

“Climate Policy and Border Tax Adjustments: What’s New?”

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Climate Policy and Trade Policy

- **Clear connection being made between climate policy and trade policy, e.g., US Congress - Lieberman-Warner Bill (2007); EU Commission Directive (2008)**
- **Domestic climate policies should be accompanied by appropriate border measures applied to carbon-intensive imports**
- **Objective is to address issues of “carbon leakage” and “competitiveness”**
- **Is this just “old wine in new green bottles”? (Lockwood and Whalley, 2008)**

Plan of Presentation

- **Overall focus: economics of border adjustments for domestic climate policies:**
 - **Connection between trade and environment**
 - **Economics of WTO and environmental regulation**
 - **WTO law and border tax adjustments**
 - **Optimal border tax adjustments**
 - **Implementation issues for climate policies**
- **Key conclusion: economic and regulatory principles not new, but climate policies will create additional complexity for border adjustments**

Trade and Environment

- **Starting in early-1990s, connection between trade and environmental policy subject to heated debate:**
 - **1991 GATT ruling in US-Mexico *tuna-dolphin* dispute**
 - **Negotiations over NAFTA**
 - **Larry Summers' 1991 statement while at World Bank**
- **Two questions arise from debate:**
 - **What is connection between trade and environment?**
 - **What is controversy?**

Trade and Environment

- **Factors linking trade and environment (Ulph, 1997):**
 - **If trade affects economic activity, and latter generates *local* public bads – then by extension trade affects environment**
 - **Economic activity also generates *global* public bads, e.g., trans-boundary pollution (acid rain), depletion of ozone-layer due to use of chlorofluorocarbons (CFCs)**
 - **Trade policies (sanctions) often part of international environmental agreements, e.g., Convention on International Trade in Endangered Species (CITES)**

Trade and Environment

- **So what is controversy?**
 - **Impact of trade on environment:**
 - (i) Environmentalists argue benefits due to trade liberalization outweighed by environmental damage**
 - (ii) Economists argue trade and economic growth may be good for environment – typically appeal to environmental Kuznets curve (EKC) - originally due to Grossman and Krueger (1993; 1995)**

Trade and Environment

- **WTO and environmental policy:**
 - (i) **Environmentalists concerned governments will not set optimal environmental policies - constrained in use of trade policies (1998 WTO *shrimp-turtle* case)**
 - (ii) **Governments *either* resist implementing tough standards - “regulatory chill” *or* reduce stringency of existing standards - “race to the bottom” (Bagwell and Staiger, 2001a)**
 - (iii) **Calls for governments to be allowed to use trade policies to countervail “ecological dumping”**

Trade and Environment

Is Trade Good or Bad for the Environment?

Effects of Trade on Environment	Income Growth	Given Income Level
Harmful Effects	Larger scale of economic activity	Regulatory chill
Beneficial Effects	Cleaner techniques, and composition of activity	Ratcheting up of standards, innovation, consumer power
Statistical Evidence		
For SO₂	EKC – peaks at \$5,700 income/capita/year	Favorable effects of trade dominate
For CO₂	Some evidence of EKC	Trade exacerbates emissions

Sources: Frankel (2004; 2009) and Frankel and Rose (2005)

Economics of WTO and Environmental Regulation

- **Countries implement optimal tariffs in terms-of-trade-driven Prisoner's Dilemma (Johnson, 1953-54; Dixit, 1987; Grossman and Helpman, 1995)**
- **Solution via tariff bindings (Bagwell and Staiger, 1999)**
- **With environmental standards – is there a race to the bottom in such a set-up?**
- **Only with complete sovereignty over standards**

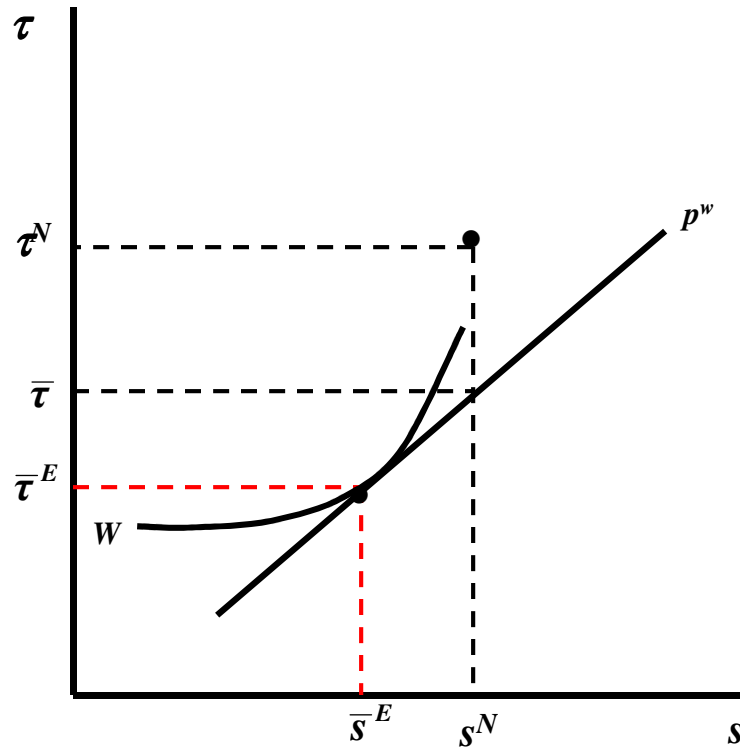
Economics of WTO and Environmental Regulation

