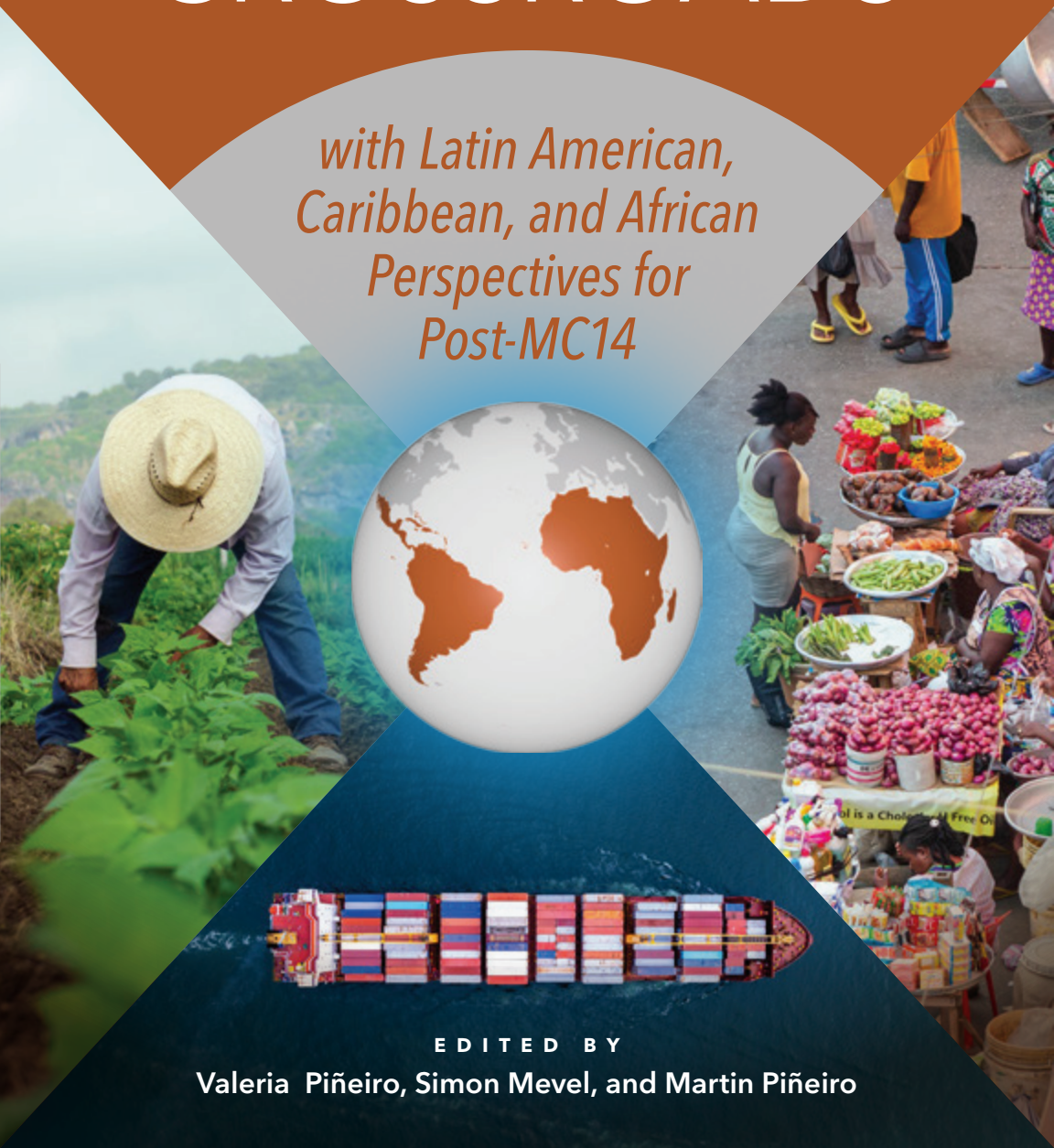
# AGRICULTURAL TRADE AT A CROSSROADS

## *with Latin American, Caribbean, and African Perspectives for Post-MC14*



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# Foreword

This publication released right after the 14th Ministerial Conference (MC14) held in Cameroon at the end of March, marks the fourth volume in our joint series prepared in advance of the Ministerial Conferences of the World Trade Organization. This publication is a collaborative effort of the International Food Policy Research Institute and the United Nations Economic Commission for Africa, reaffirming our shared commitment to informed dialogue on agricultural trade in times of global transformation. We are pleased that this fourth edition includes African perspectives alongside those of Latin America and the Caribbean (LAC), highlighting the growing importance of South-South cooperation in shaping the future of the multilateral trading system.

MC14 took place against a backdrop of growing geopolitical tensions, climate-related disruptions, persistent food insecurity, and increasing trade fragmentation. Export restrictions, sudden shifts in tariffs, and evolving sustainability standards are reshaping agricultural markets and testing the resilience of global value chains. Technological transformation and sustainability concerns are redefining competitiveness and influencing trade policy debates. For LAC and for Africa, regions that are central to global food supply, these developments present both significant opportunities and challenges. While their role in agricultural trade has expanded, export structures often remain narrowly based, increasing exposure to external shocks and regulatory changes.

A transparent, predictable, and rules-based multilateral system remains hugely important for both regions, as does a willingness to undertake further multilateral negotiations to address new realities. MC14 offered an opportunity not only to address longstanding topics not yet settled in agricultural negotiations, but also to work on new rules to tackle emerging challenges that affect productivity, resilience, and inclusive participation in global markets.

This fourth volume contributes evidence-based analysis and forward-looking policy perspectives to support those discussions. By examining structural trade patterns, external disruptions, and the role of productivity and innovation, the volume highlights the need to align trade policy with long term development

and sustainability objectives. We hope this publication will assist policymakers and negotiators in advancing constructive engagement post-MC14 to ensure that open and fair agricultural trade can drive resilient and inclusive agrifood system transformation.

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Director General of IFPRI

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# Acknowledgments

Valeria Piñeiro, Simon Mevel and Martin Piñeiro

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# Executive Summary

This book explores how agricultural trade, a cornerstone of development, food security, and sustainability, is being reshaped by a rapidly evolving global context. Rising geopolitical tensions, climate-related disruptions, and increasing fragmentation of the global economy have placed significant strain on the multilateral trading system. As a result, the global agricultural trade framework now stands at a critical turning point, requiring new approaches that better reflect current realities and future challenges.

A central message of the volume is that the predictability of global trade has weakened. Recent events such as the COVID-19 pandemic, major conflicts affecting key transport routes, and the growing use of unilateral trade measures have disrupted supply chains and increased uncertainty. These dynamics have raised costs, extended delivery times, and contributed to a reorganization of global trade flows, often driven more by political considerations than by efficiency.

Within this shifting landscape, Latin America and the Caribbean (LAC) and Africa play a crucial role. LAC stands out as a major net exporter of agricultural products, supported by strong natural resource endowments, productivity gains, and diversified production systems. Africa is leveraging continental frameworks, notably the African Continental Free Trade Area, to strengthen agrifood systems, enhance productive capacities, and promote value addition, while capitalizing on key comparative advantages, including a demographically youthful population, natural resources endowments and the expanding intra-continental trade opportunities. At the same time, both regions face important challenges, including reliance on a limited range of export products, exposure to external shocks, and constraints related to infrastructure and institutional capacity.

The book highlights that recent trade shocks have revealed deeper structural vulnerabilities. Adjustments in trade are increasingly taking place through shifts in trade flows rather than through gradual changes in prices or production. This makes outcomes more dependent on structural factors such as diversification, institutional strength, and the ability to respond to changing market conditions.

Another key argument is that the multilateral trading system remains essential but is currently under strain. Negotiations within the World Trade Organization have faced prolonged deadlock, and confidence in rules-based cooperation has weakened. Even so, there is growing recognition that future progress will require addressing issues such as food security, sustainability, and development more directly within trade discussions.

In this context, the book places strong emphasis on the post-MC14 agenda. It highlights the importance of defining a forward-looking framework that moves beyond procedural discussions and focuses on aligning priorities, strengthening coordination, and identifying practical pathways for progress. For LAC and Africa, this includes moving toward more deliberate and strategic collaboration, building on shared interests while recognizing differences.

The analysis underscores the need to align trade policy with broader development objectives, recognizing that agricultural trade reform goes beyond technical negotiation to include strengthening institutions, improving data systems, and fostering coordination across stakeholders to support more inclusive and sustainable agrifood systems. In this context, the book highlights both the challenges and opportunities facing global agricultural trade. While the current environment is marked by uncertainty and fragmentation, it also creates space for new forms of cooperation and innovation. By linking multilateral processes with regional and national strategies, and strengthening collaboration across countries and stakeholders, LAC and Africa can play an important role in shaping a more resilient, inclusive, and sustainable global trading system.

## Key messages:

- The current trade environment, characterized by elevated tariffs, policy unpredictability, and governance gaps, disproportionately burdens countries with constrained infrastructure, narrow export portfolios, and limited adjustment capacity. Resilience requires complementary investments in export base expansion, supply-chain diversification, logistics infrastructure, with transparent, and binding policy frameworks as foundational public goods.

- Protracted deadlock on negotiations in key agricultural concerns such as domestic support disciplines and market access has eroded confidence in the multilateral system, particularly among Global South constituencies. This institutional paralysis translates into tangible costs including

foregone trade opportunities, elevated transaction burdens, and systematic exclusion from agenda-setting processes.

- Effective engagement with evolving trade negotiations requires dedicated resources, expertise, and cross-sectoral coordination across stakeholders in trade, agriculture, environment, and technical expertise that many countries lack. Targeted capacity support for trade diplomacy is necessary for effective participation of all countries in multilateral fora.
- LAC and Africa continue to advocate for transparent negotiations which integrate diverse country interests and development priorities, build negotiating consensus on priority areas, particularly agriculture, and restore system legitimacy in the World Trade Organization.

# Introduction

Valeria Piñeiro and Martin Piñeiro

Agricultural trade lies at the heart of development, food security, and sustainability. Over the past several decades, global trade in agricultural products has grown both in volume and complexity. Trade has supported structural transformation, expanded food access, and increased incomes across regions. But in recent years, this system has become increasingly strained. Rising geopolitical tensions, recurring global shocks, and a growing disconnect between trade rules and sustainability goals have left the global trading system at a crossroads.

This book is the fourth in a series of concise, policy-focused publications aimed at supporting agricultural trade reform and food systems transformation. The first volume, titled *Transforming Agriculture in Latin America and the Caribbean: Challenges and Opportunities*, examined how shifting climate, social, and economic pressures were reshaping the region's food systems. The second, *Food Systems at a Crossroads*, explored the political economy of food and agriculture in Latin America, identifying core trade-offs and opportunities for policy innovation. The third volume, *The Road to MC12*, provided timely analysis ahead of the 12th World Trade Organization's (WTO) Ministerial to highlight risks of fragmentation and Latin America's potential to contribute to a reinvigorated multilateral system.

This fourth edition expands the conversation to include Africa, a region with growing importance in global agricultural trade debates. Latin America and the Caribbean (LAC) and Africa face distinct realities, but they also share vulnerabilities and strategic interests. Both regions have significant agricultural potential, are highly exposed to trade-related shocks, and are seeking a fairer, more inclusive trade regime. This book aims to deepen understanding of how these regions are navigating a rapidly evolving global landscape and how they can contribute to shaping the future of agricultural trade.

## The erosion of predictability in global trade

Recent years have seen a sharp increase in trade disruptions. The COVID-19 pandemic triggered sudden restrictions on the movement of food and agricultural inputs, exposing the fragility of global supply chains. The war in Ukraine generated cascading effects on grain, energy, and fertilizer markets, while also disrupting key Black Sea trade corridors. At the same time, conflict-related insecurity in the Red Sea significantly reduced traffic through the Suez Canal, forcing vessels to reroute around the Cape of Good Hope, increasing transit times and sharply raising freight and insurance premiums. The disruption of vessel transit through the Strait of Hormuz, resulting from escalating geopolitical tensions in the Middle East, has further intensified global energy market volatility. In parallel, drought conditions affecting the Panama Canal reduced ship movements, limiting capacity and adding further delays and costs to global shipping. Climate extremes have also reshaped production zones and increased output variability. More recently, major economies have adopted increasingly unilateral trade strategies, including aggressive tariff regimes, retaliatory measures, and export bans. Together, these developments have raised logistics costs, extended delivery times, and increased uncertainty across agricultural markets.

Against this backdrop of logistical bottlenecks, climate stress, and geopolitical tension, trade policy shocks have further reshaped agricultural markets. The imposition of new tariffs by major economies and subsequent retaliatory measures did not stop trade but instead redirected it. Alternative suppliers stepped in as flows were reallocated across regions. While some exporters temporarily gained market share, these shifts occurred in an environment of heightened volatility and uncertainty. The broader pattern suggests that unilateral measures are restructuring global trade in ways increasingly influenced by political considerations rather than comparative advantage or efficiency. As policies become more selective and less predictable, risks rise for consumers and importers, as well as for producers and exporters, particularly those with limited capacity to diversify markets, adjust logistics, or comply with evolving requirements. The outcome can be higher prices, reduced access, and greater instability in food systems.

These distortions also leave a lasting mark. Modeling results show that once trade is redirected, it rarely returns to its previous structure (Piñeiro et al. 2025). The case of soybeans during the US–China trade tensions illustrate this clearly: as tariffs were imposed, China shifted its sourcing away from the United States, and alternative suppliers quickly consolidated market share. Even after tensions

eased, trade patterns did not fully revert. New suppliers strengthened their position, supply chains were reorganized, and previous commercial ties were weakened. Short-term gains for some exporters masked deeper costs, including distorted investment signals and greater uncertainty across markets. Countries with limited infrastructure, narrow export bases, or weak adjustment capacity bear the highest costs. In this context, diversification, stronger logistics, and predictable policy frameworks are not secondary issues. They are essential conditions for resilience in a more fragmented and uncertain trade environment.

In recent months, discussions in the WTO Committee on Agriculture have gained visibility and political relevance. Members have revisited the interaction between trade policy, food security, export restrictions, and price volatility, reflecting growing concern about how recent shocks have exposed vulnerabilities in global food systems. International organizations have contributed updated assessments on hunger trends, supply disruptions, and market instability, reinforcing the message that open and predictable trade remains essential for moving food from surplus to deficit regions. At the same time, many delegations have cautioned that frequent and poorly coordinated export restrictions exacerbate uncertainty, particularly for net food-importing low- and middle-income countries. Calls for stronger transparency, improved notification practices, and closer cooperation across institutions have featured prominently in these exchanges.

Parallel to these thematic discussions, late 2025 and early 2026 were marked by a renewed effort by Members to reactivate negotiations in the Committee on Agriculture's Special Session. A new wave of submissions sought to move beyond procedural deadlock and reintroduce substance into the agenda. Proposals revisited core pillars such as market access, domestic support disciplines, and safeguard mechanisms, while also outlining phased or sequenced approaches to guide work beyond MC14. At the same time, several contributions emphasized the importance of preserving policy space for food security, strengthening transparency around export measures, and updating technical parameters that underpin existing commitments. Taken together, these initiatives reflect both the persistence of longstanding concerns and a gradual reframing of the debate toward resilience, development priorities, and the need to align agricultural trade rules with evolving food system challenges.

## Geopolitics and the erosion of multilateral norms

Trade and geopolitics are increasingly misaligned with global cooperation. Today's trade tensions are not just about tariffs or subsidies; they reflect a broader crisis in governance. As trust in multilateral systems weakens, countries are prioritizing narrow strategic goals over shared global interests.

The rise of export restrictions, carbon border adjustments mechanisms (CBAMs), and preferential green subsidies illustrates a shift away from WTO-centered rulemaking. Instead, rules are being set in bilateral deals, by regional blocs, or through national regulatory agendas. This fragmentation raises compliance burdens and deepens asymmetries, especially for countries with limited negotiating or institutional capacity.

A key concern is that multilateral trade institutions no longer act as effective safeguards against unilateralism. The weakening of the WTO's dispute settlement mechanism has meant that countries have little recourse when rules are broken or bypassed. Moreover, the paralysis in negotiations over key agricultural issues—such as domestic support and market access—erodes confidence in the system. For the Global South, this impasse has real costs: lost opportunities, higher transaction costs, and a sense of exclusion from decision-making spaces.

This erosion of WTO authority is particularly problematic for low- and middle-income countries, which lack the leverage to unilaterally dictate or influence trade norms. Plurilateral and informal mini deals among major economies have left many outside the negotiating room, even when decisions directly impact their exports or food security. While some emerging economies are trying to engage through new platforms and coalitions, there remains a need for more systematic inclusion, better transparency, and targeted technical assistance.

New regionalism has emerged to fill the void. While some regional trade arrangements offer benefits, they also risk creating parallel systems of governance that are not always aligned or coherent. For African countries, the African Continental Free Trade Area (AfCFTA) offers a chance to deepen regional integration and strengthen bargaining power. But it must be accompanied by support for implementation, harmonization of standards, and investment in institutions.

Similarly, LAC faces challenges in leveraging regional initiatives for global influence. Trade negotiations often remain fragmented among subregional blocs, and the region struggles to present unified positions in global forums. In

the case of LAC, the recently signed EU-Mercosur agreement is an important step. Bridging this gap is critical if LAC and Africa hope to shape new rules that reflect their development priorities.

