

Unpacking Public Opposition to Meat Taxes: A Survey-Experiment in California*

Thomas Douenne † Natalie Lee † Nicolas Treich ‡

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Abstract

Meat consumption generates substantial environmental, health, and animal-welfare externalities, yet meat taxes remain highly unpopular. We study the sources of this opposition using a large survey experiment with 3,299 Californians evaluating a meat-tax-and-dividend policy, under which revenues are rebated to households. Respondents watch videos explaining the policy and then report their support, beliefs, and concerns. We embed randomized information and framing treatments targeting economic beliefs (financial incidence, distributional effects, and effectiveness) as well as non-economic considerations related to freedom of choice and identity. Opposition is widespread and is most often justified by concerns over freedom of choice and fairness. Information about tax progressivity increases support, while information about own financial impact or effectiveness does not. Framing the policy as freedom-preserving has no effect on attitudes, despite freedom being a central stated concern, whereas priming meat-related identity significantly increases opposition, despite identity being reported as relatively unimportant. Overall, the results point to a gap between stated concerns and the factors that causally shape policy support.

JEL classification: C83, D72, D91, H23, Q58.

Keywords: Meat taxes, environmental regulation, survey-experiment, political views, freedom of choice, identity.

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†University of Amsterdam, Amsterdam School of Economics. Correspondence: t.r.g.r.douenne@uva.nl,h.lee@uva.nl

‡Toulouse School of Economics and INRAE. Correspondence: nicolas.treich@inrae.fr.

1 Introduction

Motivation and research question Meat consumption generates substantial externalities related to climate change (Garnett, 2009; Gerber et al., 2013), environmental degradation (Godfray et al., 2018; Poore and Nemecek, 2018), public health (Willett et al., 2019; Domingo et al., 2021), and animal welfare (Harrison, 1964; Treich, 2025). A growing body of research in economics and related disciplines argue that meat taxation could help internalize these externalities (Springmann et al., 2017; Bonnet et al., 2020; Funke et al., 2022; Perino and Schwickert, 2023). These arguments have also gained traction in policy debates, with international organizations and expert bodies increasingly calling for food price reforms and taxation (European Commission, 2023; FAO, 2023; Gérard, 2023).

Despite this growing consensus, governments have so far been reluctant to implement meat taxes. A common explanation is their lack of political feasibility. For example, Dechezleprêtre et al. (2025) shows that meat taxes rank among the least acceptable climate policy options across a wide range of countries. While opposition to meat taxes is well documented, we still have a limited understanding of why such opposition is so strong, and which concerns—economic or otherwise—are most central in shaping public attitudes. Existing evidence mainly documents correlations between policy support, beliefs, and individual characteristics. While informative, this literature provides limited insight into the causal importance of specific beliefs or values, and into their responsiveness to policy communication or persuasion. In particular, it remains unclear whether opposition is primarily driven by economic considerations or non-economic values.

In this paper, we unpack public opposition to meat taxation by investigating how citizens perceive a meat tax policy, which reasons they invoke to justify their opposition, and which of these considerations actually shape policy preferences when subjected to information provision and persuasion. Importantly, we study both economic and non-economic considerations in a unified framework. On the economic side, we focus on self-interest and distributional concerns by evaluating a meat tax with lump-sum redistribution, which allows us to quantify household-level gains and losses and to assess perceptions of progressivity. On the non-economic side, we examine values related to freedom of choice and identity, and directly compare their stated importance with their causal influence on policy support. By doing so, we provide a more complete view of households as economic and value-driven agents who simultaneously consider impacts on themselves and others.

Our empirical focus is the U.S. under the second Trump administration,¹ and more specifically the state of California.² Given that sales taxes are determined at the state level, California offers a particularly interesting case. Despite its meat consumption above the national average, the state has a long history of progressive environmental, animal-welfare, and public-health policies, including the emission trading system and recent state supreme court rulings in favor of animal welfare regulations

¹The data collection took place between April and August 2025.

²See Jamieson et al. (2024) for a review of U.S.-specific considerations for meat tax.

(“Prop 12”) and sugary beverage taxes. At the same time, there has been no concrete political discussion of a meat tax, and it is unclear where Californian public opinion stands relative to the generally low support observed in the U.S. and the higher—sometimes majority—support documented in several Western European countries (Fesenfeld et al., 2020; Perino and Schwickert, 2023; TAPP coalition, 2020).

Method We conducted a large-scale survey experiment with more than 3,000 participants in California. Respondents evaluate a meat-tax-and-dividend policy consisting of a 15% tax on all meat products, with all revenues redistributed to households as lump-sum cash transfers. The cash transfers scale with household size but do not depend on income. Because low-income households, on average, spend less money on meat than other households but receive the same cash transfer, the policy is progressive, as shown in European countries (Klenert et al., 2023). Using food expenditure data, we confirm that the same holds for California.

Participants were first shown a short video explaining meat externalities as policy background and how the meat-tax-and-dividend policy works. We then elicited their policy approval, beliefs, and concerns. Following Douenne and Fabre (2022) and Dechezleprêtre et al. (2025), we measure beliefs along three key economic dimensions: (i) the financial impact of the policy on respondents’ own households, (ii) its distributional consequences, and (iii) its effectiveness in reducing meat consumption and associated externalities. In addition, we examine non-economic considerations, most notably freedom of choice and identity.³

A central feature of our survey experiment is the use of randomized information and framing treatments embedded in the video, which enables causal inference. Our information treatments manipulate beliefs about self-interest, progressivity, and effectiveness, whereas framing treatments target values related to freedom of choice and identity. These direct treatments of these political and identity-related values are novel in the context of meat taxation and climate policy, and draw on a growing literature that designs and evaluates interventions aimed at “talking across” political ideologies (Cruz et al., 2025; Braghieri et al., 2024; Blattner and Rasocha, 2025).

Main results The meat-tax-and-dividend policy faces majority opposition. The most frequently cited reason is non-economic: concerns about personal freedom, followed by concerns for distributive consequences and perceived negative financial effects on respondents’ own households. Policy attitudes are strongly associated with political orientation, trust in government, and self-identification as omnivores. These attitudes are further reflected in respondents’ political actions under real incentives—joining a petition for the meat tax.

³We use the wording “non-economic considerations” for simplicity. We acknowledge that this wording is imperfect, as factors such as identity and freedom of choice are commonly studied within economics. Alternatives such as “behavioral” or “non-material” considerations could have been used, with their own limitations.

Respondents hold systematically pessimistic beliefs about the economic impacts of the policy. In particular, they substantially overestimate the negative impact on their own household and on low-income households. While similar pessimism has been documented for other climate policies (Douenne and Fabre, 2022; Dechezleprêtre et al., 2025), we provide the first evidence of such misperceptions in the context of meat taxation.

Although both self-interest and distributive concerns are subject to such pessimism and are also cited as important reasons for opposing the tax, our information treatments targeting these concerns have markedly different effects. Only information about the policy's progressivity induces more optimistic beliefs and increases policy support. By contrast, providing personalized information about respondents' own financial gains or losses leads to only modest belief updating and does not affect approval. Information about the effectiveness of the tax affects neither beliefs nor approval.

This contrast between stated importance and causal influence also extends to non-economic considerations. Freedom is cited as the most important reason for opposition, yet framing the policy as freedom-preserving has only marginal average effects and even backfires among respondents who are most skeptical of government intervention. In contrast, priming meat-related identity—emphasizing the cultural, social and lifestyle significance of meat—substantially increases opposition, despite respondents reporting identity as a minor concern. Together, these findings highlight that considerations appearing secondary in self-reported explanations can nonetheless play a central causal role in shaping policy preferences.

Related literature and contribution This paper relates to three strands of the literature.

First, it contributes to the literature on the regulation of externalities. There is, of course, an extensive body of work on Pigouvian taxation in economics (Sandmo, 2000; Tietenberg and Lewis, 2023), with recent studies applying this framework to meat taxation (Springmann et al., 2017; Bonnet et al., 2020; Funke et al., 2022; Klenert et al., 2023; Espinosa and Treich, 2025). On the political side, Fesenfeld et al. (2020) measure public opinion on meat taxes in China, the U.S., and Germany. Their estimates from the discrete-choice conjoint experiment suggest minority support for meat tax in the U.S., although policy packaging with revenue earmarking can increase support. We directly measure policy support and show that the support rate in California lies within the same range as their U.S.-estimates. Siegerink et al. (2024) and Grimsrud et al. (2019) document similar positive effects of revenue earmarking in the Netherlands and Norway, respectively. TAPP coalition (2020) and TAPP coalition et al. (2025) find majority support for meat taxes combined with earmarking in France, Germany, and the Netherlands.

More broadly, the climate-policy literature has identified three key considerations for public acceptability of policy instruments: self-interest, distributional effects, and perceived effectiveness (Kallbekken and Sælen, 2011; Baranzini et al., 2017; Klenert et al., 2018; Carattini et al., 2018; Muhammad et al.,

2021; Bergquist et al., 2022; Douenne and Fabre, 2022; Dechezleprêtre et al., 2025). However, it remains unclear to what extent these findings generalize to meat taxation. In particular, the role of self-interest—one of the most important determinants of attitudes toward carbon taxation—has been largely absent from previous studies of meat taxes. By explicitly incorporating both self-interest and distributional concerns, our study design provides a more complete picture of economic agents who may be motivated by both self- and other-regarding considerations. Similarly, lump-sum transfers have been used in practice in carbon taxation, and their public acceptability has been studied in that context (see, e.g., Klenert et al., 2018; Carattini et al., 2018). Yet it remains unknown whether these findings extend to meat taxation. We fill this gap by measuring public opinion toward a meat-tax-and-dividend policy, thereby complementing existing work that focuses on other types of food taxes or alternative revenue-recycling schemes.⁴

Second, the paper relates to the political economy of taxation. A growing literature examines public attitudes toward environmental taxes, documenting their correlations with values such as ideology, freedom, and identity (Anderson et al., 2023; Millner and Ollivier, 2016; Jagers et al., 2024), and highlighting the role of knowledge, policy understanding, and framing (Jagers and Hammar, 2009; Carattini et al., 2018; Douenne and Fabre, 2020; Perino and Schwickert, 2023; Dechezleprêtre et al., 2025; Ejelöv et al., 2025). In the spirit of Stantcheva (2021), we go beyond documenting correlations to investigate the causal relevance of these considerations, assessing the malleability of beliefs and their implications for political behavior.

Third, this paper contributes to the literature on survey and information experiments (Fuster and Zafar, 2023; Haaland et al., 2023; Stantcheva, 2023). Beyond its application to meat taxation, our survey design allows us to jointly study economic beliefs and non-economic values, and to directly compare the prominence of these considerations in respondents' narratives with their causal effects on beliefs and policy opinion. Our original video treatments targeting freedom and identity elicit meaningful behavioral responses and provide a design framework that can be adapted to study other tax policies and food-related interventions.

Outline The remainder of the paper is organized as follows. Section 2 presents our survey-experiment. Section 3 documents people's attitudes, beliefs, and concerns about the meat tax, and the heterogeneity in opinions. Section 4 examines the effect of our experimental treatments on people's views about the meat tax. Section 5 concludes. Further results and methodological complements are reported in the Appendix.

⁴Jagers et al. (2024) study support for climate taxes on foods with high climate impact. Fesenfeld et al. (2020), Erhard et al. (2024), TAPP coalition (2020), Siegerink et al. (2024), and Ejelöv et al. (2025) study support for meat tax whose revenues are used for the general budget, subsidies for fruits and vegetables, income-tax reductions, supporting low-income households, environmental protection, or climate mitigation.

2 Method and Data

2.1 Survey Sample

The survey was conducted between April and August 2025. We obtained $N = 3,299$ completed interviews from Bilendi's California panel. Bilendi invited panelists by email with a secure survey link. Respondents received between USD 1.95 and USD 2.80 upon full completion and could earn additional credits during the questionnaire (see Section 2.2).⁵ The median completion time was 14 minutes.

Appendix Table B.1 provides descriptive statistics of our sample compared to the general population of California. Appendix Table B.2 shows our attrition analysis. Our sample is highly representative in terms of gender and age, but includes fewer individuals with no high school diploma and slightly more people who identify as "white" than in the general population. Individuals with no high school diploma are also more likely to drop out from the survey. As shown in Appendix Table F.1, reweighting to correct these imbalances has no material effect on the distribution of support, beliefs, or concerns.

2.2 Survey Design

Figure 1 illustrates the overall structure of our survey.

Background The survey opens with a brief welcome message that states, explicitly, that the study was designed by researchers and is non-partisan. At this stage, we do not disclose the survey's purpose or topic. We then collect standard sociodemographic information: sex, age, race/ethnicity, education, family composition, zipcode, employment status, and income. We also record whether the respondent or anyone in the household received food stamps in the past year, and include two items on meat consumption frequency and overall diet.

Video: policy introduction and experimental treatments Participants are informed that they will watch a short video and later answer questions about it. The video consists of clips and animated displays, with narration and subtitles. Figure 2 illustrates the timeline of the video.

In all experimental conditions, the video introduces "a food-related policy that could be potentially considered by the California state government," recalls that high meat consumption is associated with environmental, animal-welfare, and public-health externalities, and presents a *meat-tax-and-dividend*: a 15% increase in the price of all meat, with revenues rebated to all Californian households as cash transfers. Transfers depend on the number of adults and children but do not depend on income. The common script notes that some households may gain while others may lose. The outro states that we will shortly ask for respondents' views.

⁵The completion fee had to be increased from USD 1.95 to USD 2.80 during data collection to ensure sufficient participation among subject groups underrepresented in the online sample.

Sociodemographic & diet : Sex, age, race, education, zipcode, employment/occupation, household composition, income, food stamp, meat consumption frequency, diet

Video: policy introduction and experimental treatments ($3 \times 3 \times 2 = 18$ treatments)

- Financial information**
- Control
 - Own Gain
 - Progressivity

- Effectiveness information**
- Control
 - Effectiveness

- Non-financial treatments**
- Control
 - Identity
 - Freedom

Policy support : open-ended, binary support (approve, oppose, no response)

Policy reasons : open-ended, pros-and-cons, “allocate 100 points”

Policy beliefs: financial effect, effectiveness, second-order belief, donation to advocacy

Alternative policy support & donation to advocacy

Worldview and knowledge: political orientation, universalism, climate change, meat externalities

Questions about survey: attention, difficulty, perceived bias, open-ended

Petition for meat-tax-and-dividend

Figure 1: Survey structure.

Different versions of the video implement our experimental treatments. Our $3 \times 2 \times 3$ design has three layers of randomization, as illustrated in Figure 1. Figure 2 shows the timing of all treatments to be explained below.

