POLICY INSTRUMENTS FOR THE ENVIRONMENT (PINE)

Maxwell Andersen (IHEID/OECD) & Laura Nowzohour (IHEID)

OCDE
DES POLITIQUES MEILLEURES POUR UNE VIE MEILLEURE

Outline

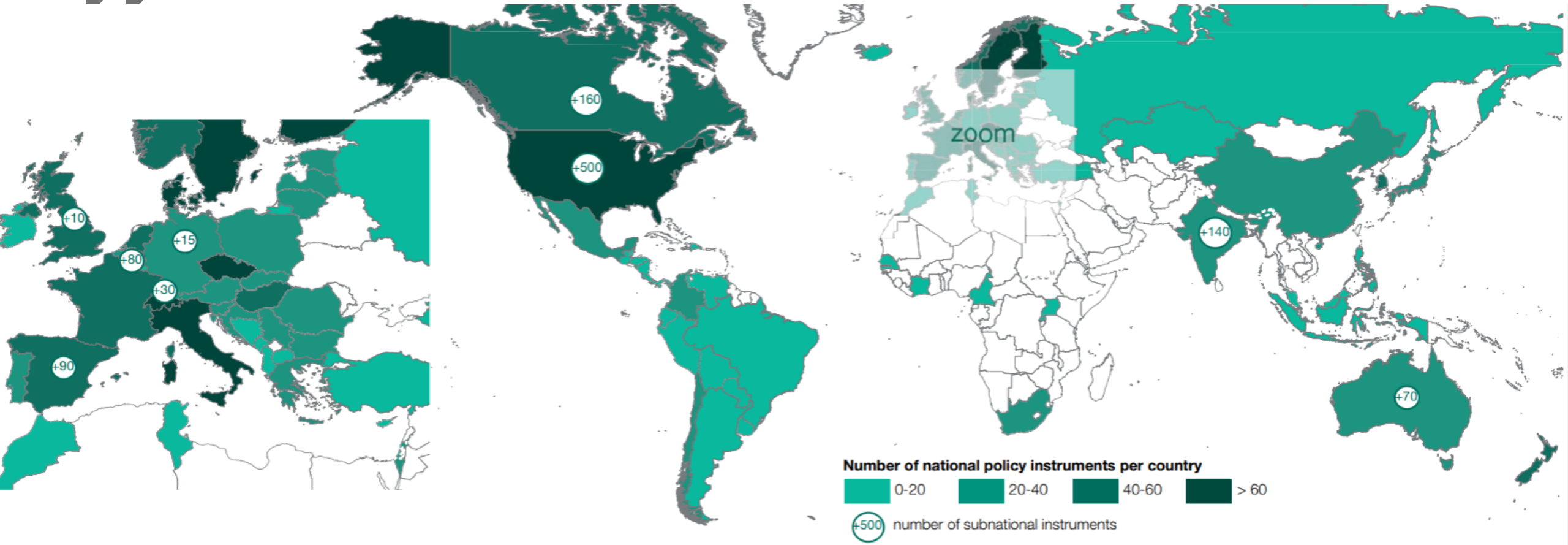
- Coverage, contents & limitations
- The case of Switzerland
- The case of Germany
- Ways forward
- Q&A

COVERAGE, CONTENTS & LIMITATIONS

Coverage of PINE

- List of market-based environmental policies containing key information.
- Both national and subnational policies.
- Information at sectoral level (*who is regulated?*) as well as domain level (*what is the policy targeting?*).
- Coverage is best in OECD countries.

Geographical coverage of PINE



Contents of PINE

- Example: taxes.

- Contains information on (*inter alia*):
  - Tax rates
  - Tax base (what is taxed)
  - Repeal/revision timing
  - Sectoral coverage
  - Environmental domain coverage
  - Tax exemptions
  - …

PINE Instability Variables

Proxy for…	Measure
Policy Stability	Official information on years of policy revisions/repeals
Policy Complexity	Number of policy exemptions/subschemes

Limitations of PINE

- **Only market-based policies**: standards, command and control regulation, public R&D spending, etc. are not included.
- **Collection issues**: reporting of data is not mandatory and thus often irregular.
- **Incomplete information**: not all policies or policy modifications or discontinuations are collected.
- **Only policy (in)stability**: limited depth of information due to binary nature (modified/not modified).

