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Declaration of compliance with Terms of Use and Ethical Standards

Project:

Voters' preferences for a meat tax: Evidence from a referendum choice experiment

Principal Investigator(s):

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I/we hereby declare to have made all statements truthfully and that I/we am/are especially aware of my/our obligation to comply with all ethical and scientific guidelines stated below.

Hamburg, 11.11.2021

Date, Seal, Signature

I/We hereby declare that the proposed research project is in compliance with the following scientific and ethical standards:

(a) The Terms of Use for the WiSo Laboratories

Released by the Dean of Research of the Faculty of Business, Economics and Social Sciences in the respective current terms.

(b) Guidelines for Safeguarding Good Scientific Practice and Avoiding Scientific Misconduct at Universität Hamburg

Released by the Academic Senate of the Universität Hamburg in the respective current terms¹,

(c) The RESPECT Code of Practice

Released by the RESPECT Project (professional and ethical codes for socio-economic research in the information society) by order of the European Commission.²

¹ http://www.uni-hamburg.de/forschung/service/gute-wissenschaftliche-praxis_e.html

² <http://www.respectproject.org/code/>

I/We confirm to have read and accepted these standards. I/we particularly declare to conduct my/our research project within the WiSo Laboratories in steady compliance with the three core criteria of the **RESPECT Code of Practice**; I/we confirm, that I/we:

- I. Uphold scientific standards.
- II. Comply with the law.
- III. Avoid social and personal harm.

Description of the research project

1. Aim of the research project (cognitive interest)

The animal farming industry is in the public eye. Consumption of meat and dairy products and its consequences are subjects of discussion in society and politics alike.

The public debate focuses on two aspects: (1) livestock sector's impact on climate and environment and (2) farm animals' husbandry and living conditions. 14.5% of all human-induced greenhouse gas emissions are attributed to the livestock sector (Gerber et al. 2013). Moreover, husbandry conditions, especially in intensive livestock farming, are increasingly discussed in public and even questioned by meat eaters (Eurobarometer 2016).

The production and consumption of animal products generate negative externalities regarding the environment and animal welfare in society (Springmann et al. 2016; Lusk 2011). Politics are increasingly confronted with the deficiencies of the system and start to take them into account, e.g. in the European Commission's "Farm to Fork" strategy (European Commission 2020).

In Germany, policy makers discuss potential regulations for both issues. In 2021, a CO₂ price for fossil fuels in the heating and transportation sector has been introduced in Germany (Bundesregierung 2021). In this regard, the German Green Party suggested a climate charge on animal products (Maurin 2019). While they could not come through with it, such a tax is not off the table yet. The German Ministry of Food and Agriculture, on the other hand, proposes a transformation of the German livestock sector towards higher animal welfare standards. Apart from plans of introducing a state animal welfare label, an expert commission also suggested to implement an animal welfare consumption tax, a so called "Tierwohlabgabe", to raise funds for supporting farmers who rebuild their stables and farms to provide more animal welfare (BMEL 2021).

Both debates are conducted rather separately from each other, but target the same product and industry. Policy changes to internalize either externality would impact prices for animal products. We are thus interested in how voters perceive the two potential tax schemes.

There is a broad literature on taxing certain food products, such as sugar or fat (e.g., Berardi et al. 2016; Colchero et al. 2016; Cornlesen & Carreido 2015; Smed 2012). Regarding the taxation of meat or animal products, the effects of certain tax schemes on demand, greenhouse gas (GHG) emissions and/or societal health have been modeled for several countries (e.g., Funke et al. 2021 for the world; Moberg et al. 2021 and Säll et al. 2020 for Sweden; Bonnet et al. 2018 for France; Dogbe & Gil 2018 for Catalonia Spain; Springmann et al. 2018 for world

regions; Chalmers et al. 2016 for Scotland; Edjabou & Smed 2013 for Denmark; Wirsenius et al. 2011 for the EU). From this research follows that specifically taxing meat could have a strong steering effect.