First, we randomize information about *financial incidence*. In the “Control” arm, respondents are told nothing further. In another arm, “Own gain”, they are informed that the next page will indicate whether households like theirs would gain or lose; immediately after the video and right before measuring the policy support, we display a short message with the annual transfer for their household and the monthly meat-expenditure threshold below which the household would be financially better off. In a third arm, “Progressivity”, we explain—without numbers, to keep things simple—that low-income households generally gain on average because they spend less on meat yet receive the same

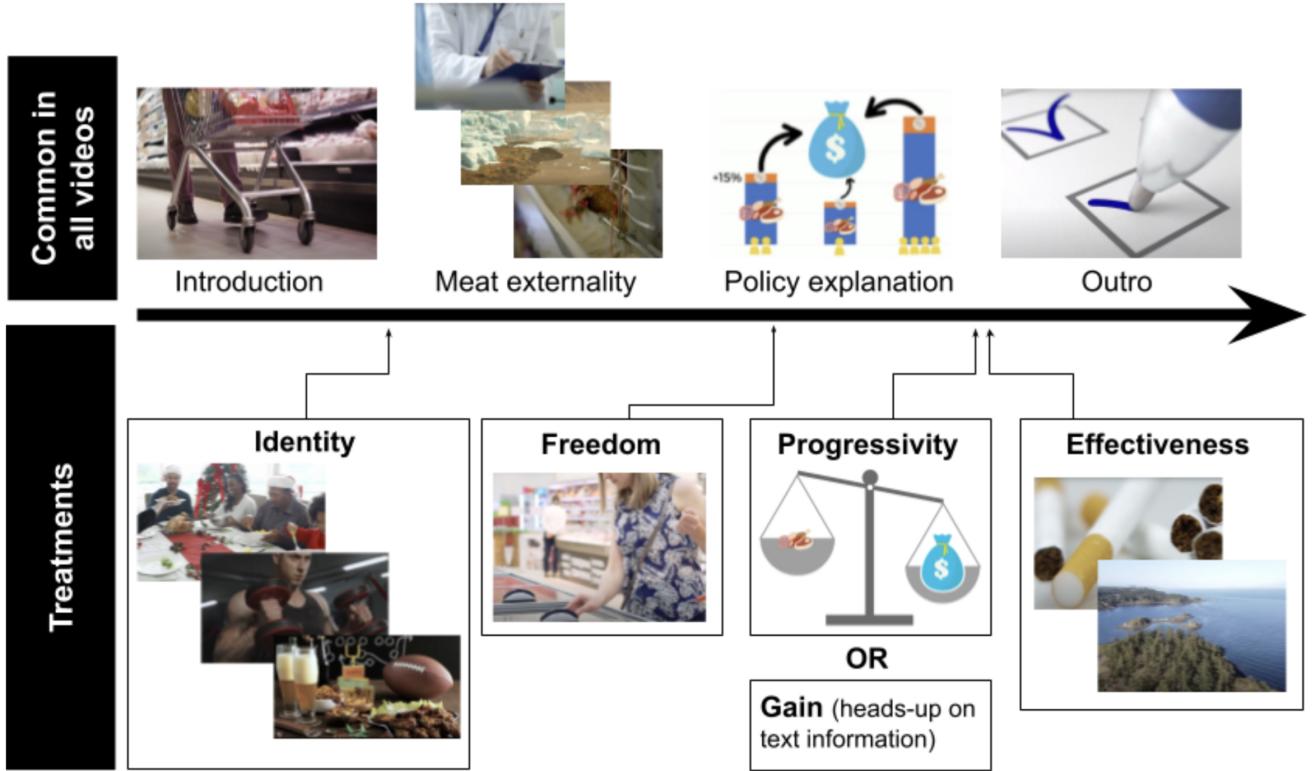


Figure 2: Video timeline.

transfer as everyone else, whereas high-income households tend to lose. Appendix A provides the data and computation details for the “Own gain” feedback (transfer amounts and spending thresholds) and confirms that the policy is indeed progressive.

Second, we randomize an *effectiveness* information treatment. One group receives no additional information. The other, “Effectiveness,” sees a brief statement that taxes have reduced harmful consumption in other domains (e.g., sugar, tobacco) and that a carbon tax with cash transfers in British Columbia reduced emissions, making it plausible that a meat tax would lower consumption.

Third, we randomize short *value-based* treatments. One group receives no treatment. For another group, the “Identity” priming treatment is inserted just before the reminder of externalities. Manipulating the salience of identity through priming is a common experimental approach (see Shayo, 2020, for a review). Our treatment notes that many Californians enjoy meat and see it as part of their lifestyle, social life, culture, traditions, beliefs, or identity, with familiar imagery (e.g., barbecues, sports events, and social gatherings). For the other group, the “Freedom of choice” treatment follows the policy introduction but precedes the design details. It frames the meat-tax-and-dividend policy as freedom-preserving, emphasizing that the proposal does not restrict the availability of meat, and consumers remain free to purchase any amount of meat. It further states that the tax neither condemns

nor endorses meat consumption and simply adjusts prices to reflect associated social costs.

In total, the three layers yield eighteen groups. When estimating treatment effects, we pool together the orthogonal sub-conditions to work with larger samples. Hence, the groups we compare usually correspond to a third (financial incidence treatments, value-based conditions) or half (effectiveness treatment) of our total sample.

Policy support Immediately after the video, respondents answer an open-ended question about the proposal, which reiterates that the policy entails a 15% tax on meat and a return of revenues through cash transfers. The prompt invites respondents to write as much as they wish, stresses that their opinion matters, and makes clear that there is no right or wrong answer. We then elicit approval of the policy (“Yes”; “No”; “Prefer not to respond (Don’t know, don’t want to say)”), which is the key outcome in our analysis.

Policy reasons We then turn to the reasons behind support and opposition. To elicit motives and gauge their relative importance, we proceed in two steps. First, respondents rate their agreement with nine reasons that are frequently invoked against a meat tax and that span financial incidence on oneself and on low-income households, identity and religion, habits and enjoyment of meat, health, and freedom of choice concerns including perceived government judgment and the right to eat meat. Second, respondents allocate one hundred points across the same set of reasons—plus a residual “None of the above”—which reveals their assessment of *relative* importance even when many reasons receive high agreement.

Policy beliefs We then measure respondents’ perceptions of specific properties of the policy. Respondents indicate whether they believe the policy is progressive by stating who gains more between low- and high-income households. They report whether they expect their own household to gain or lose, how confident they are in that assessment, and how they think their outcome compares with that of an average Californian household. To capture beliefs about effectiveness, we first ask how total meat consumption in California would change under the policy and then ask how a reduction in meat consumption would affect climate objectives, animal welfare, and public health. These questions allow us to separate respondents who view the price response as weak from those who regard the externality channels as unimportant.

Finally, we elicit second-order beliefs by asking respondents to guess the overall approval rate among participants. To encourage accuracy, we inform them that ten respondents will be randomly selected to receive a \$10 prize among those whose guesses are closest to the realized rate.

Alternative policy support We also measure support for alternative policy designs. Using a 5-point Likert scale, respondents indicate their support for a meat tax under three alternative revenue

uses, and for four other forms of regulation: command-and-control, information provision, subsidies, and public investments.

Worldview and knowledge To extend the background information, we gather worldviews and attitudes that are likely to shape respondents' views of the policy. Respondents report how concerned they are about climate change, animal welfare, and public health; they state their beliefs about the reality and origins of climate change; and they assess the contribution of meat and dairy to greenhouse-gas emissions. We also collect political attitudes, including trust in the California state government, whether the government does too much or too little, economic ideology along a liberal-conservative dimension, and party identification. Finally, to capture universalism (Tabellini, 2008; Enke et al., 2022b,a; Cappelen et al., 2025), respondents make a simple allocation choice in which they divide a fixed sum between someone living in their neighborhood and a randomly selected person in the United States.

Behavior under real incentives As an incentivized measure of policy support, respondents were given the opportunity to join a petition (Kuziemko et al., 2015; Roth et al., 2022; Dechezleprêtre et al., 2025) for the proposed meat-tax-and-dividend policy. Participation was anonymous, and respondents were informed that the petition would be sent to the Governor of California, reporting the share of participants who supported the petition.

As an incentivized measure of attitudes toward meat, we implemented a lottery with a \$100 prize. All respondents were asked how they would allocate the prize money, should they win it, between themselves and two nonprofits (Alesina et al., 2022; Dechezleprêtre et al., 2025): ProVeg International, which promotes plant-based diets, and the Weston A. Price Foundation, which advocates for meat and dairy consumption. The allocation decision was implemented for one randomly selected respondent.

Attention and data quality We monitor respondents' attention and data quality in several ways. We record the time spent on the survey and allow the respondents to move on to next page only if they play the whole video without skipping. We also embed an instructed-response item between two matrix questions, ask respondents to self-report whether they paid full attention, and ask a multiple-choice recall question about the topic of the video with closely related distractors. Finally, we ask whether the video was easy to understand and whether the survey felt politically biased, and we provide an open comment box at the end. In Appendix E, we report the results of these checks and replicate our main results on a subsample that excludes respondents who rushed, failed the attention check, reported inattention, or misidentified the video topic.

3 Opposition to meat taxes: who and why?

3.1 Attitudes towards meat policies

Support for the meat-tax-and-dividend A majority of respondents reject the policy. In response to “Would you approve of this meat tax and cash transfer policy?”, 30% of respondents answer “Yes”, 61% answer “No”, and 9% answer “Prefer not to respond (Don’t know, don’t want to say)”.⁶ This opposition is consistent with other studies that find low levels of support for a meat tax in the U.S. (Fesenfeld et al., 2020; Dechezleprêtre et al., 2025) and other countries.⁷ More broadly, studies have found that only a minority of people are willing to limit their meat consumption to become more climate-friendly (Dechezleprêtre et al., 2025; UNDP, 2021). Thus, despite the emphasis on the revenue being returned to citizens, our proposal does not garner majority support among Californian respondents.

Turning to second-order beliefs, respondents are broadly aware that support is limited, although they tend to overestimate it. The median guess to the question “What % of all participants in this survey do you think approve of the meat tax and cash transfer policy?” is 37%, and only 29% expect that a majority would approve.

Beliefs about the effects of the meat tax Respondents generally believe that the tax will reduce meat consumption but hold heterogeneous—and often pessimistic—views about the policy’s financial impact. Figure 3 summarizes respondents’ beliefs about the impacts of the policy.

Respondents hold pessimistic beliefs about the policy’s financial effect on their own household: In absolute terms, they are more likely to say their household would lose (47.4%) than gain (18.7%), with a sizable share reporting no effect (22.3%) or preferring not to respond (11.6%). In relative terms, more than three times as many respondents think they would fare worse than the average Californian household. Notably, pessimism comes with confidence: 84% of those who expect to lose are at least quite confident in this assessment, and 36% are certain. This is slightly higher than for people who expect to gain, and significantly higher than for those who expect no effect (Appendix Figure C.1).

Turning to distributional beliefs, many respondents view the policy as regressive: a larger share answers that high-income households benefit more than low-income households than the reverse, while “benefit the same” is also common. The difference is even more stark if we focus on the subsample who were not exposed to our progressivity treatment. In this case, 43.7% expect high-income households to

⁶Throughout, we follow Douenne and Fabre (2022) and use the notion of *approval* for people who answer “Yes” and the weaker notion of *acceptance* for those who do not answer “No”.

⁷Fesenfeld et al. (2020) report between 30-40% of support for various policy packages in the U.S., including the 15% tax on meat. Jagers et al. (2024) report that 30% of Americans are in favor of “climate tax on foods with high climate impact”, and Dechezleprêtre et al. (2025) find 34% support for “a high tax on cattle products, doubling beef prices”. In Europe, the support rate varies more depending on the policy design and the country (Grimsrud et al., 2019; Douenne and Fabre, 2020; TAPP coalition, 2020; Perino and Schwickert, 2023; Siegerink et al., 2024; Dechezleprêtre et al., 2025; TAPP coalition et al., 2025).

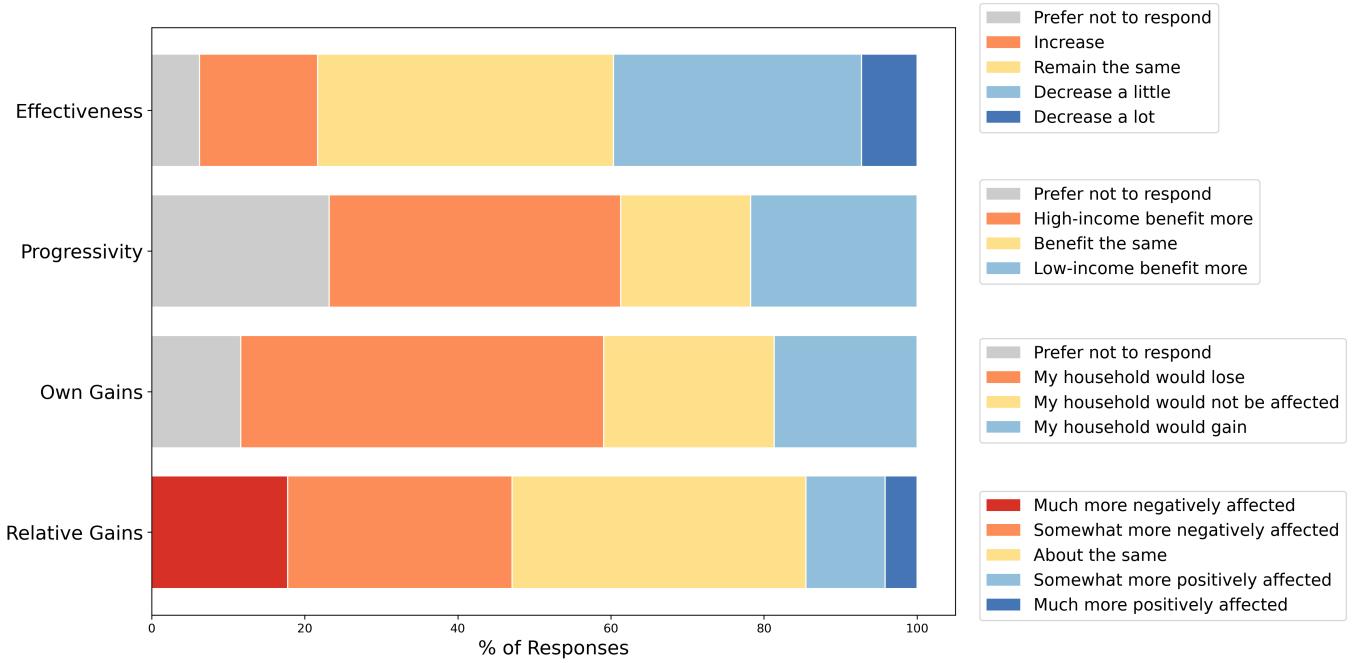


Figure 3: Beliefs about the effects of the meat tax on own cost, progressivity, and effectiveness.

Note: The figure reports answers to the questions “According to you, as a result of the meat tax and cash transfer policy, the total meat consumption in California will:” (Effectiveness); “On average, who do you think would financially benefit more from this policy?” (Progressivity); “Personally, do you think your household would financially gain or lose from this policy?” (Own Gains); and “Compared to an average Californian household, how do you expect your own household to be affected by the policy?” (Relative Gains).

benefit more, compared to 14.9% for low-income households.

Finally, on effectiveness, 54.1% expect the policy to reduce meat consumption—most often by “a little”—with only a small minority predicting an increase. Regarding externality channels, majorities judge that lower meat consumption would have positive effects on animal welfare. Sizable shares say the same for climate and public health, although “no effect” remains a common response, at around 40% (Appendix Figure C.2).

Stated concerns about meat taxation Figure 4 reports respondents’ average point allocations across the proposed reasons against the meat tax. Although most subjects agree with most statements (Appendix Figure C.3), the constant-sum elicitation in Figure 4 identifies which concerns respondents prioritize when forced to trade off among ten options.

