

8th FIW Research Conference 'International Economics'

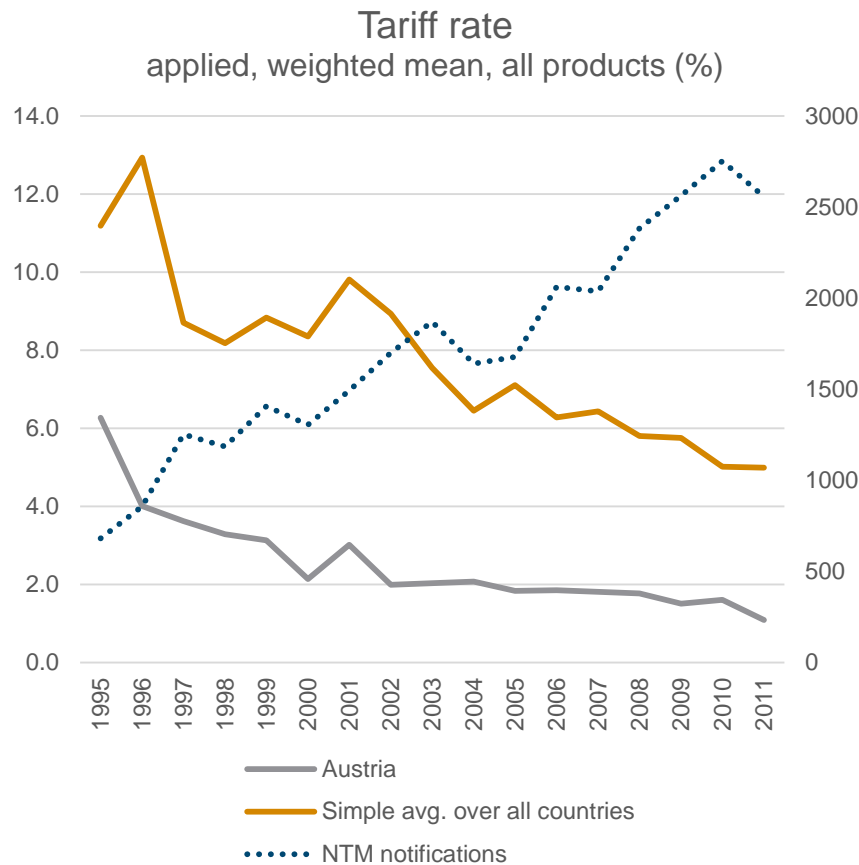
Friday, December 4, 2015

The Impact of NTMs on Imports

Julia Grübler (with R. Stehrer and M. Ghodsi)

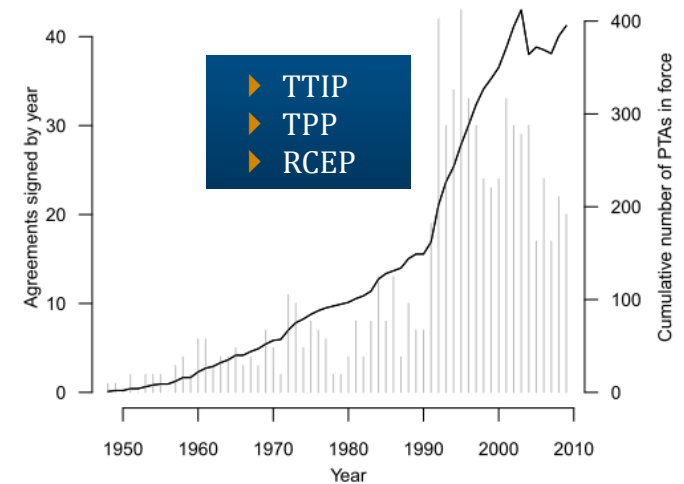
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The Political Economy of NTM use

