



Center for International Research  
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# Carbon Tax, Pensions and Public Deficits

*Lessons from a CGE modeling exercise applied to France*

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ESPAnet, Valencia, Sept, 8<sup>th</sup>, 2011

# The terms of the debates & the limits of the analyses

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By 2020, according to the evaluation of the pension system:

- "No action" will lead to a high cumulated deficit (>385 billions €2008)
- 2 possible levers if the level of pensions is not affected:
  - ↑ social contributions      &/or      ↑ age of retirement

**BUT** A pure accounting framework without institutional innovation assuming no effect on prices, wages, growth, employment...

Debates are focused upon the distributive dimension alone neglecting the possibility of 'win-win' strategies or 'bigger loss'

# A comparative analysis of tax reforms

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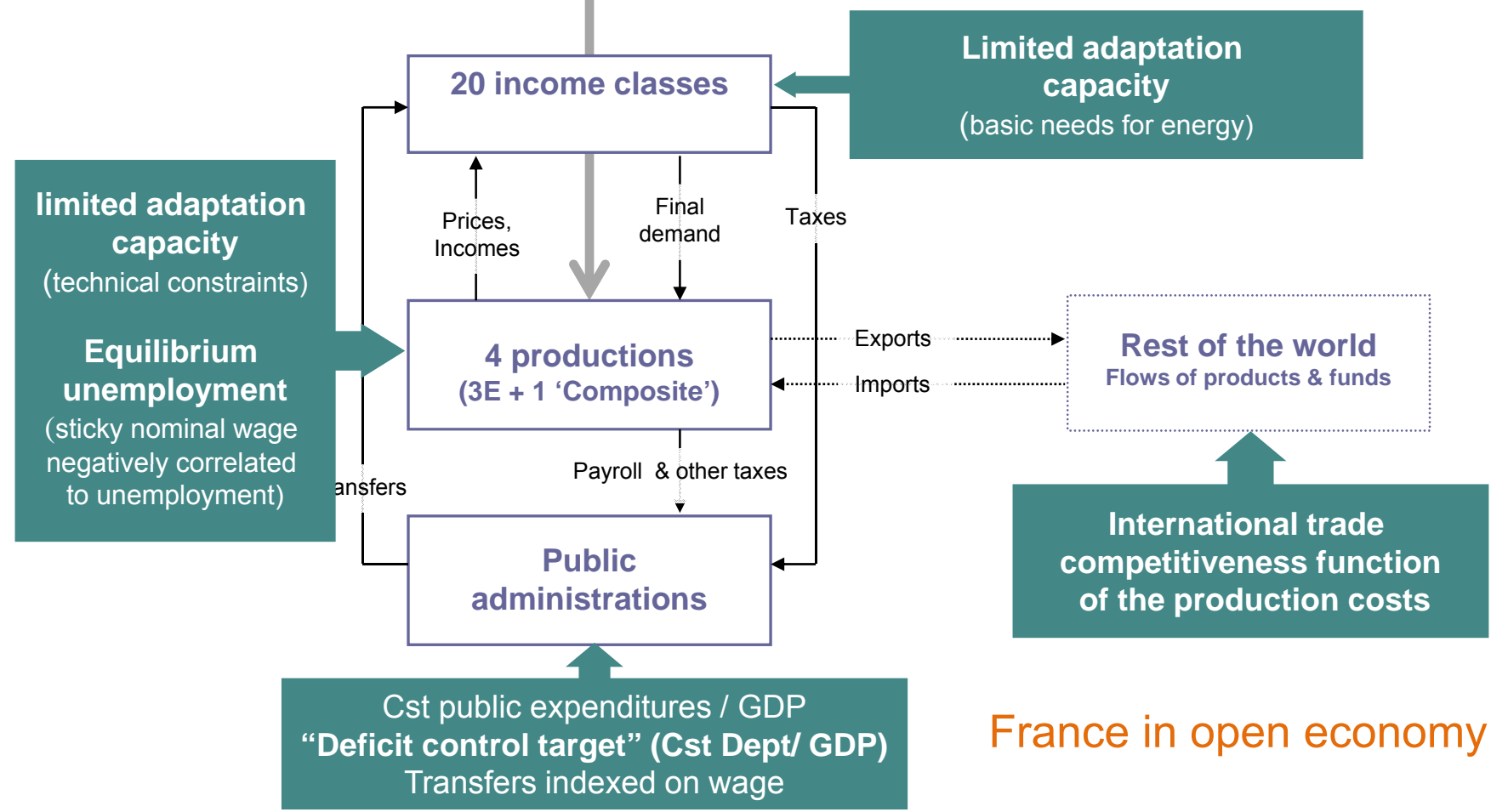
Evaluation of the macroeconomic impacts in 2020 of various schemes of tax reform on a same set of criteria

They are compared to a same reference situation produced by the 'favoured option' = the increase of the legal retirement age

They all allow to reach a same « deficits control target »  
= 100% of the cumulated deficit of the pension system

