

Raising the bar: Food Standards as a Gateway to Africa's Global Value Chain Participation

Dela-Dem Doe Fiankor

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Department of Agricultural Economics and Rural Development
University of Göttingen, Germany

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Outline

1. Global Agricultural Value Chains
2. Food safety and quality standards
3. Standards as a gateway to Africa's GVC participation

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What are Global Value Chains (GVCs)?

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- A GVC breaks up the production process across countries.
- Firms specialize in a specific task and do not produce the whole product.

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Fig. 1: The Nutella global value chain



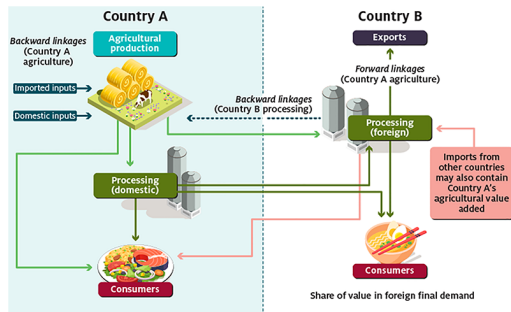
Source: De Backer and Miroudot (2013)

Global Value Chains: Key Linkages

Global Value Chains: Key Linkages

- **Forward Linkages:** A country's exports are not fully absorbed in the importing country and instead are embodied in the importing country's exports to third countries
- **Backward Linkages:** A country's exports embody value added previously imported from abroad

Fig. 2: GVC linkages are multi-faceted



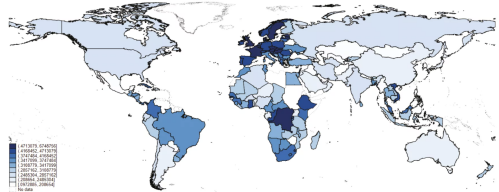
Source: Greenville (2019)

Extent of Agricultural GVC participation varies across countries

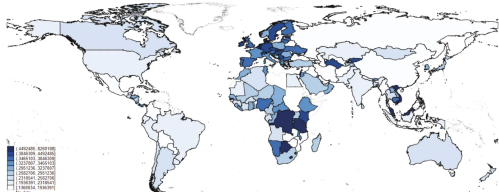
Extent of Agricultural GVC participation varies across countries

Fig. 3: AGVC participation across countries (2015)

(a) Agriculture sector



(b) Food and beverages sector



- Heterogeneity in participation rates
- Europe and SSA show a relatively high level of AGVC participation

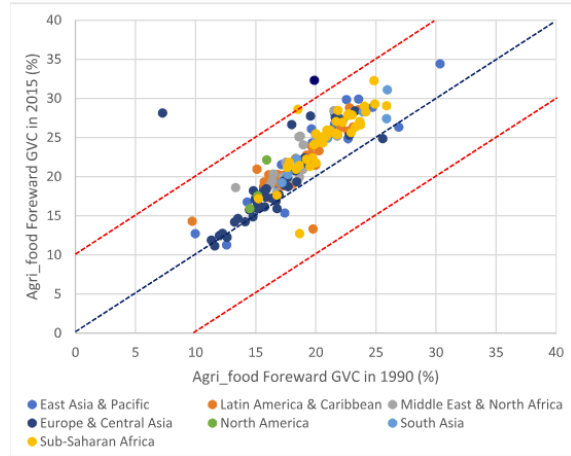
Source: Lim (2023)

In Africa, participation in AGVCs is mostly via forward linkages

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- Participation is primarily through forward linkages

Fig. 4: GVC participation across countries

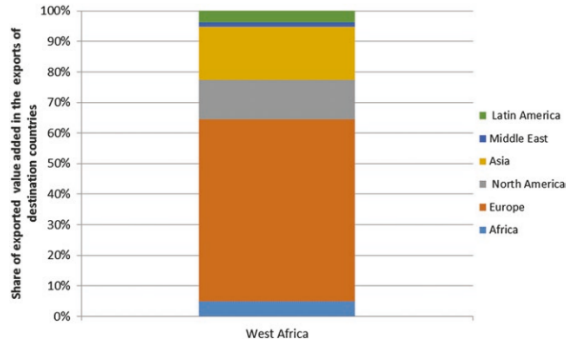


(a) Foreward linkages (Raimondi et al., 2023)

