Building public support for environmental taxes beyond carbon

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Institute for
New Economic Thinking
AT THE OXFORD MARTIN SCHOOL

SCHOOL OF GEOGRAPHY
AND THE ENVIRONMENT

100 years after Pigou

- Pricing pollution recognised as most efficient in reducing emissions.
- It delivers reductions at lowest cost as economic actors themselves know best where to cut emissions.
- It generates additional tax revenue.
- It is or can be made progressive.

wikipedia

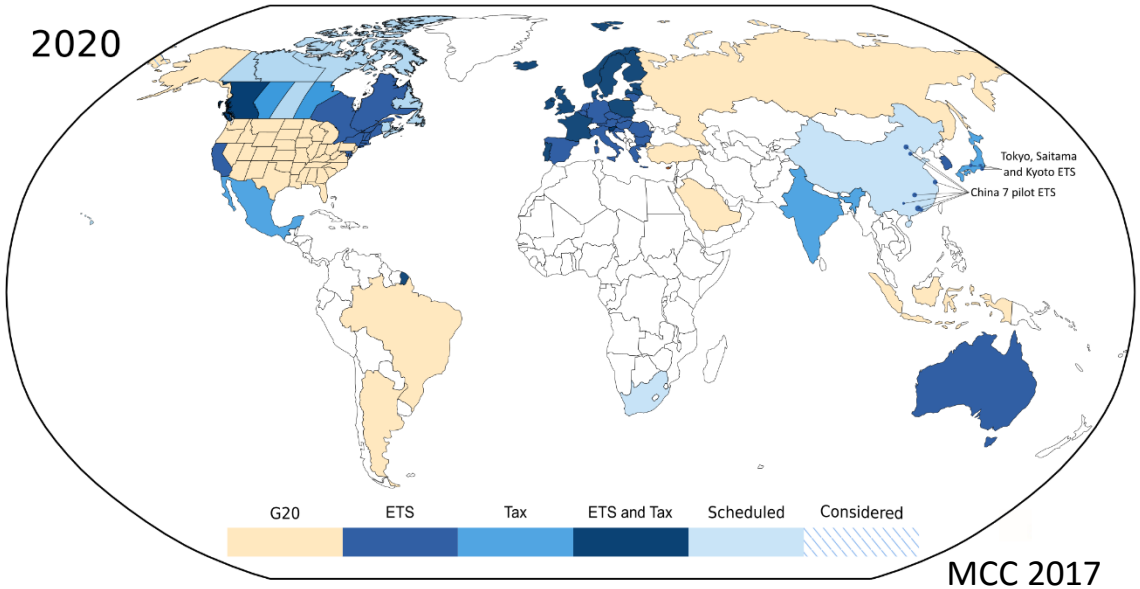
Arthur Cecil Pigou, 1877-1959
„The economics of welfare“
1920

Yet we are far away from carbon prices compatible with the Paris Agreement.

Carbon pricing: efficiency and equity

Carbon pricing efficient but limited coverage:

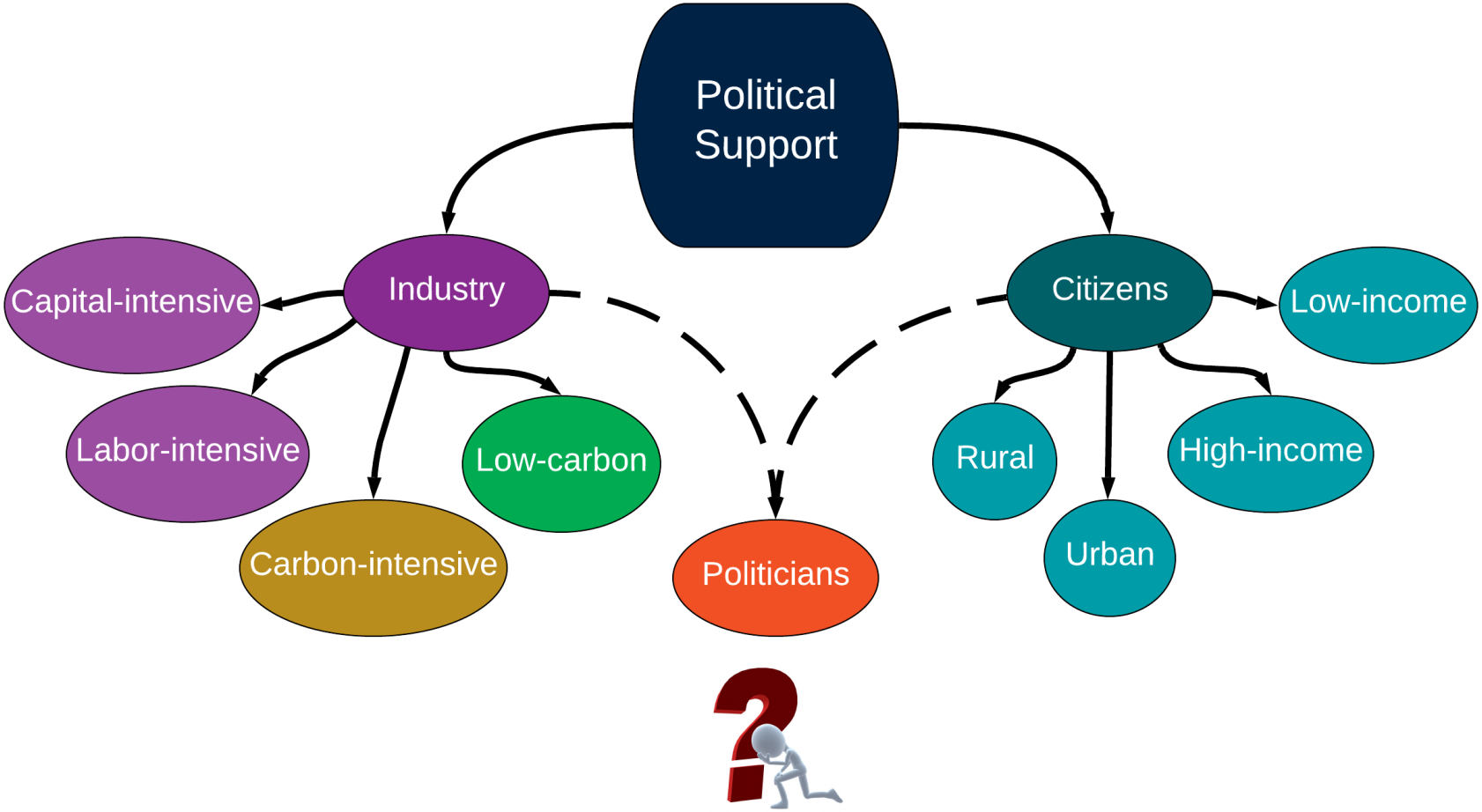
- Raising US$ 45 billion
- Only around 22% of global greenhouse gas emissions covered (World Bank, 2020)