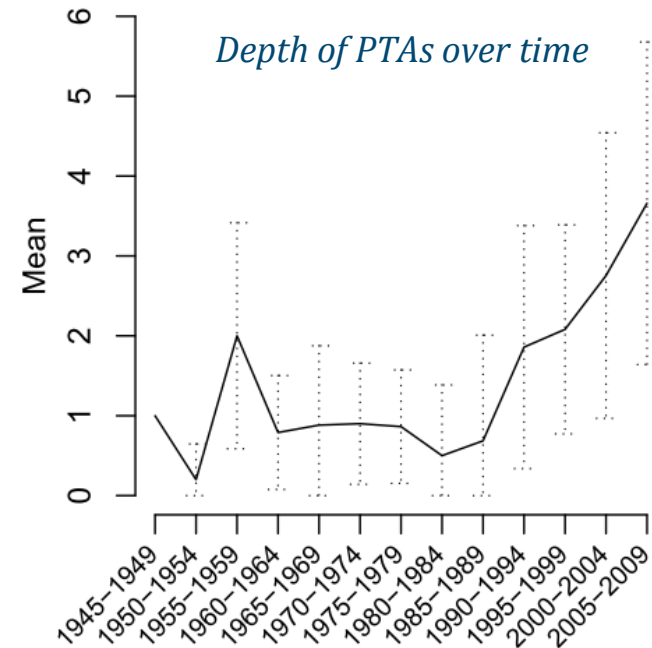


Source: WTO I-TIP (NTM data); World Bank (WITS tariff data); wiiw calculations

Number of PTAs over time



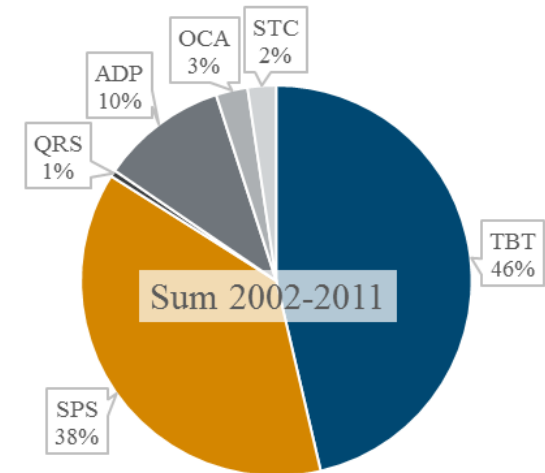
Depth of PTAs over time



Source: Dür et al, 2014

Non-tariff measures (NTMs)

- 15 out of 16 classifications concern Imports
- thereof 3 are technical in nature:
 - SPS ... sanitary and phytosanitary measures
 - TBT... technical barriers to trade
 - Pre-shipment inspection and other formalities
- thereof 12 are non-technical measures:
 - antidumping (ADP)
 - countervailing Duties (CVD)
 - (special) safeguards (SG)
 - quantity control measures (e.g. quotas, licensing) (QRS)
 - ...



Ad-valorem equivalents (AVEs) of NTMs

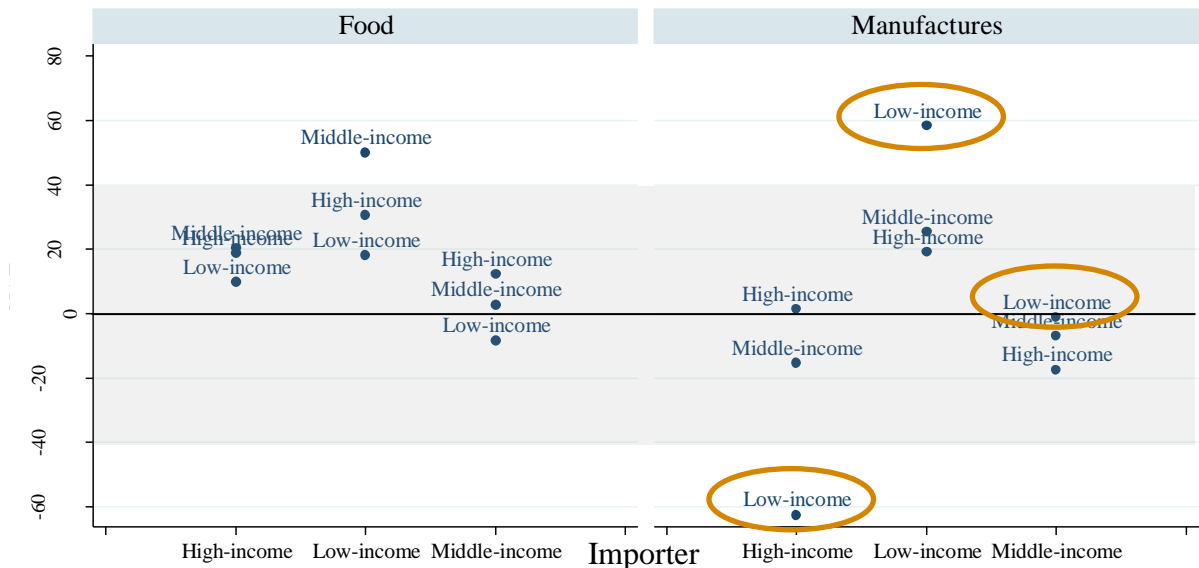
or: How to make NTMs comparable to tariffs

