On Non-Tariff Measures and Changes in Trade Routes: From North-North to South-South Trade?

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Facts - Last decade trends

Increase in global trade of AG products (cfr. Fontagne et al.,CEPII 2013). Large increase in trade flows in the Northern area (EU and US) and large increase in trade flows among major Southern countries (few exceptions: Brazil and China vs Russian Federation and South Africa).

Increase in S-S trade and decrease in N-S and S-N (exceptions for imports of US and EU from selected BRIC countries).

Hypotheses

Koo et al. (AEPP, 2006), Lambert and McKoy (JAE, 2009), and Sun and Reed (AJAE, 2010): PTAs favor intra-bloc trade creation (TC), and trade diversion (TD) toward developing countries.

Disdier et al. (WBER, 2015) S-N trade expansion due to economic integration, and restrictive standards to fulfill bilateral agreements.

What's left? (or deserve attention)

Evidence

TD (N-S and S-N) and TC effects (S-S) + national policies pushing consumers preferences toward nationally produced goods (in the North), to the detriment of imported goods (from the South).

How trade will be (re-)shaped ? A new era of (de)globalization?

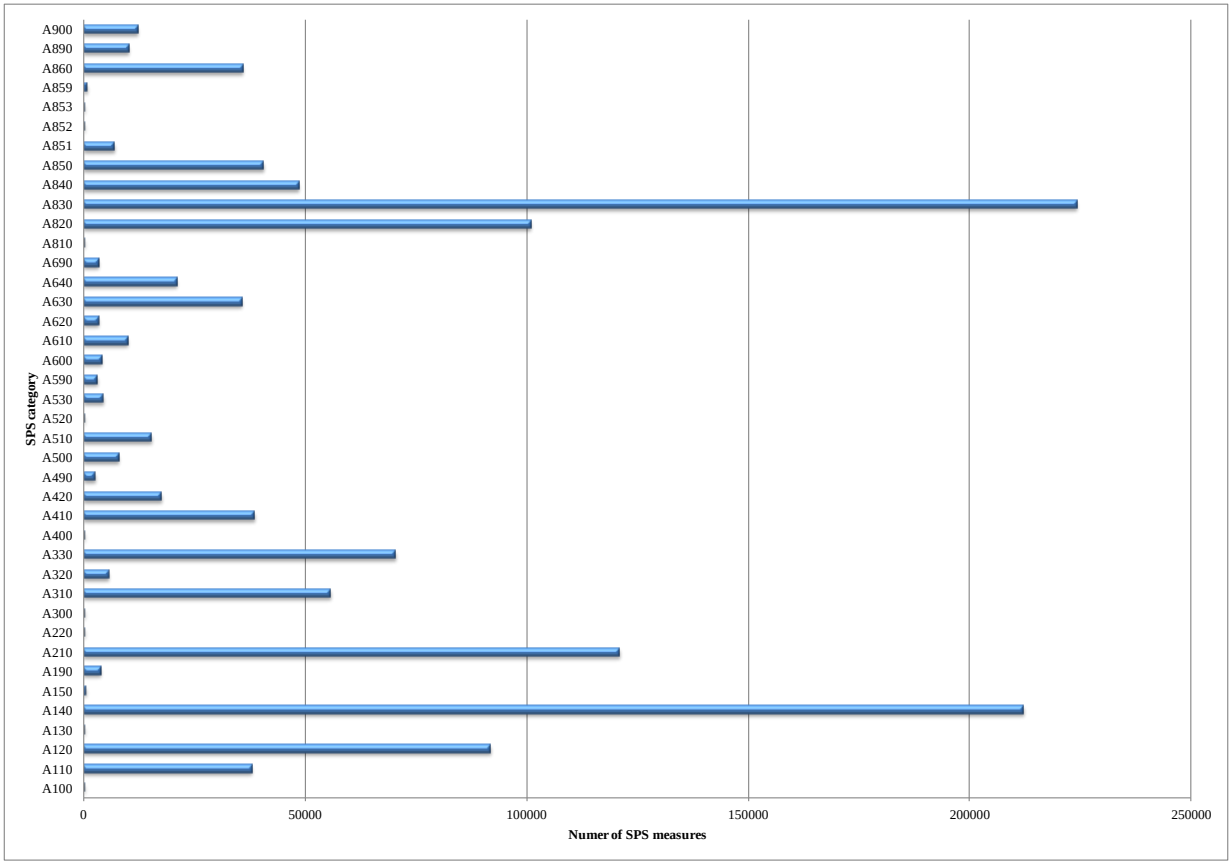
The steps...

Review of the existing literature
Dataset on bilateral trade flows, SPS and controls
Assessment of the impact of NTMs and SPSs (TC and TD)