Two concerns receive the largest shares: a freedom/government overreach motive (“I don’t want the government to judge what is good for me to eat”), at 15.8 pts, and distributional concerns (“A meat tax would penalize low-income households, even with cash transfers”), at 14.2 pts. A related financial-incidence concern (“A meat tax would penalize my household, even with cash transfers”) and

a complementary freedom of choice claim (“eating meat is an unquestionable right of every person”) rank next, at 11.9 pts each. Health arguments sit around the middle of the distribution, together with habit and pleasure. By contrast, identity and explicitly religious justifications (“Eating meat is part of my cultural identity”; “God created animals for us to eat”) attract the fewest points, at 6.4 pts each. Respondents could also allocate points to “None of the above,” which collected only 5.0 pts on average, indicating that few saw none of the listed concerns as relevant and that most could identify at least one reason to weigh against the policy.⁸

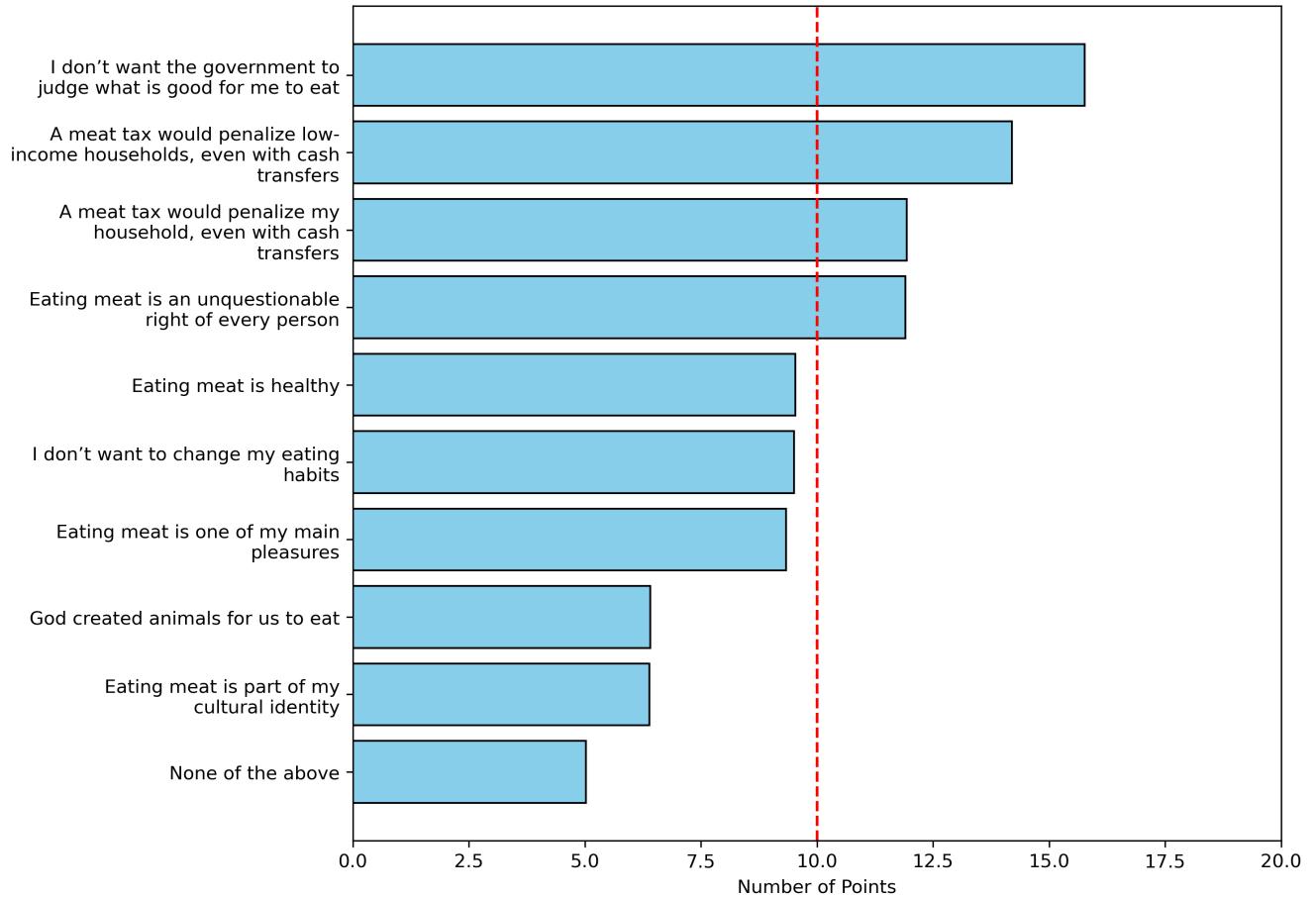


Figure 4: Number of points allocated to reasons against the meat-tax-and-dividend.

Note: The figure reports the number of points (out of 100) allocated to each reason against a meat-tax-and-dividend. The red vertical dotted bar represents the average number of points per item.

Thus, when respondents must trade off reasons, perceived government overreach and distributional/financial risks dominate their stated concerns, while identity-based objections are comparatively marginal. The relative importance of these reasons are similarly reflected in the responses to the open-ended question that are summarized in Table D.1. Appendix D provides full details about our

⁸Only 13% of the respondents allocated at least one point to this item.

exploratory text analyzes of those responses.

Support for alternative policies Appendix Figure C.4 reports attitudes towards alternative meat regulation policies on a five-point scale. The figure displays the responses to all items, but also enables one to visualize the *relative support* for each policy, i.e., whether more people support or oppose, abstracting from indifferent answers (or, equivalently, assuming they are distributed proportionally to the share of agreements and disagreements).⁹ Relative support is highest for regulating producers and for compulsory sustainability labels, both well above the tax-and-dividend, at 82.4% and 75.2% respectively. “Carrot” options also fare relatively well, with higher levels of support than for the tax: 55.2% of support for public investment in cultivated-meat R&D, 52.1% for subsidies for plant-based foods. Earmarking the revenue also raises support for the tax, especially when proceeds help farmers adjust or compensate low-income households (at 66.1% and 59.5% respectively); earmarking to subsidize fruit and vegetables yields a more mixed response, at 48.8% (i.e., it is the only alternative policy that more people oppose than approve).

Overall, instruments that target producers, provide information, or use subsidies appear more acceptable than a consumption tax, even with cash rebates, consistent with climate-policy evidence that people tend to prefer regulations and subsidies over taxes (see e.g., [Douenne and Fabre, 2020](#); [Dechezleprêtre et al., 2025](#)).

3.2 Predictors of attitudes and beliefs

Predictors of opposition to the tax To characterize who opposes the policy, we first relate attitudes towards the meat tax to respondents’ characteristics using univariate regressions.

Figure 5 shows that support is structured first and foremost by worldviews. The strongest correlate of approval is trust in the state government, followed by ideological and normative orientations: respondents who identify as economically liberal, who express concern for animal welfare and climate, and who view climate change as anthropogenic are markedly more favorable; concern for health and partisan affiliation (being a Democrat) are also positively related, though the effect is somewhat less pronounced. We confirm the previous findings that public opinion on meat tax in developed economies strongly correlates to political views, whereas correlation specifically to party affiliations might be somewhat weaker ([Fesenfeld et al., 2020](#); [Jagers et al., 2024](#); [Morren and Banerjee, 2024](#); [TAPP coalition et al., 2025](#); [Dechezleprêtre et al., 2025](#)).

As for the negative predictors, two factors dominate: identifying as an omnivore and believing that the government is “doing too much,” both strongly associated with opposition. Older respondents

⁹This measure of relative support assesses whether there are more people in favor than against a policy. It provides an intermediary measure between the conservative notion of approval (active support only) and the more inclusive notion of acceptance (that also counts passive support from those who do not actively oppose).

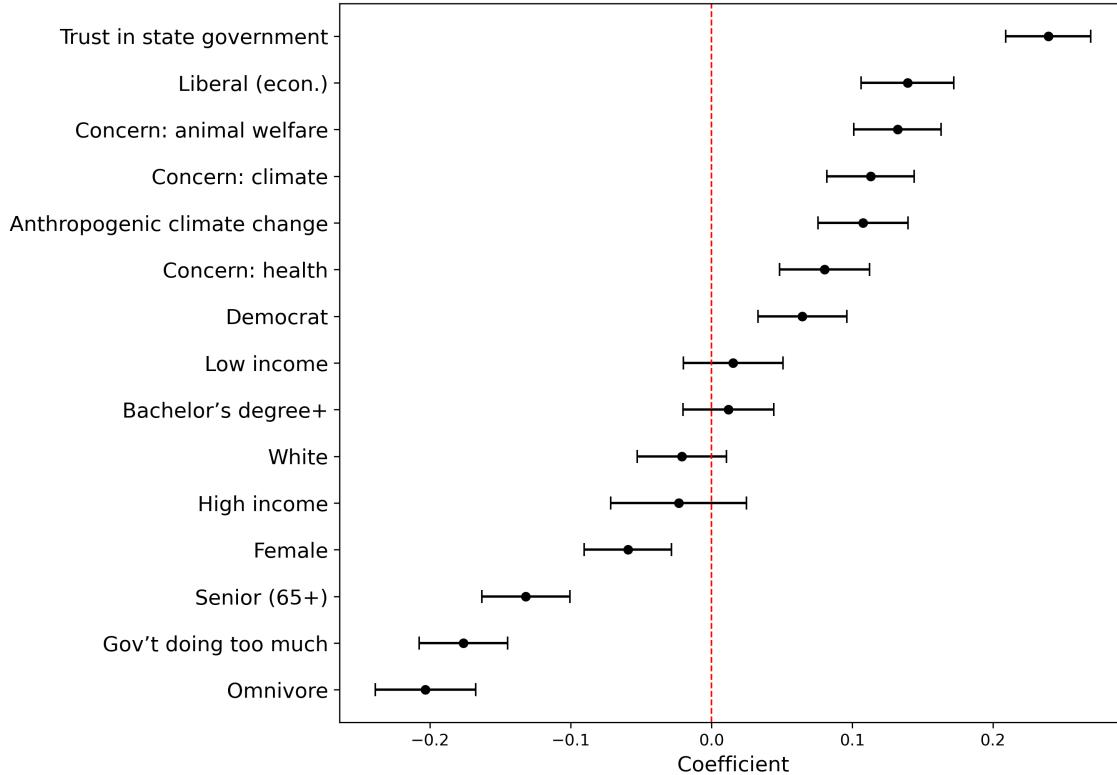


Figure 5: Predictors of approval for the meat-tax-and-dividend.

Note: The figure reports the coefficients from univariate regressions of the variables on approval for the meat-tax-and-dividend. Round markers represent point estimates; error bars indicate 95% confidence intervals.

are also less supportive, and there is a modest gender gap with women somewhat more opposed than men. This runs counter to the previous findings that in developed economies women’s preferences and concerns are more aligned with meat regulation or climate action than men’s (Rosenfeld and Tomiyama, 2021; UNDP, 2021; Bush and Clayton, 2023), and that women are *at least* equally likely to support those policies compared to men (Kmetková et al., 2025; Ejelöv et al., 2025; Dechezleprêtre et al., 2025; Siegerink et al., 2024; Grimsrud et al., 2019). A plausible explanation is that American women are less favorable to market-based instruments even if they support regulation more broadly. Other demographics, such as education, income, or race, exhibit only small and statistically insignificant relationships with approval.

Appendix Figure C.5 also reports results from alternative specifications, using the support index (a measure of support for a larger set of meat regulation policies) as the dependent variable, and using multivariate regressions.¹⁰ Switching to the support index has no effect on the ranking of predictors.

¹⁰Specifically, the support index is defined as the average of a respondent’s standardized answers (coded from -2 “No, not at all” to +2 “Yes, absolutely”) across the seven alternative meat regulation policies presented in Figure C.4. Higher values indicate greater overall support for meat regulation.

When using multivariate regressions, the ordering of predictors remains similar, though magnitudes attenuate once covariates are included.

Predictors of beliefs Appendix Figure C.6 shows that belief formation mirrors the attitudinal patterns above.

First, perceptions of own gains track politics and trust: respondents who trust the state government and who are economically liberal are more likely to think their household would not lose, as are those with stronger pro-animal or climate concerns; by contrast, self-identified omnivores, those who say the government is “doing too much,” and older respondents are more likely to expect to lose.

Second, judgments about progressivity align with both worldviews and financial considerations. Higher trust predicts viewing the policy as non-regressive, while omnivores, economically liberal, and the anti-government group are more likely to see it as regressive. Along the income gradient, low-income respondents are less likely to view the policy as non-regressive than high-income respondents. This pattern may indirectly reflect greater concern among lower-income respondents about impacts on poorer households. In addition, several demographic groups—female, older, college-educated, and white respondents—lean toward viewing the policy as non-regressive.

Third, beliefs about effectiveness are anchored in climate/animal worldviews and ideology: concern for climate and animal welfare, and endorsing anthropogenic climate change, are the strongest positives, with liberals and Democrats also more optimistic; omnivores and those critical of government are more skeptical. Overall, the same dividing lines that shape approval—trust, ideology, and diet—also shape the beliefs that underlie it, with financial self-assessment additionally reflecting respondents’ own economic position.

Predictors of concerns Appendix Figure C.7 reports how predictors relate to the points respondents allocate across specific objections to the meat tax. The correlates of stated concerns line up with the attitudinal and belief patterns above. The freedom/government overreach motive (“I don’t want the government to judge what is good for me to eat”) is most pronounced among respondents who identify as omnivores and among those who think government is “doing too much,” and it is sharply attenuated among respondents who trust the state government and who hold pro-climate/animal worldviews (liberal, concerned about climate and animal welfare, or endorsing anthropogenic climate change). Turning to distributional motives, allocations to “penalize low-income households” and to “penalize my household” are higher for omnivores and for respondents with lower income, and lower among those with higher trust and liberal orientations. Concerns framed as identity or rights (“unquestionable right,” “cultural identity,” “god”) are again concentrated among omnivores and those critical of government, and are least salient among respondents with strong climate/animal concerns. Reasons tied to habits/pleasure modestly increase with being an omnivore (and somewhat with age), whereas the “meat is healthy” argument is endorsed by groups skeptical of the climate problem and is muted

among respondents who report health concerns. Finally, for “None of the above,” omnivores and those who say government is doing too much are less likely to select it, indicating that at least one specific objection usually resonates with them. By contrast, respondents with higher trust in government and stronger climate/animal concerns are more likely to select it, suggesting that the listed objections carry comparatively less weight for these groups.

4 What could change people’s minds?

4.1 Economic motives

Effect of financial and effectiveness information Tables I and II report the estimated treatment effects of own gain, progressivity, and effectiveness information, using OLS regressions with and without controls. Table I presents the effects on targeted beliefs, while Table II reports the effects on policy approval.

Progressivity information shifts both beliefs and policy support in favor of the meat-tax-and-dividend: participants are 21 p.p. more likely to believe the policy is progressive and 4 p.p. more likely to approve it. This finding is consistent with prior evidence that policy designs or informational interventions addressing distributive concerns can increase support for meat taxes (Fesenfeld et al., 2020; TAPP coalition et al., 2021; Siegerink et al., 2024) as well as other climate policies (Dechelleprêtre et al., 2025; Fang and Innocenti, 2024). In particular, Fesenfeld et al. (2020) report a marginal effect of similar magnitude in the United States when a meat tax is paired with revenue earmarked for low-income households.

By contrast, own gain information modestly increases the belief that one’s household would financially benefit (by 3 p.p.) but has no effect on approval, while effectiveness information has no discernible effect on either beliefs or approval.

Appendix Tables B.3 and B.4 report the effects on policy acceptance (i.e., non-opposition) and on weaker/stronger versions of the beliefs. Progressivity information has similar effects on acceptance as on approval. Own gain/loss information increased the likelihood of the optimistic belief that one’s household would win financially, but did not significantly reduce the likelihood of the pessimistic belief that it would lose.

Mediation by beliefs Table III presents the causal mediation analysis, which decomposes the total treatment effect into four components depending on whether the effect is mediated by, or interacts with, the targeted belief (Van der Weele, 2014, 2015; Discacciati et al., 2018).¹¹ Both own-gain and progres-

¹¹While our pre-analysis plan specified two-stage least squares (2SLS) as the primary strategy to estimate the causal effect of targeted beliefs on policy approval, first-stage diagnostics revealed weak instruments for some belief mediators—particularly effectiveness—and only borderline strength for gains. As a result, the 2SLS estimates are unstable and difficult

Table I: Effects of financial and effectiveness information on targeted beliefs.

	Beliefs					
	Wins	Wins	Progressive	Progressive	Effective	Effective
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.0336** (0.0143)	0.0291** (0.0140)				
Progressivity			0.208*** (0.0148)	0.209*** (0.0148)		
Effectiveness					0.0225 (0.0174)	0.0229 (0.0173)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299
R ²	0.0017	0.0491	0.0562	0.0637	0.0005	0.0048

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, and political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table II: Effects of financial and effectiveness information on approval.

	Approval (“Yes” to policy support)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.0124 (0.0168)	0.0043 (0.0162)				
Progressivity			0.0350** (0.0169)	0.0411** (0.0163)		
Effectiveness					0.0219 (0.0159)	0.0250 (0.0154)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299
R ²	0.0002	0.0713	0.0013	0.0731	0.0006	0.0721

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

sivity information influence approval primarily through belief updating: the Pure Indirect Effects are statistically significant, while the Controlled Direct Effects are not. In addition, the progressivity and effectiveness treatments exhibit interaction effects with pre-existing beliefs. Specifically, progressivity information increases support less among respondents who already believe the policy to be progressive,

to interpret. We therefore turn to the causal mediation analysis which is well-aligned with our aim of assessing whether information treatments shift policy support through belief channels.

whereas effectiveness information primarily strengthens support among those who already believe the policy to be effective. Finally, as shown earlier in Table I, the effectiveness treatment barely shifts the targeted belief. As a result, the mediated effects (Pure Indirect Effect and Mediated Interaction) are close to zero.

