participant’s age is above the median and 0 otherwise. *High Income* and *High Education* are defined similarly. *Female* is an indicator for females. HC3 standard errors in parentheses.
 * p <0.10, ** p <0.05, *** p <0.01

it is a strong signal of ability, correlated with needs, and immutable (Appendix Figure A12).

Robustness: Our results are robust across several alternative specifications. The treatment effects are similar in a multivariate specification that includes all three treatment indicators jointly (Table 3, Column 4), and when we add background characteristics as controls to this multivariate specification (Table 3, Column 5). Furthermore, the significance levels are intact when we consider continuous measures of support, though the effect sizes of the two significant coefficients move closer together (Appendix Table A3). The treatment effects hold across the full distribution of support (Appendix Figure A13). Each treatment effect within a given dimension is stable across all treatments of the other two dimensions (Appendix Table A4). Finally, the treatment effects are stable across demographic subgroups (Appendix Tables A5 and A6); we only find weak evidence of heterogeneity by partisanship at the 10% level, with smaller treatment effects for Republicans relative to others.

Validation: We present three validation exercises: the first two compare support for tagging in the vignette experiment (based on a controlled scenario) and support for various tags (based on realistic scenarios) at the aggregate and individual levels, and the third tests whether the observed individual-level correlation is driven by the salience of specific tags. First, at the aggregate level, the share of participants supporting tagging in the vignette (38%, pooling across treatments) closely matches the share supporting the individual tags (33%, averaging across tags). Second, at the individual level, participants who support tagging in the vignette experiment support 49% of the tags, whereas those who oppose tagging in the experiment support only 23% of the tags—a 26 percentage points difference that is statistically significant (t-test, $p < 0.01$). Third, we find that the correlation of support in the vignette with support for individual tags ranges from 0.34 to 0.5, while the correlation with average support across tags is 0.57. Thus, support for tagging in the vignette likely captures general dispositions toward tagging rather than the salience of any specific tag.

Summary: Overall, the results from the vignette experiment suggest that participants are more likely to support tagging when the tag is a strong signal of ability or is related to consumption needs, consistent with theoretical prescriptions. Whether a tag is mutable appears to have little impact on support, contrasting the theoretical prescription of using immutable tags. The following sections aim to uncover the underlying concerns driving these treatment effects.

4.3 Underlying Concerns: First-Order Concerns

To uncover participants' underlying concerns regarding tagging, we begin by examining their first-order concerns regarding tagging, drawing on their open-ended explanations of their indicated support in the vignette experiment. We analyze these responses using OpenAI's Large Language Model (LLM). We first compare responses between supporters and opponents of tagging, and then compare responses across treatments. Details and model outputs are provided in Appendix Section E.2.

Support vs. No Support: Among participants who oppose tagging, about 70% emphasize horizontal equity: individuals with the same income should face the same tax burden regardless of group affiliation. Efficiency considerations also emerge, with about 11% of participants citing the complexity of the system and the potential for manipulation. Other themes include the desire for more information, worries that group-based taxation could create unnecessary divisions and conflicts, and neutral or indifferent views. By contrast, participants who support tagging tend to emphasize vertical equity, defined as inequality reduction across groups: 40–45% highlight the need to support lower-income individuals, 27% stress the importance of helping those with higher basic needs expenses, and 25% argue in favor of assisting disadvantaged groups.

Treatment Comparisons: Next, we compare responses across treatments. In the Low-Corr and High-Corr treatments, horizontal equity emerges as the most prominent concern, cited by about 70% of participants in the Low-Corr treatment and 62% in the High-Corr treatment. Other topics appear in roughly similar proportions across the two treatments. The slightly higher share of horizontal equity concerns in Treatment Low-Corr likely helps explain the lower support for tagging observed in this treatment.

Comparing the Immutable and Mutable treatments reveals a higher proportion of horizontal equity concerns in the Immutable treatment (65% in Treatment Immutable and 47% in Treatment Mutable), while participants in the Mutable treatment more often emphasize vertical equity considerations (32% in Treatment Immutable and 44% in Treatment Mutable). However, these differences do not account for the observed null effect in support across these two treatments, suggesting the presence of other concerns that increase support for tagging in Treatment Immutable.

Finally, comparing Corr-Needs and Uncorr-Needs treatments shows that participants in Corr-Needs more frequently mention supporting needy individuals (25% in Treatment Uncorr-Needs and 34% in Treatment Corr-Needs), whereas those in Uncorr-Needs more often cite horizontal equity concerns (61% in Treatment Uncorr-Needs and 52% in Treatment Corr-

Needs). These patterns are consistent with the higher support observed in the Corr-Needs treatment.

Summary: Overall, participants express horizontal equity concerns, as hypothesized in the literature; however, vertical equity concerns are also prominent. In particular, some participants view the groups as equals and emphasize, consistent with horizontal equity, that individuals with the same income should face the same tax burden regardless of group affiliation. Others view the groups as meaningfully different in terms of income, needs, or disadvantages, and argue, consistent with vertical equity, for supporting groups with lower incomes, higher needs, or disadvantages. These perceptions offer a possible explanation for the variation in support across individuals and across treatments.

4.4 Underlying Concerns: Fairness Concerns

The open-ended responses documented in the previous section highlight fairness—particularly horizontal and vertical equity—as the most salient first-order concern. In this section, we formalize the role of fairness concerns and test whether they account for heterogeneity in support across individuals and treatments in the vignette experiment.

We conceptualize fairness through welfare weights (see Section 2) and measure them using an incentivized bonus allocation task adapted from Capozza & Srinivasan (2024). After the vignette experiment, participants chose whether to allocate a \$500 bonus to an individual from the tagged group, to one from the untagged group, or to either (indicating indifference). Allocating the bonus to the tagged group reflects progressive welfare weights (since the tagged group has a lower average income), allocating it to the untagged group reflects regressive weights, and indifference implies equal weights across groups.¹⁷

Pooling across all treatments, 48% of participants have progressive weights, 42% have equal weights, and 10% have regressive weights (Appendix Figure A14). We also find variation in welfare weights across treatments. We exclude participants with regressive weights from the main analysis, since prior work suggests that some regressive choices are driven by mistakes (Capozza & Srinivasan 2024); however, our results do not hinge on this exclusion.

Variation Across Individuals: Conditional on having progressive welfare weights, the share of participants supporting tagging is 60%. In contrast, among those with equal weights, only 16% support tagging.¹⁸ Figure 4 presents this association across treatments. We find a

¹⁷The welfare weight assigned to an individual from a group is assumed to represent the average weight assigned to that group.

¹⁸Among the 10% of participants with regressive weights, 22% support tagging.

statistically significant association between support for tagging and welfare weights in each of the eight treatments (chi-square tests; $p < 0.05$). To summarize, the variation in welfare weights across individuals predicts the variation in support for tagging across individuals.

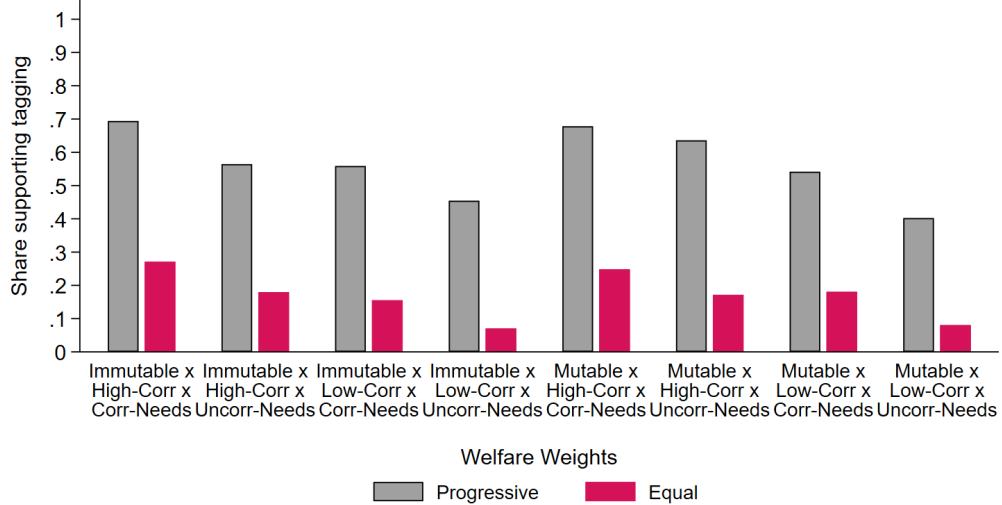


Figure 4: Share Supporting Tagging by Welfare Weights and Treatment

Notes: The figure presents the share of participants supporting tagging in the vignette experiment, by welfare weights and treatment. A participant has progressive welfare weights if they allocate the bonus to the individual from the tagged group, and equal weights if they are indifferent between allocating the bonus to the individual from the tagged group and the untagged group. Participants with regressive weights are excluded.

Variation Across Treatments: Figure 5, which presents the share of participants with progressive weights by treatment, closely parallels the pattern in support for tagging observed in Figure 3. Participants assign higher welfare weights in Treatment High-Corr relative to Treatment Low-Corr, and in Treatment Corr-Needs relative to Uncorr-Needs—a pattern that aligns with the observed treatment effects on support for tagging.¹⁹ Both treatment differences are statistically significant (Appendix Table A8). Participants' welfare weights are very similar across the Mutable and Immutable treatments, and the difference is not statistically significant—mirroring the null effect on support for tagging observed across these treatments (Appendix Table A8). To summarize, the variation in welfare weights across treatments predicts the variation in support for tagging across treatments.

¹⁹A mediation analysis shows that welfare weights explain part of the treatment variation in support: they account for 45% of the difference in support between Treatments High-Corr and Low-Corr, and 33% of the difference between Treatments Corr-Needs and Uncorr-Needs (Appendix Table A9).

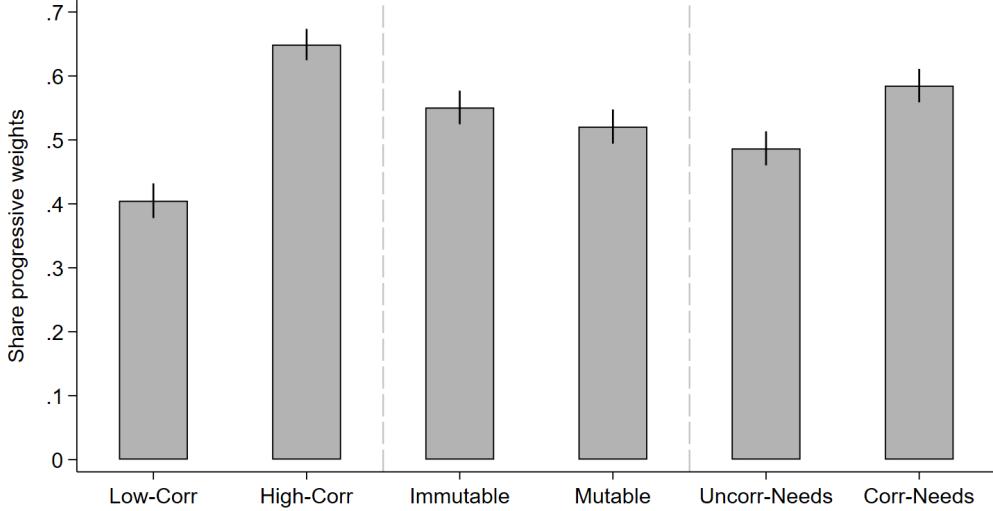


Figure 5: Share Assigning Progressive Welfare Weights by Treatment

Notes: The figure presents the share of participants assigning progressive welfare weights by treatment. A participant has progressive welfare weights if she allocates the bonus to the individual from the tagged group, and equal weights if she is indifferent between allocating the bonus to the individual from the tagged group and the untagged group. Participants with regressive weights are excluded.

Summary: Overall, the results in this section suggest that fairness concerns (capturing horizontal and vertical concerns)—measured by welfare weights—predict support for tagging, helping to explain variation across individuals and treatments. Yet welfare weights do not fully account for the observed variation, suggesting that other concerns may also be driving support. For example, participants with progressive weights (implying a preference to increase between-group redistribution) may oppose tagging because of concerns about efficiency, implementation, scope of government, or privacy. Conversely, participants with equal weights (implying a preference to maintain the status quo incomes) may support tagging for efficiency reasons, such as to reduce labor distortions or increase government revenue.

4.5 Underlying Concerns: Overarching Concerns

Having identified the role of fairness concerns, we study other overarching concerns, including efficiency, scope of government, implementation, and privacy.

Variation Across Individuals: Figure 6 reports coefficients from linear regressions where the dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise, and the explanatory variables are binary indicators capturing various mechanisms and background characteristics. Variable definitions are provided in Appendix Sec-

tion B. Appendix Table A10 presents the corresponding regression tables. Fairness concerns are the most important predictor of support for tagging: participants who view incomes from tagging as fair are 28 percentage points (pp) more likely to support tagging than those who are neutral or view them as unfair.²⁰ Efficiency concerns also matter, but less so. Support is 5 pp higher among those who believe tagging increases government revenue, with a similar effect for those who think tagging raises high-income labor supply. Surprisingly, those who believe tagging increases evasion are about 6 pp more likely to support tagging. Participants who perceive the government as inefficient are 3.5 pp less likely to support tagging. In addition to fairness and efficiency, other concerns also matter: support for tagging is 7 pp higher among those who think government should do more (scope of government), 6 pp higher among those with higher trust in government (implementation concerns), and 5 pp lower among those concerned about privacy (privacy concerns). Demographics explain additional variation. Support is 4 pp higher among above-median educated individuals, while it is 6-9 pp lower among above-median aged individuals, above-median income individuals, and Republicans. We find no significant gender effects.

Identifying the relative importance of concerns is challenging because the variables within each concern and across concerns may be correlated. To address this issue, we employ a Shapley value decomposition that identifies the contribution of each concern to explaining the overall variation (R^2) (Lipovetsky 2021).²¹ The R^2 of our regression is 0.13. The decomposition shows that fairness concerns account for 62% of the explained variation, efficiency for 18%, scope of government for 13%, privacy for 5%, and implementation concerns for 2%. The results are similar using a continuous measure for our outcome variable and explanatory variables (Appendix Table A11).

Variation Across Treatments: For the two treatment dimensions where we detect a treatment effect, we examine which concerns account for the treatment variation using a mediation analysis. In particular, we conduct a Gelbach decomposition (Gelbach 2016), which identifies the share of the treatment difference attributable to the various concerns,

²⁰We use a survey measure of fairness rather than the incentivized measure presented in the previous section since the former is more comparable to the survey measures capturing other concerns. Capozza & Srinivasan (2024) shows that variation in quantitative measures of welfare weights is accounted for by this survey measure of fairness, suggesting that survey measure likely captures a broad set of underlying normative ideals.

²¹The Shapley value, derived from cooperative game theory, provides a principled way to assess the marginal contribution of each concern to the explained variance (R^2) in our model. Intuitively, this approach considers all possible combinations of explanatory variables and calculates the incremental contribution of each when added to different subsets of variables. By averaging these contributions across all permutations, the Shapley value fairly allocates the R^2 among the concerns, accounting for their interdependence.

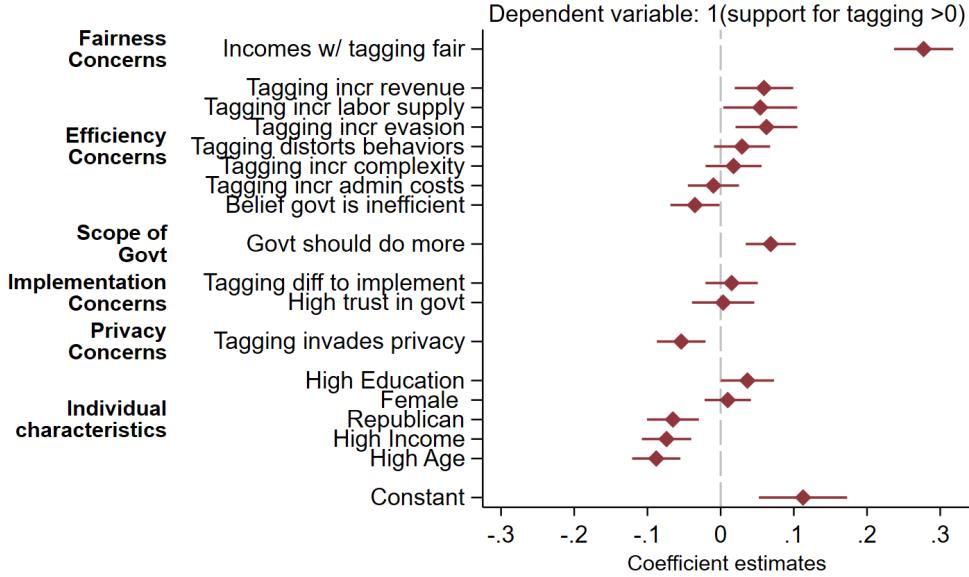


Figure 6: Support for Tagging and Mechanisms

Notes: The figure presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. The explanatory variables include mechanisms, background characteristics, and treatment indicators (omitted). All explanatory variables capturing mechanisms are binary variables (see Appendix Section B for the definitions). *Republican* is an indicator for Republicans. *High Age* equals 1 if a participant's age is above the median and 0 otherwise. *High Income* and *High Education* are defined similarly. *Female* is an indicator for females. Bars represent the 95% confidence intervals based on HC3 standard errors.

while controlling for potential correlations among the concerns.²²

²³ Table 4 presents the results. Fairness concerns explain the largest share of the treatment differences (3% of the High-Corr vs. Low-Corr difference and 9% of the Corr-Needs vs. Uncorr vs. Corr-Needs difference), followed by efficiency concerns (1% and 2%, respectively). Other concerns, including scope of government, privacy, and implementation, contribute negligibly.

²²The Gelbach decomposition compares the treatment coefficient from a regression without mechanism variables to that from a regression including them. For example, the High-Corr coefficient declines from 0.227 (col. 1) to 0.214 (col. 2), a reduction of 0.013 or about 5.7% of the initial effect, implying that mechanisms collectively explain roughly 6% of the treatment difference (Appendix Table A12). Similarly, in the Corr-Needs specification, the treatment effect declines from 0.124 (col. 3) to 0.115 (col. 4), a reduction of 0.009 or about 7.3%, indicating that mechanisms account for approximately 7% of that treatment difference. The decomposition then allocates these explained shares across the mechanism groups.

