“Trade and Domestic Policies: A Case of Regulatory Chill?”

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Trade and Domestic Policies

- WTO increasingly under attack from labor and environmental groups
- WTO seen essentially as “mercantilist”
- Groups claim benefits of freer trade outweighed by harm to workers and damage to environment
- Is the WTO compatible with domestic regulation?

Regulatory Chill

- **Increased competitive pressures result in either *regulatory chill* or a *race to the bottom* in domestic standards**
- **In absence of trade policy, governments will harmonize down domestic standards**
- **Requires use of trade policies, i.e., ability to deny market access if trading partners do not meet minimum standards – a "social" clause**
- **Is the WTO capable of dealing with regulatory chill?**

Plan of presentation

- Overall focus is economics of regulatory chill in environmental standards:
  - Traditional analysis of optimal policy
  - Pollution havens
  - Tariff substitution
  - Border tax adjustments
- Key conclusion: extension of existing WTO rules would minimize incentives for regulatory chill

Traditional analysis of optimal policy

- **Small country: first-best is environmental tax**
- **Large country: first-best is environmental tax and optimal tariff**
- **Environmental policies can differ across countries in a first-best solution**
- **Nothing to support regulatory chill arguments *a priori* – even in second-best or large country case**

Problems with traditional analysis

- Analysis rests on key assumptions of immobile factors, perfect competition, and no retaliation
- With capital flight, FDI can be targeted at countries with weaker environmental policies, i.e., pollution haven effects
- Tariff substitution effects, i.e., with freer trade, governments will weaken environmental policy as a substitute for trade policy

Pollution Havens

- “Just between you and me, shouldn’t the World Bank be encouraging more migration of dirty industries to the less developed countries…” (Larry Summers, 1991, World Bank internal memo)

- Key question: which countries attract dirty industries with freer trade?

- Competing hypotheses:

  pollution havens vs. factor endowments (Copeland and Taylor, 2004)

Pollution havens vs. factor endowments

- Can be examined in a 2x2x2 Heckscher-Ohlin model
- Regions are North and South (*), goods are X (dirty/capital-intensive) and Y (clean/labor-intensive), and pollution polices are τ (τ *)
- Assume identical regions except that $\tau > \tau$ * - trade generates pollution haven in the South (Figure 1)
- Assume K/L > K/L*, and $\tau = \tau$ * - trade causes pollution to fall in South (Figure 2)
- Assume K/L > K/L*, and $\tau > \tau$ *, trade pattern depends on which effect is stronger