Equity

- Carbon pricing regressive in **rich countries,** due to carbon-intensive subsistence consumption (Grainger and Kolstad, 2010), but can be generally made progressive (Klenert and Mattauch, 2016).
- Neutral or progressive in **poor countries** (Sterner, 2012; Dorband et al., 2019).

Public support for environmental taxes?



Outline

1. Public support
2. Supporting carbon taxes: the role of fairness
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Prioritizing Public Support

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- **An efficient and equitable carbon pricing proposal is of little use if it cannot be implemented in practice.**

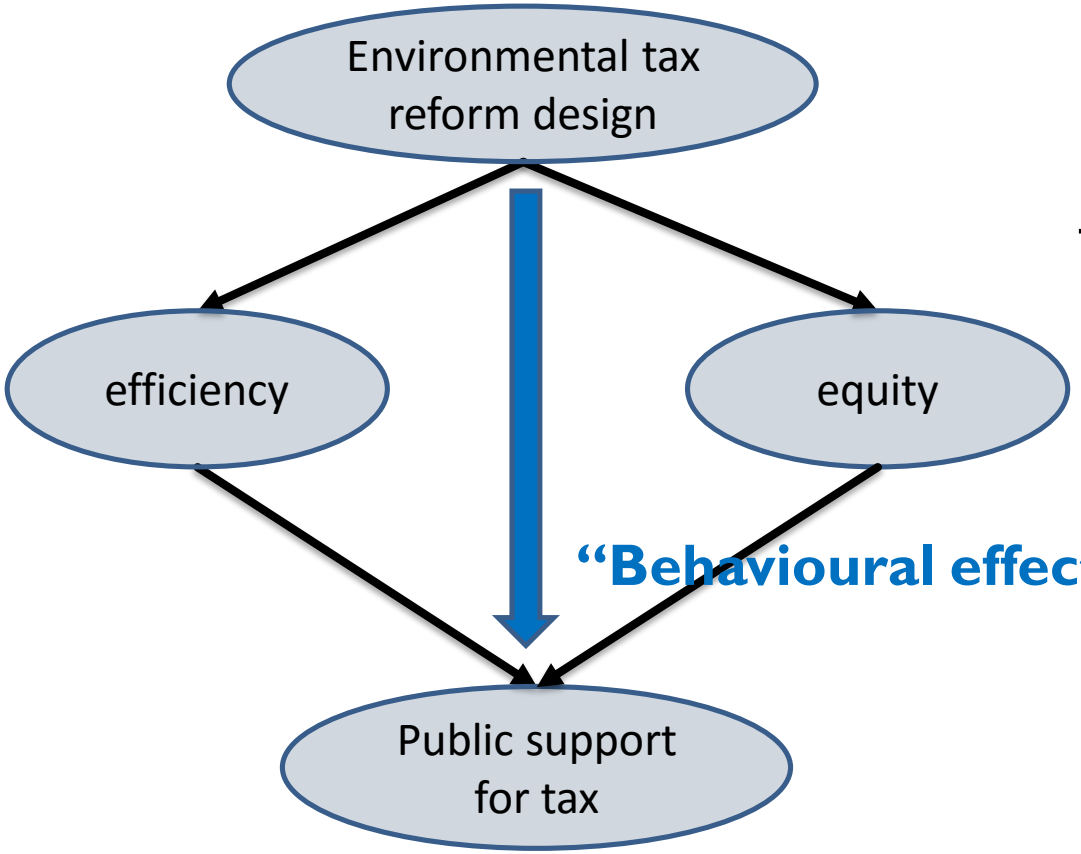
- Examples: Failure of a carbon tax in Washington state (2016/2018) (Andersson et al., 2019). Massive Fridays for Future in Germany only achieves low carbon price (2019).

- Similarly, **an efficient or equitable policy is of little use if it is later repealed due to public opposition** (e.g. Australia in 2012)**.**

What is wrong with our logic? Beyond „political economy“

To deliver on climate targets, we must either figure out how societies can support high carbon prices or start suggesting other instruments.

Public support for environmental taxes: everyone else??



Traditional approach

For humans, not econs, support goes beyond equity and efficiency!

Klenert, Mattauch et al., 2018

Behavioral constraints on environmental taxes

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General insights on the public support of tax reform design (going beyond equity and efficiency):

1. Willingness-to-pay is a **function of political and cultural beliefs**
2. **Recycling** is important since the effectiveness of Pigouvian taxes is often ignored. **Earmarking** the revenue enhances support.
3. **Labeling**: Don't call it a tax!
4. Making benefits **salient** enhances acceptance. Related: Successful reform if costs are **diffused** and benefits are **concentrated**.