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- Driven by demand from Europe for raw commodities produced in SSA in order to produce more processed food in Europe

Fig. 4: GVC participation across countries

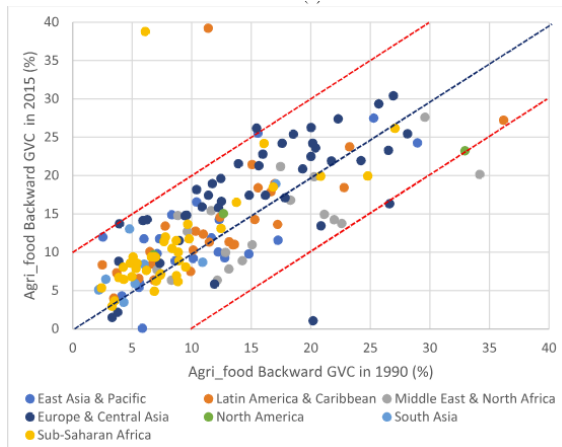


(b) Destinations of intermediary products in West Africa
(Mensah and Fofana, 2018)

In Africa, participation in AGVCs is mostly via forward linkages

- Participation is primarily through forward linkages
- Driven by demand from Europe for raw commodities produced in SSA in order to produce more processed food in Europe
- Backward linkages remain limited

Fig. 4: GVC participation across countries



(c) Backward linkages (Raimondi et al., 2023)

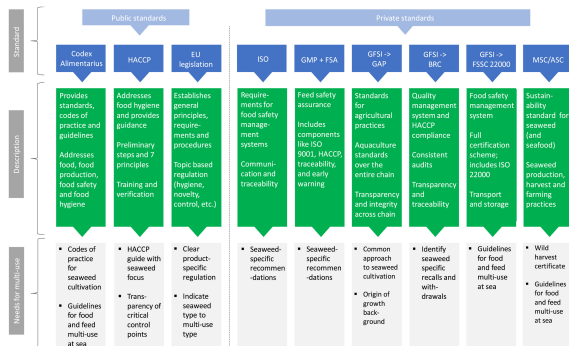
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Food standards: what are they?

- A set of criteria aimed at protecting consumer health and ensuring fair practices in the food trade
- Public standards: *de facto* mandatory
 - MRLs, EUDR
- Private standards: *de jure* voluntary
 - GlobalG.A.P., Fairtrade
- Dual role: safety + market access

Fig. 5: Overview of food safety standards



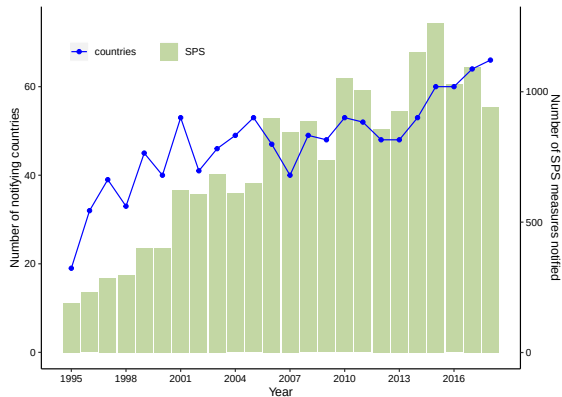
Source: Banach et al. (2020)

Food standards are increasing in number and stringency

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- More countries introducing more standards

Fig. 6: Standards are proliferating

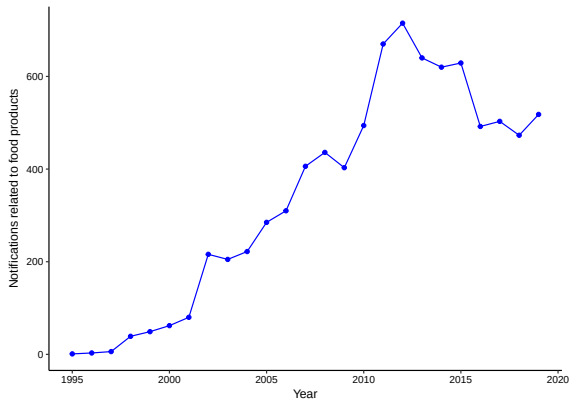


(a) Source: UNCTAD data

Food standards are increasing in number and stringency

- More countries introducing more standards
- Rising product rejections over food safety

