

The influence of food standards and NTMs on international food trade

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Different countries set different food standards

Table 1. Comparison of maximum residue limits on selected products in 2014

Chemical	Fruit	Countries						
		EU	USA	Canada	Japan	Vietnam	China	Codex
Carbaryl	Citrus	0.01	10	10	1	7	—	15
Methidathion	Citrus	0.02	5	2	5	5	2	5
Captan	Apple	3	25	5	5	25	1	15
Fenbutatin-Oxide	Apple	2	15	3	5	5	5	5
Acetamiprid	Apple	0.80	1	1	2	—	0.8	0.80
Bifenthrin	Tea	5	30	—	30	—	—	30
Endosulfan	Tea	30	24	—	30	30	—	10
Fenpropathrin	Tea	2	2	2	25	—	5	2
Chlorpyrifos	Wheat	0.05	0.50	—	0.5	0.50	0.50	0.50
Chlorpyrifos	Banana	3	0.10	—	3	2	—	2
Chlorothalonil	Cranberries	0.67	5	2	5	—	—	5

Source: Homologa dataset.

Notes: Implies that there are no residue limits set by that country on the given product–pesticide pair. All residue limits are measured in ppm.

Food standards are only getting stricter

- ❖ Similar patterns across countries
- ❖ Driven mostly by developed countries
- ❖ Especially in the EU

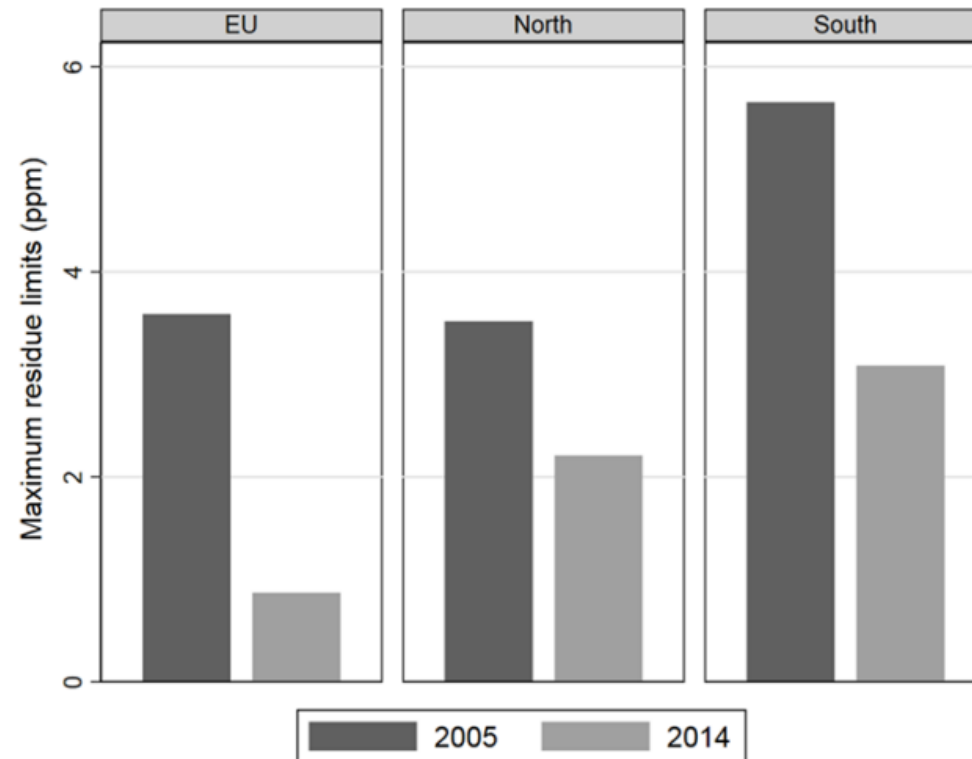


Fig. 2. Average MRLs by importing country groups in 2005 and 2014.

Source: Homologa database. *Notes:* Values are the average maximum residue limits set by the importing country in year t . An MRL value of 0 is the strictest. The values for the EU are the average across all EU Member States in 2005, but the harmonised value for the EU in 2014. The North is defined as all countries classified as high income by the World Bank income classifications, including the EU Member States.

How are country-specific differences in food standards affecting trade?

