



The future of food security: three main avenues for research on trade in food systems

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Abstract

While a rich literature has studied the impacts of trade on food security and nutrition, the debate is far from over. Both theoretical and empirical evidence show mixed effects, and several crucial research gaps remain. We outline three main avenues for further research to better understand how food trade influences food security and nutrition: 1) evaluation of distributional effects across and within countries, and across and within households, accounting for the nature of traded goods; 2) assessment of all forms of malnutrition, including dietary quality and simultaneous effects; and 3) analysis of spill-overs between global and local food systems.

Keywords Agri-food trade · Exports · Imports · Global value chains · Nutrition · Livelihoods

1 Opinion

The role of trade in ensuring food security and nutrition remains a fierce scientific and policy debate (Johnson et al., 2023; Martin, 2018). Theoretically, there are both trade-proponent and -opponent arguments about the scale at which food systems should operate. On the one hand, global food systems, characterised by trade liberalization and international food trade, are often promoted as they allow countries to exploit their comparative advantage, transferring food from areas of surplus to areas of deficit (van Berkum, 2021). Trade may improve food access by increasing gross domestic product, per capita incomes and funding for social safety net programs (Qaim, 2017). In addition, countries' dependency on international food trade has been associated with agricultural specialization and intensification, which has led to large improvements in crop yield levels and lower food prices, thereby lifting millions of people out of hunger (Ambikapathi et al., 2022).

On the other hand, local food systems have been put forward as well, as countries are not always competitive enough to take advantage of agricultural trade liberalization (Enthoven and Van den Broeck, 2021). High dependence on few export commodities to generate the foreign exchange necessary to finance food imports may leave countries vulnerable to changing conditions, as witnessed by the recent shocks to global supply chains, such as the COVID-19 pandemic and the war in Ukraine (Aragie et al., 2023). Governments often implement protective trade policies when confronted with food supply shortages (Smith & Glauber, 2020). However, some of these policies have backfired, especially in Africa, leading to increases in both domestic prices and domestic price volatility (Porteous, 2017).

Empirical evidence on the nutritional implications of trade is mixed, reflecting the complexity and context-dependency behind this relationship. Some illustrate favourable consequences of trade for countries' food supply (Dithmer & Abdulai, 2017) and diversity (Aguiar et al., 2020). Studies focusing on low-income countries find that trade improves food access (Bonuedi et al., 2020; Traverso & Schiavo, 2020), and that it can act as a climate change adaptation mechanism against hunger (Janssens et al., 2020). Yet, others find that for the poorest countries trade has been a substantial driver neither for food supply diversity (Remans et al., 2014) nor for nutrient adequacy (Geyik et al., 2021), and that it even increases the prevalence of undernourishment

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(Mary, 2019). Moreover, trade liberalisation has often been associated with an increased access to unhealthy food, leading to higher obesity rates (Abay et al., 2022). Other studies focus on child health and show that trade liberalization reduces child mortality or malnutrition, especially in the long-run, but with large differences in effects across countries (Adjaye-Gbewonyo et al., 2019; Dithmer & Abdulai, 2020; Liu et al., 2024; Olper et al., 2018).

We outline three main avenues for further research to evaluate how food trade influences food security and nutrition. First, heterogeneity of trade effects should be investigated in more detail. The link between trade and nutrition can vary over time and space because of spatial trade specialization effects both across and within countries. Distributional effects of trade liberalization affect consumers and producers differently, which implies non-uniform nutritional implications within countries. It also heavily depends on the types of food traded (Springmann et al., 2023). The volume and structure of international food trade has changed drastically during the past two decades, with a substantial increase in South-South trade and a shift in poorer countries' exports from tropical commodities to high-value produce (Van den Broeck & Maertens, 2016). Studies should pay much more attention to the nature of traded products and the impact of trade towards more vulnerable countries, households and individuals.

Second, future studies should look into all forms of malnutrition, because trade can have different effects on undernourishment, micronutrient deficiencies and obesity, which might occur simultaneously at household and individual levels. So far, most studies focused on a single aspect of nutrition (usually calorie supply or obesity), but the evidence for macro- and micronutrients is rather scarce. Studies should therefore not only pay more attention to the quality of food, but also explore simultaneous effects on the different forms of malnutrition.

Third, in spite of the current either-or rhetoric in the debate on global and local food systems, important spillovers can emerge between the two systems (Feyaerts et al., 2020). Nutritional links may be positive (e.g., investment and consumption, technical and managerial, infrastructure and institutional spillovers, as well as agglomeration benefits); but links may be negative too (e.g., via competition for land and labour, environmental pressure). Future research should highlight which conditions stimulate leverages and mitigate trade-offs in order to gain a more nuanced understanding on the role of trade in food systems.

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