

Climate-change mitigation policies: some international aspects

Sustainability Science Workshop
May 2010

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Two topics on international cooperation

1. Under what conditions do countries have an incentive to participate in and comply with a treaty?
2. Effects of trade-related policy measures on cooperation?

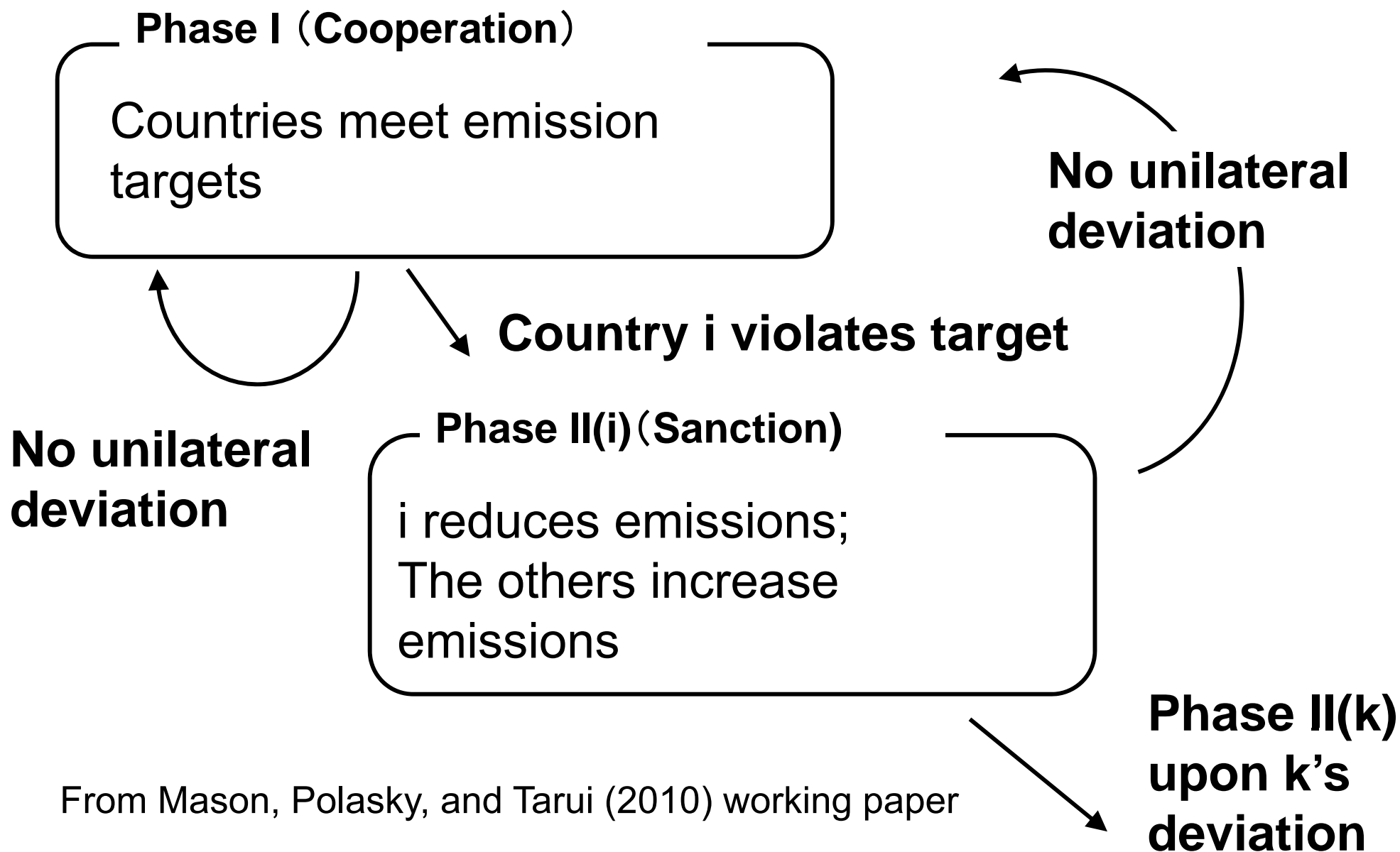
Mitigation target: what and how

- What the target should be is one question
 - How much greenhouse gas emissions to generate over time? How fast should we reduce them?
 - Different views among economists
- Main findings (Nordhaus, Stern, ...):
 - Cost/benefit ratio of mitigation matters—the lower, the larger GHG reduction needed
 - Discount rate matters—the lower, the larger GHG reduction needed