- Under WTO, countries do not have total sovereignty over environmental standards
- If 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 country wants to raise standards, allowing more market access, but its tariffs are bound?

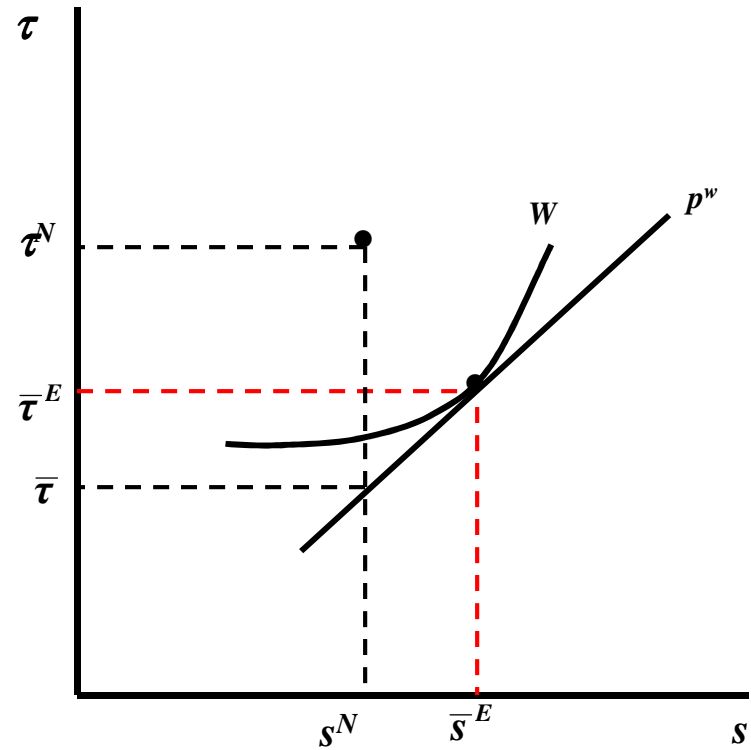
Economics of WTO and Environmental Regulation

- **Assume 2-stage 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, can only reduce this by lowering bound tariff because of chance of non-violation complaint**
- **If country's preferred standard is higher, can only raise it by increasing bound tariff – but violates WTO rules**
- **Bagwell and Staiger (2001b) suggest allowing renegotiation of bound tariffs to avoid regulatory chill**

Figure 1: Tariffs and Non-Violation Complaints



Race to the bottom?



Regulatory chill?

WTO Law and Border Tax Adjustments

- **Old principle – goes back to Ricardo (Sraffa,1953)**
- **Issue arose in 1960s, when EEC adopted destination-basis, harmonized VAT system with taxes on imports and tax rebates on exports**
- **Debate as to whether in violation of GATT Articles III and XVI - no negotiation occurred during Tokyo Round**
- **Lockwood and Whalley (2008) claim analysis of Shibata (1967) and others showed when all consumption goods are taxed at same rate, no real effects on trade, production and consumption**

WTO Law and Border Tax Adjustments

- **1970 GATT Working Party defined BTAs:**

“...any fiscal measure which put into effect, in whole or part, the destination principle (i.e., which enable...imported products sold to consumers to be charged with some or all of the tax charged in the importing country in respect of *similar* domestic products).” (WTO, 1997, para: 28)

- **Objective of BTAs is:**

“...to ensure *trade neutrality* of domestic taxation...and thus to preserve the competitive equality between domestic and imported products.” (WTO, 1997, para: 24)