There is also an urgent need to build capacity to engage in global trade diplomacy. Negotiating new standards, especially in areas such as sustainability, digital trade, or agricultural subsidies, requires not only technical expertise but also sustained diplomatic investment. Many countries still lack dedicated agricultural trade units or sufficient coordination between ministries of trade, agriculture, and environment. Strengthening these linkages will be vital if low- and middle-income countries are to participate meaningfully in reshaping trade governance.

## The climate–trade disconnect

Climate variability is already disrupting agriculture through droughts, floods, pests, and shifts in growing seasons. But the global trade system has yet to fully internalize climate goals. Instead, new sustainability standards, climate-linked tariffs, and environmental compliance requirements are being developed unevenly.

Export bans in response to food insecurity or climate events limit global availability and heighten volatility. CBAMs were designed to level the playing field, yet they risk becoming new trade barriers unless transparency and inclusiveness are prioritized.

For small exporters and vulnerable countries, the climate–trade nexus is a double bind. On the one hand, trade is vital for adaptation and resilience. On the other hand, emerging rules often exclude or penalize them. Without financial and technical support, these measures may deepen inequality rather than solve environmental problems.

Trade policy should support climate goals without reinforcing structural disadvantages. Instruments such as climate-resilient trade facilitation, green finance, and technology sharing can help align climate and trade agendas. Technical and financial assistance is crucial to allow least-developed countries to meet climate-related compliance demands.

At the same time, reforming harmful agricultural subsidies, many of which contribute to emissions, overproduction, or resource depletion, must be a central part of trade and climate governance. Redirecting these subsidies toward

sustainable practices would level the playing field and support transformation across the food system.

There is also a growing need for improved transparency. Many climate-linked trade measures are introduced without adequate information sharing, stakeholder engagement, or monitoring. This opacity fuels suspicion and diminishes trust. A rules-based approach that values openness, inclusive consultation, and scientific evidence would go far in restoring legitimacy and fairness.

Just as important is the need to integrate justice and equity into climate-linked trade reforms. Many African and LAC countries argue that they bear the brunt of climate impacts without having contributed significantly to global emissions. Any reform of global trade rules in the name of climate must therefore incorporate transition support, differentiated responsibilities, and recognition of historical inequalities. Without greater alignment and support, climate-related trade policies may reinforce structural disparities.

## Local innovation amid global instability

Despite global uncertainty, producers and institutions across LAC and Africa are innovating. Technology-enabled traceability systems, climate-smart farming practices, and regional market integration efforts are creating more dynamic food systems.

From digital tools to measure emissions to cooperative approaches that reduce input costs and improve standards of compliance, these bottom-up initiatives are laying the groundwork for a more inclusive trade system. Mobile-based platforms for price transparency, real-time weather forecasting, and mobile money are enabling smallholders to access market information and respond more quickly to shifts in demand and climate conditions.

In both regions, regional organizations and producer networks are piloting new models for financing sustainable production, aggregating smallholders for export readiness, and investing in agri-logistics infrastructure. These innovations are essential not only for competitiveness but also for resilience in the face of mounting global shocks.

However, such innovations require an enabling environment. Fragmented rules and shifting compliance demands create uncertainty that discourages investment. A reformed multilateral framework can serve to scale promising models, harmonize standards, and share risks more equitably. International cooper-

ation is particularly vital for reducing transaction costs that prevent many small and medium enterprises from engaging in trade.

Institutional innovations matter as well. For example, efforts to reduce informality in cross-border trade—through simplified procedures, digital documentation, and policies that reduce participation gaps across different groups of traders—can dramatically improve efficiency and inclusion. Lessons from pilot programs across Africa demonstrate that targeted interventions in border infrastructure and trader registration can deliver quick and scalable gains.

The integration of digital tools into customs and certification systems is also a growing trend, offering the potential to streamline compliance while improving traceability. Yet many countries lack the infrastructure or financing to implement such systems at scale. Technical assistance from development partners and alignment of international platforms with local needs will be critical.

## A Moment of Opportunity: MC14 and Beyond

MC14 in Cameroon offers a timely opportunity: its location in Africa highlights the continent's growing relevance in global food systems while also underscoring the need to translate symbolism into concrete progress. At a moment when geopolitical tensions, climate pressures, and trade fragmentation are reshaping agricultural markets, the Ministerial provides space not only for negotiation but also for reflection and repositioning by low- and middle-income regions.

This book is designed to contribute to that moment. It brings together authors from LAC and Africa to examine how agricultural trade is evolving under rising uncertainty and how a more inclusive, sustainable, and responsive system could be constructed. The volume combines analytical work, empirical evidence, and policy perspectives to assess both the structural shifts taking place in global trade and the specific implications for low- and middle-income regions.

Several chapters examine the broader transformation of the global trading environment. They explore the weakening of multilateral disciplines, the growing role of selective tariffs and retaliatory measures, the rise of mini-deals and regional agreements, and the increasing importance of private standards and climate-linked measures. A global modeling exercise assesses how the current trade environment—characterized by higher tariffs, greater policy uncertainty, and fragmented governance—differs from a more predictable pre-2025 reference

world, quantifying trade diversion, structural adjustments, and welfare impacts across regions, with particular attention to LAC and Africa.

Other contributions focus on regional realities. For LAC, the analysis considers the structure of agricultural trade, recent shocks, competitiveness gaps, and the implications of shifting from traditional protectionism to a more complex combination of tariffs and distortions. For Africa, the discussion examines agricultural trade performance, food import dependence, structural barriers, logistics and trade facilitation challenges, and the continent's position in WTO agricultural negotiations. The opportunities and limitations associated with the implementation of the AfCFTA are also addressed, including its potential impact on intra-African trade, regional value chains, and food security.

Cross-cutting themes run throughout the volume. These include digitalization and its role in strengthening value chains and trade transparency; climate-smart and green trade pathways; the interaction between sustainability objectives and WTO disciplines; and the institutional and legal readiness required to manage reform. The book also examines the importance of coordination—both within regions and across them—to enhance negotiating leverage and ensure that regional integration efforts complement rather than fragment the multilateral system.

Each contribution is concise and accessible, grounded in practical experience and empirical evidence. The objective is not to present a single unified position, but to create space for informed dialogue across regions. LAC and Africa will be more influential if they collaborate—sharing data, aligning priorities, and advocating reforms that reflect their development and food security objectives.

MC14 should therefore be seen as more than a procedural checkpoint; rather, it represented an opportunity to articulate a joint Global South agenda. Transparency in climate-related trade measures, greater flexibility in subsidy reform, support for digital infrastructure, improved trade facilitation, and coherent sustainability certification frameworks all require stronger regional voices. Beyond MC14, sustained partnerships for knowledge sharing and coordinated negotiation strategies can help shape a more balanced and resilient agricultural trade system.

## Looking Forward

In the lead-up to MC14—and looking beyond it—it became clear that agricultural trade is operating under two powerful disruptors: geopolitics and weather variability. Geopolitical tensions have reshaped trade routes, increased tariffs, and weakened confidence in multilateral disciplines. At the same time, climate-related events are affecting not only production but also transport corridors and logistics systems, adding new layers of uncertainty to global food markets. Together, these forces have made agricultural trade more volatile, more fragmented, and more costly to navigate. Yet they have also clarified how trade remains central to food security and economic stability.

Addressing the challenges posed by these disruptors requires more than technical adjustments. It calls for renewed commitment to cooperation, stronger institutions, and clearer strategic direction. Countries need to re-engage constructively in the WTO, invest in analytical and negotiating capacity, and create space for leadership from the Global South. Trade disciplines should not be treated solely as tools for expanding market access, but as instruments to strengthen resilience, support development, and ensure accountability. In the current context, coherence between trade, climate, and development policies is not optional; it is essential.

This book seeks to contribute to that effort. It invites a move beyond inertia toward a more deliberate and coordinated approach to agricultural trade reform. A future in which trade advances sustainability in its economic, environmental, and social dimensions is possible. But it will not emerge automatically. It requires open dialogue, sound evidence, and collective action.

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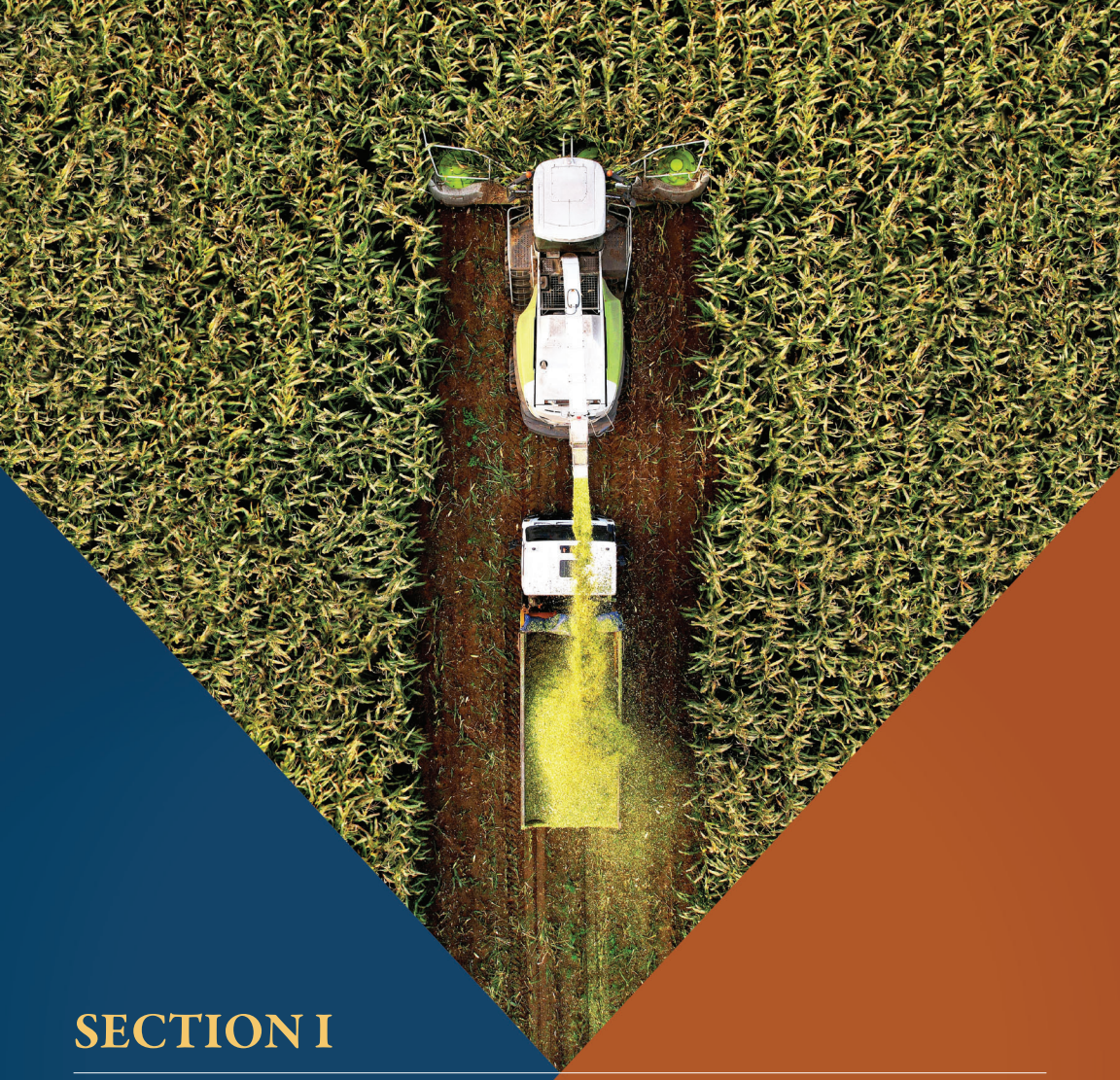


# SECTION I

# THE CHANGING GEOPOLITICAL LANDSCAPE AND THE WTO

# Chapter 1.1
# Geopolitical Changes and the New Agricultural Trade Environment

Martin Piñeiro, Valeria Piñeiro and Mauricio Mesquita Moreira

## Introduction

In the previous edition of this book series, published in 2024 as a contribution to the 13th Ministerial Conference, one of our main themes was the profound geopolitical changes that were taking place in the world and its implications for the functioning of the World Trade Organization (WTO) and trade in general. Our analysis pointed to a progressive weakening of multilateral institutions and of the enforcement of multilateral trade rules. This was particularly noticeable among the large economies with considerable bargaining power. We warned that this trend risked a return to power-based bilateralism, at the expense of global cooperation.

Two years later, as we approach the 14th Ministerial Conference (MC14) in Yaoundé, the geopolitical changes we were concerned about—and the threats to the rules-based multilateral trade system—have gained a scale and intensity that exceed even the most pessimistic forecasts. This crisis is fueled by a growing conviction in many advanced economies, led by the United States of America (US), that the current trade framework is outdated. The US perspective has shifted from supporting the system to actively disrupting it, citing chronic non-compliance, particularly by China, and the perceived failure of the WTO to address state-led economic models. As a result, the global landscape has shifted beyond potential risks, with increasing use of reciprocal tariffs and a gradual fragmentation of trade relationships.

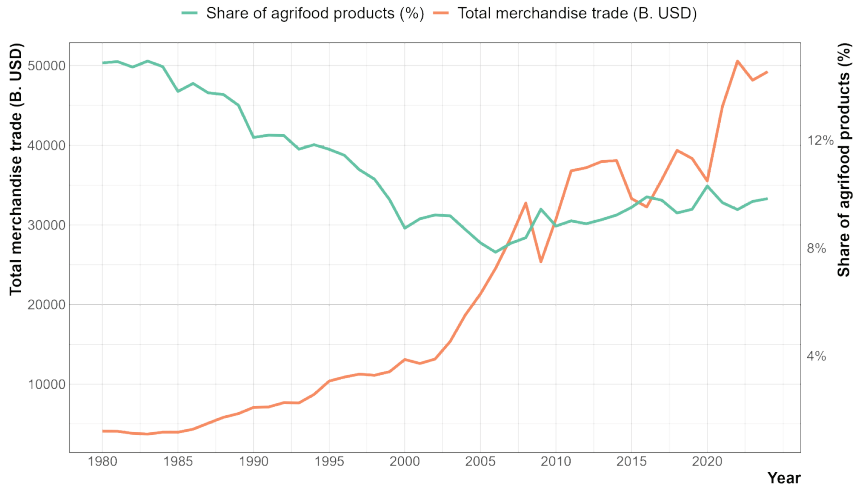
## Present and potential future impacts on agricultural trade

Over the past forty-five years, world merchandise trade has undergone profound structural changes, and agrifood products have been part of this transformation. Between 1980 and 1985, global trade remained relatively stagnant, reflecting the sluggish growth that followed the macroeconomic turbulence of the late 1970s and early 1980s. However, from the mid-1980s to the early 2000s, international trade expanded steadily, driven by trade liberalization, technological progress, and deeper economic integration. This expansion accelerated significantly between 2005 and 2010 as the consolidation of global value chains (GVCs) intensified cross-border production linkages and boosted trade volumes. Between 2010 and 2020, merchandise trade growth slowed and stabilized amid weaker global demand and rising tensions. In the post-COVID-19 era, trade flows rebounded sharply—driven largely by rising international prices—reaching a historical peak in 2022 against the backdrop of the war in Ukraine.

Agrifood trade followed a related but distinct trajectory. Its share of total merchandise trade declined steadily from the mid-1980s, overshadowed by the rapid expansion of manufactured goods. This trend began to reverse around 2005, as surging global demand, evolving consumption patterns, and higher commodity prices bolstered agrifood's relative standing—the sector's share stabilized at approximately 10%. Despite this recovery, agrifood products have not regained the relative importance they held in the early 1980s, indicating a permanent structural shift in the composition of global trade.

These long-term trends are illustrated in Figure 1, which tracks the expansion of global merchandise trade alongside the evolving weight of agrifood products. The data clearly highlights the mid-2000s acceleration, the post-2010 stabilization, and the sharp post-pandemic rebound. Crucially, the figure captures the mid-2000s inflection point, marking the gradual recovery in the agrifood share after decades of decline.

**Figure 1: Evolution of world merchandise trade and agrifood products share.**




*Source: Author's calculations based on WTO data.*

Beyond aggregate volumes, geopolitical transformations and growing uncertainty have altered the geographic configuration of trade. We are witnessing a realignment of countries and regions, both in terms of their relative participation in global markets and in the structure of "preferred" trade partnerships. Asia, and China in particular, has played a central role in these shifts. The early development of high-tech industries, combined with proactive and strategic trade policies, allowed the region to expand its global presence significantly. Asia's share of global trade surged from approximately 33% in 2019 to 55% in 2023, a shift that includes a substantial increase in agricultural imports.

This massive geographical shift is the primary driver behind the recent growth in agricultural trade, fueled largely by surging import demand in Asian economies, especially China. At the same time, agricultural trade remains highly sensitive to tariffs and sanitary regulations—tools historically used as pillars of agricultural policy to protect domestic production, particularly in Asia and Europe. To be sure, average tariffs applied globally to agricultural products declined during the previous decade, even if they remained structurally higher than those in other sectors. However, in 2024 and 2025, the geopolitical environment shifted significantly. Several countries resorted to tariffs not just for protection, but as aggressive bargaining instruments in broader trade disputes.