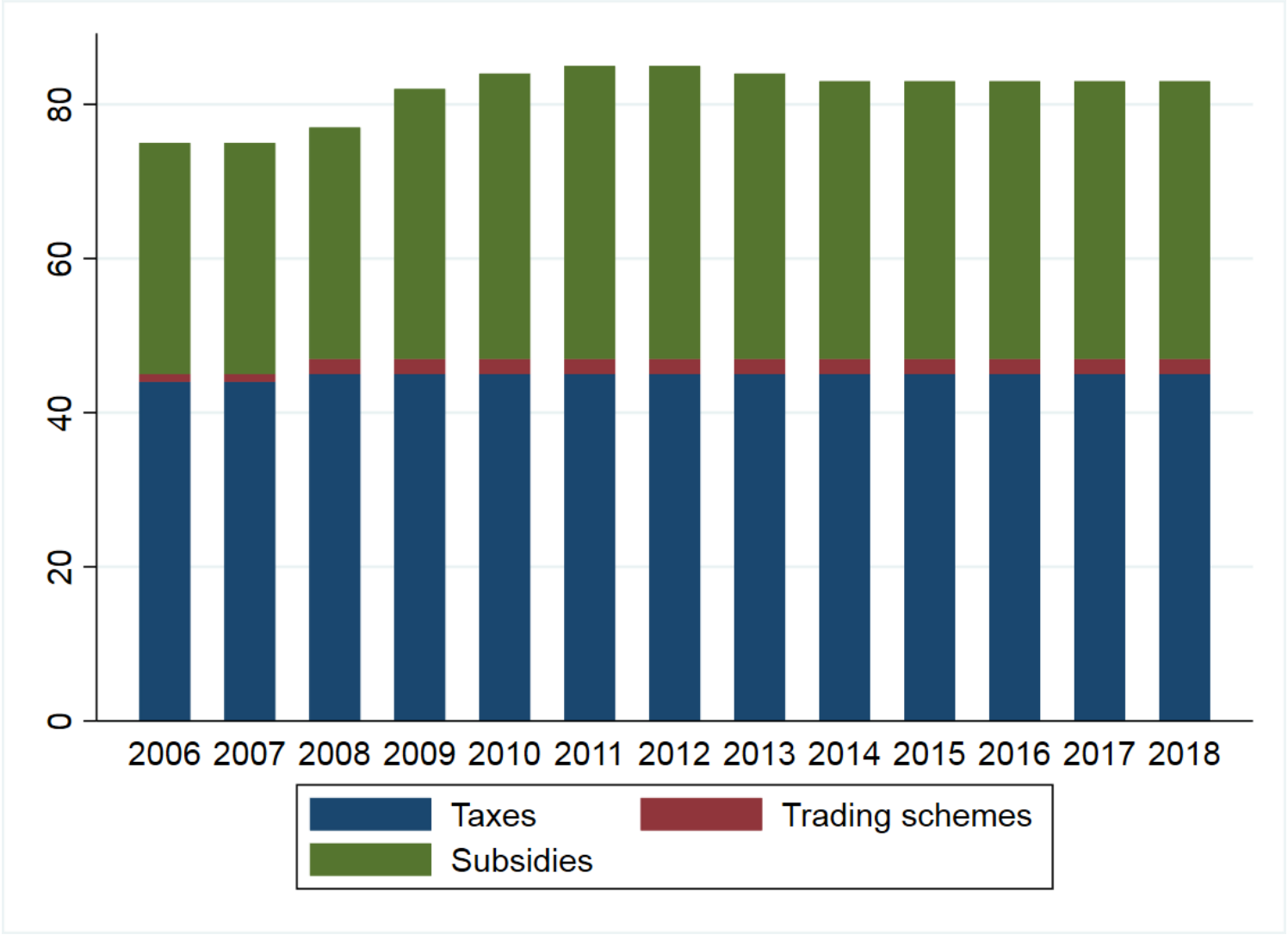
THE CASE OF SWITZERLAND

PINE: The case of Switzerland

- Regime is currently based on taxes, trading schemes, and subsidies.
- Composition has stayed fairly stable.
- Large revisions of policies in 2008 (carbon tax, carbon trading scheme).
- Overall, quite stable Swiss environmental policy, even when we take into account repeals.