Nonetheless, implementing such taxes is clearly challenging from a political point of view. Numerous studies, both surveys and choice experiments, thus examine people's preferences regarding (carbon) tax schemes in general, but also in sub-sectors such as transportation and animal products (e.g., Baranzini et al. 2021; Douenne & Fabre 2020; Fesenfeld et al. 2020; Grimsrud et al. 2019; Hagmann et al. 2019; Hardisty et al. 2019; Baranzini & Carattini 2017; Brännlund & Persson 2012; Sælen & Kallbekken 2011; Hsu et al. 2008). Thereof, certain policy specifications are found to increase people's support for such taxes: (1) refraining from calling the charge a "tax", (2) earmarking tax revenues for environmental purposes, (3) redistributing tax revenues preferably as lump-sum payments, but earmarking still preferred over redistribution in direct comparison, (4) progressive taxing, and (5) clearly explaining tax impact/effectiveness (Carattini et al. 2018; Klenert et al. 2018).

However, we are not aware of any research directly comparing preferences of introducing a tax on the same product, namely meat, but for different arguments. Our first research question is hence: Do support rates for a meat tax differ depending on whether it is levied for environmental or animal welfare reasons?

The support for a meat tax should clearly be linked to the tax rate. We therefore investigate people's support in a referendum-like choice experiment letting them vote for either the status quo or a new meat tax policy with increasing tax levels. With such a referendum scheme, hypothetical bias is limited to a certain extent as the decision is concrete and realistic (Carson & Groves 2007). Furthermore, we inform participants that the outcome of the referendum will be forwarded by us to the committee of the Federal Parliament of Germany in charge for the respective tax type.

For the policy proposals shown to participants, we apply the above mentioned five success factors. In addition, we only consider consumption tax schemes, i.e. only consumers of the product are charged for the amount they buy. However, we are further interested in people's preferences regarding the consumption tax' degree of differentiation.

The consumption could either be a fixed and flat amount charged on every kilogram sold, independent from the type of meat or animal welfare level provided such as the proposed "Tierwohlabgabe" or the "EEG-Umlage" used to finance subsidies for renewable energy in the electricity sector. Another option would be to implement a more differentiated scheme in line with a Pigouvian tax to bring consumption to a socially optimal level (Pigou 1920). Meat types with higher underlying carbon emissions are charged a higher tax than those with lower emissions. The same principle could be applied to animal welfare with products produced under higher animal welfare standards burdened less than those produced under lower levels.

Theoretically, both schemes are likely to affect demand for meat. The flat taxes are expected to mainly affect how much meat is consumed (see e.g., Nordgren 2012 for GHG tax on meat). The taxes differentiating between different levels of externalities associated with the product are expected to affect both the level of meat consumption and also the composition of meat products consumed (see e.g., Wirsenius et al. 2011 for GHG weighted tax on meat). We do

not examine actual consumption behavior in our experiment. Instead, we are interested in people's preferences for certain tax schemes.

Our second research question is thus: Do support rates differ depending on the meat consumption tax' degree of differentiation?

To identify drivers of the latter, we exogenously vary the salience of the expected effect on the composition of meat products consumed by randomly switching the order of the referendum question and the belief elicitation. The latter asks respondents whether they believe a specific tax scheme will change the level and composition of meat consumption both for themselves and for other participants of the survey.

2. *Scientific Background*

Behavioral Public Economics, in particular

- (impure) public goods
- taxation
- survey experiments / choice experiments

3. *Research Design/Implementation; including detailed description of procedure with the research subjects*

Using a referendum choice experiment, we test support for a tax on meat products. We examine if support is impacted by the purpose of the tax (either for environmental or animal welfare reasons), by tax type (either flat non-differentiated tax rate or differentiated tax rate depending on meat type or animal welfare level provided) and the salience of expected changes in consumption patterns induced by the tax.

The study is conducted online with a sample provided by a professional panel provider. The subject pool is representative for the German population in terms of age, gender and region of living.