A definite example was China's abrupt tariff hikes on US pork and soybeans in response to industrial trade pressures. As a result of renewed protectionist measures among major food-importing countries, China's trade-weighted average tariff applied to global agricultural imports increased from 15% in 2024 to a peak of 33% in April 2025, before declining to 17% in December 2025. Similarly, the United States' trade-weighted average tariff on global agricultural imports rose from 3% in 2024 to a peak of 15% in September 2025, easing thereafter to 12% in December 2025.

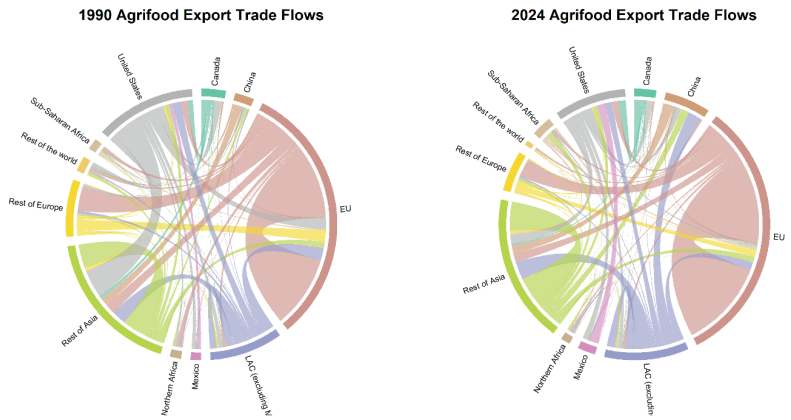
Sanitary and phytosanitary (SPS) regulations have also become increasingly relevant. While these measures are, in principle, legitimate instruments to protect public health and prevent the spread of pests and diseases, they often function as non-tariff barriers when applied in a discriminatory, opaque, or scientifically disproportionate manner. The integration of climate-related measures into trade policy led by the European Union (EU) further complicates the regulatory landscape and increases uncertainty in agrifood markets. Two prime examples are the EU's Deforestation Regulation (EUDR) and Carbon Border Adjustment Mechanism (CBAM). The former, set to begin on December 30, 2026, requires that key commodities—including soy, beef, palm oil, and coffee—be produced on land not subject to deforestation or forest degradation after 2020. The latter, which entered its definitive phase on January 1, 2026, targets the carbon footprint of energy-intensive imports. For agrifood, its most immediate impact is on fertilizers, as importers must now account for the emissions embedded in these inputs.

Despite these changes, agrifood trade flows between 1990 and 2024 show a remarkable degree of structural continuity. The principal trade corridors observed in 1990 remain largely visible in 2024, suggesting that the fundamental architecture of global agrifood trade is resistant to radical transformation. However, the intensity and direction of specific flows have evolved, reflecting a gradual rebalancing of regional participation.

This reconfiguration is depicted in Figure 2, which compares the geographic structure of agrifood exports across the two years. The data reveal a relative decline in U.S. market participation, driven primarily by a contraction in export flows to traditional hubs in Asia and the EU. While trade relations with Mexico and Canada remain strong, imports from Latin America and the Caribbean (LAC) have decreased, indicating a greater concentration of trade within North America. In contrast, Asia—especially China—has strengthened its role as a central node in global agrifood trade. This shift is mirrored by LAC's consolida-

tion as a major supplier to the Asian market. Furthermore, Asia has expanded exports to Sub-Saharan Africa and deepened intra-regional trade, while the EU has reduced its trade intensity with the rest of Europe and with Asia excluding China, signaling a relative shift in its external trade orientation.

**Figure 2: Agrifood export trade flows. In current USD, 1990 and 2024.**




*Notes: Fisheries are not included in agrifood products.*
*Source: Author's calculations based on FAOSTAT data.*

Looking ahead, the persistence of geopolitical tensions suggests that uncertainty may remain a defining feature of the global agricultural trade environment. The "middle game" of this geopolitical restructuring—marked by retaliatory tariff measures and broader strategic use of trade policy instruments—threatens to further distort market incentives. In this more fragmented and confrontational context, the risk of a permanent retreat from multilateralism is real. The blind pursuit of national security and commercial edge has already led some large economies to revert to broader agricultural protectionist policies. In this scenario, a "race to the bottom" can become inevitable, setting back the modest but hard-fought liberalization of the late twentieth and early twenty-first centuries. The damage to the long-sought and laudable objectives of increasing global food security, particularly for low-income countries, can be disastrous.

## Global trade implications for developing economies

It is increasingly clear that the multilateral trade framework is seriously impaired. In the words of Mark Carney, Prime Minister of Canada, in his January 2026 address in Davos: "In the new order that is slowly and painfully emerging, a new trade framework will have to emerge."[1] Carney emphasized that the world is experiencing a "rupture, not a transition." He also made two very relevant additional comments. First, all countries must recognize this reality and cease the pretense that multilateralism remains "well and alive". Second, he noted that medium-sized countries have two options: they can retreat behind trade walls and revert to protectionism, or they can be "smarter" by forming strategic, plurilateral coalitions and negotiating trade agreements among themselves to preserve their collective sovereignty.

In pursuing this second option, interested countries must prioritize preferential trade agreements (PTAs) with regional, inter-regional, and plurilateral dimensions, as their relevance in this new fragmented environment has been greatly strengthened. Plurilateral trade agreements, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), will play an important role as they evolve into global "clubs" for trade-dependent economies. In addition, two landmark inter-regional agreements that had languished in negotiations for decades were finally concluded and signed in January 2026. On January 17, a broad and inclusive partnership was signed between the EU and Mercosur (Argentina, Brazil, Paraguay, and Uruguay), creating one of the world's largest free trade zones. This was followed on January 27 by a historic agreement between the EU and India, described by many as the "mother of all deals." These agreements serve as primary examples of new institutional frameworks that preserve the core principles of a rules-based system, providing a "variable geometry" that allows middle powers to bypass the paralysis of traditional multilateralism.

Looking into the future, it is likely that other PTAs—both existing and emerging—will gain prominence, leveraged by the natural advantages of geographic proximity or by historical and political ties. These PTAs are an important tool to mitigate the losses associated with the fragmentation of the global economy. On the other hand, a good part of global trade will occur under the umbrella of bilateral trade agreements. These arrangements will have different

1 Carney, Mark. "Principled and Pragmatic: Canada's Path." Special Address at the World Economic Forum Annual Meeting, Davos, Switzerland, January 20, 2026

geometries and levels of inclusion, where conditions will most likely favor larger economies with greater negotiating power. This shift is already evident in the active participation of the US, which has signed several bilateral trade agreements in recent months, including with LAC countries such as the US-Argentina Agreement on Reciprocal Trade and Investment (ARTI), signed in February 2026. This deal illustrates the new "reciprocal" model: while providing Argentina with expanded quotas for products like beef, it also requires deep regulatory alignment with U.S. standards and strategic cooperation on economic security.

The remainder of the global trade will occur outside of trade agreements, leaving exporting countries vulnerable to a shifting landscape of unilaterally imposed regulations and standards. Framed around environmental, social, and security-driven justifications such as the EU's CBAM and the U.S. Bulk Data Rule, these measures are often unstable and subject to arbitrary modification.[2] Consequently, the terms of this non-preferential trade are dictated primarily by the relative economic and political leverage of the intervening parties. In this environment, market access is no longer guaranteed right under international law but a variable condition, deeply contingent on the specific geopolitical alignment and market pressures of the moment.

In this context, and despite all the difficulties just described, it is important that developing countries—particularly in LAC, given their critical agricultural export capacity—continue their active participation in the WTO. As a region, LAC must persist in pushing for a reconstruction of the multilateral trade framework, ensuring that a basic set of global rules remains in place to guard against a total "law of the jungle". However, we must also recognize the immediate pragmatic reality: in the near future, the most tangible market access results will be achieved through preferential negotiations

In addition, because of the more confrontational geopolitical environment that has developed in recent years, these preferential agreements will be negotiated, in most cases, between countries with shared values—especially those that do not have significant security frictions.[3]

These arguments are very specifically relevant to LAC countries in the present regional political situation. During most of the previous three or four de-

2 Executive Order 14117, *"Preventing Access to Americans' Bulk Sensitive Personal Data and United States Government-Related Data by Countries of Concern,"* issued on February 28, 2024. See https://researchservices.cornell.edu/policies/department-justice-doj-bulk-data-rule#:~:text=The%20National%20Security%20Division%20of,Covered%20Persons%E2%80%9D%20as%20a%20Data

3 Crystia Freeland. PIIE Trade Talks February4, 2026

cades, LAC had two political strengths. First, they were able to present themselves to the rest of the world relatively united and with common views about major geopolitical events. Second, they maintained strong political and economic relationships within subregional groups, including trade and integration agreements between the countries. Examples of this are the Central America trade agreement, Mercosur in the Southern Cone, the Pacific Alliance in the Andean region, and the Caribbean Community (CARICOM).

In recent times, however, significant political shifts within the LAC region have fundamentally altered the landscape. A wave of new governments, often with different political and geopolitical views, has created frictions in regional alliances and global positioning. Because of these frictions, the traditional regional integration mechanisms have weakened, albeit with important subregional nuances. CARICOM, despite the shortcomings of the common external market, has managed to maintain its cohesion. Similarly, Mercosur continues to function as a "partially resilient" bloc, buoyed by the historic signing of its EU agreement in January. In contrast, other frameworks like the Pacific Alliance and Central American Integration System have struggled to find common ground as members diverge between US aligned security postures and deepening economic ties with China.[4]

Going forward, political projections suggest that by the end of 2026, a significant majority of LAC countries will be governed by center-right administrations. These governments are expected to share convergent views on international political alliances, economic sovereignty, and trade relationships with the rest of the world. This emerging political configuration will provide fresh opportunities for regional alliances and for a decisive repositioning of LAC within global affairs: moving away from ideological fragmentation toward a more pragmatic, security-oriented bloc that seeks to balance U.S. hemispheric preeminence with the necessity of maintaining diverse global trade channels.

Similarly, Africa also faces an important moment of repositioning. While the continent is politically diverse, there is a growing recognition across governments that deeper regional integration is not only desirable but necessary in a more fragmented global trade environment. The progressive implementation of the African Continental Free Trade Area (AfCFTA)—which entered its sec-

4 For details of recent development in LAC subregional agreements see https://caricom.org/annual-reports/ ; https://www.mercosur.int/documento/informe-tecnico-de-comercio-exterior-del-mercosur-2022 ; https://www.sica.int/sica/vista_en.aspx and https://alianzapacifico.net/en/what-is-the-pacific-alliance/.

ond five-year phase in early 2026—offers a concrete institutional framework to strengthen intra-African trade, reduce dependence on extra-regional markets, and build more resilient regional value chains. By harmonizing rules, improving customs cooperation, and addressing non-tariff barriers, AfCFTA can help unlock economies of scale and create a larger, more predictable market for agricultural producers and processors.

Within this context, and subject to the evolution of preferential trade agreements—be they bilateral, regional, or plurilateral—it is likely that trade barriers will continue to proliferate. This protectionist shift is increasingly evident in major food-importing nations, which are frequently implementing unilateral policies under the frameworks of national security and environmental sustainability. For developing countries, particularly those that are major agricultural exporters, such as those in LAC and Africa, this heightened uncertainty in global agrifood markets presents a profound challenge to their trade strategies and broader economic development. To mitigate this vulnerability, these nations must bolster the productivity of their farms—particularly through the adoption of climate-friendly, sustainable technologies—while simultaneously anchoring themselves within a framework of strategic preferential agreements. By aligning with trade-friendly partners capable of reducing exposure to geopolitical frictions, these exporters can transform "compliance" from a barrier into a competitive advantage.

| Proponent(s) | Main Focus Areas | Reference |
|---|---|---|
| Brazil | Broad agriculture reform roadmap and draft ministerial decision, covering domestic support, market access, special safeguard mechanism, and enhanced negotiation structure | WTO Draft Decision on Agriculture Negotiations (Brazil submission) — *JOB/AG/271* |
| African Group | Comprehensive priorities for agriculture talks; seeks to integrate existing texts into a single work program through MC15 | African Group sets out detailed agriculture priorities ahead of MC14 *JOB/AG/242, JOB/AG/257* |

| Proponent(s) | Main Focus Areas | Reference |
|---|---|---|
| Indonesia | Food security and resilience-focused draft ministerial decision, emphasizing special and differential treatment and post-MC14 roadmap | WTO members share new agriculture proposals ahead of MC14 (Indonesia submission) |
| Argentina, Brazil, Paraguay, and Uruguay | Market access reform communication | WTO members table seven new agriculture negotiating submissions (market access communication) *JOB/AG/255R1* |
| C4+ Group (Benin, Burkina Faso, Chad, Mali, Côte d'Ivoire) | Cotton-focused on negotiating the submission and accompanying ministerial declaration | WTO members table seven new agriculture negotiating submissions (cotton proposal) |
| Jamaica | Draft ministerial declaration linking trade and food security | WTO members table seven new agriculture negotiating submissions (Jamaica declaration) *JOB/AG/270* |
| Least Developed Countries (LDC Group) | Draft decision addressing trade and food security concerns | WTO members table seven new agriculture negotiating submissions (LDC submission) *TN/AG/W/13* |

### Box 1: The Evolving state of WTO agricultural negotiations

In parallel with the shifting geopolitical context described earlier, the state of agricultural negotiations within the WTO remains fragile and politically complex. Since the WTO's creation, agriculture has been one of the most contentious areas of multilateral rulemaking, subject to entrenched interests and structural asymmetries between countries. While the 1995 Agreement on Agriculture (AoA) provided the initial framework to begin disciplining trade-distorting policies, progress toward deeper reform has consistently faltered. Despite a brief window of optimism around the 2008 draft modalities, negotiations have since entered a pattern of recurring deadlock, marked by minimal convergence and repeated exclusion of agriculture from final ministerial packages.

As the MC14, held in Yaoundé, Cameroon, took place, Cameroon, the political backdrop for agriculture remains both urgent and uncertain. The convergence of supply chain disruptions, rising food insecurity, climate-related shocks, and a retreat from multilateralism has reshaped the political economy of agricultural trade. These challenges, combined with intensified geopolitical rivalries and diverging national priorities, have further weakened the WTO's capacity to broker consensus on agricultural reform. And yet, precisely because of these tensions, there is renewed awareness that the current moment cannot be treated as business as usual.

In late 2025 and early 2026, a notable number of WTO Members resumed their engagement in the Committee on Agriculture's Special Session, submitting a new wave of proposals aimed at breaking the long-standing impasse. Mercosur countries (Argentina, Brazil, Paraguay, and Uruguay) put forward contributions on market access, reaffirming their interest in disciplines that reflect their comparative advantage as agricultural exporters. Brazil advanced a roadmap for continuing negotiations beyond MC14, structured around a phased approach. In parallel, the African Group presented one of the most comprehensive proposals to date, bringing together elements from previous texts and proposing a sequenced agenda through MC15. Their submission includes concrete priorities such as curbing trade-distorting domestic support, operationalizing a special safeguard mechanism for developing countries, and updating reference prices that underpin various disciplines (see more on this in section 3.2).

These submissions signal both continuity and change. Long-standing issues remain unresolved, but there is also evidence of new narratives gaining traction—particularly those linking trade reform to food system resilience, development objectives, and the evolving climate agenda. Proposals from Indonesia, Jamaica, and the Least Developed Countries (LDCs) have emphasized the importance of maintaining policy space for food security interventions, strengthening transparency around export restrictions, and ensuring that agricultural rules support rather than constrain national food system strategies.

Against this backdrop, expectations for MC14 remained cautious. Most Members recognized that achieving a comprehensive agricultural agreement in Yaoundé was unlikely, and ultimately, no significant progress was made. However, there is a broad consensus that the moment should not be wasted. Even in the absence of binding outcomes, the conference offers a platform to clarify positions, rebuild trust, and define a path forward. Some Members have called for a general ministerial declaration that outlines shared principles and commits to technical engagement beyond MC14. Such a declaration could

help reframe the conversation, restore momentum, and create a foundation for more ambitious reforms in the future.

For LAC and Africa in particular, advances in the negotiation agenda are important. Both regions are affected by the current fragmentation of global agricultural trade, whether major exporters are vulnerable to rising protectionism or as net food importers exposed to supply and price shocks. In this context, MC14 offers an important opportunity to articulate a shared vision for agricultural trade—one that prioritizes fair rules, development-oriented outcomes, and the need for a reinvigorated multilateral system. Although immediate breakthroughs may be out of reach, meaningful progress can still be made by anchoring negotiations in the real concerns of developing countries and committing to an inclusive agenda that extends beyond the ministerial.

## Implications for Latin America and the Caribbean

These changes in the global agricultural trading environment pose significant challenges for LAC countries. For net agricultural exporters, higher protectionist measures in importing markets may lead to reductions in traded volumes, downward pressure on international prices, and rising logistics costs. Together, these factors reduce market opportunities and diminish the net economic benefits derived from agricultural exports.