PINE: The case of Switzerland

Total Swiss policies, by type

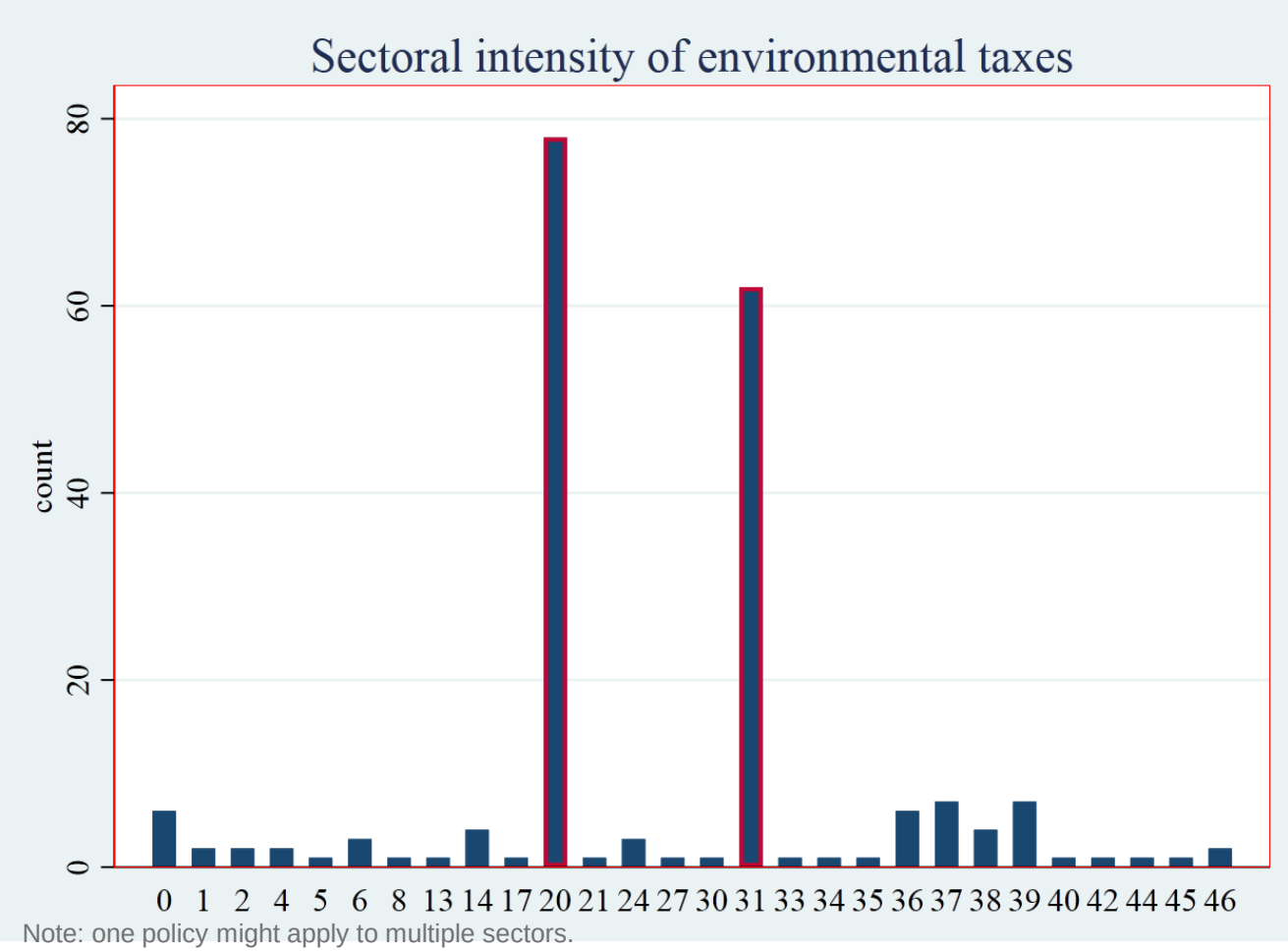


Switzerland – Policy Regime

- Previous shows what is driving change in total schemes.
- PINE allows identification of policies that changed, instead of “there were large reforms in 2008”.
- Some limitations, however.