²³The Gelbach decomposition involves comparing the treatment coefficient from a regression without mechanism variables to that from a regression including them. The Low-Corr vs. High-Corr treatment difference declines from 0.227 to 0.214, implying that mechanisms explain about 6% of the treatment difference (Appendix Table A12). The decomposition then allocates this share across the mechanisms. Similarly, the Uncorr-Needs vs. Corr-Needs difference declines from 0.124 to 0.115, implying that the mechanisms account for about 7% of the treatment difference (Appendix Table A12).

Table 4: Decomposition of Treatment Effects

	(1)	(2)
Fairness Concerns	0.03	0.09
Efficiency concerns	0.01	0.01
Scope of govt	0.00	0.01
Privacy concerns	0.00	0.00
Implementation concerns	0.00	0.00
Share unexplained	0.94	0.93
Treatment	High-Corr	Corr-Needs

Notes: The table presents a covariate decomposition of treatment effects on support for tagging in the vignette experiment, following Gelbach (2016). Each entry shows the fraction of the treatment effect attributable to the indicated factor. The last row reports the unexplained share. Rows sum to one, up to rounding.

For the null effect between the Mutable and Immutable treatments, we examine whether this result is moderated by various mechanisms. Specifically, we estimate heterogeneous treatment effects to assess whether the treatment effect differs among participants with varying beliefs about, and preferences for, tagging. Across all specifications, we do not find statistically significant heterogeneous effects with respect to any of the mechanisms (Appendix Figure A15). The results related to efficiency are particularly noteworthy: they indicate that the difference between the Mutable and Immutable treatments remains small even among participants who recognize that tagging can distort choices or increase evasion—two margins along which, in theory, immutable tags should be preferred. These results provide suggestive evidence that we would likely observe only limited differences between the two treatments, even in a setting where participants fully understood and internalized the efficiency gains from immutable tags.

Summary: To summarize, fairness concerns are the most important predictor of support for tagging, explaining the largest share of variation in support for tagging both across individuals and treatments. Efficiency concerns also matter, but less so. Other concerns, such as scope of government, implementation, and privacy, help account for individual-level variation but contribute little to differences across treatments. Demographic characteristics also explain a part of the individual variation: higher-educated individuals express support for tagging, while older individuals, higher-income individuals, and Republicans express lower support.

5 Theory, Practice, and Citizens’ Support

In this concluding section, we bring together insights from theory, existing policies, and our experimental findings. We ask which tags proposed in the literature are likely to be socially acceptable and whether the tags used in practice reflect citizens’ views. To identify the tags discussed in the literature, we search for studies that have explored the efficiency benefits of employing specific tags using theory or simulations. Table 5 presents the tags documented in the literature, which broadly relate to individuals’ family structure, personal attributes, education and occupation, health status, and economic status. To identify the tags used in practice, we construct a novel dataset of the tags used in the U.S. tax system.²⁴ Column (1) of Table 5 lists various groups and Column (2) indicates the relative tax burden of these groups compared to the rest of the population—it can be higher, lower, the same, or dependent on other factors. Appendix Table A1 provides detailed explanations of the tax burden of the groups. We find that the U.S. tax system employs a wide range of tags.

Theory and Practice: There are three insights from exploring the tax discussed in the literature. First, several tags highlighted in the literature are also implemented in the U.S. tax system. These include the presence of children, marital status, race and ethnicity, age, place of residence, sector of employment, disability status, and visual impairment status. However, the extent of tagging for tags on age and sector of employment—in terms of the number of groups—is limited, relative to the benchmarks considered in the literature (e.g., Weinzierl 2011, Gaubert et al. 2021). Moreover, some of the groups that receive a tax break in practice, such as farmers and fishermen or those with children, earn higher incomes, highlighting other policy goals, such as incentivizing socially desirable behaviors or correcting externalities. Some of these goals have been discussed in literature (e.g., Lockwood et al. 2017, Farhi & Werning 2013). Second, several tags proposed in the literature—such as those based on height, genes, gender, level of education, and accidental bequests—are not currently implemented by the U.S. tax system. In our experiment, we show that participants have low support for taxation based on gender and education. Future research can explore whether the other tags would be socially acceptable. In light of our results, these tags would be socially acceptable if they are a very good signal of ability or related to needs. Finally, although most of the tags implemented by the U.S. tax system have been discussed in the literature, some remain unexplored. These include dependents, student status, homeownership status, self-

²⁴We identified the tax burden of various groups using the documentation of the Internal Revenue Service (IRS), the federal tax authority. We then hired a freelancer specializing in tax preparation to verify our findings. Individuals’ tax burden is determined by tax rates, deductions, exemptions, tax credits, and other tax rules. We exclude in-kind transfers, such as tax filing assistance.

employment status, and veteran status.²⁵ To summarize, there's scope for expanding tagging as well as scope for future research to identify tags that are both economically beneficial and socially acceptable.

Practice and Citizens' Support: Do the tax policies in place reflect citizens' views? To answer this question, we compare participants' support for providing a tax break to various groups with the groups that receive a tax break in practice. The groups that receive strong public support—those with dependents, disabilities, visual impairments, and living in low-income regions—also receive a tax break in practice, while groups that receive limited public support generally do not receive a tax break in practice.²⁶ Some groups that were not included in our survey—such as adopted children, widows, Native Americans, seniors, minors, clergy, farmers and fishermen, the self-employed, students, veterans, and homeowners—do receive tax breaks in practice. Future work could examine citizens' support for these groups. We hypothesize low support for some of these, such as Native Americans, clergy, and students, given our findings that people do not support race-based, sector-based, and education-based taxation. To summarize, citizens' preferences and existing tax policies are broadly aligned, with a few exceptions.

6 Discussion

Tagging—conditioning taxes jointly on income and characteristics—can increase efficiency but is widely believed to lack public support because it conflicts with the principle of horizontal equity, which stipulates treating equals equally. We test this claim using an online vignette experiment with a U.S general population sample and report three sets of results that challenge the view.

First, support for tagging is heterogeneous across both individuals and tags. The median respondent supports about one-third of tags, but there is wide dispersion across individuals. Likewise, although support for many tags is low, several tags receive substantial support. This pattern indicates that opposition to tagging is not universal; attitudes appear to be shaped by both the characteristics of tags and individual beliefs and preferences. Focusing on the variation across tags using a vignette experiment, we find higher support when the

²⁵Homeownership has been studied in relation to tags correlated with individuals' labor supply elasticities (Karabarbounis 2016). Student status has been widely studied in the context of human capital accumulation (Bovenberg & Jacobs 2005).

²⁶One exception is marital status: despite limited support for tax breaks for the unmarried, the tax code conditions on marital status. However, in practice, the tax burden of unmarried individuals can be higher or lower, depending on the difference in incomes of the two earners.

tag is a strong signal of ability or relates to consumption needs, consistent with theoretical prescriptions. However, the immutability of the tag does not predict support, contrasting the theoretical prescription of using immutable tags.

Second, vertical equity also matters alongside horizontal equity. Evidence from open-ended responses and from a direct measurement of horizontal and vertical equity via welfare weights shows that both concerns help account for the variation in support across individuals and tags. Conceptually, if the tagged and untagged groups have the same average welfare weights, horizontal equity implies no tagging; if their average weights differ, vertical equity supports redistribution from the group with the lower to the higher welfare weights, thereby rationalizing tagging.

Third, while fairness concerns are important, other considerations also shape support. Efficiency concerns also predict support, though less so. Other concerns, such as the scope of government, implementation, and privacy, account for individual-level variation but explain little of the differences across treatments.

While the canonical utilitarian model has two goals—improving efficiency and between-group redistribution—our results suggest that participants are likely guided primarily by redistributive motives. Given the importance of such fairness concerns, we incorporate them into our theoretical model to characterize when tagging is socially acceptable. We model social acceptability via the welfare weights assigned to the tagged and untagged groups. The optimal tax differentiation between groups is increasing in the difference between their average welfare weights.

Finally, we synthesize our experimental results, theory, and practice. There is scope for expanding tagging based on existing research, as well as scope for future research to identify tags that are both economically beneficial and socially acceptable. Furthermore, citizens' preferences and existing tax policies are broadly aligned, with a few exceptions.

Future Research: There are several directions for future research. First, future studies can examine support for tagging when the tag is correlated with individuals' preferences or their elasticity of taxable income (ETI), which can lead to efficiency benefits (e.g., Alesina et al. 2011, Karabarbounis 2016). Our study included some tags that are correlated with labor supply elasticity, such as gender and the presence of dependents. Prior evidence from controlled experiments (Sausgruber & Tyran 2014) and vignette studies (e.g., Saez & Stantcheva 2016) suggests that individuals are reluctant to base taxes on preferences. We hypothesize that support may be higher for tags correlated with preferences or ETI if these tags are also associated with individuals' needs.

Second, future research can study Pareto improving tagging, which involves differential

taxation across groups, but lower tax rates for all individuals relative to the status quo. While Mankiw & Weinzierl (2010) find modest gains from Pareto-improving reforms for height-based taxation, future work could examine the gains for other tags. Furthermore, future research can explore citizens' support for Pareto improving tagging. However, because Pareto improving tagging does not resolve horizontal equity concerns, support for tagging may remain limited.

Third, future research could examine tagging with different policy instruments, such as tax credits, deductions, or commodity taxes. Under horizontal equity, which requires treating equals equally, varying the instrument effectively varies how citizens interpret "treating equally," holding fixed their perceptions about the equality of groups. Future work could also analyze tagging implemented through a set of policies rather than a single tax instrument, consistent with existing U.S. tax and transfer policies revealing welfare weights that depend on the age of beneficiaries (Hendren & Sprung-Keyser 2020).

Table 5: List of Tags

Tag and Groups	Tax Burden	Research papers
Family Structure		
Children		
- Presence of children	Lower	Cigno (2001), Balestrino et al. (2002), Blumkin et al. (2015)
- Presence of adopted children	Lower	
Dependents		
- Presence of dependents*	Lower	
Marital status		
- Married*	Depends	Liebman & Ramsey (2019), Bastani (2013)
- Widow(er)	Lower	
Personal Attributes		
Race and ethnicity		
- Native Americans	Lower	Cushing & McGarvey (2003), Blumkin et al. (2009), Weinzierl (2012)
- Ethnic/Racial minorities*	Same	
Height		
- Short individuals	Same	Mankiw & Weinzierl (2010)

Continued on next page

Table 5: List of Tags (continued)

Tag	Tax Burden	Research Papers
Genes		
- Genes correlated with earnings	Same	Logue & Slemrod (2008)
Gender		Cushing & McGarvey (2003), Bastani (2013), Cremer et al. (2010), Weinzierl (2012)
- Women*	Same	
Age		
- Minors	Higher	Kremer (2002), Blomquist & Micheletto (2008),
- Young*	Same	Bastani et al. (2013), Weinzierl (2011), Kanbur &
- Seniors	Lower	Tuomala (2016), Heathcote et al. (2020)
Place of residence		Obara (2019), Kessing et al. (2020), Gaubert et al.
- Low-income regions*	Lower	(2021)
Education and Occupation		
Level of education		
- Low-educated*	Same	Blumkin & Sadka (2008)
Sector of employment		
- Clergy	Lower	Gomes et al. (2018)
- Farmers and fisherman	Lower	
- Not service sector*	Same	
Self-employment status		
- Self-employed	Higher	
Student status		
- Students	Lower	
Veteran status		
- Veterans	Lower	
Health Status		
Disability status		
- Disabled*	Lower	Jacquet (2014)
Visual impairment status		Weinzierl (2012)
- Visually impaired*	Lower	
Economic Status		

Continued on next page

Table 5: List of Tags (continued)

Tag	Tax Burden	Research Papers
Homeownership status		
- Homeowners	Lower	
Accidental bequests		
- Bequest beneficiaries	Same	Cremer et al. (2012)

Column (1) presents various tags and the groups that can be defined based on these tags. Column (2) indicates the relative tax burden of these groups compared to the rest of the population—it can be higher, lower, the same, or dependent on other factors. Column (3) indicates papers that focus on the tags. Groups marked with stars are included in the experiment.

References

- Akerlof, G. A. (1978), ‘The economics of “tagging” as applied to the optimal income tax, welfare programs, and manpower planning’, *The American economic review* **68**(1), 8–19.
- Alesina, A., Ichino, A., Karabarbounis, L. & Loungani, P. (2011), ‘Gender-based taxation and the division of family chores’, *American Economic Review* **101**(3), 414–418.
- Andersson, O., Holm, H. J., Tyran, J.-R. & Wengström, E. (2016), ‘Deciding for others reduces loss aversion’, *Management Science* **62**(1), 29–36.
- Balestrino, A., Cigno, A. & Pettini, A. (2002), ‘Endogenous fertility and the design of family taxation’, *International Tax and Public Finance* **9**, 175–193.
- Bastani, S. (2013), ‘Gender-based and couple-based taxation’, *International tax and public finance* **20**, 653–686.
- Bastani, S., Blomquist, S. & Micheletto, L. (2013), ‘The welfare gains of age-related optimal income taxation’, *International Economic Review* **54**(4), 1219–1249.
- Berg, K. (2024), ‘Why taxes need not treat equals equally’, *Erasmus Journal for Philosophy and Economics* **17**(2), 1–22.
- Berg, K. (2025), ‘Revealing inequality aversion from tax policy and the role of non-discrimination’, *Economica* **92**(366), 483–506.
- Bergstrom, K. & Dodds, W. (2021), ‘Using labor supply elasticities to learn about income inequality: the role of productivities versus preferences’, *American Economic Journal: Economic Policy* **13**(3), 28–62.
- Blesse, S., Buhlmann, F. & Dörrenberg, P. (2019), ‘Do people really want a simple tax system? Evidence on preferences towards income tax simplification’. *ZEW Discussion Paper no. 19-058*.
- Blomquist, S. & Micheletto, L. (2008), ‘Age-related optimal income taxation’, *Scandinavian Journal of Economics* **110**(1), 45–71.
- Blumkin, T., Margalioth, Y. & Sadka, E. (2009), ‘Incorporating affirmative action into the welfare state’, *Journal of Public Economics* **93**(9-10), 1027–1035.
- Blumkin, T., Margalioth, Y. & Sadka, E. (2015), ‘The re-distributive role of child benefits revisited’, *International Tax and Public Finance* **22**, 476–501.

- Blumkin, T. & Sadka, E. (2008), ‘A case for taxing education’, *International Tax and Public Finance* **15**, 145–163.
- Boadway, R. & Pestieau, P. (2006), ‘Tagging and redistributive taxation’, *Annales d’Economie et de Statistique* pp. 123–147.
- Bovenberg, A. L. & Jacobs, B. (2005), ‘Redistribution and education subsidies are siamese twins’, *Journal of Public Economics* **89**(11-12).
- Capozza, F. & Srinivasan, K. (2024), ‘Who should get money? Estimating welfare weights in the U.S.’. *CESifo Working Paper no. 11086*.
- Cappelen, A. W., Hole, A. D., Sørensen, E. Ø. & Tungodden, B. (2007), ‘The pluralism of fairness ideals: An experimental approach’, *American Economic Review* **97**(3), 818–827.
- Cappelen, A. W., Moene, K. O., Sørensen, E. Ø. & Tungodden, B. (2013), ‘Needs versus entitlements—an international fairness experiment’, *Journal of the European Economic Association* **11**(3), 574–598.
- Cigno, A. (2001), ‘Comparative advantage, observability, and the optimal tax treatment of families with children’, *International Tax and Public Finance* **8**, 455–470.
- Cremer, H., Dellis, A. & Pestieau, P. (2003), ‘Family size and optimal income taxation’, *Journal of Population Economics* **16**, 37–54.
- Cremer, H., Gahvari, F. & Lozachmeur, J.-M. (2010), ‘Tagging and income taxation: theory and an application’, *American Economic Journal: Economic Policy* **2**(1), 31–50.
- Cremer, H., Gahvari, F. & Pestieau, P. (2012), ‘Accidental bequests: A curse for the rich and a boon for the poor’, *The Scandinavian Journal of Economics* **114**(4), 1437–1459.
- Cushing, M. J. & McGarvey, M. G. (2003), ‘The efficiency of race-and gender-targeted income transfers’, *Public Finance Review* **31**(5), 455–486.
- Drenik, A. & Perez-Truglia, R. (2018), ‘Sympathy for the diligent and the demand for workfare’, *Journal of Economic Behavior & Organization* **153**, 77–102.
- Elias, J. J., Lacetera, N. & Macis, M. (2019), ‘Paying for kidneys? a randomized survey and choice experiment’, *American Economic Review* **109**(8), 2855–2888.
- Farhi, E. & Werning, I. (2013), ‘Insurance and taxation over the life cycle’, *Review of Economic Studies* **80**(2), 596–635.