2020: Some, but not all of these points also at work for COVID-19 mitigation policies – see Klenert, Funke, Mattauch, O'Callaghan 2020

Klenert, Mattauch et al., 2018

A lesson from political science

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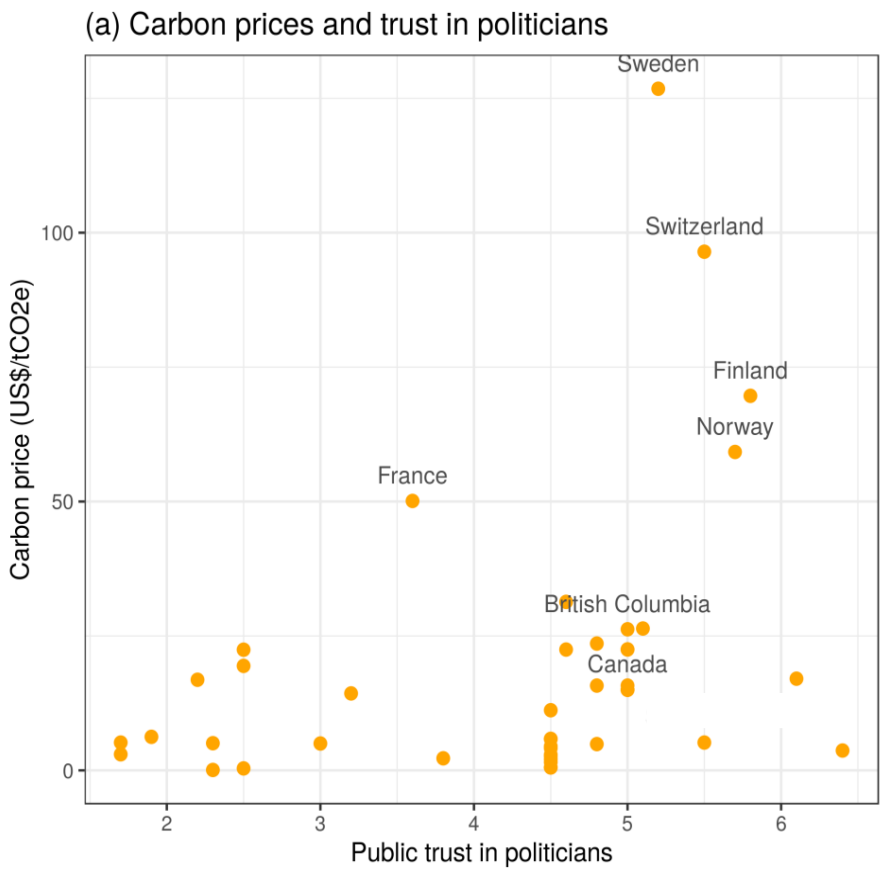

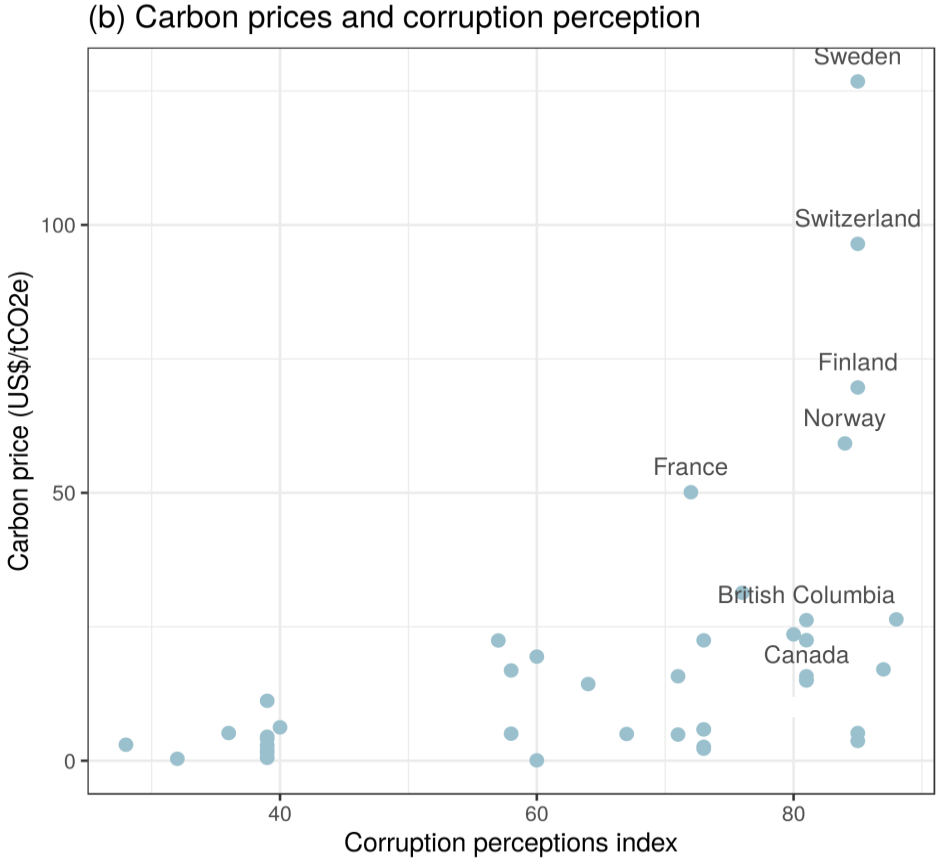

Rafaty, 2018; Klenert and Mattauch, 2019

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Motivated reasoning or fairness concern?

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- **Motivated reasoning – France:** French people largely reject a Fee & Dividend policy (i.e. lump-sum payment). They ``overestimate the negative impact of the scheme on their purchasing power, wrongly think it is regressive, and do not perceive it as environmentally effective.''

(Douenne and Fabre, 2020)

