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Chaire Modélisation prospective  
au service du développement durable

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# Equity and Efficiency in a 2<sup>nd</sup> best world

## The unspoken issue in the French Carbon Tax Debate

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EAERE, Rome, June, 30<sup>th</sup>, 2011

# Behind the French failure: fears about social impacts

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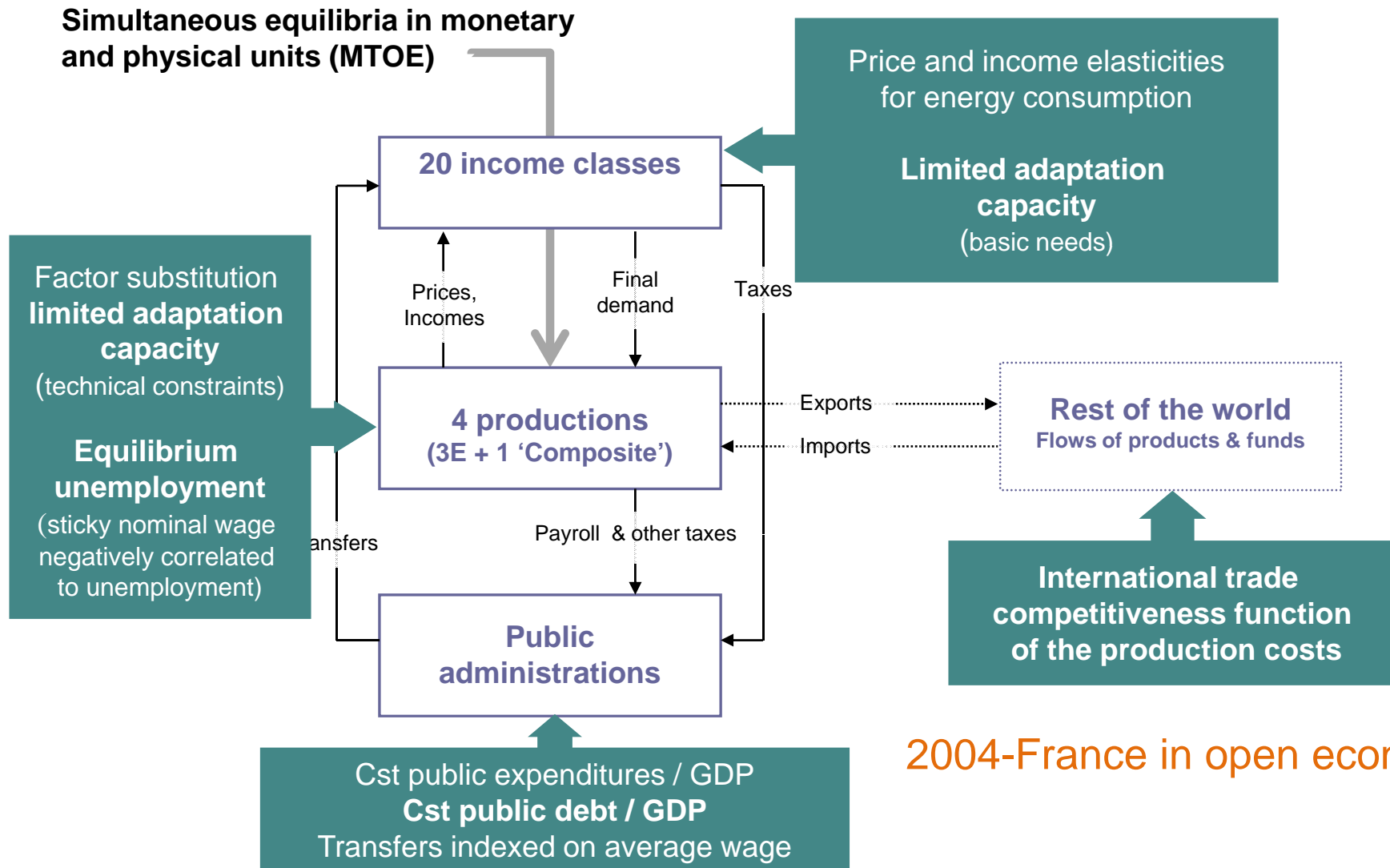
- Disagreement about the best way to limit the social cost
  - priority to reduce the adv. impact on activity & employment
  - priority to reduce the adv. impact on the purchasing power of consumers
- ... therefore about how to use the carbon tax revenue
  - Local taxes on invest. or Payroll tax cuts (Rocard report, Jun.09)
    - Trade unions agreed with a broad social negotiation
  - Direct compensations (sudden rise of the “I want my money back”, Jul.09)
    - Consumer NGOs protest, media overstatement & the “*Chèque vert*” proposal

# A comparative static analysis

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- ❑ Evaluation of long term impacts (20 years) of revenue-recycling schemes on a same set of criteria
  
- ❑ A standpoint: a study of 'the worst case' to cover misunderstandings
  - Unilateral CT without border adjustment, based only on the carbon content of all consumptions, and reaching 300€/tCO<sub>2</sub> in 2004.
  