	Price gap method	Indirect Approach
What?	Deriving AVEs from an analysis of the price wedge due to the implementation of NTMs	Deriving AVEs with a Gravity estimation approach from the impact on import quantities and import demand elasticities
Who?	<ul style="list-style-type: none"> • Dean et al., 2009 • Nimenya et al., 2012 • Cadot and Gourdon, 2015 	<ul style="list-style-type: none"> • Kee et al., 2009 • Bratt, 2014 • Beghin et al, 2014
Issues	<ul style="list-style-type: none"> › Necessity to compare different prices along the production and supply chain › Neglect of product quality differences › Data availability restricts to few countries for a small set of products 	<ul style="list-style-type: none"> › Based on import demand elasticities, which are themselves estimates › Neglect of product quality differences <p>✓</p>

Key reference papers for the Indirect Approach

- Kee et al (2009): *non-tariff barrier*
 - ▶ Ø 27% for agricultural products
(max: Ø 46% for dairy products + 29% tariffs = 75%)
 - ▶ Ø 10% for manufacturing goods
(min: Ø 3% for tin and products thereof + 6% tariffs = 9%)
 - ▶ Highest AVEs of NTMs found for Low-Income Countries in Africa
Highest AVEs of Subsidies found for the EU

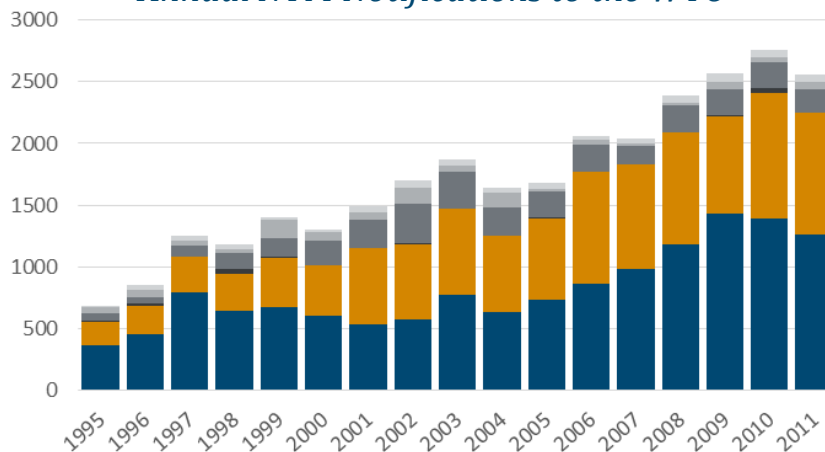
- Bratt (2014):
non-tariff measure



Evolution of NTMs

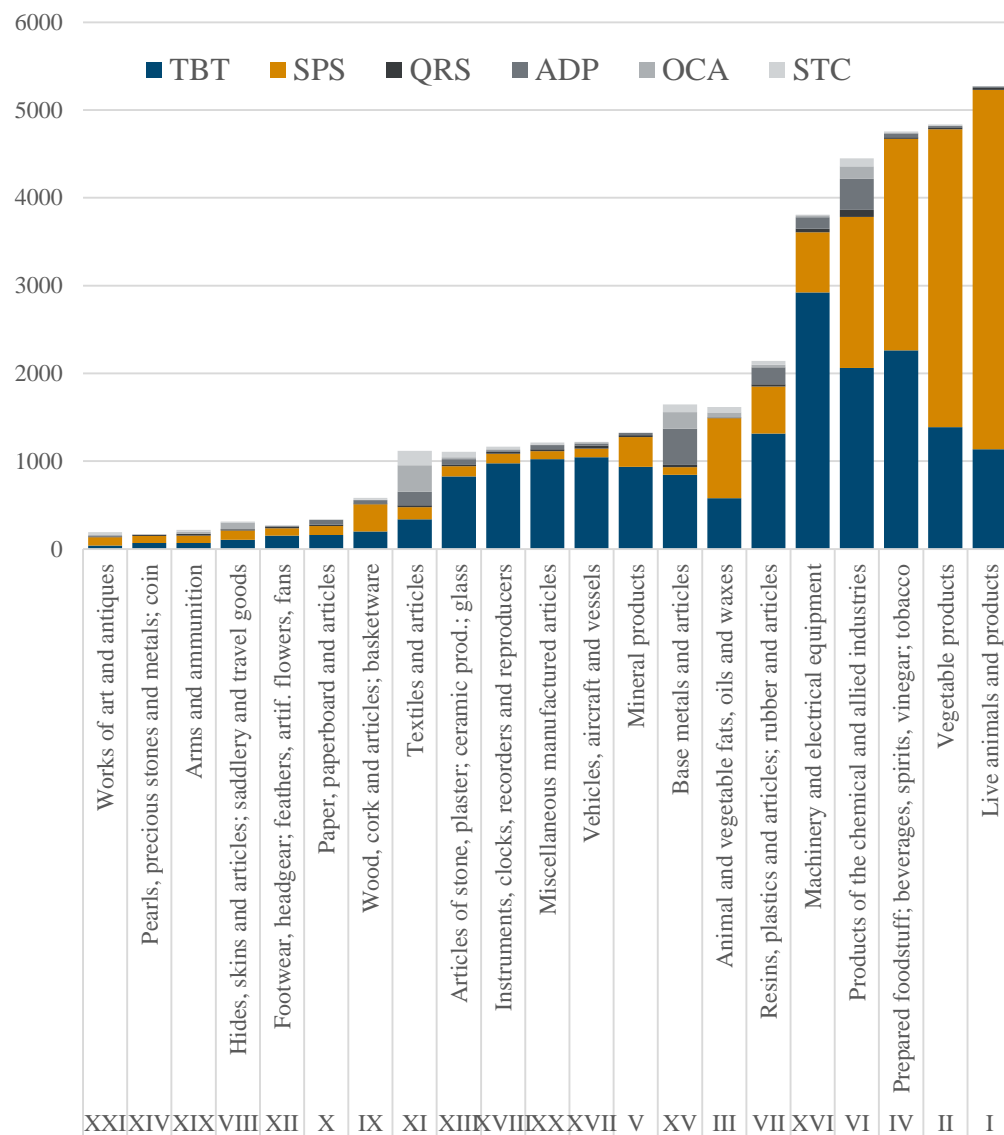
- New data set (WTO I-TIP complemented by Ghodsi et al, 2015)
- Types of NTMs
- Intensity Measure for NTMs
- Using a panel structure

Annual NTM Notifications to the WTO



Source: WTO I-TIP; wiiw calculations

NTM stock in 2011, by NTM type and product group



Methodology

■ Heckman two-stage estimation procedure

(1)

$$\begin{aligned} \text{Prob}[m_{ijht} > 0] &= \alpha_{0h} + \alpha_1 \ln(1 + t_{ijht}) + \sum_{n=1}^N \alpha_{2n} NTM_{nijht} \\ &\quad + \alpha_3 C_{ijt} + \omega_i + \omega_j + \omega_t + \epsilon_{ijht}; \\ n &\in \{ADP, CVD, SGM, SSG, SPS, STC_{SPS}, TBT, STC_{TBT}, QRS\} \end{aligned}$$

(2)

$$\begin{aligned} \ln(m_{ijht} | m_{ijht} > 0) &= \beta_{0h} + \beta_1 \ln(1 + t_{ijht}) + \sum_{n=1}^{N-1} \beta_{2n} NTM_{nijht} + \sum_{i=1}^I \omega_i * \beta_{2n'i} NTM_{n'ijht} \\ &\quad + \beta_3 C_{ijt} + \omega_i + \omega_j + \omega_{ij} + \omega_t + \phi_{ijht} + \mu_{ijht}; \text{ with } n \neq n' \text{ and} \\ \forall n, n' &\in \{ADP, CVD, SGM, SSG, SPS, STC_{SPS}, TBT, STC_{TBT}, QRS\} \end{aligned}$$