Table III: Causal mediation analysis: decomposition of the total treatment effect on approval.

Treatment Mediator: targeted belief	Approval (“Yes” to policy support)					
	Gain Wins (1)	Gain Wins (2)	Progressivity Progressive (3)	Progressivity Progressive (4)	Effectiveness Effective (5)	Effectiveness Effective (6)
Controlled Direct Effect (CDE)	-0.001 (0.017)	-0.004 (0.017)	0.019 (0.020)	0.027 (0.019)	-0.021 (0.023)	-0.021 (0.023)
Reference Interaction (INTref)	-0.002 (0.007)	-0.003 (0.007)	-0.013** (0.006)	-0.012** (0.006)	0.041** (0.017)	0.044*** (0.016)
Mediated Interaction (INTmed)	-0.000 (0.001)	-0.001 (0.001)	-0.018** (0.008)	-0.017** (0.008)	0.002 (0.002)	0.002 (0.002)
Pure Indirect Effect (PIE)	0.016** (0.007)	0.013** (0.006)	0.047*** (0.007)	0.044*** (0.006)	0.000 (0.001)	0.000 (0.001)
Total Effect (TE)	0.012 (0.017)	0.004 (0.016)	0.035** (0.017)	0.041** (0.016)	0.022 (0.016)	0.025 (0.015)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Controlled Direct Effect (CDE): non-mediated direct effect that does not interact with beliefs; Reference Interaction (INTref): non-mediated interaction effect; Mediated Interaction (INTmed): mediated interaction effect; Pure Indirect Effect (PIE): effect, mediated by but non-interacting with beliefs; Linear probability models for the outcome variable Y and mediator M : $a_0 = 0, a_1 = 1, m = 0$.
^{*} $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Behavior under real incentives Treatment effects on behavior under real incentives mirror those on unincentivized policy opinions. Progressivity information increases the probability of joining a petition for the meat-tax-and-dividend policy by 5 p.p., while other treatments have no significant effect. Donations to pro-veggie and pro-meat nonprofits are also unaffected. Across all treatments, 41% of participants signed the petition. Average donations are USD 18 to pro-veggie nonprofits and USD 16 to pro-meat nonprofits, out of USD 100. We conclude that the policy opinions expressed in our

survey experiment translate into political action with real consequences, but not into broader advocacy for meat- or plant-based diets. Appendix Table B.5 presents the full analysis.

4.2 Beyond economic thinking

Table IV reports the estimated treatment effects of identity priming and freedom framing on policy approval, using OLS regressions with and without control variables. Appendix Table B.6 reports the effects on policy acceptance.

Table IV: Effects of identity and freedom treatments on approval.

	Approval (“Yes” to policy support)			
	(1)	(2)	(3)	(4)
Identity	-0.0451*** (0.0168)	-0.0471*** (0.0162)		
Freedom			0.0329* (0.0169)	0.0313* (0.0163)
Controls		✓		✓
Observations	3299	3299	3299	3299
R ²	0.0022	0.0737	0.0011	0.0724

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Effect of identity priming Although participants indicated that identity is the least important reason for opposing the tax, identity priming had a sizable effect: it reduced approval by 5 p.p., an effect comparable in magnitude (though opposite in sign) to progressivity information.

At the same time, identity-primed participants became more responsive to the progressivity information. Panel (d) of Appendix Table B.8 shows a positive and statistically significant interaction between identity priming and progressivity information. Such interactions are not observed for belief outcomes. These findings are consistent with the preference-channel explanations of the existing literature (Klor and Shayo, 2010; Costa-i Font and Cowell, 2015; Fischbacher et al., 2023): Given that a large majority (91%) of our respondents are at least occasional meat eaters, the priming may have activated shared cultural or social identities related to meat consumption, thereby amplifying their positive reaction to the progressivity information.

Furthermore, identity priming affects non-targeted beliefs, possibly through motivated reasoning. As shown in Appendix Table B.7, primed subjects—despite receiving no financial information—were 3 p.p. more likely to believe their household would lose financially and 4 p.p. more likely to believe the

policy is regressive.

Effect of freedom framing Freedom-related concerns were the most important reason for opposition according to our participants. Yet, framing the tax as freedom-preserving had only a modest impact, significant at the 10% level. Exploratory analysis (Appendix Table B.9) shows that freedom framing generates heterogeneous responses and even backfires among the very groups it is intended to persuade: the treatment increased approval by 7 p.p. among participants who did not believe the government is doing too much, but decreased approval by 1-2 p.p. among those who did. Positive effects are observed only among participants who reported trusting the government. Respondents in the freedom treatment are also 4 p.p. more likely to report a perceived left-wing bias in our survey (Appendix Tables B.10 and B.11), a view that is associated with 19 p.p. higher likelihood of opposing the meat-tax-and-dividend. No other treatment has a statistically significant effect on the perceived left-wing bias. Finally, freedom framing has marginal to no effects on participants' responsiveness to the information treatments (Appendix Table B.8). These findings caution against policy framing that appeals to right-wing values, which may be perceived as ideologically loaded and polarizing, reducing its effectiveness among the targeted group.

5 Conclusion

Using a large survey experiment with 3,299 Californians, this paper examines the sources of public opposition to meat taxation. Despite a tax-and-dividend design that redistributes revenues to households, opposition to the policy is widespread and closely aligned with political orientation and broader worldviews. Respondents commonly hold pessimistic beliefs about the policy's economic impacts, overestimating both personal losses and regressivity. They frequently justify their opposition by invoking freedom of choice, government overreach, and distributional concerns. When exposed to information, these considerations respond differently: correcting misperceptions about progressivity shifts beliefs and increases support, whereas information about own financial impacts or policy effectiveness induces little shift in beliefs and policy support. Although freedom of choice is cited as the most important concern in respondents' narratives, framing the policy as freedom-preserving has only a small and heterogeneous effect on support. By contrast, priming meat-related identity—despite identity being reported as relatively unimportant—leads to a measurable increase in opposition.

Taken together, these findings suggest that meat taxation is perceived as a highly political and value-laden issue.¹² Food consumption appears to be viewed by many as part of a private sphere where government intervention is unwelcome, and opposition is strongly anchored in broader attitudes toward the state rather than in narrowly defined cost-benefit considerations.

¹²See also Simmonds and Vallgård (2021) and Michielsen and van der Horst (2022), which use different methodologies.

From a policy perspective, our findings help explain why meat taxes remain politically challenging. Revenue recycling and factual information alone are unlikely to generate majority support, and policy communication faces tight constraints in contexts where objections are rooted in values and political identity. Addressing distributional concerns appears more promising, but the magnitude of its effect remains modest, suggesting that political constraints on meat taxation are likely to persist.

Despite these challenges, we conjecture that a path toward future implementation of meat tax policies still exists. Denmark is introducing a world-first livestock emission levy ([Khalil, 2024](#)), and support for meat taxation has reached majority or continues to increase in countries such as Germany and the Netherlands, where earlier policy attempts were cut short. If meat taxes are introduced in some countries, learning effects may arise, and initial political resistance could decline over time ([Carattini et al., 2024](#)). Our findings suggest that careful policy design, framing, and communication are crucial: focusing on arguments with broad appeal, such as progressivity, and adopting communication strategies that are mindful of potential politicization and polarization, as well as of the gap between conscious reasoning and subconscious processes, may enhance public acceptability.

Future research could explore the external validity of our findings. Given the specificity of the U.S./Californian context, it is unclear whether similar patterns would hold elsewhere. In other contexts, meat consumption, freedom of choice, left-right political divides, religious factors, climate policy or animal welfare concerns may be more or less politically salient. Comparisons with fiscal incentives used in other policy domains, such as transport, may also yield valuable insights. Finally, our findings on the relevance of freedom of choice and identity warrant a more systematic exploration of behavioral and cultural factors affecting policy acceptance in general. In particular, it remains unclear whether alternative communication strategies appealing to freedom or identity values could have increased support, and whether the perceived loss of freedom reflects a deeply held preference or serves primarily as a narrative used to oppose the policy.

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Appendices

A CEX simulations

To give respondents' feedback about the financial impacts of the policy, we use data from the CEX. Our sample consists of the 6,270 Californian households that responded to the diary survey between 2015 and 2019. We calculate annual meat expenditures by summing weekly expenditures on beef, pork, poultry, and other meats, and multiplying by 52 to obtain expenditures on an annual basis. We use the FAO meat price index to adjust meat expenditure for meat price inflation.

We then compute households' expected expenditure after the meat tax is introduced. If we denote by M their initial expenditure and by M' their expenditure after the tax is implemented, their after-tax expenditure in meat is given by

$$M' = M(1 + (1 + e) \times \tau \times i), \quad (1)$$

where e denotes the meat price elasticity, τ the tax rate, and i the share of the tax incidence that falls on consumers. To obtain conservative estimates of the financial burden of the policy, we assume no behavioral adjustment ($e = 0$) and full pass-through ($i = 1$). Under a simple revealed preference argument, evaluating the cost of the tax at pre-tax consumption levels provides an upper bound on the welfare cost expressed in monetary units, while allowing for behavioral adjustment would yield a lower bound. Similarly, assuming partial tax incidence ($i < 1$) would imply transfers from producers to consumers, potentially overstating households' net benefits from the policy.

We find that the policy would generate an annual revenue of \$63 per equivalence scale, which would represent \$189 per year for a family with two adults and two kids.^{13,14} Thus, based on the number of adults and children in the respondent's household (reported in the background questions earlier in the survey) we can compute the annual transfer that the household would receive. Using formula (1) above, we can calculate the monthly expenditure on meat for this household above which the policy would lead to a net financial loss. We can also compute the average net gain from the policy (i.e., $T - (M' - M)$ where T denotes the transfer) for different income groups. Figure A.1 below shows that the proposed scheme is progressive, as lower income groups are strictly better off and higher income groups are strictly worse off.

¹³Our transfer scheme is based on an equivalence scale to account for heterogeneity in household size. We adopt the definition of the U.S. census: for single-parent households, the equivalence scale is equal to 1 plus 0.8 for the first child plus 0.5 per additional child. For all other households, the equivalence scale is equal to the number of adults plus 0.5 times the number of children in the household. To keep the policy comprehensible, this scheme is not presented to respondents.

¹⁴Note that this result is not very sensitive to the assumption about the price elasticity: if one assumes $e = -0.5$, this value only goes down from \$63 to \$59.

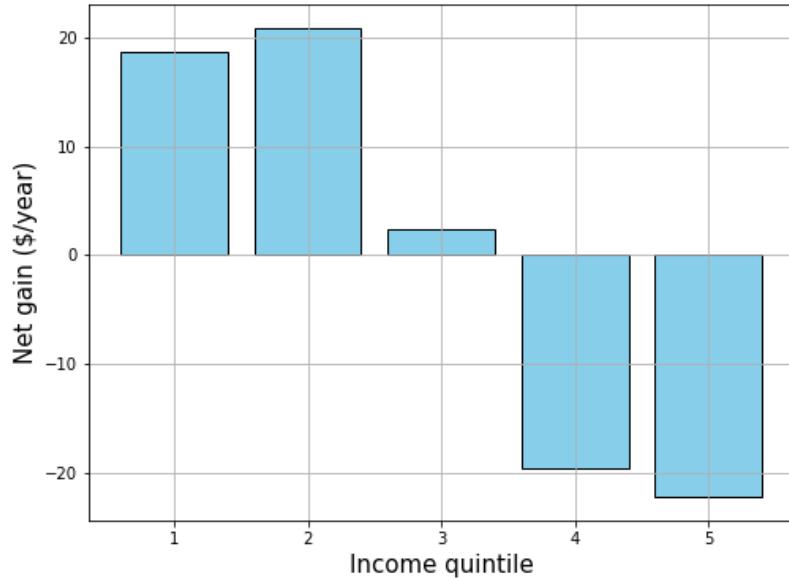


Figure A.1: Net annual gains from meat tax with cash transfers per income quintile.

Note: The figure plots the average of “Estimated net gains” per income quintile. “Estimated net gains” corresponds to the estimated net gain from a 15% meat tax rebated with lump-sum transfers indexed on the equivalence scale of the household. It is computed based on Californian households’ reported meat spending in the CEX, 2015-2019.

B Additional tables

The survey company does not disclose how many people were invited to participate. Among the 5,846 people who started the survey, 1,321 were excluded after the first set of socio-demographic questions because they were younger than 18 years old or their quota groups were already filled. Out of the 4,525 respondents allowed to participate, 1,226 dropped out at some point. This includes 467 who dropped out before the video treatment that revealed the topic, and 501 who were shown the video treatment but did not continue to the next page. The final sample size is therefore 3,299 respondents. Table B.2 shows whether socio-demographic characteristics or treatment predicts higher attrition rates for the 4,435 respondents for whom the data is available. Less educated respondents (no high-school diploma) are more likely to drop out. The treatments reduce attrition by 3 to 8%.

Table B.1: Sample characteristics (N=3,299).

	Sample %	Population %	two-sided t-test p-value
Male	48.62	49.56	—
Female	51.38	50.44	0.2806
Age: 18-24	11.97	11.62	0.5266
Age: 25-34	19.13	18.52	0.3694
Age: 35-49	26.58	25.80	0.3035
Age: 50-64	23.43	23.37	0.9336
Age: 65 or older	18.88	20.69	0.0105
No HS diploma	6.18	14.51	0.0000
HS diploma, no PS degree	45.38	43.18	0.0108
PS degree	48.44	42.31	0.0000
White only, not Hispanic	40.74	36.23	0.0000
Other race/ethnicity	59.26	63.77	—

Note: HS diploma means high school diploma; PS degree means post-secondary degree. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.2: Attrition analysis.

	Probability of Attrition
Control group mean	0.560
Female	0.0139 (0.0129)
Age: 25-34	-0.0106 (0.0233)
Age: 35-49	-0.000886 (0.0222)
Age: 50-64	-0.0123 (0.0228)
Age: 65 or older	0.0236 (0.0242)
HS diploma, no PS degree	-0.172*** (0.0238)
PS degree	-0.280*** (0.0243)
White only, not Hispanic	-0.0213 (0.0137)
Treatment: Gain	-0.0654*** (0.0156)
Treatment: Progressivity	-0.0518*** (0.0156)
Treatment: Effectiveness	-0.0269** (0.0128)
Treatment: Identity	-0.0842*** (0.0156)
Treatment: Freedom	-0.0614*** (0.0156)
Observations	4435
R ²	0.0509

Note: Standard errors in parentheses. HS diploma means high-school diploma; PS degree means post-secondary degree. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.3: Effects of financial and effectiveness information on acceptance.

	Acceptance (“Yes” or “No response” to policy support)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.0262 (0.0180)	0.0171 (0.0174)				
Progressive			0.0399** (0.0180)	0.0481*** (0.0175)		
Effectiveness					0.0198 (0.0170)	0.0222 (0.0164)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299
R ²	0.001	0.069	0.001	0.071	0.000	0.069

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.4: Effects of financial and effectiveness information on targeted beliefs.

	Beliefs					
	Doesn't lose (1)	Doesn't lose (2)	Not regressive (3)	Not regressive (4)	Very effective (5)	Very effective (6)
Gain	0.0293 (0.0184)	0.0213 (0.0179)				
Progressive			0.169*** (0.0177)	0.166*** (0.0177)		
Effectiveness					-0.00448 (0.0126)	-0.00527 (0.0125)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299
R ²	0.001	0.053	0.027	0.041	0.000	0.011

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.5: Effects of treatments on behavior under real incentives.