Figure 1: Pollution Haven

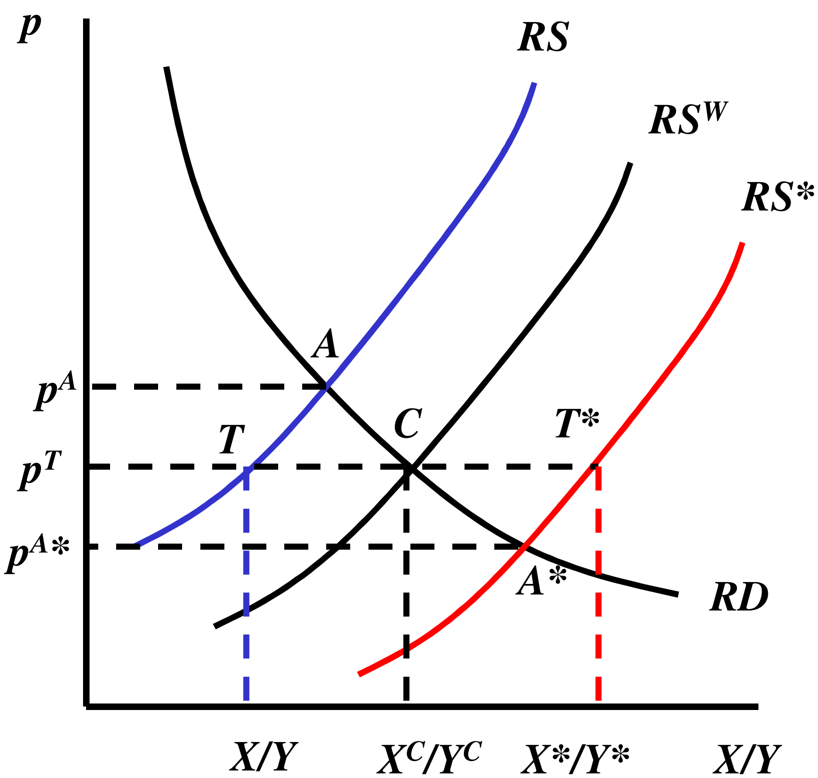
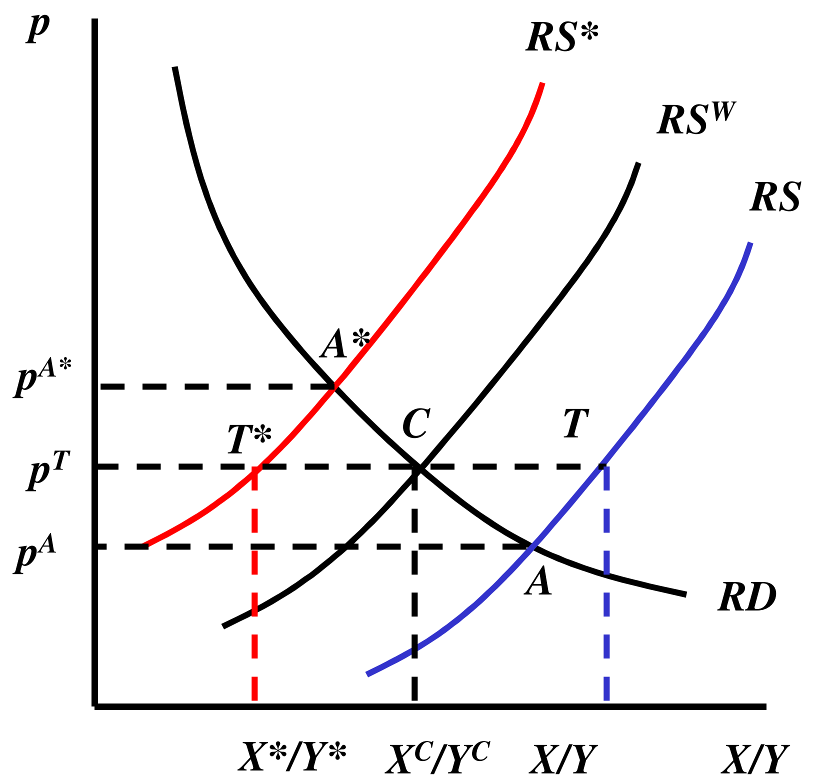


Figure 2: Factor Endowments



Pollution haven effects

- Theory suggests impact of environmental policies mitigated by other factors affecting trade, i.e., a pollution haven effect
- Support provided by empirical literature – evidence for trade and investment flows being affected by environmental policy and other factors
- If freer trade creates pollution haven effects, there is an incentive for regulatory chill

Tariff substitution: imperfect competition

- Ecological dumping may occur with imperfect competition (Ulph, 1997)
- Suppose home and foreign firm compete in world market
- No domestic consumption, but local public bads
- Each government pre-commits to an emissions tax, and firms play Nash-Cournot
- Each government has incentive to relax policy (Figure 3) – but result is not very robust