- Fehr, E., Epper, T. & Senn, J. (2024), ‘Social preferences and redistributive politics’, *Review of Economics and Statistics* pp. 1–45.
- Fleurbaey, M. & Maniquet, F. (2006), ‘Fair income tax’, *The Review of Economic Studies* **73**(1), 55–83.
- Fleurbaey, M. & Maniquet, F. (2018), ‘Optimal income taxation theory and principles of fairness’, *Journal of Economic Literature* **56**(3), 1029–1079.
- Galbiati, R. & Vertova, P. (2006), ‘Horizontal equity’, *Economica* **73**(290), 771–791.
- Gaubert, C., Kline, P. M. & Yagan, D. (2021), Place-based redistribution. National Bureau of Economic Research.
- Gelbach, J. B. (2016), ‘When do covariates matter? And which ones, and how much?’, *Journal of Labor Economics* **34**(2), 509–543.
- Gomes, R., Lozachmeur, J.-M. & Pavan, A. (2018), ‘Differential taxation and occupational choice’, *The Review of Economic Studies* **85**(1), 511–557.
- Haaland, I. K., Roth, C., Stantcheva, S. & Wohlfart, J. (2025), ‘Understanding economic behavior using open-ended survey data’, *Journal of Economic Literature (forthcoming)*. Forthcoming.
- Heathcote, J., Storesletten, K. & Violante, G. L. (2020), ‘Optimal progressivity with age-dependent taxation’, *Journal of Public Economics* **189**, 104074.
- Hendren, N. & Sprung-Keyser, B. (2020), ‘A unified welfare analysis of government policies’, *The Quarterly Journal of Economics* **135**(3), 1209–1318.
- Immonen, R., Kanbur, R., Keen, M. & Tuomala, M. (1998), ‘Tagging and taxing: The optimal use of categorical and income information in designing tax/transfer schemes’, *Economica* **65**(258), 179–192.
- Jacquet, L. (2014), ‘Tagging and redistributive taxation with imperfect disability monitoring’, *Social Choice and Welfare* **42**, 403–435.
- Jäger, S., Roth, C., Roussille, N. & Schoefer, B. (2024), ‘Worker beliefs about outside options’, *The Quarterly Journal of Economics* **139**(3), 1505–1556.
- Kanbur, R. & Tuomala, M. (2016), ‘Groupings and the gains from tagging’, *Research in Economics* **70**(1), 53–63.

- Kaplow, L. (1989), ‘Horizontal equity: measures in search of a principle’, *National Tax Journal* **42**(2), 139–154.
- Karabarbounis, M. (2016), ‘A road map for efficiently taxing heterogeneous agents’, *American Economic Journal: Macroeconomics* **8**(2), 182–214.
- Kessing, S. G., Lipatov, V. & Zoubek, J. M. (2020), ‘Optimal taxation under regional inequality’, *European Economic Review* **126**, 103439.
- Konow, J. (2001), ‘Fair and square: the four sides of distributive justice’, *Journal of Economic Behavior & Organization* **46**(2), 137–164.
- Kremer, M. (2002), ‘Should taxes be independent of age? *Working Paper*.
- Kuziemko, I., Norton, M. I., Saez, E. & Stantcheva, S. (2015), ‘How elastic are preferences for redistribution? evidence from randomized survey experiments’, *American Economic Review* **105**(4), 1478–1508.
- Liebman, J. & Ramsey, D. (2019), ‘Independent taxation, horizontal equity, and return-free filing’, *Tax Policy and the Economy* **33**(1), 109–130.
- Lipovetsky, S. (2021), ‘Game theory in regression modeling: A brief review on shapley value regression’, *Model Assisted Statistics and Applications* **16**(2), 165–168.
- Liscow, Z. & Pershing, A. (2022), ‘Why is so much redistribution in-kind and not in cash? Evidence from a survey experiment’, *National Tax Journal* **75**(2), 313–354.
- Lockwood, B. B., Nathanson, C. G. & Weyl, E. G. (2017), ‘Taxation and the allocation of talent’, *Journal of Political Economy* **125**(5), 1635–1682.
- Lockwood, B. B. & Weinzierl, M. (2015), ‘De gustibus non est taxandum: Heterogeneity in preferences and optimal redistribution’, *Journal of Public Economics* **124**, 74–80.
- Logue, K. D. & Slemrod, J. (2008), ‘Genes as tags: The tax implications of widely available genetic information’, *National Tax Journal* **61**(4), 633–659.
- Mankiw, N. G. & Weinzierl, M. (2010), ‘The optimal taxation of height: A case study of utilitarian income redistribution’, *American Economic Journal: Economic Policy* **2**(1), 155–176.
- Mankiw, N. G., Weinzierl, M. & Yagan, D. (2009), ‘Optimal taxation in theory and practice’, *Journal of Economic Perspectives* **23**(4), 147–174.

- Milligan, K. (2005), ‘Subsidizing the stork: New evidence on tax incentives and fertility’, *Review of Economics and statistics* **87**(3), 539–555.
- Mirrlees, J. A. (1971), ‘An exploration in the theory of optimum income taxation’, *The review of economic studies* **38**(2), 175–208.
- Obara, T. (2019), ‘Differential income taxation and tiebout sorting’, *FinanzArchiv: Public Finance Analysis* **75**(1), 1–38.
- Parsons, D. O. (1996), ‘Imperfect ‘tagging’ in social insurance programs’, *Journal of Public Economics* **62**(1-2), 183–207.
- Pestieau, P. & Racionero, M. (2015), ‘Tagging with leisure needs’, *Social Choice and Welfare* **45**, 687–706.
- Piketty, T. & Saez, E. (2013), Optimal labor income taxation, in ‘Handbook of public economics’, Vol. 5, Elsevier, pp. 391–474.
- Saez, E. & Stantcheva, S. (2016), ‘Generalized social marginal welfare weights for optimal tax theory’, *American Economic Review* **106**(01), 24–45.
- Salanié, B. (2002), ‘Optimal demogrants with imperfect tagging’, *Economics Letters* **75**(3), 319–324.
- Sausgruber, R. & Tyran, J.-R. (2014), ‘Discriminatory taxes are unpopular—even when they are efficient and distributionally fair’, *Journal of Economic Behavior & Organization* **108**, 463–476.
- Slemrod, J. (2025), ‘Tax privacy’, *Journal of Economic Perspectives* **39**(1), 205–224.
- Stantcheva, S. (2021), ‘Understanding tax policy: How do people reason?’, *The Quarterly Journal of Economics* **136**(4), 2309–2369.
- Viard, A. D. (2001a), ‘Optimal categorical transfer payments: The welfare economics of limited lump-sum redistribution’, *Journal of Public Economic Theory* **3**(4), 483–500.
- Viard, A. D. (2001b), ‘Some results on the comparative statics of optimal categorical transfer payments’, *Public Finance Review* **29**(2), 148–180.
- Weinzierl, M. (2011), ‘The surprising power of age-dependent taxes’, *The Review of Economic Studies* **78**(4), 1490–1518.

Weinzierl, M. (2014), ‘The promise of positive optimal taxation: normative diversity and a role for equal sacrifice’, *Journal of Public Economics* **118**, 128–142.

Weinzierl, M. C. (2012), ‘Why do we redistribute so much but tag so little? The principle of equal sacrifice and optimal taxation’. *NBER Working Paper no. 18045*.

ONLINE APPENDIX

People’s Preferences for Tagging

Julien Senn
Krishna Srinivasan

Table of Contents

A Proofs	2
B Variable Definitions	7
C Additional Figures	9
D Additional Tables	17
E Additional Analysis	32
E.1 Correlation between Support for Various Tags	32
E.2 Open-Ended Analysis	34
F Experimental Instructions	46

A Proofs

Proof of Proposition 1

Setup: This section provides proofs of the propositions in Section 2. We begin by describing the setup, which closely follows Mankiw & Weinzierl (2010). The social planner's objective is to set optimal taxes to maximize a utilitarian social welfare function that is uniform and linear in individuals' utilities. As shown by Mankiw & Weinzierl (2010) and others, the planner's problem can be decomposed into two separable problems: (i) setting optimal taxes within groups and (ii) setting optimal aggregate transfers between groups. The planner's problem is as follows

$$\max_{c,y,r} \sum_{g \in t,u} \frac{1}{2} \sum_{i=1}^I \pi_{g,i} u \left(c_{g,i}, \frac{y_{g,i}}{w_i} \right), \quad (\text{A1})$$

subject to two within-group feasibility constraints

$$\sum_{i=1}^I \pi_{g,i} (y_{g,i} - c_{g,i}) \geq r_g, \quad (\text{A2})$$

a between-group budget constraint

$$r_t + r_u = 0, \quad (\text{A3})$$

and incentive constraints for each individual

$$u \left(c_{g,i}, \frac{y_{g,i}}{w_i} \right) \geq u \left(c_{g,j}, \frac{y_{g,j}}{w_i} \right), \quad (\text{A4})$$

for all $j \neq i \in \{1, \dots, I\}$ for each individual of group g with wage w_i .

Proposition 1 states: *When an observable and immutable personal characteristic is correlated with earning ability, it is optimal to condition taxes on that characteristic.*

Proof: Let λ_g denote the Lagrange multiplier on the within-group feasibility constraints (A2), and μ the multiplier on the between-group budget constraint (A3). The Lagrangian is

$$\mathcal{L} = \frac{1}{2} \sum_g \sum_{i=1}^I \pi_{g,i} u \left(c_{g,i}, \frac{y_{g,i}}{w_i} \right) + \sum_g \lambda_g \left[\sum_{i=1}^I \pi_{g,i} (y_{g,i} - c_{g,i}) - r_g \right] \quad (\text{A5})$$

$$+ \mu(r_t + r_u) + (\text{IC multipliers}). \quad (\text{A6})$$

The *IC terms* (omitted for brevity) in the Lagrangian collect the multipliers and expressions attached to the incentive compatibility constraints (A4). Differentiating \mathcal{L} with respect to r_g gives

$$\frac{\partial \mathcal{L}}{\partial r_g} = -\lambda_g + \mu = 0 \quad \Rightarrow \quad \lambda_t = \lambda_u = \mu, \quad (\text{A7})$$

implying equality of the shadow value of resources across groups. Differentiating \mathcal{L} with respect to $c_{g,i}$ gives

$$\frac{\partial \mathcal{L}}{\partial c_{g,i}} = \frac{1}{2}\pi_{g,i} u_c(c_{g,i}, \ell_{g,i}) - \lambda_g \pi_{g,i} + (\text{IC multiplies}) = 0. \quad (\text{A8})$$

Here, the IC terms collect the derivatives of the incentive-compatibility constraints. When we sum (A8) over i within a group, these IC terms cancel pairwise due to the symmetric structure of the IC constraints. The resulting condition for group g is

$$\sum_{i=1}^I \left[\frac{1}{2}\pi_{g,i} u_c(c_{g,i}, \ell_{g,i}) - \lambda_g \pi_{g,i} \right] = 0 \quad (\text{A9})$$

$$\Rightarrow \quad \lambda_g = \frac{1}{2} \sum_{i=1}^I \pi_{g,i} u_c(c_{g,i}, \ell_{g,i}). \quad (\text{A10})$$

Combining Equations (A7) and (A10) yields

$$\sum_{i=1}^I \pi_{t,i} u_c(c_{t,i}, \ell_{t,i}) = \sum_{i=1}^I \pi_{u,i} u_c(c_{u,i}, \ell_{u,i}). \quad (\text{A11})$$

This completes the proof of Proposition 1.

Proof of Proposition 2

Setup:

Definition 1 (Strength of tag-ability correlation) *Let $\alpha \in [0, 1]$ parameterize the strength of the correlation between the tag and ability w . An increase in α means that*

$$\frac{\partial \mathbb{E}_t[w]}{\partial \alpha} < 0 \quad \text{and} \quad \frac{\partial \mathbb{E}_u[w]}{\partial \alpha} > 0.$$

We assume allocations satisfy the Spence–Mirrlees single-crossing condition, which states

that the marginal rate of substitution between consumption and before-tax income is decreasing in w . Together with incentive compatibility constraints (A4), this implies the standard monotonicity of optimal allocations

Assumption 1 (Monotonicity) *Under the Spence–Mirrlees single-crossing condition and incentive compatibility (A4), the optimal allocation satisfies*

$$y_g(w_i) \text{ and } c_g(w_i) \text{ are (weakly) increasing in } w_i, \quad g \in \{t, u\}.$$

Proposition 2 states: *The optimal between-group transfer is increasing in the strength of correlation of the tag with ability.* When α increases, $\partial r / \partial \alpha > 0$.

Proof: Starting from an optimal allocation and between-group transfer that satisfies Equation (A11), suppose we increase α as in Definition 1. Using assumption (1), the tagged group's average consumption falls while the untagged group's average consumption rises. Since u_c is strictly decreasing in consumption, the tagged group's average marginal utility of consumption increases and the untagged group's decreases, violating Equation (A11). Consequently, the planner must increase the between-group transfer to the tagged group to restore equality of average marginal utility of consumption and satisfy Equation (A11). Hence, $\partial r / \partial \alpha > 0$.

Proof of Proposition 3

Setup:

Definition 2 (Mutability) *Let $g \in \{t, u\}$ denote true group membership and $\hat{g} \in \{t, u\}$ the reported group. The tag is immutable if reporting is constrained to be truthful for all individuals ($\hat{g}_i = g_i$ for all i). The tag is one-sided mutable if individuals in group u may report $\hat{g}_i = t$ even if $g_i = u$, while individuals in group t must report truthfully: $\hat{g}_i = t$ whenever $g_i = t$.*

Proposition 3 states: *The optimal between-group transfer is higher when the tag is immutable than when it is mutable.*

Proof: For immutable tags, the planner's problem is as described above. With one-sided mutability (Definition 2), individuals in the untagged group may misreport their group status to receive the transfer given to the tagged group. To prevent such misreporting, we require

an additional incentive compatibility constraint ensuring that no untagged individual prefers the tagged allocation:

$$u\left(c_{u,i}, \frac{y_{u,i}}{w_i}\right) \geq u\left(c_{t,i}, \frac{y_{t,i}}{w_i}\right) \quad \text{for all } i \text{ with } g_i = u. \quad (\text{A12})$$

We do not require a symmetric constraint for the tagged group $g = t$ because they report truthfully. Since one-sided mutability introduces this additional constraint, the feasible set of allocations under mutability is a weak subset of the feasible set under immutability. Let r^I and r^M denote the optimal between-group transfers to the tagged group under immutability and mutability, respectively. It follows that

$$r^M \leq r^I. \quad (\text{A13})$$

with strict inequality if the constraint (A12) binds at the immutable optimum. This proves that the optimal transfer under mutability is (weakly) lower than under immutability, completing the proof.

In the extreme case of full (two-sided) mutability, where either group may misreport, the tag loses all informational value. Then the planner must choose identical allocations for tagged and untagged individuals, implying that the optimal between-group transfer is zero.

Proof of Proposition 4

Setup: Let $n_{g,i} > 0$ denote individual consumption needs and, following Broadway & Pestieau (2006), define needs-adjusted consumption as $\tilde{c}_{g,i} = c_{g,i} - n_{g,i}$. This redefinition shifts consumption, but preserves the structure of the planner's problem unchanged.

Definition 3 (Strength of tag-needs correlation) *Let $\beta \in [0, 1]$ parameterize the strength of the correlation between the tag and needs. An increase in β , holding the pre-change between-group transfer fixed, implies*

$$\frac{\partial}{\partial \beta} (\mathbb{E}_t[n] - \mathbb{E}_u[n]) > 0.$$

Proposition 4 states: *The optimal between-group transfer is increasing in the strength of correlation of the tag with consumption needs.* When β increases, $\partial r / \partial \beta > 0$.

Proof. Starting from an optimal allocation and between-group transfer that satisfy Equation (A11), suppose we increase β as in Definition 3. By definition, the tagged group's average needs-adjusted consumption $\mathbb{E}_t[\tilde{c}]$ falls while the untagged group's average needs-adjusted

consumption $\mathbb{E}_u[\tilde{c}]$ rises. Since marginal utility is strictly decreasing in needs-adjusted consumption, the tagged group's average marginal utility of consumption increases while the untagged group's decreases, violating Equation (A11). Following the same logic as in the proof of Proposition 2, the planner must increase the transfer to the tagged group until Equation (A11) is satisfied. Hence, $\partial r/\partial \beta > 0$.

B Variable Definitions

Efficiency Concerns

Tagging incr labor supply: Indicator variable equal to one if a participant believes that tagging would encourage high-income individuals to “Work more” or “Work much more.”

Tagging incr revenue: Indicator variable equal to one if the participant believes tagging would “Increase” or “Strongly increase” government revenue.

Tagging incr evasion: Indicator variable equal to one if a participant believes that, if tagging is implemented, individuals are “likely” or “very likely” to misreport their characteristics to lower their tax burden.

Tagging distorts behaviors: Indicator variable equal to one if a participant believes that, if tagging is implemented, individuals are “Likely” or “Very likely” to change their behaviors to legally lower their tax burden?

Tagging incr admin costs: Indicator variable equal to one if a participant believes tagging would “increase” or “strongly increase” the administrative costs of the government.

Tagging incr complexity: Indicator variable equal to one if a participant believes that tagging would make the process of filing taxes “more complicated” or “much more complicated.”

Belief govt is inefficient: Indicator variable equal to one if a participant’s belief about the cents wasted by the government is above the median belief.

Fairness Concerns

Incomes w/ tagging fair: Indicator variable equal to one if a participant believes the income distribution resulting from tagging is “Fair” or “Very fair.”

Privacy Concerns

Tagging invades privacy: Indicator variable equal to one if a participant believes tagging would lead to a “moderate invasion of privacy” or “significant invasion of privacy.”

Scope of Government

Govt should do more: Indicator variable equal to one if a participant believes that the “government should do more” or “government should do a lot more” to solve the country’s problems.

Implementation Concerns

Tagging diff to implement: Indicator variable equal to one if a participant believes that tagging would be “difficult” or “very difficult” to implement based on legal or administrative difficulties.

High trust in govt: Indicator variable equal to one if a participant believes the federal government can be trusted “most of the time” or “just about always.”

