

Is tax aversion contagious? A survey experiment on combining energy taxes and subsidies

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Under review.

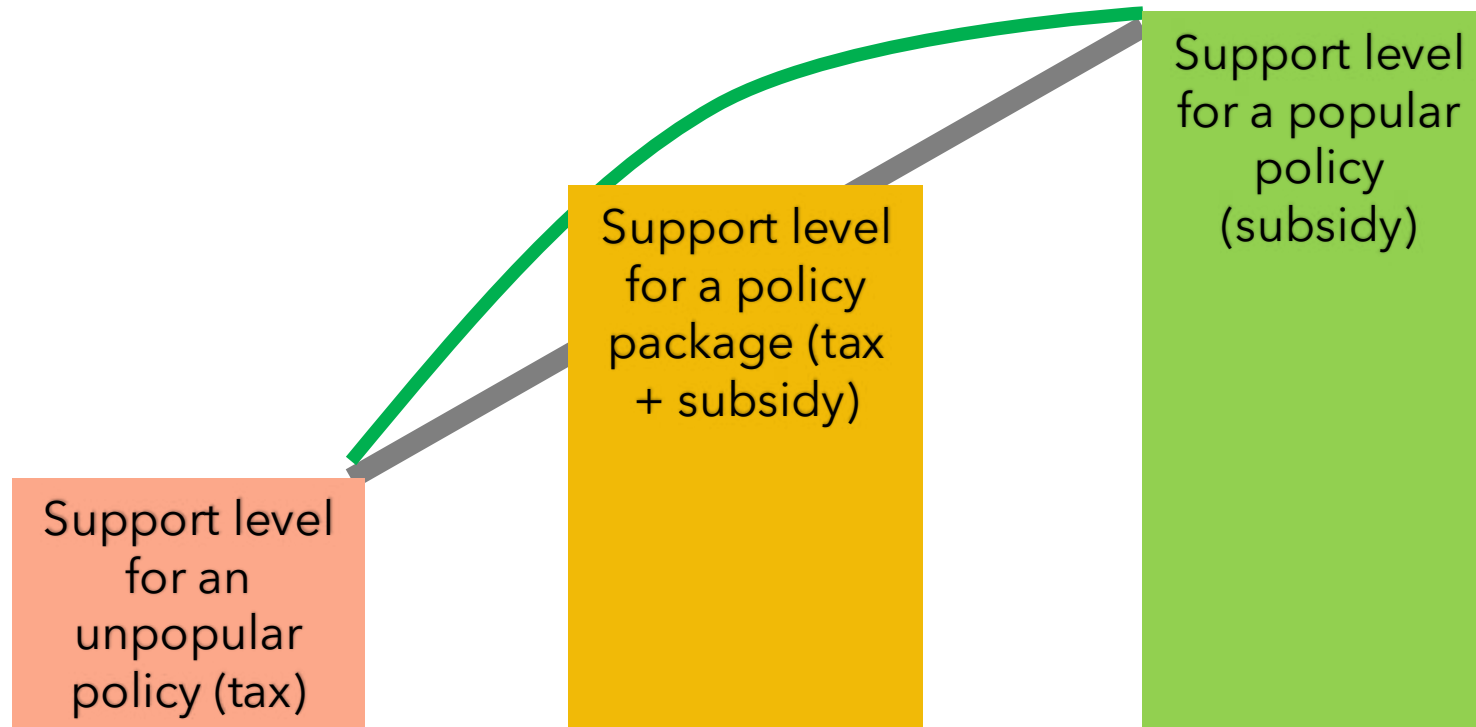
Background

- Increasing need for complex policies to deal with multiple and interacting market failures (esp. climate change).
- Pricing should be a key part of packages to ensure efficiency (e.g. van den Bergh et al. 2021).
 - But Pigouvian taxes are frequently met with opposition
- Widespread idea that policy packaging can help increase public support (Fesenfeld 2022, Milkman et al. 2012, Wicki et al. 2019).