THE CASE OF GERMANY

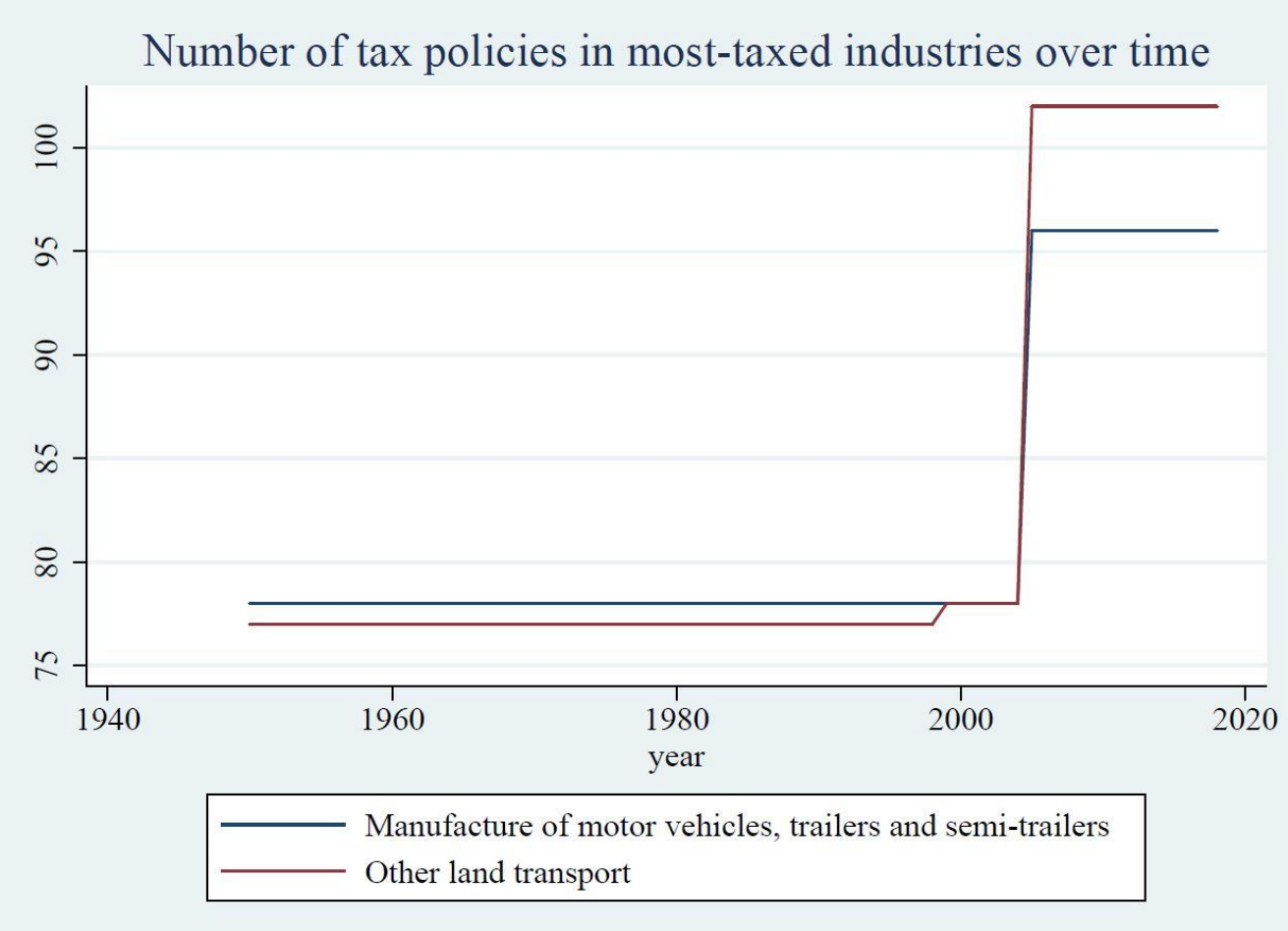
PINE: The case of Germany



Note: one policy might apply to multiple sectors.