-  **Lower trade volumes**
-  **Limited product varieties**
-  **Higher product prices**

Table 4: The effect of bilateral differences in standards on trade

	$Trade_{ijkt}$	$Extmargin_{ijkt}$	Price (UV_{ijkt})	$Quality_{ijkt}$	Quality-adj. price $_{ijkt}$
	(1)	(2)	(3)	(4)	(5)
MRL_{ijkt}	-0.082*** (0.023)	-0.070*** (0.022)	0.027*** (0.008)	0.002 (0.013)	0.026** (0.012)
$\text{Log}(1 + \text{Tariff}_{ijkt})$	-0.259*** (0.014)	-0.021*** (0.007)	0.035*** (0.005)	-0.078*** (0.008)	0.113*** (0.008)
Observations	615,483	100,143	399,526	399,526	399,526
Estimator	OLS	OLS	OLS	OLS	OLS

Notes: Robust country-pair-product clustered standard errors in parentheses. ***, **, * denote significance at 1%, 5% and 10% respectively. Importer-product-time, exporter-product-time, and importer-exporter fixed effects included in all regressions. Intercepts included but not reported. The trade margin in column (1) is defined following Feenstra and Kee (2004)

Source: Fiankor, Curzi & Olper (2021)

Do food standards affect all countries equally?

The effect depends on the intensity of trade between the countries involved

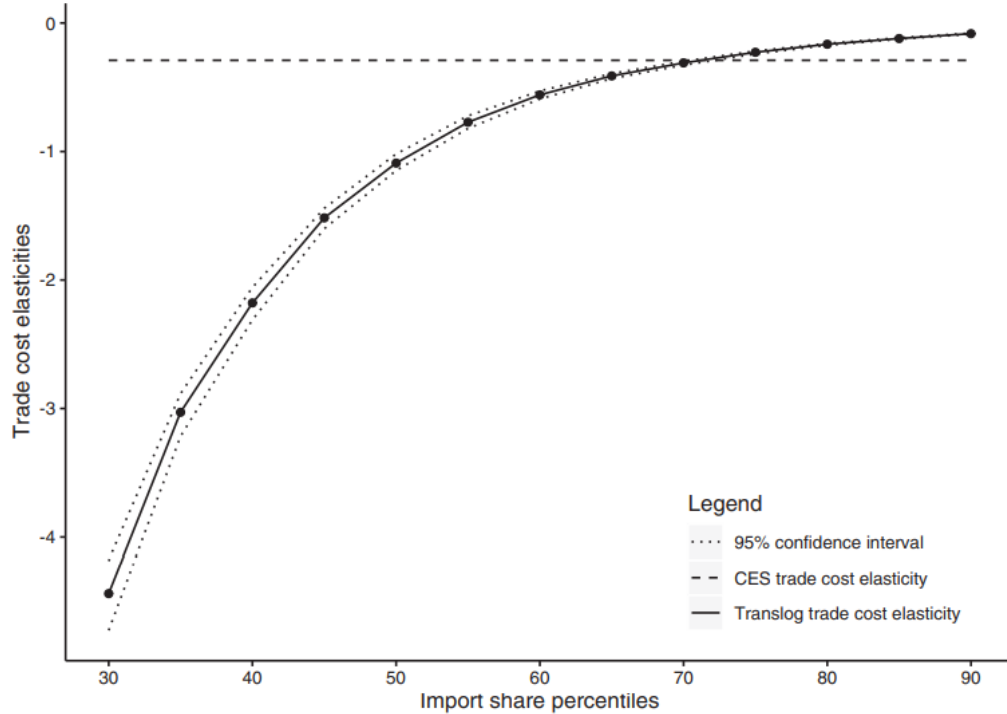


Figure 1. Trade cost elasticities plotted against import shares

Source: Fiankor, Haase & Brümmer (2021)

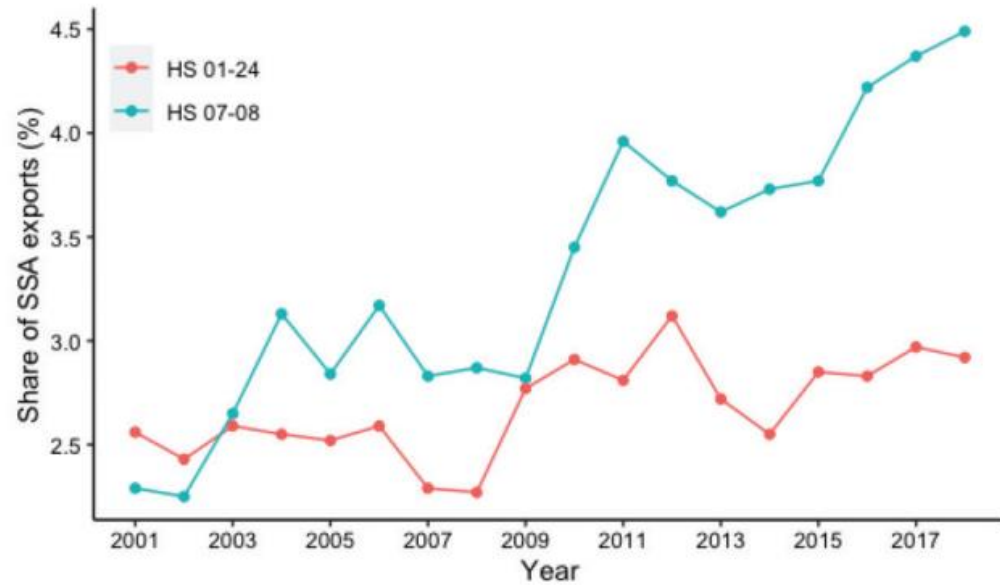
Bigger trade partners will find it more profitable to invest in meeting importer-specific standards