Does policy packaging boost public support?



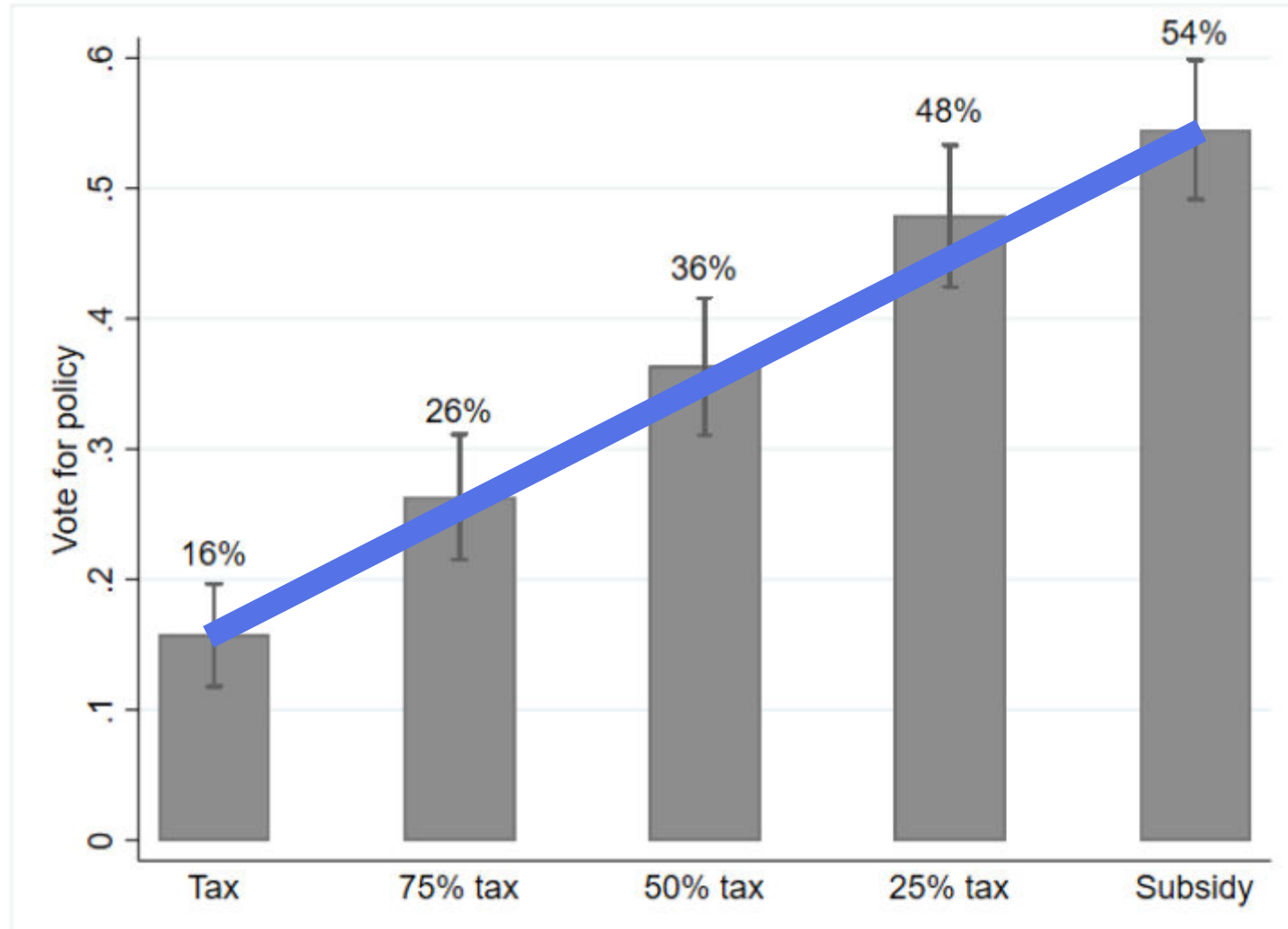
Does policy packaging boost public support?