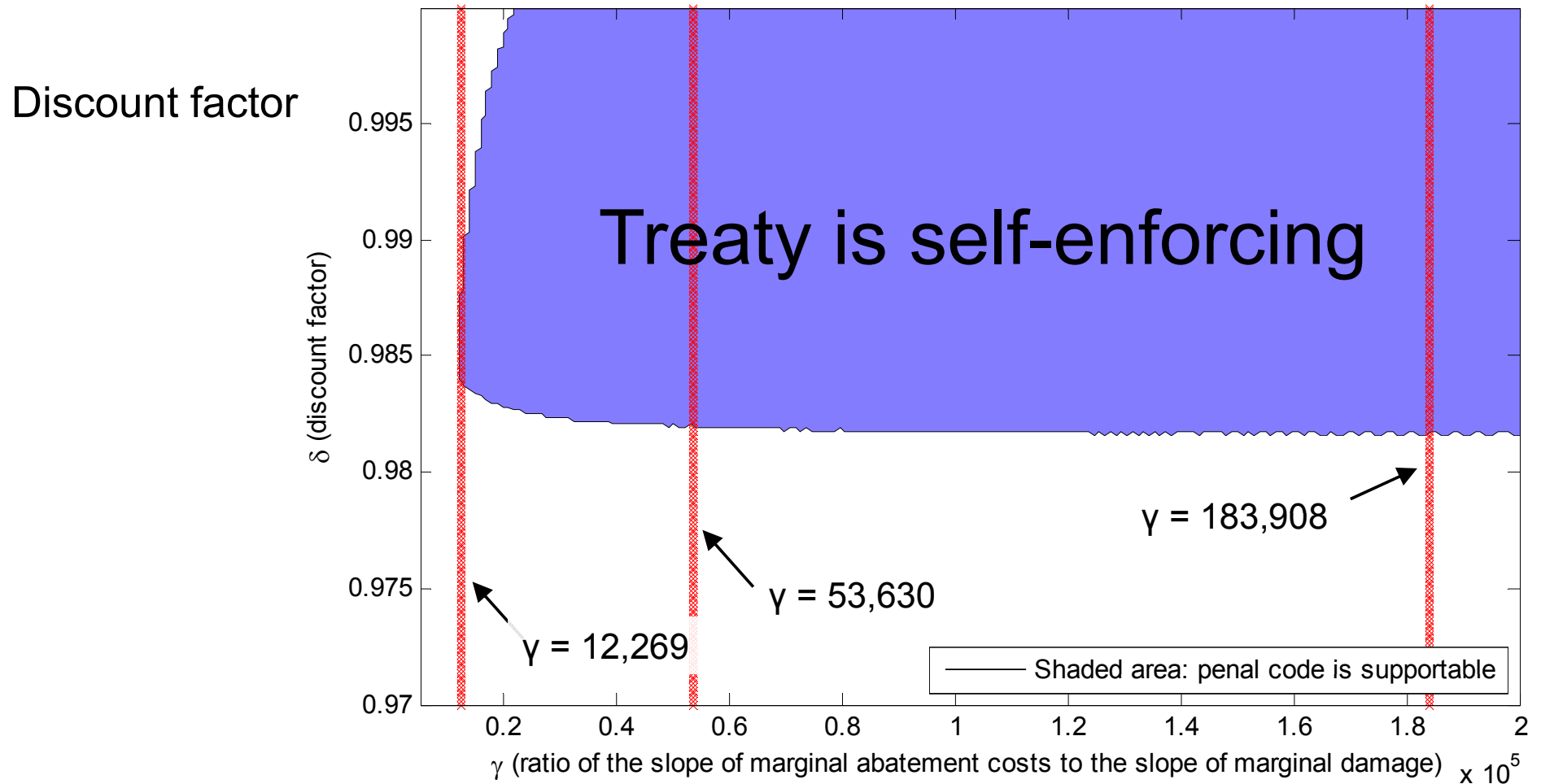
Mitigation target: what and how

- How countries can achieve the target is another
- Under what conditions would countries have an incentive to participate in and abide by a treaty to support optimal mitigation?
- An important question to ask given Kyoto and Copenhagen...