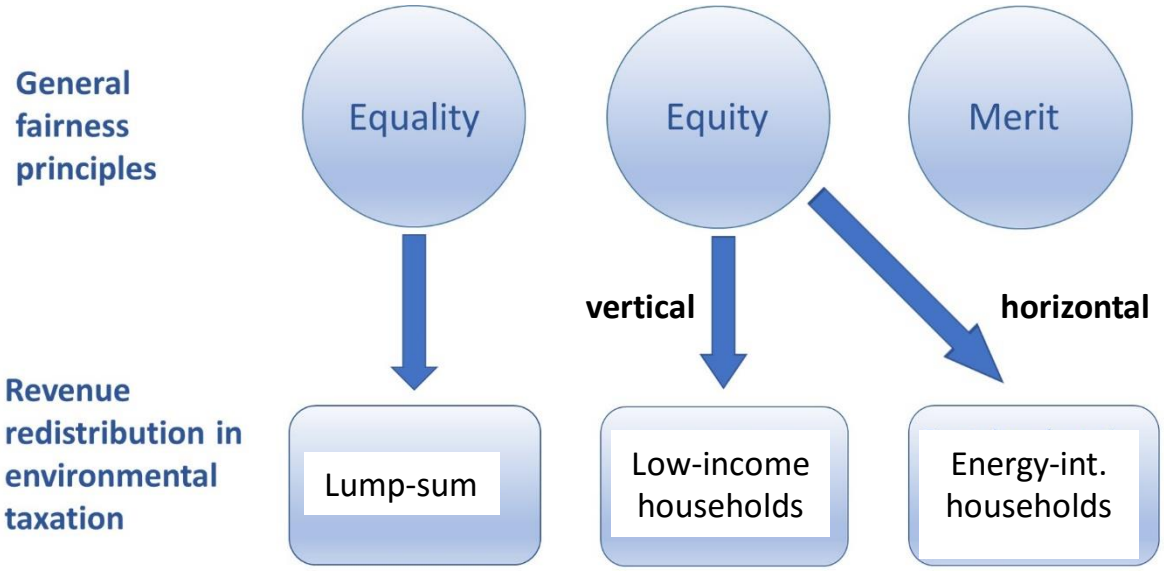
- **Fairness concerns – Germany:** Germany has enacted a new carbon price (on non-ETS sectors), starting 2021, at 25 €/tCO_2 increasing to ca. 65 €/tCO_2 in 2026.

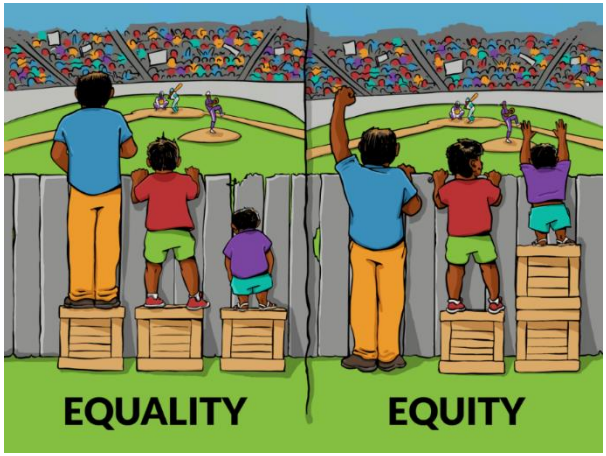
We polled ca. 6000 representative German households

(in autumn 2019, discrete choice experiments).

(Sommer, Mattauch, Pahle, 2020)

Fairness views and revenue design



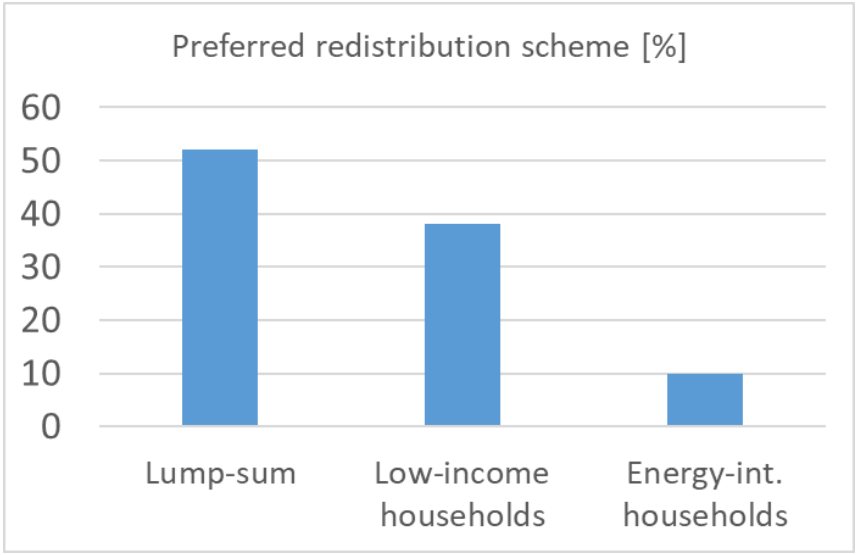


Which principle do citizens prefer, and how does it change support?

(Sommer, Mattauch, Pahle, 2020)

Preferences for direct redistribution schemes

When restricted to direct redistribution:



Lump-sum preferred over low-income!

Worry about energy-intensive households from media and politicans not decisive in the broader population.

Sommer, Mattauch, Pahle, 2020

Increasing the tax

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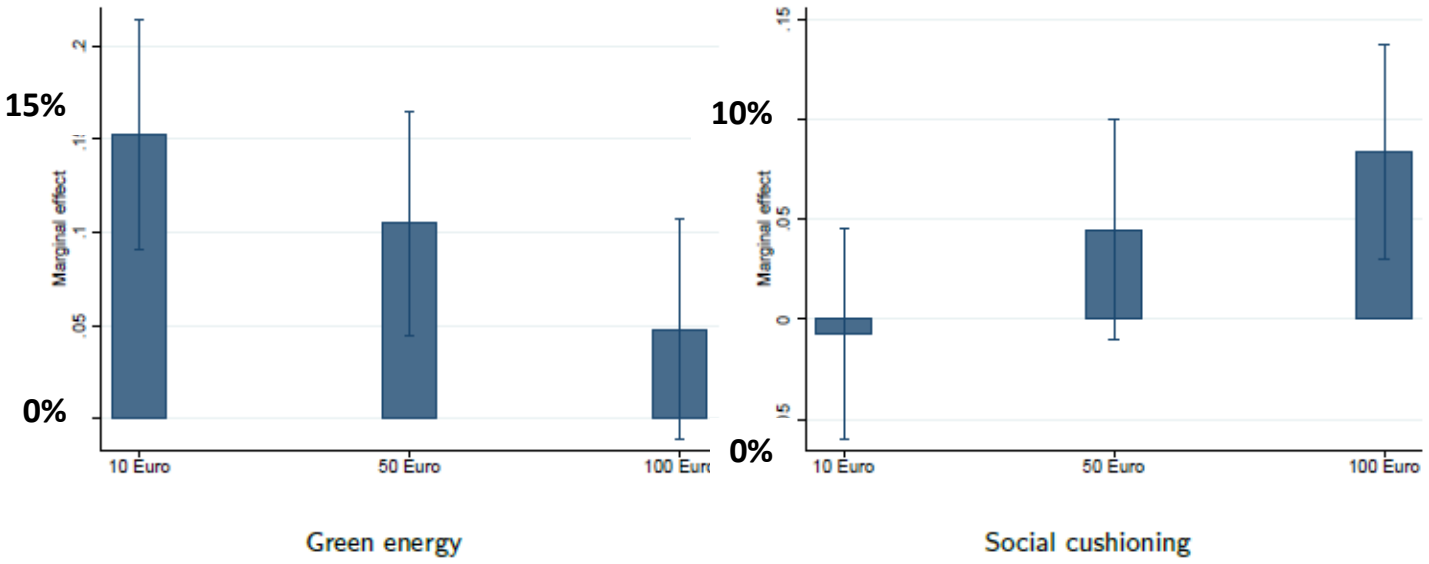
Interaction of recycling preference and amount of carbon tax



