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on Environmental Taxation

COMPARATIVE STUDY OF POLICY MAKING PROCESS ON ETR / CARBON TAX BETWEEN GERMANY AND JAPAN

Shinji Onoda*[1] & Kai Schlegelmilch*[2]

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*[1] Hosei University / Japan Center for a Sustainable Environment and Society (JACSES)
*[2] Green Budget Europe (GBE)/ Forum Ökologisch-Soziale Marktwirtschaft (FÖS)

Outline

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2. Analytical viewpoint
3. German case
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5. Conclusion

Introduction

- Motivation
  - Policies are never introduced by precisely following theories or in the originally intended way.
  - To realize more preferred policies, policy making process has to be better understood and then improved.

- Germany & Japan
  - introduced ETR/carbon tax after 20 years of discussion
  - share common aspects in economic and political system
  - but tax systems are quite different (aims, tax rates, revenue spending, etc.)

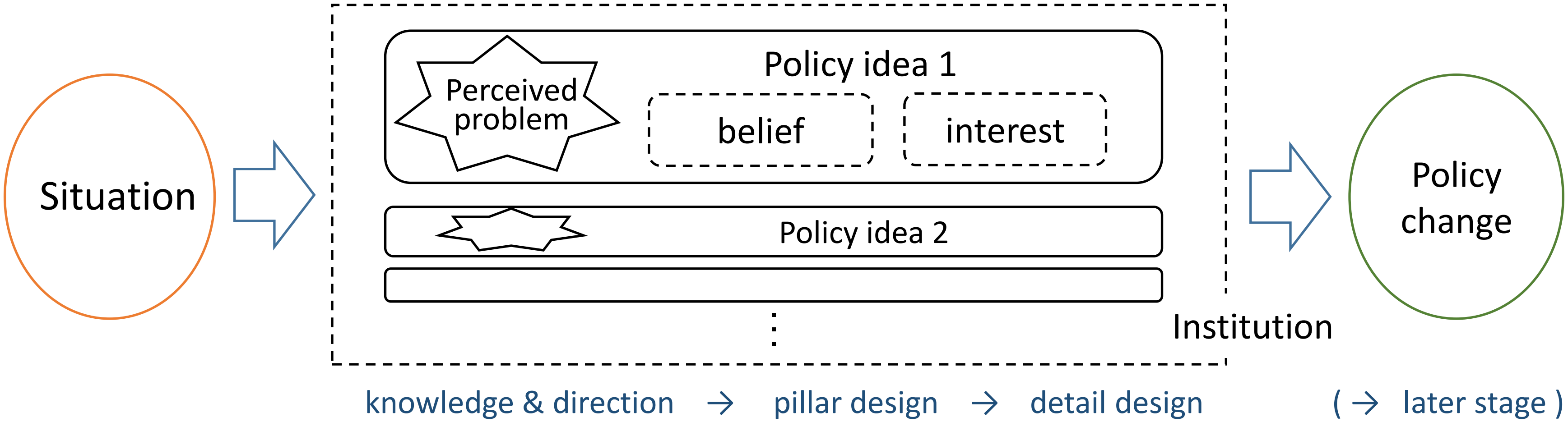
→ by investigating the policy making processes, try to reveal
  - reasons behind the introduced tax systems
  - roles of related actors
  - characteristics of institutions
  - factors which promote, but also hinder or limit policy changes

Analytical Viewpoint

- Policy making as policy change

- What kind of policy change? → Peter Hall's 3 distinction
  - 1st order: instrument setting (e.g. adjustment of budget)
  - 2nd order: 1st + instrument change (e.g. introduction of new system of monetary control)
  - 3rd order: 2nd + overall goals (e.g. from Keynesian to monetarism)

- How policy change occurs? → Institution, Idea, Interest
  - Institution: official and unofficial rules and procedures that impose constraint conditions on actor's behavior
  - 2 types of Idea: "belief" for deeper idea that relates to a sense of value such as justice and ideology, "policy idea" for technical/instrumental idea