Treatment	Donation			Petition		
	Pro-meat		Pro-veggie			
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.388 (0.865)	0.119 (0.845)	-0.241 (1.002)	-0.653 (0.961)	0.0369* (0.0209)	0.0285 (0.0198)
Progressive	-0.583 (0.870)	-0.433 (0.851)	-0.633 (1.008)	-0.412 (0.967)	0.0464** (0.0210)	0.0521*** (0.0199)
Effectiveness	0.452 (0.708)	0.461 (0.692)	0.268 (0.820)	0.353 (0.786)	0.0167 (0.0171)	0.0196 (0.0162)
Identity	-1.497* (0.866)	-1.391 (0.847)	-1.188 (1.003)	-1.274 (0.963)	-0.0124 (0.0209)	-0.0133 (0.0198)
Freedom	-1.383 (0.871)	-1.291 (0.852)	-0.365 (1.009)	-0.425 (0.968)	0.00396 (0.0211)	0.00421 (0.0199)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299
R ²	0.0016	0.0496	0.0006	0.0842	0.0021	0.1115

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.6: Effects of identity and freedom treatments on acceptance.

	Acceptance (“Yes” or “No response” to policy support)			
	Acceptance (“Yes” or “No response” to policy support)			
	(1)	(2)	(3)	(4)
Identity	-0.0359** (0.0179)	-0.0377** (0.0173)		
Freedom			0.0207 (0.0180)	0.0202 (0.0174)
Controls		✓		✓
Observations	3299	3299	3299	3299
R ²	0.001	0.070	0.000	0.069

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.7: Effects of identity and freedom treatments on non-targeted beliefs.

		Beliefs							
		Wins (1)	Wins (2)	Wins (3)	Wins (4)	Doesn't lose (5)	Doesn't lose (6)	Doesn't lose (7)	Doesn't lose (8)
Identity		-0.016 (0.014)	-0.018 (0.014)			-0.032* (0.018)	-0.036** (0.018)		
Freedom				0.008 (0.014)	0.005 (0.014)			0.002 (0.018)	-0.001 (0.018)
Controls		✓		✓		✓		✓	
Observations		3299	3299	3299	3299	3299	3299	3299	3299
R ²		0.000	0.048	0.000	0.048	0.001	0.054	0.000	0.053

		Beliefs							
		Prog. (1)	Prog. (2)	Prog. (3)	Prog. (4)	Not reg. (5)	Not reg. (6)	Not reg. (7)	Not reg. (8)
Identity		-0.004 (0.015)	-0.006 (0.015)			-0.038** (0.018)	-0.041** (0.018)		
Freedom				0.006 (0.015)	0.005 (0.015)			0.014 (0.018)	0.012 (0.018)
Controls		✓		✓		✓		✓	
Observations		3299	3299	3299	3299	3299	3299	3299	3299
R ²		0.000	0.007	0.000	0.007	0.001	0.016	0.000	0.015

		Beliefs							
		Eff. (1)	Eff. (2)	Eff. (3)	Eff. (4)	Very eff. (5)	Very eff. (6)	Very eff. (7)	Very eff. (8)
Identity		0.010 (0.018)	0.010 (0.018)			0.021 (0.013)	0.023* (0.013)		
Freedom				0.022 (0.018)	0.022 (0.018)			-0.009 (0.013)	-0.009 (0.013)
Controls		✓		✓		✓		✓	
Observations		3299	3299	3299	3299	3299	3299	3299	3299
R ²		0.000	0.004	0.000	0.005	0.001	0.012	0.000	0.011

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Prog. = Progressive; Not reg. = Not regressive; Eff. = Effective; Very eff. = Very effective. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.8: Effects of identity and freedom treatments: interaction with financial information.

	Beliefs							
	Wins (1)	Wins (2)	Wins (3)	Wins (4)	Doesn't lose (5)	Doesn't lose (6)	Doesn't lose (7)	Doesn't lose (8)
Identity	-0.008 (0.020)	-0.012 (0.020)	-0.023 (0.020)	-0.024 (0.020)	-0.054** (0.026)	-0.057** (0.025)	-0.039 (0.026)	-0.045* (0.025)
Freedom	-0.004 (0.021)	-0.007 (0.020)	0.008 (0.020)	0.004 (0.020)	-0.045* (0.026)	-0.047* (0.026)	0.008 (0.026)	0.002 (0.026)
Gain	0.041 (0.025)	0.037 (0.025)			-0.006 (0.032)	-0.008 (0.031)		
Gain × Identity	-0.027 (0.035)	-0.027 (0.034)			0.033 (0.045)	0.026 (0.044)		
Gain × Freedom	0.007 (0.035)	0.003 (0.035)			0.072 (0.045)	0.062 (0.044)		
Progressivity			0.042* (0.025)	0.047* (0.024)			0.051 (0.032)	0.057* (0.031)
Progressivity × Identity			0.019 (0.035)	0.012 (0.034)			-0.007 (0.045)	-0.008 (0.044)
Progressivity × Freedom			-0.025 (0.035)	-0.025 (0.035)			-0.084* (0.045)	-0.082* (0.044)
Controls		✓		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299	3299	3299
R ²	0.002	0.050	0.003	0.051	0.003	0.055	0.003	0.056

	Beliefs							
	Prog. (1)	Prog. (2)	Prog. (3)	Prog. (4)	Not reg. (5)	Not reg. (6)	Not reg. (7)	Not reg. (8)
Identity	0.006 (0.022)	0.003 (0.021)	-0.013 (0.021)	-0.017 (0.021)	-0.040 (0.025)	-0.046* (0.025)	-0.044* (0.025)	-0.049** (0.025)
Freedom	0.004 (0.022)	0.003 (0.022)	0.009 (0.021)	0.005 (0.021)	-0.013 (0.026)	-0.017 (0.025)	0.011 (0.025)	0.007 (0.025)
Gain	-0.065** (0.027)	-0.063** (0.027)			-0.051 (0.031)	-0.049 (0.031)		
Gain × Identity	-0.017 (0.037)	-0.020 (0.037)			-0.005 (0.044)	-0.003 (0.044)		
Gain × Freedom	0.009 (0.037)	0.004 (0.037)			0.019 (0.044)	0.018 (0.044)		
Progressivity			0.191*** (0.026)	0.190*** (0.026)			0.178*** (0.031)	0.177*** (0.030)
Progressivity × Identity			0.046 (0.036)	0.047 (0.036)			0.015 (0.043)	0.013 (0.043)
Progressivity × Freedom			0.005 (0.037)	0.009 (0.036)			-0.045 (0.044)	-0.046 (0.043)
Controls		✓		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299	3299	3299
R ²	0.006	0.013	0.057	0.064	0.004	0.018	0.029	0.043

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Prog. = Progressive; Not reg. = Not regressive. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.8: Effects of identity and freedom treatments: interaction with financial information (continued).

	Beliefs							
	Eff. (1)	Eff. (2)	Eff. (3)	Eff. (4)	Very eff. (5)	Very eff. (6)	Very eff. (7)	Very eff. (8)
Identity	0.047* (0.026)	0.047* (0.026)	0.012 (0.026)	0.013 (0.026)	0.027 (0.019)	0.031 (0.019)	0.020 (0.019)	0.022 (0.019)
Freedom	0.055** (0.026)	0.055** (0.026)	0.019 (0.026)	0.019 (0.026)	0.019 (0.019)	0.021 (0.019)	-0.008 (0.019)	-0.005 (0.019)
Gain	0.011 (0.032)	0.010 (0.032)			0.011 (0.023)	0.011 (0.023)		
Gain × Identity	-0.056 (0.045)	-0.055 (0.045)			-0.014 (0.033)	-0.017 (0.032)		
Gain × Freedom	-0.056 (0.045)	-0.056 (0.045)			-0.051 (0.033)	-0.050 (0.033)		
Progressivity			-0.029 (0.032)	-0.028 (0.032)			-0.013 (0.023)	-0.013 (0.023)
Progressivity × Identity			0.046 (0.045)	0.045 (0.045)			0.005 (0.033)	0.009 (0.032)
Progressivity × Freedom			0.051 (0.045)	0.050 (0.045)			0.032 (0.033)	0.029 (0.033)
Controls	✓		✓	✓	✓	✓	✓	✓
Observations	3299	3299	3299	3299	3299	3299	3299	3299
R ²	0.002	0.006	0.001	0.006	0.002	0.013	0.001	0.012

	Approval								Acceptance	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		
Identity	-0.023 (0.024)	-0.025 (0.023)	-0.068*** (0.024)	-0.069*** (0.023)	-0.025 (0.025)	-0.026 (0.025)	-0.040 (0.025)	-0.042* (0.025)		
Freedom	-0.001 (0.024)	-0.002 (0.023)	0.018 (0.024)	0.014 (0.023)	-0.020 (0.026)	-0.020 (0.025)	0.016 (0.026)	0.014 (0.025)		
Gain	0.014 (0.029)	0.009 (0.028)			0.014 (0.031)	0.008 (0.030)				
Gain × Identity	-0.047 (0.041)	-0.050 (0.040)			-0.029 (0.044)	-0.033 (0.043)				
Gain × Freedom	0.042 (0.041)	0.035 (0.040)			0.067 (0.044)	0.062 (0.043)				
Progressivity			0.010 (0.029)	0.017 (0.028)			0.045 (0.031)	0.054* (0.030)		
Progressivity × Identity			0.089** (0.041)	0.084** (0.040)			0.019 (0.044)	0.016 (0.043)		
Progressivity × Freedom			-0.015 (0.042)	-0.012 (0.040)			-0.036 (0.044)	-0.036 (0.043)		
Controls	✓		✓	✓	✓	✓	✓	✓		
Observations	3299	3299	3299	3299	3299	3299	3299	3299		
R ²	0.004	0.075	0.006	0.078	0.003	0.072	0.003	0.073		

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Eff. = Effective; Very eff. = Very effective; Approval = “Yes” to policy support; Acceptance = “Yes” or “No response” to policy support. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.9: Effects of freedom treatment: interactions with attitudes towards government.

	Approval ("Yes" to policy support)			
	(1)	(2)	(3)	(4)
Freedom	0.074*** (0.021)	0.067*** (0.021)	0.011 (0.022)	0.007 (0.022)
Gvt. doing too much	-0.146*** (0.020)	-0.124*** (0.020)		
Freedom × Gvt. doing too much	-0.093*** (0.034)	-0.082** (0.033)		
Trust gvt.			0.222*** (0.019)	0.191*** (0.019)
Freedom × Trust gvt.			0.054* (0.033)	0.058* (0.032)
Controls		✓		✓
Observations	3299	3299	3299	3299
R ²	0.039	0.098	0.070	0.120

	Acceptance ("Yes" or "No response" to policy support)			
	(1)	(2)	(3)	(4)
Freedom	0.053** (0.023)	0.047** (0.022)	-0.009 (0.024)	-0.012 (0.023)
Gvt. doing too much	-0.217*** (0.021)	-0.186*** (0.021)		
Freedom × Gvt. doing too much	-0.067* (0.036)	-0.057 (0.035)		
Trust gvt.			0.230*** (0.020)	0.203*** (0.020)
Freedom × Trust gvt.			0.071** (0.035)	0.074** (0.034)
Controls		✓		✓
Observations	3299	3299	3299	3299
R ²	0.059	0.109	0.069	0.119

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.10: Effects of financial and effectiveness information on perceived left-wing bias.

	Perceived left-wing bias					
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.002 (0.016)	0.004 (0.015)				
Progressivity			-0.002 (0.016)	-0.006 (0.016)		
Effectiveness					0.002 (0.015)	0.003 (0.015)
Controls		✓		✓		✓
Observations	3299	3299	3299	3299	3299	3299
R ²	0.000	0.037	0.000	0.037	0.000	0.037

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table B.11: Effects of identity and freedom treatments on perceived left-wing bias.

	Perceived left-wing bias			
	(1)	(2)	(3)	(4)
Identity	-0.016 (0.016)	-0.016 (0.015)		
Freedom			0.041*** (0.016)	0.038** (0.015)
Controls		✓		✓
Observations	3299	3299	3299	3299
R ²	0.000	0.037	0.002	0.039

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

C Additional figures

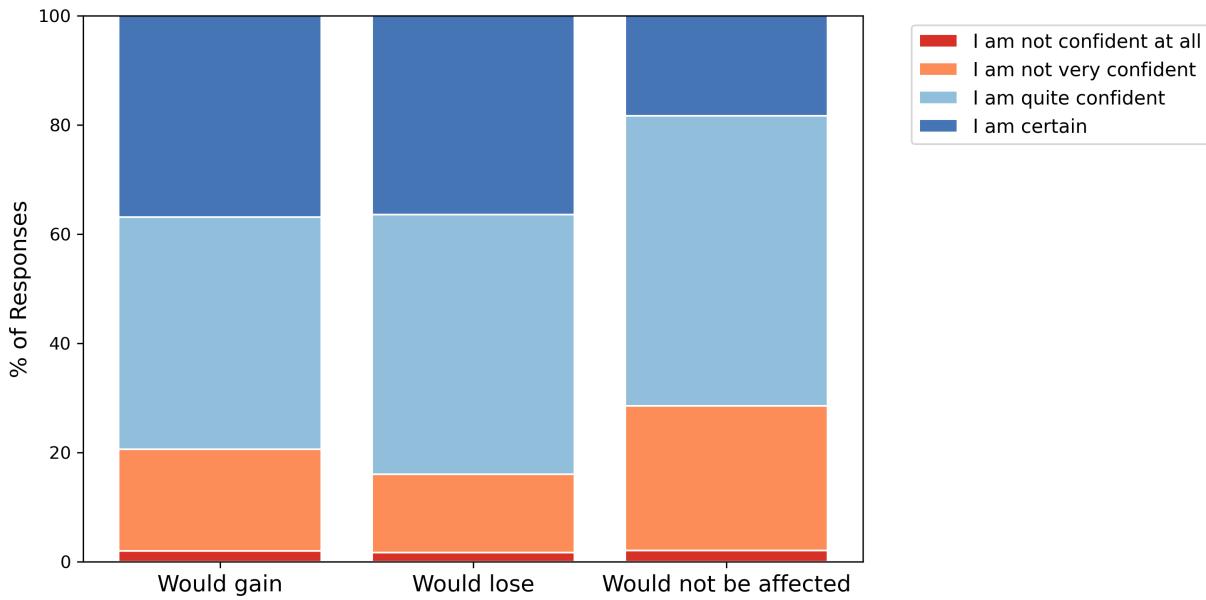


Figure C.1: Reported confidence about expected household's gain from the meat-tax-and-dividend, by expected household's gain.

Note: The figure reports answers to the questions “You have indicated that you expect your household [to gain/to lose/not to be affected] by the policy. How confident are you about this assessment?”. The three bar plots correspond to answers for the sample of households who declared that their “household would gain”, that their “household would lose”, and that their “household would not be affected”.

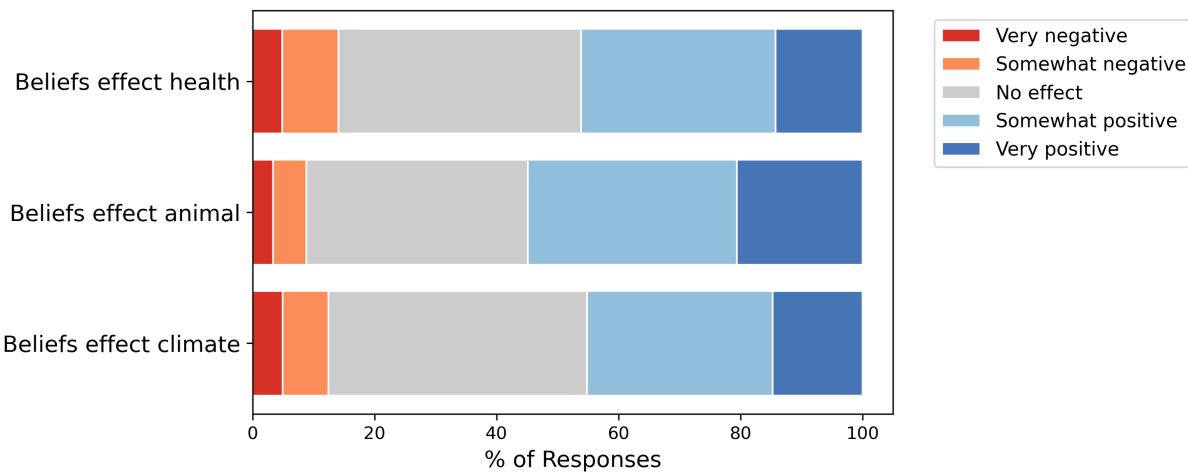


Figure C.2: Beliefs about the effect of reducing Californian meat consumption on several issues.

