

TRADE PERFORMANCE OF FREE TRADE ZONES

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Introduction:

- **Proliferation of FTZs** with pro-trade policies in **developing** and **emerging countries**
- **Positive Impact of FTZ on economic development**
 - « **Catalytic effects** » : Linkages between EPZs and the rest of the economy (e.g. Knowledge spill-overs)
 - The role of FTZ in **GVCs** and for **export-led growth** policies
 - **Absorbing FDI** with minimum impact on domestic market (Wu, 2009)
 - **Different growth impact** across FTZ programs (FIAS, 2008)
- **Drawbacks**
 - Source of **distortions**
 - **Lawless areas** with **sweatshops**
 - **Illegal trade** and **money laundering**

Trade Impact of FTZs: Success Stories?

Case studies show a large share of exports for some FTZs (Chinese SEZs, Maquiladoras etc.)

- ▣ **Trade Creation Effect:** with lower tariff rates
- ▣ **Second Best solutions:** Elimination of counter-productive effects of high tariffs on firms' competitiveness and exports.
 - **Windfall Effect:** Relocation of companies from their initial place in the country to FTZ zone
 - **Trade Diversion Effect:** FTZ exports at the expense of the exports of the rest of the country
 - **Preference Erosion Effect:** Substitution of imported inputs to a less competitive domestic supplier
- **Aim of the paper is to test the link between the contributions of FTZs to exports and the host country's trade protection policy.**

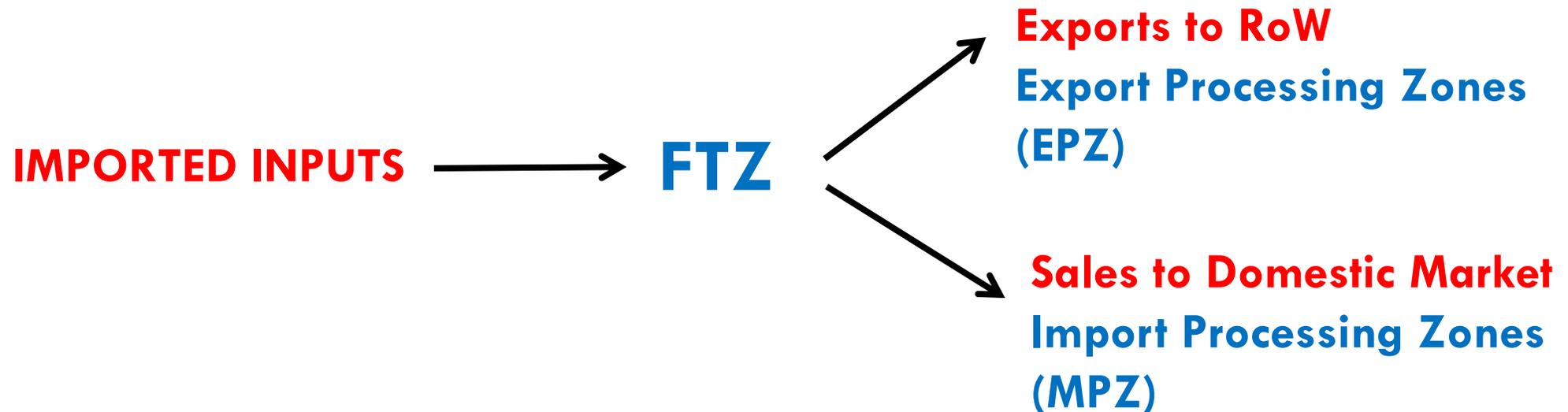
FTZ, EPZ and MPZ

- **Several definitions of FTZs** by referring their different characteristics
 - ▣ Geographic form (concentrated or widespread)
 - ▣ Type of business (transit, processing, commercial etc.)
 - ▣ Industrial specialization (service, technology, logistics etc.)
- **Common characteristics: Exceptions to tariff and/or fiscal policy**
 - ▣ Exceptions to national regulations and often with tariff exemptions on imported inputs and tax breaks granted to FTZ firms
- Accompanied **generally with export requirements and restrictions on domestic market sales:**
 - ▣ 100% export share requirement with no access to domestic market
 - ▣ 80% export share requirement; in other words 20% sold in domestic market (eg. Bangladesh)
 - ▣ No requirement (eg. Uruguay, Thailand etc.)
- **Export Processing Zones (EPZs)** imply a transformation of imported inputs before exporting a processed good.

Implications: EPZ versus MPZ

- « **Import Processing Zones** »: Processing for domestic market

Duty-free domestic access used as a further incentive for investors (eg. 20% in Mauritius, FTZ of Manaus with advantageous tariff rates conditional on local value-added etc.)