# IMACLIM-S: Key features of a realistic world

Simultaneous equilibria in monetary and physical units (MTOE)



France in open economy

# France-2020: A future under constraints

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We use available projections of key parameters (2004-2020) in order to build consistent 'France-2020 pictures'

## 1. Increasing financial tensions due to the demographic transition

- The retired/workers ratio (+29%) & the pensions spending (+215%)
- The households' saving rate (-37%)

## 2. Increasing tensions on energy resources and global markets

- The import price of oil (+95%) & the 'price-competitiveness' (-0.5%)
- The structural change possibilities (limited by technical inertia)

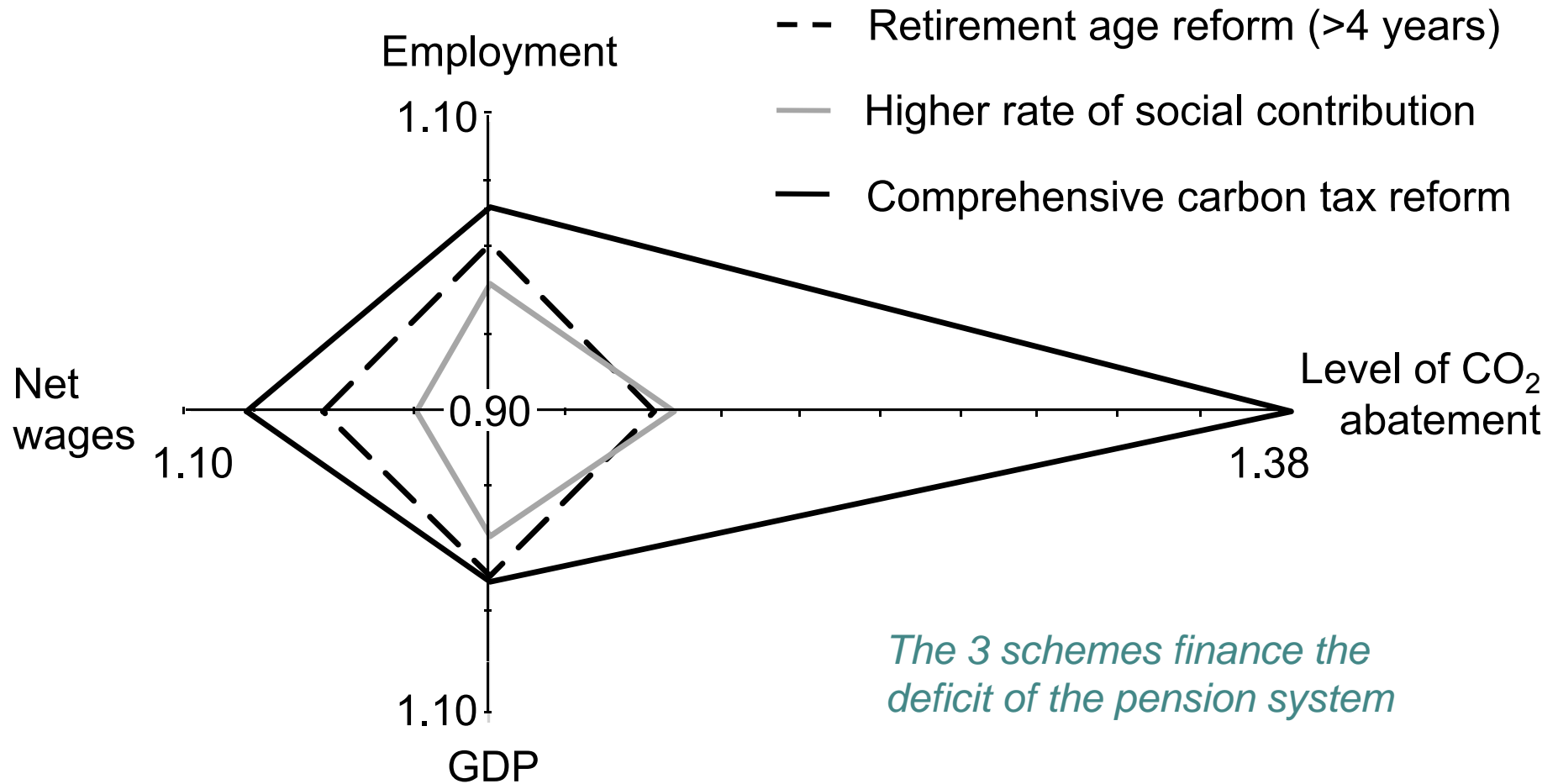
# Let us consider two different tax reforms

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They are compared to the same « retirement age reform » and adjusted so as to meet the same « deficits control target »

1. Higher social contribution (SC)  
= A general increase in payroll tax rates
2. “Comprehensive carbon tax reform” (CCTR)  
= A carbon tax (reaching 200€/tCO<sub>2</sub>) used to lower SC  
+ higher IT or VAT

