

# On the Welfare Effects of Bilateral versus Multilateral Trade and Investment Liberalization

Mario Larch<sup>1</sup>

<sup>1</sup> Ifo Institute for Economic Research at the University of Munich,  
Poschingerstraße 5, D-81679 Munich, Germany.

2. FIW-Workshop 2007

# Table of contents

- 1 Motivation
- 2 Features of our analysis
- 3 3-country case
- 4 Conclusions

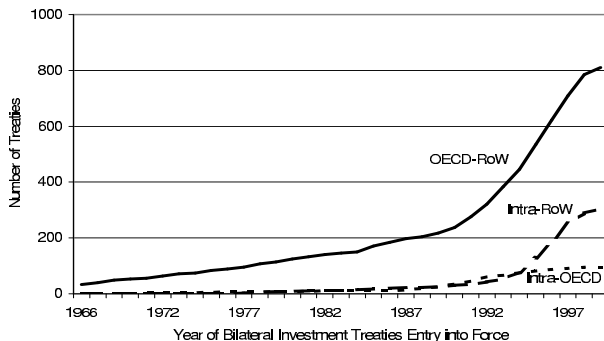
# Motivation, I

- Surge in trade regionalism after WWII
  - EU, EFTA, EEA.
  - NAFTA.
  - Numerous smaller PTAs.
- Origin of new theory on PTAs.
- One line of interest is on determinants of PTAs.

## Motivation, II

- Political economy forces and the Domino Theory of PTAs (Baldwin 1995, 1997)
  - Threat of capital flight into PTAs exerts pressure on outsiders to join.
  - NAFTA negotiated to counter-balance growing economic and political influence of EU (Abbott 1999).
- Economic/geographical fundamentals (Krugman 1991, Frankel, Stein, and Wei 1995, Baier & Bergstrand 2004).

## Number of bilateral investment treaties in different country blocs



Data source: World Bank and UNCTAD.

## Change in bilateral investment treaties (BITs) and tariffs (70s-90s)

Size	Observed policy change	Secondary school attainment share		
		Below median	Above median	All countries
Small countries	$\Delta$ in BITs	2.6	5.6	3.2
	$\Delta$ in tariffs	-0.1	-3.2	-1.0
Large countries	$\Delta$ in BITs	13.0	23.3	20.4
	$\Delta$ in tariffs	-5.2	-7.9	-7.2
All countries	$\Delta$ in BITs	6.0	20.4	13.2
	$\Delta$ in tariffs	-2.4	-7.2	-5.4

## Features of our analysis

- Unilateral vs. bilateral strategies.
- World vs. single countries welfare.
- Single vs. combined policy.
- Symmetric vs. asymmetric trade and investment parameters.
- Dependence of welfare consequences on factor endowments and pre-liberalization equilibrium plant configuration.
- Association of trade liberalization (TL) with falling tariffs.

# Methodology

- Numerically solvable general equilibrium knowledge-capital model with monopolistically competitive firms.
- Graphics of endowment boxes.
- Regression analysis and ANOVA of welfare effects on country size and international factor endowment allocation.



## The model

Large-group monopolistic competition model with

- two (three) countries and three factors,
- a differentiated goods sector (SDS-preferences) (*X*-sector),
- a homogeneous goods sector (*Z*-sector),
- tariffs and iceberg-transport costs in both sectors,
- and vertical as well as horizontal MNEs in the differentiated goods sector, facing investment barriers.

## Measuring welfare

Equivalent variation:

$$EV_i = 100 \cdot \frac{\frac{\pi_{i,0} V_i}{\alpha^\alpha (1-\alpha)^{1-\alpha}} - E_{i,0}}{E_{i,0}},$$

where

$$V_i = \frac{E_i}{\pi_i} \alpha^\alpha (1-\alpha)^{1-\alpha} \quad \pi_i = s_i^\alpha q_i^{1-\alpha}.$$

World welfare is measured as:

$$EV_{i+j} = 100 \cdot \frac{\left( \frac{\pi_{i,0} V_i}{\alpha^\alpha (1-\alpha)^{1-\alpha}} + \frac{\pi_{j,0} V_j}{\alpha^\alpha (1-\alpha)^{1-\alpha}} \right) - (E_{i,0} + E_{j,0})}{E_{i,0} + E_{j,0}}.$$

## Motivation 3-country

- Regionalism and bilateralism in both TL and IL; FTAs and BITs (most BITs between North and South; fast growing).
- Attempts of multilateral liberalization (WTO rounds; MAI).
- General equilibrium theory on trade and MNEs only recently addressed the question of bilateral vs. multilateral liberalization.

## Main characteristics of previous GE research

- 2 countries (except Yeaple, 2003; Helpman, Melitz, Yeaple, 2004; Grossman, Helpman, Szeidl, 2005; Ekholm, Forslid, Markusen, 2007).
- Only a few results on welfare effects of TIL in 2-country settings (Markusen, 1997, 2002).
- 2 factors (headquarters serve affiliates with H; frequently interpreted for FDI, although there is no K).

## Our framework

- 3 factors (K, H, L; headquarters serve affiliates with H and K).
- 3 countries (bilateral vs. multilateral liberalization); one is K&H-abundant (developed) and two are L-abundant (developing).
- 3-plant or 2-plant horizontal MNEs; 1-plant or 2-plant vertical MNEs (Armington-assumption); 1-plant NEs.
- TIL vs. TL vs. IL.

## Bilateral vs. multilateral liberalization

- In our case, multilateral liberalization dominates bilateral liberalization (MUTIL, MUIL, or MUTL) at median for the developed economy and the outsider of the bilateral treaty.
- BITL negatively affects any outsider (trade diversion).
- BIL of RoW with "EU" only reduces an L-abundant, small, RoW outsider's welfare (FDI diversion).
- BIL between RoW economies is at the median irrelevant.

# Dissecting the median welfare effect of liberalization

Two different dissections:

- 1 Relative factor endowment/size differences.
- 2 Differences in equilibrium plant-configuration.

## Relative factor endowment/size differences

- K-abundant RoW economy: BL with "EU"  $>$  ML (wins from FDI & trade diversion).  
May rationalize the failure of multilateral investment agreements at the level of the WTO.
- K-scarce RoW economy: unlikely wins from IL (loses/doesn't gain from FDI & trade diversion).
- Developed economy: prefer in many cases bilateral investment liberalization over multilateral investment liberalization.  
May rationalizes rapid increase in bilateral investment treaties between OECD and transition economies.



## Differences in equilibrium plant-configuration

- Bilateral liberalization between a developed and a RoW country that headquarters horizontal or complex horizontal MNEs is preferable for the latter (no relocation of vertical-MNE-plants from developed country).
- Bilateral (investment) liberalization between a developing country and a RoW economy that headquarters vertical or complex vertical MNEs is preferable for the latter.

# Conclusions, I

- Twoness is insufficient for GE-analysis of welfare effects of regionalism versus multilateralism.
- 3-factor and 3-country model explains important stylized facts: (i) cross-hauling; (ii) importance of vertical MNEs; (iii) coexistence of trade and MNEs.
- Explains deterrence of multilateral agreements of investment by K-abundant countries (OECDs Multilateral Agreement on Investment).

## Conclusions, II

- Explains some of the most important stylized facts regarding the conclusion of bilateral investment treaties in the last decades (that they take place between the developed and the developing economies and where mainly concluded since the early 1990s, after some of the economies had already accumulated sizeable domestic capital stocks).