German Case

(DE) Knowledge Accumulation & Direction Setting in 1983-1998

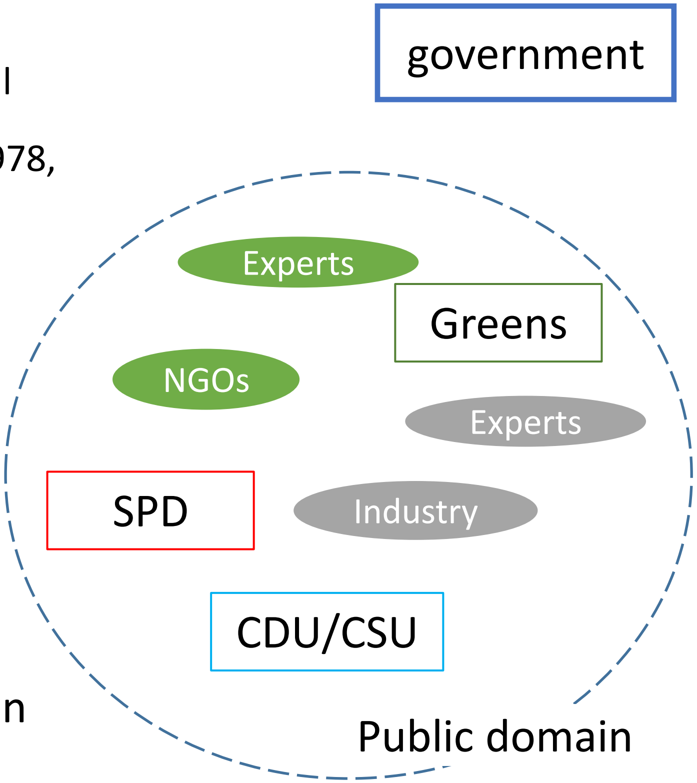
- 1978/1983, invention of ETR to cope with unemployment and environmental problem together

- 1st debate
  - In 1988, triggered by the Heidelberg based Environment and Prognosis Institute’s (UPI) proposals, then followed by many.
  - Political parties also made own proposals.
  - Mainly 2 types: (1) spending all tax revenue for environmental protection measures; (2) utilizing tax revenue neutrally to reduce other taxes in line with Binswanger’s ETR idea from 1978, which was gradually implemented, due to concerns of ineffective budget spending and burden on people
- 2nd debate
  - In 1994, triggered by German Economic Research Institute (DIW) on behalf of Greenpeace
  - Opposition from energy intensive companies
  - Establishment of FÖS (GBG)
  - Greens changed their proposal from an overall revenue increase type to ETR
  - Helmut Kohl’s promise to BDI not to introduce an ETR

→ Independent research initiated and supported discussion

→ Parties learned and refined their policy ideas through communication in public domain