- **Taxes subject to BTAs include VAT and excise duties**

WTO Law and Border Tax Adjustments

- In principle, nothing to prevent country from applying BTA for taxes on inputs (energy) used in production of final good (aluminum)
- Raises issue of BTAs on *like* products vs. BTAs applied on basis of *processes and production methods* (PPMs)
- Embodied taxes on carbon/energy likely to be contentious – despite WTO Appellate Body's findings in *shrimp-turtle* case (Charnowitz, 2002)
- Potential challenges will come under GATT Article III, but legal issues are less than clear-cut

WTO Law and Border Tax Adjustments

- **GATT Articles III:1 and III:2 (National Treatment) obliges WTO members not to discriminate against imports in application of internal laws and regulations**
- **Key language in Article III:2 states imported products:**

“...shall not be subject directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products”.
- **20% BTA applied on imported diesel fuel to adjust for a 20% domestic excise tax on diesel fuel would be consistent with Article III**
- **Less clear if BTAs applied to inputs are permitted**

WTO Law and Border Tax Adjustments

- **GATT *Superfund Case* (1987) – challenge to US taxes on imported substances that were end-products of chemicals taxed in the US**
- **Given tax on imported substances was equivalent to tax borne by domestic substances, Panel deemed measure consistent with Article III:2 - ruling focused on fiscal burden not product “likeness” (Goh, 2004)**
- **Key issues: (i) what products are being compared for “likeness”? (ii) can imported and domestic products be compared given differences in amount of energy embodied in final product?**

WTO Law and Border Tax Adjustments

- **If energy BTAs found inconsistent with GATT Article III:2, possible to justify under GATT Article XX (General Exceptions)**
- **Justification for measure has to satisfy 2-tier test:**
 - necessary “to protect human, animal or plant life or health...” or relating to “conservation of exhaustible natural resources...”
 - measure is “not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade...”
- **Significant debate about legal outcome (Goh, 2004; Biermann and Brohm, 2005; Pauwelyn, 2007; Bordoff, 2008) – will only be settled via an actual ruling**

Optimal 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 (2005a)* show result is sensitive to assumption of perfect competition and definition of *neutrality*

* McCorriston and Sheldon (2005b) also looks at export rebate case

Optimal Border Tax Adjustments

- **McCorriston and Sheldon (2005b) used 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 (Bulow *et al.*, 1985)**

