

Environmental Tax Interaction Research:
Past, Present, & Future

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Camp Resources

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Overview

- 1) Review of the Tax Interaction Literature
- 2) Why I Don't Like "The Double Dividend"
- 3) Promising Avenues for Tax Interaction Research

Review of the Tax Interaction Literature: The Double Dividend

-Early papers (Tullock, Terkla, Pearce, Oates, Nordhaus, others) point out that environmental taxes raise revenue that can then be used to finance cuts in pre-existing distortionary taxes (e.g., income tax)

-Papers argue that this creates a “Double Dividend”:

(1) Environmental tax reduces pollution

(2) Cutting other taxes reduces excess burden from those taxes

Claim: because of this double dividend, environmental taxes would still be beneficial even if pollution turns out to be harmless

Review of the Tax Interaction Literature:

The Tax-Interaction Effect

- Subsequent papers (Bovenberg & De Mooij, Goulder, Parry) point out that higher consumption good prices discourage labor supply, and this increases excess burden from pre-existing taxes on labor
- This effect is termed the “tax-interaction (TI) effect” which opposes the “revenue recycling (RR) effect” that prior work had noted

Key result: Under central-case assumptions, TI effect is larger than RR effect

==> not only is there no double-dividend, but net effect is to make environmental taxes *less* attractive

- Optimal environmental tax < marginal external damage

Review of the Tax Interaction Literature: Key Lessons for Policy

- There is (generally) no free lunch from environmental policy
- Avoid giveaways. The cost of environmental policy is higher (potentially much higher) if government doesn't use revenue in an efficiency-enhancing way (e.g., cut distortionary taxes, provide valuable public goods, etc.)

Review of the Tax Interaction Literature:

Extending the TI and RR Insights

- Next wave of papers extend the basic TI and RR insights to other contexts:
 - Instrument choice: because of RR effect, taxes more efficient than grandfathered permits (Goulder, Parry, Williams, others)
 - Performance standards may be more efficient than permits because they cause a smaller TI effect (Goulder, Parry, Williams, Fullerton, Metcalf)
 - If pollution affects health/productivity, benefit-side TI effect (Williams)
 - International trade: cost of protectionist trade policies is higher because of TI effect (Williams)
 - Excess burden of commodity taxes much higher than “Harberger Triangle” estimate because of TI effect (Goulder, Williams)
 - Cost of agricultural policies is higher because of TI effect (Parry)
 - Fixed resource stock ==> lower TI effect (Bento, Jacobsen)

Review of the Tax Interaction Literature: Questioning Assumptions

-Distributional effects

- Kaplow shows that in multiple-agent model, optimal tax = MED
- Williams shows that this result comes from different assumptions about utility function, not from relaxing representative agent assumption

-Empirical work

- West and Williams relax assumptions about utility, estimate TI effect for gasoline tax

Result: in this case, TI effect is small or negative \implies optimal tax $>$ MED

Why I Don't Like "The Double Dividend"

- Has led to "if two dividends are good, three dividends are even better"
- Ambiguous: literature talks about the double dividend, but has many different definitions
 - Strong, intermediate, weak forms
 - Based on total effects or marginal effects
 - Evaluated at what point: zero tax? Pigouvian tax? Optimal tax?
 - Definitions are not equivalent, but many papers imply that they are
- Almost all of the definitions are irrelevant for finding optimal policy
 - Most widely used concept – strong DD – is a search for a free lunch, but environmental policy is worthwhile even if it isn't free

Promising Avenues for Tax Interaction Research

- Extend insights into still more contexts
- Dynamic models
- More work incorporating distributional effects
- More empirical work: other goods, other data sets, other methodology