Treaty with temporary sanctions



Nonlinear effects of discount rates and cost/benefit ratio of mitigation



Index of cost/benefit ratio of mitigation

From Mason, Polasky, and Tarui (2010) working paper

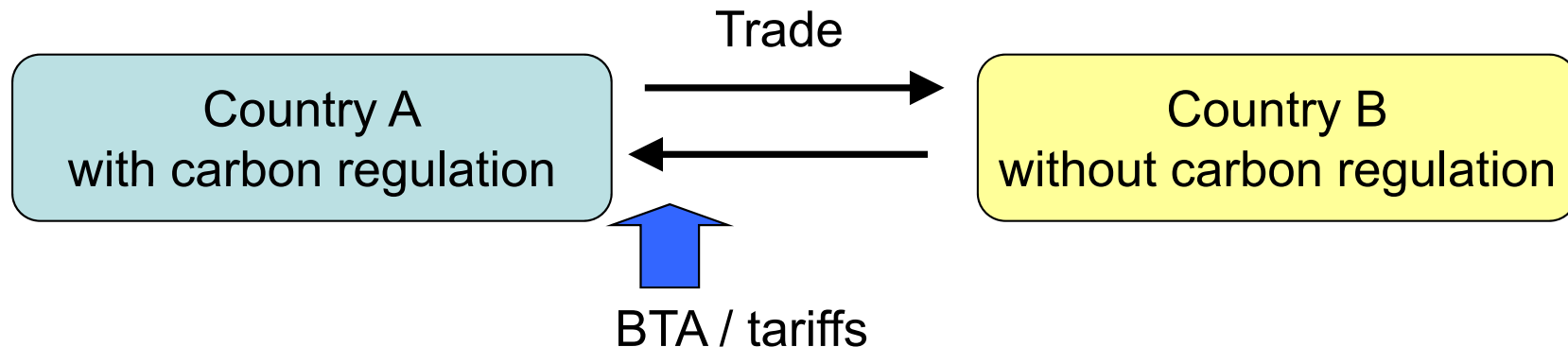
Mitigation: how much and how summary

- Optimal mitigation levels/paths depend on discount rates and cost/benefit ratio monotonically
- But the likelihood of countries' cooperation may not
- Open questions: cost sharing by heterogeneous countries, cooperation on technology innovation, uncertainty and learning, ...

Topic 2: Trade-based policy measures in a world with partial-cooperation

- Policy makers' interests in “Border-tax adjustments” (e.g. tariffs on imports from countries without carbon regulation)
- Justification
- Legal issue
- Economic issue

Arguments for border-tax adjustments (BTA)



1. Create a level-playing field
2. Encourage Country B to adopt carbon regulation
3. Reduce “emission leakage” due to shift in production to country B

Legal aspects of BTA

- WTO (World Trade Organization) rules on the use of BTAs
- The US House and Senate Bill's Free Emissions Allowances for trade-intensive industries represent a prohibited export subsidy (Maruyama 2010)

Clear Act and BTA

Can the United States impose border equalization fees on carbon-intensive imports and still comply with its treaty obligations as a member of the World Trade Organization (WTO)?