■ Transformation to AVEs

$$(3) \quad \frac{\partial \ln(m_{iht})}{\partial NTM_{nihht}} = \frac{\partial \ln(m_{iht})}{\partial \ln(p_{iht})} \frac{\partial \ln(p_{iht})}{\partial NTM_{nihht}} = \varepsilon_{ih} AVE_{ih}^n$$

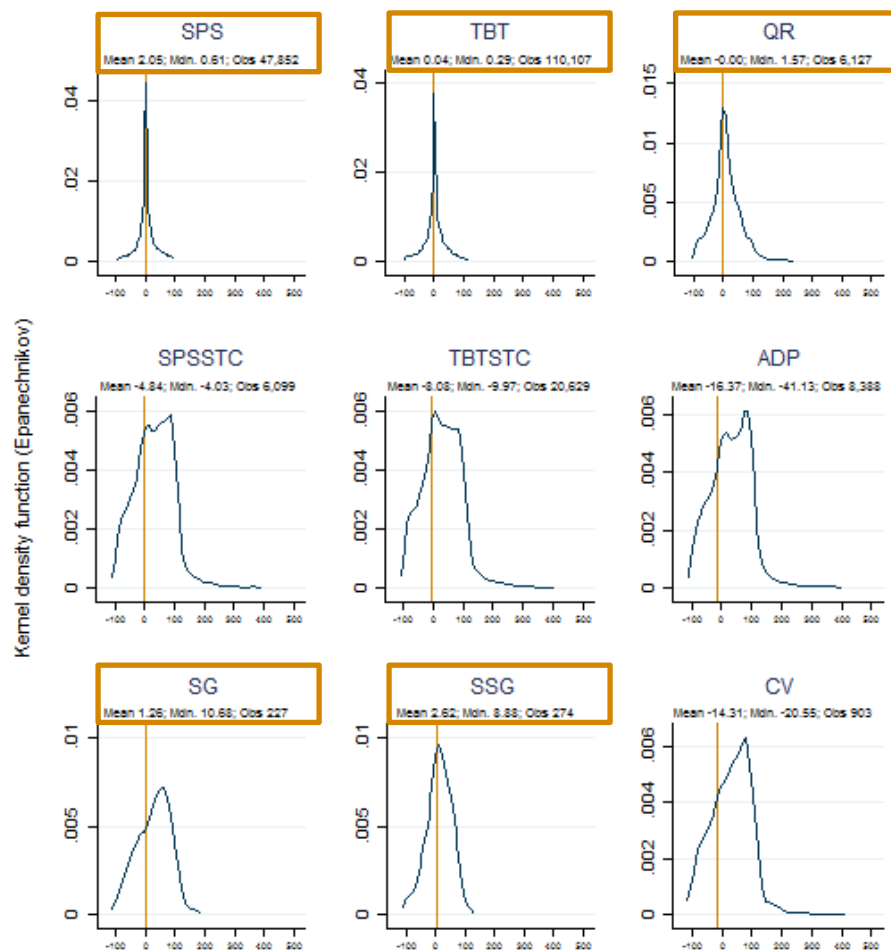
(4)