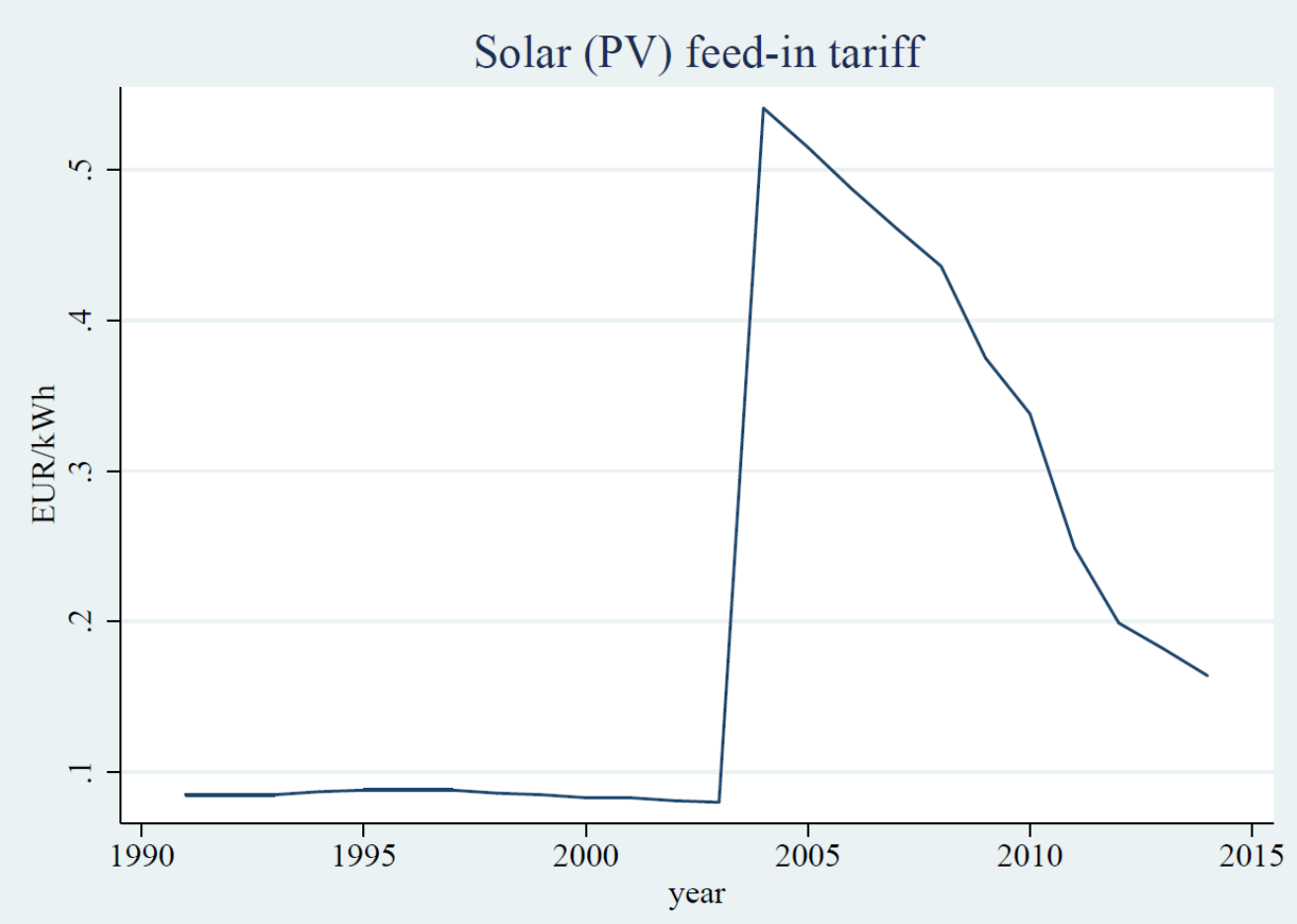
Tax policies are unevenly distributed across sectors: Few sectors face on average many taxes (40-65) while most face few (up to 15).