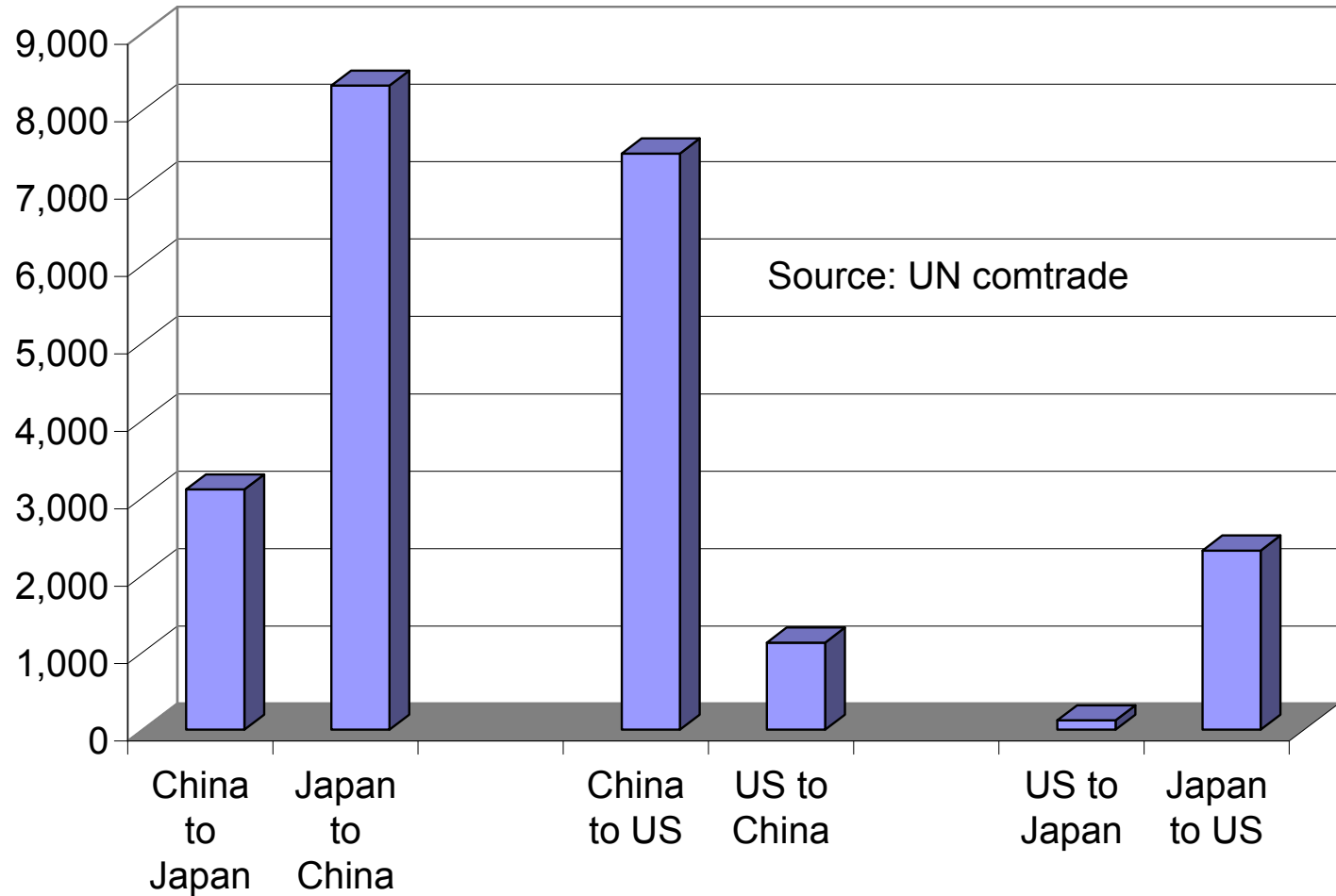
Yes. Article II.2(a) of the General Agreement on Tariffs and Trade (GATT) allows WTO members to apply charges to imports equivalent to those applied to like domestic goods, while Article III.2 permits border adjustments to taxes charged on inputs used in the production of process associated with a given imported products. While not without controversy, border equalization fees leveling the carbon playing field are permissible according to the WTO, provided that they constitute adjustments ensuring that domestic and foreign producers of like products face equivalent levies in a given market.

Cantwell (2009)

Would BTA matter given trade facts?