$$AVE_{ih}^n = \frac{e^{(\beta_{2n'i})} - 1}{\varepsilon_{ih}}$$

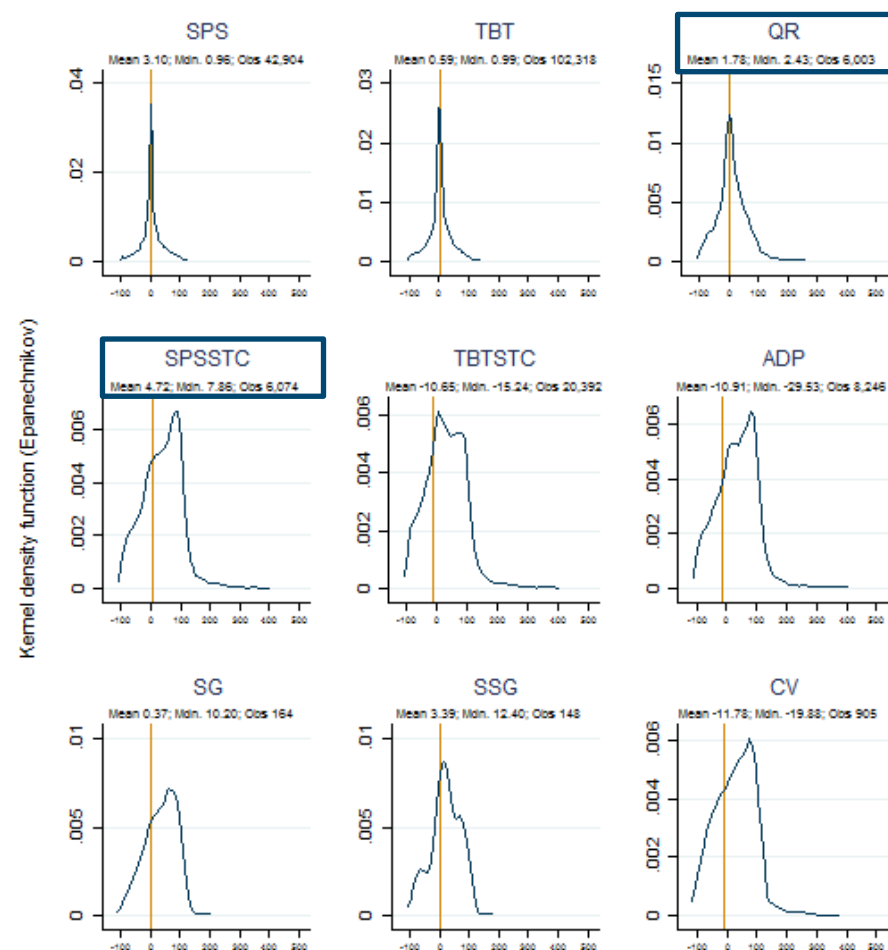
Distribution of AVEs

over country product pairs, by NTM type

Total WTO I-TIP sample