SPS DATA

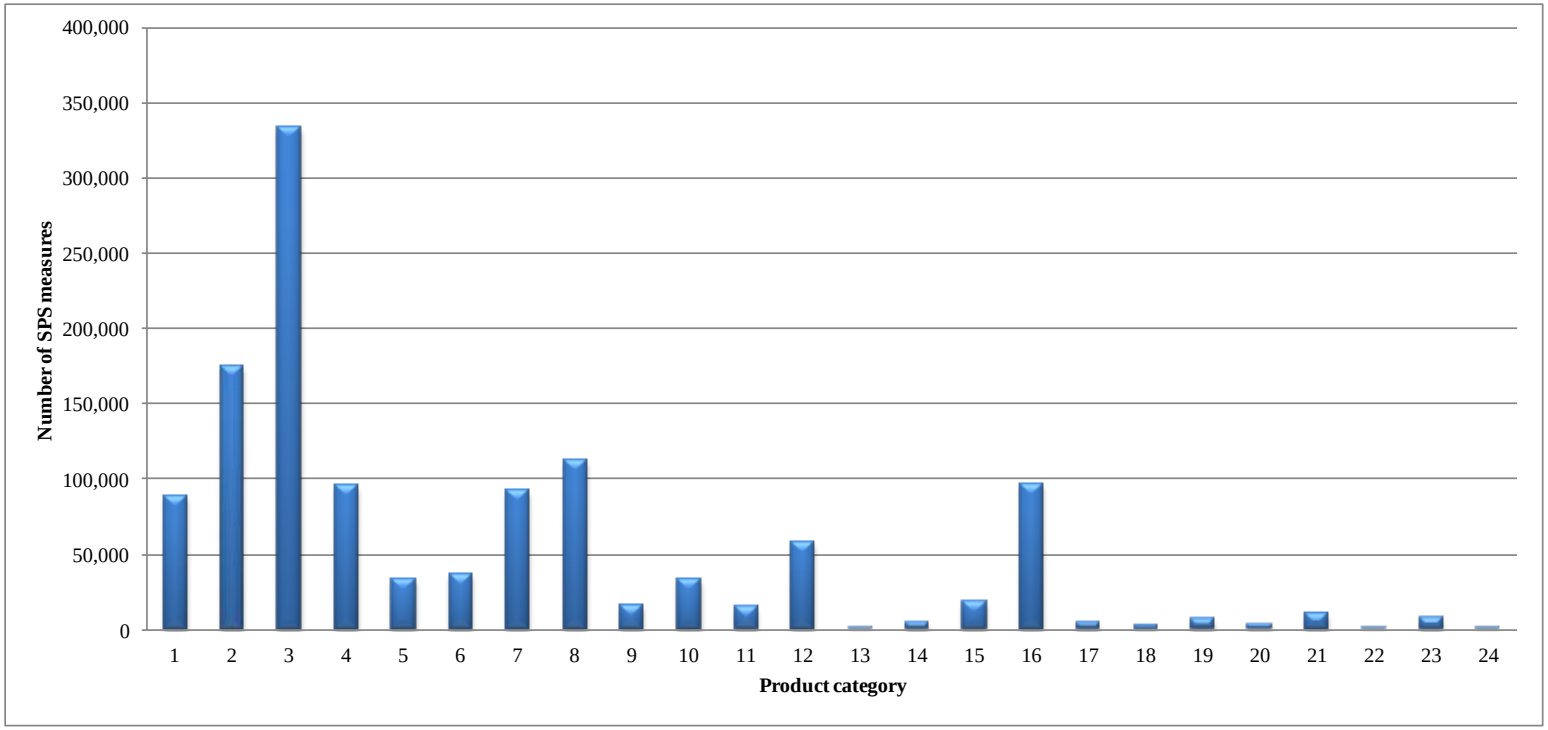
An overview of NTMs

Figure 1. Global number of SPS by categories in 2016.



Source: elaboration on UNCTAD (2017), TRAINS NTMs: The Global Database on Non-Tariff Measures.
Note: SPS categories are coded according to the UNCTAD classification. They are as follows: A100 = Prohibitions/restriction of imports for SPS reasons; A200 = Tolerance limits for residues and restricted use of substances; A300 = Labeling, Marking and Packaging requirements; A400 = Hygienic Requirements; A500 = Treatments for elimination of plant and animal pests and disease-causing organisms in the final product (e.g. Post-harvest treatment); A600 = Other Requirements on Production or Post-Production Processes; A800 = Conformity Assessment related to SPS; A900 = SPS Measures, not elsewhere specified (n.e.s.). In particular, the most used SPS are: **A140** = Special authorization requirement for SPS reasons; **A830** = Certification requirement; **A210** = Tolerance limits for residues of or contamination by certain (non-microbiological) substances.

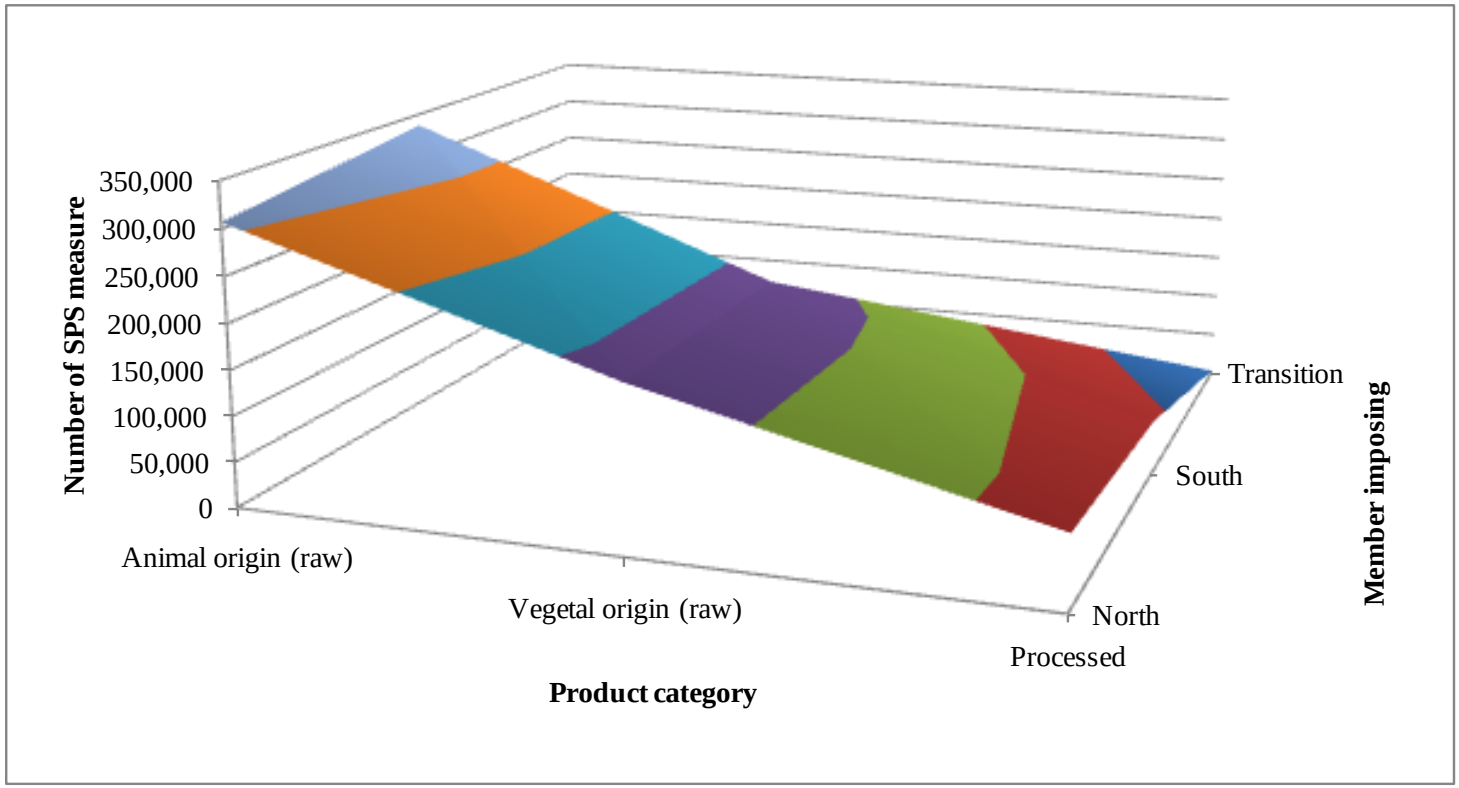
Figure 2. Global number of SPS by products in 2016.