Design

- Need a design that allows control over incentives and information.
 - Finding that adding a popular (but costly) subsidy to a policy mix makes it more popular is trivial
- Fractional design:
 - Combinations of policy instruments *that yield the same environmental outcomes*

First test in the lab: Andreassen, Kallbekken & Rosendahl, JEEM, 2024



Online market experiment using Prolific to recruit.

Identical payoff functions for taxes, subsidies and combinations.

N=1641

Survey experiment design

- Need for substantial expansion of power generation in Norway (estimated 20-30% by 2030)
- Could entail substantial land use externalities (biodiversity, carbon storage, recreational values etc).

Survey experiment design

The government could manage the externalities through:

- A tax (equivalent) to NOK 0.04 NOK/kWh
- A subsidy of 2.8 billion NOK for home energy efficiency subsidies
- Fractional combinations thereof – five treatment groups

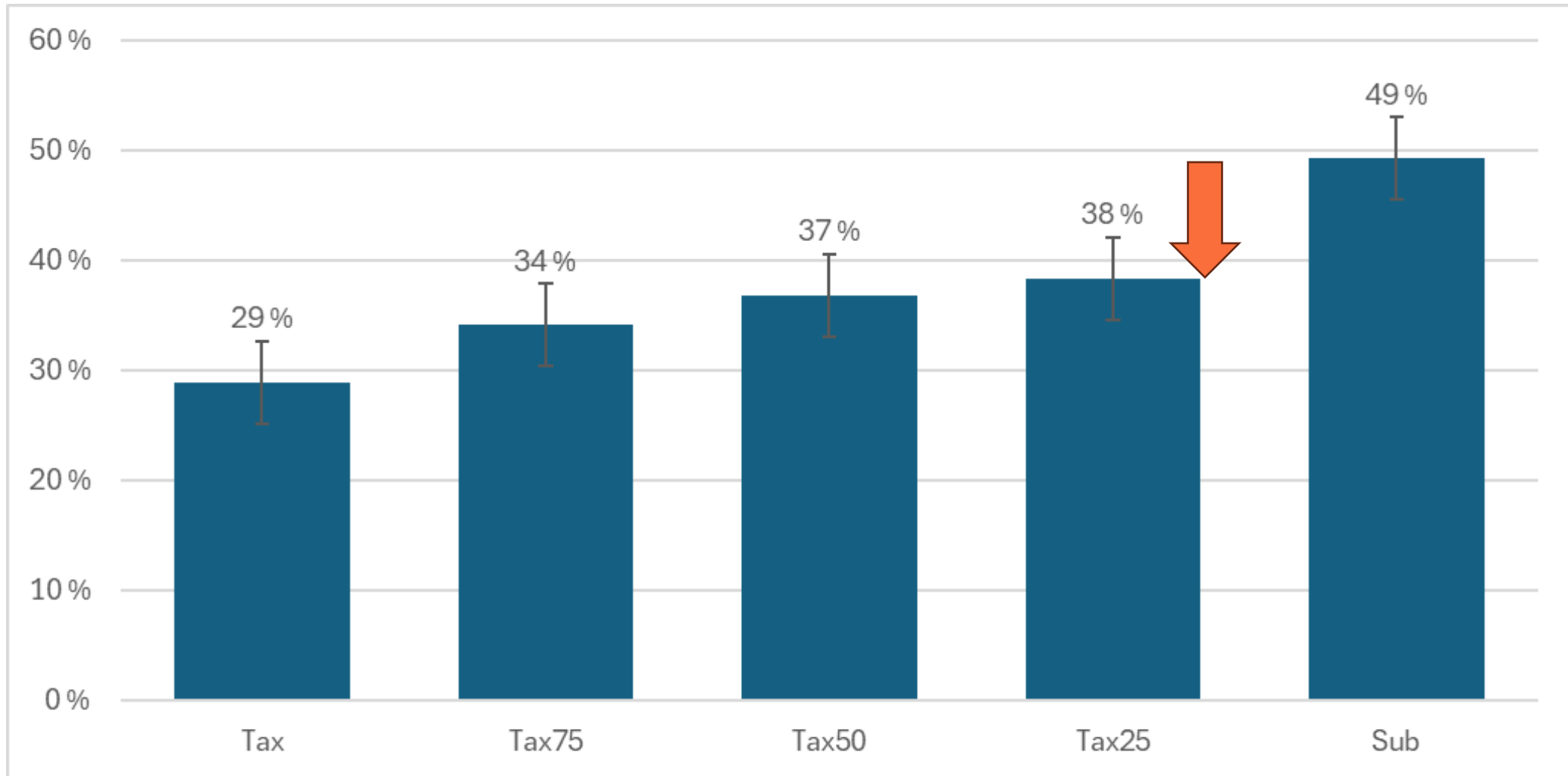
All policies reduce electricity use by 2% and land use loss by 40 km²