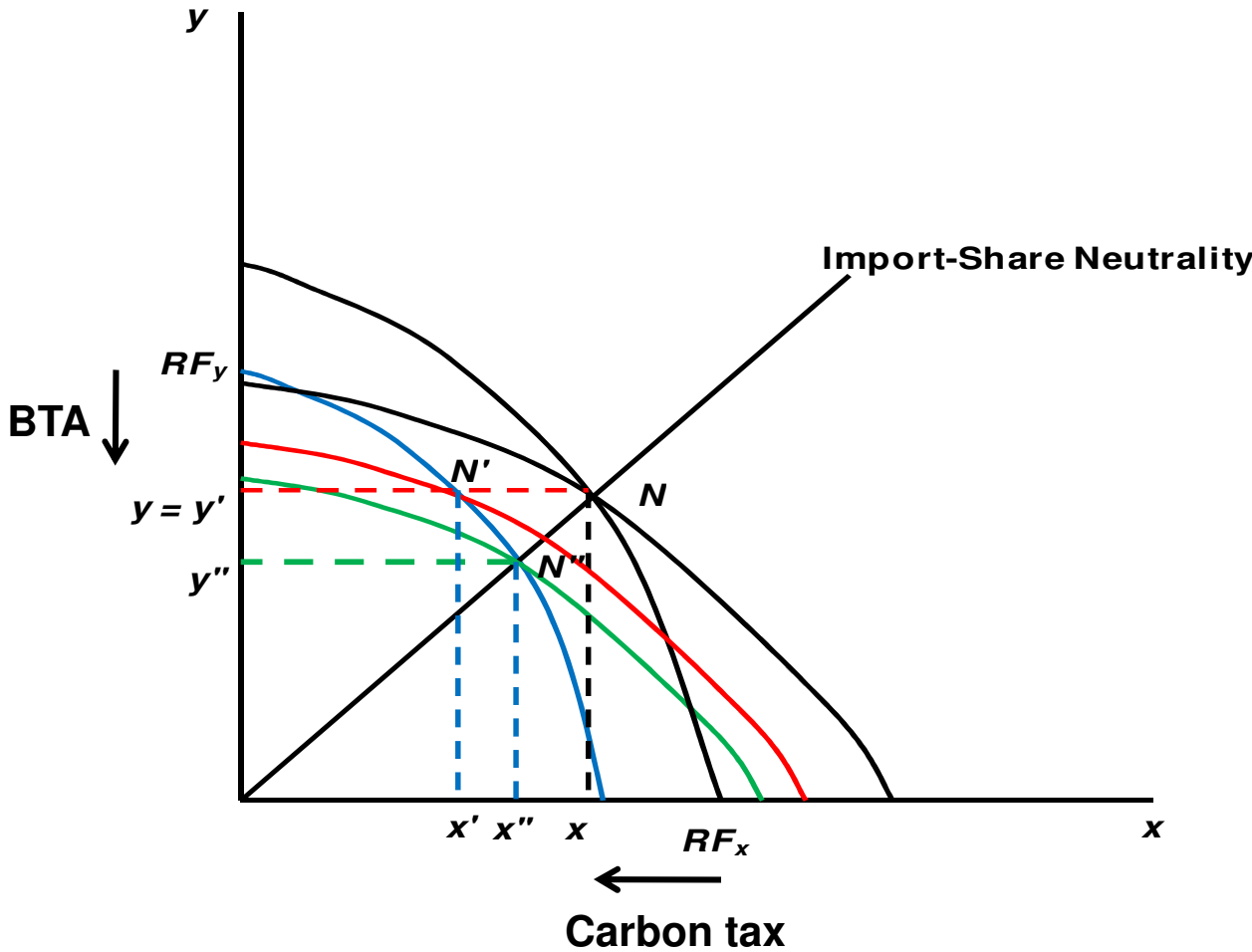
Optimal Border Tax Adjustments

- **Maintained market access not defined explicitly in WTO rules - two possible rules:**
- **Import-volume neutrality**
 - **size of border tax adjustment depends on *incidence* of upstream environmental taxes on downstream firm's cost function**
 - **domestic firm's rents fall, those of foreign firm rise**