# Room for compromise ?



# A bifurcation towards a sustainable growth path

Schemes	Higher SC	CCTR
Real GDP	-1.5%	+0.6%
Producer price (composite good)	+1.6%	<b>+0.5%</b>
Labor intensity of growth	-0.2%	<b>+0.9%</b>
Oil bill to GDP ratio	-0.8%	<b>-17.5%</b>

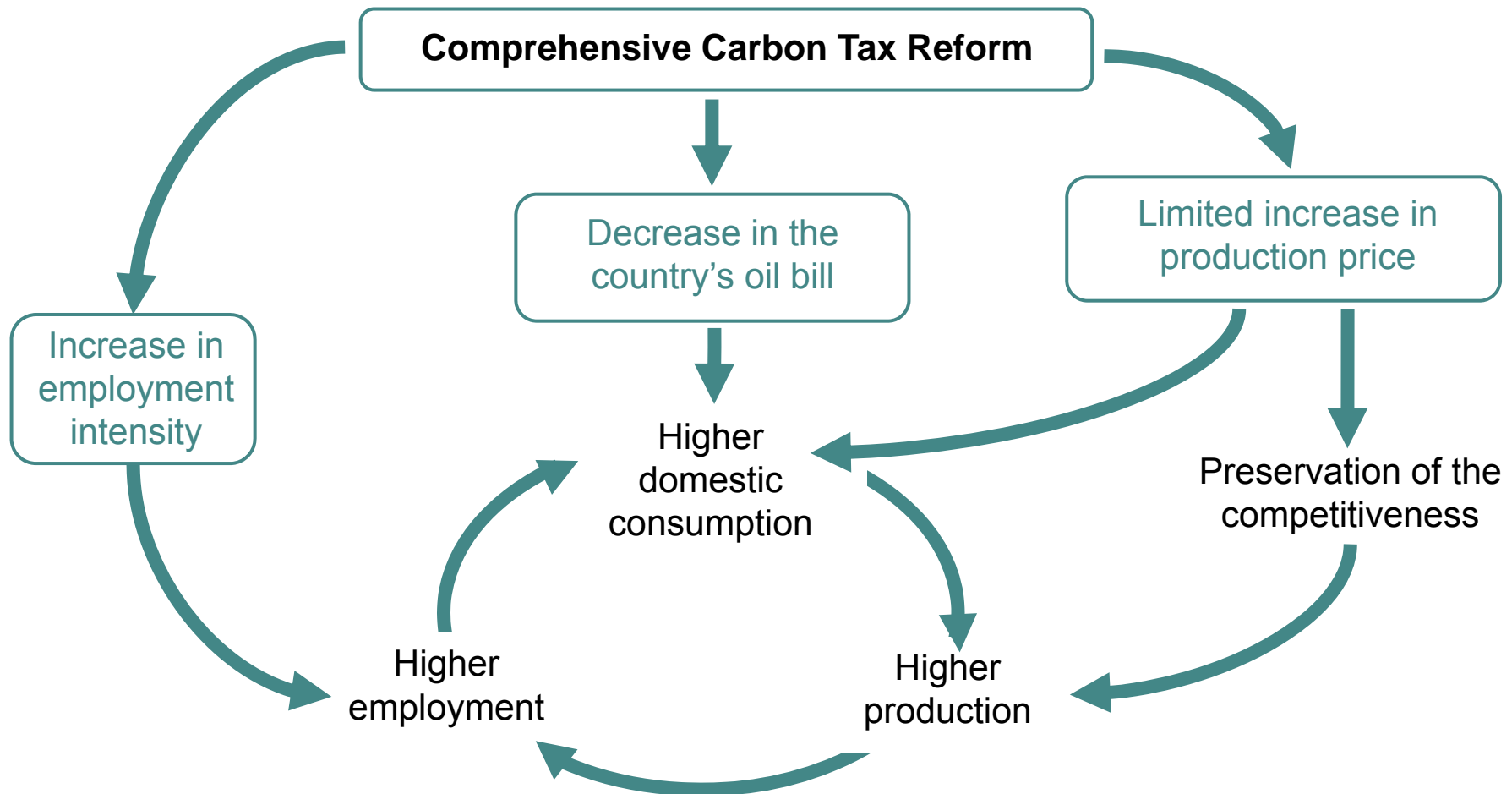
- A risk of price increase and sluggish growth

BUT with the 'comprehensive carbon tax reform' :

- Limited propagation of the costs increases
- Structural change towards a high employment path
- Higher alleviation of the burden of oil dependency



# The mechanisms of a potential virtuous cycle



# Conclusion

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In a mid term horizon, a ‘comprehensive carbon tax reform’ could provide **more room for manoeuvre** than the ‘conservative options’

**BUT** a **broad social negotiation** linking climate policies with other social and economic challenges is **needed for early action**

Such a reform can constitute **a core for a just transition** towards a more sustainable economy and can be **politically acceptable**

**IF** short term adverse impacts on the most vulnerable are addressed through the design of ‘accompanying measures’

(*cf. Contributed paper: A carbon tax and the risk of inequity*)

***Thank You!***

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