Table 3
Country-pair specific estimates of the effects of EU-15 standards in agricultural trade in 2017

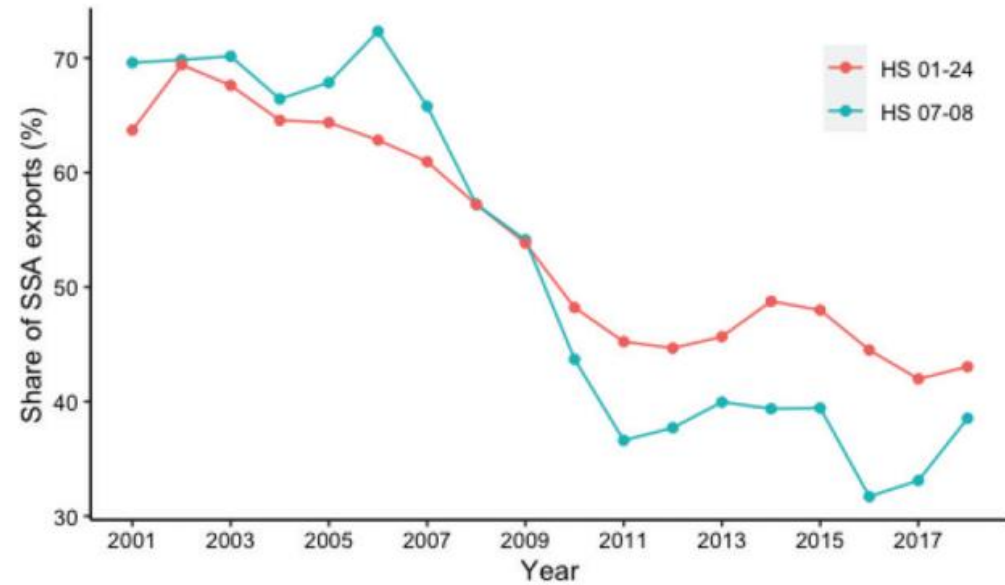
Exporting country	Trade value (US\$ m)	Import share (in %)	Trade cost elasticity	Income status
Fiji	107	0.027	-11.950	Low
Cuba	368	0.091	-2.896	Low
Tanzania	413	0.103	-3.090	Low
Senegal	459	0.114	-2.781	Low
Uruguay	663	0.164	-1.927	High
Israel	1,033	0.256	-1.236	High
Egypt	1,080	0.268	-1.183	Low
Philippines	1,416	0.351	-0.902	Low
Russia	1,622	0.403	-0.787	High
Colombia	2,236	0.555	-0.571	Low
Australia	2,440	0.606	-0.524	High
Peru	2,767	0.687	-0.462	Low
Thailand	3,050	0.757	-0.419	Low
Ecuador	3,115	0.773	-0.410	Low
South Africa	3,752	0.931	-0.340	Low
Côte d'Ivoire	4,215	1.046	-0.303	Low
India	4,755	1.180	-0.269	Low
Indonesia	5,198	1.290	-0.246	Low
Argentina	5,881	1.460	-0.217	Low
China	7,467	1.853	-0.171	Low
Brazil	12,600	3.126	-0.101	Low
USA	12,800	3.184	-0.100	High

Implications for Africa?