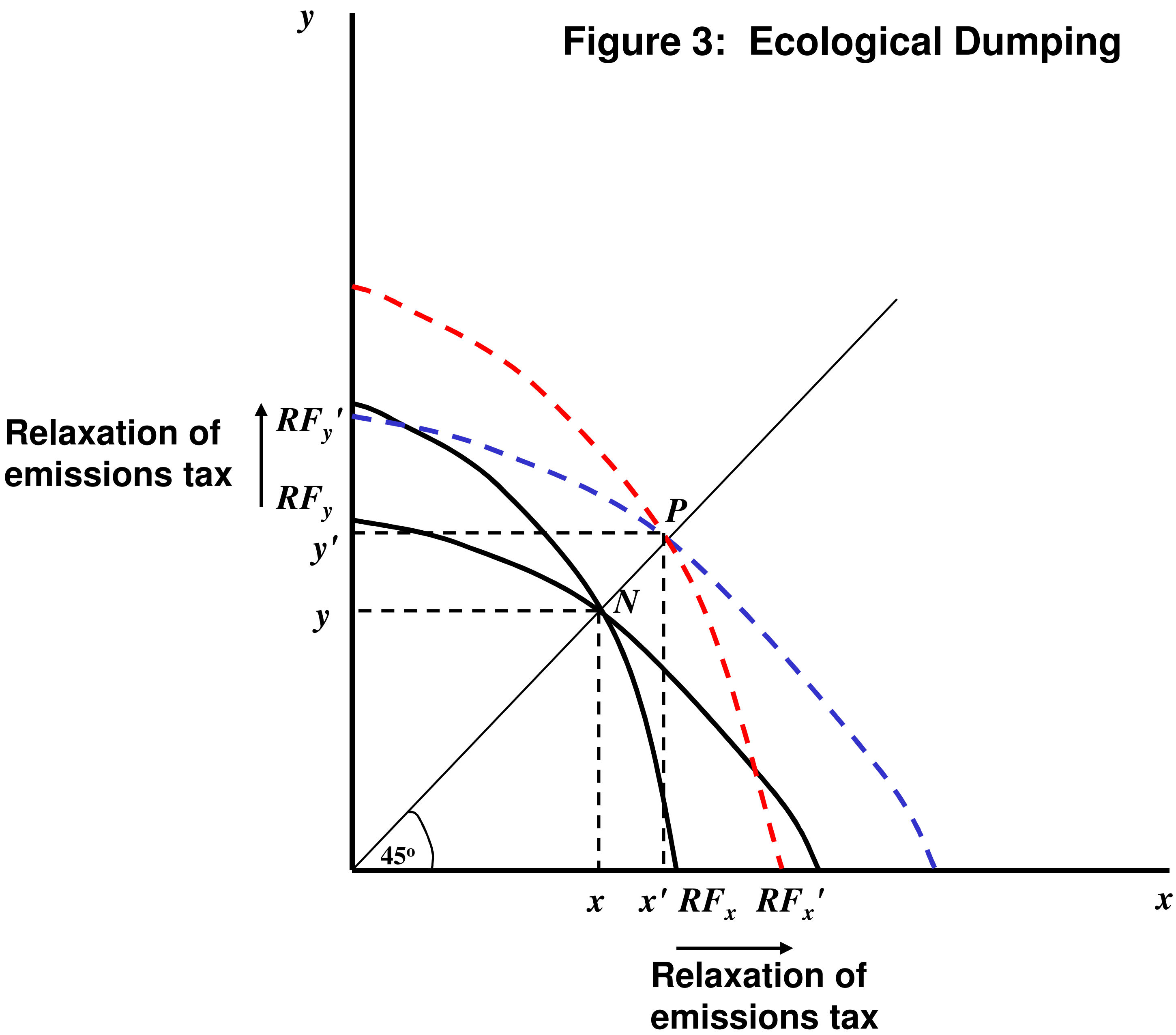


Figure 3: Ecological Dumping

Tariff substitution: terms of trade effects

- **All large countries implement optimal tariffs in a terms-of-trade-driven Prisoner's Dilemma (Johnson, 1953-54)**

- **WTO is solution to this via tariff bindings (Bagwell and Staiger, 1999)**

- **With environmental standards – is there regulatory chill or a race to the bottom in such a set-up?**