Source: elaboration on UNCTAD (2017), TRAINS NTMs: The Global Database on Non-Tariff Measures.

Note: Product categories are coded according to the Harmonized System (HS) 2-Digit Chapter Headings. They are as follows: 01 = Live animals; **02** = Meat and edible meat; **03** = Fish and crustaceans, mollusks and other aquatic invertebrates; 04 = Dairy produce; birds' egg; natural honey; edible products of animal origin, not elsewhere specified or included; 05 = Products of animal origin, not elsewhere specified or included; 06 = Live trees and other plants; bulbs, roots; cut flowers and ornamental foliage; **07** = Edible vegetables and certain roots and tubers; **08** = Edible fruit and nuts; peel of citrus fruit or melons; 09 = Coffee, tea, mate and spices; 10 = Cereals; 11 = Products of the milling industry; malt, starches, inulin, wheat gluten; **12** = Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder; 13 = Lac; gums, resins and other vegetable saps and extracts; 14 = Vegetable planting material; vegetable products not elsewhere specifies or included; 15 = Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes; **16** = Preparation of meat, fish or crustaceans, mollusks or other aquatic invertebrates; 17 = Sugars and sugar confectionery; 18 = Cocoa and cocoa preparations; 19 = Preparations of cereals, flour, starch or milk; pastrycooks' products; 20 = Preparations of vegetables, fruits, nuts or other parts of plants; 21 = Miscellaneous edible preparations; 22 = Beverages, spirits and vinegar; 23 = Residues and wastes of food industries; prepared animal fodder; 24 = Tobacco and manufactured tobacco substitutes.

Figure 3. Global number of SPS by product category and areas of member imposing in 2016.

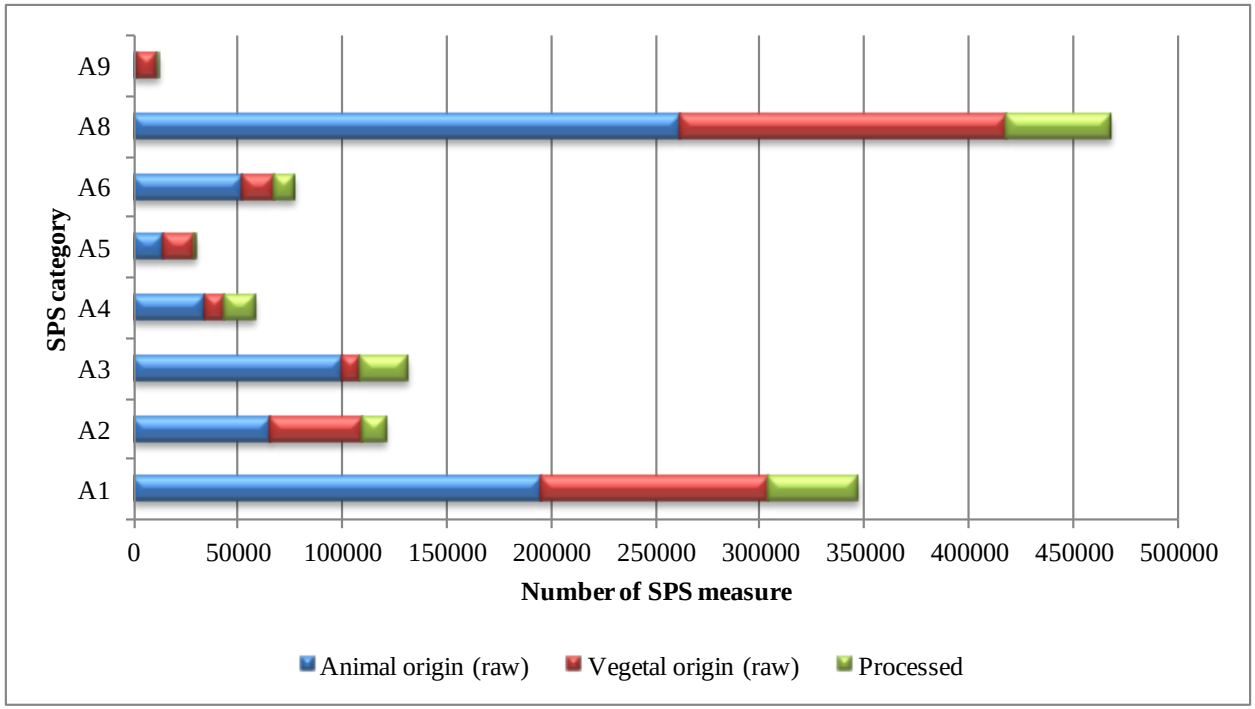


Source: elaboration on UNCTAD (2017), TRAINS NTMs: The Global Database on Non-Tariff Measures.