- ❑ We simulate 'counterfactual France-2004' that are compared to a same reference situation: actual 2004-France without carbon tax

# IMACLIM-S: Key features of a '2nd best world'



2004-France in open economy

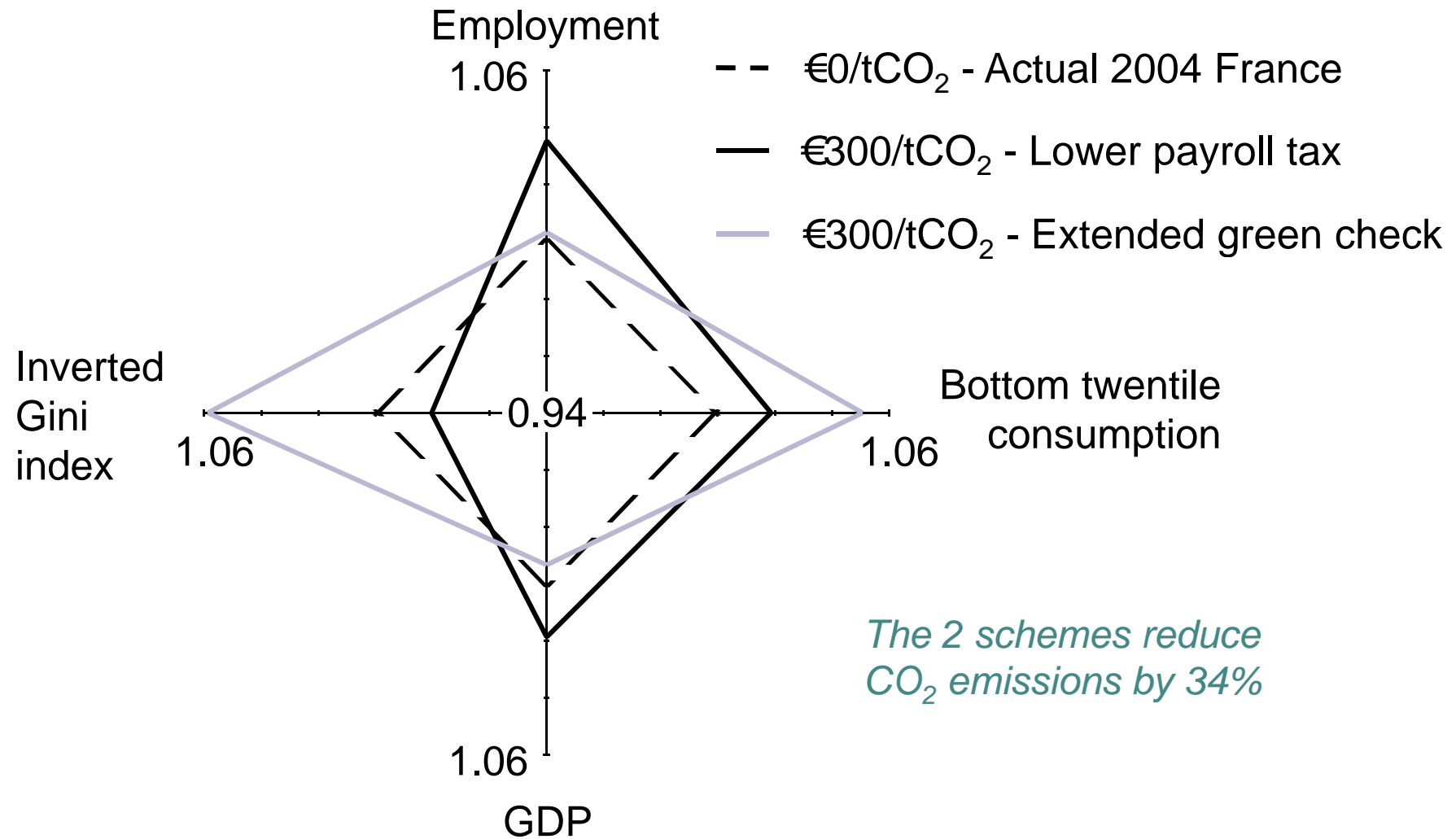
# Let us start from two polar schemes

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Revenue-recycling under the same « budget neutrality » principle