- **Only if WTO allows complete sovereignty over domestic standards**

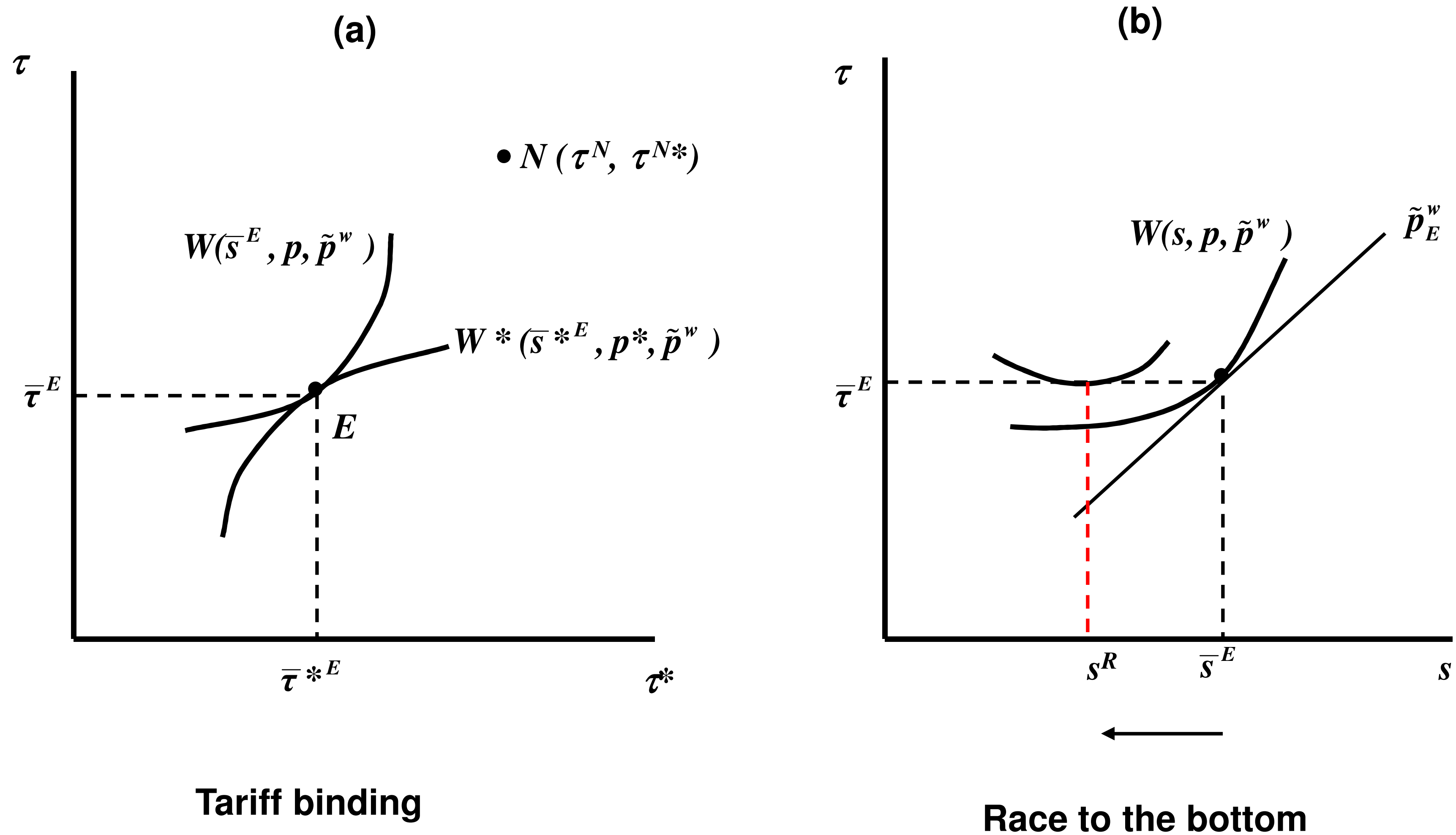
Tariff substitution: terms of trade effects

- **Assume 2 countries and 2 goods, there are local public bads, and each country can influence its terms of trade**

- **Each country's welfare is:** $W(s, p, \tilde{p}^w)$

- **Countries attempt to achieve efficient market access via tariff bindings (Figure 4a) – but a race to the bottom occurs (Figure 4b)**

Figure 4: Tariff Reductions and Market Access



Tariff substitution: regulatory chill

- Under WTO, countries do not have total sovereignty over environmental standards
- If a country's negotiated market access is reduced by standards, a non-violation complaint can be filed (GATT Article XXIII)
- This should prevent a race to the bottom
- What if a country wants to raise its standards, allowing more market access, but its tariffs are bound?

Tariff substitution: regulatory chill

- Assume two-stage tariff negotiation game with given initial standards:

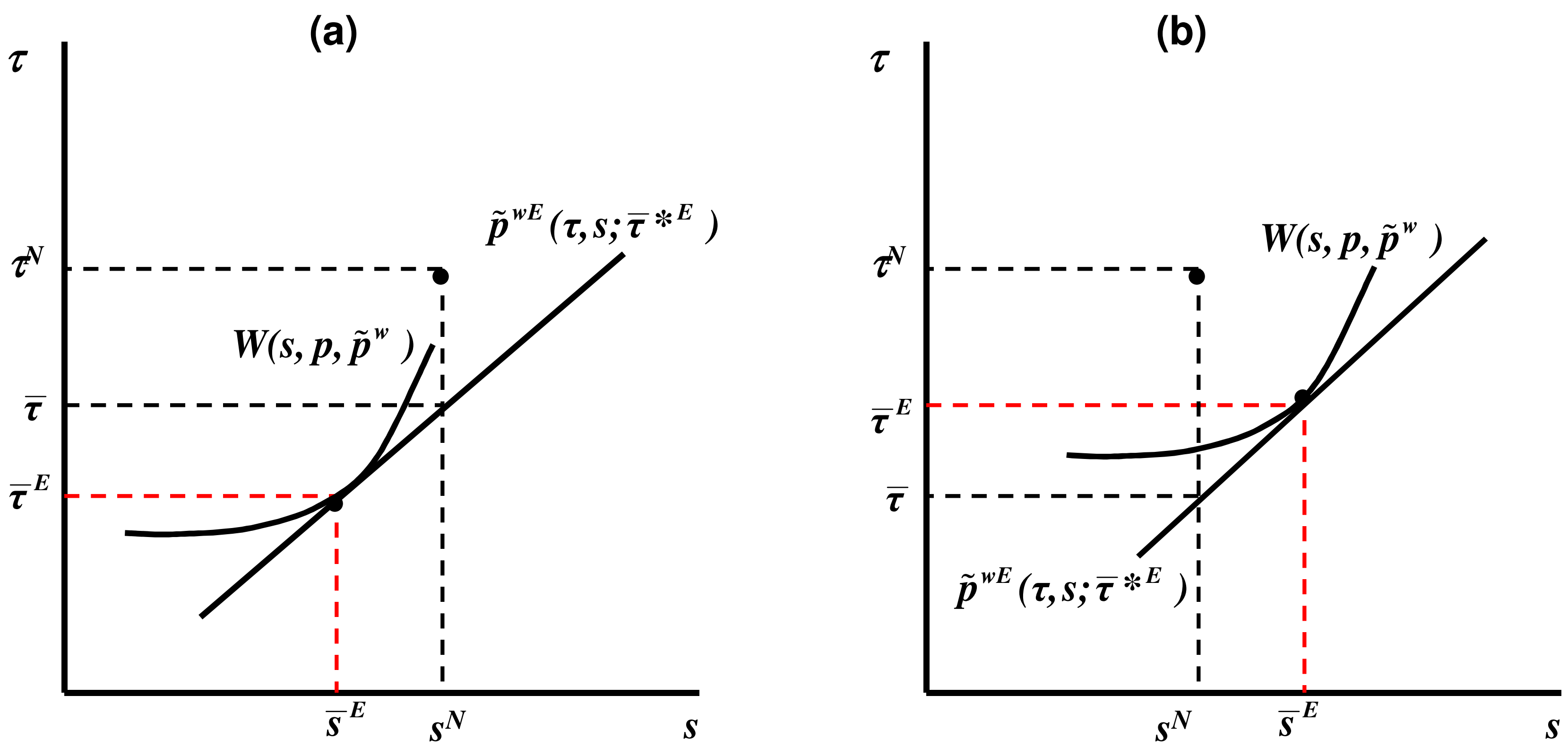
  (i) bound tariffs are negotiated

  (ii) unilateral change in policy mix, subject to bound tariffs and market access commitments

- If country's preferred standard is lower, it can only reduce this by lowering its bound tariff because of the chance of a non-violation complaint (Figure 5a)

- If country's preferred standard is higher, it can only raise it by increasing its bound tariff – which it cannot do under WTO rules (Figure 5b)

Figure 5: Tariffs and Non-Violation Complaints



Border tax adjustments

- Bagwell and Staiger (2001) suggest allowing renegotiation of bound tariffs to avoid regulatory chill

- Basic principle already allowed through border tax adjustments for environmental excise taxes (GATT Articles III and XVI) – national treatment

- Rules extended to case of environmental taxes imposed on intermediate goods where domestic final good competes with an imported final good (Davie, 1995), e.g., CFC taxes in US

Border tax adjustments

- Poterba and Rotemberg (1995) examine case of perfect competition at intermediate and final goods stages
- Import tax on final good equal to environmental tax times extent to which intermediate good enters final good cost function is neutral in terms of maintaining market access
- McCorriston and Sheldon (2005) show result is sensitive to assumption of perfect competition

Border tax adjustments

- Use model of successive oligopoly with one-to-one fixed proportions technology

- Three-stage game:

  (i) Government commits to environmental tax and border tax

  (ii)/(iii) Nash equilibria upstream and downstream

- Final goods strategic substitutes or strategic complements (Bulow *et al*., 1985)