→ choice of ETR partly reflects preferences of society

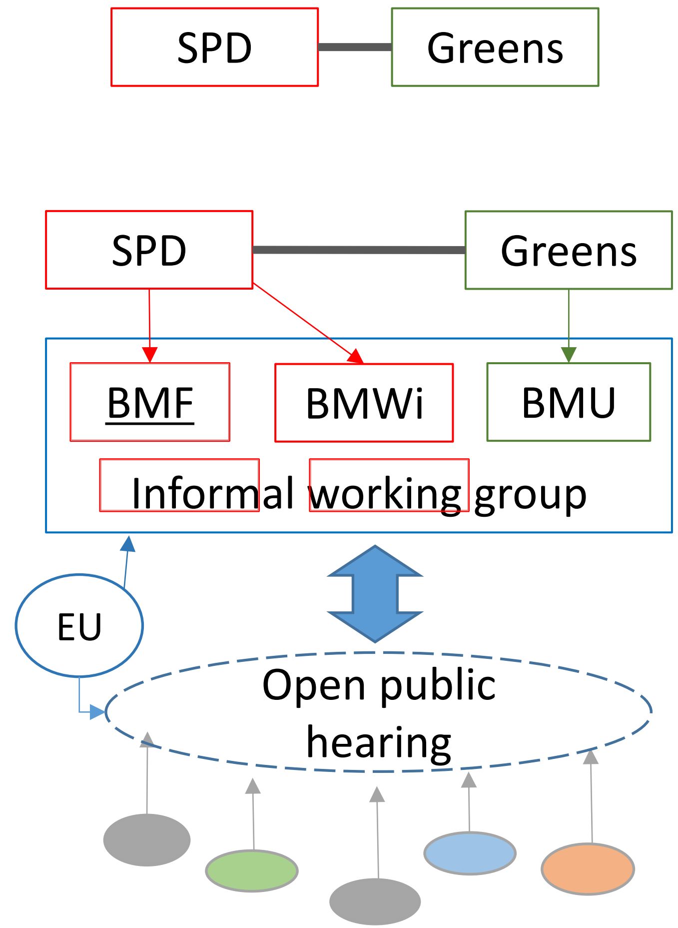


(DE) Pillar and Detailed Design in 1998

- Pillar design, i.e. taxable objects, tax rate, revenue usage, etc., was conducted through coalition discussion between SPD and the Greens
  - Made coalition agreement within 2 weeks
  - Schröder's 6 pfennig declaration was decisive
  - Adjusted other taxable objects to reduce social security contributions from 42.3% to less than 40%.
  - Divided introduction in 1999 and continuation work later
- Detail design was conducted on ministries' working level.
  - BMF took a central role and discuss with other related ministries in timely manner.
  - Politicians and interested groups were originally indirectly involved, later also directly, but political intentions of ruling parties were well reflected.
  - Greens were willing to accept exemptions for 27 energy intensive sectors and a tax on renewable electricity in exchange for introducing a promotion fund measure for RE.
  - Then EU said no for complete tax exemption for energy intensive companies.
  - Public hearings were held to hear opinions from experts and interest groups and somewhat improved draft bill

→ New government utilized window of opportunity

→ Securing social security contributions, Schröder's declaration and EU rule became constraint conditions.



BMF: Federal Ministry of Finance
BMWi: Federal Ministry for Economic Affairs and Energy
BMU: Federal Ministry for the Environment

(DE) ETR since 1999

- ETR, world oil price increase and stronger USD-exchange rate brought gasoline price increase sharply.
- Oppositions blamed entire increase due to ETR, though only 25% were caused by 1st two steps of ETR
- Protests occurred in 2000 to abolish ETR, but Schröder continued ETR to lower the unemployment
- Together with the last step of the ETR in 2003, light oil heating fuel taxes were increased.
- Greens succeeded to launch a program for supporting housing renovations
- ETR was then extended to an Environmental Fiscal Reform, but protests are still in bad memory of many politicians until today

<table>
<tr><th>Introduced and continued law</th><th>Tax rate</th></tr>
<tr><td>1.Apr.1999:
“Gesetz zum Einstieg in die ökologische Steuerreform”: Law launching a reform</td><td rowspan="3">▪ Steady increases in 1999-2003:
Electricity tax 1.02 Ct/kWh in 1999
(+0.26 Ct/kWh p.a. between 2000-2003)
Mineral oil taxes on transport fuels:
(+3.07 Ct/litre p.a. between 1999-2003)

▪ Single increase in 1999 (+2003) only:
Tax on natural gas + 0.16 Ct/kWh
(+0.2 Ct/l in 2003)
Tax on light heating oil: + 2.05 Ct/litre</td></tr>
<tr><td>1.Jan.2000:
“Gesetz zur Fortführung der ökologischen Steuerreform”: Law continuing the reform from 2000 to 2003</td></tr>
<tr><td>1.Jan.2003:
“Gesetz zur Fortentwicklung der ökologischen Steuerreform”: petroleum tax rates on natural gas, LPG and heavy heating oil were raised</td></tr>
</table>

Japanese Case

(JP) Energy-related taxes and its revenue spendings before 2003

extraction and import stage

<Petroleum tax>
Petroleum: JPY 2040/kl
Liquefied petroleum gas (LPG): JPY 670/t
Liquefied natural gas (LNG): JPY 720/t