Note: The figure reports answers to the question “What effect do you think reducing Californian meat consumption would have on the following issues in California? The effect would be...?”, for the following three items: “Climate objectives”; “Animal welfare”; “Public health”.

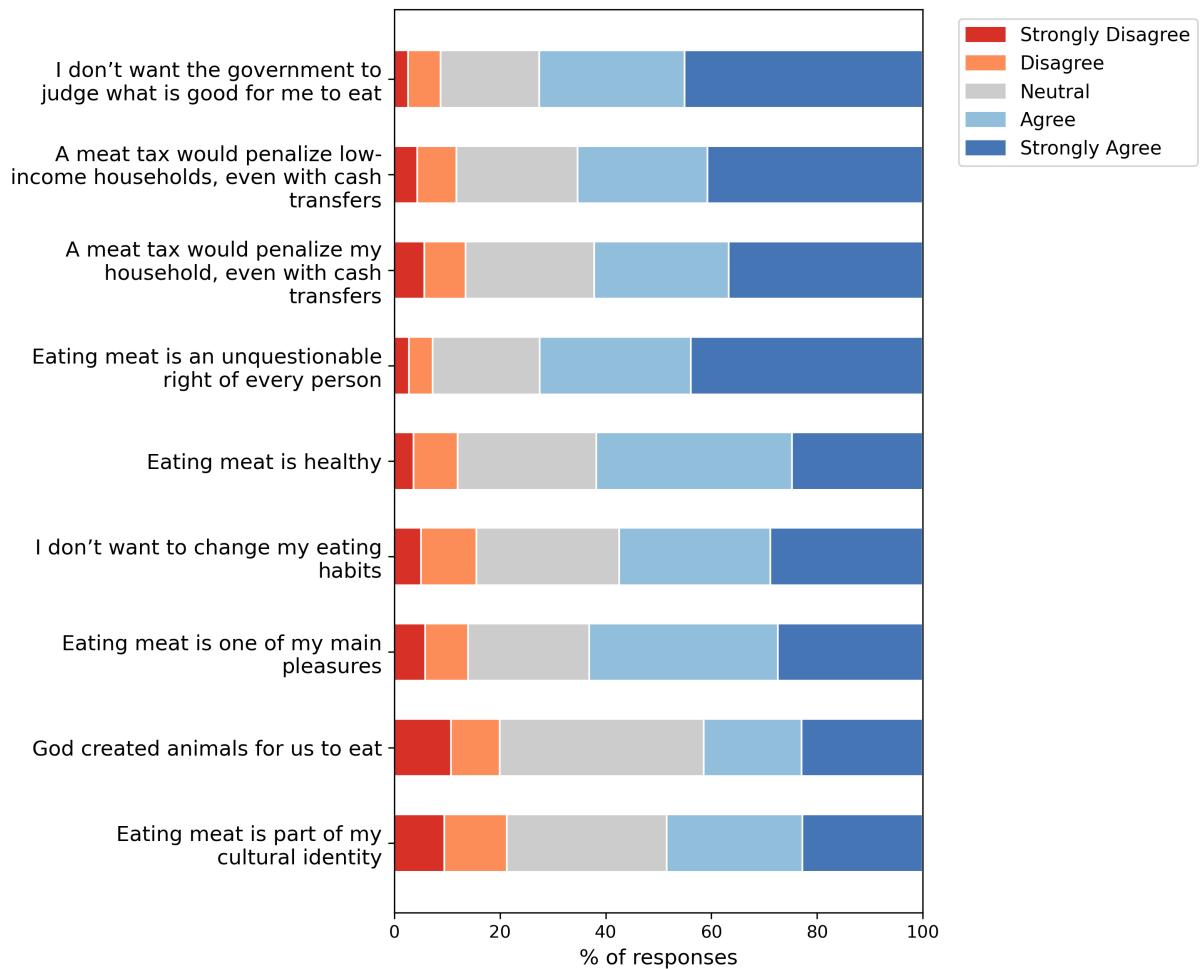


Figure C.3: Agreement with reasons against the meat-tax-and-dividend.

Note: The figure reports respondents' stated agreement with nine reasons against the meat-tax-and-dividend from the question "Below are a number of reasons why people might oppose a meat tax. For each statement, tell us to what extent you agree or disagree".

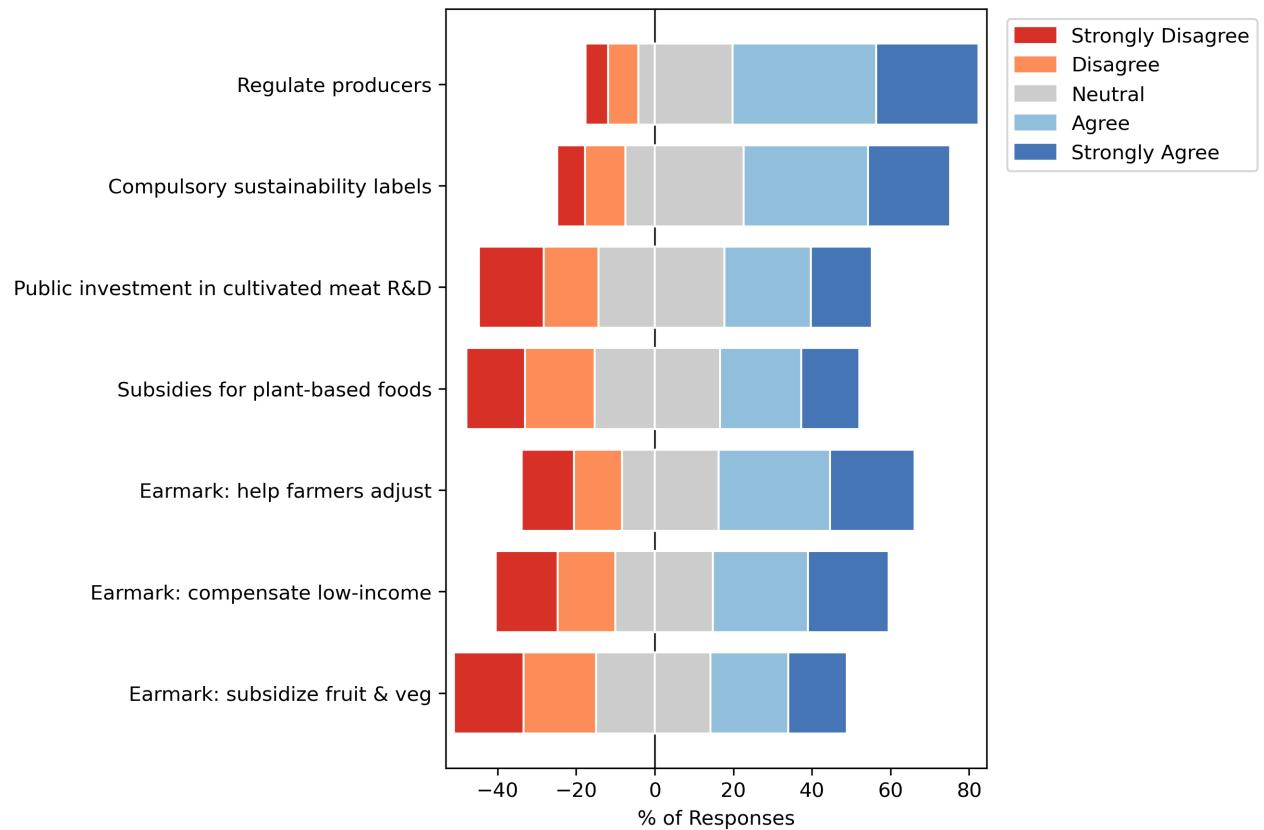


Figure C.4: Support for alternative meat regulation policies.

Note: The figure reports answers to the questions “Would you support the following policies?” for its four different items, and “Would you support a meat tax if the tax revenue was instead used to...” for its three different items (see Page 11 of the questionnaire in Appendix G). Neutral responses (“Indifferent or Don’t know”) are split around zero in proportion to the share of support versus opposition so that the share of responses on each side of 0 illustrates the relative support for the policy.

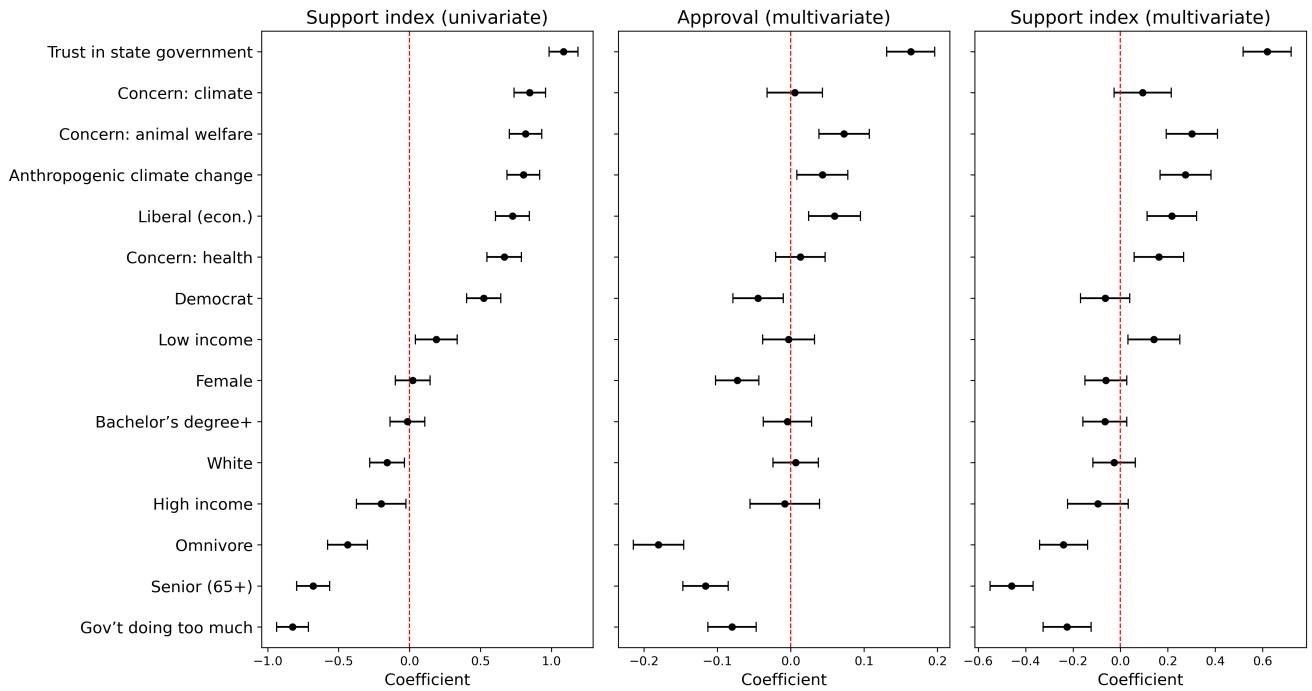


Figure C.5: Predictors of support for meat-regulation policies: robustness using the support index and multivariate regressions.

Note: The three panels plot regression coefficients. The left panel reports results from univariate regressions where the dependent variable is the support index that aggregates people's support for different meat regulation policies. The middle panel reports results from multivariate regressions where the dependent variable is approval for the meat-tax-and-dividend policy. The right panel reports results from multivariate regressions where the dependent variable is the support index. Round markers represent point estimates; error bars indicate 95% confidence intervals.

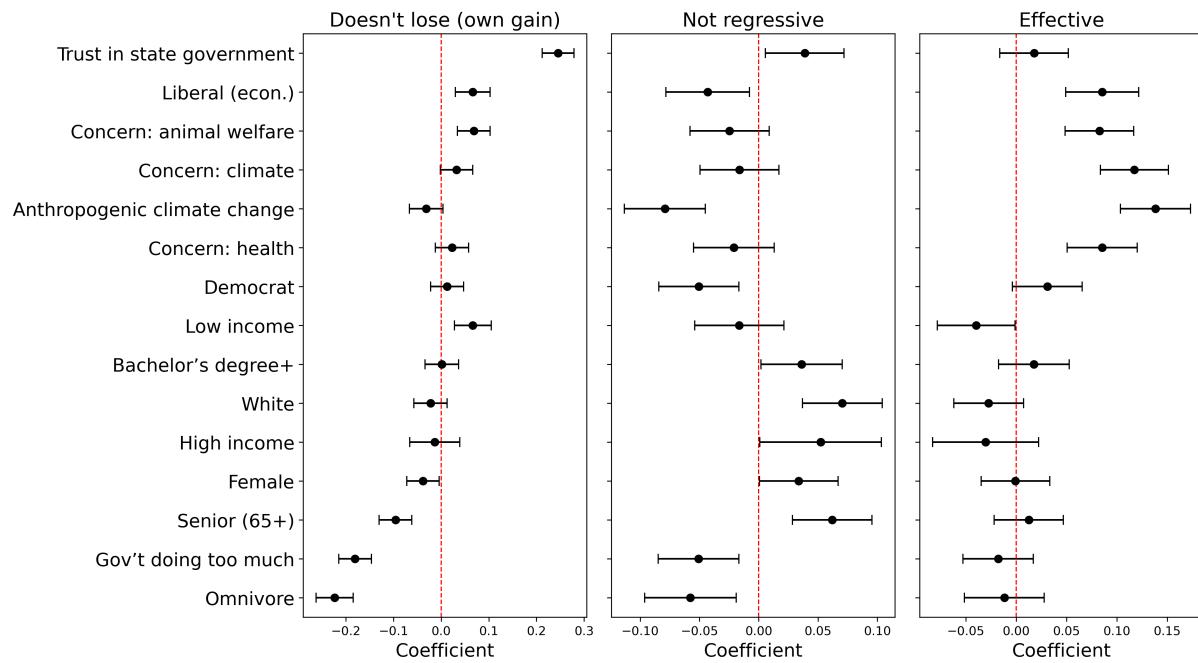


Figure C.6: Predictors of beliefs about the meat-tax-and-dividend.

Note: The figure reports the coefficients from univariate regressions of the variables on beliefs about the meat-tax-and-dividend.