- The effect of green spending on support diminishes with higher taxes.
- The effect of social cushioning on support increases with higher taxes.

Sommer, Mattauch, Pahle, 2020

Main conclusions for Germany

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(1) "Green spending" is the most popular spending option overall, **however,** significantly so with:

- pro-environmental attitudes,
- belief climate change is real,
- trust the government
- political left.

(2) Direct redistribution: lump-sum payments most preferred:

- lump-sum transfer even more popular in Eastern Germany.
- political left, however, tend to prefer redistribution to the poorest,

Risk of „preaching to the converted" with green spending – especially for the high carbon price levels we need?

(Sommer, Mattauch, Pahle, 2020)

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Environmental taxes changing preferences? Empirics

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- **Tax salience:**

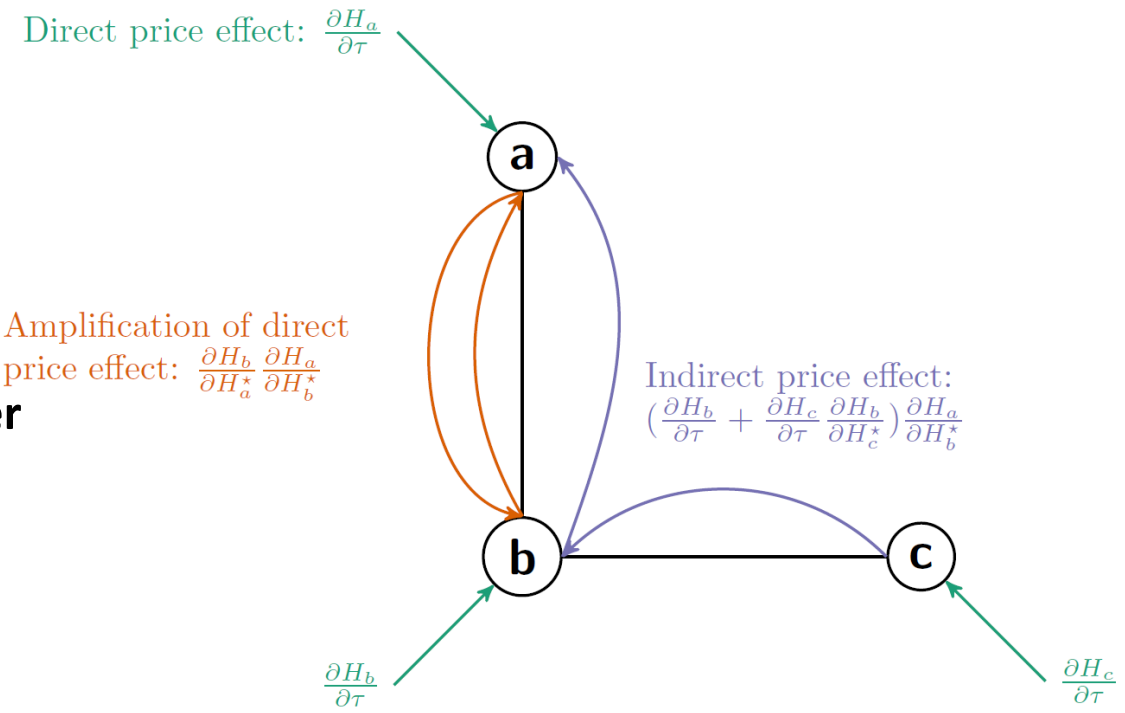
The British Columbia and the Swedish carbon tax are „salient“: the consumer reaction is greater than to that of an equivalent change in the fuel prices (Rivers and Schaufele 2015, Andersson 2019).

- **Crowding-in and -out intrinsic motivation:**
  - A small tax on plastic bags in Ireland resulted in an enormous decline in their use in two weeks (Convery 2007).
  - Consumers in a British supermarket respond with crowding-out to a hypothetical carbon tax (Lanz et al. 2018).

Environmental taxes changing preferences? Modelling

This needs a normative framework that can deal with endogenous preferences: Only in special cases will the second-best optimal tax with endogenous preferences be at the level of the first-best tax with fixed preferences (Mattauch, Hepburn, Stern, 2018).

With socially embedded preferences, **under realistic parameters, the social multiplier is equal to 1.3**, allowing to reduce the effective carbon tax by 38% (Konc et al. 2020).



The gauntlet thrown down by Samuel Bowles

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- Bowles (2016) argues that the design of a monetary incentive itself leads to changes in the degree of crowding-in or -out:

- The policy-maker's task is to align the `acquisitive' and the `constitutive part'. How do we avoid `moral disengagement' ?

- Bentham: „make each man's *interest* to observe ... that conduct which it is his *duty* to observe." (emph. Bowles')

Bowles 2016

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Health co-benefits of mitigation policies?

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- **Not many Europeans are very worried about climate change**:
  - Only 25 % „extremely“ or „very worried“
  - Top concern is „health and social security“

(Oswald and Nowakowski, 2020)

- **Change of importance of sectors with ever cheaper low-carbon electricity:**
  - **Transport:** largest GHG emissions in UK, US and France.
  - **Agriculture:** Many environmental damages beyond climate.

Direct health benefits of taxes in these sectors??