* Countries are classified into North (Developed Economies), South (Developing Economies), and Economies in transition, according to the United Nations World Economic Situation and Prospects (WESP, 2017).

** Product categories are coded according the Harmonized System (HS) 2-Digit Chapter Headings and classified by type. **Animal origin (raw)** includes: 01 = Live animals; 02 = Meat and edible meat; 03 = Fish and crustaceans, mollusks and other aquatic invertebrates; 04 = Dairy produce; birds' egg; natural honey; edible products of animal origin, not elsewhere specified or included; 05 = Products of animal origin, not elsewhere specified or included. **Vegetal origin (raw)** includes: 06 = Live trees and other plants; bulbs, roots; cut flowers and ornamental foliage; 07 = Edible vegetables and certain roots and tubers; 08 = Edible fruit and nuts; peel of citrus fruit or melons; 09 = Coffee, tea, mate and spices; 10 = Cereals; 11 = Products of the milling industry; malt, starches, inulin, wheat gluten; 12 = Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder; 13 = Lac; gums, resins and other vegetable saps and extracts; 14 = Vegetable planting material; vegetable products not elsewhere specifies or included. **Processed** includes: 15 = Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes; 16 = Preparation of meat, fish or crustaceans, mollusks or other aquatic invertebrates; 17 = Sugars and sugar confectionery; 18 = Cocoa and cocoa preparations; 19 = Preparations of cereals, flour, starch or milk; pastrycooks' products; 20 = Preparations of vegetables, fruits, nuts or other parts of plants; 21 = Miscellaneous edible preparations; 22 = Beverages, spirits and vinegar; 23 = Residues and wastes of food industries; prepared animal fodder; 24 = Tobacco and manufactured tobacco substitutes.

Figure 4. . Global number of SPS by categories and products in 2016.



Source: elaboration on UNCTAD (2017), TRAINS NTMs: The Global Database on Non-Tariff Measures.

* SPS categories are coded according to the UNCTAD classification. They are as follows: **A1** = Prohibitions/restriction of imports for SPS reasons; A2 = Tolerance limits for residues and restricted use of substances; A3 = Labeling, Marking and Packaging requirements; A4 = Hygienic Requirements; A5 = Treatments for elimination of plant and animal pests and disease-causing organisms in the final product (e.g. Post-harvest treatment); A6 = Other Requirements on Production or Post-Production Processes; **A8** = Conformity Assessment related to SPS; A9 = SPS Measures, not elsewhere specified (n.e.s.).

** Product categories are coded according the Harmonized System (HS) 2-Digit Chapter Headings and classified by type. **Animal origin (raw)** includes: 01 = Live animals; 02 = Meat and edible meat; 03 = Fish and crustaceans, mollusks and other aquatic invertebrates; 04 = Dairy produce; birds' egg; natural honey; edible products of animal origin, not elsewhere specified or included; 05 = Products of animal origin, not elsewhere specified or included. **Vegetal origin (raw)** includes: 06 = Live trees and other plants; bulbs, roots; cut flowers and ornamental foliage; 07 = Edible vegetables and certain roots and tubers; 08 = Edible fruit and nuts; peel of citrus fruit or melons; 09 = Coffee, tea, mate and spices; 10 = Cereals; 11 = Products of the milling industry; malt, starches, inulin, wheat gluten; 12 = Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder; 13 = Lac; gums, resins and other vegetable saps and extracts; 14 = Vegetable planting material; vegetable products not elsewhere specifies or included. **Processed** includes: 15 = Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes; 16 = Preparation of meat, fish or crustaceans, mollusks or other aquatic invertebrates; 17 = Sugars and sugar confectionery; 18 = Cocoa and cocoa preparations; 19 = Preparations of cereals, flour, starch or milk; pastrycooks' products; 20 = Preparations of vegetables, fruits, nuts or other parts of plants; 21 = Miscellaneous edible preparations; 22 = Beverages, spirits and vinegar; 23 = Residues and wastes of food industries; prepared animal fodder; 24 = Tobacco and manufactured tobacco substitutes.

SPS DATA

Literature Review

Literature review

Table 1. Classification of published researches by countries area in percentage.

Country imposing measure / Importer	Country affected by measure / Exporter	Percentage of published researches
North	North	5%
North	South	40%
South	North	0%
South	South	0%
Not specified	Not specified	55%
		100%

Note: In general, the literature on the influence of NTMs on trade analyzes the effect of measures imposed by developed countries. Although existing, researches that investigate the effects of NTMs imposed by developing countries are limited (e.g. Narayan and Nguyen (2016)[1] for South-North; Ferro et al. (2015)[2], Narayan and Nguyen (2016) for South-South).

[1]Narayan, S., and Nguyen, T.T. (2016). Does the trade gravity model depend on trading partners? Some evidence from Vietnam and her 54 trading partners. *International Review of Economics & Finance*, *41*, 220-237.
[2]Ferro, E., Otsuki, T., and Wilson, J.S. (2015). The effect of product standards on agricultural exports. *Food Policy*, *50*, 68-79.

Figure 5. Kernel density estimate of the estimated parameters for the effects of NTMs on trade.

