Bilateral versus Multilateral Free Trade Agreements: A Welfare Analysis

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Forthcoming

Highlights

- Why do we observe bilateral rather than multilateral FTAs?

- Exploring the enforceability of different types of FTAs by
  - an infinitely repeated game framework
  - comparing minimum discount factors
  - globally welfare maximizing trade agreements
  - estimating the policy weights on
    - consumer surplus
    - producer surplus
    - tariff income

- Obstacles for having a multilateral FTA are found as
  - transportation costs
  - differences in country sizes
  - differences in comparative advantages

The Model

- Partial-equilibrium trade model of N countries and N goods.

- Linear demand and linear supply considering:
  - transportation costs
  - differences in country sizes
  - differences in comparative advantages

- Welfare function is given by:

$$W_j \;=\; \sum_k \left[WCS \int_{p_{jk}}^{A/B} D_{jk}\left(u\right) du + WPS \int_{-\alpha_{jk}/\beta}^{p_{jk}} X_{jk}\left(u\right) du \right]$$
$$+ WTI \sum_k t_{jk} M_{jk}\left(p_{jk}\right)$$

where

- WCS is the weight on consumer surplus
- WPS is the weight on producer surplus
- WTI is the weight on tariff income.

Empirical Investigation

- Baier and Bergstrand (2004) have empirically found that likelihood of a bilateral FTA are economically and significantly higher:
  - the closer in distance are two trading partners
  - the more remote a natural pair is from the rest of the world (ROW)
  - the larger and more similar economically (i.e. real GDPs) are two trading partners
  - the greater the difference in comparative advantages
  - the less is the difference in comparative advantages of the member countries relative to that of the ROW.

- We calibrate our model by estimating WCS, WPS and WTI that are consistent with Baier and Bergstrand (2004).
  - WCS (the weight on consumer surplus) is estimated as between $0.01 - 0.07$
  - WPS (the weight on producer surplus) is estimated as between $0.71 - 0.77$
  - WTI (the weight on tariff income) is estimated as 0.22.

Conclusion

- On average across countries, the policy weight on producer surplus is much higher than weights on consumer surplus and tariff income
- Although a multilateral FTA is the first-best solution globally, bilateral FTAs are the agreements that are globally-sustainable-Pareto-optimal for a wider range of parameters, while a welfare maximizing multilateral FTA is globally-sustainable-Pareto-optimal only for very special cases (i.e., when we have very high minimum discount factors).
    - A multilateral FTA is hard to sustain due to self-enforcement issues
- Transportation costs, country size differences, and comparative advantage differences across countries all contribute to having bilateral rather than multilateral FTAs.
- Possible ways to increase the likelihood of a self-enforcing multilateral FTA are all based on reducing asymmetries across countries by
    - investing in transportation technologies
    - having underdeveloped countries to catch-up with developed countries through pushing for their economic stability
    - sharing technological improvements around the world, say, through patent agreements across countries, or through encouraging foreign direct investments from high-technology countries.