Transport: choose the mode that makes you fit!

- **Whether a mode of transport makes you fit or fat is not an externality!**
- **We adapt a model of optimal fuel taxation (Parry and Small, AER, 2005) to include an active travel mode.**
- **It includes a behavioural failure („internality“) around citizens ignoring the health benefit!**

Sulikova, van den Bijgaaart, Klenert, Mattauch, 2020

Social cost of road transport in Europe, per km

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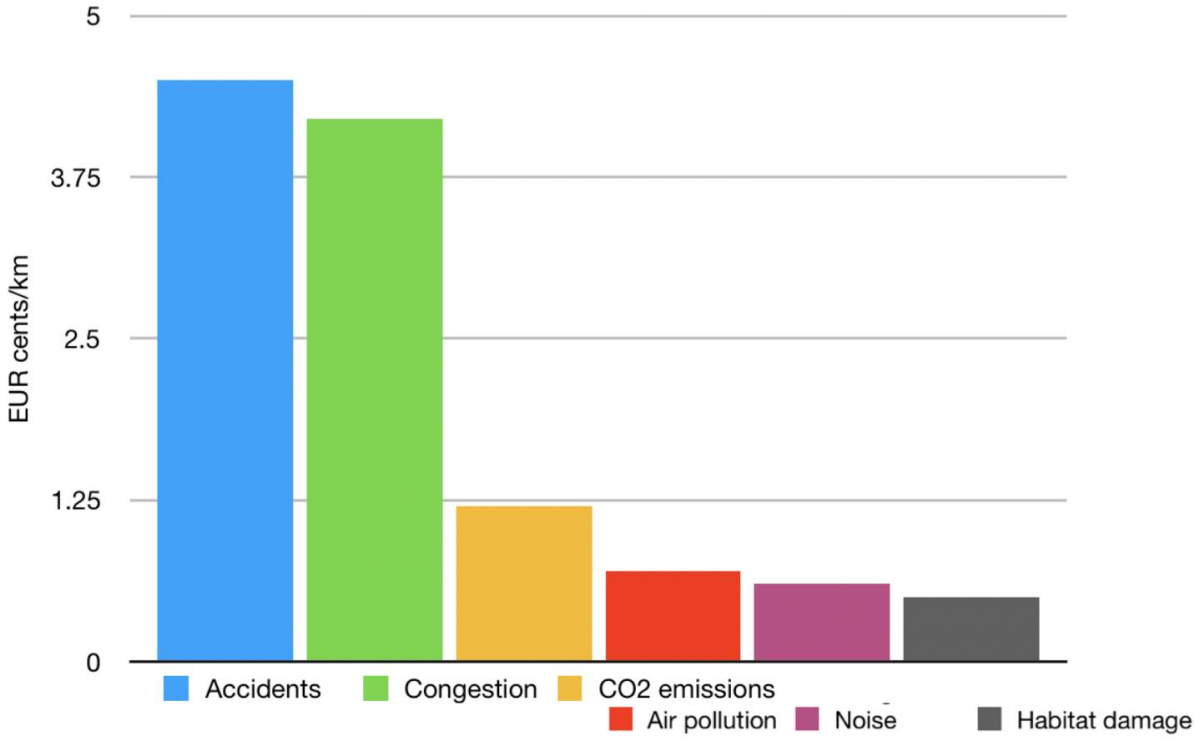

Based on European Commission (2018)

Social cost of road transport in Europe, per km, **with physical inactivity**

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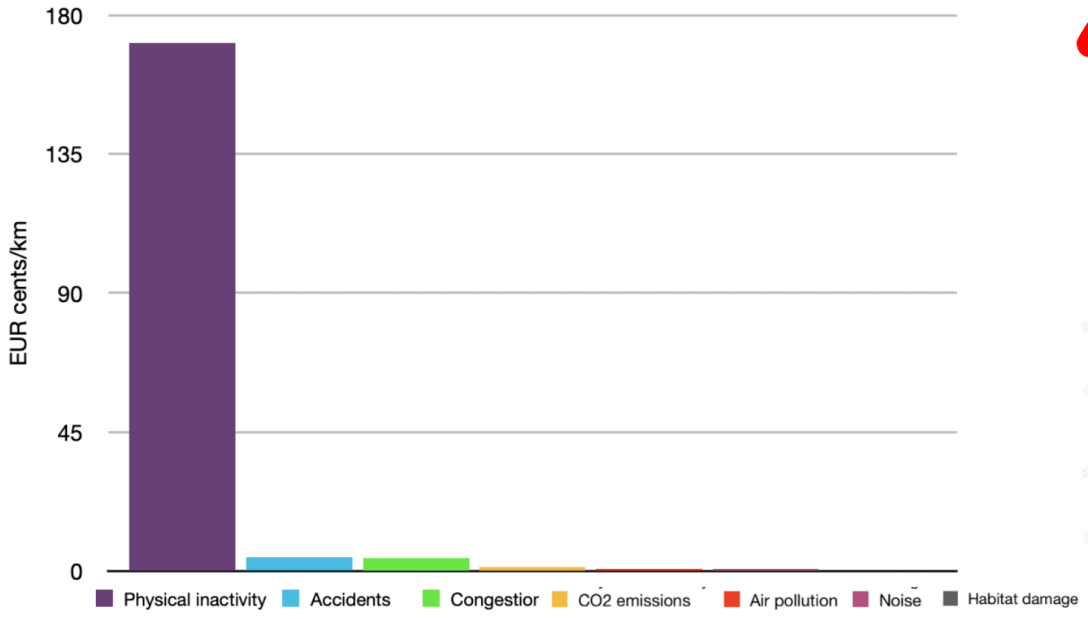
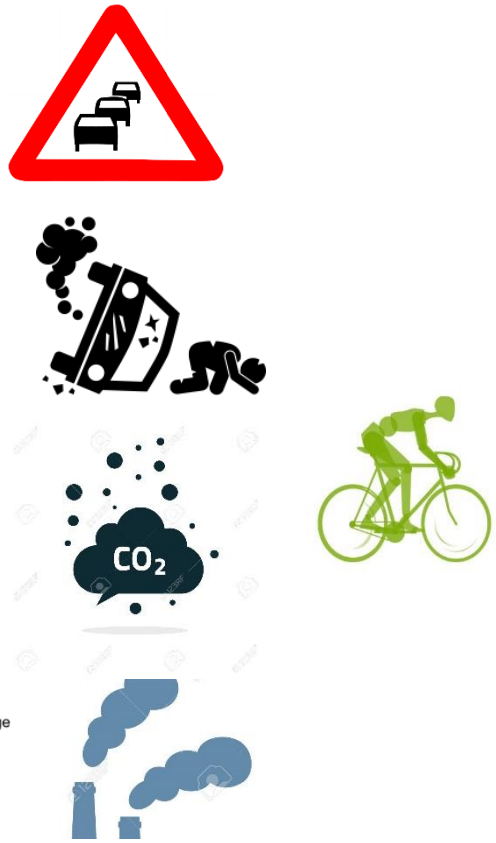