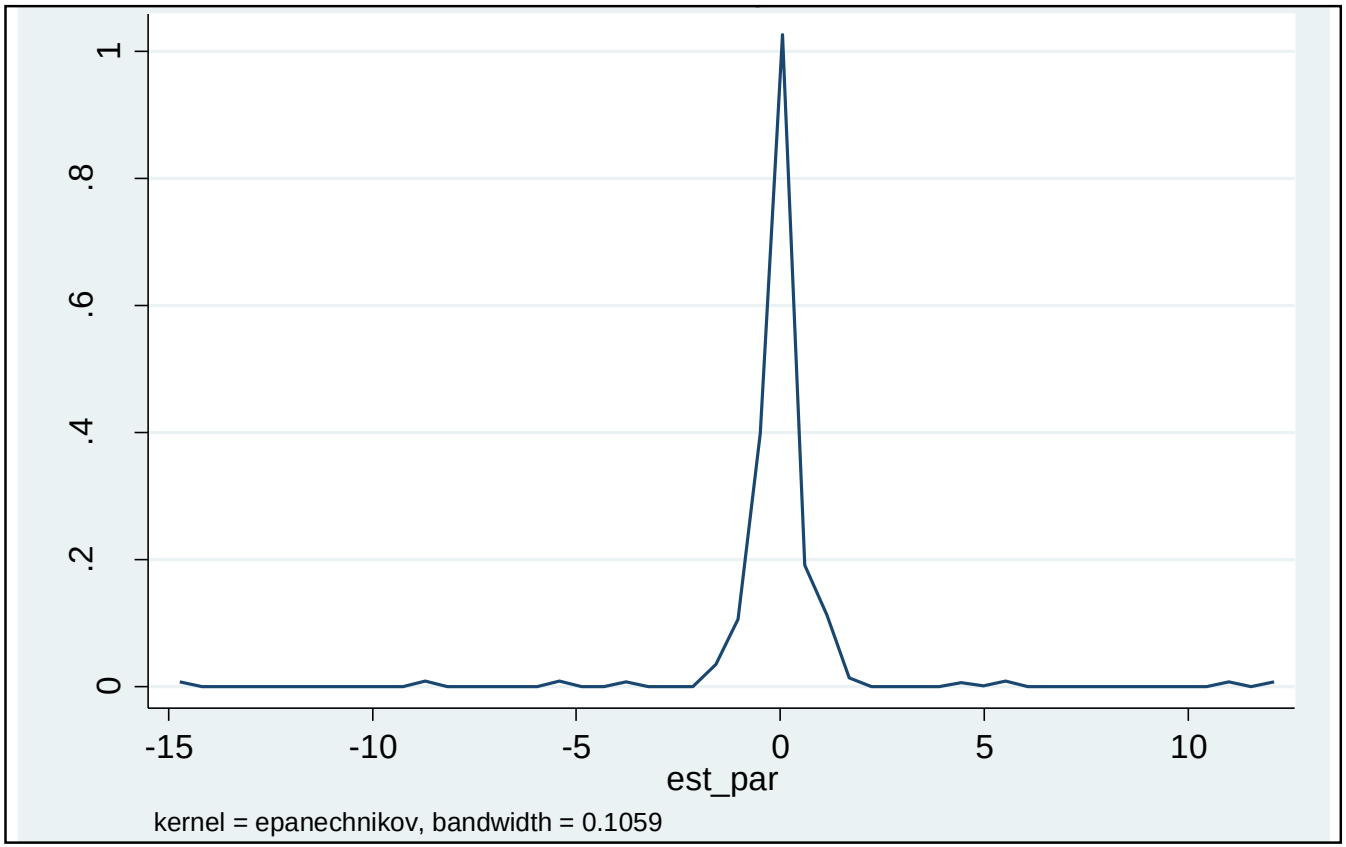
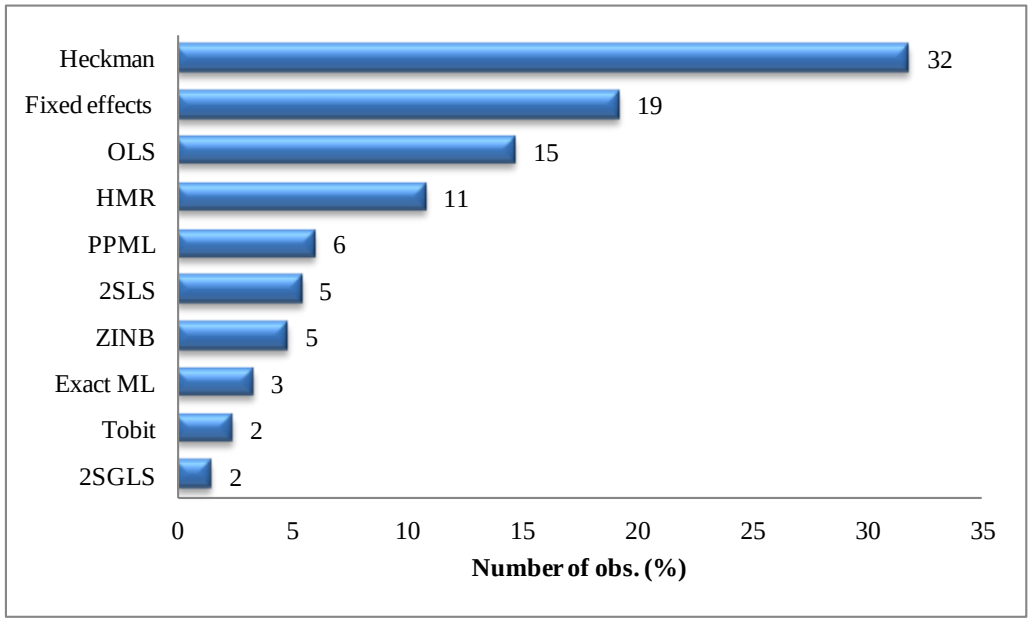


Table 2. Descriptive statistics for the effects of NTMs on trade.

	Mean	**Min**	**Max**	**Obs.**	**%**
Estimated parameter	-0.013	-14.630	11.999	333	100%
Positive obs.	0.734	0.0002	11.999	145	44%
Negative obs.	-0.589	-14.630	-0.003	188	56%
Significant obs.	-0.244	-14.630	10.903	184	55%
Significant and positive obs.	0.770	0.086	10.903	69	21%
Significant and negative obs.	-0.852	-14.630	-0.014	115	34%
Significant obs. (level of significance = 1%)	-0203	-14.630	10.903	74	22%
Significant obs. (level of significance = 5%)	-0.135	-1.850	1.107	24	7%
Significant obs. (level of significance = 10%)	-0.310	-1.320	0.710	86	26%
Not significant obs.	0.272	-0.980	11.999	149	45%