- Tax and subsidy carefully chosen* to have the same impact
- Mention how tax revenue can be spent and subsidy funded.

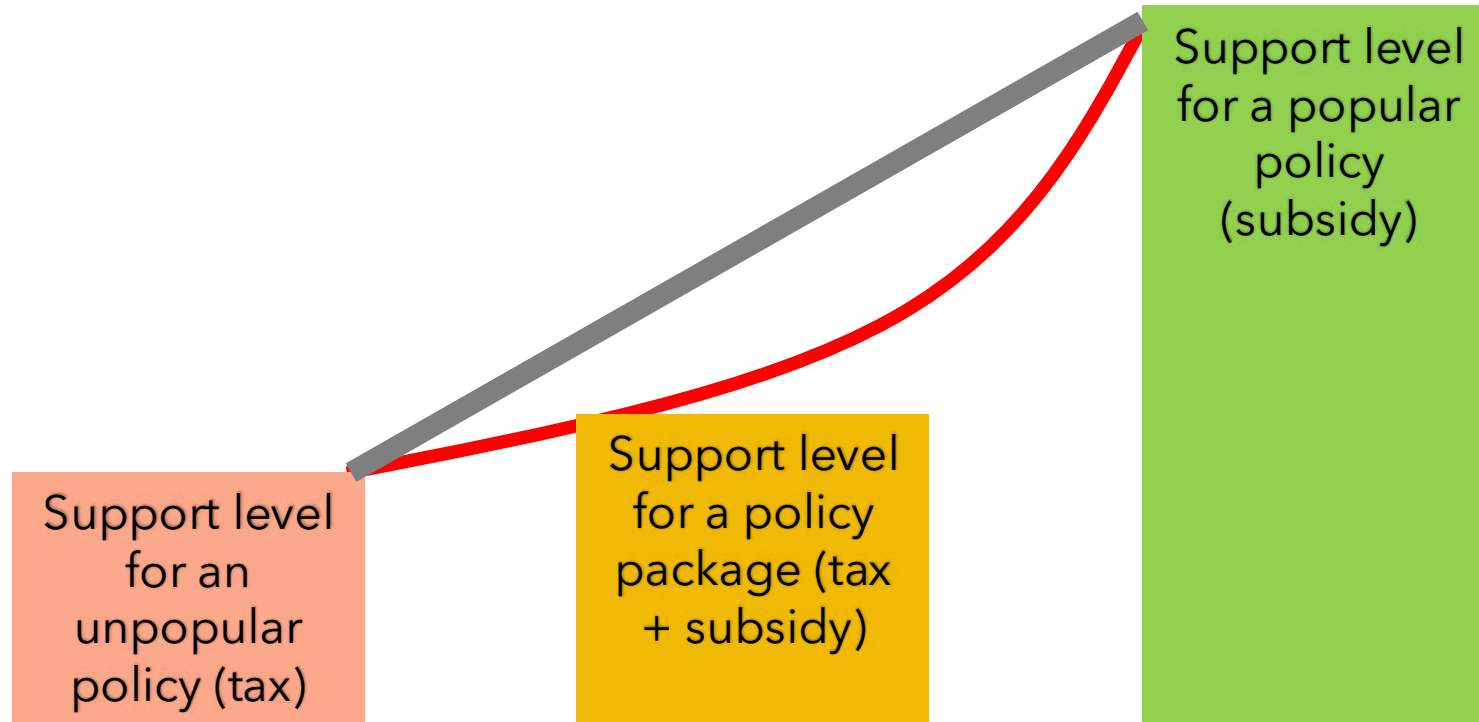
Implementation

- 3865 respondents, fairly representative of adult Norwegian population
- Data collected in April 2024 by Opinion
- Pre-registered two hypotheses:
 - Support for the subsidy and combinations of taxes and subsidies is higher than support for the tax alone
 - Support for the combinations of taxes and subsidies is lower than support for the subsidy alone

Level of support by treatment



Policy packaging boosts public support?