Fig. 6: Standards are proliferating

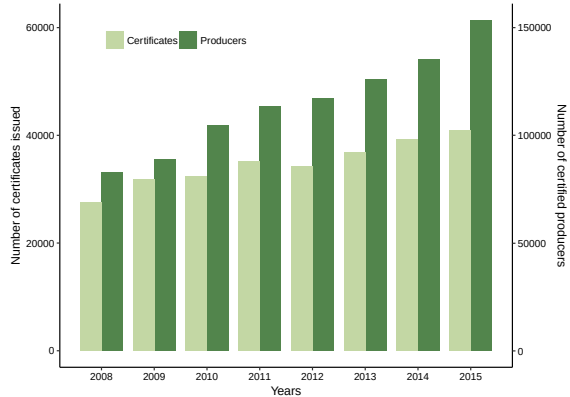


(b) Count of EU border rejections (Source: EU RASFF)

Food standards are increasing in number and stringency

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- Rising product rejections over food safety
- More producers are seeking VSS certification for market access

Fig. 6: Standards are proliferating

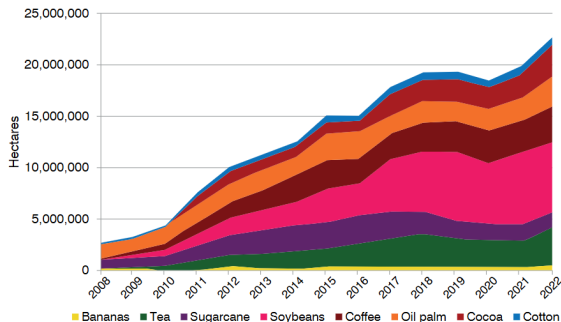


(c) Diffusion of GlobalGAP certification (GlobalGAP)

Food standards are increasing in number and stringency

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- Rising product rejections over food safety
- More producers are seeking VSS certification for market access
- Trend spans multiple products

Fig. 6: Standards are proliferating



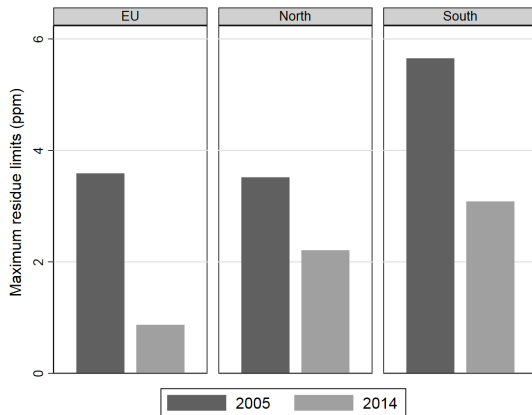
Note: The data in this table were not adjusted for multiple certifications, so the minimum possible is reported. The total VSS-compliant area corresponds to the standard with the largest compliant area operating within a given sector by country.

(d) Diffusion of VSS certification (Kemper et al., 2024)

Food standards are increasing in number and stringency

- More countries introducing more standards
- Rising product rejections over food safety
- More producers are seeking VSS certification for market access
- Trend spans multiple products
- Standards are becoming more stringent over time

Fig. 6: Standards are proliferating



MRLs by country group (Fiankor et al., 2021)

Food standards are increasing in number and stringency

- More countries introducing more standards
- Rising product rejections over food safety
- More producers are seeking VSS certification for market access
- Trend spans multiple products
- Standards are becoming more stringent over time
- Standards vary widely across countries

Fig. 6: Standards are proliferating

Active substances	Product	Switzerland	EU	Japan	USA	Canada	China	Codex
Carbaryl	Mandarins	0.01	0.01	7	10	10	–	15
Captan	Apples	3	10	5	25	5	15	15
Fenbutatin-oxide	Apple	2	2	5	15	3	5	5
Acetamiprid	Apples	0.8	0.8	2	1	1	0.8	0.8
Azoxystrobin	Tomatoes	3	3	3	0.2	0.2	3	3
Folpet	Avocado	0.02	0.03	30	25	25	–	–