For net food-importing countries, particularly those that apply tariffs, the effects are different but equally concerning. Higher import costs translate into higher consumer food prices, while increased market uncertainty heightens the risk of food insecurity. These impacts are likely to be more severe for smaller economies with limited market power and constrained negotiating capacity in bilateral or plurilateral trade settings.

At the same time, the region's internal structure offers important, though underutilized, opportunities. LAC includes major net agricultural exporters—particularly the Southern Cone countries, Chile, and Peru—as well as net food-importing economies, especially in the Caribbean. These complementarities create clear potential for expanded intraregional trade. However, this potential has not been fully realized due to limited trade agreements, persistent sanitary and other non-tariff barriers, and inadequate transport and logistics

infrastructure. Targeted trade negotiations and coordinated investments in infrastructure could help overcome these constraints and strengthen regional resilience in an increasingly uncertain global trade environment.

## Implications for Africa

The current transformation of the global agricultural trade system has concrete implications for African countries. Rising tariffs, the increased use of export restrictions, and the weakening of multilateral disciplines are occurring alongside the introduction of new regulatory requirements in major markets. For African exporters of coffee, cocoa, tea, cotton, horticultural products, and other primary commodities, access to traditional destinations such as the EU and Asia is becoming more complex and costly. The implementation of the European Union Deforestation Regulation, together with the expansion of private sustainability standards and carbon-related trade measures, introduces new traceability, certification, and compliance obligations. These requirements can significantly increase transaction costs, particularly for smallholders and small and medium-sized agribusinesses with limited technical and financial capacity. The result is a higher risk of exclusion from high-value markets and a reinforcement of existing asymmetries in global agricultural trade.

At the same time, Africa's structural position as a net food-importing region increases its vulnerability to external shocks. Export bans imposed by major producers and general price volatility directly affect food availability and affordability. Higher logistics, fertilizer, and fuel costs further amplify these pressures, translating into higher domestic food prices and worsening food security conditions, particularly for low-income households. These trade-related vulnerabilities interact with broader macroeconomic constraints, including currency depreciation, tightening fiscal space, and rising public debt in several countries.

Despite these challenges, there are also significant opportunities. Africa's large and growing internal market, combined with the progressive implementation of the AfCFTA, provides a framework for strengthening intra-African trade and developing regional value chains. By harmonizing standards, improving customs procedures, and reducing intra-regional barriers, AfCFTA can reduce dependence on extra-regional markets and mitigate exposure to external trade disruptions. However, realizing this potential requires substantial investment in transport corridors, logistics, storage, certification systems, and digital trade facilitation tools. It also requires stronger institutional capacity and co-

ordinated negotiating strategies to ensure that African interests are effectively represented in multilateral and plurilateral trade discussions. In the current environment, a proactive and coordinated approach to trade policy will be essential for transforming external pressures into opportunities for structural change and greater resilience.

# Chapter 1.2
# State of the Agricultural Negotiations and Prospects for Progress at MC14

Joseph Glauber

Agricultural negotiations have largely been stalemated since the collapse of the Doha Round in July 2008. Members have struggled to fulfil in its entirety the mandate set out in Article 20 of the Agreement on Agreement (AOA), as well as other relevant Ministerial mandates. With the exception of a few outcomes, including those on Public Stockholding and the administration of Tariff Rate Quotas at the Ninth Ministerial Conference (MC9) in Bali in 2013, on Export Competition at MC10 in Nairobi in 2015, and on export restrictions for food aid in MC12 in Geneva, there has not been any substantive outcome in the agriculture negotiations since they were launched in 2000.[5] The prospects for a substantive outcome at MC14 in Yaoundé remained limited, as sharp divisions persisted among Members on several critical issues, while recent trade actions have added further strain to the multilateral trading system and risk undermining progress achieved over the past three decades. I begin by reviewing progress in the so-called pillars of the AOA: domestic support, market access, and export competition. I then consider the areas of contention during the Doha Round negotiations, specifically the special safeguard mechanism (SSM), cotton, public stockholding (PSH), and export restrictions. I conclude with a broad assessment of the chances for meaningful progress and discuss some potential avenues beyond Yaoundé.

## Domestic support

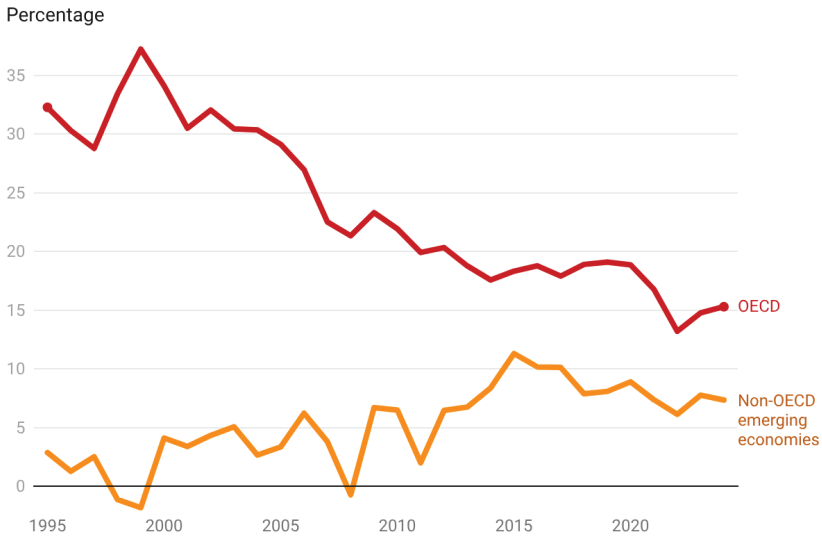
Disciplining agricultural domestic support was arguably one of the more significant results of the Uruguay Round. The AOA differentiated between production-distorting support and support that was minimally trade-distorting.

5 World Trade Organization. 2024. "Committee on Agriculture in Special Session Report by the Chairperson, H.E. Mr Alparslan Acarsoy. State of Play in the Agriculture Negotiations." TN/AG/58. February 8. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/TN/AG/58.pdf&Open=True

Trade-distorting support was subject to a 20% reduction from the 1986-1988 base period (10% for developing countries). Annex 2 of the AOA (the so-called green box) laid out specific criteria defining what measures were considered minimally-trade distorting.

In the 30 years following the creation of the WTO, trade-distorting domestic support has fallen, particularly among developed countries. Many members shifted support to less distortive measures. Producer support, as calculated by the Organisation for Economic Co-operation and Development (OECD), fell from around 30% of the value of production in 1995 to 20% in 2010 and to about 15% in 2025 (Figure 1). Domestic support among emerging market economies rose over the period 1995 to 2015, but since then, aggregate support as a% of the value of production has fallen.

**Figure 1. Producer support as a% of gross farm receipts**



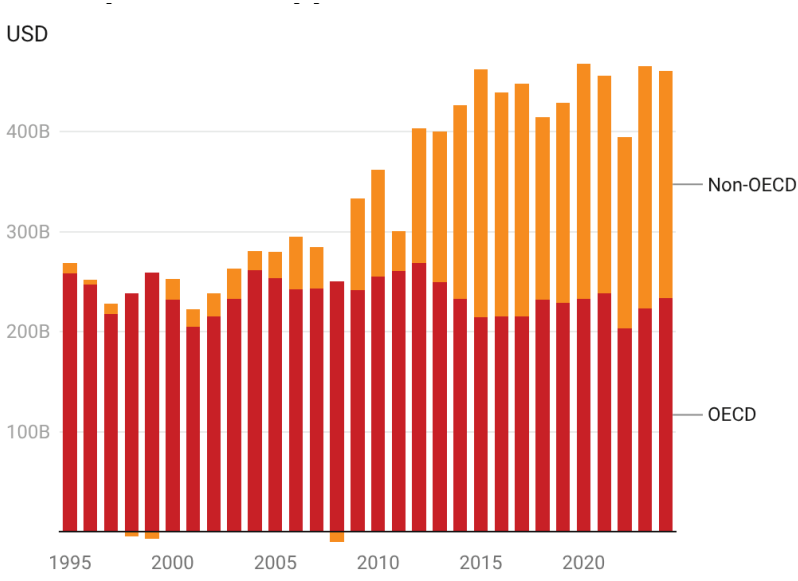

*Non-OECD countries include Argentina, Brazil, China, India, Indonesia, Kazakhstan, Philippines, Russia, South Africa, Ukraine, and Vietnam.*

*Source: OECD PSE database, https://data-explorer.oecd.org*

Despite the reduction in producer support relative to the value of production, critics point out that absolute levels of producer support have increased, topping USD 460 billion in 2024 (Figure 2). Producer support among OECD members has remained relatively flat (in nominal terms) since 2000, reaching

USD 234 billion in 2024, while producer support among non-OECD emerging markets has increased from just USD 20 billion in 2000 to over USD 225 billion in 2024. Support to non-OECD emerging economies now equals the levels of support provided to OECD members.

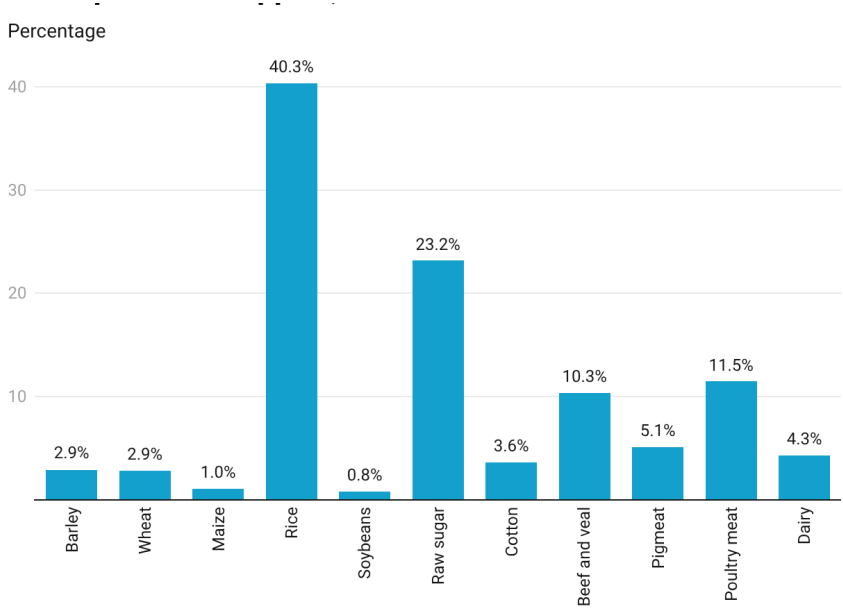
**Figure 2. OECD producer support estimates**




*Non-OECD countries include Argentina, Brazil, China, India, Indonesia, Kazakhstan, Philippines, Russia, South Africa, Ukraine and Vietnam*
*Source: OECD*

Support varies widely by commodity, and for some commodities, like rice and sugar remains quite high relative to the OECD average of 15.3% of the value of production in 2024 (Figure 3). Rice support as a percentage of production value exceeded 40% in 2024. Raw sugar support exceeded 23%, while support for meat and dairy products was between 4.3% and 11.5%. Most other grains were below 3%.

**Figure 3. OECD producer support, 2024**




*Commodity specific support equals the sum of market price support plus support tied to production, expressed as percent of the value of production*

*Source: OECD*

Almost no progress has been made in placing further limits on domestic support since agricultural negotiations were launched in 2000. Members agreed to small changes in Annex 2 criteria during MC9 in Bali,[6] but otherwise, efforts to further reduce support have failed. Moreover, some Members have argued that the criteria for Green box inclusion need to be reexamined, in particular, those covering direct income support and public stockholding (discussed in more detail below).

Over the past 10 years, there has been interest in "repurposing" domestic support, defined here as redirecting fiscal support away from trade-distorting measures towards domestic support measures that provide public goods like research and development or measures that encourage reduction or sequestration of greenhouse gas emissions. One problem with this approach is that for

6 Members agreed to an expansion of the list of "General Services" that qualify for Green Box support, to include spending on land use, land reform, water management, and other poverty-reduction programs.

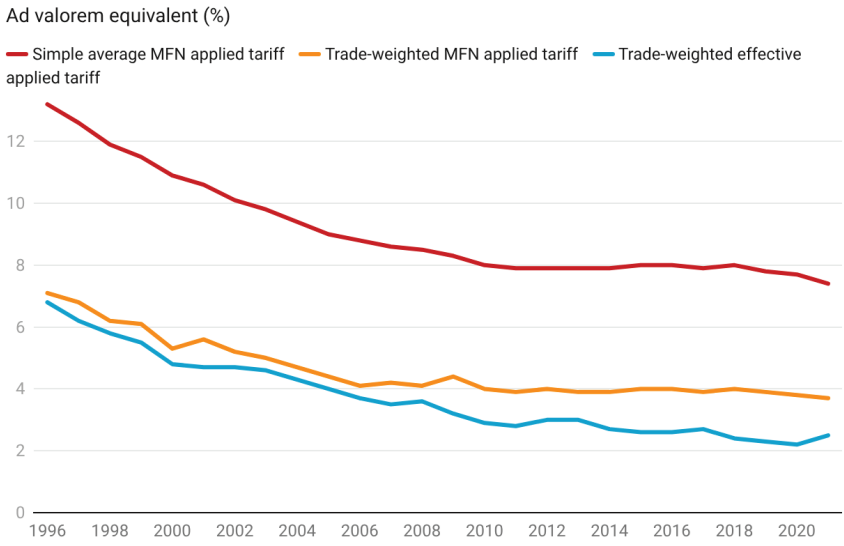
many members, particularly poorer developing countries, domestic support is provided through market price support, not fiscal support. Second, some criticize such measures as "greenwashing" trade-distorting support, arguing that a measure aimed at reducing GHG emissions could still have trade-distorting impacts if it is tied to production or input use. Lastly, the experience of some of the developed countries (e.g., the United States) suggests that producers are supportive of policies that promote public goods, but only as an addition to the current suite of support programs, not as replacements.

## Market access

Like domestic support, market access is another area where only limited progress has been made in negotiations since 2000. Under the AOA, Members established tariff bindings for agricultural goods. Members then agreed to reduce tariffs by 36% (24% if you were a developing country). Members agreed that for certain "sensitive" products, tariff rate quotas would be established to ensure minimum access.

According to the WTO, average applied MFN tariffs for all goods (including non-agricultural goods) fell by almost 50% between 1996 and 2021 (Figure 4). The average applied MFN tariff for most agricultural categories fell as well (Figure 5). For example, average applied MFN tariffs on animal products (meats and poultry) fell from 37.4% in 1996 to 17.5% in 2021. Cotton was an exception—the average applied MFN tariff went from 2.1% in 1996 to 11.4% in 2021.

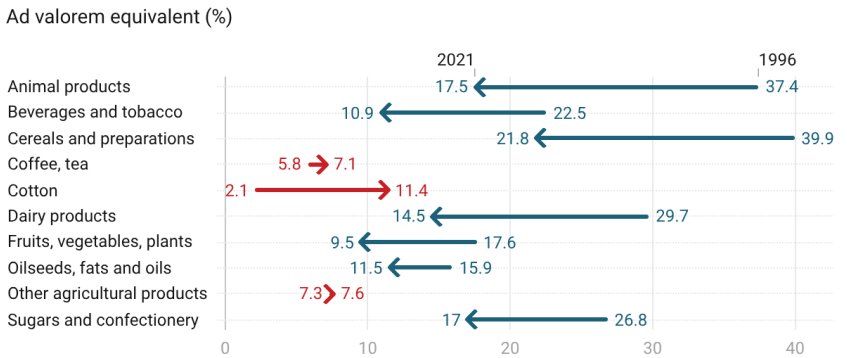
## Figure 4. WTO Members' average applied tariffs, 1996-2021




*The effective applied tariff rates are the lowest of the MFN and preferential tariffs applied by one member to another.*

*Source: Monia Snoussi-Mimouni and Edvinas Drevinskas (2023) "Tariffs applied by WTO members have almost halved since 1996" WTO Trade Blog 13 April 2023 https://www.wto.org/english/blogs_e/blog_dta_13apr22_e.htm*

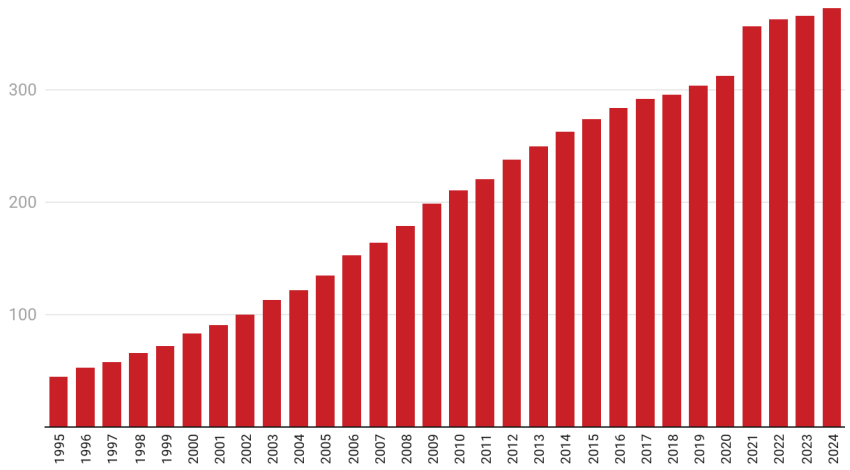
## Figure 5. Change in applied MFN tariff rates between 1996 and 2021




*Source: Monia Snoussi-Mimouni and Edvinas Drevinskas (2023) "Tariffs applied by WTO members have almost halved since 1996" WTO Trade Blog 13 April 2023 https://www.wto.org/english/blogs_e/blog_dta_13apr23_e.htm*

But the failure to get a multilateral agreement on market access since 2000 has created incentives for members to negotiate regional trade agreements (RTA). In 1995, 45 RTAs were in force. By 2024, RTAs totaled 373 (Figure 6). The WTO estimates that at the end of 2022, 83% of global trade was conducted on a Most Favored Nation (MFN) basis, while 17% was traded under an RTA or Preferential Trade Agreement (PTA).