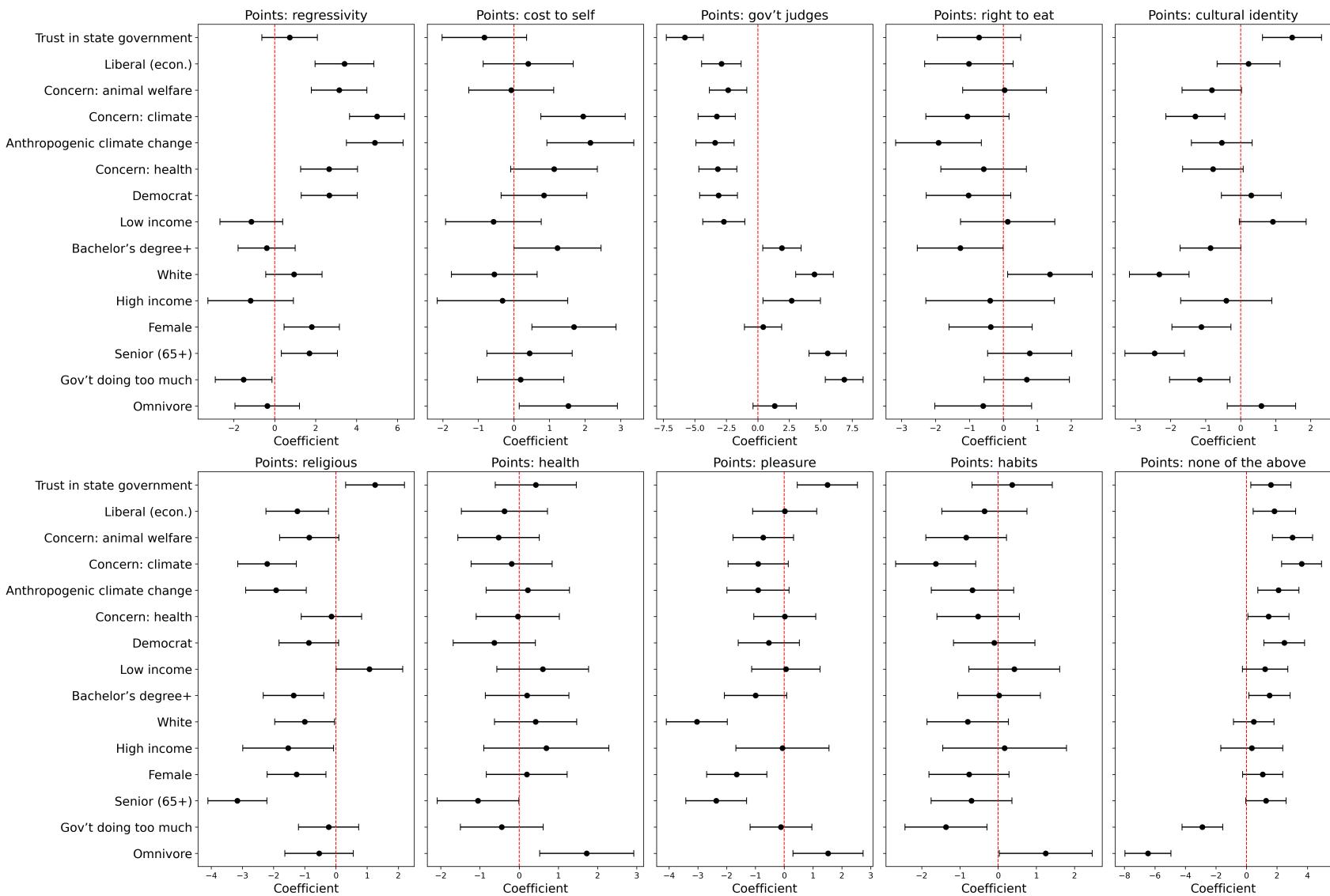


Figure C.7: Predictors of concerns about the meat-tax-and-dividend.

Note: The figure reports the coefficients from univariate regressions of the variables on concerns about the meat-tax-and-dividend.

D Open-ended responses: exploratory analyses

This section presents our exploratory analysis of the responses to the open-ended question, which was asked immediately after participants watched the treatment video and, if applicable, the message for the Own Gain treatment.¹⁵ D.1 describes the method, D.2 presents the summary statistics, and D.3 examines correlations between the coded open-ended responses and the corresponding structured (e.g., multiple-choice) questions.

D.1 Method

The responses were coded using ChatGPT-5 with the prompts specified below. When a large batch of responses is submitted at once, ChatGPT-5 tends to generate primitive code to process it, resulting in lower-quality outputs. To prevent this, the responses were processed in small batches of five. In this mode, ChatGPT relied on its internal language model to interpret each response directly, without producing code. The first five responses were processed with Prompt 1, and the remaining responses with Prompt 2.

Occasionally, ChatGPT erroneously dropped or added variables. In such cases, we retained only the encoded data with the correct number of variables, terminated the conversation, and opened a new one. In each new conversation, we resumed by processing the next five responses with Prompt 1, followed by the remaining responses with Prompt 2.

Prompt 1 [First 5 responses from the dataset copy-pasted]

The above are open-ended responses to the question “What do you think of the meat tax described in the video (15% increase in the price of meat redistributed via cash transfer)?” in my survey experiment. Encode each response by creating and record the following variables:

1. approve: 1 if the response approves or supports the meat tax, 0 otherwise
2. disapprove: 1 if the response disapproves or opposes the meat tax, 0 otherwise
3. price: 1 if the response expresses concern for high price, 0 otherwise
4. own gain: 1 if the response concerns perceived gain for self/own household, 0 otherwise
5. own loss: 1 if the response concerns perceived loss for self/own household, 0 otherwise
6. progressive: 1 if the response expresses belief about progressivity (low-income people/household gaining), 0 otherwise
7. regressive: 1 if the response expresses concern for regressivity (low-income people/household losing), 0 otherwise

¹⁵“What do you think of the meat tax described in the video (15% increase in the price of meat redistributed via cash transfer)?”

8. unfair: 1 if the response expresses an idea that the meat tax is unfair, 0 otherwise
9. effective: 1 if the response expresses a belief that the tax will be effective, 0 otherwise
10. ineffective: 1 if the response expresses a belief that the tax will be ineffective, 0 otherwise
11. freedom: 1 if the response expresses concern about government control/overreach/paternalism/judgment, 0 otherwise
12. pleasure: 1 if the response expresses pleasure/enjoyment/hedonic value of meat, 0 otherwise
13. cultural/identity: 1 if the response expresses cultural/heritage/identity value of meat, 0 otherwise
14. gender: 1 if the response concerns gender identity, 0 otherwise
15. muscle: 1 if the response concerns muscle/body building, 0 otherwise
16. health_pro_meat: 1 if the response expresses belief that meat consumption is healthy or good for public health, 0 otherwise
17. health_con_meat: 1 if the response expresses belief that meat reduction or the meat tax is healthy or good for public health, 0 otherwise
18. environment_pro_meat: 1 if the response expresses belief that meat reduction or the meat tax is good for the environment or climate mitigation, 0 otherwise
19. environment_con_meat: 1 if the response expresses belief that meat reduction or the meat tax is not beneficial, or even bad, for the environment or climate mitigation, 0 otherwise
20. animal_pro_meat: 1 if the response expresses belief that meat reduction or the meat tax is not beneficial, or even bad, for the animals or animal welfare, 0 otherwise
21. animal_con_meat: 1 if the response expresses belief that meat reduction or the meat tax is good for the animals or animal welfare, 0 otherwise
22. climate change denial: 1 if the response expresses climate change denial (e.g. climate change is a hoax, or it not anthropogenic), 0 otherwise
23. religion: 1 if the response expresses religious belief, 0 otherwise
24. resistance to change diet: 1 if the response expresses unwillingness/aversion to changing diet, 0 otherwise
25. resistance to progressivity: 1 if the response expresses unwillingness to give money to low-income/poor people, 0 otherwise
26. tax aversion: 1 if the response expresses perception aversion to a tax/taxes, 0 otherwise
27. no tax on food: 1 if the response expresses perception that specifically food or groceries should not be taxed, 0 otherwise
28. bureaucracy: 1 if the response expresses concerns about bureaucracy, 0 otherwise

29. mistrust: 1 if the response expresses concern that the tax and cash transfer will not be implemented as promised (i.e. the cash transfer will not reach people), 0 otherwise
30. stupid: 1 if the response expresses perception that the tax is stupid, dumb, silly or something similar, 0 otherwise
31. not understanding: 1 if the response expresses not understanding or confusion, 0 otherwise
32. no price effect: 1 if the response expresses a belief that people will simply use the cash transfer to buy the same amount of meat or even more meat, 0 otherwise
33. politics: 1 if the response expresses a perception of political division between Democrat vs. Republican, blue vs. red, liberal vs. conservative, or progressive vs. conservative (or similar political divisions), 0 otherwise
34. socialist: 1 if the response mentions socialist or socialism, 0 otherwise
35. government: 1 if the response mentions government, 0 otherwise
36. money: 1 if the response mentions money, monetary, finance, or financial, or similar words, 0 otherwise
37. ambivalence: 1 if the response expresses ambivalence or mixed feelings, 0 otherwise
38. profanity: 1 if the response contains profanity, swearwords, or vulgar language, 0 otherwise
39. emotion - hatred/contempt: 1 if the response expresses hatred or contempt, 0 otherwise
40. emotion - anger: 1 if the response expresses anger, 0 otherwise
41. emotion - sad: 1 if the response expresses sadness, 0 otherwise
42. emotion - fear: 1 if the response expresses fear, 0 otherwise
43. emotion - pleased: 1 if the response expresses that the respondent is pleased, 0 otherwise
44. emotion - surprise: 1 if the response expresses surprise, 0 otherwise
45. num_reasons: the number of reasons brought up
46. num_words: the number of words in the response

Simply add those variables by adding columns. Drop the original response and variable names. Give me only the coded output in semicolon-separated text that can be copy-pasted onto Excel.

Prompt 2 Do the same for the following responses:

[5 responses copy-pasted]

D.2 Summary statistics

Table D.1: Summary of open-ended answers

	Mean	Std. Dev	Min	Max
Policy support				
approve	0.274	0.446	0	1
disapprove	0.573	0.495	0	1
Policy reasons listed in exercises				
tax aversion	0.185	0.389	0	1
freedom	0.073	0.261	0	1
progressive	0.055	0.228	0	1
regressive	0.072	0.258	0	1
own gain	0.021	0.142	0	1
own loss	0.098	0.297	0	1
health: pro-meat	0.017	0.129	0	1
health: con-meat	0.091	0.288	0	1
resistance to change diet	0.013	0.115	0	1
pleasure	0.010	0.101	0	1
religion	0.003	0.052	0	1
culture/identity	0.008	0.087	0	1
gender	0.007	0.081	0	1
muscle	0.003	0.055	0	1
Policy reasons not listed in exercises				
environment: pro-meat	0.065	0.247	0	1
environment: con-meat	0.014	0.117	0	1
animal welfare: pro-meat	0.015	0.120	0	1
animal welfare: con-meat	0.021	0.142	0	1
Perception: the meat-tax-and-dividend policy is				
effective	0.205	0.404	0	1
ineffective	0.269	0.443	0	1
stupid	0.072	0.259	0	1
unfair	0.343	0.475	0	1
Government-related attitudes				
resistance to progressivity	0.010	0.101	0	1
no tax on food	0.029	0.166	0	1
bureaucracy	0.020	0.141	0	1
mistrust	0.011	0.105	0	1
Expressed				
ambivalence	0.036	0.186	0	1
political division/hostility	0.017	0.130	0	1
not understanding	0.013	0.113	0	1
belief about no price effect	0.031	0.172	0	1
Mention of				
price	0.193	0.395	0	1
money	0.055	0.229	0	1
government	0.015	0.120	0	1
socialist	0.014	0.116	0	1
Emotion				
hatred/contempt	0.030	0.171	0	1
anger	0.167	0.373	0	1
sadness	0.011	0.104	0	1
fear	0.068	0.252	0	1
pleased	0.092	0.291	0	1
surprise	0.022	0.293	0	1
Unreliable variables				
profanity	0.144	0.351	0	1
climate change denial	0.075	0.263	0	1
Number of reasons	1.979	1.260	0	9
Number of words	24.724	23.016	0	352
Observations	3298			

Note: ChatGPT-5 generated missing data for one completely irrelevant response ("The Daily Caller reported on Tuesday night the president had asked for the release and that he"). Profanity and climate change denial were included in the exploratory analyses but are categorized as unreliable variables, as both were frequently misclassified. In particular, climate change denial in the open-ended responses does not correlate with climate change denial in the corresponding multiple-choice question (see Appendix D.3).

D.3 Regressions: structured response on open-ended response

Table D.2: Regressions: structured response on coded open-ended response

Dependent variable (structured response)	Independent variable (open-ended response)	Coef.	Std. Err.	p-value
Policy support				
approve	approve	0.691***	0.013	0.000
accept	disapprove	-0.690***	0.012	0.000
Number of points allocated to policy reasons				
government judgment aversion	freedom	13.114***	1.425	0.000
government judgment aversion	perception: unfair	7.336***	0.783	0.000
government judgment aversion	bureaucracy	5.515**	2.666	0.039
government judgment aversion	progressivity aversion	7.225*	3.724	0.052
government judgment aversion	tax aversion	-0.099	0.969	0.919
government judgment aversion	no tax for food	3.093	2.261	0.172
government judgment aversion	mistrust	3.904	3.573	0.275
regressive	regressive	9.782***	1.329	0.000
regressive	progressive	-2.669*	1.515	0.078
own loss	own loss	4.936***	1.014	0.000
own loss	own gain	-1.678	2.129	0.431
own loss	mention: price	4.684***	0.762	0.000
own loss	mention: money	0.981	1.321	0.458
meat is healthy	health: pro-meat	6.027***	2.034	0.003
meat is healthy	health: con-meat	1.382	0.915	0.131
habits	resistance to change diet	-3.117	2.327	0.180
pleasure	pleasure	3.110	2.640	0.239
god	religion	-1.962	4.604	0.670
cultural/identity	cultural/identity	1.214	2.472	0.623
cultural/identity	gender	-2.319	2.634	0.379
cultural/identity	muscle	2.011	3.900	0.606
Concerns for health, animal welfare, climate change				
concern: health	health: con-meat	0.717***	0.160	0.000
concern: health	health: pro-meat	0.529	0.356	0.138
concern: animal	animal: con-meat	2.152***	0.345	0.000
concern: animal	animal: pro-meat	0.310	0.412	0.452
concern: climate	environment: con-meat	-0.663	0.487	0.173
concern: climate	environment: pro-meat	1.910***	0.228	0.000
Climate change denial				
belief in anthropogenic climate change	climate change denial	-0.030	0.032	0.351
Comprehension/perception of policy				
video is easy	express: not understanding	-0.194***	0.056	0.001
correct topic of video	express: not understanding	-0.003	0.038	0.929
Policy support on emotions				
approve	express: not understanding	-0.183***	0.070	0.009
accept	express: not understanding	-0.136*	0.075	0.070
approve	perception: stupid	-0.256***	0.030	0.000
accept	perception: stupid	-0.325***	0.032	0.000
approve	emotion: hatred/contempt	-0.265***	0.046	0.000
approve	emotion: anger	-0.275***	0.021	0.000
approve	emotion: sad	-0.244***	0.076	0.001
approve	emotion: fear	-0.242***	0.031	0.000
approve	emotion: pleased	0.576***	0.025	0.000
approve	emotion: surprise	0.000	0.027	0.994
accept	emotion: hatred/contempt	-0.340***	0.049	0.000
accept	emotion: anger	-0.365***	0.022	0.000
accept	emotion: sad	-0.338***	0.082	0.000
accept	emotion: fear	-0.317***	0.033	0.000
accept	emotion: pleased	0.528***	0.028	0.000
accept	emotion: surprise	0.015	0.029	0.611

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

E Robustness: attention check

Table E.1 summarizes our attention and data quality measures. In the following analyses, we replicate our main findings excluding the 375 respondents (11% of all respondents) who spent 5 minutes or less on the survey, failed the instructed-response item or the multiple-choice recall, or self-reported not paying full attention. In response to “Would you approve of this meat tax and cash transfer policy?”, 29% of the remaining 2924 respondents answer “Yes”, 62% answer “No”, and 9% answer “Prefer not to respond (Don’t know, don’t want to say)”.

Table E.1: Attention and data quality measures.

Time spent (in seconds)	
Mean	1274
Standard Deviation	5998
1% percentile	304
5% percentile	390
25% percentile	598
50% percentile (median)	811
75% percentile	1157
95% percentile	2312
99% percentile	7283
Correct answer to instructed-response item	96.45%
Correct answer to multiple-choice recall	93.33%
Full attention (self-reported)	95.45%
Difficulty of understanding the video (self-reported)	
Easy	84.27%
Difficult	5.61%
Neither easy nor difficult	10.12%
Perceived political bias	
Left-biased	23.83%
Right-biased	10.06%
Observations	3299

Table E.2: Effects of financial and effectiveness information on targeted beliefs: excluding attention-check failures.

	Beliefs					
	Wins	Wins	Progressive	Progressive	Effective	Effective
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.0432*** (0.0150)	0.0396*** (0.0147)				
Progressive			0.219*** (0.0157)	0.220*** (0.0156)		
Effectiveness					0.0312* (0.0184)	0.0315* (0.0183)
Controls		✓		✓		✓
Observations (included)	2924	2924	2924	2924	2924	2924
Observations (excluded)	375	375	375	375	375	375
Observations (total)	3299	3299	3299	3299	3299	3299
R ²	0.003	0.054	0.063	0.072	0.001	0.006

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Observations are excluded if the respondent spent 5 minutes or shorter on the survey, failed the instructed-response item or the multiple-choice recall, or self-reported not paying full attention. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table E.3: Effects of financial and effectiveness information on approval: excluding attention-check failures.