Linear regression of binary policy support variable on treatment dummies for Tax and policy packages

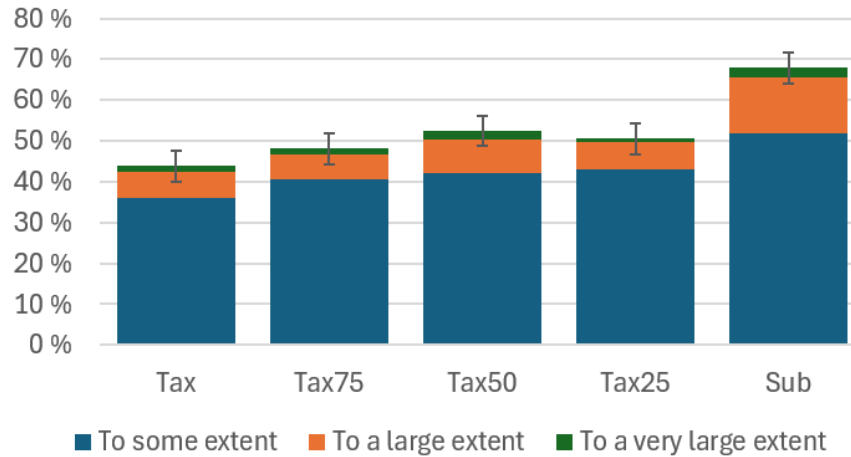
	Policy support
Tax	-0.204*** (0.027)
Tax75	-0.152*** (0.028)
Tax50	-0.124*** (0.028)
Tax25	-0.109*** (0.028)
Constant	0.493*** (0.020)
Observations	3,151
R ²	0.019
Adjusted R ²	0.018
Residual Std. Error (df = 3146)	0.480
F Statistic (df = 4; 3146)	15.377***

Note: Robust standard errors in parentheses. Significance levels are robust to adjusting for multiple hypothesis testing (Benjamini and Hochberg, 1995).

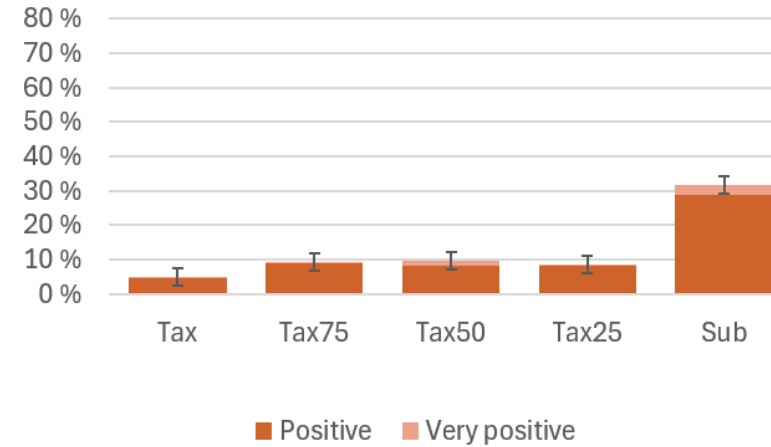
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Policy specific beliefs by treatment