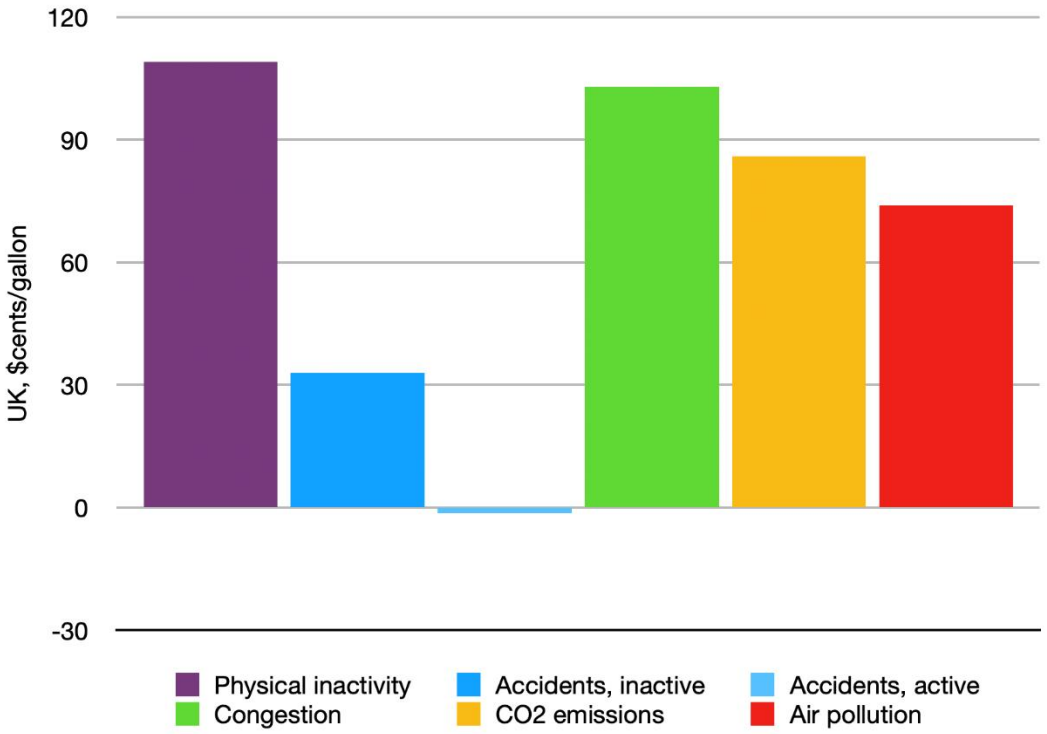


Own representation based on HEAT **per km**

Based on Kahlmeier et al. (2017)/WHO

Sulikova, van den Bijgaart, Klenert, Mattauch, 2020

Components of a second-best fuel tax in our model



Under central parameter assumptions the second-best optimal fuel tax rises by **49% in the US** and **36% in the UK**.

Sulikova, van den Bijgaart, Klenert, Mattauch, 2020

Agriculture:
What are the health-related social costs of meat?

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Externalities

- Nitrogen pollution
- Zoonotic diseases
- Biodiversity loss

"**In**ternalities"

- Higher mortality and morbidity from over-consumption of red and processed meat

Social costs cannot simply be added up, due to **interaction effects**: a carbon tax on livestock will simultaneously reduce nitrogen pollution – almost no research.

Other factors that could **constrain** the 'right' tax on meat:

Animal welfare
Learning technologies of lab-grown meat, clean meat alternatives
Distributional effects

Funke, Mattauch et al. 2020, preparation

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When is regulation by efficiency standards more equitable than carbon pricing?

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- **Regulation by efficiency (or intensity) standards, such as low-carbon fuel standards, is clearly more regressive:** Davis and Knittel (2019), Fullerton and Muehlegger (2019), Levinson (2019).

- **Stiglitz (2019):** With a uniform economy-wide carbon price, standards on some sectors might help to mitigate the adverse distributional effects of carbon pricing.

- **Economic conditions not studied by these papers:**
  - In many parts of the world that are not like the US, a car is a luxury good.
  - In an environment of motivated reasoning and low trust in government: *should the proper reference be to a tax without revenue recycling*?

Zhao and Mattauch, 2020

Incidence of efficiency standards with stronger heterogeneity assumptions on goods