C Additional Figures

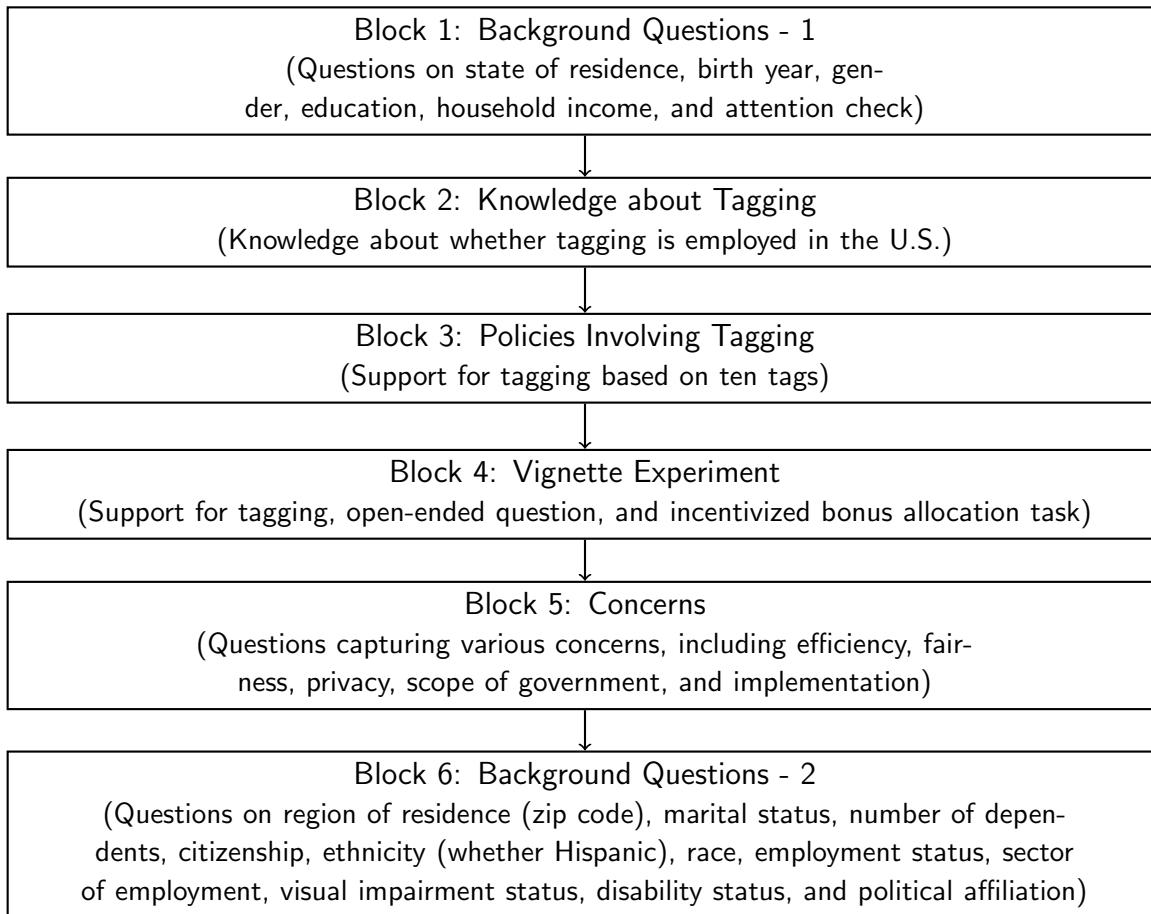


Figure A1: Overview of Experimental Design

We will now ask you about another scenario.

Suppose we divide the U.S. population into two groups that the government can identify: Group A and Group B.

Whether an individual belongs to Group A or Group B depends on a single personal characteristic over which individuals have no control. Thus, **individuals cannot influence the group to which they belong**. For example, the groups could represent individuals of different sexes or individuals with and without visual impairments.

The **average pre-tax income of individuals in Group A is lower** than the average pre-tax income of individuals in Group B. **Nevertheless, many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income**. Thus, the incomes of the two groups are not too different, despite the lower average income in Group A.

Individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs, such as housing, transportation, utilities, healthcare, and education. In society, some groups, such as those with visual impairments or dependents, have to spend more money to meet their basic needs.

Figure A2: Screenshot of Instructions in the Vignette Experiment in Treatment Immutable \times Low-Corr \times Uncorr-Needs

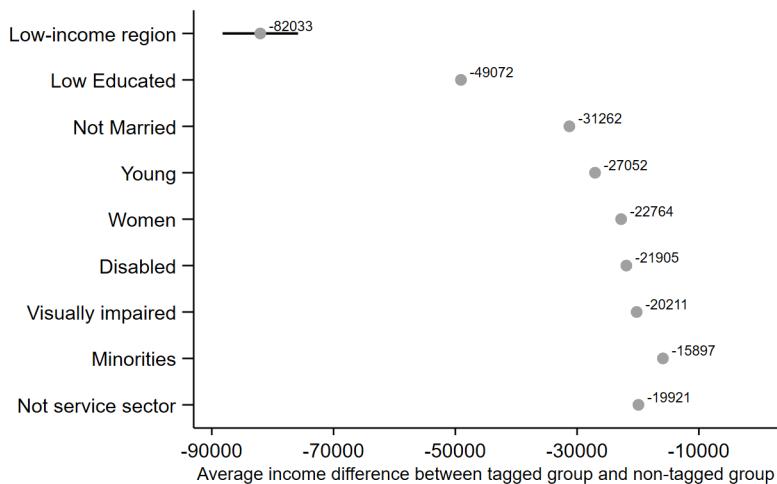


Figure A3: Average Difference in Incomes of Groups

Notes: The figure presents the average income differences across various groups. The joint distribution of income and region of residence (zip code) is based on the American Community Survey (ACS) 2022 5-year estimates, with no sample exclusions. The joint distribution of income and all other characteristics is drawn from the ACS 2023 1-year estimates (Ruggles et al. 2024). Income is measured as individual pre-tax income. The sample excludes individuals younger than 18 and those who worked fewer than 500 hours in the previous year. We do not report income differences by dependent status due to a lack of data.

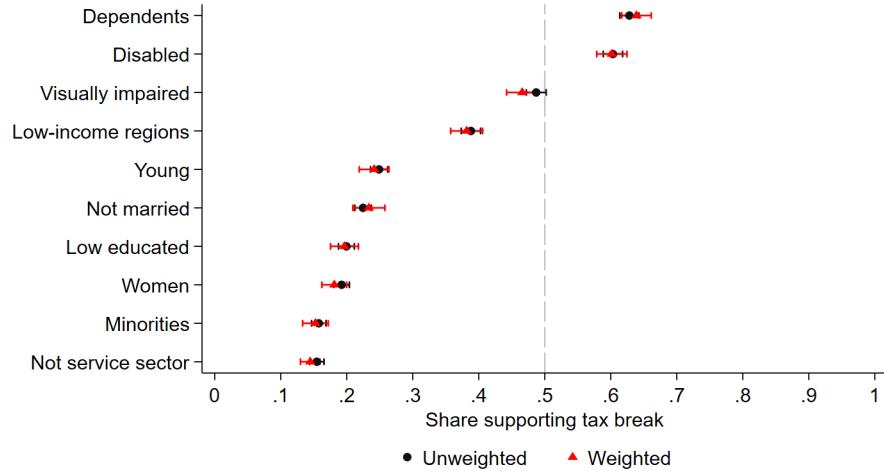


Figure A4: Share Supporting Tags, Weighted Estimates

Notes: The figure presents the share of participants who support providing a tax break to various groups. The y-axis lists the groups, and the x-axis indicates the share of participants supporting a tax break for each group. A participant is defined as supporting a tax break if their responses range from “+1: Slightly support” to “+3: Strongly support.” Circles (black) present unweighted estimates, while triangles (red) present weighted estimates using sampling weights. The bars represent the 95% confidence intervals around the means.

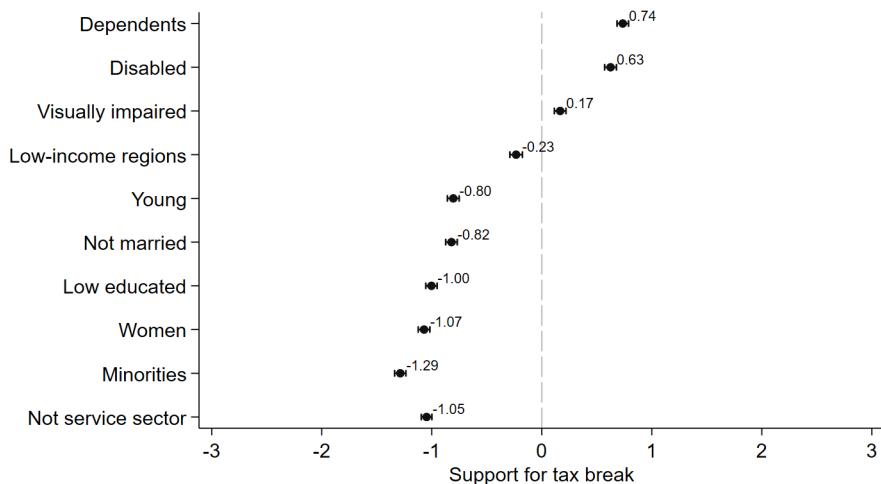


Figure A5: Average Support for Tags

Notes: The figure presents the average support for providing a tax break to various groups. The y-axis lists the groups, and the x-axis indicates the support for providing a tax break for each group. Support ranges from “-3: Strongly oppose” to “+3: Strongly support.” The bars represent the 95% confidence intervals around the means.

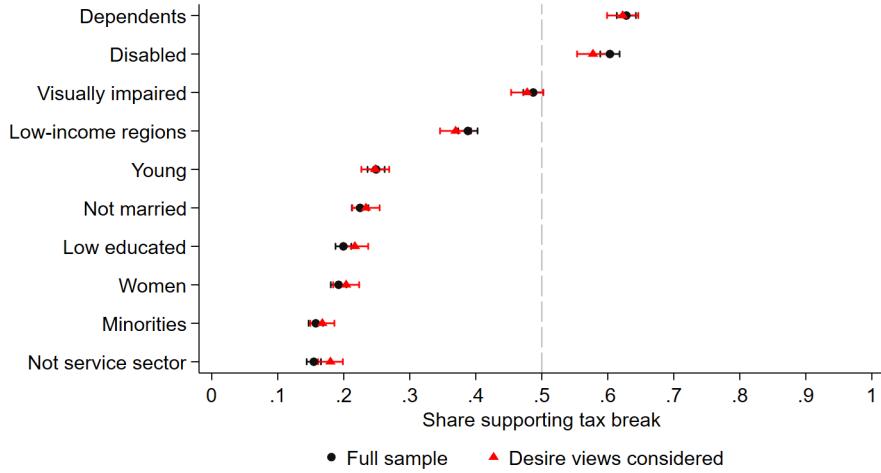


Figure A6: Share Supporting Tags, Among Strong Views to Inform Authorities

Notes: The figure presents the share of participants who support providing a tax break to various groups. The y-axis lists the groups, and the x-axis indicates the share of participants supporting a tax break for each group. A participant is defined as supporting a tax break if their responses range from “+1: Slightly support” to “+3: Strongly support.” Circles (black) present estimates using the full sample, while triangles (red) present estimates using only the 38% of participants with a strong desire for their views to be considered by public authorities (indicating “Very much”). The distribution of responses to this question is: “Not at all” (3%), “Very little” (5%), “Little” (13%), “Somewhat” (41%), and “Very much” (38%). The bars represent the 95% confidence intervals around the means.

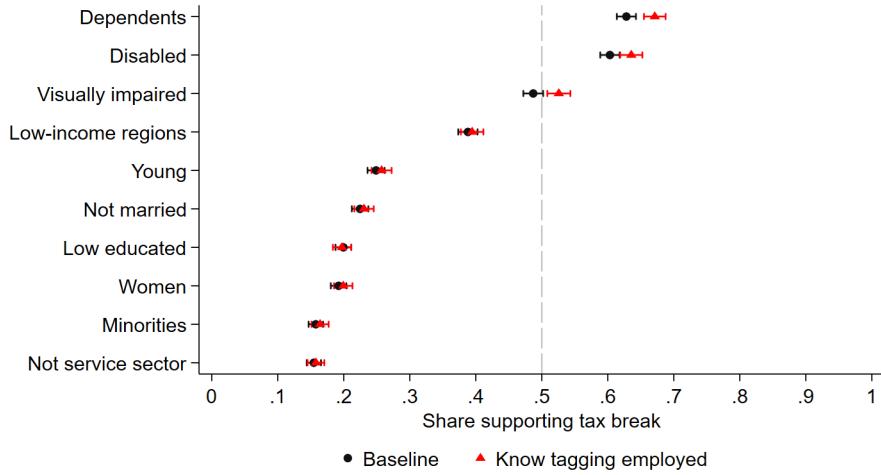


Figure A7: Share Supporting Tags, Among Knowledgeable

Notes: The figure presents the share of participants who support providing a tax break to various groups. The y-axis lists the groups, and the x-axis indicates the share of participants supporting a tax break for each group. A participant is defined as supporting a tax break if their responses range from “+1: Slightly support” to “+3: Strongly support.” Circles (black) present estimates using the full sample, while triangles (red) present estimates using the 74% of participants who know that tagging is employed by the tax system. The bars represent the 95% confidence intervals around the means.

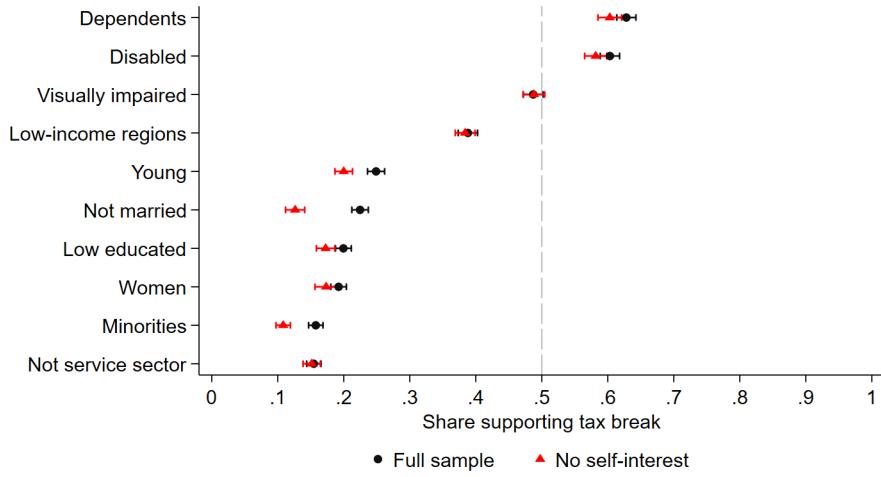


Figure A8: Share Supporting Tags, Accounting for Self-Interest

Notes: The figure presents the share of participants who support providing a tax break to various groups. The y-axis lists the groups, and the x-axis indicates the share of participants supporting a tax break for each group. A participant is defined as supporting a tax break if their responses range from “+1: Slightly support” to “+3: Strongly support.” Circles (black) present estimates using the full sample, while triangles (red) present estimates excluding, for each group, participants who belong to that group (i.e., those who can benefit from the tag). The bars represent the 95% confidence intervals around the means.

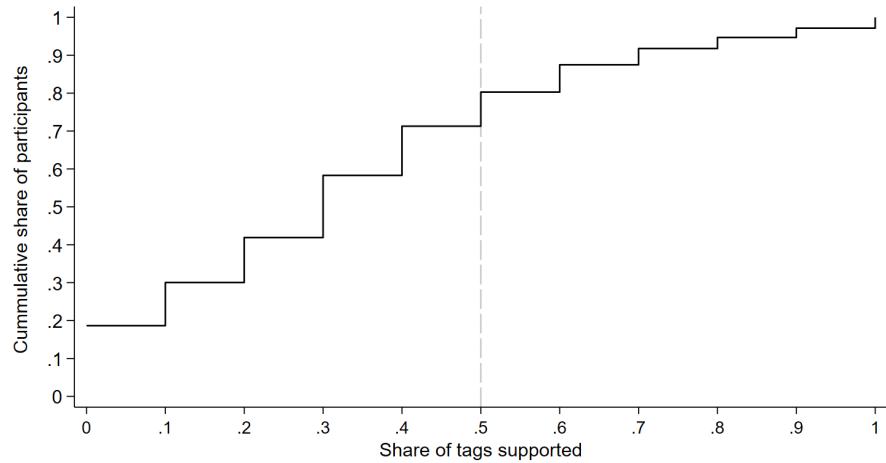


Figure A9: Distribution of Share of Tags Supported

Notes: The figure presents the cumulative distribution of the share of tags (out of ten) supported.

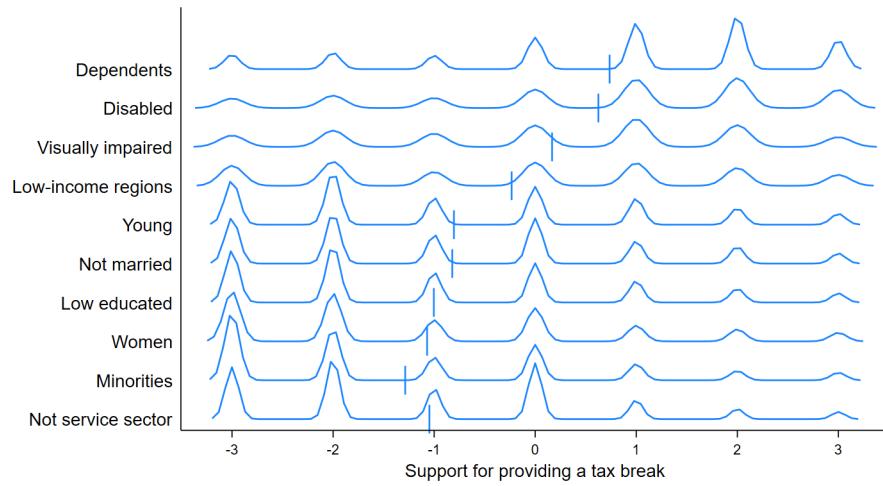


Figure A10: Distribution of Support for Tags

Notes: The figure presents the distribution of support for each tag (height of the violin) and the average support (horizontal lines) for each tag. The y-axis lists the groups, and the x-axis indicates the support for providing a tax break for each group. Support ranges from “-3: Strongly oppose” to “+3: Strongly support.”