1. Lower payroll tax
2. Extended “green check”

# An equity-efficiency trade-off

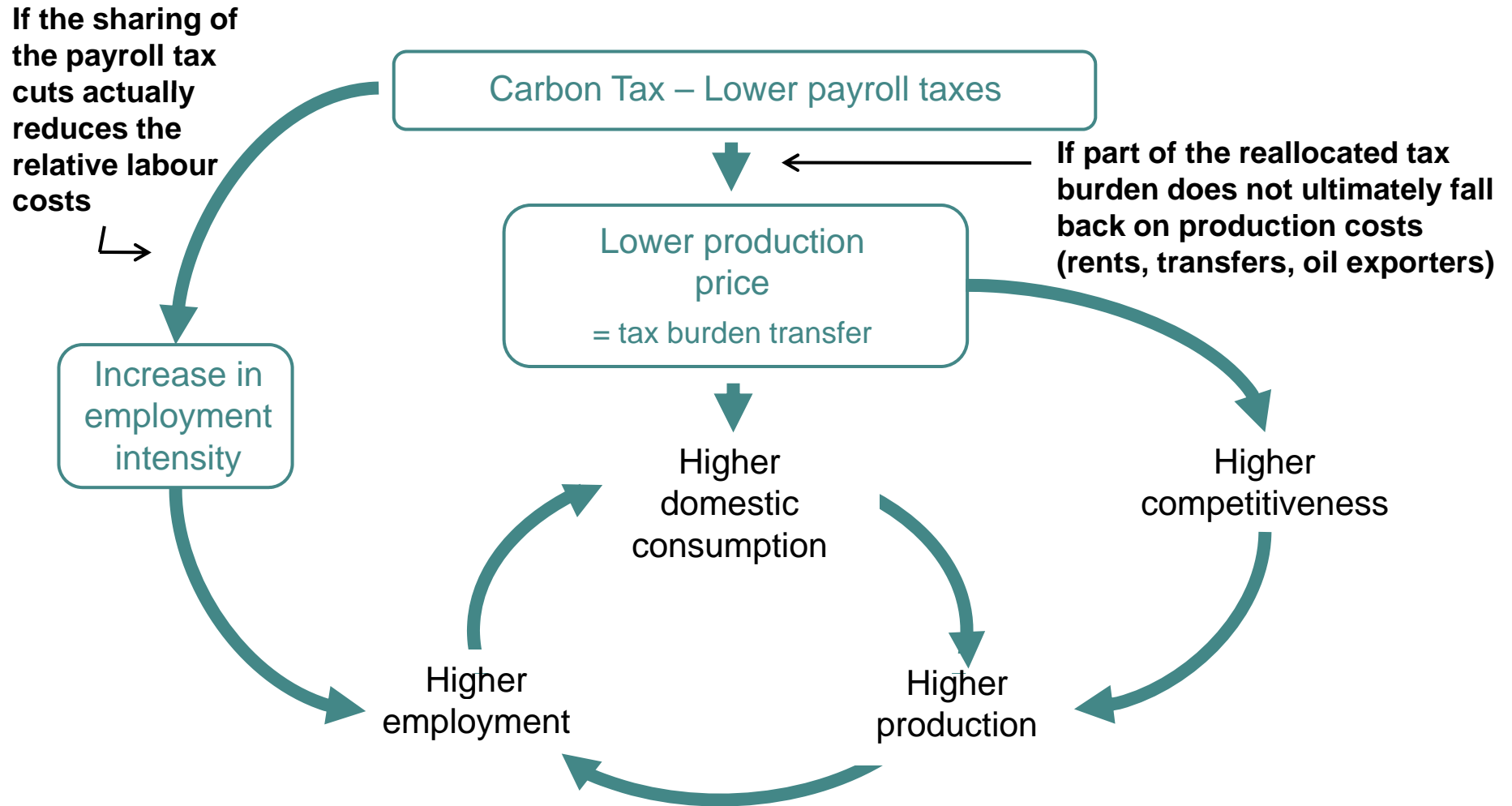


# Contrasted impacts on the production costs

€300/tCO2 and	Green Check	Lower payroll tax
Total variation	<b>+3.7%</b>	<b>-1.0%</b>
energy costs variation	+1.6%	+1.6%
net wages variation	+0.1%	+1.5%
Payroll tax variation	id.	-3.6%