*Revenues for oil and enhancement of the energy supply-demand structure by METI from Special Account for Petroleum*1*

product stage

<Gasoline tax>
JPY 53800/kl (incl. JPY 25100 /kl as provisional tax rate)

<Diesel oil delivery tax>
JPY 32100/kl (incl. JPY 17100/kl as provisional tax rate)

<LPG tax> (for cars)
JPY 9800/kl

*Revenues are used by MLIT from Special Account for Road Improvement*2*

<Aviation fuel tax>
JPY 26000/kl

*Revenues are used by MLIT from Special Account for Airport Improvement*2*

(no tax)
Naphtha, kerosene, heavy oil

<Promotion of power-resources development tax> (for electricity from any sources)
JPY 0.445/kWh

*Revenues mainly for nuclear promotion by METI & MEXT from Special Account for Electricity*1*

consumption stage

consumption tax 5%

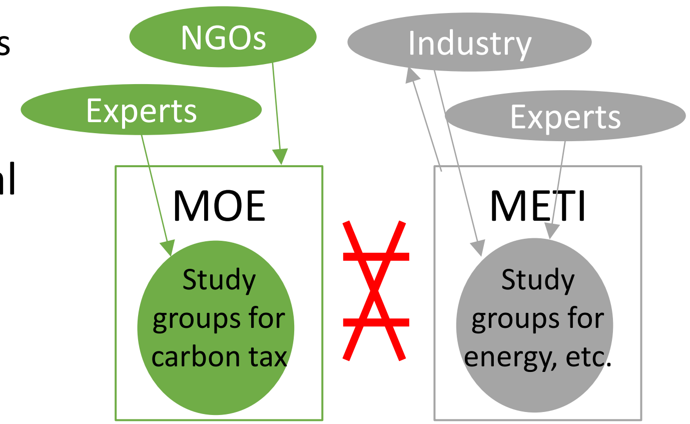
by MOF

*1: Both accounts were combined and became Special Account for Energy Policy in 2007

*2: Both accounts with other 3 accounts were combined and became Special Account for Social Infrastructure Improvement in 2008 and then abolished in 2013

(JP) Knowledge Accumulation & Direction Setting in early 1990s-2009

- Started consideration early 90's, led by MOE
  - MOE and other ministries set study groups.
  - Researchers/research institutions participated in study groups or stayed in the academic field.
- In 2003, agreement between MOE and METI made transformation of petroleum tax into petroleum and coal tax.
  - MOE and METI decided not to call this "carbon tax"
  - Increased revenues were used for energy-oriented CO2 reductions by METI and newly by MOE, e.g. buying Kyoto credits, enhance RE and energy savings
- At the same time, Promotion of Power-Resources Development tax was reduced.
- Increase and decrease tax rates gradually, Total tax revenue remained the same.



MOE: Ministry of the Environment
METI: Ministry of Economy, Trade and Industry

	~Oct.2003	Oct.2003~	Apr.2005~	Apr.2007~
Coal (per ton)	0	JPY230 (1.64€)	JPY460 (3.29€)	JPY700 (5.0€)
LPG (per ton)	JPY670 (4.79€)	JPY800 (5.71€)	JPY940 (6.71€)	JPY1080 (7.71€)
LNG (per ton)	JPY720 (5.14€)	JPY840 (6.0€)	JPY960 (6.86€)	JPY1080 (7.71€)
Petroleum (per kl)	JPY2040 (14.57€)	JPY2040 (14.57€)	JPY2040 (14.57€)	JPY2040 (14.57€)
Electricity (per kWh)	JPY0.445 (0.32¢)	JPY0.425 (0.30¢)	JPY0.400 (0.29¢)	JPY0.375 (0.27¢)

