Co-dynamics of climate policy stringency and public support

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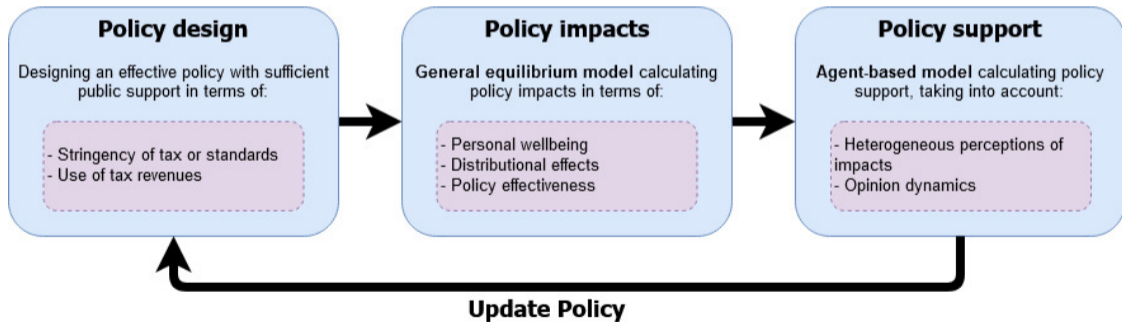Contact: ivan.savin@uab.cat

RQs & Model structure

Which policy trajectories and revenue uses allow achieving a predetermined mitigation target while ensuring sufficient public support over time?

Role of peer pressure and income inequality in obtaining public support for climate policy?

Policy design

Designing an effective policy with sufficient public support in terms of:

- Stringency of tax or standards
- Use of tax revenues

Policy impacts

General equilibrium model calculating policy impacts in terms of:

- Personal wellbeing
- Distributional effects
- Policy effectiveness

Policy support

Agent-based model calculating policy support, taking into account:

- Heterogeneous perceptions of impacts
- Opinion dynamics

Update Policy

Policy design

- Two policies: efficiency standards and carbon taxation

- Three uses of carbon tax revenues:
  - Progressive transfers
  - Labor tax reduction
  - Green spending

- Increase rate if 50%+ support the policy, freeze rate otherwise
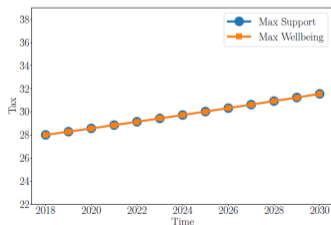
Policy impacts

- GE with two firms (Klenert et al., 2018; Jacobs and van der Ploeg, 2019)

- Households with heterogeneous productivity and carbon intensity of consumption (Büchs and Schnepf, 2013)

- Impacts on
  - personal wellbeing: variation in utility
  - distributive effects: changes of the utility distribution
  - policy effectiveness: comparison between emissions and remaining carbon budget
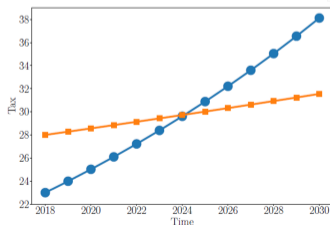
Policy support

- The weights of policy indicators on support estimated from survey data (Maestre-Andres et al., 2021) and depend on political ideology of agents

- Agents are influenced by their peers in a social network: richer agents have higher influence because of more ties (Gilens and Page, 2014; Berthe and Elie, 2015)

- Agents are resistant to change their initial support about the policy (Howe and Krosnick, 2017; Douenne and Fabre, 2019)
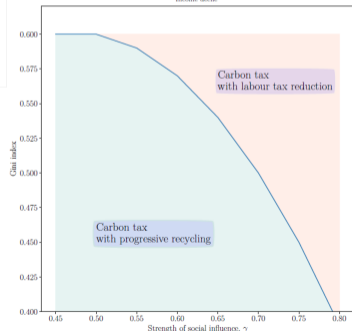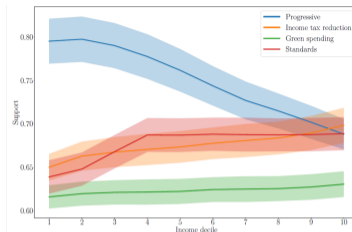
Main results

Policy	Maximum support	Maximum well-being effects	Maximum distributional effects	Maximum effectiveness
Carbon tax with:				
Progressive recycling	0.76	0.58	0.64	1
Labor tax reduction	0.66	0.49	0.46	1
Green spending	0.62	0.30	0.49	1
Standards	0.65	0.47	0.46	1

(a) $\delta = 0$

(b) $\delta = 0.5$

Outlook

- More surveys that link impacts of climate policies to their support, incl. data before and after an increase in policy stringency and testing the relation in different country contexts

- Allow for biased perception of policy impacts due to media framing or incomplete information from social networks

- Consider policy mixes instead of single policies