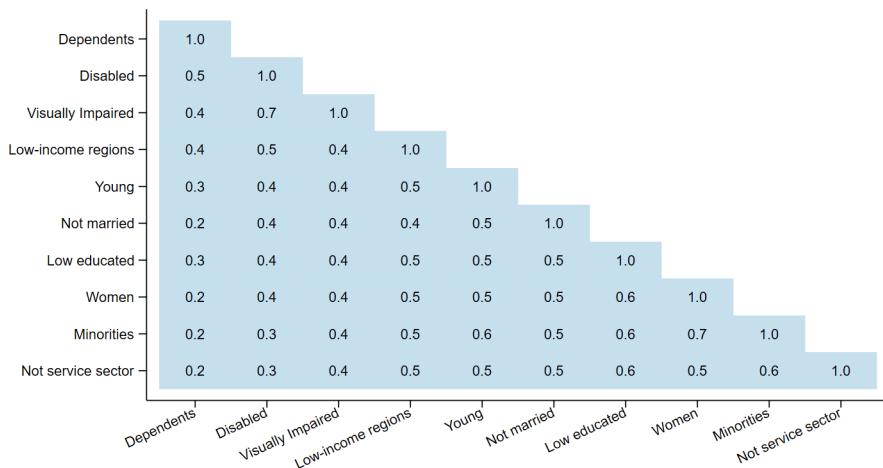


Figure A11: Pairwise Correlation in Support for Tags

Notes: The figure presents pairwise Pearson correlation coefficients of support for tags. Support ranges from “-3: Strongly oppose” to “+3: Strongly support.” All correlation coefficients are statistically significant at the 5% level.

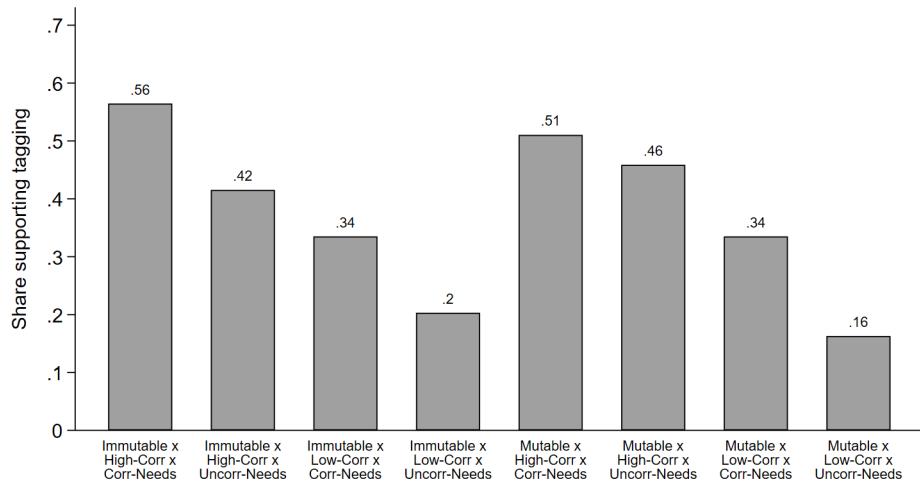


Figure A12: Share Supporting Tagging by Treatments

Notes: The figure presents the share of participants supporting tagging in the vignette experiment by each of the eight treatments.

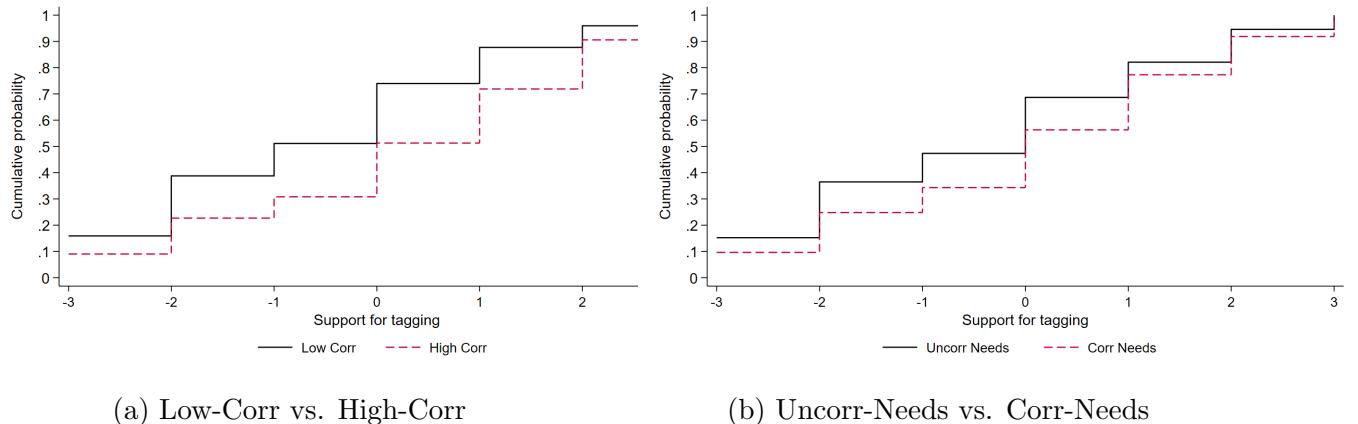


Figure A13: Distribution of Support for Tagging in Vignette Across Treatments

Notes: The figure presents the distribution of support in the vignette experiment across treatments. Panel (a) presents the distribution for Treatments Low-Corr and High-Corr, pooling across the other treatments. Panel (b) presents the distribution for Treatments Uncorr-Needs and Corr-Needs, pooling across the other treatments. Support ranges from “-3: Strongly oppose” to “+3: Strongly support.”

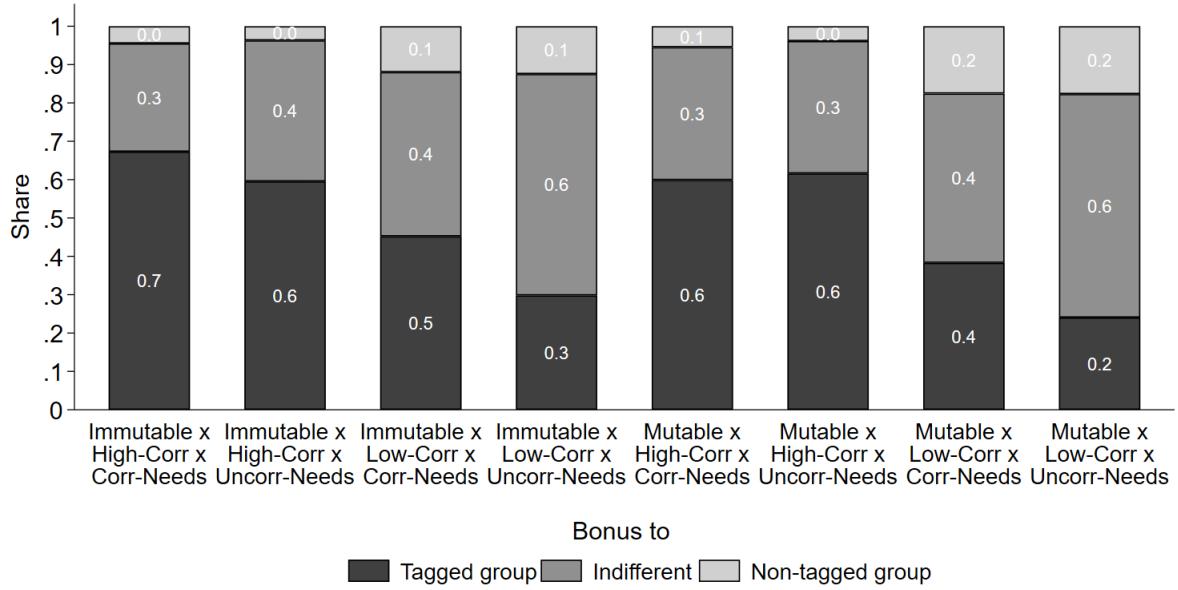


Figure A14: Distribution of Bonus Allocation

Notes: The figure presents a stacked bar graph. The y-axis presents the share of participants indicating that they would allocate the \$500 bonus to the individual from the tagged group, the individual from the untagged group, or either individual. These shares are presented separately by treatment.

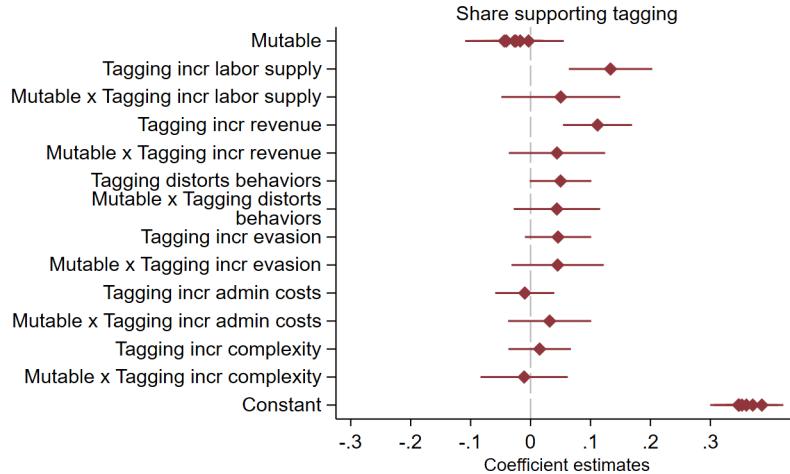


Figure A15: Heterogenous Treatment Effects of *Mutable*

Notes: The figure presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *Mutable* is a treatment indicator. The explanatory variables include variables capturing mechanisms (see Appendix Section B for details). Error bars are 95% confidence intervals based on HC3 standard errors.

D Additional Tables

Table A1: Tax Burden of Various Groups in the U.S.

Group	Tax Burden Explanation
Presence of Children	<p>Individuals with children receive tax credits such as the Child Tax Credit and Child and Dependent Care Credit.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/credits-deductions/individuals/child-tax-credit • https://www.irs.gov/taxtopics/tc602
Presence of Adopted Children	<p>Individuals with adopted children receive the same benefits as those with biological children. In addition, they are eligible for the Adoption Tax Credit.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/taxtopics/tc607
Presence of Dependents	<p>Individuals with dependents qualify for tax credits such as Child and Dependent Care Credit and Other Dependents Credit.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/taxtopics/tc602 • https://www.irs.gov/newsroom/understanding-the-credit-for-other-dependents
Married	<p>The tax burden of individuals who are married could be lower or higher than others. Due to the convexity of the tax schedule, individuals who are married may owe more taxes if the incomes of the spouses are far apart. However, their standard deductions are higher.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/taxtopics/tc501 • https://www.irs.gov/newsroom/understanding-the-credit-for-other-dependents

Continued on next page

Table A1: List of Tags (continued)

Group	Tax Burden Explanation
Widow(er)	<p>A surviving spouse may owe lower taxes in the two year period after their spouse dies due to the lower average tax rates.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/filing/federal-income-tax-rates-and-brackets
Native Americans	<p>Income earned directly by a Native American tribe or on tribal lands may be exempt from federal income taxes.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/pub/irs-pdf/p5424.pdf
Seniors	<p>Seniors can benefit from a higher standard deduction and may also be eligible for the Credit for the Elderly or the Disabled.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/publications/p554 • https://www.irs.gov/credits-deductions/individuals/credit-for-the-elderly-or-the-disabled
Minors	<p>The tax burden of minors for unearned income is higher due to the Kiddie Tax.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/taxtopics/tc553
Reside in Low-Income Regions	<p>Residents in distressed regions (Empowerment Zones) may benefit from the Empowerment Zone Employment Credit</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/forms-pubs/about-form-8844
Clergy	<p>Clergy can deduct housing allowances and may be exempt from certain self-employment taxes.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/taxtopics/tc417

Continued on next page

Table A1: List of Tags (continued)

Group	Tax Burden Explanation
Farmers and Fisher- men	<p>Farmers and fisherman have a lower tax burden due to rules such as income averaging.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/forms-pubs/about-schedule-j-form-1040
Self-Employed	<p>Self-employed individuals owe more in taxes because they owe the self-employment tax in addition to income taxes. However, their tax burden could be lower because of the various deductions available.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/businesses/small-businesses-self-employed/self-employed-individuals-tax-center#Obligations
Students	<p>Students are eligible for various tax credits like the American Opportunity Tax Credit and Lifetime Learning Credit. Students can also deduct education expenses and student loan interest from their income.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/credits-deductions/individuals/aotc • https://www.irs.gov/credits-deductions/individuals/llc • https://www.irs.gov/taxtopics/tc456 • https://www.irs.gov/credits-deductions/individuals/qualified-ed-expenses
Veterans	<p>Veterans can exclude the Department of Veterans Affairs (VA) education benefits and disability benefits from their income. In addition, they can benefit from other special tax considerations.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/individuals/information-for-veterans

Continued on next page

Table A1: List of Tags (continued)

Group	Tax Burden Explanation
Disability Status	<p>Disabled individuals can benefit from the Credit for the Elderly or the Disabled. In addition, they can deduct additional expenses from their income, such as impairment-related work expenses.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/pub/irs-pdf/p907.pdf
Visually Impaired	<p>Visually impaired individuals receive the same benefits as those who are disabled. In addition, they benefit from a higher standard deduction.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/taxtopics/tc551
Homeowners	<p>Homeowners can deduct their mortgage interest from their income and may be eligible for the Mortgage Interest Credit.</p> <p><u>Sources:</u></p> <ul style="list-style-type: none"> • https://www.irs.gov/publications/p530

Table A2: Randomization Check

Variable	Immutable						Mutable					
	Same-Needs			High-Needs			Same-Needs			High-Needs		
	Low-Corr	High-Corr	Low-Corr	High-Corr	Low-Corr	High-Corr	Low-Corr	High-Corr	Low-Corr	High-Corr	p-value	
Female	0.55	0.56	0.53	0.57	0.57	0.53	0.53	0.57	0.53	0.57	0.74	
Income: < 30,000	0.18	0.16	0.18	0.16	0.20	0.18	0.18	0.19	0.18	0.19	0.89	
Income: 30–59,999	0.21	0.24	0.22	0.23	0.24	0.24	0.22	0.22	0.22	0.22	0.93	
Income: 60–99,999	0.20	0.20	0.24	0.21	0.20	0.23	0.22	0.22	0.22	0.25	0.51	
Income: 100–149,999	0.20	0.18	0.15	0.17	0.15	0.14	0.18	0.15	0.18	0.15	0.24	
Income: ≥ 150,000	0.20	0.20	0.20	0.21	0.20	0.20	0.20	0.20	0.20	0.18	0.99	
Education: Up to Highschool	0.33	0.34	0.34	0.31	0.35	0.34	0.37	0.37	0.36	0.36	0.85	
Education: Some college	0.16	0.16	0.17	0.22	0.17	0.19	0.18	0.19	0.19	0.19	0.37	
Education: Bachelor or Associate	0.35	0.35	0.34	0.34	0.32	0.31	0.32	0.32	0.32	0.32	0.92	
Education: Masters or above	0.16	0.16	0.15	0.13	0.16	0.16	0.12	0.12	0.13	0.13	0.58	
Age: 18–34	0.13	0.10	0.12	0.11	0.14	0.16	0.13	0.12	0.13	0.12	0.25	
Age: 25–34	0.08	0.13	0.12	0.11	0.11	0.13	0.13	0.12	0.13	0.12	0.54	
Age: 35–44	0.18	0.18	0.13	0.19	0.14	0.16	0.16	0.16	0.16	0.16	0.35	
Age: 45–54	0.18	0.14	0.15	0.19	0.20	0.19	0.15	0.15	0.19	0.15	0.21	
Age: 55–64	0.15	0.20	0.20	0.17	0.16	0.14	0.23	0.23	0.23	0.16	0.01	
Age: 65+	0.27	0.25	0.27	0.24	0.25	0.23	0.20	0.20	0.23	0.28	0.19	
Region: Northeast	0.19	0.23	0.19	0.18	0.17	0.19	0.19	0.19	0.19	0.16	0.36	
Region: Midwest	0.20	0.20	0.20	0.21	0.20	0.20	0.21	0.21	0.21	0.16	0.65	
Region: South	0.36	0.29	0.34	0.31	0.35	0.33	0.37	0.37	0.37	0.15		
Region: West	0.25	0.28	0.27	0.30	0.27	0.28	0.28	0.28	0.28	0.30	0.33	
Republican	0.31	0.31	0.28	0.30	0.27	0.29	0.30	0.30	0.30	0.32	0.78	

Notes: The table presents the average sample characteristics across treatments. The last column presents the p-value from an F-test from a regression of the particular characteristic on treatment indicators.

Table A3: Support for Tagging in Vignette by Treatments

	(1)	(2)	(3)	(4)	(5)
High-Corr	0.872*** (0.064)			0.876*** (0.063)	0.875*** (0.061)
Mutable		-0.006 (0.066)		-0.012 (0.063)	-0.038 (0.061)
Corr-Needs			0.502*** (0.065)	0.509*** (0.063)	0.519*** (0.061)
Constant	-0.635*** (0.044)	-0.189*** (0.047)	-0.444*** (0.047)	-0.886*** (0.063)	-0.261*** (0.091)
Observations	3012	3012	3012	3012	2983
Controls?	No	No	No	No	Yes

Notes: The table presents coefficient estimates from linear regressions. The dependent variable is participants' support for tagging in the vignette experiment, which ranges from “3: Strongly oppose” to “+3: Strongly support.” *Mutable*, *High-Corr*, and *Corr-Needs* are treatment indicators. Controls include *Republican*, *High Age*, *High Income*, *High Education*, and *Female*. *Republican* is an indicator for Republicans. *High Age* equals 1 if a participant's age is above the median and 0 otherwise. *High Income* and *High Education* are defined similarly. *Female* is an indicator for females. HC3 standard errors in parentheses.

* p <0.10, ** p <0.05, *** p <0.01

Table A4: Share Supporting Tagging in Vignette by Treatments

	(1)
High-Corr	0.212*** (0.033)
Mutable	-0.040 (0.029)
Corr-Needs	0.132*** (0.032)
Mutable x High-Corr	0.084* (0.046)
High-Corr x Corr-Needs	0.017 (0.048)
Mutable x Corr-Needs	0.040 (0.045)
Mutable x High-Corr x Corr-Needs	-0.138** (0.068)
Constant	0.203*** (0.021)
Observations	3012

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *Mutable*, *High-Corr*, and *Corr-Needs* are treatment indicators. HC3 standard errors in parentheses.