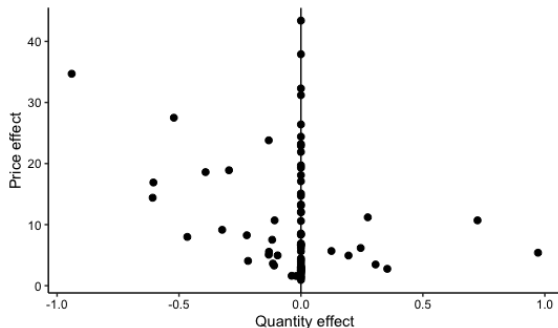
Cross-country variations in MRLs (Fiankor et al., 2025a)

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How do standards affect African trade: mixed empirical evidence

Fig. 7: Trade and price effects of standards on SSA exports



Source: Tchakounte and Fiankor (2021)

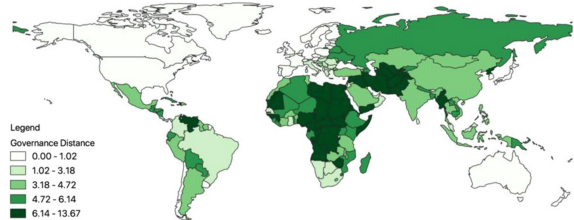
Other evidence

- Meta-analysis by Santeramo and Lamonaca (2019).
- **Positive effects:** Kareem and Martínez-Zarzoso (2020), Kareem (2016), Maertens and Swinnen (2009)
- **Negative effects:** Kareem et al. (2017), Fiankor et al. (2025b)
- **Null effects:** Xiong and Beghin (2012)

Mechanisms: standards can overcome institutional differences

- Serve as substitute governance mechanisms that enhance trust in local suppliers
- Other mechanisms
 - Product quality upgrading
 - Positive health and labour effects
 - Increased compliance costs

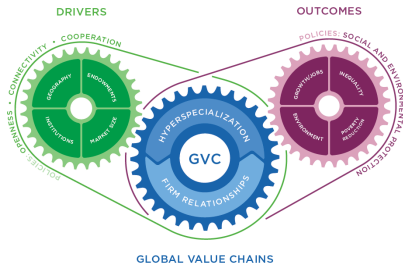
Fig. 8: Bilateral governance distance to Germany



Source: Fiankor et al. (2019)

The GVC Opportunity for Africa

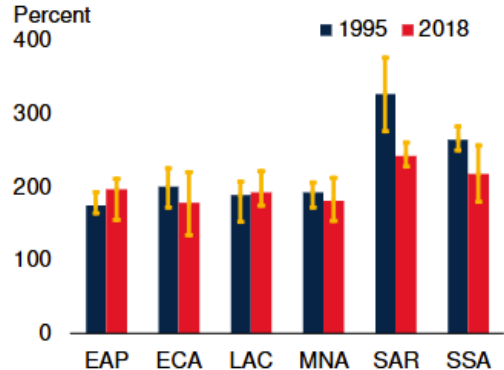
- Economic fundamentals drive countries' participation in GVCs.
- But policies matter—to enhance participation and broaden benefits.
- Increase participation in backward linkages → value addition
 - Notable sectors: e.g., cocoa, fisheries, horticulture, high value fruits and vegetables
- Standards as entry points into these chains
 - Food standards are both a *gateway* and a *gatekeeper*



The GVC Opportunity for Africa: challenges in leveraging standards

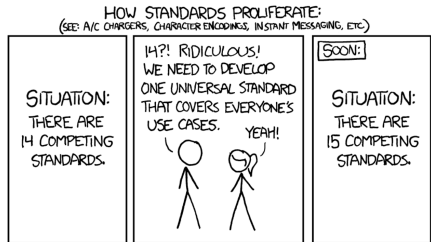
- High trade and transaction costs
- High compliance and certification costs
- Fragmented standards landscape
- Weak institutions and infrastructure: labs, testing, quality control
- Risk of smallholder exclusion

Fig. 9: Average trade cost for agriculture.



Source: UNCTAD

The GVC Opportunity for Africa: opportunities to leverage standards



- Regulatory convergence → efficiency gains
 - See Fiankor and Shingal (2025)
- Open question is whose standard becomes the “standard”?
 - We need to raise the bar
- Push for regional harmonization of standards and regulations, e.g., via the AfCFTA Digital Trade Protocol
- Compliance support + institutional reform

Thank You!