	Approval (“Yes” to policy support)					
	(1)	(2)	(3)	(4)	(5)	(6)
Gain	0.00112 (0.0178)	-0.00667 (0.0172)				
Progressive			0.0436** (0.0177)	0.0480*** (0.0171)		
Effectiveness					0.0300* (0.0168)	0.0310* (0.0162)
Controls		✓		✓		✓
Observations (included)	2924	2924	2924	2924	2924	2924
Observations (excluded)	375	375	375	375	375	375
Observations (total)	3299	3299	3299	3299	3299	3299
R ²	0.000	0.073	0.002	0.075	0.001	0.074

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Observations are excluded if the respondent spent 5 minutes or shorter on the survey, failed the instructed-response item or the multiple-choice recall, or self-reported not paying full attention. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table E.4: Effects of identity and freedom treatments on approval: excluding attention-check failures.

	Approval (“Yes” to policy support)			
	(1)	(2)	(3)	(4)
Identity	-0.0466*** (0.0177)	-0.0510*** (0.0171)		
Freedom			0.0446** (0.0178)	0.0415** (0.0172)
Controls		✓		✓
Observations (included)	2924	2924	2924	2924
Observations (excluded)	375	375	375	375
Observations (total)	3299	3299	3299	3299
R ²	0.002	0.075	0.002	0.074

Note: Standard errors in parentheses. Controls are age, gender, education, income, diet, political affiliation variables. Observations are excluded if the respondent spent 5 minutes or shorter on the survey, failed the instructed-response item or the multiple-choice recall, or self-reported not paying full attention. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

F Robustness: reweighting

Table F.1: Unweighted vs. weighted sample means

	Unweighted	Weighted
Support		
Accepts policy	39.0%	40.0%
Approves policy	29.7%	29.8%
Beliefs		
Own household would not lose	52.6%	53.5%
Own household would win	18.7%	18.5%
Not regressive	61.9%	62.5%
Progressive	21.8%	22.4%
Effective	54.1%	54.0%
Very effective	15.4%	15.8%
Concerns		
Points: Government judge	15.8	15.4
Points: Regressive	14.2	14.0
Points: Cost	11.9	12.0
Points: Right	11.9	11.8
Points: Healthy	9.5	9.6
Points: Habits	9.5	9.6
Points: Pleasure	9.3	9.5
Points: God	6.4	6.5
Points: Cultural	6.4	6.4
Points: None of the above	5.0	5.1

Note: The table reports unweighted and weighted sample means for key outcome variables. Weighted estimates use survey weights constructed to match the population targets reported in Table B.1 for age (18-24; 25-34; 35-49; 50-64; 65+), sex (male; female), education (no highschool diploma; highschool diploma and no post-secondary degree; post-secondary degree), and race (white only, not hispanic; other race/ethnicity).

G Full questionnaire

Page 1 — Welcome

Welcome to the survey. This survey was conceived by a team of researchers and is non-partisan. The data collected will be anonymized and used for research purposes only.

The survey lasts about 15 minutes. It is very important for the validity of our research that you read the questions carefully and answer them honestly.

Thank you for your participation.

Page 2 — Socio-demographics 1/2 (quota screeners)

1. What is your sex? → {Female; Male; Other}
2. How old are you? → {Below 18; 18 to 24; 25 to 34; 35 to 49; 50 to 64; 65 or above}
3. What race or ethnicity do you identify with? (Multiple answers are possible) → {White; Black or African American; Hispanic; Asian; American Indian or Alaskan Native; Native Hawaiian or Pacific Islander; Other; Prefer not to say}
4. Which category best describes your highest level of education? → {Eighth grade or less; Some high school; Regular high school diploma/GED or alternative credential; Some college, no degree; 2-year college degree or associate's degree (for example: AA, AS); Bachelor's degree (for example: BA, BS); Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA); Professional degree beyond bachelor's degree (for example: MD, DDS, DVM, LLB, JD); Doctorate degree (for example: PhD, EdD)}
5. What is your ZIP code? → ...

Page 3 — Socio-demographics 2/2

1. Including yourself, how many **adults** (18 or older) live in your household?

Your household includes you and all the other persons who live with you. → ...

2. How many **children and teenagers** (younger than 18) live in your household? → ...
3. What was the annual income of your household in 2024 (before withholding tax)? → {less than \$15,000; between \$15,000 and \$31,000; between \$31,000 and \$58,999; between \$59,000 and \$92,999; between \$93,000 and \$150,999; more than \$151,000}
4. Did you, or anyone in your household, receive food stamps or use a food stamp benefit card at any time during the last year? → {Yes; No}

5. What is your employment status? → {Full-time employed; Part-time employed; Self-employed; Student; Retired; Unemployed (searching for a job); Inactive (not searching for a job)}
6. Which category best describes your main occupation? → {Managers; Professionals; Technicians and associate professionals; Clerical support workers; Service and sales workers; Agricultural workers; Craft and related trades workers; Plant and machine operators, and assemblers; Elementary occupations; Armed forces occupations}
7. Even if you are not currently working, which category best describes your latest occupation? Check the one that applies. If you have had multiple jobs, check the one that describes your main occupation. → {Managers; Professionals; Technicians and associate professionals; Clerical support workers; Service and sales workers; Agricultural workers; Craft and related trades workers; Plant and machine operators, and assemblers; Elementary occupations; Armed forces occupations}

Page 4 — Meat habits

1. How often do you eat meat including beef, pork, poultry, and other forms of meat? (not including fish/seafood) → {Almost every meal; About one meal a day; 3 to 5 meals a week; 1 to 2 meals a week; Very occasionally; Never}
2. Which of the following best describes your diet? → {Omnivore/meat-eater (no restrictions on eating animal products); Reducetarian, flexitarian, or semi-vegetarian (reducing meat consumption or only eating it occasionally); Pescatarian (eats plant-based foods, eggs, dairy, and fish); Vegetarian (eats plant-based foods, eggs, and dairy); Vegan (eats only plant-based foods); Other (please specify)}

Page 5 — Pre-video

The next page will show you a short video clip. At the end of the survey, you will be asked some questions about the video.

Page 6 — Video treatments

See Appendix [H](#).

Page 7 — Open-ended

1. What do you think of the meat tax described in the video (15% increase in the price of meat redistributed via cash transfer)? Please use the text box below and write as much as you feel like. Your opinion and thoughts are important to us! There is no right or wrong answer. → ...

Page 8 — Binary support main policy

1. Would you approve of this meat tax and cash transfer policy? → {Yes; No; Prefer not to respond (Don't know, don't want to say)}

Page 9 — Pros and cons, prioritization

1. Below are a number of reasons why people might oppose a meat tax. For each statement, tell us to what extent you agree or disagree: Eating meat is one of my main pleasures; I don't want the government to judge what is good for me to eat; Eating meat is part of my cultural identity; Eating meat is healthy; Eating meat is an unquestionable right of every person; God created animals for us to eat; I don't want to change my eating habits; A meat tax would penalize low-income households, even with cash transfers; A meat tax would penalize my household, even with cash transfers → (for each statement) {Strongly agree; Somewhat Agree; Neither agree nor disagree; Somewhat disagree; Strongly disagree}
2. Consider again the same reasons for opposing the meat tax. In this question, you have 100 points that you can allocate to these different reasons. The more points you give to a reason, the more it matters for your opinion regarding the meat tax. How do you allocate the points among the following arguments?

You can adjust the number of points using the slider. The sum of points must equal exactly 100. By pushing the last slider to the right, the total will automatically adjust to 100. Please read all the options before making your choice. In case you do not think the arguments below are good reasons to oppose the meat tax, you can use the option "None of the reasons above". Eating meat is one of my main pleasures; I don't want the government to judge what is good for me to eat; Eating meat is part of my cultural identity; Eating meat is healthy; Eating meat is an unquestionable right of every person; God created animals for us to eat; I don't want to change my eating habits; A meat tax would penalize low-income households, even with cash transfers; A meat tax would penalize my household, even with cash transfers; None of the reasons above → (a slider for each statement to indicate a whole number between 0 and 100, inclusive)

Page 10 — Beliefs Pigouvian attributes

1. On average, who do you think would financially benefit more from this policy? → {Low-income households would benefit more; High-income households would benefit more; Low- and high-income households would benefit the same; Prefer not to respond (Don't know, don't want to say)}
2. Personally, do you think your household would financially gain or lose from this policy? → {My

household would gain; My household would not be affected; My household would lose; Prefer not to respond (Don't know, don't want to say)}

3. You have indicated that you expect your household to gain from the policy. How confident are you about this assessment? → {I am certain; I am quite confident; I am not very confident; I am not confident at all}
4. You have indicated that you expect your household to lose from the policy. How confident are you about this assessment? → {I am certain; I am quite confident; I am not very confident; I am not confident at all}
5. You have indicated that you expect your household not to be affected by the policy. How confident are you about this assessment? → {I am certain; I am quite confident; I am not very confident; I am not confident at all}
6. Compared to an average Californian household, how do you expect your own household to be affected by the policy? → {Much more negatively affected; Somewhat more negatively affected; About the same; Somewhat more positively affected; Much more positively affected}
7. According to you, as a result of the meat tax and cash transfer policy, the total meat consumption in California will: → {Decrease a lot; Decrease a little; Remain the same; Increase; Prefer not to respond (Don't know, don't want to say)}
8. What effect do you think reducing Californian meat consumption would have on the following issues in California? The effect would be...: Climate objectives; Animal welfare; Public health → (for each effect) {Very positive; Somewhat positive; No effect; Somewhat negative; Very negative}

Page 11 — Second-order beliefs and alternative policies

1. In this question, you will be asked to guess what % of all participants in this survey approve of this meat tax and cash transfer policy. Among those who guess most accurately, 10 participants will be randomly selected to receive \$10 in panel points. The payment will be made in the same way as your compensation for this survey.

What % of all participants in this survey do you think approve of the meat tax and cash transfer policy? Note that our participants are a representative sample of the Californian population. → (a slider to indicate a whole number between 0 and 100, inclusive)

2. Would you support a meat tax if the tax revenue was instead used to...: ...subsidize fruits and vegetables consumption?; ...compensate low-income households?; ...help farmers implement more sustainable practices? → (for each statement) {Yes, absolutely; Yes, rather; Indifferent or Don't know; No, not really; No, not at all}

3. Please select “A little” (test to check that you are attentive). → {Not at all; A little; A lot; Completely}
4. Would you support the following policies? Regulate producers more to ensure sustainable practices that improve animal welfare; Introduce compulsory labels to inform consumers about the sustainability of meat production; Subsidies for plant-based foods; Public investment in research for meat produced by culturing animal cells in vitro (to avoid raising and killing animals) → (for each policy) {Yes, absolutely; Yes, rather; Indifferent or Don’t know; No, not really; No, not at all}
5. By taking this survey, you are automatically entered into a lottery to win \$100 in panel points. In a few days, you will know whether you have been selected in the lottery. The payment will be made to you in the same way as your compensation for this survey, so no further action is required on your part. Should you be selected in the lottery, you can also donate a part of this additional compensation to one or both of the following non-profit organizations:

Nonprofit organization advocating plant-based food: ProVeg US Through public campaigns and events, political outreach, and corporate engagement, ProVeg strives to create a food system where everyone chooses delicious and healthy food that is good for all humans, animals, and our planet. ProVeg International, Inc. is a U.S. registered 501(c)(3) nonprofit charity. Tax ID (EIN) 46-3038496

Nonprofit organization advocating meat and dairy food: Weston A. Price Foundation The Weston A. Price Foundation was founded in 1999 to disseminate the research of nutrition pioneer Dr. Weston Price, whose studies of isolated nonindustrialized peoples established the parameters of human health and determined the optimum characteristics of human diets. Dr. Price’s research demonstrated that humans achieve perfect physical form and perfect health generation after generation only when they consume nutrient-dense whole foods and the vital fat-soluble activators found exclusively in animal fats. The Weston A. Price Foundation is a nonprofit, tax-exempt charity under 501(c)(3). Tax ID (EIN) 52- 2193975

In case you are selected as a winner of the lottery, how much of the \$100 would you donate to each of these organizations and how much would you keep for yourself? I would donate to Proveg US; I would donate to Weston A. Price Foundation; I would keep for myself → (a slider for each statement to indicate a whole number between 0 and 100, inclusive)

Page 12 — Worldviews and knowledge about meat externalities

1. On a scale of 0 to 10, how concerned are you about the following issues? Climate change; Animal welfare; Public health → (a slider for each statement to indicate a whole number between 0 and 10, inclusive)

2. In your opinion, climate change... → {is not a reality; is mainly due to natural climate variability; is mainly due to human activity; Prefer not to respond (Don't know, don't want to say)}
3. In your view, how much does the production of meat and dairy contribute to global greenhouse gas emissions? You can indicate the percentage of contribution using the slider. → (a slider for each statement to indicate a whole number between 0 and 100, inclusive)
4. How much of the time do you think you can trust the California state government to do what is right? → {Almost always; A lot of the time; Not very often; Almost never}
5. Some people think the state government is trying to do too many things that should be left to individuals and businesses. Others think that the state government should do more to solve our state's problems. Which comes closer to your own view? → {Government is doing too much; Government is doing just the right amount; Government should do more}
6. On economic policy matters, where do you see yourself on the liberal/conservative spectrum? → {Very liberal; Liberal; Moderate; Conservative; Very conservative}
7. What do you consider to be your political affiliation, as of today? → {Republican; Democrat; Independent; Other; Non-Affiliated}
8. Suppose you have earned \$1,000, but you have to give away the money to two other people. You cannot keep any of the money for yourself. Assume that these two people have the same standard of living. How much of your \$1,000 would you give to a person who lives in your neighborhood if the rest goes to a random stranger from the U.S.? → (a slider for each statement to indicate a whole number between 0 and 1000, inclusive)

Page 13 — End-of-survey questions

1. To our study, it is important that we only include responses from people who devoted full attention to the video shown in this study. In your honest opinion, did you devote your full attention to the video? Your response will not affect in any way the payment you will receive for taking this survey. → {Yes, I devoted my full attention to the video; No, I did not devote my full attention to the video}
2. The video shown in this survey discussed... → {Meat tax and cash transfer; Subsidies for fruits and vegetables; Minimum share of vegetarian options at schools and public cafeterias}
3. The video shown in this survey was... → {Easy to understand; Difficult to understand; Neither easy nor difficult to understand}
4. Do you feel that this survey was politically biased? → {Yes, left-wing biased; Yes, right-wing biased; No, I do not feel that it was biased}

5. The survey is nearing completion. You can now enter any comments, thoughts, or suggestions in the field below. → ...

Page 14 — Petition

1. Would you support a petition for the meat tax and cash transfer policy? As soon as the survey is complete, we will send the results to the Governor of California, informing him what share of people who took this survey were willing to support the following petition:

Petition—*I agree that immediate action on Californians' health, climate change, and animal welfare is critical. Now is the time to dedicate ourselves to lower meat consumption and prevent lasting damage to all living things and our environment. Science shows us we cannot afford to wait to cut harmful meat consumption. I'm adding my voice to the call to the Californian leaders to act by considering the meat-tax-and-dividend policy.*

Do you support this petition? You will NOT be asked to sign, only your answer here is required and remains anonymous. → {Yes; No}

H Videos

Below are links to each of the videos, where initials stand for control (C), personal gains (G), progressivity (P) / control (0), effectiveness (E) / control (\emptyset), identity (I), freedom of choice (F):

- [C0 \$\emptyset\$](#)
- [G0 \$\emptyset\$](#)
- [P0 \$\emptyset\$](#)
- [CE \$\emptyset\$](#)
- [GE \$\emptyset\$](#)
- [PE \$\emptyset\$](#)
- [C0I](#)
- [G0I](#)
- [P0I](#)
- [CEI](#)
- [GEI](#)

- PEI
- C0F
- G0F
- P0F
- CEF
- GEF
- PEF