FTZ Database:

<http://ftz.dauphine.fr/fr/donnees.html>

- **No cross-cutting studies** due to lack of data : ILO database by Singa & Boyange (2007), WEPZA database etc.
 - Different definitions of FTZs
 - Regime opacity
 - Inoperative FTZs
- Original data constructed by authors under project ANR Program « Les Suds II »
 - **158 Countries**
 - Approximately **1083 Zones** (without counting Maquiladoras and US Foreign Trade Zones)
 - **Sources: WTO Trade Policy Reviews** (information about date of creation and legislative details, type of zone(s), activity of zone(s) etc.); **US Department of State** (Number of zones, main activity, legislation) ; **reports from International Organizations; academic papers, published books** etc.

Methodology:

- We use a **gravity model** of trade (X_{ij})
 - Cross-country analysis with a sample of **122 countries** for year **2008**
 - Interest Variables: **Average MFN tariff rates** and **FTZ policy variable**
 - Model is estimated by **PPML estimator** in its multiplicative form (Santos Silva & Tenreyro; 2006). PPML is a strong tool for:
 - « Zero » trade values
 - Heterogeneity bias when log-linearized
- FTZ dummy defined for 122 countries by using author's original database:
 - Conditions for the existence of FTZ : **Processing Activity** and **Tariff Exemptions**
 - **62 active FTZ program** (EPZ or EMPZ)
 - **11 active Export-Import Process Zone** (EMPZ): Duty-free domestic access
 - **9 non-active FTZ program**: Having at least one firm

VARIABLES	Basic Gravity Model
Ln(Dij)	-0.685*** (0.042)
Ln(Yi)	0.733*** (0.031)
Ln(Yj)	0.743*** (0.030)
Ln(YperCapi)	-0.005 (0.046)
Ln(YperCapij)	0.017 (0.038)
Ln(Rij)	1.384*** (0.145)
Ln(Rji)	1.137*** (0.136)
RTAij	0.040 (0.088)
EC27ij	0.516*** (0.140)
CONTij	0.580*** (0.108)
LANGij	0.365*** (0.069)
COLij	-0.208** (0.088)
LLi	-0.148* (0.086)
LLj	-0.135 (0.099)
Constant	10.406*** (2.379)
Observations	14,116
R-squared (Pseudo)	0.753

BASIC GRAVITY MODEL:

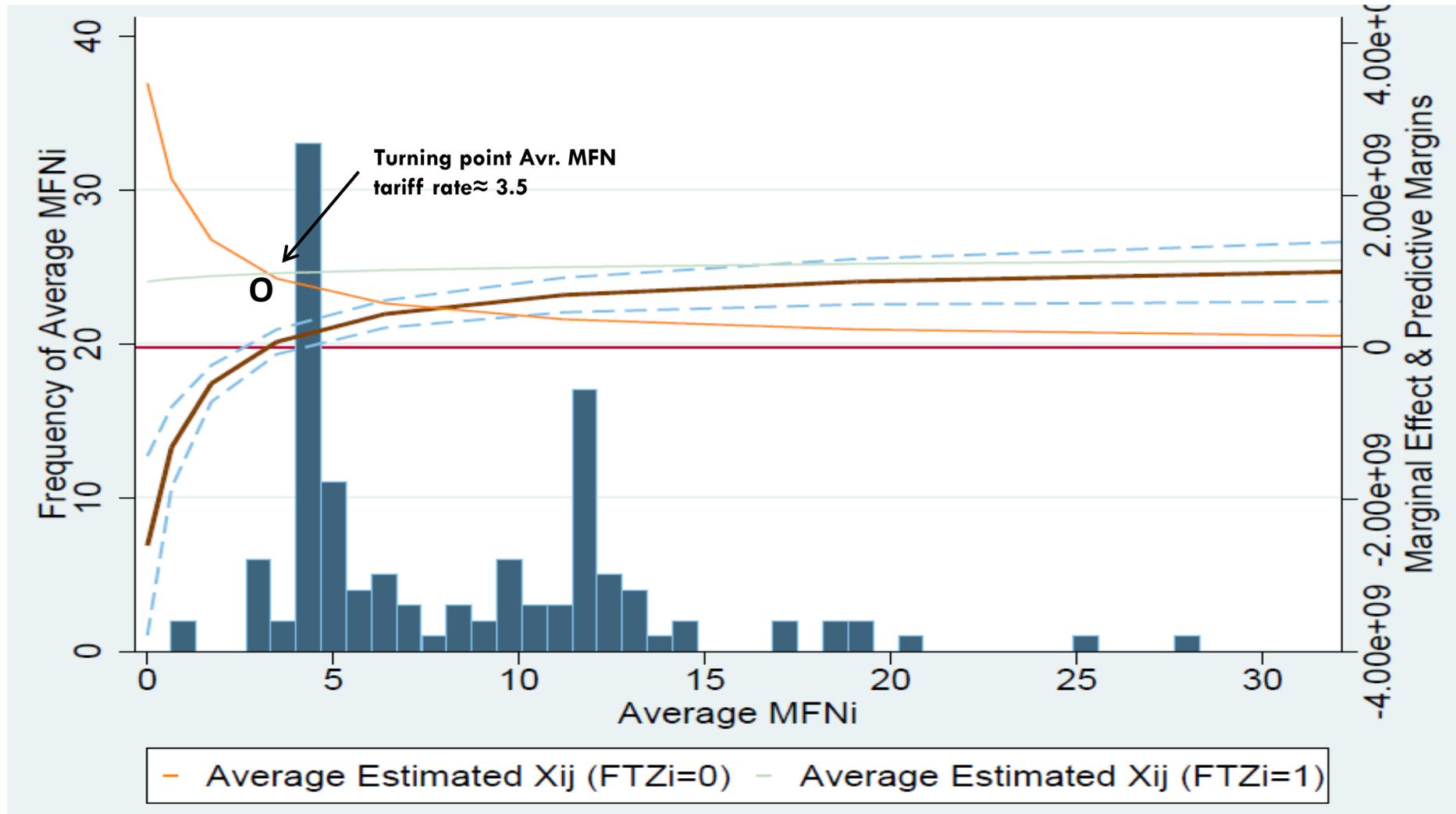
- **Nominal GDP** of country i, j in current US\$ (positive, significant)
- **Nominal per capita GDP** of country i, j in current US\$ (not significant)
- **Geodesic distance** between i and j (negative, significant)
- **Remoteness index** (Helliwell; 1998) of country i and j (positive significant)
- **Landlocked** variable for i and j (negative, not significant for j ; significant at %10 for i)
- **Regional trade agreement** between i and j other than the EU (positive, not significant)
- **European Union (27)** countries i and j (positive, significant)
- **Contiguity** of i and j (positive, significant)
- **Common language** between i and j (positive, significant)
- **Colonial linkage** between i and j (negative, significant)