**Figure 6. Cumulative number of regional trade agreements in force**




*Note: The figure shows only those agreements that have been notified to the WTO, which may lead to an underestimation of the total number of agreements in force worldwide.*

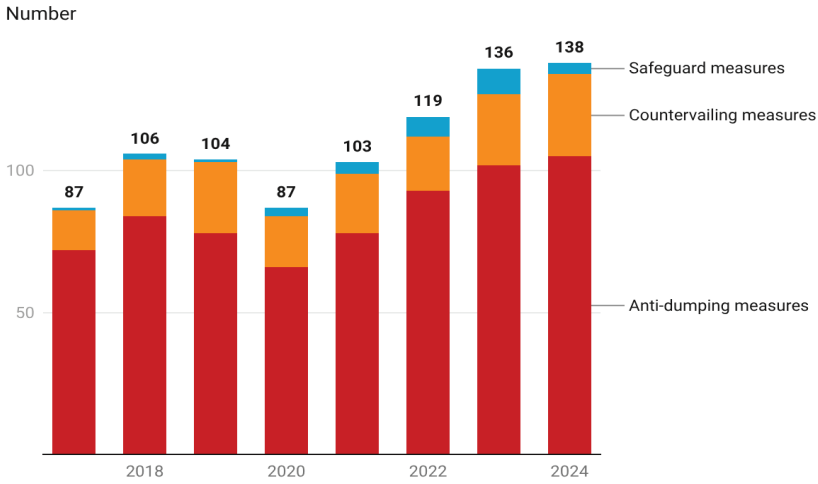
*Source: OECD 2025 based on Worldd Trade Organization, Regional Trade Agreements Information System (RTA-IS), https://rtais.wto.org/UI/PublicMaintainRTAHome.aspx*

While FTAs and PTAs have largely improved market access for their participants, increased trade tensions have resulted in a deterioration in market access in selected markets and for selected members. Non-tariff measures (NTM) have increased in recent years, particularly anti-dumping and countervailing measures (Figure 7). A far greater concern, however, has been the unilateral actions taken by the Trump Administration to raise tariffs on virtually all goods entering the United States.[7] Actions by the United States have prompted China to take counter-retaliatory actions against U.S. imports. Because of the imposition of the so-called "Liberation Day" tariffs by the United States and sub-

7 There are some exemptions. For example, goods entering the United States from Mexico and Canada that are consistent with the USMCA enter under terms of that agreement (for most goods, under zero tariffs).

sequent counter-retaliation, the WTO estimates that the percentage of global trade conducted on an MFN basis has fallen from 83% in 2021 to only 74% of global trade as of May 2025.

**Figure 7. Non-tariff measures in effect on agricultural products**




*As of December 31.*

*Source: World Trade Organization, World Tariff Profiles, various issues.*
*https://www.wto.org/english/res_e/publications_e/world_tariff_profiles22_e.htm*

Despite the lack of significant progress in market access negotiations at the WTO, market access has improved significantly over the last 30 years, as evidenced by the decline in the average applied MFN tariff rate and the fact that global trade has more than tripled in nominal value and more than doubled in inflation-adjusted terms since 2000. Unfortunately, the recent increase of trade tensions brought on by U.S. tariff actions casts a cloud on that progress, although new RTAs such as the recently completed EU-Mercosur RTA expand market access gains for some Members, albeit on a non-MFN basis.

## Export competition

The price-depressing effects of the use of export subsidies in the 1980s and early 1990s by the EU and the USA were a prime motivating factor behind efforts to bring agriculture under the rules-based trading system during the Uruguay Round. The AOA capped and phased down export restrictions both in

value and volume terms. By 1995, export subsidies were largely phased out, though members would occasionally resort to their use during periods of low prices. One of the most significant achievements since the agricultural negotiations were launched in 2000 was at MC10 in Nairobi, where members agreed to eliminate export subsidies and place further disciplines on export credits and humanitarian food aid.

Despite the phaseout and elimination of export subsidies, there remain concerns about the potential use of export credits and the use of in-kind food aid under the guise of humanitarian assistance to undermine export subsidy disciplines.

## Doha issues

In addition to the traditional "pillars", i.e., domestic support, market access, and export competition, several other issues became central to the agricultural negotiations during the Doha Round. These include (but are not limited to) cotton, public stockholding (PSH), the special safeguard mechanism (SSM), and export restrictions.[8]

### Cotton

Cotton arose as an issue in the late 1990s as the Asian financial crisis led to a contraction in fiber demand. Meanwhile, large trade-distorting subsidies paid to cotton producers in the United States effectively insulated its producers from much of the price decline as a result. During the 1990s, the U.S. cotton industry was transitioning as most of its milling facilities were moving offshore to Latin America and Asia. As a result, US cotton exports doubled in volume between 1998 and 2003, while its global market share went from 25% to 42% over that period.

The Cotton initiative was launched in 2003 by four African countries (Benin, Burkina Faso, Chad, and Mali). At the 5th Ministerial Conference in Hong Kong in 2005, members agreed on the following:

- All forms of export subsidies for cotton will be eliminated by developed countries in 2006.

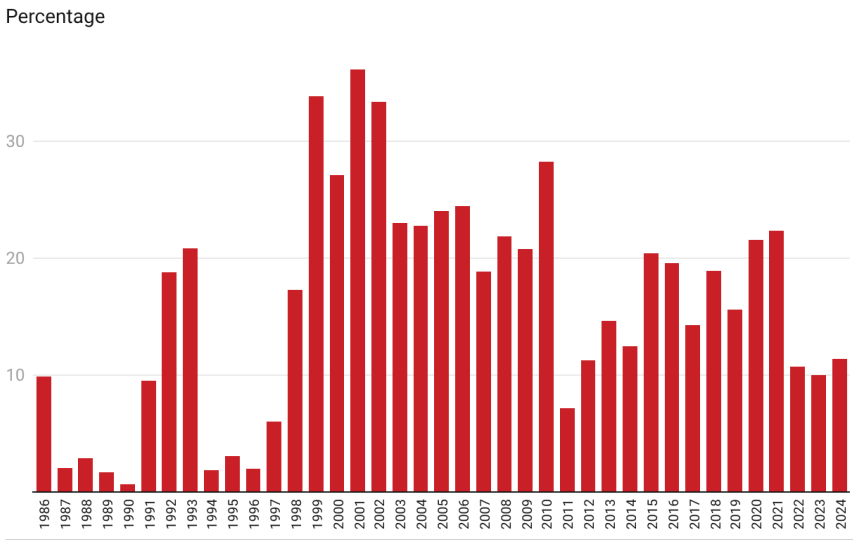
8 Other important issues during the Doha discussions include: Special and Sensitive product treatment under market access pillar, tariff escalation; special agricultural safeguards; and tropical products.

- On market access, developed countries will give duty and quota-free access for cotton exports from least-developed countries (LDCs) from the commencement of the implementation period.
- Members agree that the objective is that, as an outcome for the negotiations, trade-distorting domestic subsidies for cotton production be reduced more ambitiously than under whatever general formula is agreed and that it should be implemented over a shorter period of time than generally applicable.

Progress on cotton has been small. Export subsidies, as noted above, have been phased out. Duty-free, quota-free access has been granted to LDCs by developed countries, but market access remains relatively unchanged. But on domestic support, there has been no consensus on how to reduce support, in part because of the impasse over general disciplines on domestic support.

Producer support for cotton (as measured by OECD) has declined significantly since 2000, but remains highly variable, with support over 20% in recent years (Figure 8).

**Figure 8. OECD producer support estimate for cotton**




*Source: OECD*

## Public stockholding

The issue of how support for public stockholding (PSH) programs is calculated and disciplined within the WTO Agreement on Agriculture (AoA) has been a point of contention since 2012. The issue was largely uncontroversial during the Doha negotiations, where issues like the Special Safeguard Mechanism, domestic support, and cotton contributed to the collapse of negotiations in 2008 (Blustein 2009). However, members such as India that raised administered prices to keep up with surging market prices in the late 2000s found themselves facing potential challenges, as support levels for PSH programs threatened to exceed domestic support commitments under the AOA.

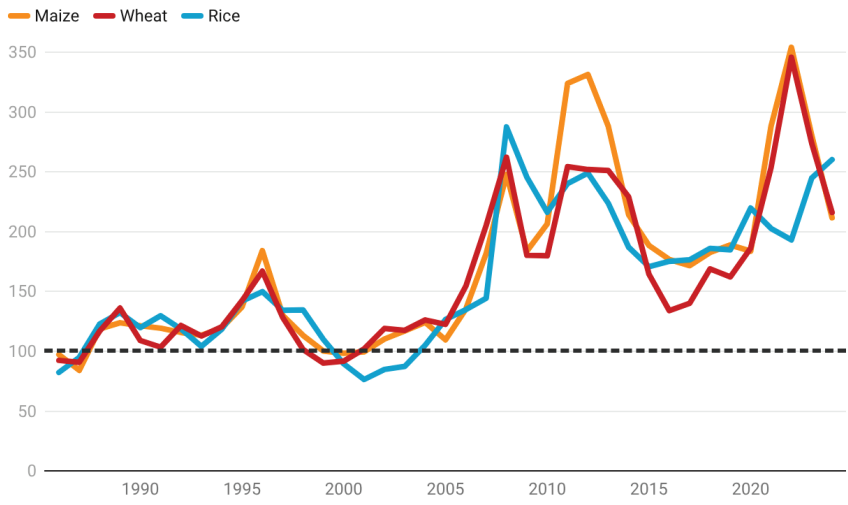
At the Ministerial Conference in Bali in 2013 (MC9), members agreed to an interim mechanism, which granted a "peace clause" to countries with existing PSH programs, effectively shielding them from challenges regarding compliance with domestic support obligations under the WTO Dispute Settlement Mechanism. Under the Bali Decision, members agreed to provide data on how the program operated and to ensure that such programs were not trade-distorting or would not affect the food security of other WTO members.

Unfortunately, almost 13 years later, failure to reach an agreement on PSH continues to block significant progress in overall negotiations. Much of the controversy surrounds how price support is calculated, an issue that goes beyond PSH and concerns more general rules under the domestic support provisions of the AOA on how market price is measured. Under current rules, market price support is calculated based on the difference between the administered price and a fixed external reference price, times production eligible for price support.[9] For most members, the fixed external reference price is based on a 3-year average calculated over the 1986 to 1988 base period.

While the 1986-1988 base period was generally representative of prices over the period 1996-2004, prices for maize, rice and wheat began to diverge in the late 2000s as price levels were driven up by biofuel demand, import demand in many emerging economies, and high energy prices. By 2010, prices were 70 to 100% higher than the 1986-1988 base period levels (Figure 9). Thus, if administered prices were raised far enough above the 1986-1988 base period, a member could be in danger of exceeding de minimis levels of support, even if the administered price were far below the market price.

9 If stocks are procured at current market prices, price support is considered to be zero.

**Figure 9. Grain prices relative to the 1986-1988 base period**

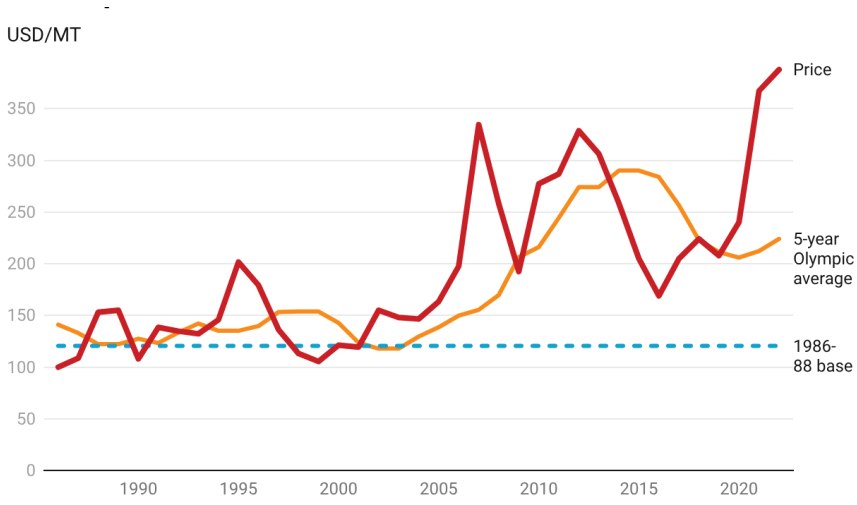



*Maize (U.S.), no. 2, yellow, f.o.b. US Gulf ports; Rice (Thailand), 5% broken, white rice (WR), milled, f.o.b. Bangkok; Wheat (U.S.), no. 2 hard red winter Gulf export price*

*Source: World Bank Group, Commodity Markets database (Pink Sheet) https://www.worldbank.org/en/research/commodity-markets*

Some members have proposed fixing the formula by updating the base period to a more "relevant" time period, or by tying the external reference price to a moving average of past prices to more approximate current market conditions. Other members voice concerns that because prices are highly variable, a new external reference price based either on an updated base period or a moving average of previous price levels, support using the updated formula could underestimate the actual support (in the case when market prices are below the external reference price. Figure 10 shows an example where a new external reference price for wheat was set based on a 5-year Olympic average (where the high and low values are excluded from the average). The external reference price follows price movements, but there are periods where the external reference price is in excess of market prices. During those periods, an administrative price set equal to the external reference price could provide significant price support, potentially distorting production decisions and yet the calculated price support would be zero.

**Figure 10. Wheat price relative to the 1986-1988 base period**



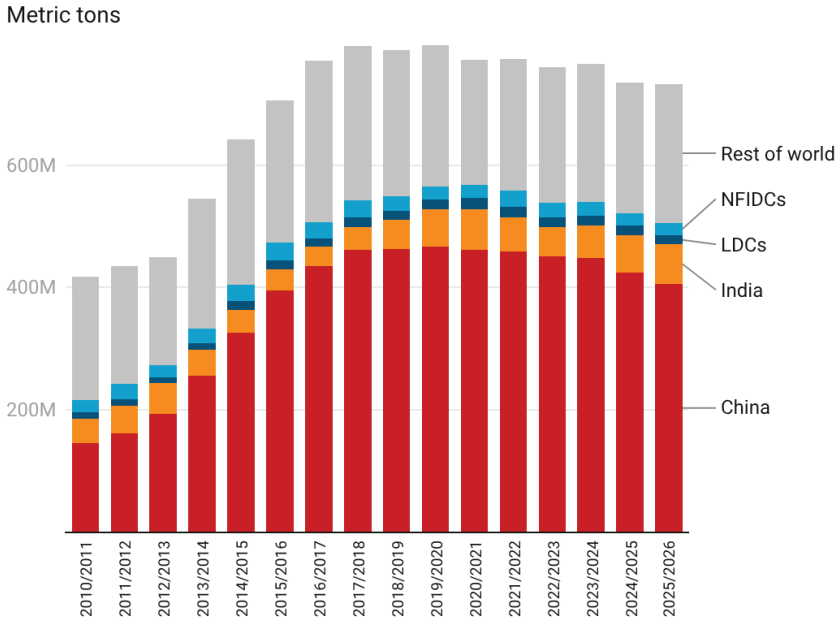

*US Gulf HRW. Olympic average = five-year average of preceding years, excluding the highest and lowest values.*

*Chart: Joseph Glauber, Source: USDA/ERS*

Other concerns are that changes to the formula for calculating market support for PSH programs would have broader implications for how market price support is calculated under the AOA.

Other proposals to address the PSH issue have been to consider exemptions for Members who are LDCs or net-food importing developing countries since these countries generally export very little. Stocks held by LDC and NFDICs are also quite small, accounting for less than 5percent of total global grain stocks (Figure 11).

**Figure 11. Maize, rice and wheat stocks**




*Source: US Department of Agriculture, Foreign Agricultural Service, PSD database, 12 September 2025*

Characteristics of selected PSH programs are shown in Table 1. India's PSH program for rice stands out because, unlike for the other PSH programs, exports are quite large, both as a share of domestic production (13.7%), and in particular, as a share of global exports (33.5%). China has very large grain stocks but is net importer of grains. Indonesia and Philippines have sizable PSH programs for rice, but they also are large net importers with negligible exports.