Trade in Iron and Steel in 2008

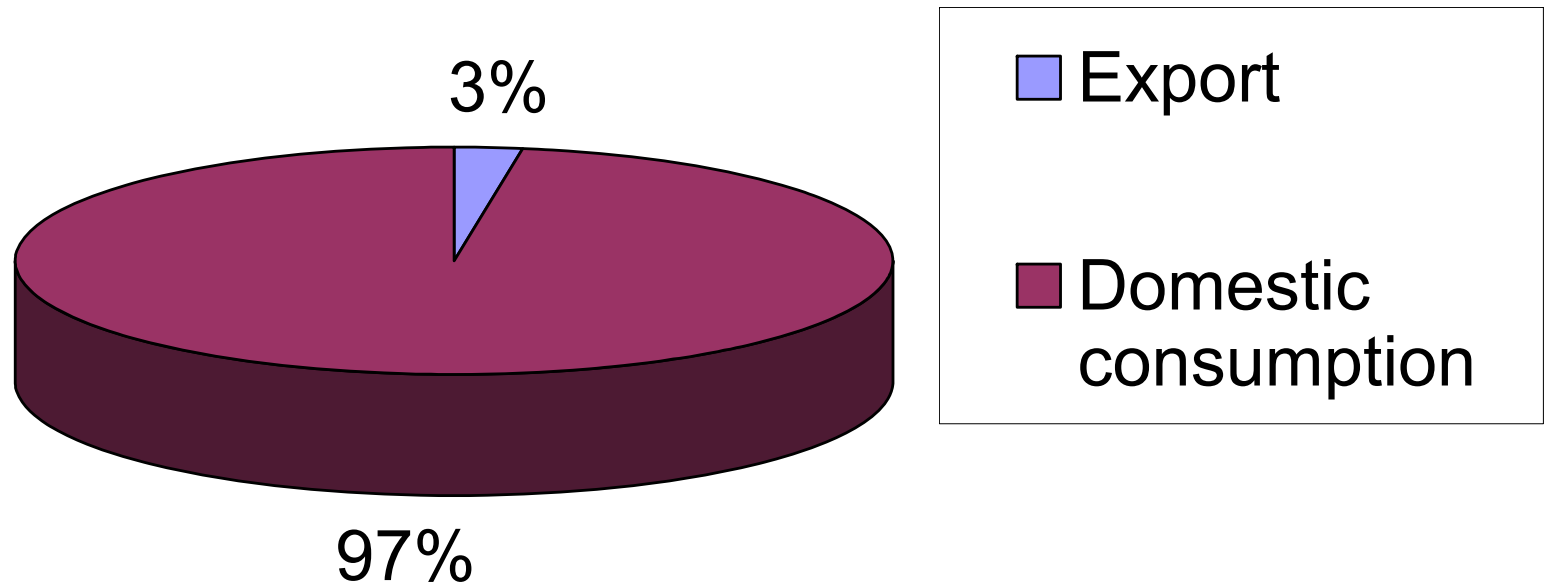
Million USD



UN Comtrade

Would BTA matter given trade facts? (2)

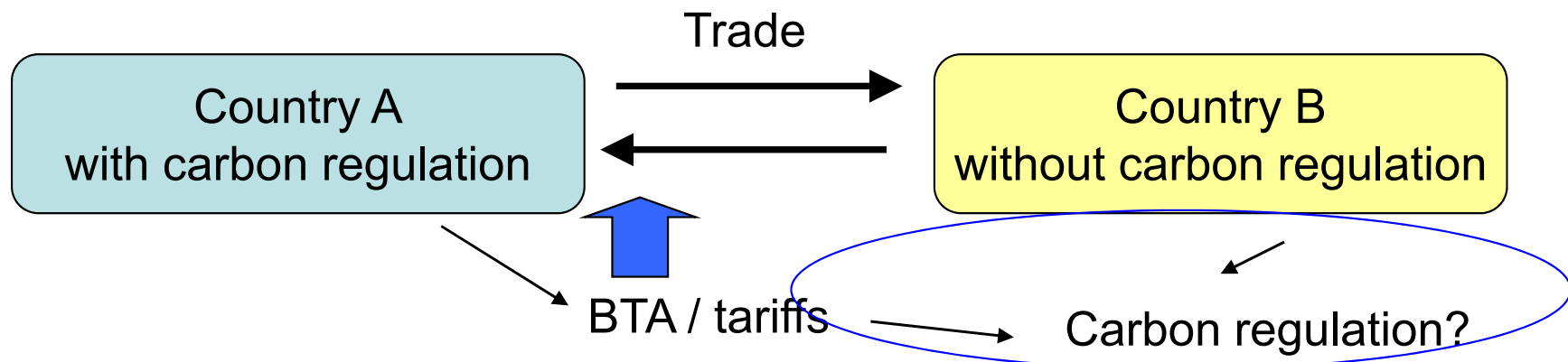
Cement Production in China (2007, USGS/UN Comtrade)



- Trade of GHG-intensive goods are bilateral
- Not all major non-Annex I countries are net exporters of GHG-intensive goods

Economic aspects

- Do BTAs by a country/countries encourage their trade partners to adopt more stringent climate-change policies?
- Not necessarily: the partner may relax carbon regulation when BTAs are imposed (Tarui, Yomogida, Yao 2010 WP)



Trade-based measures and partial cooperation: summary

- Can BTAs be effective? Questions remain from legal, trade-fact, strategic-motives grounds...

Environment and Trade

- Funded by Center for Environmental and Trade Research (CETR) at Sophia University, Japan, Mitsui Foundation, Center for Global Partnership, Sumitomo Foundation
- Estimate quantitative impacts of various BTA measures
- Legal aspects
- Do BTAs, if incorporated in a climate treaty, enhance countries' incentives for treaty participation and treaty compliance?
- If not (or if deemed incompatible with WTO), what other carrots/sticks are available?