PINE: The case of Germany



Number of tax policies jumped in the most-taxed sectors in 2005.

PINE: the case of Germany



The intensity of solar feed-in tariffs jumped in 2003 and has progressively declined since then.

PINE: the case of Germany

- PINE contains information on different layers of detail
  → complex database.

- For Germany, this allows us to observe major movements in policy intensity (subsidies) and their cross-sectoral distribution (taxes).

- Caveat: do not observe intensity of tax burden over time because we do not have numbers on tax base.

WAYS FORWARD

Our plan to use PINE

- Create a variable that counts policy discontinuity as a proxy for policy uncertainty for selected OECD countries, possibly limiting scope to few sectors.
  - Robustness check for our newspaper-based policy uncertainty measure.
  - Reconcile movements in the uncertainty index with particular policies.

- Caveat: an observed policy discontinuation might have been anticipated and thus not been a reflection of uncertainty.

Q&A

Questions

- As members of the business community, what do you perceive to be the greatest source of policy uncertainty?
  - Policies with many revisions?
  - Policies with a large number of exemptions?
  - Policies with a large number of different specific taxes/tax rates?
- Where does the main environmental regulatory uncertainty burden come from?

The End.

Thank you for your attention.

Appendix

PINE: Sectoral decomposition

Sector	Sector ID
Unclassified	0
Agriculture, hunting and forestry	1
Air transport	2
Alcoholic beverages, tobacco and narcotics	3
Collection, purification and distribution of water	4
Construction	5
Electricity	6
Extraction of crude petroleum and natural gas, and incidental service, ex. surveying	7
Fishing	8
Food	9
Fuels and lubricants for personal transport equipment	10
Gas	11
Glassware, tableware and household utensils	12
Heat energy	13

PINE: Sectoral decomposition

Sector	Sector ID
Liquid fuels	14
Manufacture of basic metals	15
Manufacture of chemicals and chemical products	16
Manufacture of coke, refined petroleum products and nuclear fuel	17
Manufacture of food products and beverages	18
Manufacture of gas; distribution of gaseous fuels through mains	19
Manufacture of motor vehicles, trailers and semi-trailers	20
Manufacture of other transport equipment	21
Manufacture of paper and paper products	22
Manufacture of rubber and plastics products	23
Manufacturing	24
Mining of coal and lignite; extraction of peat	25
Mining of metal ores	26
Mining of uranium and thorium ores	27