**Table 1. Characteristics of selected PSH programmes**

Percentage

| Country/commodity | Exports as share of global exports | Exports as share of domestic production | Stocks as share of global stocks | Stocks as share of domestic consumption |
|---|---|---|---|---|
| China maize | 0.0 | 0.0 | 67.4 | 66.2 |
| China rice | 2.6 | 1.0 | 57.1 | 69.7 |
| China wheat | 0.5 | 0.7 | 49.7 | 88.8 |
| India rice | 33.5 | 13.7 | 22.5 | 35.0 |
| India wheat | 0.9 | 1.8 | 3.6 | 8.8 |
| Indonesia rice | 0.1 | 0.0 | 3.0 | 15.2 |
| Philippines rice | 0.0 | 0.0 | 1.9 | 21.0 |

*Shares based on 3-year average over 2022/23-2024/25 marketing years*

*Source: USDA PSD database, 12 September 2025*

## Special safeguard mechanism

Disagreement over the Special Safeguard Mechanism (SSM) was one of the principal causes of the breakdown in negotiations in July 2008. Under the AOA, members are entitled to use the Special Agricultural Safeguard (SSG) for products that have been tariffed, for those tariff lines that are identified in their schedules of commitments. While SSG usage has declined, it is still used by some countries for sensitive products, such as dairy, rice, and processed grain products.

Developing countries argued and won concessions in the Hong Kong Ministerial (MC5) for a price- and volume-based SSM to protect sensitive products. Proponents argued that a mechanism was needed to insulate producers from price fluctuations and import surges, particularly since most developing countries were not eligible to utilize the SSG (Dhar, 2016). Critics have argued that SSM could restrict normal growth in trade and be used improperly

as trade protection, thus potentially destabilizing global markets and harming domestic consumers.

### Export restrictions

As we saw during the food price spikes of 2007-2008 and 2010-2011, the COVID pandemic in 2020, and Russia's invasion of Ukraine in 2022, export restrictions can exacerbate price volatility in global markets. Disciplines on export restrictions have largely alluded to WTO members. More than 10 years after G20 members agreed to discipline export restrictions affecting humanitarian aid, WTO members agreed at MC12 in Geneva to not impose export prohibitions or restrictions on foodstuffs purchased for noncommercial humanitarian purposes by the World Food Programme.

Unfortunately, the use of restrictions for non-humanitarian exports has continued. India's restriction on rice exports in 2023 and 2024 affected roughly 20% of global rice exports, particularly broken rice exports, much of which would normally go to markets in Sub-Saharan Africa. Rice prices jumped more than 30%, and importers scrambled to find new suppliers.

## Prospects for Yaoundé

Expectations for MC14 were tempered by prior failures to reach consensus on the issues outlined above and, more broadly, by rising trade tensions, partly driven by new tariff structures introduced by the United States. On March 5, 2026, the chair of the Committee on Agriculture—Special Session released a "Draft Declaration on Agriculture, Trade and Global Food Security." Under the draft, the Ministerial Conference:

1. Commits to engaging constructively, transparently, and inclusively to fulfil the objective of establishing a fair and market-oriented agricultural trading system and to deliver outcomes that, inter alia, strengthen global food security.
2. Commits to revitalizing the agriculture negotiations pursuant to Article 20 of the Agreement on Agriculture, and subsequent Ministerial Decisions and Declarations.
3. Agrees that the negotiations shall continue on the basis of Members' existing and future contributions, including proposals on possible new approaches to advance the negotiations.

4. Requests the CoA-SS Chair, in consultation with Members, to promptly establish, following this Conference, a calendar of meetings and milestones in the negotiations and invites senior officials to meet periodically after MC14 to review progress and provide guidance on the way forward, as needed.
5. Invites Members and the relevant international organizations to continue supporting the participation of developing country Members, including Least Developed Countries, in the negotiations, including through technical assistance and capacity-building initiatives.

While this may seem like a low bar compared to previous Ministerial, given the current political environment, a positive commitment to continuing negotiations should be welcomed by most, if not all, members.

## Conclusion

While multilateral negotiations in agriculture have been largely unfruitful in extending reforms beyond the AOA, agricultural trade has continued to grow, tripling in nominal value and doubling in inflation-adjusted value since 2005. Of the issues that were on the table in Geneva in July 2008, most of the low-hanging fruit have been harvested, notably eliminating export subsidies. There has been much progress in market access, but largely due to unilateral reforms (members lowering applied tariff rates) or through RTAs and PTAs. That has left a handful of thorny issues that have been difficult to agreement, and which unfortunately have become stumbling blocks that some members feel strongly that they need to be addressed before other issues can be considered.

MC14 provided another forum for Members to discuss these issues and explore possible paths forward, or at least identify a process to continue negotiations. However, the risk of backsliding remains, as reflected in recent trade tensions, underscoring that the WTO continues to be a key platform for maintaining an orderly trading system.

# Chapter 1.3
# Evolving Trade Instruments in a Fragmented System

Christophe Bellmann, Yasmin Ismail and Fabrice Lehmann

## Introduction

The global landscape for agricultural trade is going through deep transformations. In the face of persistent blockage in multilateral negotiations, growing geopolitical tensions, and national security considerations, governments are exploring alternative forms of cooperation. Alongside traditional bilateral and regional trade agreements, new collaborative arrangements are emerging in the form of plurilateral or sectoral approaches, informal coalitions, soft law initiatives, or agreed principles to deepen economic integration or advance specific trade agendas among like-minded partners. While these initiatives provide a space to test new ideas and approaches, which could inform future models of trade cooperation, they also contribute to growing fragmentation in the global agricultural trading system.

Meanwhile, the sector is confronted with major environmental challenges, posing an existential threat to the livelihoods of millions of people and to the global commitment to ending hunger and malnutrition by 2030. Reduced ecological resilience resulting from biodiversity loss and soil degradation, combined with rising temperatures, changing precipitation patterns, and greater frequency of extreme weather events, is affecting production, disrupting food supply chains, and displacing communities, particularly in developing countries (IPCC, 2019). By 2050, 70 million more people could be at risk of hunger because of variability, including more than 28 million in East and Southern Africa (IFPRI, 2022).

Addressing these environmental threats will require a shift to more sustainable agricultural systems that protect ecosystems, restore biodiversity, maintain soil productivity, rationalize water use, and reduce greenhouse gas (GHG) emissions. Between 2000 and 2018, the FAO estimates that agricultural expansion

drove 88% of global deforestation, with cropland expansion and livestock grazing, respectively, responsible for 50% and 38% of deforestation (FAO, 2022). Food systems also contributed nearly a third of global GHG emissions in 2023, placing the sector as both a contributor to global warming and a critical sector for adaptation (FAO, 2025). Faced with the imperative to respond to these challenges, governments and stakeholders are increasingly exploring options to harness trade and trade-related policies as part of the solution. These include establishing sustainability requirements for products entering markets, introducing mandatory due diligence requirements for imports, or banning certain products directly linked to illegal deforestation or environmental degradation. Others focus more on encouraging sustainable production, including through environmental payments. This has resulted in a patchwork of uncoordinated and highly fragmented trade-related measures, creating tensions among trading partners and high adjustment costs for producers having to cope with such regulatory heterogeneity.

All of these trends occur as agricultural supply chains experiment with major technological shifts. Digitalization is increasingly embedded across agricultural value chains, reconfiguring how information is generated, verified, and exchanged to demonstrate compliance or determine market access. Such transformation reflects both technological evolution and the growing regulatory demand for transparency, traceability, and sustainability in agri-food trade. While digitalization offers significant opportunities to enhance trade, many developing countries face a range of structural, institutional, and regulatory constraints affecting their ability to adopt and benefit from emerging digital tools.

## New collaborative trade arrangements

Recent years have seen the emergence of new collaborative approaches to trade, often in formats other than traditional, legally binding, comprehensive trade agreements. Such efforts stem largely from the lack of progress in the multilateral arena, geopolitical realignment, sustainability concerns, or evolutions in the organization of cross-border value chains. On the one hand, these novel collaborative arrangements provide a much-needed space to test new ideas and approaches, which could inform future models of trade cooperation. On the other hand, they can also contribute to more fragmentation with implications for agricultural trade governance around the world, including in Africa, LAC.

To illustrate this point, Table 1 maps different approaches to trade cooperation that are emerging outside the multilateral framework, with selected examples of provisions, clauses, or initiatives affecting the agricultural sector where relevant. This mapping exercise is not comprehensive but rather intended to provide a selective snapshot of the increasingly intricate web of formal and informal approaches to international cooperation shaping global trade governance. These different approaches are not mutually exclusive and may overlap.

The first type of cooperation listed in Table 1 includes traditional free trade agreements (FTAs). These are legally binding bilateral, regional, or plurilateral trade agreements primarily focused on market access with embedded enforcement mechanisms. Recent examples include the EU-Mercosur Partnership Agreement (EMPA) and the India-EU Free Trade Agreement. The unpredictability resulting from erratic trade policymaking in the United States and the need to diversify trade relations seem to have incentivized partners to accelerate the conclusion of several of these FTAs, which had been in negotiation for many years.

The second category covers agreements between governments on specific sectors or addressing specific trade challenges. Such agreements can seek to address barriers or enhance cooperation in defined sectors; the digital economy, for instance. They can further be designed to cover emerging issues or trade challenges; for example, green technologies or supply chain resilience, as illustrated by the Indo-Pacific Economic Framework (IPEF) Agreement Relating to Supply Chain Resilience. As such, they can be used as "friendshoring" or diversification strategies for reasons of economic or supply chain security. Another purpose can be to manage more effectively the trade interface with critical issues like climate variability and other sustainability concerns; for example, the Agreement on Climate Change, Trade and Sustainability (ACCTS). The enforcement nature of the agreements in this category ranges from being legally binding to being governed by soft law commitments. They can also involve developing new rules that set a benchmark in emerging issues, as illustrated by the ACCTS discipline son fossil fuel subsidies.

The third cluster in Table 1 groups memorandums of understanding (MoUs), non-binding arrangements, framework arrangements, and soft law initiatives. These arrangements between governments enable greater speed and policy flexibility than negotiating legally binding trade rules, reduce political exposure, and facilitate trade cooperation without binding market access commitments. They tend to be guided by beast endeavour and voluntary commitments and can seek

to set frameworks that act as high-standards in areas ranging from digital economy, critical minerals, and sustainable development to regulatory cooperation. Key objectives can include, for example, increasing diversity of supply of materials in the shift towards green and digital economies and the transition to net zero, as well as economic security factors, such as the nascent EU strategic partnerships on sustainable raw materials and the US critical minerals frameworks.

The fourth approach comprises voluntary arrangements around agreed principles, guidelines, or areas of cooperation. In this instance, countries seeking greater cooperation or integration with like-minded partners can focus on agreed non-binding principles or guidelines that harmonize behaviour, foster consensus, and facilitate the development of new norms in trade. Like-minded countries and/or countries with shared mutual interests can also use this approach to focus on concrete areas of cooperation. The G20 Principles on Trade and Sustainable Development are an example of the former, and the Future of Investment and Trade Partnership illustrates the latter.

The next category groups intergovernmental dialogues, coalitions, and forums. These informal and voluntary collaborative platforms often serve to facilitate dialogue, information sharing, and mutual learning among like-minded countries on specific areas of cooperation; for example, the Inclusive Forum on Carbon Mitigation Approaches, the Forest, Agriculture and Commodity Trade (FACT) Dialogue, and various member-led initiatives at the WTO (which are not part of a multilaterally agreed WTO process). In this category, coalitions such as the Coalition of Trade Ministers on Climate can also serve to provide high-level political direction.

The final category in Table 1 includes South-South and triangular cooperation models. South-South cooperation encompasses a broad range of partnerships among countries from the Global South, with cooperation often built around shared development challenges or experiences. This type of cooperation has grown in recent years with the rapid increase in South-South trade and investment. China's Belt and Road Initiative, for example, comprises large-scale infrastructure projects and the expansion of trade routes across Africa, Asia, and LAC. Triangular models also provide development-oriented frameworks for trade cooperation, often involving collaboration among two or more developing countries (e.g. technical cooperation, knowledge transfer), facilitated or supported (e.g., financially, institutionally) by a multilateral organization and/or developed country. The FAO-facilitated South-South and triangular cooperation framework is an example of this approach. By and large, the mapping

of new collaborative trade arrangements underscores that international trade cooperation is changing form, with a wide range of approaches driven by matters of security, sovereignty, sustainability, and technology in an undercurrent of stalled multilateral discussions and geopolitical realignment. While the shift in international trade governance from traditional free trade agreements towards a multi-layered and often less formal system of cooperation enables governments to act faster, experiment with novel ideas, and address specific issues for trade collaboration—from sustainability and security concerns to supply chain resilience and digital transformation—it is also contributing to greater fragmentation and may not always adequately consider the interests or priorities of developing countries, for instance in the establishment of new norms and standards.

These dynamics have implications for agricultural trade, including in Africa and LAC, where countries can face multiple—and sometimes inconsistent—requirements to access markets and, more broadly, differentiated access to trade and development opportunities. Even though these approaches and initiatives breed momentum into international trade cooperation and can help address emerging and urgent policy challenges, they risk creating overlapping networks and competing regulatory blocs or systems of incentives at the expense of a more harmonized and effective global trading system guided by inclusive cooperation with shared rules and principles. Addressing this fragmentation and its effects should be an important priority going forward for trade diplomacy.

**Table 1. Mapping of approaches to new collaborative trade arrangements outside the multilateral framework, with examples**

| Examples of Approaches to Trade Collaboration | Status | Examples of Agricultural Trade Components |
|---|---|---|
| **Free trade agreements** | | |
| *Bilateral*<br>Switzerland-Indonesia Comprehensive Economic Partnership Agreement (2020) | Switzerland-Indonesia agreement is in force. | Switzerland-Indonesia includes sustainability criteria for agricultural products (i.e. palm oil).<br>EU-New Zealand FTA includes a Sustainable Food Systems chapter (i.e. cooperation to improve the sustainability of food systems across supply chains; limited enforceable provisions).<br>EU-India FTA protects sensitive agricultural products on both sides.<br>Separate geographical indicators agreement to be negotiated. |
| EU-New Zealand Free Trade Agreement (2024) | EU-New Zealand FTA is in force | |
| India-EU Free Trade Agreement (2026) | India-EU FTA is in ratification process. | |
| *Regional*<br>African Continental Free Trade Area (AfCFTA) (2018) | AfCFTA is in implementation phase. | AfCFTA contains clauses to promote regional food trade and improve regional food security. |
| *Bi-regional (bilateral)*<br>EU-Mercosur Partnership Agreement (EMPA) (2026) | EMPA is in ratification process. | EMPA has safeguards to protect EU producers and maintain EU food standards.<br>It addresses deforestation through a binding Trade and Sustainable Development chapter. |
| *Plurilateral*<br>Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (2018) | CPTPP is looking to broaden membership and modernize the agreement.<br>Entered dialogues with EU / ASEAN to strengthen economic cooperation (2025). | The CPTPP has a dedicated Committee on Agricultural Trade to oversee implementation of the agreement. |

| Examples of Approaches to Trade Collaboration | Status | Examples of Agricultural Trade Components |
|---|---|---|
| **Agreements on specific sectors or addressing specific trade challenges** | | |
| *Addressing sustainability and economic security concerns*<br>Agreement on Climate Change, Trade and Sustainability (ACCTS) (2024)<br>IPEF Clean Economy Agreement (2024)<br>IPEF Agreement Relating to Supply Chain Resilience (2024)<br>Green Economy Partnership Agreement (GEPA) (negotiations ongoing) | ACCTS is expected to enter into force in 2026. It is a legally binding, open, and living plurilateral agreement.<br><br>IPEF agreements are in force. They are soft law commitments.<br><br>GEPA is under negotiation. | ACCTS provides for improved market access for sustainable agriculture and forestry consultancy services and voluntary eco-labelling guidelines for sustainable agricultural products.<br>IPEF supply chain agreement covers agricultural supply chain resilience (e.g. logistics). IPEF Clean Economy Agreement promotes sustainable agriculture.<br>GEPA covers agriculture and food systems as a key area for collaboration (e.g. development of sustainable practices, decarbonization, interoperability of standards for agricultural goods, adoption of green technologies). |
| *Advancing digital trade rules*<br>Digital Economy Partnership Agreement (DEPA) (2020)<br>Australia-Singapore Digital Economy Agreement (2020)<br>ASEAN Digital Economy Framework Agreement (DEFA) (negotiations ongoing) | DEPA and Australia-Singapore DEA are in force.<br>ASEAN DEFA in advanced negotiations and expected to be signed in 2026. | DEPA contains rules directly affecting agricultural and food trade (e.g. certification, traceability, ag-tech services, logistics).<br>DEFA recognizes agriculture as an important economic sector benefitting from digital economy integration (e.g. productivity, MSME and agritech support, smart agriculture adoption). |

| Examples of Approaches to Trade Collaboration | Status | Examples of Agricultural Trade Components |
|---|---|---|
| **Memorandum of understanding (MoU), non-binding arrangements, framework arrangements, soft law initiatives** | | |
| *Memorandum of Understanding*<br>EU strategic partnerships on sustainable raw materials (Chile, Canada, Ukraine, Kazakhstan, Namibia, Argentina) (2021–2026) | EU strategic partnerships are formalized through MoUs under the Global Gateway. | EU strategic partnerships on sustainable raw materials do not cover agricultural commodities. |
| *Framework Arrangements*<br>EU Clean Trade and Investment Partnerships (CTIPs) (2025) | First CTIP signed with South Africa. | The EU-Chile AFA includes a Sustainable Food Systems chapter (see EU-NZ FTA above).<br>IPEF Pillar I (Trade) covers agriculture (e.g. non-tariff barriers, SPS measures, regulatory standards).<br>IPEF Pillar II (Supply Chain Resilience) and Pillar III (Clean Economy) include agriculture (see IPEF agreements above).<br>AZEC acknowledges the need for emissions reduction measures within the agriculture and forestry sectors. |
| EU-Chile Advanced Framework Agreement (AFA) (2025)<br>Indo-Pacific Framework for Prosperity (IPEF) (2022) | EU-Chile AFA, IPEF, and AZEC are in force. | |
| US-Japan and US-Australia Framework for Securing the Supply of Critical Minerals (both 2025)<br>Asia Zero Emissions Community (AZEC) (2023) | US critical minerals frameworks are in force. They are non-binding and promote public-private dialogue to facilitate investment. | |