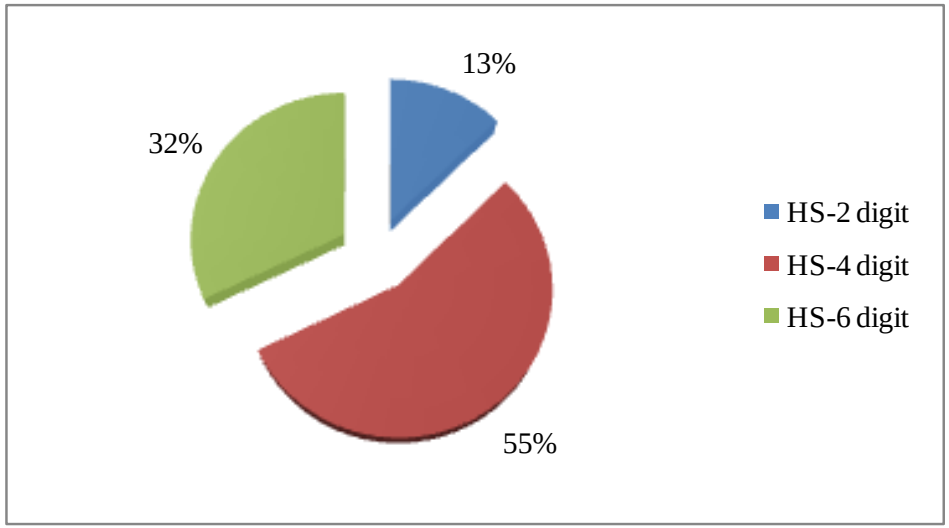
Figure 6. Methods of estimation for the effects of NTMs on trade.



Note: Acronyms are as follows: HMR is the Helpman-Melitz-Rubinstein two-stage estimation procedure (I stage: Probit; II stage: Hausman-Taylor (HT)) as in Helpman et al. (2008)[1]; ZINB is the Zero Inflated Negative Binomial; Exact ML is the Exact Maximum Likelihood as in Anders and Caswell (2009)[2]; 2SGLS is the Two Stage Generalized Least Square.

[1]Helpman, E., Melitz, M., and Rubinstein, Y. (2008). Estimating trade flows: Trading partners and trading volumes. *The Quarterly Journal of Economics*, *123*(2), 441-487.
[2]Anders, S.M., and Caswell, J.A. (2009). Standards as barriers versus standards as catalysts: Assessing the impact of HACCP implementation on US seafood imports. *American Journal of Agricultural Economics*, *91*(2), 310-321.

Figure 7. Level of products' aggregation used to estimate the effects of NTMs on trade.



Note: Examples of products' aggregation are: 10 – Cereals (**HS-2 digit**); 1001 – Wheat and meslin (HS-4 digit); 100110 – Cereals; durum wheat (HS-6 digit).

SPS DATA

Literature Review

Material and Methods

Materials and Methods

Data

Table 3. Variables description.

VARIABLE	DESCRIPTION	NOTE	SOURCE
Year	1991-2016		
Reporter	10 origin country/member imposing measure.	ARG; BOL; BRA; CAN; CHN; IDN; NZL; PER; RUS; USA. Classified in North and South countries.	World Economic Situation and Prospects (WESP)
Partner	23 destination country/member affected by measure.	ARG; AUS; BOL; BRA; CAN; CHN; COG; DEU; EGY; ESP; FRA; GBR; IDN; IND; ITA; LBY; MAR; NZL; PER; RUS; TUN; USA; ZAF. Classified in North and South countries.	WESP
Product	8 product category (HS-2 digit).	02; 03; 04; 07; 08; 10; 12; 16.	UNCOMETRADE/ UNCTAD TRAINS NTMs
Trade	Bilateral trade flows (imports and exports).	US$	UNCOMETRADE
Contiguity	Reporter and partner are contiguous.	dummy	CEPII
Common official language	Reporter and partner share a common official or primary language.	dummy	CEPII
Distance	Weighted distance (pop-w, km) between reporter and partner.	km	CEPII
Reporter GDP	GDP of the origin country.	current US$	CEPII
Partner GDP	GDP of the destination country.	current US$	CEPII
WTO membership	Reporter and partner are both GATT/WTO members	dummy	CEPII
NTM	Numbers of measures imposed	From A100 to A900	UNCTAD TRAINS NTMs

Table 4. Countries list.

ISO-3 digit	Reporter/Partner	Country area
ARG	Argentina	South
AUS	Australia	North
BOL	Plurinational State of Bolivia	South
BRA	Brazil	South
CAN	Canada	North
CHN	China	North
COG	Congo	South
DEU	Germany	North
EGY	Egypt	South
ESP	Spain	North
FRA	France	North
GBR	United Kingdom	North
IDN	Indonesia	South
IND	India	South
ITA	Italy	North
LBY	Libya	South
MAR	Morocco	South
NZL	New Zealand	North
PER	Peru	South
RUS	Russian Federation	North
TUN	Tunisia	South
USA	United States	North
ZAF	South Africa	South

Table 5. Product categories

HS-2 digit	Product category
02	Meat and edible meat
03	Fish and crustaceans, mollusks and other aquatic invertebrates
04	Dairy produce; birds' egg; natural honey; edible products of animal origin, not elsewhere specified or included
07	Vegetables and certain roots and tubers, edible
08	Fruit and nuts, edible; peel of citrus fruit or melons
10	Cereals
12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder
16	Meat, fish or crustaceans, mollusks or other aquatic invertebrates; preparation thereof

SPS DATA

Literature Review

Material and Methods

Extensive Margins - Prob of Trade

Intensive Margins - Prob of Increasing Trade

Trade Creation - Prob of Trading w/ new Partners

Trade Diversion - Prob of Trading w/ different Partners

Variables definition

Extensive Margins (Trade existence)	$Trade_t > 0$
Intensive Margins (Trade increase)	$Trade_t > Trade_{t-1}$
Trade creation (New Partners)	$Trade_{t-1} = 0 \wedge Trade_{t-1} \neq 0$
Trade diversion (Different Partners)	$\left(Trade_{ij,t-1} \neq 0 \wedge Trade_{ij,t} = 0\right) \wedge \left(Trade_{iz,t-1} = 0 \wedge Trade_{iz,t} \neq 0\right)$

Note: *Trade* (at time *t* or *t-1*) is the bilateral trade flows existing between reporter *i* and partner *j*, referred to product *k*.