FTZ, EPZ, EMPZ and Tariff Impact

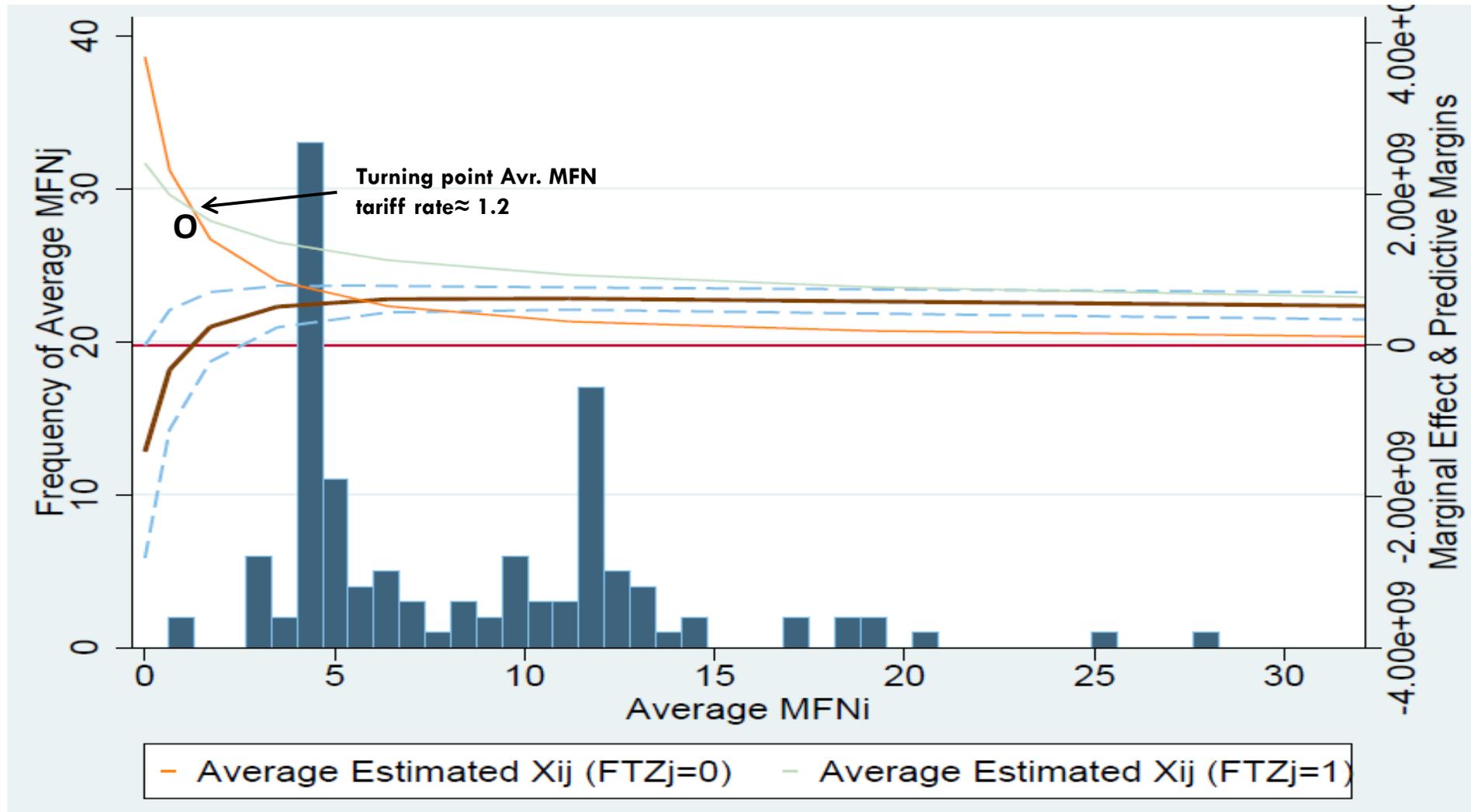
	(1)	(2)	(3)	(4)
Dependent Variable: X_{ij}	FTZ	FTZ interaction	EPZ-EMPZ	EPZ-EMPZ interaction
$\log(MFN_i)$	-0.556***	-0.898***	-0.573***	-0.902***
$\log(MFN_j)$	-0.794***	-1.000***	-0.783***	-0.985***
FTZ_i	0.193*	-1.391***		
FTZ_j	0.527***	-0.461*		
$FTZ_i * \log(MFN_i)$		0.977***		
$FTZ_j * \log(MFN_j)$		0.620***		
EPZ_i			0.347**	-0.610
$EMPZ_i$			0.140	-1.731***
EPZ_j			0.518***	-0.259
$EMPZ_j$			0.513***	-0.611*
$EPZ_i * \log(MFN_i)$				0.667***
$EMPZ_i * \log(MFN_i)$				1.140***
$EPZ_j * \log(MFN_j)$				0.507***
$EMPZ_j * \log(MFN_j)$				0.696***
Pseudo R-squared	0.795	0.837	0.802	0.838

Significance Level: *** 1% ** 5% * 10%

Average Marginal Effect (AME) of FTZ for Exporter i



Average Marginal Effect (AME) of FTZ for Importer j (exports to an FTZ country)



Robustness Analysis

- **Exporter and importer fixed effects (fe) model** to control for **Multilateral Resistance (MR)** and the **correlation between bilateral trade costs and FTZ policy**
 - *at a second stage*, regressed over MFN tariffs, FTZ variable, the interaction terms and unilateral control variables
 - Similar results for exporter and importer FTZ country trade
- **Exporter and importer fe model** with the distinction of **EPZ and EMPZ variables**
 - EPZ impact on exports of country *i*: not significant but have the same positive sign.
 - EMPZ impact on imports are less significant and important in size when estimated in interaction.
- Controlling the database
 - **A broad definition of activity** (necessary and sufficient condition: existence of the program): Similar results
 - **A restrict definition:** « very active » FTZs: Similar results
 - **Changing the USA status** from FTZ country to non-FTZ country due to limited share of FTZ exports in US exports: higher FTZ impact on exports and imports
 - **Dropping China:** Similar results

Conclusion:

- FTZs raise trade only by **easing the negative impact of protection.**
- **FTZ impact on imports** are **higher** and **more robust** than their impacts on exports.
- FTZs **increase world's exports indirectly.** This result confirms their contribution to GVCs.
- The **negative impact of protection** are **more offsetted** by **EMPZ policy** (more sensitive to tariff levels).
- A debate around « **trade creation** » versus « **trade protection**» instead of « **distortive** » versus « **stimulating** » effects...

Thank you!