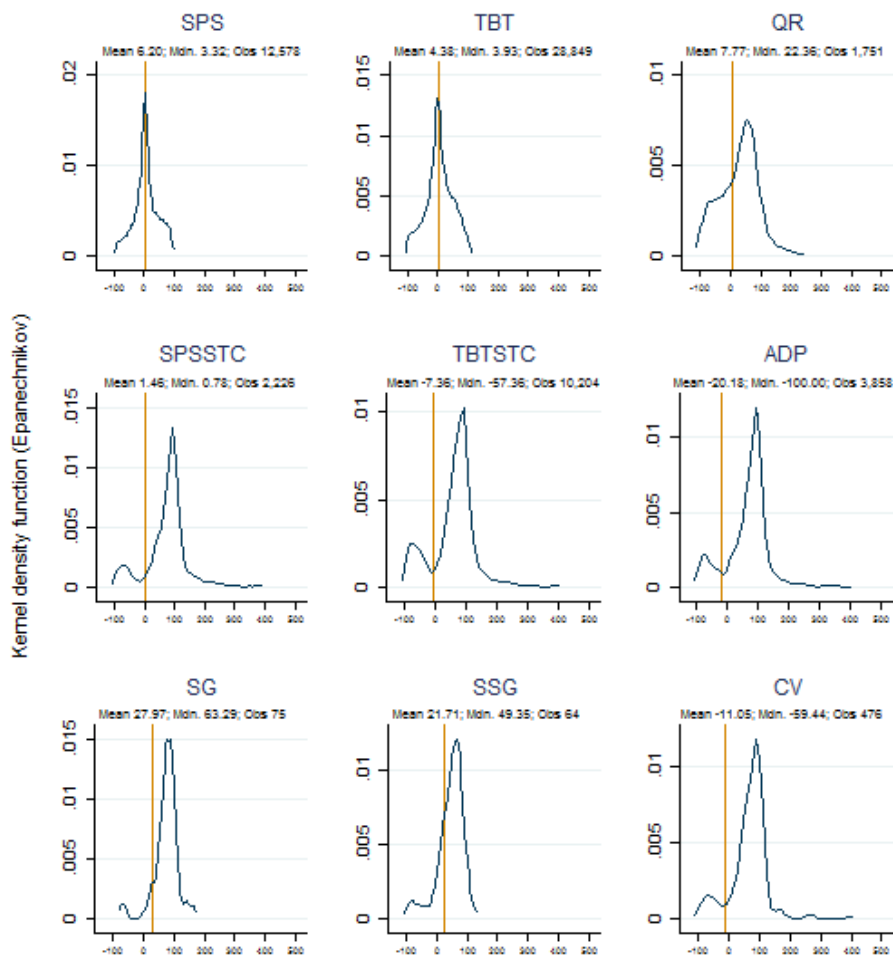
Excluding intra-EU trade



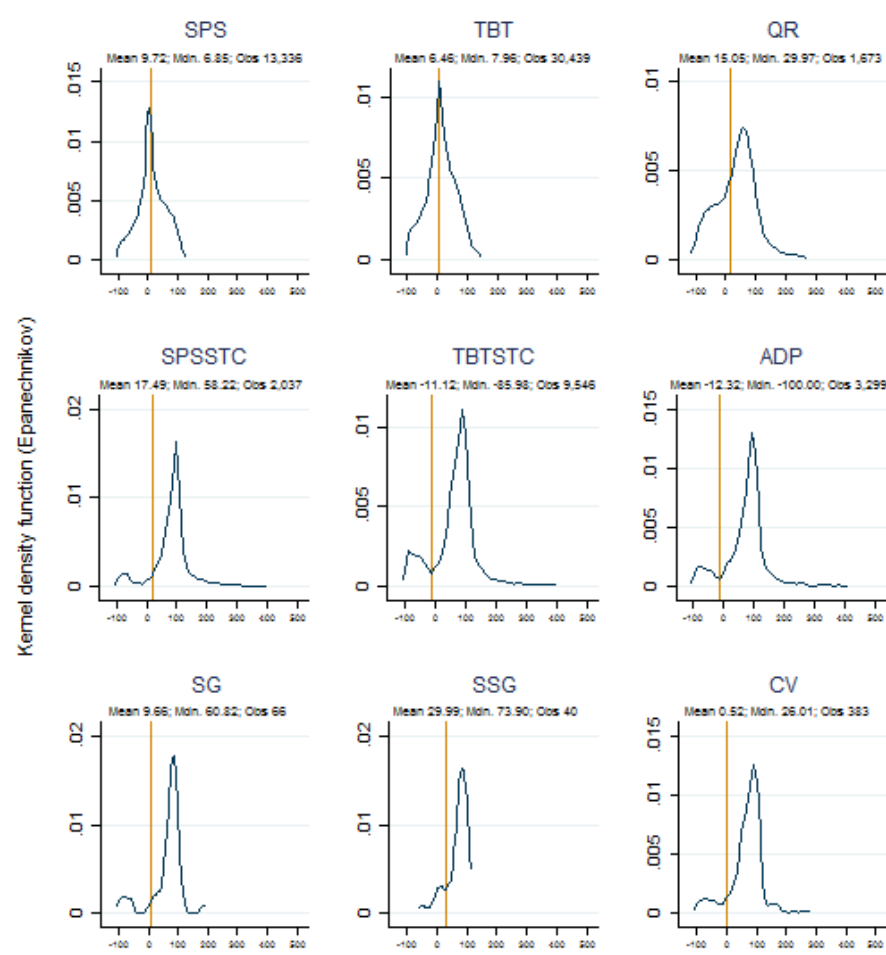
Distribution of AVEs

over country product pairs, by NTM type, **significantly different from zero at 10%**