Empirical model

Horizontal vs. transversal trade

$$Z^k_{ij,t} = \alpha_0 + \alpha_1 + \alpha_2 + \beta_1 SPS^k_{ij,t-1} + \beta_2 SPS^k_{NN-SS,t-1} + \gamma_1(GDP_{i,t} - GDP_{j,t}) + \gamma_2\Delta(GDP_{i,t}) + \gamma_3\Delta(GDP_{j,t}) + \delta Dist_{ij,t} + \zeta Cont_{ij,t} + \eta + COL_{ij,t} + \theta WTO_{ij} + \varepsilon \quad (1)$$

Horizontal trade:

$$Z^k_{ij,t} = \alpha_0 + \alpha_1 + \alpha_2 + \beta_1 SPS^k_{ij,t-1} + \beta_2 SPS^k_{N-N,t-1} + \beta_3 SPS^k_{S-S,t-1} + \gamma_1(GDP_{i,t} - GDP_{j,t}) + \gamma_2\Delta(GDP_{i,t}) + \gamma_3\Delta(GDP_{j,t}) + \delta Dist_{ij,t} + \zeta Cont_{ij,t} + \eta + COL_{ij,t} + \theta WTO_{ij} + \varepsilon \quad (2)$$

Transversal trade:

$$Z^k_{ij,t} = \alpha_0 + \alpha_1 + \alpha_2 + \beta_1 SPS^k_{ij,t-1} + \beta_2 SPS^k_{N-s,t-1} + \beta_3 SPS^k_{S-N,t-1} + \gamma_1(GDP_{i,t} - GDP_{j,t}) + \gamma_2\Delta(GDP_{i,t}) + \gamma_3\Delta(GDP_{j,t}) + \delta Dist_{ij,t} + \zeta Cont_{ij,t} + \eta + COL_{ij,t} + \theta WTO_{ij} + \varepsilon \quad (3)$$

North vs. South imposing

$$Z^k_{ij,t} = \alpha_0 + \alpha_1 + \alpha_2 + \beta_1 SPS^k_{ij,t-1} + \beta_2 SPS^k_{NN-NS,t-1} + \gamma_1(GDP_{i,t} - GDP_{j,t}) + \gamma_2\Delta(GDP_{i,t}) + \gamma_3\Delta(GDP_{j,t}) + \delta Dist_{ij,t} + \zeta Cont_{ij,t} + \eta + COL_{ij,t} + \theta WTO_{ij} + \varepsilon \quad (4)$$

where:

$Z^k_{ij,t}$ alternatively represent trade existence, trade increase, trade decrease, trade creation, trade destruction, and trade diversion.

$SPS^k_{ij,t-1}$ are the number of measure.

$SPS^k_{NN-SS,t-1}$ are the number of measure existing between countries similarly developed.

$SPS^k_{N-N,t-1}$ are the number of measure that the North imposes to the North.

$SPS^k_{S-S,t-1}$ are the number of measure that the South imposes to the South.

$SPS^k_{N-S,t-1}$ are the number of measure that the North imposes to the South.

$SPS^k_{S-N,t-1}$ are the number of measure that the South imposes to the North.

$SPS^k_{NN-NS,t-1}$ are the number of measure imposed by the North.

$(GDP_{i,t} - GDP_{j,t})$ is the difference in logarithm of the GDPs of reporter and partner.

$\Delta(GDP_{i,t}), \Delta(GDP_{j,t})$ are the growth rates of reporter and partner in logarithm.

$Dist_{ij,t}$ is the distance in logarithm between reporter and partner.

$Cont_{ij,t}$ is an index of contiguity between reporter and partner.

$COL_{ij,t}$ is an index indicating that reporter and partner share a common official language.

WTO_{ij} is an index indicating that both reporter and partner are WTO members.

$\alpha_0, \alpha_1, \alpha_2$ are the constant, the year fixed effects, and the country-pair fixed effects.

$\beta_2, \beta_2\beta_3, \gamma_1, \gamma_2, \gamma_3, \delta, \zeta, \eta, \theta$ are parameters.

ε is the error term.

i is the countries imposing the measure.

j is the country affected by the measure.

z is a third country not directly involved in the dynamics of the measure.

k is the product category.

SPS DATA

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Trade Diversion - Prob of Trading w/ different Partners

Preliminary Results

Preliminary results

Table 6. Estimated probability of different trade scenarios.