Border tax adjustments

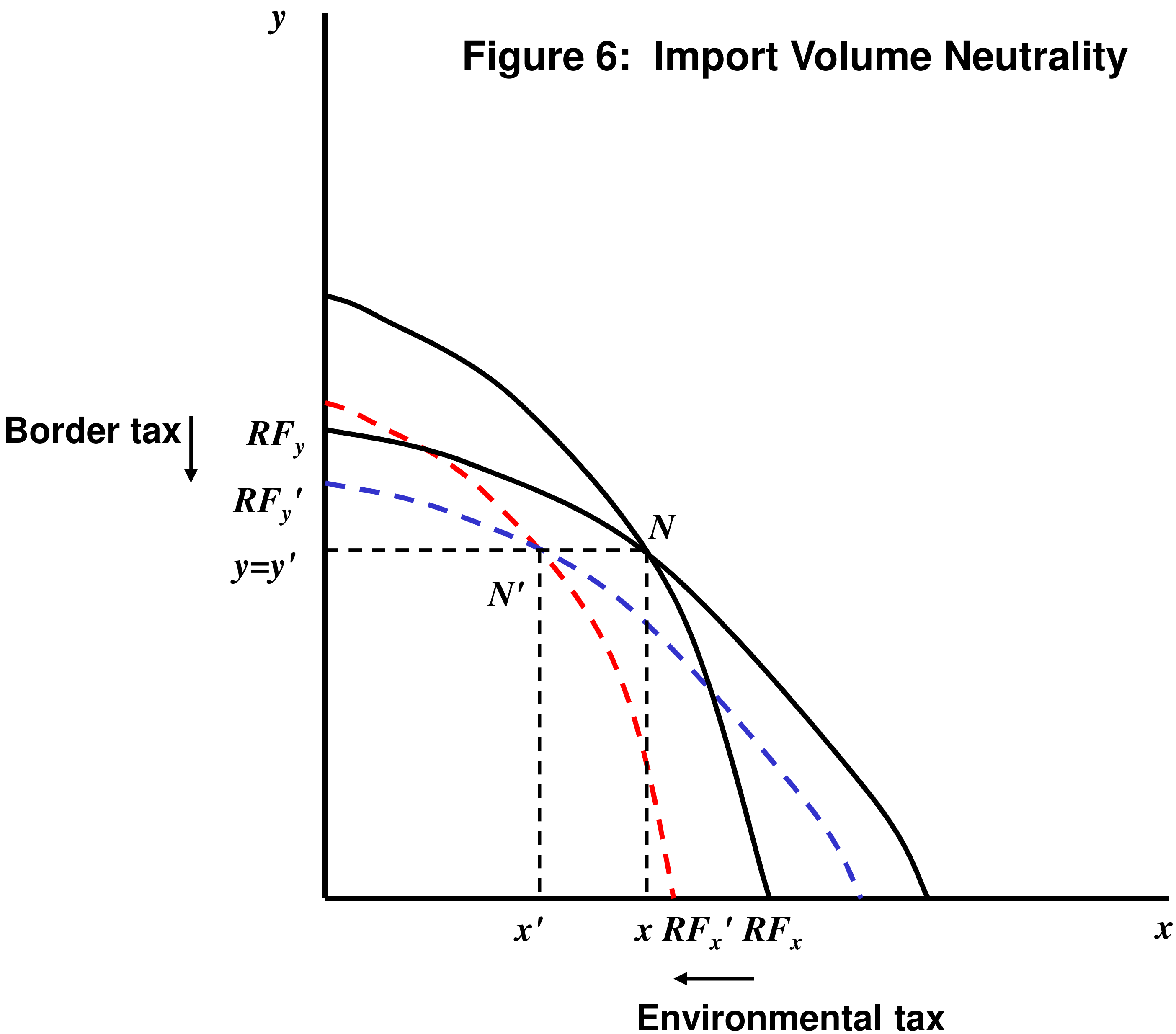
- Maintained market access not defined explicitly in WTO rules - two possible rules:

- Import-volume neutrality

  Type and size of border tax adjustment depends on:
  - nature of competition
  - incidence of upstream environmental taxes on downstream firm's cost function

  Domestic firm's rents fall, those of foreign firm rise (Figure 6)