Decreasing share in exports to high-value markets vis-à-vis total exports



(a) Global exports

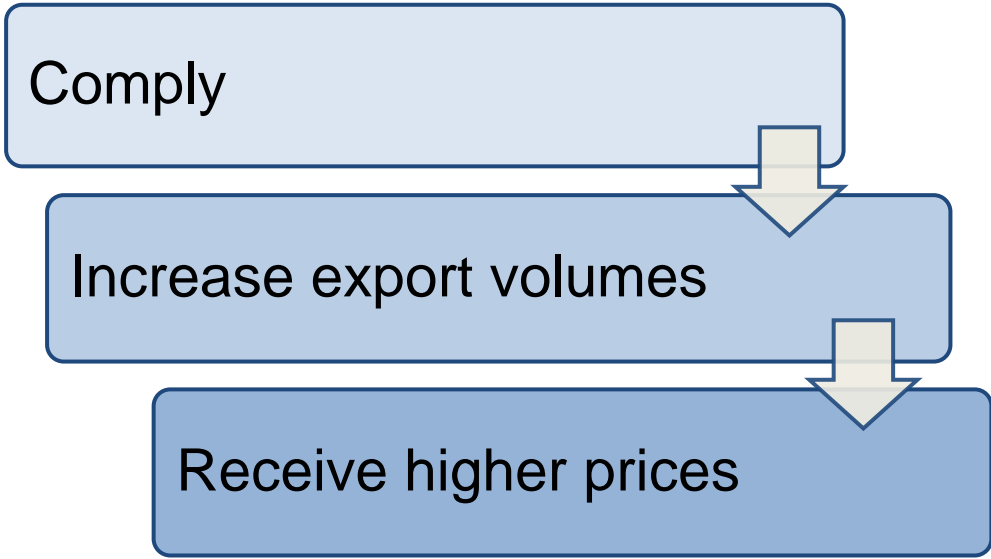


(b) Exports to the OECD

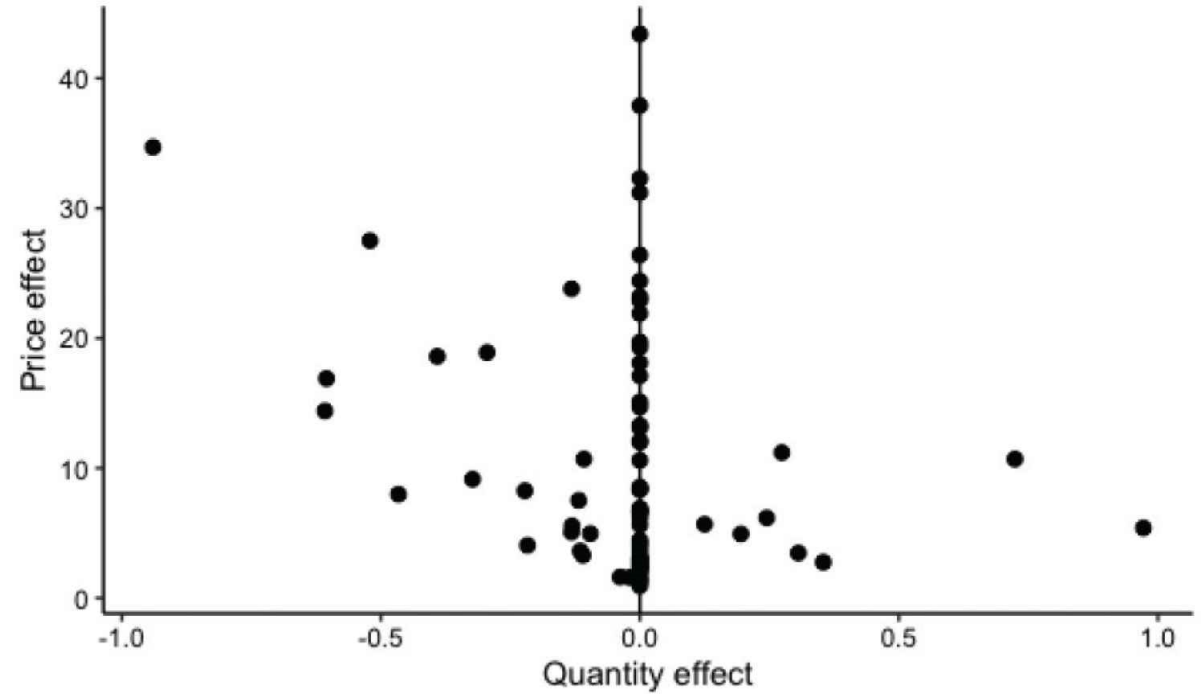
Figure 1 | Agricultural trade between OECD countries and SSA—status quo. *Source:* Trademap data, original graph.

Source: Tchakounte & Fiankor (2021)

Can African producers benefit?



Equilibrium changes in export volume and prices



(a) SPS measures

Source: Tchakounte & Fiankor, (2021)

Conclusion

- ❖ Food safety risks are borderless. Their consequences are easily transmitted across countries.
- ❖ Approaches to tackle them must move from the current nationalist approach to one that is multinational in scope.

Thank you

References

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