| Examples of Approaches to Trade Collaboration | Status | Examples of Agricultural Trade Components |
|---|---|---|
| **Agreed principles, guidelines, or areas of cooperation** | | |
| *Agreed principles and guidelines*<br>G20 Principles on Trade and Sustainable Development (2024)<br>ACCTS Guidelines for Voluntary Ecolabelling Programmes (2024)<br>UNCITRAL Model Laws for Digital (1996–2024) | The G2O principles were formally adopted by G20 trade and investment ministers.<br>Ratification of the ACCTS guidelines is underway (expected 2026).<br>UNCITRAL has developed a suite of five core model laws and one binding convention. | The ACCTS guidelines are intended for general voluntary ecolabelling of products and services, including improving the credibility of labelling schemes in the agricultural sector. The guidelines aim to ensure that ecolabels for products provide reliable, transparent, and scientifically based information, thereby reducing unnecessary barriers to trade. |
| *Agreed areas of cooperation*<br>Future of Investment and Trade Partnership (FIT-P) (2025) | FIT-P is a plurilateral non-binding initiative committed to rules-based global trade and addressing emerging trade issues. | A focus area of FIT-P is supply chain resilience. A first initiative is a 2025 declaration on "Best Practices in Response to Major Supply Chain Disruptions." |

| Examples of Approaches to Trade Collaboration | Status | Examples of Agricultural Trade Components |
|---|---|---|
| **Intergovernmental dialogues, coalitions, forums** | | |
| Coalition of Trade Ministers on Climate (2023)<br>Integrated Forum on Climate Change and Trade (IFCCT) (2025)<br>Inclusive Forum on Carbon Mitigation Approaches (IFCMA) (2023)<br>Forest, Agriculture and Commodity Trade (FACT) Dialogue (2021)<br>Member-led initiatives at the WTO (e.g. TESSD, DPP, FFSR, investment facilitation, e-commerce) (2018–2020) | The Coalition of Trade Ministers on Climate will hold its third ministerial meeting at MC14.<br>The IFCCT is in consultative phase.<br>The OECD-coordinated IFCMA is fully operational.<br>The FACT Dialogue is in implementation phase working on the 2021 roadmap.<br>The member-led initiatives at the WTO are at various stages of advancement. | The FACT Dialogue promotes sustainable land use and trade. The platform fosters cooperation between major producer and consumer countries. FACT targets commodities and supply chains linked to deforestation, promotes traceability, supports smallholders (e.g. capacity building), and encourages trade facilitation for sustainable products (e.g. regulatory cooperation) among other key components.<br>The TESSD informal working group on subsidies includes discussions on environmentally harmful agricultural subsidies.<br>The informal working group on environmental goods and services includes discussions on sustainable agriculture (e.g. climate mitigation and adaptation goods and services). |

| Examples of Approaches to Trade Collaboration | Status | Examples of Agricultural Trade Components |
|---|---|---|
| **South-South and triangular cooperation models** | | |
| BRICS Framework Declaration for Leaders on Climate Finance (2025)<br>China Belt and Road Initiative (BRI) (2013–present)<br>FAO-facilitated South-South and triangular cooperation (SSTC) framework and initiatives (1996–present) | The BRICS framework declaration was formally adopted at the 17th BRICS Summit.<br>The BRI utilizes MoUs as the primary, non- binding mechanism for countries to join the initiative, followed by binding secondary agreements that operationalize the MoUs.<br>FAO SSTC framework covers 100+ countries. | The BRICS framework declaration formally supports the Brazil-led Tropical Forest Forever Facility.<br>There is an important agricultural commodities trade dimension to BRI investments and infrastructure development.<br>The FAO SSTC framework aims to strengthen agricultural productivity, food security, and sustainable rural development.<br>A core component is trade and value chains. |

*Note: In the examples column, the years in brackets indicate when an arrangement was signed or launched, not when it was ratified or entered into force.*
*Source: Authors' elaboration based on Synergies (2025).*

# New environmental requirements affecting agricultural trade

Besides new forms of international cooperation, the global agricultural trade landscape is increasingly shaped by autonomous trade and trade-related measures designed to address pressing environmental crises.

## Measures implemented by governments

Governments attempting to protect the environment have a range of trade and trade-related policy instruments at their disposal. These can take several forms, including (i) price and market-based measures, (ii) support measures and other economic incentives, and (iii) regulatory measures. Price and market-based measures include a range of border measures such as import or export quotas, tariffs, trade remedies against imports such as safeguard measures or anti-dumping duties, and also internal taxes applicable to both imported and domestically produced goods. Support measures and other economic incentives include different types of agricultural subsidies as well as government procurement, intellectual property, and investment measures. Finally, regulatory requirements include bans and prohibitions, import or export licences, technical regulations, or conformity assessment procedures.

Using this typology originally developed by the WTO (https://edb.wto.org/), Table 2 shows examples under each category based on measures notified to the WTO. These notifications, compiled in the WTO environmental database, provide a good indicator of the frequency and evolution of environment-related trade measures implemented by members over the years. A search focusing on agriculture shows that between 2009 and 2024, members notified 6,034 agricultural trade measures with the environment as their stated objective. It should be noted that this does not provide an exhaustive picture of existing measures in the sense that the database only contains those measures that need to be notified to the WTO. Nor does it provide any indication of the stringency or effectiveness of the measures at hand or the extent to which they affect production and trade. The significant number of measures notified over the last 15 years indicates, however, a widespread use among WTO members of trade-related tools to address sustainability concerns.

These measures pursued a wide range of different stated environmental objectives (see Figure 1). The majority of them aimed at promoting sustainable ag-

riculture management, water and soil conservation, or biodiversity and ecosystem preservation. However, several also targeted animal and plant protection, climate variability mitigation and adaptation, or chemical, toxic, and hazardous substance management. As illustrated in Figure 1, they were applied widely across a variety of countries. Among them, Asian countries accounted for the largest share with 1,638 measures notified since 2009, including 674 by Australia alone, followed by European countries with 1,390 notifications (mostly from the EU), and LAC with 1,371 notifications (including 355 by Brazil). This illustrates the fact that environmental measures are not confined to developed countries but are widely implemented across different regions.

**Table 2: Examples of trade-related environmental measures in agriculture**

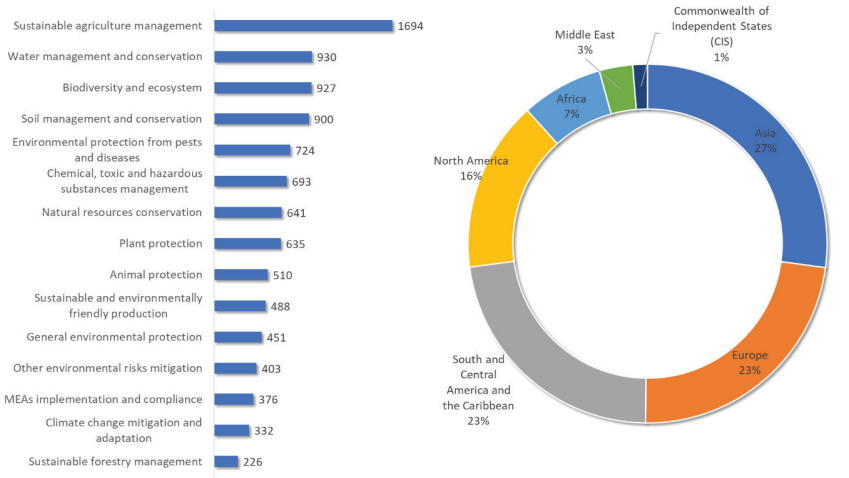
| Type of Trade Measure | | Example | Country | WTO Agreement | Source |
|---|---|---|---|---|---|
| **Price & market-based measures** | Import/export quotas, duties & tariffs | Import tariff quota partly reserved for organic sugar and other specialty sugars | United States | Agriculture | G/AG/N/USA/114 |
| | Internal taxes | Fees and charges regulating the use of living modified organisms (LMOs) | Japan | Trade Facilitation | G/TFA/N/JPN/2/REV.2 |
| | Other price & market-based measures | State trading enterprise for wheat fostering environmental and social sustainability | Chile | State Trading | G/STR/N/19/CHL |

| Type of Trade Measure | | | Example | Country | WTO Agreement | Source |
|---|---|---|---|---|---|---|
| **Support measures & other economic incentives** | Subsidies: | Grants & direct payments | Organic farming payments | Switzerland | Agriculture | G/AG/N/CHE/128 |
| | | Income or price support | Program of acquisition of agricultural products from family farming promoting biodiversity and organic/agroecological production | Brazil | Agriculture | G/AG/N/BRA/68 |
| | | Loans & financing support | Subsidies for climate insurance and technical assistance to foster climate risk management | Uruguay | Agriculture | G/AG/N/URY/84 |
| | | Tax concessions | Preferential tax treatment on environmental protection in agricultural production | China | Agriculture | G/SCM/N/401/CHN |
| | | Non-monetary support | Extension and advisory services to promote organic agriculture | Dominican Rep. | Agriculture | G/AG/N/DOM/55 |
| | | Other support measures | Non-Product-Specific support for rainwater harvesting | Mauritius | Agriculture | G/AG/N/MUS/19 |
| | Government procurements | | Procurement of agricultural inputs for sustainable management of natural resources | Paraguay | Agriculture | G/AG/N/PRY/21 |
| | Intellectual property rights | | Non-patentability of plant varieties, animal breeds or essentially biological process other than microorganisms and non-biological and microbiological processes | Philippines | TRIPS | IP/N/1/PHL/I/10 |
| | Investment measures | | Investment promotion in solar greenhouse dryer in agricultural products | Thailand | SCM | G/SCM/N/315/THA |

| Type of Trade Measure | | Example | Country | WTO Agreement | Source |
|---|---|---|---|---|---|
| **Regulatory requirements** | Bans/prohibitions | Import prohibition of certain pesticides under the Stockholm and Rotterdam Conventions | Nicaragua | Quantitative Restrictions | G/MA/QR/N/NIC/6 |
| | Import/export licences | Import permits for plants and some plant products, to protect against the introduction of pests and diseases | United States | Import Licensing | G/LIC/N/3/USA/20 |
| | Technical regulations | Regulation of production and certification of organic agricultural products | Mozambique | TBT | G/TBT/N/MOZ/23 |
| | Conformity assessment procedures | Electronic certificate of inspection for imported organic products | European Union | TBT | G/TBT/N/EU/386 |
| **Other** | Other environmental requirements | Regulation adopting a list of invasive alien species of concern | European Union | SPS | G/SPS/N/EU/143 |
| | Not specified | Measures financed by the European Agricultural Fund for Rural Development | European Union | SCM | G/SCM/N/343/EU |

*Source: Authors' elaboration based on the WTO environmental database.*
*Note: TRIPS stands for Trade-Related Aspects of Intellectual Property Rights; SCM stands for Subsidies and Countervailing Measures; TBT stands for Technical Barriers to Trade.*

**Figure 1: Trade-related environmental measures on agriculture notified to the WTO by origin and top 15 stated environmental objective (2009–2024)**

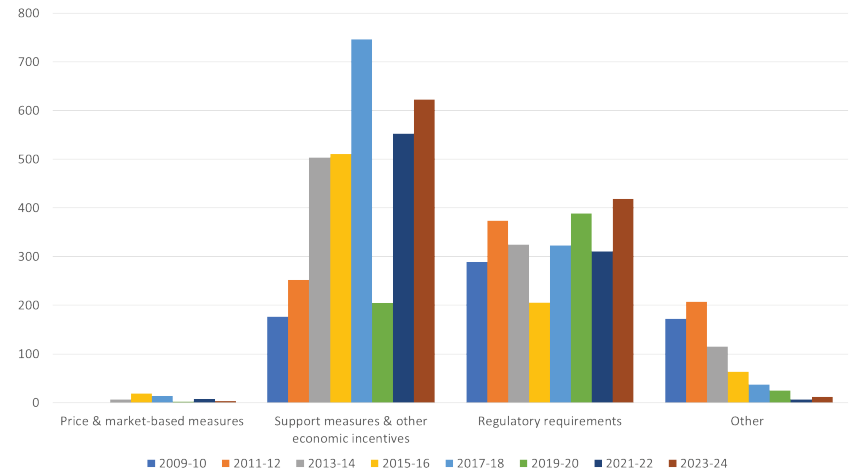



*Source: Authors' elaboration based on the WTO environmental database.*

Figure 2 provides an overview of the evolution of notified measures by broad categories of policy instruments between 2009 and 2024. While the notifications themselves tend to fluctuate from one year to the next, not least given different legal notification requirements,[10] the figure shows a constant predominance and slight increase over time in the use of subsidies and regulatory requirements as the main tools to address environmental considerations compared to price and market-based measures.

10 For example, under the WTO Agreement on Subsidies and Countervailing Measures, the notification of subsidies happens every two years but on an annual basis under the Agreement on Agriculture.

**Figure 2: Number of trade-related environmental measures in agriculture by category (2009–2024)**




*Source: Authors' elaboration based on the WTO environmental database.*

These figures highlight the major significance of domestic support, such as payments for ecosystem services or direct payments to maintain a diversified set of crops, conserve permanent grassland, or devote a share of arable land to ecological practices in efforts to promote more sustainable practices in agriculture. According to Gautam et al. (2022), repurposing a portion of government spending on agriculture each year from subsidies to investment in developing and disseminating green innovations or technologies for crops and livestock that are both productivity-enhancing and emissions-efficient could reduce overall emissions from agriculture by more than 40%. In practice, however, the notion of repurposing remains subject to many interpretations, and as production and trade-distorting forms of support are progressively replaced by environmental payments, there are growing calls for stronger guidance on how to design and implement such schemes in a non-trade-distorting manner.

Besides subsidies, regulatory requirements are increasingly used to address environmental concerns. These include both product-related requirements, such as food safety standards (e.g., maximum pesticide residue limits), and production-related requirements (e.g., on the use of nutrients or airborne pollutants, wildlife and habitat protection, or animal welfare prescriptions). Other forms of regulatory requirements may also include due diligence requirements, as illustrated by the European Union Deforestation Regulation (see Box 1).

While these measures may play a critical role in fostering more sustainable practices, they can have direct impacts on trade. Differences in approaches and methodologies are also adding compliance costs and generating competitiveness tensions, sometimes exacerbated by geopolitical frictions.

Since many of these initiatives require compliance with specific environmental requirements, they are sometimes perceived as protectionist, extra-territorial, discriminatory, or unfairly putting the burden of adjustment on produc-

**Box 2: The European Union Deforestation Regulation (EUDR)**

The EUDR aims to ensure that certain products sold in, or exported from, the EU do not cause deforestation. The regulation applies to seven products (i.e. cattle, cocoa, coffee, palm oil, rubber, soya, and wood) and certain derived products (e.g. leather, chocolate, tyres, beef, and wooden furniture). The EUDR requires a company placing a covered product on the EU market, or exporting it from the EU, to exercise due diligence involving three steps: (1) collecting all relevant information, including geographic information on the plot of land where the product was produced; (2) assessing the risk that the product caused deforestation (or, in the case of wood, forest degradation); and, if such a risk is present, (3) adopting risk mitigating procedures and measures to achieve no or, at most, a negligible risk. If the risk of deforestation has not been reduced to a negligible level, the product could not be placed on the EU market or exported from the EU.

If covered products are sourced from a "low-risk" country (currently 140 countries, including all EU member states), a company is only required to conduct simplified due diligence, which is in principle limited to collecting the relevant information (step 1), without risk assessment or mitigation. Based on the EU methodology, four countries are classified as "high-risk" (Belarus, Myanmar, North Korea, and Russia). The remaining countries are classified as "standard-risk". Products sourced from "high-risk" and "standard-risk" countries are subject to full due diligence (steps 1, 2, and 3), with increased scrutiny for products originating from high-risk countries.

The EU has recently postponed the application of the EUDR and simplified some of its aspects. Companies must now comply by 30 December 2026, while most micro and small companies have until 30 June 2027. The European Commission is tasked with conducting a further simplification review by 30 April 2026 to assess the EUDR's administrative burden, particularly for micro and small companies.

ers in developing countries. Concerns are especially high in countries that face difficulties in meeting new environment-related requirements or lack affordable access to relevant technologies. In other cases, there are concerns that methodologies and approaches adopted in developing countries are not recognized as equivalent in more advanced economies.