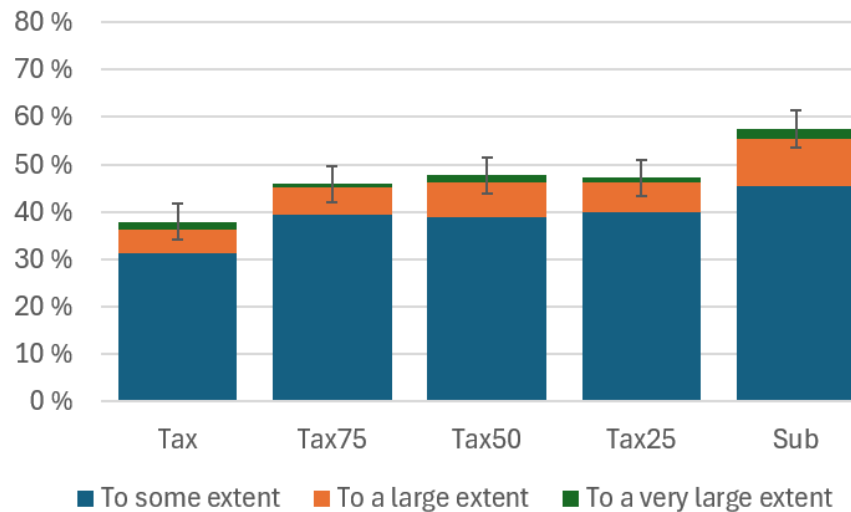
Perceived effectiveness reduced electricity use



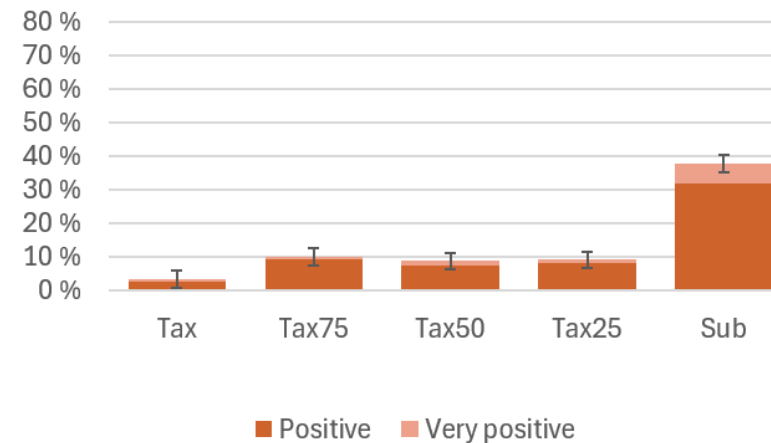
Expected financial impact own household



Perceived effectiveness reduced land degradation



Expected financial impact low income households



Discussion 1/2

- Overall, results are in line with hypotheses
- But also reveal a pattern we did not anticipate:

The level of support for the policy combinations appears to be closer to that of the tax alone than the subsidy alone.

- Clear pattern for the policy specific beliefs, esp. impacts on low-income households.

Indicates that when policy instruments are combined, the negative perceptions of taxes dominate the positive perceptions of subsidies.

Discussion 2/2

Previous research offers potential mechanisms that could be explored:

- Rozin and Royzman (2001) describe **negativity dominance** as “combinations of negative and positive entities yield evaluations that are more negative than the algebraic sum of individual subjective valences would predict”.
- Partially consistent with **loss aversion** (Tversky and Kahneman 1991).
- Worldviews/ideology
- Norms against coercive reform (Baron and Journey 1993)

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Thank you

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