# Climate-Change Policy's Interactions with the Tax System

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# Connections between carbon pricing and the fiscal system

## Tax-interaction effect:

- A carbon price is an implicit tax on factors of production
- This can exacerbate distortions from pre-existing taxes

## Revenue-recycling effect:

- Revenues from a carbon-pricing policy can be used to finance cuts in pre-existing tax rates
- This can reduce the excess burden from the prior taxes

## The tax-interaction effect does not always work against efficiency

- It promotes efficiency when, in tandem with revenue-recycling, it shifts the burden of taxes toward hitherto undertaxed factors

# Exploiting Tax Interactions to Lower Costs (and enhance political feasibility)

- Aggregate costs:
  - Lower these costs relative to costs of other climate policies
  - Eliminate the costs (achieve the “double dividend”)

- Costs to particular interest groups
  - Lower the costs to certain industries
  - Lower the costs to certain households

# Necessary Conditions for the Double Dividend

1. The initial tax system must be inefficient along some non-environmental dimension, and

2. The environmental tax policy reduces this non-environmental inefficiency

# Circumstances Offering Potential For a Double Dividend

- Inefficient relative taxation of capital and labor

  Bovenberg and Goulder, *Natl Tax Journal* 1997

- Inefficiently light taxation of resource rents

  Bento and Jacobsen, *JEEM* 2006; Edenhofer *et al.,* 2014 working paper

- An informal labor market and associated inefficiently low taxation of informal labor income

  Markandya et al., *Energy Economics* 2013; Bento *et al.,* 2012 working paper

- Tax-favored tax treatment of some consumer goods (e.g., housing services or medical care) and associated inefficiencies

  Parry, *International Tax and Public Finance,* 2002

- Positive relationship between environmental quality and labor productivity

  Williams, *JEEM* 2002

# Lowering the Costs to Particular Groups

Main mechanisms: inframarginal exemptions and revenue-recycling

Lowering costs to particular industries:

- *under cap and trade:* free allocation of allowances
- *under carbon tax:* inframarginal tax exemptions
- *under both:* use revenues to finance industry-specific tax cuts

*formally similar*

*each entails sacrifice of efficiency*

*suggest this sacrifice is small!*

Lowering costs to particular households:

- lump-sum rebates
- targeted marginal tax cuts

*entails sacrifice of efficiency*

*suggest this sacrifice is large!*

# In Sum

The overall impacts of carbon pricing depend importantly on tax-interactions

- Nature of pre-existing inefficiencies in the tax system
- Nature of revenue-recycling

In some cases (how rare are they?) carbon pricing will involve zero gross cost in the aggregate

Whether or not the *aggregate* costs are zero, there is considerable potential for enhancing political feasibility through targeted inframarginal exemptions and through targeted revenue-recycling