* p <0.10, ** p <0.05, *** p <0.01

Table A5: Heterogeneous Treatment Effects of *High-Corr*

	(1)	(2)	(3)	(4)	(5)
High-Corr	0.248*** (0.021)	0.219*** (0.029)	0.226*** (0.024)	0.229*** (0.025)	0.221*** (0.026)
Republican	-0.106*** (0.023)				
High-Corr x Republican	-0.064* (0.036)				
High Education		0.013 (0.024)			
High-Corr x High Education		0.013 (0.036)			
High Income			-0.083*** (0.023)		
High-Corr x High Income			0.001 (0.034)		
High Age				-0.128*** (0.023)	
High-Corr x High Age				-0.009 (0.034)	
Female					0.004 (0.023)
High-Corr x Female					0.010 (0.034)
Constant	0.291*** (0.014)	0.251*** (0.019)	0.298*** (0.016)	0.324*** (0.017)	0.258*** (0.017)
High-Corr + High-Corr x Group Indicator	0.185*** (0.029)	0.231*** (0.021)	0.227*** (0.025)	0.220*** (0.023)	0.231*** (0.023)

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *High-Corr* is a treatment indicator. *Republican* is an indicator for Republicans. *High Age* equals 1 if a participant's age is above the median and 0 otherwise. *High Income* and *High Education* are defined similarly. *Female* is an indicator for females. HC3 standard errors in parentheses.

* p < 0.10, ** p < 0.05, *** p < 0.01

Table A6: Heterogeneous Treatment Effects of *Corr-Needs*

	(1)	(2)	(3)	(4)	(5)
Corr-Needs	0.146*** (0.021)	0.112*** (0.030)	0.121*** (0.024)	0.135*** (0.025)	0.133*** (0.026)
Republican	-0.099*** (0.025)				
Corr-Needs x Republican	-0.072* (0.037)				
High Education		0.014 (0.025)			
Corr-Needs x High Education		0.018 (0.037)			
High Income			-0.086*** (0.024)		
Corr-Needs x High Income			0.006 (0.035)		
High Age				-0.127*** (0.024)	
Corr-Needs x High Age				-0.020 (0.035)	
Female					0.020 (0.024)
Corr-Needs x Female					-0.016 (0.035)
Constant	0.342*** (0.015)	0.304*** (0.020)	0.353*** (0.017)	0.375*** (0.017)	0.303*** (0.018)
Corr-Needs +	0.074** (0.030)	0.130*** (0.022)	0.127*** (0.025)	0.115*** (0.024)	0.117*** (0.024)
Corr-Needs x Group Indicator					

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *Corr-Needs* is a treatment indicator. *Republican* is an indicator for Republicans. *High Age* equals 1 if a participant's age is above the median and 0 otherwise. *High Income* and *High Education* are defined similarly. *Female* is an indicator for females. HC3 standard errors in parentheses.

* p < 0.10, ** p < 0.05, *** p < 0.01

Table A7: Heterogeneous Treatment Effects of *Mutable*

	(1)	(2)	(3)	(4)	(5)
Mutable	-0.021 (0.021)	0.021 (0.030)	0.015 (0.025)	-0.005 (0.025)	0.021 (0.026)
Republican	-0.151*** (0.026)				
Mutable x Republican	0.033 (0.037)				
High Education		0.046* (0.026)			
Mutable x High Education		-0.048 (0.037)			
High Income			-0.052** (0.025)		
Mutable x High Income			-0.062* (0.035)		
High Age				-0.127*** (0.025)	
Mutable x High Age				-0.019 (0.035)	
Female					0.040 (0.025)
Mutable x Female					-0.057 (0.035)
Constant	0.426*** (0.015)	0.350*** (0.021)	0.406*** (0.018)	0.444*** (0.018)	0.359*** (0.019)
Mutable +	0.012	-0.027	-0.047*	-0.024	-0.036
Mutable x Group Indicator	(0.030)	(0.022)	(0.025)	(0.024)	(0.024)

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *Mutable* is a treatment indicator. *Republican* is an indicator for Republicans. *High Age* equals 1 if a participant's age is above the median and 0 otherwise. *High Income* and *High Education* are defined similarly. *Female* is an indicator for females. HC3 standard errors in parentheses.

* p < 0.10, ** p < 0.05, *** p < 0.01

Table A8: Welfare Weights by Treatments

	(1)	(2)	(3)
High-Corr	0.244*** (0.019)		
Mutable		-0.030 (0.019)	
Corr-Needs			0.098*** (0.019)
Constant	0.405*** (0.014)	0.551*** (0.013)	0.487*** (0.014)
Observations	2724	2724	2724

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant assigns progressive welfare weights and 0 if the participant assigns equal weights. *High-Corr*, *Mutable*, and *Corr-Needs* are treatment indicators. *Progressive weights* equals 1 if a participant allocates the bonus to the individual from the tagged group and 0 if the participant is indifferent. The sample excludes participants with regressive weights. HC3 standard errors in parentheses.

* p <0.10, ** p <0.05, *** p <0.01

Table A9: Treatment Effects Mediated by Welfare Weights

	(1)	(2)	(3)	(4)
High-Corr	0.220*** (0.018)	0.120*** (0.017)		
Corr-Needs			0.129*** (0.019)	0.087*** (0.017)
Progressive weights		0.411*** (0.017)		0.431*** (0.017)
Constant	0.273*** (0.013)	0.107*** (0.012)	0.327*** (0.013)	0.117*** (0.012)
Observations	2724	2724	2724	2724
Share explained		0.45		0.33

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *High-Corr*, *Mutable*, and *Corr-Needs* are treatment indicators. *Progressive weights* equals 1 if a participant allocates the bonus to the individual from the tagged group and 0 if the participant is indifferent. The sample excludes participants with regressive weights. HC3 standard errors in parentheses.

* p <0.10, ** p <0.05, *** p <0.01

Table A10: Share Supporting Tagging in Vignette by Mechanisms

	(1)
High-Corr	0.214*** (0.016)
Mutable	-0.013 (0.016)
Corr-Needs	0.117*** (0.016)
Incomes w/ tagging fair	0.277*** (0.021)
Tagging incr labor supply	0.054** (0.026)
Tagging incr revenue	0.059*** (0.020)
Tagging distorts behaviors	0.029 (0.020)
Tagging incr evasion	0.063*** (0.022)
Tagging incr admin costs	-0.010 (0.018)
Tagging incr complexity	0.018 (0.020)
Belief govt is inefficient	-0.035** (0.017)
Govt should do more	0.068*** (0.017)
High trust in govt	0.003 (0.022)
Tagging diff to implement	0.015 (0.018)
Tagging invades privacy	-0.054*** (0.017)
High Education	0.037** (0.019)
Female	0.010 (0.016)
Republican	-0.065*** (0.018)
High Income	-0.074*** (0.017)
High Age	-0.088*** (0.017)
Constant	0.113*** (0.031)
Observations	2983

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. The explanatory variables include treatment indicators, demographic controls, and variables capturing mechanisms (see Appendix Section B for details). HC3 standard errors in parentheses.

* p <0.10, ** p <0.05, *** p <0.01

Table A11: Decomposition of Support for Tagging in Vignette

	(1)	(2)	(3)	(4)
Fairness	0.62	0.47	0.50	0.50
Efficiency	0.18	0.14	0.23	0.21
Scope of govt	0.13	0.15	0.16	0.17
Privacy	0.05	0.04	0.05	0.03
Implementation	0.02	0.06	0.06	0.08
Dependent variable		1(Support for tagging > 0)	Support for tagging	
Explanatory variables	Binary	Continuous	Binary	Continuous
R ²	0.13	0.13	0.15	0.19

Notes: The table presents the share of R^2 in linear regressions explained by various concerns using a Shapley value decomposition (Lipovetsky 2021). In Columns (1) and (2), the dependent variable equals 1 if a participant supports tagging in the vignette and 0 otherwise, while in Columns (3) and (4), the dependent variable is support for tagging in the vignette (ranging from -3 to +3). In Columns (1) and (3), the explanatory variables are dummy variables (see Appendix Section B for details), while in Columns (2) and (4), the explanatory variables are standardized continuous variables. The decomposition identifies the relative contribution of concerns, each of which may include one or more variables.

Table A12: Treatment Effects Mediated by Mechanisms

	(1)	(2)	(3)	(4)
High-Corr	0.227*** (0.017)	0.214*** (0.016)		
Corr-Needs			0.124*** (0.018)	0.115*** (0.016)
Incomes w/ tagging fair		0.284*** (0.019)		0.284*** (0.020)
Tagging incr labor supply		0.051** (0.024)		0.057** (0.024)
Tagging incr revenue		0.056*** (0.020)		0.057*** (0.020)
Tagging distorts behaviors		0.030 (0.019)		0.027 (0.019)
Tagging incr evasion		0.059*** (0.021)		0.067*** (0.022)
Tagging decr admin costs		0.011 (0.018)		0.011 (0.018)
Tagging incr complexity		0.022 (0.019)		0.020 (0.020)
Belief govt is efficient		0.035** (0.017)		0.045*** (0.017)
Govt should do more		0.070*** (0.017)		0.069*** (0.017)
Tagging does not invade privacy		0.054*** (0.017)		0.057*** (0.017)
Tagging diff to implement		0.017 (0.018)		0.024 (0.019)
High trust in govt		0.006 (0.021)		0.006 (0.021)
Low Age		0.086*** (0.017)		0.093*** (0.017)
Low Income		0.072*** (0.017)		0.075*** (0.018)
High Education		0.035* (0.018)		0.038** (0.019)
Female		0.008 (0.016)		0.011 (0.017)
Not republican		0.062*** (0.018)		0.057*** (0.019)
Constant	0.260*** (0.012)	-0.160*** (0.037)	0.313*** (0.012)	-0.129*** (0.038)
Observations	3012	3012	3012	3012

Notes: The table presents coefficient estimates from linear regressions. The dependent variable equals 1 if a participant supports tagging in the vignette experiment and 0 otherwise. *High-Corr* and *Corr-Needs* are treatment indicators. Definitions of explanatory variables are provided in Appendix Section B, with some of these variables being reverse coded to ensure that the coefficient of all variables have a positive sign. HC3 standard errors in parentheses.

* p <0.10, ** p <0.05, *** p <0.01

Table A13: Role of Self-Interest Motives

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dependents	0.076*** (0.018)									
Disabled		0.099*** (0.021)								
Visually impaired			-0.006 (0.025)							
Young				0.263*** (0.023)						
Low-income region					0.050 (0.049)					
Not married						0.187*** (0.015)				
Low educated							0.079*** (0.016)			
Women								0.034*** (0.014)		
Minorities									0.187*** (0.017)	
Not service sector										0.010 (0.014)
Constant	0.603*** (0.011)	0.582*** (0.010)	0.488*** (0.010)	0.200*** (0.008)	0.384*** (0.009)	0.126*** (0.009)	0.173*** (0.008)	0.173*** (0.010)	0.108*** (0.007)	0.152*** (0.008)
Observations	3012	3012	3012	3012	2971	3012	3012	3012	3012	3012
Share benefit	0.33	0.22	0.17	0.19	0.04	0.53	0.34	0.55	0.26	0.33

Notes: The table presents coefficient estimates from linear regressions. The explanatory variable in each column takes a value of 1 if a participant belongs to Group i and 0 otherwise. The dependent variable in each column takes a value of 1 if a participant supports a tax break for group i and 0 otherwise. *Dependents* indicates whether a participant has one or more dependents. *Disabled* indicates whether a participant or someone in their household is disabled. *Visually impaired* indicates whether a participant or someone in their household is visually impaired. *Young* indicates whether a participant is aged 18-30. *Low-income region* indicates whether a participant resides in a zip code in the bottom 1% of average earnings. *Low educated* indicates whether a participant's highest education is a high school diploma or less. *Women* indicates whether a participant is female. *Minorities* indicates whether a participant is non-white or Hispanic. *Not service sector* indicates whether a participant currently works or has ever worked in the service sector (sectors 4000 to 9290 in the 2022 census industry classifications). The last row indicates the share of participants in Group i who would benefit from the tag. HC3 standard errors in parentheses.

* p < 0.10, ** p < 0.05, *** p < 0.01

E Additional Analysis

E.1 Correlation between Support for Various Tags

To better understand the underlying correlation structure of participants' support for tags, we conduct a Principal Component Analysis (PCA). PCA aims to uncover the underlying correlation structure among variables by identifying m components that best explain the variation in n variables, where $n > m$. These components are linear combinations of the original variables. The first component captures the largest share of variation in the data. The second component captures the largest share of the remaining variance, subject to being orthogonal to the first component. This pattern continues for subsequent components.

We conduct the PCA on participants' support for ten tags. We use three decision rules to determine how many components to retain, each of which suggests retaining two components. First, following Chapman et al. (2023), we use parallel analysis. This method generates multiple random datasets similar to the original and computes the average eigenvalues of their correlation matrices. A component is retained if its eigenvalue in the original dataset is higher than the average eigenvalue from the random datasets (Appendix Figure A16). Second, we observe an “elbow” in the eigenvalues at the second component in the scree plot (Figure A16), indicating that the marginal contribution of the third component is low. Finally, we use the Kaiser rule to retain components with eigenvalues above one, which suggests retaining only the first two components.

Table A14 presents the factor loadings of the first two principal components. The first component accounts for 50% of the total variation in the data and has a positive loading of similar magnitude for each tag. This suggests that it represents a general tendency to support or oppose tagging as a policy approach, independent of the specific tag. The positive correlations across all pairs of tags (see in Appendix Figure A11) further support this interpretation. The second component explains 13% of the total variation in the data. It has a positive loading on tags with high support (Dependents, Disabled, and Visually impaired), negative loading on tags with low support (Young, Not married, Low educated, Women, Minorities, and Not service sector), and a near-zero loading on the tag with moderate support (Low-income regions). Thus, the second component captures the contrast in support between tags with high and low levels of support.

To summarize, about half the total variation in the data appears to be explained by factors influencing individuals' general tendency to support or oppose tagging as a policy approach, regardless of the specific tag. About 13% of the variation in the data is likely captured by factors that influence support for some tags but not others.

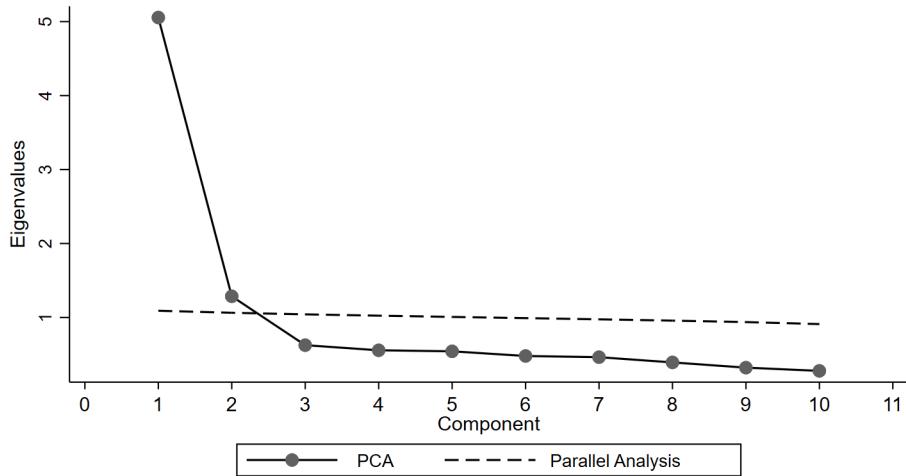


Figure A16: Scree Plot Following Principal Component Analysis (PCA)

Notes: The figure presents a scree plot from a Principal Component Analysis (PCA) of participants' support for tags, ranging from “-3: Strongly oppose” to “+3: Strongly support.” The x-axis presents components, and the y-axis their eigenvalues. The solid line shows eigenvalues from the original data; the dashed line shows average eigenvalues from simulated random datasets.

Table A14: Factor Loadings from PCA

	Component	
	1	2
Dependents	0.22	0.52
Disabled	0.29	0.51
Visually impaired	0.31	0.43
Low-income regions	0.33	0.06
Young	0.33	-0.14
Not married	0.31	-0.16
Low educated	0.35	-0.22
Women	0.34	-0.24
Minorities	0.34	-0.26
Not service sector	0.33	-0.23
Share explained	0.50	0.13

Notes: The table presents factor loadings from the first two components of a Principal Component Analysis (PCA) of participants' support for tags, ranging from “-3: Strongly oppose” to “+3: Strongly support.” The last row reports the share of variance explained by each component.

E.2 Open-Ended Analysis

This section describes how we analyzed participants' open-ended responses, in which they explained their support for tagging in the vignette experiment. The analysis closely follows the procedure of Bartling & Srinivasan (2025). We used OpenAI's GPT-4o model via the OpenAI API to conduct the analysis. We set the temperature parameter to 0 to obtain deterministic responses.

E.2.1 Procedures

The analysis was conducted in three sequential stages. First, we prompted the model to extract the primary reason expressed in each participant's response, cluster similar reasons based on shared underlying concerns, and tabulate the frequency of each cluster. To account for stochastic variation in model outputs, we instructed the model to repeat this procedure ten times on the same batch of responses. Second, we prompted the model to consolidate the resulting lists of reasons within each batch into a single list by combining closely related reasons and averaging their frequencies across runs. Finally, the consolidated summaries from each batch of responses were merged into a single list. In this step, the model again combined semantically similar reasons and computed the overall frequencies. The final output presents the consolidated list of reasons, frequency of occurrence of each reason, and a concise explanation.

To provide sufficient context for interpreting participants' responses, we included the following explanations in the prompt in the first step to classify responses.

Context

This prompt is about analyzing text responses from individuals who participated in a study.

Scenario

- Participants are presented with a scenario involving ***two groups*** that divide the U.S. population: ***Group A*** and ***Group B***.
- The government can identify which group each individual belongs to.

Study Design

- Participants are randomly assigned to one of ***eight treatments*** in a ***2 × 2 × 2 between-subjects design***.
- Treatments vary across three dimensions:
 - ***1. Immutable vs. Mutable***
 - ***Immutable Treatment*** instruction: “Whether an individual belongs to Group A or Group B depends on a single personal characteristic over which individuals

have no control. Thus, individuals cannot influence the group to which they belong. For example, the groups could represent individuals of different sexes or individuals with and without visual impairments.”