- Same direct impact on the energy bill
- BUT when payroll tax are lowered:
- Limited propagation of the costs increases
  - Slight alleviation of the tax burden on production
  - Higher progression of nominal net wages

# The mechanisms at play in a field of constraints



# Poverty alleviation... at cost of higher disparities

€300/tCO <sub>2</sub> & <i>Lower payroll tax</i>	Direct impact on the energy bill	Unemployment (% points)	Disposable Income	Gini inequality index
Bottom twentile	+78.3%	-12.2	+5.4%	<b>+2.0%</b>
Top twentile	+72.0%	-0.9	+7.3%	

Main determinants:

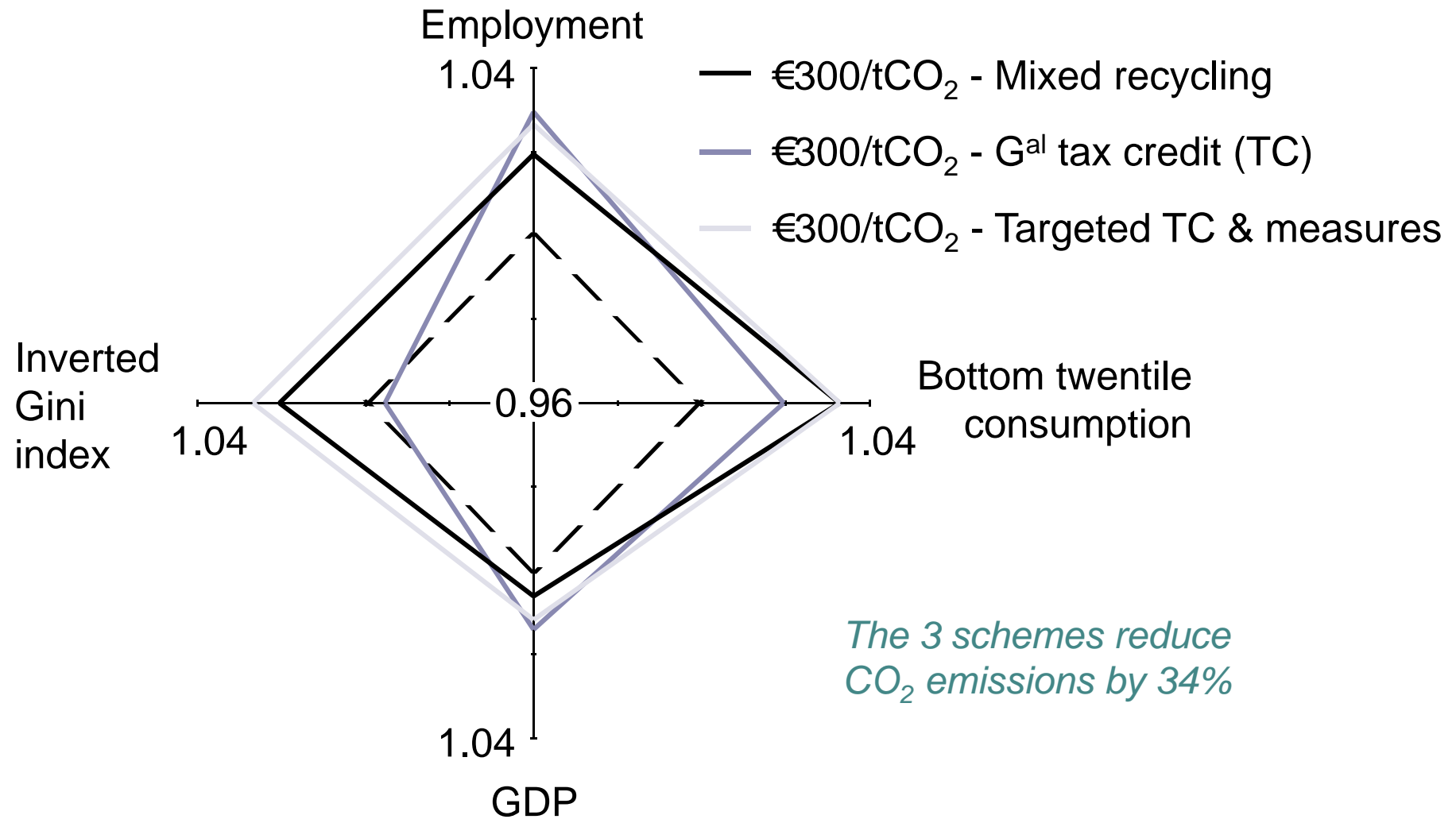
- 1) Budget share devoted to energy, energy saving potential
- 2) Initial unemployment rates, jobseeker's allowance-wage gap
- 3) Relative weights of income sources (activity, property, transfers, *etc.*)