Figure 6: Import Volume Neutrality



Border tax adjustments

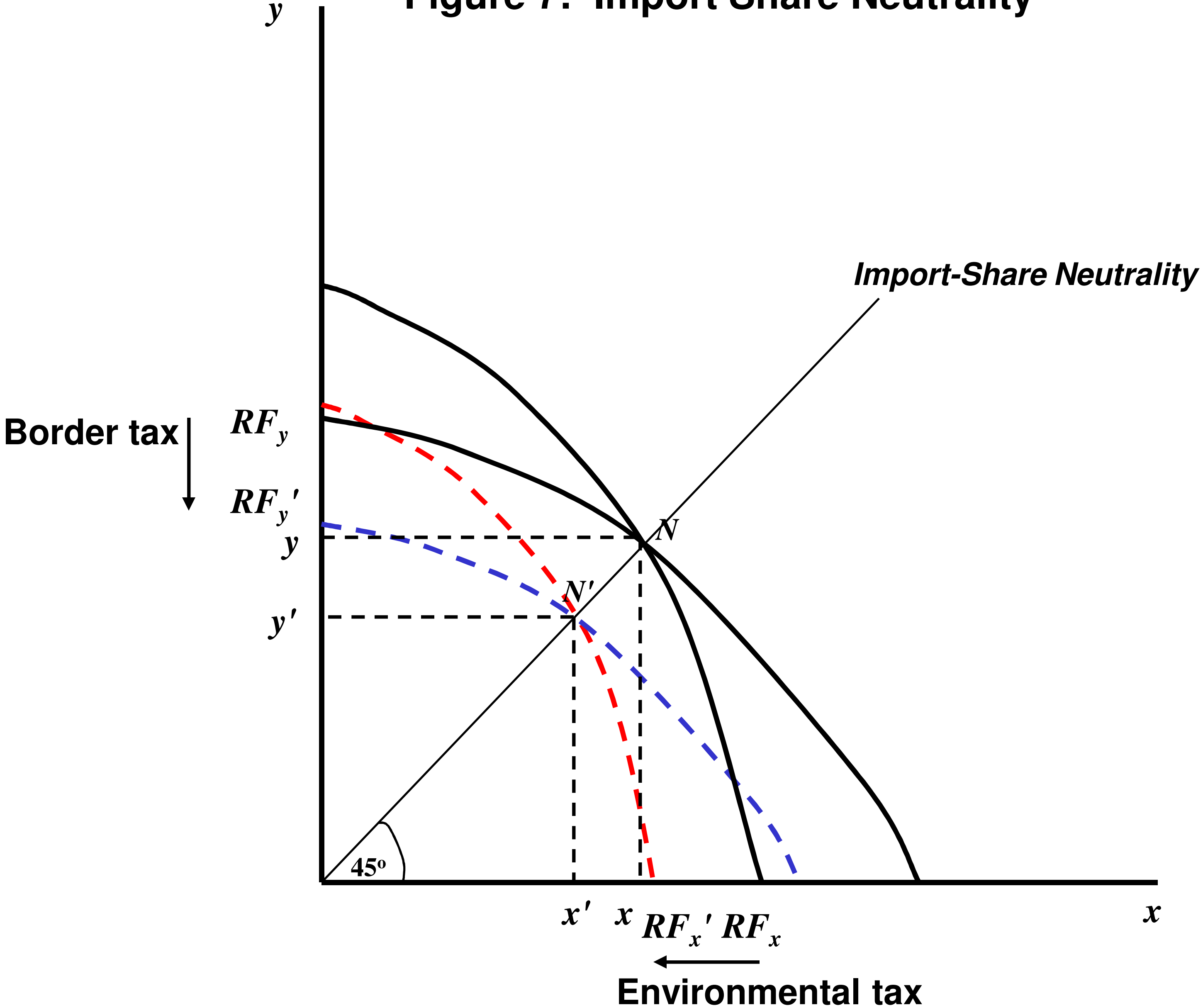
- Import-share neutrality

  Size of border tax adjustment depends on nature of competition

  Rents of both domestic and foreign firm increase (Figure 7)

- While objective is to set border taxes so as not to be unwittingly protectionist, there are rent-shifting effects that affect way firms will lobby for policy

Figure 7: Import Share Neutrality



Regulatory Chill?

- Not under standard analysis of optimal policy
- Assumes mobile factors, perfect competition, and no retaliation
- Evidence supports pollution haven effects
- Ecological dumping not robust, but regulatory chill/race to the bottom may occur under terms of trade arguments
- Solution to latter may lie in existing WTO rules – non-violation complaints and border tax adjustments