- ****Mutable Treatment** Instruction:** “*Whether an individual belongs to Group A or Group B depends on a single personal characteristic over which individuals have some control. Thus, individuals might be able to influence the group to which they belong. For example, the groups could represent individuals with different occupations or individuals with and without children.*”
- ****2. Low-Corr vs. High-Corr (correlation between tag and income/ability)****
 - ****Common statement (both treatments):** instruction:** “*The average pre-tax income of individuals in Group A is lower than the average pre-tax income of individuals in Group B.*”
 - ****Low-Corr Treatment** instruction:** “*Nevertheless, many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income. Thus, the incomes of the two groups are not too different, despite the lower average income in Group A.*”
 - ****High-Corr Treatment** instruction:** “*Very few individuals in Group A earn a high income, and very few individuals in Group B earn a low income. Thus, the incomes of the two groups are very different, as reflected by the lower incomes for most individuals in Group A.*”
- ****3. Uncorr-Needs vs. Corr-Needs (correlation between tag and consumption needs)****
 - ****Uncorr-Needs Treatment** instruction:** “*Individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs, such as housing, transportation, utilities, healthcare, and education. In society, some groups, such as those with visual impairments or dependents, have to spend more money to meet their basic needs.*”
 - ****Corr-Needs Treatment** instruction:** “*Individuals in Group A have to spend more money, on average, compared to individuals in Group B to meet their basic needs, such as housing, transportation, utilities, healthcare, and education. In society, some groups, such as those with visual impairments or dependents, have to spend more money to meet their basic needs.*”

****Policy Support Measure****

- Participants are asked to consider a ****policy proposal****:
 - **Instruction:** “*Individuals in Group A would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual*”

in Group B.”

- *Participants indicate their support on a **7-point scale**:*
 - *Scale: -3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support.*

To obtain participants' reasons in Step 1, we combined the above prompt providing context with the following prompt:

Task Instructions:

- *Identify **participants' reasons**.*
- ***Identify the one most important reason in each response**.*
- *Combine similar reasons based on the underlying concerns.*
- *Calculate the **percentage of occurrence** for each combined reason.*
- ***The sum of the percentages of occurrences of all reasons should not add up to more than 100 percent**.*
- *Present your findings as a numbered list of combined reasons, each with its **percentage of occurrences** and a **concise explanation**.*
- *Do not include any additional explanations or summaries.*

Below are the text responses:

To obtain participants' consolidated reasons in Step 2, we use the following prompt:

Below are outputs from different runs of the same analysis. Each output contains a list of participants reasons in the study, their respective percentage of occurrence, and a concise summary.

Task Instructions:

- *Combine similar reasons from across the runs into a **consolidated list**.*
- ***The sum of the percentages of occurrences of all reasons in the consolidated list should not add up to more than 100 percent**.*
- *Present your findings in the following format: **Reasons (average percentage of occurrences): concise explanation**.*
- *Order the consolidated list of reasons by the average percentage of occurrences.*
- *Do not include any additional explanations or summaries.*

To obtain participants' consolidated reasons in Step 3, we use the following prompt:

Below are outputs from different batches. Each output contains a list of participants reasons in the study, their respective percentage of occurrence, and a concise summary.

Task Instructions:

- *Combine similar reasons from across the batches into a **consolidated list**.*
- *Present your findings in the following format: **Reasons (average percentage of occurrences): concise explanation**.*
- *Order the consolidated list of reasons by the average percentage of occurrences.*
- *Do not include any additional explanations or summaries.*

E.2.2 Reasons of Participant Who Do Not Support Tagging

Reasons Provided by the Model

1. **Taxes Based on Income Only (40%)**: Participants believe taxes should be based solely on an individual's income, ensuring those with the same income pay the same taxes, regardless of group membership.
2. **Fairness and Equality Concerns (16.5%)**: Participants emphasize that everyone should be treated equally under the tax system, arguing against different tax rates for individuals with the same income based on group membership.
3. **Complexity and Potential for Manipulation (11.25%)**: Concerns are raised about the complexity of the proposed system and the potential for individuals to manipulate group membership to pay less in taxes.
4. **Need for More Information (9.75%)**: Participants express a need for more information to make informed decisions, citing a lack of details about the policy's implications.
5. **Opposition to Group-Based Taxation (6.75%)**: Participants oppose the idea of group-based taxation, arguing it could create unnecessary divisions and conflicts within society.
6. **Support for Deductions Based on Needs (7.25%)**: Participants support tax deductions or credits for individuals with specific needs, such as disabilities or dependents, rather than group-based tax differences.
7. **Support for Flat Tax (7%)**: Some participants support a flat tax system, where everyone pays the same percentage of their income in taxes, regardless of income level or group membership.
8. **Neutral or Indifferent Responses (5%)**: Participants express neutrality or indifference, indicating they neither support nor oppose the proposal without further context.

Our Categorization of Reasons

1. **Fairness (horizontal equity)**: 1. Taxes Based on Income Only (40%), 2. Fairness and Equality Concerns (16.5%), 6. Support for Deductions Based on Needs (7.25%), 7. Support for Flat Tax (7%)
2. **Efficiency**: 3. Complexity and Potential for Manipulation (11.25%)
3. **Other reasons**: 4. Need for More Information (9.75%), 5. Opposition to Group-Based Taxation (6.75%), 8. Neutral or Indifferent Responses (5%)

E.2.3 Reasons of Participant Who Support Tagging

Reasons Provided by the Model

1. **Lower Income Should Pay Less Taxes (41.67%)**: Participants believe that individuals with lower income should pay less in taxes, ensuring that taxes are proportional to income and not overburdening those with lower earnings.
2. **Higher Expenses for Basic Needs (26.67%)**: Many participants argue that individuals with higher expenses for basic needs should receive tax breaks to help manage their financial burdens.
3. **Fairness and Equity (15%)**: Some participants emphasize the importance of fairness and equity, suggesting that tax policies should aim to reduce income inequality and provide support to those who are disadvantaged.
4. **Support for Disadvantaged Groups (10%)**: Participants express support for disadvantaged groups, advocating for tax breaks to help them manage their financial burdens more effectively.
5. **Progressive Taxation Principles (5%)**: A few participants support the policy based on progressive taxation principles, where lower-income groups receive tax relief to promote economic equity.

Our Categorization of Reasons

1. **Fairness (vertical equity)**: 1. Lower Income Should Pay Less Taxes (41.67%), 2. Higher Expenses for Basic Needs (26.67%), 3. Fairness and Equity (15%), 4. Support for Disadvantaged Groups (10%), 5. Progressive Taxation Principles (5%)

E.2.4 Reasons of Participant in Treatment Low-Corr

Reasons Provided by the Model

1. **Fairness and Equality in Taxation (33.3%)**: Participants believe taxes should be based solely on individual income, advocating for equal taxation for individuals with the same income, regardless of group characteristics.
2. **Income-Based Taxation (25%)**: Participants support taxes determined by individual income levels, with higher earners paying more and lower earners paying less, independent of group classification.
3. **Consideration of Basic Needs and Expenses (16.7%)**: Participants support tax breaks for individuals with higher expenses for basic needs, justifying lower taxes to help manage financial burdens.
4. **Fairness and Equity Concerns (12.3%)**: Participants express concerns about fairness, emphasizing that tax policies should not favor one group over another without a valid reason.
5. **Complexity and Confusion (10%)**: Participants find the tax proposal complex or confusing, suggesting a need for a simpler tax system.
6. **Support for Lower-Income Individuals (8.3%)**: Participants support tax relief for lower-income individuals, acknowledging their economic challenges and promoting a fairer tax system.
7. **Need for More Information (9%)**: Participants indicate a need for more information about the policy and group classifications before making an informed decision.
8. **Opposition to Group-Based Taxation (5%)**: Participants oppose group-based taxation, arguing it could lead to unfair treatment and social division.
9. **Support for Special Circumstances (5%)**: Participants support tax breaks for individuals with special circumstances, such as disabilities or dependents, to help meet financial challenges.

Our Categorization of Reasons

1. **Fairness (horizontal equity)**: 1. Fairness and Equality in Taxation (33.3%), 2. Income-Based Taxation (25%), 4. Fairness and Equity Concerns (12.3%)
2. **Fairness (vertical equity)**: 3. Consideration of Basic Needs and Expenses (16.7%), 6. Support for Lower-Income Individuals (8.3%), 9. Support for Special Circumstances (5%)
3. **Efficiency**: 5. Complexity and Confusion (10%)

4. **Other:** 6. Need for More Information (9%), 7. Opposition to Group-Based Taxation (5%)

E.2.5 Reasons of Participant in Treatment High-Corr

Reasons Provided by the Model

1. **Income-Based Taxation (31.88%):** Many participants believe that taxes should be based solely on income, with those earning less paying less in taxes, reflecting a preference for a progressive tax system.
2. **Support for Lower-Income Individuals/Groups (19.38%):** Participants support the policy because it provides necessary relief to lower-income individuals or groups, helping them meet basic needs and improve their financial situation.
3. **Fairness and Equality (20.75%):** Participants argue that individuals with the same income should pay the same amount in taxes, emphasizing fairness and equality in the tax system.
4. **Concerns About Fairness and Equity (10%):** Participants express concerns about the fairness and equity of the proposed policy, questioning the justice of taxing individuals differently based on group classification rather than income alone.
5. **Need for More Information (7.5%):** Some participants feel they need more information to make an informed decision, indicating uncertainty about the policy's implications.
6. **Support for Tax Relief Due to Higher Expenses (7%):** Participants support tax relief for individuals who have higher expenses for basic needs, suggesting that those who spend more on necessities should receive some form of tax break.
7. **Concerns About Manipulation and Misuse (5%):** Participants worry that the policy could be exploited, leading to fraud or unintended consequences, and caution against creating loopholes that could be manipulated.

Our Categorization of Reasons

1. **Fairness (horizontal equity):** 1. Income-Based Taxation (31.88%), 3. Fairness and Equality (20.75%), 4. Concerns About Fairness and Equity (10%)
2. **Fairness (vertical equity):** 2. Support for Lower-Income Individuals/Groups (19.38%), 6. Support for Tax Relief Due to Higher Expenses (7%)
3. **Efficiency:** 7. Concerns About Manipulation and Misuse (5%)
4. **Other:** 5. Need for More Information (7.5%),

E.2.6 Reasons of Participant in Treatment Immutable

Reasons Provided by the Model

1. **Income-Based Taxation (35%)**: Many participants believe that taxes should be based solely on income, with higher earners paying more taxes, regardless of group characteristics.
2. **Lower Income, Lower Taxes (24.67%)**: Participants support lower taxes for individuals with lower income and higher expenses for basic needs, justifying a tax break to help them manage their financial burdens better.
3. **Fairness and Equality (21%)**: Participants argue that everyone should pay the same tax rate if they earn the same income, emphasizing fairness and equality in the tax system without considering group characteristics.
4. **Opposition to Group-Based Taxation (9.33%)**: Participants oppose the idea of determining taxes based on group characteristics, viewing it as discriminatory or unfair, and prefer a system based on individual circumstances.
5. **Complexity and Uncertainty (10.33%)**: Participants express confusion or uncertainty about the policy, citing the complexity of the tax system and the lack of clear criteria for group assignment.
6. **Concerns About Complexity and Fairness (7%)**: Participants express concerns about the complexity and fairness of implementing a tax system based on group characteristics, fearing arbitrary or unfair taxation.
7. **Support for Needs-Based Adjustments (7.67%)**: Participants support tax adjustments based on specific needs, such as disabilities or higher living costs, rather than group membership.

Our Categorization of Reasons

1. **Fairness (horizontal equity)**: 1. Income-Based Taxation (35%), 3. Fairness and Equality (21%), 4. Opposition to Group-Based Taxation (9.33%)
2. **Fairness (vertical equity)**: 2. Lower Income, Lower Taxes (24.67%), 7. Support for Needs-Based Adjustments (7.67%)
3. **Efficiency**: 5. Complexity and Uncertainty (10.33%), 6. Concerns About Complexity and Fairness (7%)

E.2.7 Reasons of Participant in Treatment Mutable

1. **Income-Based Taxation (29.7%)**: Participants believe taxes should be based solely on individual income, not on group characteristics, ensuring individuals with the same income pay the same taxes.
2. **Support for Lower-Income Individuals (26.4%)**: Participants support lower taxes for individuals with lower incomes due to their limited financial capacity and greater challenges in meeting basic needs.
3. **Consideration of Basic Needs and Expenses (12.8%)**: Participants argue for tax breaks for individuals with higher expenses for basic needs, to alleviate their financial burden.
4. **Fairness and Equity Concerns (12.7%)**: Participants express concerns about fairness and equity, emphasizing the importance of treating everyone equally in the tax system.
5. **Complexity and Confusion (8.3%)**: Participants find the policy proposal complex or confusing, expressing a desire for a simpler tax system.
6. **Need for More Information (5.7%)**: Participants feel they need more information about the groups and the proposal to make an informed decision.
7. **Support for Progressive Taxation (5.3%)**: Participants support progressive taxation, where higher-income individuals pay more, promoting economic equity.
8. **Opposition to Group-Based Taxation (5%)**: Participants oppose group-based taxation, arguing it could lead to discrimination or unfair treatment based on personal characteristics.

Our Categorization of Reasons

1. **Fairness (horizontal equity)**: 1. Income-Based Taxation (29.7%), 4. Fairness and Equity Concerns (12.7%), 8. Opposition to Group-Based Taxation (5%)
2. **Fairness (vertical equity)**: 2. Support for Lower-Income Individuals (26.4%), 3. Consideration of Basic Needs and Expenses (12.8%), 7. Support for Progressive Taxation (5.3%),
3. **Efficiency**: 5. Complexity and Confusion (8.3%)
4. **Other**: 6. Need for More Information (5.7%)

E.2.8 Reasons of Participant in Treatment Uncorr-Needs

Reasons Provided by the Model

1. **Income-Based Taxation (34.73%)**: Participants believe taxes should be based on individual income, ensuring those with higher incomes pay more, while those with lower incomes pay less, promoting fairness and proportionality.
2. **Support for Lower-Income Individuals (18.13%)**: Participants support tax relief for lower-income individuals to help meet basic needs and reduce income inequality.
3. **Fairness and Equality (20.17%)**: Concerns about fairness and equality are expressed, with participants advocating for equal tax treatment based on income, not arbitrary group characteristics.
4. **Complexity and Need for More Information (11.33%)**: Participants express concerns about the complexity of the tax system and the need for more information to make informed decisions.
5. **Opposition to Group-Based Taxation (6.13%)**: Participants oppose group-based taxation, arguing it could lead to unfair advantages or disadvantages and should be based on individual circumstances.
6. **Progressive Taxation Principles (6%)**: Some participants support progressive taxation, where higher incomes pay a larger share, to promote social equity.
7. **Support for Specific Needs (7.05%)**: Participants support tax policies that consider special circumstances, such as disabilities or dependents, which may require additional financial support.

Our Categorization of Reasons

1. **Fairness (horizontal equity)**: 1. Income-Based Taxation (34.73%), 3. Fairness and Equality (20.17%), 6. Progressive Taxation Principles (6%)
2. **Fairness (vertical equity)**: 2. Support for Lower-Income Individuals (18.13%), 7. Support for Specific Needs (7.05%)
3. **Efficiency**: 4. Complexity and Need for More Information (11.33%)
4. **Other**: 5. Opposition to Group-Based Taxation (6.13%)

E.2.9 Reasons of Participant in Treatment Corr-Needs

Reasons Provided by the Model

1. **Income-Based Taxation (31.19%)**: Participants believe that taxes should be based solely on income, ensuring that individuals with the same income pay the same taxes, regardless of group affiliation or living expenses.
2. **Higher Expenses Justify Lower Taxes (25%)**: Many participants argue that individuals with higher expenses for basic needs should pay lower taxes to help manage their financial burdens.
3. **Fairness and Equality in Taxation (21.25%)**: Participants emphasize that everyone should pay the same tax rate if they earn the same income, advocating for fairness and equality in taxation.
4. **Complexity and Implementation Concerns (9.94%)**: Participants express concerns about the complexity of the tax policy and the potential for fraud or manipulation, indicating a need for more information to make an informed decision.
5. **Support for Disadvantaged Groups (8.75%)**: Participants support tax relief for disadvantaged groups, such as those with disabilities or higher living costs, to promote equity.
6. **Opposition to Group-Based Taxation (7.5%)**: Participants oppose determining taxes based on group characteristics, arguing it could lead to discrimination or unfair advantages.
7. **Moral and Ethical Considerations (5%)**: Participants mention moral and ethical reasons for supporting or opposing the policy, such as helping those in need or concerns about social engineering.
8. **Neutral or Indifferent Stance (5%)**: A small group of participants neither supports nor opposes the policy, expressing neutrality or indifference towards the proposal.

Our Categorization of Reasons

1. **Fairness (horizontal equity)**: 1. Income-Based Taxation (31.19%), 3. Fairness and Equality in Taxation (21.25%)
2. **Fairness (vertical equity)**: 2. Higher Expenses Justify Lower Taxes (25%), 5. Support for Disadvantaged Groups (8.75%)
3. **Efficiency**: 4. Complexity and Implementation Concerns (9.94%)
4. **Other**: 6. Opposition to Group-Based Taxation (7.5%), 7. Moral and Ethical Considerations (5%), 8. Neutral or Indifferent Stance (5%)

F Experimental Instructions

Bold text, underlining, italics, and tables appear as in the original screens.

Introduction

Welcome! This study is conducted by UniDistance Suisse and the University of Zurich. Our goal is to understand American residents' views on various topics. By completing this survey carefully, you are helping us to understand these views.

Time Required

This study will take around **14 minutes**.

Compensation

You will receive a payment for completing the study. The study includes attention checks to ensure that you carefully read the questions before answering them. If you fail the attention checks, you will not be able to complete the study and will not receive any payment.

Public outreach and confidentiality

The results of this study will be disseminated to the public. In addition, we plan to reach out to politicians to make them aware of our results. Strict confidentiality is guaranteed. Your answers will remain completely anonymous.

Voluntary participation

Participation is voluntary. You can withdraw from the study at any time.