VARIABLES	Trade existence		Trade increase		Trade creation		Trade diversion	
	N-N & S-S	N-S & S-N	N-N & S-S	N-S & S-N	N-N & S-S	N-S & S-N	N-N & S-S	N-S & S-N
Year f.e.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-pair f.e.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SPS_{t-1}	0.0311***	0.0296***	0.00540***	0.00710***	-0.0304***	-0.0307***	-0.0301***	-0.0280***
	(0.00186)	(0.00205)	(0.00104)	(0.00117)	(0.00191)	(0.00216)	(0.00186)	(0.00204)
N-N SPS_{t-1}	-0.00544**		0.000721		0.00423		0.00610**	
	(0.00274)		(0.00157)		(0.00284)		(0.00272)	
S-S SPS_{t-1}	0.459***		0.202***		-0.508***		-0.495***	
	(0.0234)		(0.0168)		(0.0243)		(0.0242)	
N-S SPS_{t-1}		-0.00158		-0.00185		0.00358		0.000968
		(0.00276)		(0.00157)		(0.00286)		(0.00274)
S-N SPS_{t-1}		0.531***		0.0294*		-0.526***		-0.528***
		(0.0267)		(0.0154)		(0.0268)		(0.0267)
GDP_i-GDP_j	0.0285*	0.0185	-0.0152	-0.0161	-0.0251	-0.0155	0.00194	0.0117
	(0.0148)	(0.0148)	(0.00981)	(0.00982)	(0.0159)	(0.0159)	(0.0149)	(0.0149)
ΔGDP_i	-20.03***	-19.42***	-4.396***	-4.317***	26.56***	25.87***	23.85***	23.29***
	(1.495)	(1.495)	(1.382)	(1.382)	(1.622)	(1.621)	(1.544)	(1.544)
ΔGDP_j	-3.492***	-3.611***	9.026***	8.995***	3.771***	3.904***	3.197***	3.323***
	(0.671)	(0.671)	(0.560)	(0.560)	(0.726)	(0.725)	(0.674)	(0.673)
$Distance_{ij}$	28.71***	27.36***	-2.655**	-2.834**	-30.31***	-28.94***	-25.10***	-23.77***
	(1.848)	(1.850)	(1.315)	(1.315)	(1.974)	(1.975)	(1.857)	(1.859)
Contiguity	55.57***	52.92***	-4.656*	-5.008*	-58.69***	-56.02***	-48.53***	-45.92***
	(3.599)	(3.602)	(2.558)	(2.560)	(3.844)	(3.847)	(3.616)	(3.619)
Common official language	-14.14***	-13.46***	1.375**	1.465**	14.94***	14.26***	12.35***	11.68***
	(0.918)	(0.919)	(0.653)	(0.653)	(0.980)	(0.980)	(0.922)	(0.923)
WTO members	0.155***	0.159***	-0.116***	-0.117***	-0.0804***	-0.0838***	-0.150***	-0.153***
	(0.0292)	(0.0292)	(0.0182)	(0.0182)	(0.0300)	(0.0300)	(0.0293)	(0.0293)
Constant	-260.7***	-248.4***	23.64**	25.28**	275.1***	262.7***	227.8***	215.7***
	(16.84)	(16.85)	(11.98)	(11.98)	(17.98)	(18.00)	(16.92)	(16.93)
Observations	248,666	248,666	321,426	321,426	239,311	239,311	248,896	248,896

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Note: GDP_i-GDP_j is computed as the difference between the logarithms of GDPs of countries *i* and *j*; $Distance_{ij}$ is the logarithms of the distance between countries *i* and *j*.

Table 7. Estimated probability of different trade scenarios.

VARIABLE		Trade existence	Trade increase	Trade creation	Trade diversion	Eq.
Horizontal vs. transversal trade	SPS_{t-1}	0.0311***	0.00540***	-0.0304***	-0.0301***	(1)
		(0.00186)	(0.00104)	(0.00191)	(0.00186)	
	N-N & S-S SPS_{t-1}	-0.00154	0.00171	-0.000331	0.00211	
		(0.00277)	(0.00157)	(0.00288)	(0.00276)	
Horizontal trade	SPS_{t-1}	0.0311***	0.00540***	-0.0304***	-0.0301***	(2)
		(0.00186)	(0.00104)	(0.00191)	(0.00186)	
	N-N SPS_{t-1}	-0.00544**	0.000721	0.00423	0.00610**	
		(0.00274)	(0.00157)	(0.00284)	(0.00272)	
	S-S SPS_{t-1}	0.459***	0.202***	-0.508***	-0.495***	
		(0.0234)	(0.0168)	(0.0243)	(0.0242)	
Transversal trade	SPS_{t-1}	0.0296***	0.00710***	-0.0307***	-0.0280***	(3)
		(0.00205)	(0.00117)	(0.00216)	(0.00204)	
	N-S SPS_{t-1}	-0.00158	-0.00185	0.00358	0.000968	
		(0.00276)	(0.00157)	(0.00286)	(0.00274)	
	S-N SPS_{t-1}	0.531***	0.0294*	-0.526***	-0.528***	
		(0.0267)	(0.0154)	(0.0268)	(0.0267)	
North vs. South imposing	SPS_{t-1}	0.521***	0.115***	-0.547***	-0.539***	(4)
		(0.0175)	(0.0113)	(0.0180)	(0.0179)	
	N-N & N-S SPS_{t-1}	-0.494***	-0.109***	0.521***	0.513***	
		(0.0176)	(0.0113)	(0.0180)	(0.0179)	

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Let's settle preliminary findings

Few studies on N-N, S-N, S-S. **Need for global assessment** of SPS and Trade.

Re-shaping effect?: SPSs do not facilitate changes in trade routes, but strength existing ones.

But: if North imposes, less TE and TI, more TC and TD. **North tend to re-shape**

SPS DATA

Literature Review

Material and Methods

Extensive Margins - Prob of Trade
Intensive Margins - Prob of Increasing Trade
Trade Creation - Prob of Trading w/ new Partners
Trade Diversion - Prob of Trading w/ different Partners

Preliminary Results

Preliminary Results

Causality?

Table 8. Descriptive statistics for trade and SPS by countries area.

		Trade (mln US$)				SPS		
		μ	Min	Max	Δ	μ	Min	Max
Global		65.30	0	3,220	-0.006	1.72	1	84
Similar development	N-N & S-S	99.10	0	3,220	0.005	1.78	1	84
Different development	N-S & S-N	34.40	0	2,880	-0.015	1.67	1	84
Horizontal	N-N	136.00	0	3,220	0.010	2.07	1	84
	S-S	18.50	0	2,830	-0.006	1.14	1	6
Transversal	N-S	22.70	0	2,880	-0.042	1.97	1	84
	S-N	55.00	0	1,590	0.045	1.14	1	7
North imposing	N-N & N-S	78.90	0	3,220	-0.017	2.02	1	84
South imposing	S-S & S-N	38.80	0	2,830	0.021	1.14	1	7

Note: μ is the average values; Δ is the average growth rate.

SPS DATA

Literature Review

Material and Methods

Preliminary Results

Preliminary Results

Causality? **And next...**

Causality links ; Economic assessment

Disentangling effects at SPSs / Sector level

Or ?

Thanks

Comments are VERY welcome:
no barriers, no frictions please!

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