# Three compromise schemes

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- **Mixed recycling**
  - Firms: what they paid in lower payroll tax
  - Households: what they paid in uniform green check
- **Generalised tax credit (TC)**
  - lump-sum rebate covering some levels of 'basic needs' (commuting by car + similar share of residential consumption)
- **Targeted TC & measures**
  - same tax credit limited to T1-16
  - remaining proceeds to payroll tax reduction
  - any budget margin in other accompanying measures to T1-T16

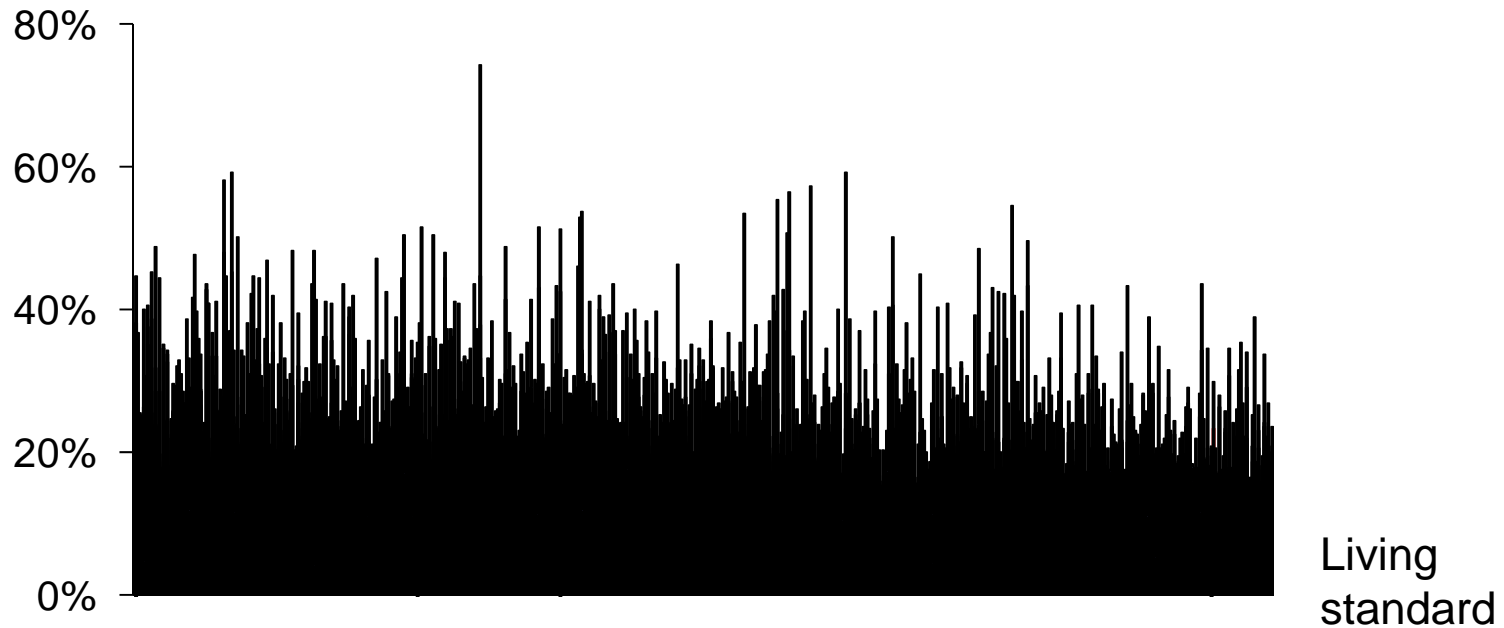
# A space for reconciling efficiency and equity



# Why the TC is 'more equitable' than the green check

Annual energy budget share

Energy vulnerability ill-explained by 'income'



10 307 households, income and expenditure survey, INSEE 2001

# Conclusion: Design & Political Economy Matter

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A carbon tax reform can produce different socio-economic outcomes

It can constitute a core for a social policy (conciliating long/short views)

- IF**
- Compensation policy (CP) is limited to the most vulnerables
  - The propagation of higher production costs is slowed down

A broad social negotiation linking climate policies with other social and economic challenges is needed to determine:

- A set of social vulnerability weights to define the 'recipients' of the CP
- A set of public priorities to define the best use of the C tax revenue

Prospective studies that link carbon mitigation, ageing, and public deficits can be helpful to frame the debates (ongoing research)

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*Papers available on my personal web page at:*

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