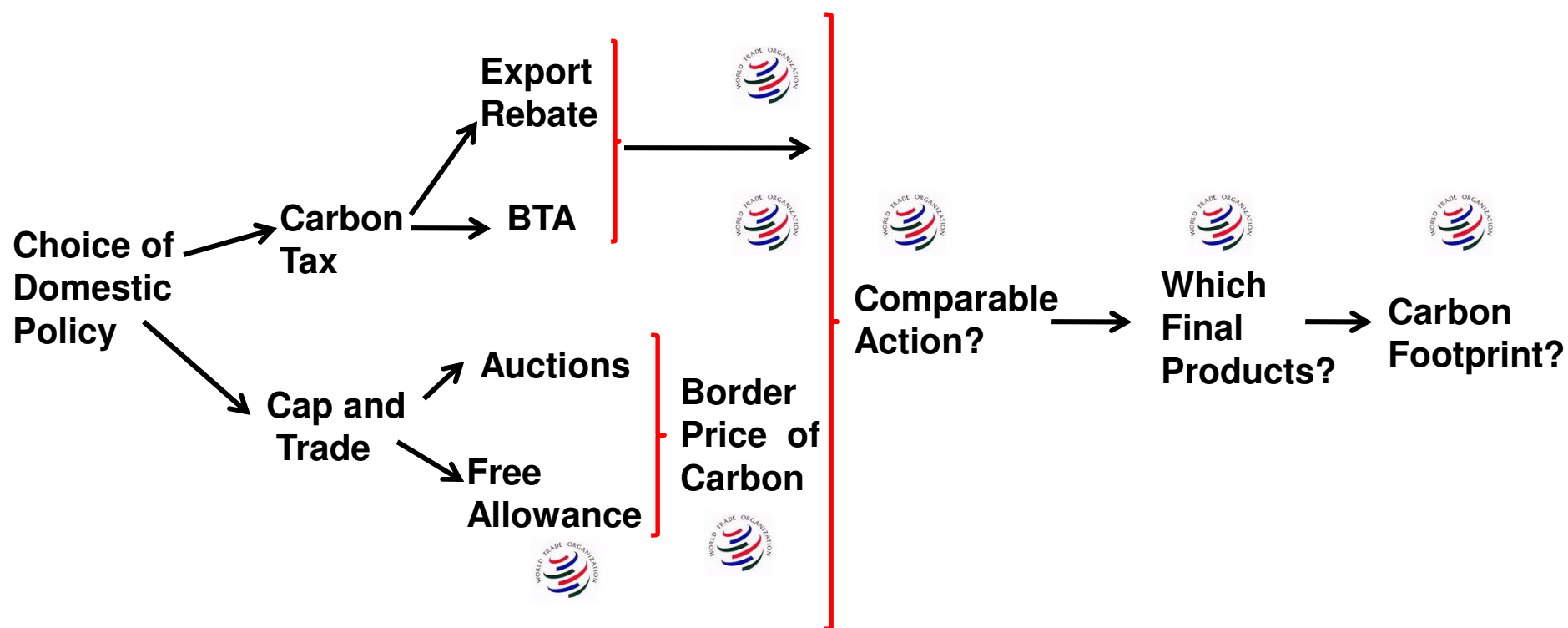
Optimal Border Tax Adjustments

- **Import-share neutrality**
 - **size of border tax adjustment depends on nature of competition**
 - **rents of both domestic and foreign firm increase**
- **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***
 - * In export rebate case, McCorriston and Sheldon (2005b) show forward incidence of environmental tax and backward incidence of rebate matter in setting the optimal export rebate

Figure 2: Effects of Neutral Border Tax Adjustments

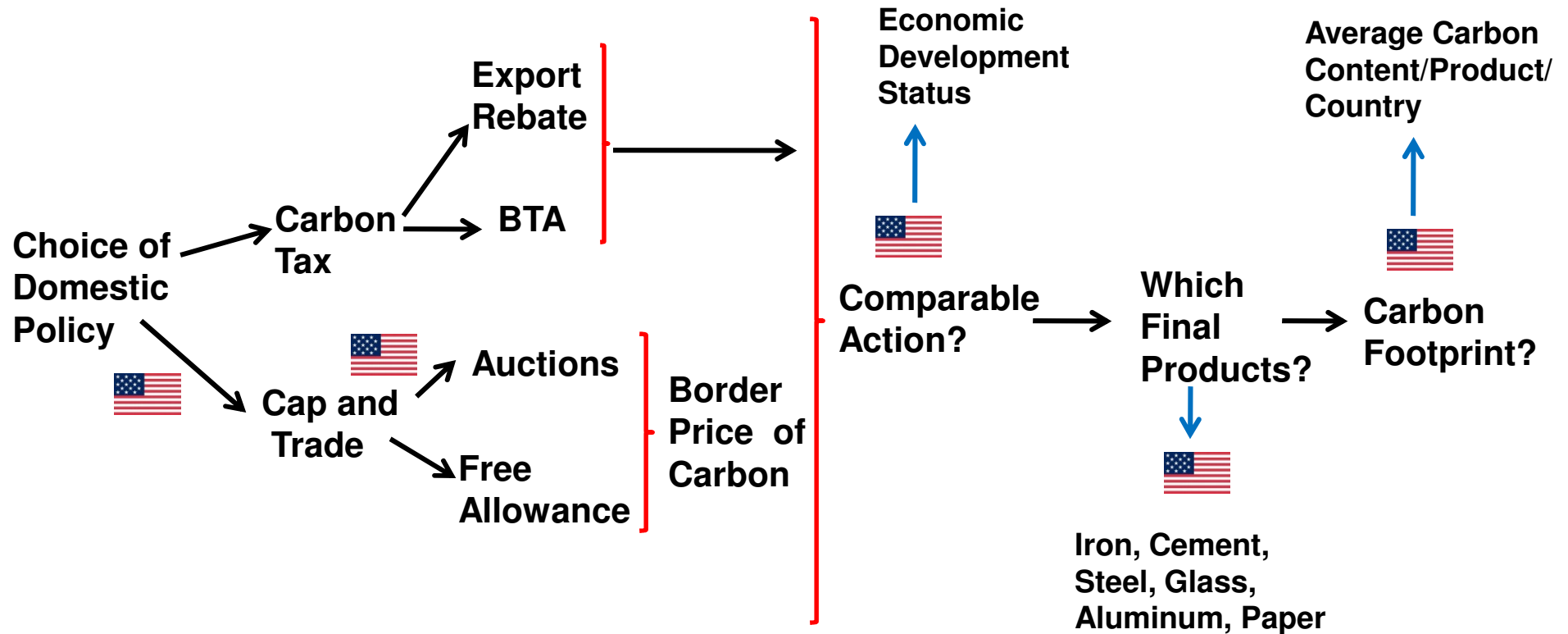


Some Implementation Issues for Climate Policies



 = Potential for WTO challenge

Some Implementation Issues for Climate Policies



Summary and Conclusions

- **Connection between trade and environment is not a new issue – significant debate since early 1990s**
- **Economic and legal issues are also not new, although only a ruling on BTAs in the presence of domestic climate policies will resolve legal uncertainty**
- **Climate policies present additional layer(s) of complexity to problem of determining appropriate BTAs – there is “*some new wine mixed* with old wine in new green bottles”!!**