Questions about the survey

If you have questions about this study or your rights, please get in touch with us at krishna.srinivasan@unidistance.ch

Consent

I have read the above information, and I am willing to participate.

[Yes; No]

Screen Break

[Screen shown if participant does not provide consent]

End of survey

You did not give your consent to continue with the study.

Please click the next button to finish the study. You will be automatically redirected.

[Block 1: Background Questions - 1]

In which state do you currently reside?

[Alabama; ...; Wyoming; I do not reside in the U.S.]

In which year were you born?

[2006; ...; 1929 or earlier]

What is your gender?

[Female; Male; Non-binary; Prefer not to say]

Which category best describes your highest level of education?

[Primary education or less; Some high school; High school degree/GED; Some college; 2-year college degree; 4-year college degree; Master's degree; Doctoral degree; Professional degree (e.g., JD, MD, MBA)]

What was the TOTAL income of your **household**, before taxes, last year?

[\$0-\$9,999; \$10,000-\$19,999; \$20,000-\$29,999; \$30,000-\$39,999; \$40,000-\$49,999; \$50,000-\$59,999; \$60,000-\$69,999; \$70,000-\$79,999; \$80,000-\$89,999; \$90,000-\$99,999; \$100,000-\$109,999; \$110,000-\$119,999; \$120,000-\$129,999; \$130,000-\$139,999; \$140,000-\$149,999; \$150,000-\$159,999; \$160,000-\$169,999; \$170,000-\$179,999; \$180,000-\$189,999; \$190,000-\$199,999; \$200,000-\$249,999; \$250,000-\$299,999; \$300,000 and over; Prefer not to say]

Screen Break

[Screen shown if quotas are full]

End of survey

Unfortunately, we already have the number of participants needed for this study.

Thank you for your time.

Please click the next button to finish the study. You will be automatically redirected.

Screen Break

The question below is related to the following problem. In surveys like ours, there are sometimes a few people who do not carefully read the questions they are asked and just quickly click through the survey. These random answers are problematic because they compromise the results of the studies. In order to show that you read our questions carefully, please answer “Not at all interested” below:

[Extremely interested; Very interested; A little bit interested; Almost not interested; Not at all interested]

Screen Break

[Screen shown if participant failed the attention check]

End of survey

Unfortunately, you failed the attention check.

For this reason, you cannot continue the study and will not receive a payment.

Please click the next button to finish the study. You will be automatically redirected.

[Screen shown if participant passed the attention check]

In the following questions, we will explore your views on tax and transfer policies in the United States.

The anonymized results of this study will be shared with the public. In addition, we plan to reach out to politicians to make them aware of our results.

Therefore, please answer the following questions carefully and honestly.

Your answers will remain anonymous.

Screen Break

Block 2: Knowledge about Tagging

In the U.S., the federal income taxes owed by individuals depend on their income.

To your knowledge, do the taxes owed by individuals also depend on their personal characteristics, such as their marital status or their age? In other words, can two individuals

with the same income owe different amounts in taxes because of differences in their personal characteristics?

[Yes, two individuals with the same income might owe different amounts in taxes; No, two individuals with the same income cannot owe different amounts in taxes; I don't know]

Screen Break

Block 3: Policies Involving Tagging

On the following screens, we will ask you about your views on different federal income tax policies. These policies might affect different groups of individuals in different ways.

Consider the following example. Suppose that we divide the population into two groups:

Group A: Individuals with visual impairments

Group B: All other individuals

Suppose that the **average pre-tax income of individuals in Group A (with visual impairments) is lower than the average pre-tax income of individuals in Group B**. This means that individuals with visual impairments tend to earn less money than the rest of the population. **Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.**

Consider a policy proposal in which **individuals in Group A (with visual impairments) would owe slightly lower income taxes compared to individuals in Group B**. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B. For example, a visually impaired individual with an income of \$30,000 would owe slightly lower taxes than an individual who also has an income of \$30,000 but is *not* visually impaired.

We are interested in knowing whether you would support such a policy.

On the following screens, we will present you with **ten such policy proposals**. In each proposal, the population is split into two different groups along a different characteristic.

There are no right or wrong answers; we are just interested in your opinion.

Screen Break

[The order of the questions is randomized across participants.]

The population is divided into two groups:

Group A: **Individuals who are NOT married**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (who are NOT married) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (who are NOT married) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B. Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: **Individuals aged 18 to 30**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (aged 18 to 30) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (aged 18 to 30) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: **Women**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (women) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (women) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: **Ethnic/racial minorities**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (ethnic/racial minorities) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (ethnic/racial minorities) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: Individuals with disabilities

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (with disabilities) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (with disabilities) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: Individuals NOT working in the service sector

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (NOT working in the service sector) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (NOT working in the service sector) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: **Individuals whose highest education is a high school diploma or less**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (whose highest education is a high school diploma or less) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (whose highest education is a high school diploma or less) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: **Individuals with visual impairments**

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (with visual impairments) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (with visual impairments) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

Imagine we divide the U.S. into 100 regions, ranked by income and poverty. Region #1 has the lowest average income and highest poverty rate in the U.S. Region #100 has the highest average income and lowest poverty rate.

Group A: Individuals living in region #1, with the lowest average income and highest poverty rate

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (living in region #1) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (living in region #1) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

The population is divided into two groups:

Group A: Individuals with dependents (who financially support their children or other relatives)

Group B: All other individuals

Suppose that the average pre-tax income of individuals in Group A (with dependents) is lower than the average pre-tax income of individuals in Group B. Nevertheless, some individuals in Group A earn a high income, and some individuals in Group B earn a low income.

Policy Proposal: Individuals in Group A (with dependents) would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Screen Break

In the previous screens, you indicated your support for various policy proposals.

To what extent do you think public authorities should consider your answers when deciding on tax policies?

[Not at all; Very little; Little; Somewhat; Very much]

Screen Break

[Block 4: Vignette Experiment]

[Participants are randomly assigned to one of 8 treatments in a $2 \times 2 \times 2$ between-subjects design. First dimension is Immutable vs Mutable, second dimension is Low-Corr vs. High-Corr, and the third dimension is Uncorr-Needs vs. Corr-Needs.]

We will now ask you about another scenario.

Suppose we divide the U.S. population into two groups that the government can identify: Group A and Group B.

[Treatment Immutable] Whether an individual belongs to Group A or Group B depends on a single personal characteristic over which individuals have no control. Thus, **individuals cannot influence the group to which they belong**. For example, the groups could represent individuals of different sexes or individuals with and without visual impairments.

[Treatment Mutable] Whether an individual belongs to Group A or Group B depends on a single personal characteristic over which individuals have some control. Thus, **individuals might be able to influence the group to which they belong**. For example, the groups could represent individuals with different occupations or individuals with and without children.

[Treatment Low-Corr] The **average pre-tax income of individuals in Group A is lower** than the average pre-tax income of individuals in Group B. Nevertheless, **many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income**. Thus, the incomes of the two groups are not too different, despite the lower average income in Group A.

[Treatment High-Corr] The **average pre-tax income of individuals in Group A is lower** than the average pre-tax income of individuals in Group B. **Very few individuals in Group A earn a high income, and very few individuals in Group B earn a low income**. Thus, the incomes of the two groups are very different, as reflected by the lower incomes for most individuals in Group A.

[Treatment Uncorr-Needs] **Individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs**, such as housing, transportation, utilities, healthcare, and education. In society, some groups, such as those with visual impairments or dependents, have to spend more money to meet their basic needs.

[Treatment Corr-Needs] **Individuals in Group A have to spend more money, on average, compared to individuals in Group B to meet their basic needs**, such as

housing, transportation, utilities, healthcare, and education. In society, some groups, such as those with visual impairments or dependents, have to spend more money to meet their basic needs.

Please answer the following questions to demonstrate that you have understood the instructions.

Is this statement True or False?

[Treatment Immutable] *Individuals cannot influence the group to which they belong.*

[Treatment Mutable] *Individuals might be able to influence the group to which they belong.*

[True; False]

Is this statement True or False?

[Treatment Low-Corr] *The average pre-tax income of individuals in Group A is lower. Nevertheless, many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income.*

[Treatment High-Corr] *The average pre-tax income of individuals in Group A is lower. Very few individuals in Group A earn a high income, and very few individuals in Group B earn a low income.*

[True; False]

Is this statement True or False?

[Treatment Uncorr-Needs] *Individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs.*

[Treatment Corr-Needs] *Individuals in Group A have to spend more money, on average, compared to individuals in Group B to meet their basic needs.*

[True; False]

Screen Break

[Screen shown if participant failed one or more comprehension checks]

End of survey

Unfortunately, you did not correctly answer the comprehension questions.

For this reason, you cannot continue the study.

Please click the next button to finish the study. You will be automatically redirected.

Screen Break

Recall the following information on the two groups we just described:

- The average income of individuals in Group A is lower than the average income of individuals in Group B.
 - [Treatment Low-Corr] Nevertheless, many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income.
 - [Treatment High-Corr] Very few individuals in Group A earn a high income, and very few individuals in Group B earn a low income.
 - [Treatment Uncorr-Needs] Individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs.
 - [Treatment Corr-Needs] Individuals in Group A have to spend more money, on average, compared to individuals in Group B to meet their basic needs.
 - [Treatment Immutable] Individuals cannot influence the group to which they belong.
 - [Treatment Mutable] Individuals might be able to influence the group to which they belong.
-

Consider the following policy proposal:

Individuals in Group A would owe slightly lower income taxes compared to individuals in Group B. This means that, among all individuals with the same income, an individual in Group A would owe less taxes than an individual in Group B.

Would you oppose or support this proposal?

[-3: Strongly oppose; -2: Oppose; -1: Slightly oppose; 0: Neither oppose nor support; +1: Slightly support; +2: Support; +3: Strongly support]

Please explain your reasoning for supporting or opposing the above policy proposal.

Please use the text box below and write as much as you like.

Screen Break

Recall the following information on the two groups we just described:

- The average income of individuals in Group A is lower than the average income of individuals in Group B.
 - [Treatment Low-Corr] Nevertheless, many individuals in Group A earn a very high income, and many individuals in Group B earn a very low income.
 - [Treatment High-Corr] Very few individuals in Group A earn a high income, and very few individuals in Group B earn a low income.
 - [Treatment Uncorr-Needs] Individuals in Group A and Group B spend the same amount of money, on average, to meet their basic needs.
 - [Treatment Corr-Needs] Individuals in Group A have to spend more money, on average, compared to individuals in Group B to meet their basic needs.
 - [Treatment Immutable] Individuals cannot influence the group to which they belong.
 - [Treatment Mutable] Individuals might be able to influence the group to which they belong.
-

We will now ask you to make a **decision that may have real monetary consequences for two other individuals.**

We will recruit two individuals from the general population of the U.S. based on the description provided above. One individual corresponds to the description provided for Group A, and the other corresponds to the description provided for Group B.

Your task is to decide whether to allocate a \$500 bonus to the individual from Group A, or to the individual from Group B. If you have no preference, we will randomly decide which of the two individuals receives the bonus.

At the end of the study, we will randomly select one participant and implement their decision. Thus, it is possible that we will pay the bonus according to your decision.

Please make your decision:

[I prefer giving \$500 to the individual from Group A; I prefer giving \$500 to the individual from Group B; I am indifferent between the two options]

Screen Break

[Block 5: Concerns]

In the U.S., the federal income taxes owed by individuals depend on their income. However, these taxes could also depend on individuals' personal characteristics, such as their sector of employment or disability status. As you saw in the previous screens, this could involve lower tax rates for groups with lower average incomes.

We want to understand **what considerations come to your mind when you think about whether the taxes owed by individuals should depend on their personal characteristics in addition to their incomes.**

If taxes were based on individuals' personal characteristics in addition to their income, I think that the administrative costs of the government would ...

[Strongly decrease; Decrease; Slightly decrease; Be unaffected; Slightly increase; Increase; Strongly increase]

If taxes were based on individuals' personal characteristics in addition to their income, I think that the process of filing taxes for taxpayers would be ...

[Much less complicated; Less complicated; Slightly less complicated; Unaffected; Slightly more complicated; More complicated; Much more complicated]

Out of every tax dollar that goes to the federal government, how many cents would you say are wasted?

You can enter any number between (and including) 0 and 100.

Screen Break

If taxes were based on individuals' personal characteristics in addition to their income, I think that high-income individuals would . . .

[Work much less; Work less; Work slightly less; Neither work less nor more; Work slightly more; Work more; Work much more]

If taxes were based on individuals' personal characteristics in addition to their income, I think that the total revenue the government collects would . . .

[Strongly decrease; Decrease; Slightly decrease; Be unaffected; Slightly increase; Increase; Strongly increase]

If taxes were based on individuals' personal characteristics in addition to their income, how likely do you think individuals would be to misreport their characteristics to lower their tax burden?

[Very unlikely; Unlikely; Somewhat unlikely; Neither unlikely nor likely; Somewhat likely; Likely; Very likely]

If taxes were based on individuals' personal characteristics in addition to their income, how likely do you think individuals would be to change their behaviors to legally lower their tax burden?

[Very unlikely; Unlikely; Somewhat unlikely; Neither unlikely nor likely; Somewhat likely; Likely; Very likely]

Screen Break

If taxes were based on individuals' personal characteristics in addition to their income, I think that the resulting distribution of individuals' after-tax incomes would be . . .

[Very unfair; Unfair; Somewhat unfair; Neither unfair nor fair; Somewhat fair; Fair; Very fair]

If taxes were based on individuals' personal characteristics in addition to their income, to what extent do you think this would invade individuals' privacy?

[No invasion of privacy; Slight invasion of privacy; Moderate invasion of privacy; Significant invasion of privacy]

Some people think the government is trying to do too many things that should be left to

individuals and businesses. Others think that the government should do more to solve our country's problems. Which comes closer to your own view?

[Government is doing way too much; Government is doing too much; Government is doing a little bit too much; Government is doing just the right amount; Government should do a little more; Government should do more; Government should do a lot more]

Screen Break

Considering legal and administrative difficulties, how easy or difficult do you think it would be for the U.S. government to modify the tax system so that income taxes are based not only on income but also on personal characteristics?

[Very easy; Easy; Somewhat easy; Neither easy nor difficult; Somewhat difficult; Difficult; Very difficult]

How much of the time do you think you can trust the federal government in Washington to do what is right?

[Never; Only some of the time; Most of the time; Just about always]

Screen Break

Some groups in society earn lower incomes than others, as you saw previously. For example, individuals with visual impairments tend to earn lower incomes, and so do individuals whose highest education level is a high school diploma or less.

In your opinion, what best explains why some groups in society earn lower incomes than others?

I believe that some groups earn lower incomes ...

[Mainly because they work less hard (not because they are less lucky); Because they work less hard and are less lucky; Mainly because they are less lucky (not because they work less hard)]

Screen Break

[Block 6: Background Questions - 2]

The study is almost over. We would like you to answer a few more questions about your background.

What is the 5-digit ZIP code of the place you currently reside in?

(Please enter a 5-digit numeric value)

What is your marital status?

[Single; Cohabitating couple; Married; Legally separated or divorced; Widowed]

How many dependents do you have?

Dependents are children or relatives that rely on you financially.

[None; 1; 2; 3 or more]

Are you a U.S. citizen?

[Yes; No]

Are you of Hispanic, Latino, or Spanish origin?

[Yes; No]

How would you describe your race?

[White; African American/Black; American Indian or Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; Mixed race; Other]

Screen Break

What is your current employment status?

[Full-time employee; Part-time employee; Self-employed or small business owner; Unemployed and looking for work; Unemployed and not looking for work; Student; Retiree]

[If “Full-time employee,” “Part-time employee,” or “Self-employed or small business owner”]
Which of the following best describes the industry of your main occupation?

[If “Unemployed and looking for work,” “Unemployed and not looking for work,” or “Retiree”] Even if you are not currently working, which of the following best describes the industry of your latest occupation?

[Agriculture, Forestry, Fishing and Hunting; Mining; Utilities; Construction; Manufacturing; Wholesale and Retail Trade; Transportation and Warehousing; Information; Finance and In-

surance, and Real Estate, and Rental and Leasing; Professional, Scientific, and Management, and Administrative, and Waste Management Services; Educational Services, and Health Care and Social Assistance; Arts, Entertainment, and Recreation, and Accommodation and Food Services; Other Services, Except Public Administration; Public Administration; Military]

Screen Break

We now would like to ask you a few questions that relate to your health and the health of other members of your household (if any).

Do you or anyone in your household have serious difficulty seeing even when wearing glasses?

[Yes; No; Prefer not to answer]

Do you or anyone in your household have a physical or mental disability that limits their being employed, or substantially limits one or more of their major life activities, such as performing manual tasks, walking, speaking, breathing, learning, and working?

[Yes; No; Prefer not to answer]

Screen Break

What do you consider to be your political affiliation?

[Republican; Democrat; Independent; Other; Non-Affiliated]

Screen Break

End of survey

Thank you for participating in this study.

Please click the next button to finish the study. You will be automatically redirected.

References

- Bartling, B. & Srinivasan, K. (2025), Paternalistic interventions: determinants of demand and supply, Technical report, CESifo Working Paper.
- Boadway, R. & Pestieau, P. (2006), ‘Tagging and redistributive taxation’, *Annales d’Economie et de Statistique* pp. 123–147.
- Chapman, J., Dean, M., Ortoleva, P., Snowberg, E. & Camerer, C. (2023), ‘Econographics’, *Journal of Political Economy Microeconomics* **1**(1), 115–161.
- Lipovetsky, S. (2021), ‘Game theory in regression modeling: A brief review on shapley value regression’, *Model Assisted Statistics and Applications* **16**(2), 165–168.
- Mankiw, N. G. & Weinzierl, M. (2010), ‘The optimal taxation of height: A case study of utilitarian income redistribution’, *American Economic Journal: Economic Policy* **2**(1), 155–176.
- Ruggles, S., Flood, S., Sobek, M., Backman, D., Chen, A., Cooper, G., Richards, S., Rodgers, R. & Schouweiler, M. (2024), ‘Ipums usa: Version 15.0 [dataset]’.
URL: <https://doi.org/10.18128/D010.V15.0>