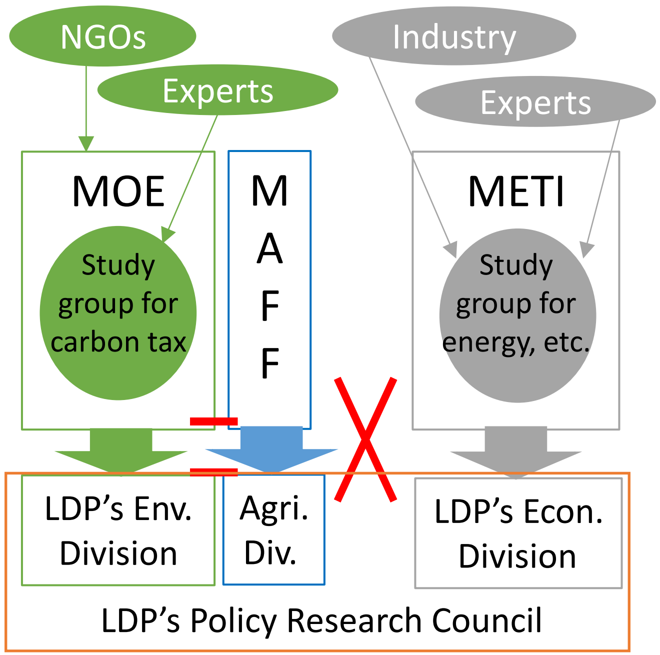
* Calculated with exchange rate of JPY140 = 1€

(JP) Knowledge Accumulation & Direction Setting in early 1990s-2009

- After 2004, MOE and MAFF started cooperation to confront METI's opposition
- NGO's revenue neutral ETR proposal were not heard.
- Political parties relied on inputs from ministries.
- Env. division and agr. division of LDP presented a carbon tax proposal, extremely resembled MOE's proposal.
- Same conflicting structure among ministries were formed within the ruling party.

→ knowledge accumulation & considering policy ideas were done through the filers of ministries, which hindered public discourse and lowered possibility of ETR

→ Petroleum and coal tax are institutionalized and influenced later discussion



LDP: Liberal Democratic Party
MAFF: Ministry of Agriculture, Forestry and Fisheries