Total WTO I-TIP sample

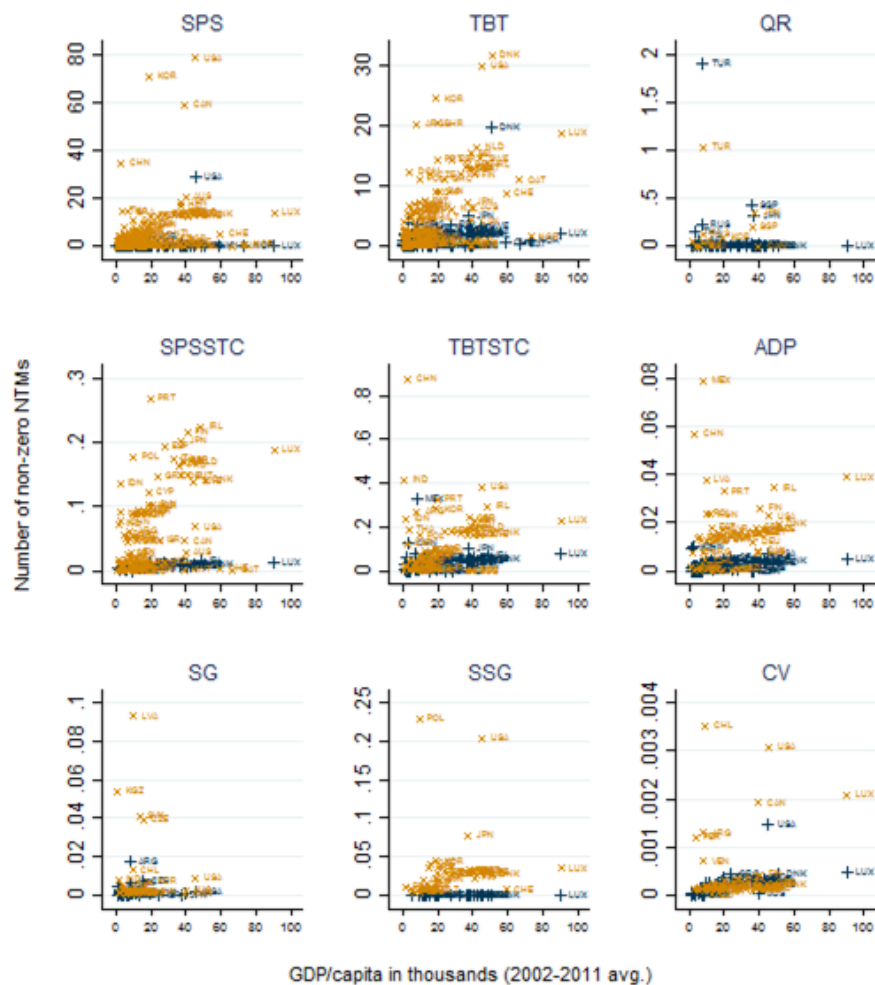


Excluding intra-EU trade



Simple average NTMs

excluding intra-EU trade



simple averages for the *agri-food sector* and the *manufacturing sector*, plotted against GDP p.c.

Simple average AVEs

excluding intra-EU trade

HS2	SPS	TBT	ADP	OCA	QRS	Product Description
66	1.1	79.3		0.0	59.8	Umbrellas, sun umbrellas, walking-sticks, seat-sti[...]
53	7.3	6.0	98.9	0.0	14.0	Other vegetable textile fibres; paper yarn and wov
40	12.2	0.7	4.3	74.2	1.6	Rubber and articles thereof[...]
90	8.5	0.9	0.0	88.1	-6.3	Optical, photographic, cinematographic, measuring, [...]
69	10.4	-0.1	-7.3	57.7	22.3	Ceramic products.
28	12.8	1.7	-2.0	73.8	-6.0	Inorganic chemicals; organic or inorganic compound
50	13.6	8.6	3.8	0.0	41.9	Silk.
4	1.0	-1.4	-8.2	80.5	-6.9	Dairy produce; birds' eggs; natural honey; edible
82	15.4	3.0	13.0	0.0	33.3	Tools, implements, cutlery, spoons and forks, of b
48	15.3	4.5	6.2	35.2	2.6	Paper and paperboard; articles of paper pulp, of p
...
60	6.7	7.4	-46.2	0.0	0.2	Knitted or crocheted fabrics.
42	3.2	-4.8	-49.8	0.0	17.7	Articles of leather; saddlery and harness; travel
64	11.5	-4.2	-55.4	0.0	5.0	Footwear, gaiters and the like; parts of such arti[...]
13	4.0	-0.4		-48.7	-0.2	Lac; gums, resins and other vegetable saps and ext
29	0.8	0.3	-2.5	-50.0	-4.5	Organic chemicals.
17	-0.5	-0.8	-27.7	-29.2	-3.7	Sugars and sugar confectionery.
54	10.4	7.3	-13.1	-59.2	-7.7	Man-made filaments.
70	17.2	-2.3	-19.2	-80.0	18.1	Glass and glassware.
97	-8.2	-100.0		0.0	0.0	Works of art, collectors' pieces and antiques.
87	5.6	-1.3	-19.3	-100.0	-12.0	Vehicles other than railway or tramway rolling-sto

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Thank **you!**



Literature

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