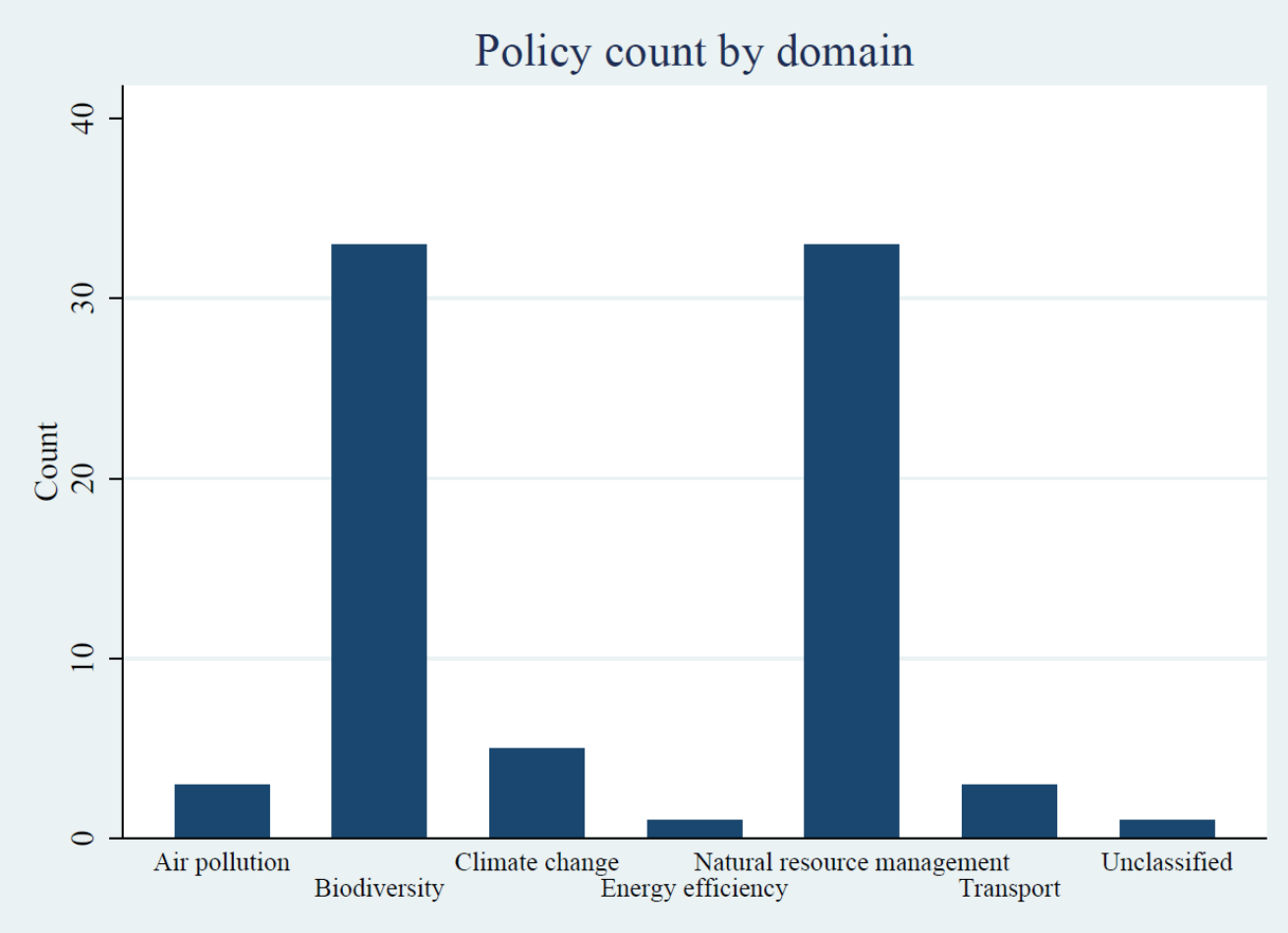
PINE: Sectoral decomposition

Sector	Sector ID
Newspapers, books and stationery	28
Non-alcoholic beverages	29
Other	30
Other land transport	31
Other mining and quarrying	32
Passenger transport by air	33
Passenger transport by railway	34
Passenger transport by road	35
Production, transmission and distribution of electricity	36
Purchase of Motor cars - Diesel motor	37
Purchase of Motor cars - Other motor	38
Purchase of Motor cars - Petrol motor	39
Purchase of Motor cycles	40
Refuse collection	41

PINE: Sectoral decomposition

Sector	Sector ID
Sewage and refuse disposal, sanitation and similar activities	42
Solid fuels	43
Steam and hot water supply	44
Transport via railways	45
Water supply	46

PINE: the case of Germany



Most policies in Germany were directed at biodiversity and natural resource management.