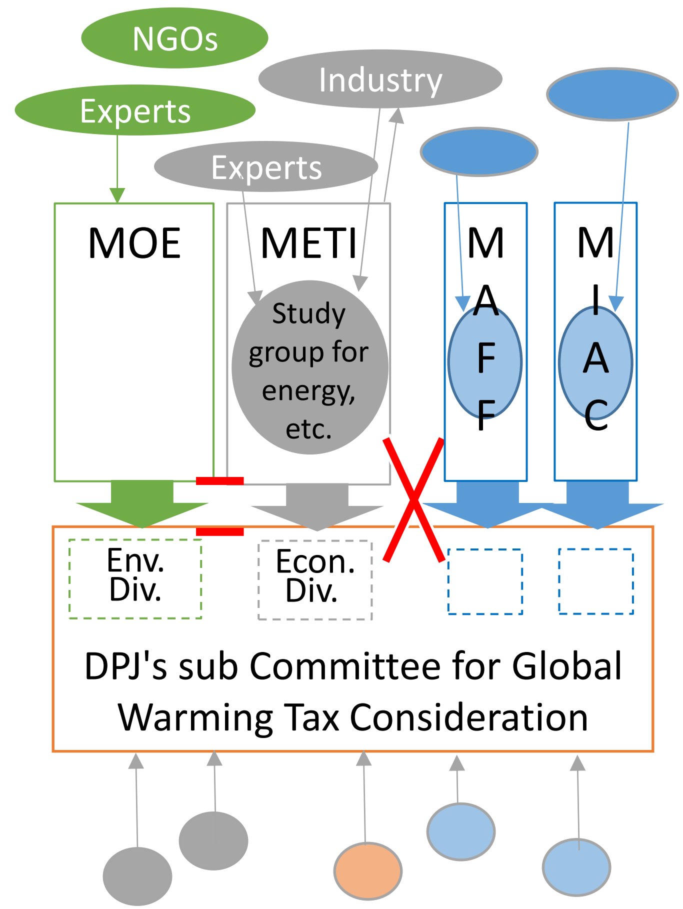
(JP) Pillar and Detail Design in 2010

- Sep.2009, DPJ formed a new coalition government
  - with a vague coalition agreement
  - DPJ promised to consider a carbon tax, abolish provisional tax rates on gasoline tax and diesel tax, establish FIT & ETS, etc.
  - Dec.2009, decided to make a concrete proposal of carbon tax in 2010 and keep provisional tax rates on gasoline tax and diesel tax, after political confusion.
- End of Sep.2010, DPJ formed Sub Committee for Global Warming Tax Consideration
  - Members were chosen from related division
  - asked MOE and METI to consider reasons for introducing carbon tax. Both proposed to utilize Petroleum and Coal tax.
  - Energy Basic Plan became the reason of tax rate setting.
  - Budget effect was chosen to explain revenues are effectively used, price effect was seen unreliable.
  - MAFF and MIAC demanded revenue, but declined.
- No opportunity to hear public opinion, Individual interest groups directly went to talk with sub committee members, NGOs stayed quiet

→ 2 coalition partners made little influence.

→ Pillar design were again made through filter of ministries

→ choice of budget effect partly reflects preferences of society



DPJ: Democratic Party of Japan
MIAC: Ministry of Internal Affairs and Communications

(JP) Carbon Tax decided in 2010

	~Oct.2012	Oct.2012~	Apr.2014~	Apr.2016~
Coal (per ton)	JPY700 (5.0€)	JPY920 (6.57€)	JPY1140 (8.14€)	JPY1370 (9.79€)
LPG (per ton)	JPY1080 (7.71€)	JPY1340 (9.57€)	JPY1600 (11.43€)	JPY1860 (13.29€)
LNG (per ton)	JPY1080 (7.71€)	JPY1340 (9.57€)	JPY1600 (11.43€)	JPY1860 (13.29€)
Petroleum (per kl)	JPY2040 (14.57€)	JPY2290 (16.36€)	JPY2540 (18.14€)	JPY2800 (20.0€)
Provisional tax rates on gasoline tax & diesel tax	Keep: JPY 25100/kl (179.29€/kl) in gasoline, JPY 17100/kl (122.14€/kl) in diesel			

* Calculated with exchange rate of JPY140 = 1€

- This time, call as “Carbon tax“ (officially “Tax for Climate Change Mitigation”)
  - Carbon tax came as additional tax increase, but part of Petroleum and Coal tax
  - Tax rate corresponding to the amount of CO2 emissions for all the fossil fuels (JPY 289/t-CO2 (2.06€/t-CO2)).
  - Planned revenues are JPY 39.1 billion (0.28 billion euro) for 1st year / JPY 262.3 billion (1.87 billion euro) eventually.
  - Revenues are used by MOE & METI for energy-oriented CO2 reductions., e.g. installation of energy-saving equipment, Green New Deal Funds
- After nuclear disaster and increase of fossil fuel usage, revenues became much more than expected.

Conclusion

- Germany
  - made 2nd or higher order policy change as they brought a new instrument to send price signal and intended tax shift from labor to environment
  - experts and independent researches as well as NGOs functioned as a basis of policy debates
  - parties were active in public discourse and used window of opportunity
  - Greens within the coalition seemed to help environmental beliefs being kept to an extent until design stage where adjusting different interests is the core of work.
- Japan
  - made 1st order policy change as budget effect was emphasized, i.e. small tax rate just to increase subsidies
  - ministries take a dominant role almost whole process and policy ideas exceeding their own jurisdictions or against their interests can rarely survive.
  - politicians just choose policy ideas presented by ministries and adjust different interests, i.e. passive and slow in policy making.
- Germany has better conditions to realize a second or third order change.
- Nevertheless, higher order policy change is not always better and right.
  - Effects of tax, especially Japanese one, have to be carefully evaluated at another time.

Thank you very much!

Contacts:

shinji-0219@hotmail.co.jp
kai.schlegelmilch@green-budget.eu