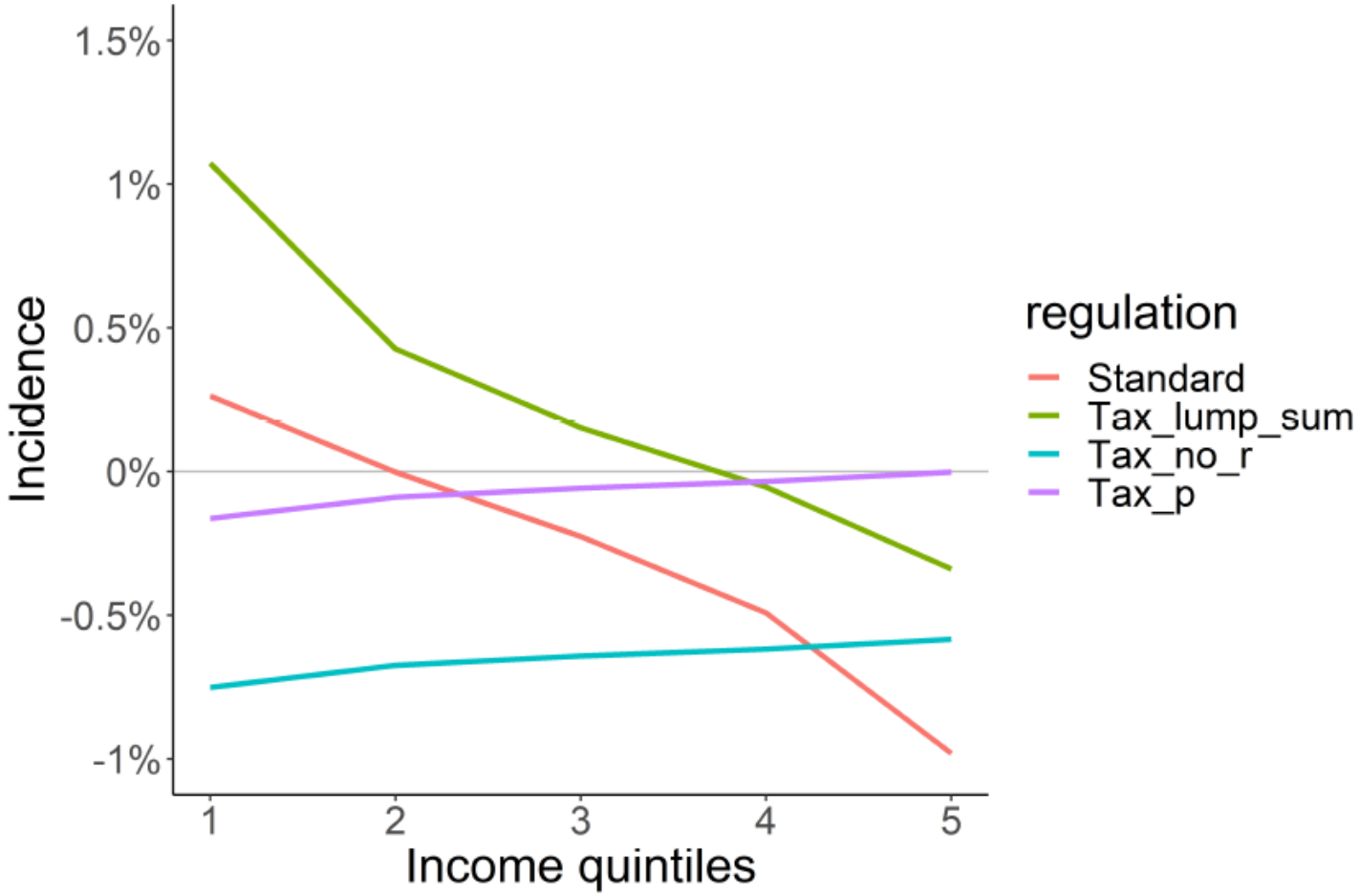
Standards have better distributional implications than taxes (with no redistribution) with:

- **Quality attributes:** richer people might buy appliances that have attributes particularly hard to decarbonise (big houses…)

- **Luxury goods:** in the same sector, a standard can at the same time regulate a subsistence and a luxury good. Incidence depends on carbon-intensity.

Zhao and Mattauch, 2020

Efficiency standard on subsistence and luxury good: Chinese car transport



Zhao and Mattauch, 2020

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Summary

- Pricing pollution is the most efficient and equitable way to reduce pollution.
- However, almost nobody finds this intuitive except economists.
- We need higher carbon prices to deliver on global climate targets. What can we say that might help their popularity?

Four attempts at a comprehensive answer

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1. Mind citizens‘ fairness views in designing pricing schemes.
2. Realise the crowding-in of intrinsic motivation, in design and communication.
3. Emphazise co-benefits beyond other externalities: „clean air fee“ and „animal welfare levy“ sound better than „congestion pricing“ and „carbon tax on meat“.
4. In governance situations, in which progressive revenue-recycling is not to be expected, regulating pollution by efficiency standards may well be more equitable.

The perenial unpopularity of Pigouvian taxes

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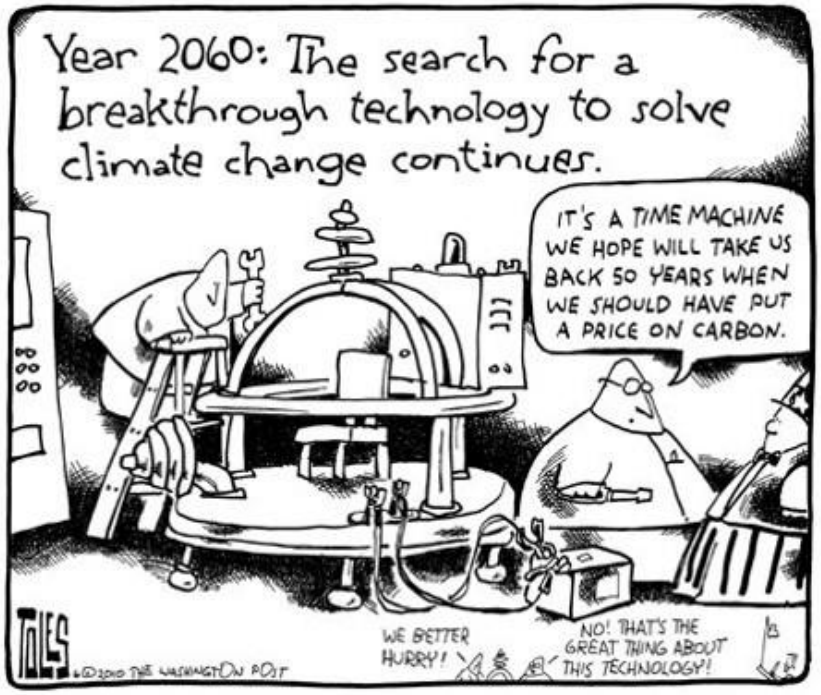
When is it worth advocating for pricing pollution and when is it not ?

Not on efficiency grounds but on grounds of likelihood of political success??



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Own papers

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