The survey consists of introductory questions on current consumption behavior, the referendum choice experiment (explained in more detail below) and follow-up questions including perceptions of the tax' potential effect on subjects' own and others' consumption behavior, attitudes towards climate change and animal welfare, political attitudes and socio-demographics.

After the introductory questions, respondents are randomized into four experimental groups. In each group, a different tax scheme is proposed during the experiment. The four groups are:

- (1) Flat tax for carbon emissions
- (2) Differentiated tax for carbon emissions
- (3) Flat tax for animal welfare
- (4) Differentiated tax for animal welfare

In each of the treatments, we randomly assign the sequence of the referendum task and the belief elicitation task, increasing the total number of treatments to eight. The belief elicitation task asks respondents to state their expectations about how the tax

presented to them would change their own behavior in terms of total meat consumption and the composition of their meat consumption. They are also asked to predict the answers of the other survey participants that are presented the same tax scheme. The answer to the latter is incentivized.

In the referendum choice task, subjects are asked to vote on whether a tax on meat products should be implemented in Germany. They can choose between the status quo and a new meat tax scheme. Respondents are asked to make five decisions between the status quo and a new policy proposal. The five schemes differ only in the tax rate proposed to participants. All tax schemes are explained to respondents before they have to vote.

4. *Subject Recruitment and Subject Payment (as needed)*

- Done via external panel provider respondi AG (<https://www.respondi.com/>)
- Subjects receive respondi's standard payment for participation (per minute payment) and an extra payment if their answer to the expected impact on meat consumption is closest to the actual number in the respective treatment group.

5. *Possible Risks or Side Effects for Subjects*

Subjects are voluntarily participating in the panel of respondi AG, only subjects of age (at least 18 years old) are recruited. Subjects can leave the study and any part of the survey at any point in time. All questions are standard questions about personal characteristics, dietary related behavior, opinions and attitudes. There are no possible risks or side effects for subjects.

Choices made in the referendum choice experiment are of hypothetical nature. At no point during the study, subjects have to actually pay with their own money for their choices.

6. *Biometry*

Not used.

7. *Filing and Privacy*

Data is completely anonymized. Only respondi AG will have access to the identity of the subjects. We will not have access to any personal details of the subjects and will not be able to identify them. respondi AG programs and hosts the quota questions. All subjects who are eligible to participate after answering these questions are forwarded to the survey. We program the questionnaire and the experiment. We will have access to the anonymous data collected from this survey. A backwards identification of subjects based on the combination of socio-demographic characteristics and answers to other questions is impossible. respondi AG will provide the anonymized data from the quota questions. The data will be used only for research purposes.

8. Literature

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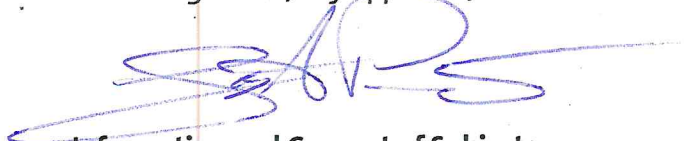
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9. *Signature/s of Applicant/s*



Information and Consent of Subjects

Information and consent of the subjects are to be conducted orally and in written form. A copy of the written form of Informed Consent, Privacy and Confidentiality is to be handed out to the subjects. A further copy is to be provided for the archive of the WiSo Laboratories.

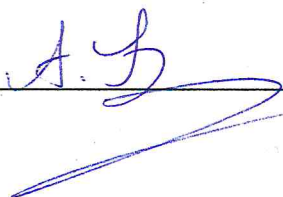
Information and consent of the subjects are conducted and received by the panel provider (Lightspeed Institute). Subjects receive an invitation for the study, a description of the stages it involves and freely choose whether they want to take part or not. They can leave the study at any time.

We hereby declare to have made all statements truthfully and that we are especially aware of our obligation to comply with all ethical and scientific guidelines stated above.

Review by the Dean's office at 24.11.21. Clearance approved.

Hamburg,

Seal, Signature



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