Prof. Dela-Dem Doe Fiankor

 <https://www.uni-goettingen.de/de/690613.html>

 del-dem.fiankor@uni-goettingen.de

 [linkedin.com/in/ddfiankor](https://www.linkedin.com/in/ddfiankor)

 [@ddfiankor](https://twitter.com/ddfiankor)

References

- Banach, J., Van Den Burg, S. and Van Der Fels-Klerx, H. (2020). Food safety during seaweed cultivation at offshore wind farms: An exploratory study in the north sea. *Marine Policy* 120: 104082.
- De Backer, K. and Miroudot, S. (2013). Mapping Global Value Chains. OECD Trade Policy Papers 159, OECD Publishing, Paris, doi:10.1787/5k3v1trgnbr4-en.
- Fiankor, D.-D. D., Curzi, D. and Olper, A. (2021). Trade, price and quality upgrading effects of agri-food standards. *European Review of Agricultural Economics* 48: 835–877.
- Fiankor, D.-D. D., Dalheimer, B. and Mack, G. (2025a). Pesticide regulatory heterogeneity, foreign sourcing, and global agricultural value chains. *American Journal of Agricultural Economics* 107: 611–634.
- Fiankor, D.-D. D., Martínez-Zarzoso, I. and Brümmer, B. (2019). Exports and governance: the role of private voluntary agrifood standards. *Agricultural Economics* 50: 341–352.
- Fiankor, D.-D. D. and Shingal, A. (2025). Pesticide regulatory homogeneity and firms' import decisions: Evidence from eu-swiss agri-food trade. *Journal of Agricultural Economics* .
- Fiankor, D.-D. D., Woubet, K. and Lartey, A. (2025b). Trade Barriers or Catalysts? Non-Tariff Measures and Firm-Level Trade Margins. Policy Research Working Paper 11024, World Bank, Washington, DC.
- Greenville, J. (2019). Australia's Place in Global Agriculture and Food Value Chains. Research report, Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES).
- Kareem, F. O., Brümmer, B. and Martinez-Zarzoso, I. (2017). European union market access conditions and africa's extensive margin of food trade. *The World Economy* 40: 2277–2300.
- Kareem, F. O. and Martínez-Zarzoso, I. (2020). Are eu standards detrimental to africa's exports? *Journal of Policy Modeling* 42: 1022–1037.
- Kareem, O. I. (2016). Food safety regulations and fish trade: Evidence from european union-africa trade relations. *Journal of Commodity Markets* 2: 18–25.
- Kemper, L., Sampson, G., Bermúdez, S., Schlatter, B., Luna, E., Dang, T. and Willer, H. (2024). The State of Sustainable Markets 2024: Statistics and Emerging Trends. Technical report, International Trade Centre (ITC), Geneva.
- Lim, S. (2023). Global agricultural value chains and structural transformation. In Antràs, P. and Zilberman, D. (eds), *Risks in Agricultural Supply Chains*. University of Chicago Press, presented at the NBER conference on May 20–21, 2021.
- Maertens, M. and Swinnen, J. F. (2009). Trade, standards, and poverty: Evidence from senegal. *World development* 37: 161–178.
- Mensah, A. N. and Fofana, A.-F. (2018). Global value chains and upgrading in economic community of west african states countries. In *Building a Resilient and Sustainable Agriculture in Sub-Saharan Africa*. Springer International Publishing, chap. 12, 257–283.
- Raimondi, V., Piri, A., Swinnen, J. and Olper, A. (2023). Impact of global value chains on tariffs and non-tariff measures in agriculture and food. *Food Policy* 118: 102469.
- Santeramo, F. G. and Lamonaca, E. (2019). On the impact of non-tariff measures on trade performances of the african agri-food sector. *Agrekon* 58: 389–406.
- Tchakounte, A. D. and Fiankor, D.-D. D. (2021). Trade costs and demand-enhancing effects of agrifood standards: Consequences for sub-saharan africa. *Journal of African Trade* 8: 51–64.
- Xiong, B. and Beghin, J. (2012). Does european aflatoxin regulation hurt groundnut exporters from africa? *European Review of Agricultural Economics* 39: 589–609.