While harmonizing existing trade-related environmental measures at the global level is widely considered unlikely to occur, there is mounting recognition that international cooperation in this area is needed to enhance coherence, foster transparency, reflect development considerations, and support interoperability and equivalences of existing and future measures. The multilateral trading system already provides a forum for transparency and policy dialogue where members notify their environmental measures with potential trade effects. It also provides a multilateral space to raise specific trade concerns and share experiences and good practices regarding such measures, for example, in the TBT and Sanitary and Phytosanitary (SPS) committees. Beyond transparency and policy dialogue, more advanced cooperative approaches could include developing non-binding voluntary guidance or best practices for the design and implementation of trade-related environmental measures to minimize unintended trade consequences while achieving legitimate public policy objectives. Cooperation in this area could focus on (i) establishing good regulatory processes and practices for the development and implementation of such measures; (ii) design features associated with specific measures; or (iii) technical aspects such as measuring, reporting, and verification procedures (Bellmann et al., 2025).

## Voluntary sustainability standards

Besides government measures, there has been a proliferation of voluntary sustainability standards (VSS). These tools essentially "prescribe a set of social, economic and/or environmental requirements that economic actors can voluntarily comply with to make their production and processing practices more sustainable" (UNCTAD, 2022). They include a range of measures, such as sustainability production requirements through standards or codes of conduct, mechanisms to ensure compliance, or capacity building and supporting services to producers, such as training or impact monitoring. The ITC standards map identifies more than 371 VSS, including 191 applying specifically to agriculture.[11] While some are developed by governments or international organizations, the majority have emerged from the private sector and civil society. In

11 See https://www.standardsmap.org/en/identify.

the context of highly fragmented production networks, VSS help firms meet their social and environmental goals, either to avoid reputational damage or gain marketing advantages. They also increasingly fill a regulatory vacuum left by the inability of governmental initiatives to regulate on sustainability issues.

Although voluntary in nature, these schemes can sometimes become *de facto* conditions to access certain market segments. They are also increasingly integrated into various government policy instruments, including due diligence regulations, FTAs, public procurement policies, or export promotion strategies as way to demonstrate compliance with government requirements (Sarmiento et al., 2025). For example, Mexico and Ecuador recognize VSS within their national public procurement strategies to verify the sustainability of forest products (One Planet Network, 2025). Recognizing VSS, such as Fairtrade or Rainforest Alliance, is also becoming embedded in agricultural export strategies, and countries like Chile, Colombia, and Tunisia have begun leveraging sustainability as a market asset (Cox, 2025).

While VSS can enable producers to receive higher prices, administrative costs associated with certification, compliance, or conformity assessment procedures can also be prohibitive and exclude many producers in developing countries, especially smallholders. Compared to regulatory measures by the state that apply to all producers, VSS help raise the ceiling for certain segments of the sector—usually the best performers—but tend to ignore less efficient producers, which often generate the largest environmental impacts. There is also a shortage of accredited auditors or conformity assessment facilities in most developing countries, which increases the costs of audits and certification (Bermúdez & Sarmiento, 2023). Furthermore, there is often insufficient demand or uncertainty regarding the potential price premium to justify certification compliance costs. Finally, it is often difficult for both producers and consumers to distinguish reliable, credible, or effective VSS from ineffective ones (*Ibid*).

Some initiatives are underway to help reduce private standards fragmentation, ensure that they are based on sound science, and are non-discriminatory and interoperable. For example, the International Organization for Standardization (ISO) has developed "meta-standards" in areas such as transparency and accountability. The non-governmental International Social and Environmental Accreditation and Labelling (ISEAL) Alliance also codifies best practice for the design and implementation of social and environmental standards initiatives and provides a globally recognized framework, defining practices for effective and credible sustainability systems.

## Challenges of digitalization and agricultural trade

In a global context of growing regulatory demand for transparency, traceability, and sustainability in agri-food trade, digitalization is increasingly embedded across agricultural value chains as a way to comply with new requirements and expedite trade procedures. Digital transformation also plays a growing role in facilitating trade and the cross-border movement of goods. A set of digital public and private systems, platforms, and tools now form an evolving ecosystem that governs compliance, certification, logistics, and financial and transaction flows. Table 3 provides an illustrative and non-exhaustive mapping of digital tools (documents and processes) across the agricultural value chain and describes how they contribute to facilitating trade and traceability.

**Table 3: Illustrative mapping of digital tools by agriculture value chain step and their trade facilitation value**

| Value Chain Steps | Examples of Digital Tools (documents and processes) | Trade Facilitation Value |
|---|---|---|
| **On-farm production and input use** | Farm management applications, Internet of Things (IoT) sensors, digital identities (IDs) for farmers and farms, and input verification logs. | Generate verifiable data on inputs, practices, and yields; lower information search and verification costs and time; enable early compliance with sustainability and due diligence requirements; and reduce information asymmetries. |
| **Aggregation, storage and processing** | Digital weighbridges, digital warehouse receipts, quality inspection applications, automated sorting and grading systems, and digital inspection records. | Generate verifiable first-mile data; improve lot integrity; reduce disputes over quantities and quality; reduce disputes at aggregation; and enable later traceability linkages. Digital warehouse receipts enable access to loans and finance for MSMEs. |

| Value Chain Steps | Examples of Digital Tools (documents and processes) | Trade Facilitation Value |
|---|---|---|
| **Certification and border procedures** | Electronic Sanitary and Phytosanitary (e-SPS) certificates, e-certificates of origin, e-customs management systems,[12] e-declarations and pre-arrival processing, e-payment solutions of duties and fees, digital release and clearance modules and national and regional digital single windows. | Reduce clearance times; lower administrative burdens; minimize document loss risk, corruption, and fraud; improve predictability; and allow for targeted inspections to reduce delays for compliant traders. |
| **Downstream buyer traceability, compliance and due diligence** | Blockchain end to end traceability, QR-code systems, digital product passports, and compliance dashboards | Support compliance with deforestation-free regulations, organic certification, and private sustainability schemes. |
| **Market access, logistics, and payments** | B2B e-commerce platforms, e-invoicing, e-payment solutions, and mobile money. | Expand market reach and reduce transaction and payment delays. |

*Source: Authors' elaboration based on OECD (2025), Charlebois et al. (2024), and Tripoli (2021).*

An empirical study by De Castro and Kornher (2022) confirms that moving to paperless trading and electronic procedures for customs and non-tariff measures compliance has trade-enhancing effects in agriculture. For instance, the study finds that improvements in export-level paperless trading have resulted in an increase of agri-food trade of 9.7% across the entire sample of 125 countries, with a majority of developing countries, and 11.2% across 25 sub-Saharan African countries. The authors explain that digitalization of customs and SPS procedures reduces the time, uncertainty, and administrative burden required for clearing goods, makes it easier and cheaper for firms to trade, dilutes risks of trade diversion, and leads to increased competitiveness. Beyond the reduction

12 The UNCTAD Automated System for Customs Data (ASYCUDA) covers most of foreign trade today and enables electronic data interchange between traders and customs authorities.

in trade costs and competitiveness-boosting effects, digitalization is increasingly helping with meeting other policy objectives, such as enhancing supply chain resilience and improving compliance with sustainability requirements (OECD, 2025).

While digitalization offers significant opportunities in agricultural trade, many developing countries, including in Africa and LAC, face a set of challenges that shape their ability to adopt and benefit from emerging digital tools. These challenges encompass structural, institutional, and regulatory constraints and affect both public and private actors across the value chain.

A first and persistent constraint is the digital divide, particularly in rural areas. According to the UNDP (2024), in LAC only 35.8% of rural households were connected to the internet in 2022, compared to 74.8% of their urban counterparts. In Africa, the ITU (2025) reports only 21% of individuals were using the internet in rural areas in 2025 compared to 55% of urban individuals. In some countries in LAC and many in Africa, connectivity gaps are compounded by unreliable electricity supply and high broadband costs, affecting private and public entities alike (Rodriguez et al., 2023; ITU & UNESCO, 2025). As a result, digitalization initiatives tend to be concentrated in major urban cities and primary trade corridors, while rural producers and secondary border posts continue to rely on paper-based procedures offering them unequal access to trade opportunities.

A second challenge is regulatory and institutional readiness. An enabling regulatory landscape is needed to advance the adoption of paperless trading and the digitalization of trade procedures. This landscape spans frameworks and policies for: (i) electronic transactions, such as electronic transferable records, e-signatures, e-contracts, e-authentication, and e-invoicing; (ii) automated border processes, such as pre-arrival processing, electronic single windows, and shared risk management; and (iii) cross-border data exchange, such as cross-border data flows, data storage and retention, data protection, and cybersecurity (OECD, 2025). While countries are progressively adopting these frameworks domestically and capturing them in their trade and digital economy agreements, implementation and alignment with international standards remain uneven across regions, with lower implementation rates, particularly in automated border measures and paperless trading among developing countries (OECD, 2025; ESCAP, 2023). Affordability and digital skills gaps are among the factors that explain lower implementation rates and slower adoption in developing countries.

A third constraint relates to fragmentation and limited interoperability of regulations and systems. While many countries have introduced various digital systems and tools, it remains difficult to reap the benefits of enhanced cross-border trade if these operate in silos, using incompatible data formats and reporting standards. This challenge is becoming increasingly apparent as sustainability standards proliferate, with varying requirements for reporting and information exchange across jurisdictions (OECD, 2025). In recent years, reports have been marking the progress in interoperability of single windows, e-SPS, digital IDs, and e-payment systems in Latin American countries, highlighting their positive impact on foreign trade, digital transactions, and SMEs inclusion (Azevedo et al., 2025; STDF, 2025).

A fourth challenge is related to data governance and power asymmetries. Digital traceability systems, due diligence platforms, and sustainability reporting tools increasingly require granular and verifiable farm-level data. Without clear rules on data ownership, access, and benefit sharing, smallholders risk becoming data providers without opportunities for capturing value (Ogunyiola, 2025). In fact, many agri-tech companies claim proprietary rights over on-farm and off-farm data through contractual terms or consent requirements for platform use, particularly in countries with weak data protection and consent frameworks (*Ibid*). When producers lack clarity, legal protections, and meaningful control over their data, their ability to negotiate terms, contest decisions, and influence digital systems is undermined, reinforcing structural power asymmetries and risks of exclusion.

Taken together, these structural and regulatory challenges show that digitalization in agriculture, as in other sectors, is far from being a straightforward upgrade. It requires a broad ecosystem shift that takes into account stark existing digital inequalities in rural areas and among countries. Closing these gaps requires coordinated efforts in enhanced connectivity and internet access, enabling legal and regulatory frameworks, affordability and enhanced institutional capacities, interoperable digital public infrastructure, and data frameworks that limit opaque data practices and promote benefit sharing. Without such efforts, digitalization risks widening existing inequalities and limiting the ability of developing countries to participate competitively in agricultural trade. Hence, these elements are being increasingly reflected in new trade arrangements such as digital economy agreements, which adopt this broader ecosystem approach to digitalization, extending well beyond traditional trade provisions.

## Conclusion

New forms of international cooperation and the evolving nature of domestic trade-related instruments and policy measures are reshaping agricultural trade governance. These shifts respond to emerging global trends, such as geopolitical tensions affecting multilateral cooperation, as well as the imperative to address urgent environmental crises and adapt to rapid technological change.

While the shift in international trade governance from traditional free trade agreements towards a multi-layered and often less formal system of bilateral, regional, and plurilateral cooperation enables governments to act faster, experiment with new ideas, and address specific issues for collaboration with like-minded countries—e.g. sustainability and security concerns, supply chain resilience, digital transformation—it is also contributing to greater fragmentation and may not always adequately consider the interests of developing countries. These trends have implications for agricultural trade in Africa and Latin America, where countries can face differentiated access to trade and development opportunities, contributing to a less effective and inclusive global trading system.

Besides new forms of international cooperation, the global agricultural trade landscape is increasingly shaped by autonomous trade and trade-related measures designed to address environmental concerns. These include measures implemented by governments and VSS developed by non-state actors.

Since many of the measures implemented by governments require compliance with specific environmental requirements, they are sometimes perceived as protectionist, extra-territorial, discriminatory, or unfairly putting the burden of adjustment on producers in developing countries. While harmonizing existing trade-related environmental measures at the global level is widely considered unlikely to occur, there is mounting recognition that cooperation in this area is needed to enhance coherence, foster transparency, reflect development considerations, and support interoperability and equivalences of existing and future measures.

Alongside government measures, there has been a proliferation of VSS. Although voluntary in nature, these schemes can sometimes become *de facto* conditions to access certain market segments, and are also increasingly integrated into various government policy instruments. A number of initiatives are under-

way to help reduce private standards fragmentation, ensure they are based on sound science, and are non-discriminatory and interoperable.

Finally, in a global context of growing demand for transparency, traceability, and sustainability in agri-food trade, digitalization is increasingly embedded across agricultural value chains as a way to comply with new requirements and expedite trade procedures. Digital transformation also plays a growing role in facilitating trade and the cross-border movement of goods. While digitalization offers significant opportunities in agricultural trade, many developing countries, including those in Latin America and Africa, face a set of challenges that shape their ability to adopt and benefit from emerging digital tools. These challenges encompass structural, institutional, and regulatory constraints and affect both public and private actors across the value chain.

Taken together, these challenges show that digitalization in agriculture, as in other sectors, requires a broad ecosystem shift that takes into account stark existing digital inequalities, among other constraints. These elements are increasingly reflected in new trade arrangements such as digital economy agreements, which adopt a broader ecosystem approach to digitalization.

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# Chapter 1.4
# Scenarios for Agricultural Trade in a Changing World

Valeria Piñeiro, Juan Pablo Gianatiempo, Joseph Glauber, Jorge Rueda, and David Laborde

## Introduction

Over the past 45 years, world merchandise trade has undergone significant structural transformations, and agrifood products have been part of that evolution. After a period of stagnation in the early 1980s, global trade expanded steadily from the mid-1980s through the early 2000s, driven by trade liberalization, technological progress, and deeper economic integration. This expansion accelerated between 2005 and 2010 with the consolidation of global value chains. Between 2010 and 2020, trade growth slowed amid weaker demand and rising tensions. Following the COVID-19 shock, trade rebounded sharply, reaching a historical peak in 2022, largely driven by price increases in the context of the war in Ukraine and general inflationary trends due to the economic recovery following the pandemic. These price surges proved relatively short-lived, however, and commodity prices have generally declined since mid-2022 as supply conditions improved and markets adjusted.

Agrifood trade has followed a related but distinct trajectory. While its share in total merchandise trade declined from the mid-1980s due to the faster expansion of manufactured goods, it began to recover around 2005, supported by rising demand, changing consumption patterns, and higher commodity prices. This recovery stabilized at roughly 10% of global merchandise trade, well below the levels observed in the early 1980s. In parallel, the geographic structure of agrifood trade has shown continuity with gradual rebalancing. Traditional trade corridors remain largely intact, but participation has shifted. Over the past 30 years, an increasing share of US agricultural exports has gone to Mexico and Canada, while the relative share of US exports going to markets such as the European Union and Japan has declined. China remains an important desti-

nation for US exports, but the US market share there has declined as LAC has increased its role as a major supplier to Asian markets. Intra-Asian and Asia–Africa trade linkages have intensified as well.

This long-term evolution provides the background against which today's world must be understood. The recent escalation of tariffs, selective application of trade measures, retaliatory responses, and weakening of multilateral disciplines marks a structural break. The change is not simply cyclical. It reflects a shift from a predominantly rules-based and predictable environment toward a more fragmented and strategically driven trade regime. For agriculture, a sector highly sensitive to tariffs, export restrictions, and regulatory measures, this shift increases uncertainty and alters incentives for investment, production, and trade.

To illustrate this transformation, the chapter compares two clearly defined trade environments: *a reference scenario* representing the global trade system prior to 2025 and a scenario representing the world at the end of 2025. This counterfactual comparison isolates the measurable effects of recent policy changes and provides a structured representation of the current agricultural trade situation. The objective is to quantify the economic implications of this shift and to inform ongoing discussions within the WTO where the restoration of predictability and coherence in agricultural trade governance remains a central challenge.

## Literature review and analytical context

International trade in agricultural products has expanded the availability and diversification of food worldwide, allowing countries to complement domestic production through imports while channeling surpluses to external markets. In doing so, trade has strengthened the resilience of agrifood systems (Jafari et al. 2023), contributing to supply stabilization and influencing food and nutritional security, and consumer price dynamics (OECD and FAO 2025, IICA 2021). These gains, however, are not automatic. They depend on the global trade policy environment, particularly on the configuration of tariff and non-tariff measures that shape market access and determine incentives to export and import (Santeramo and Lamonaca 2020). Changes in these policies can therefore alter trade flows, relative prices, and the distribution of welfare between producers and consumers (Akter 2022, Amiti et al. 2019).

In recent years, agricultural and food trade patterns have been reshaped by tariff shifts implemented by major economies, especially the United States (US), during the 2018–2019 trade war and in the renewed tensions of 2025 (Carter and Steinbach 2020, Ai et al. 2025a, Piñeiro et al. 2025). Average tariffs on agricultural and food products increased markedly in both episodes, disrupting trade flows and affecting market performance. Empirical evidence shows that tariff increases have substantial effects on bilateral trade. A 10% rise in tariffs is associated with an approximately 32% decline in trade in affected goods (Amiti et al. 2019). In the US, the 2018–2019 measures reduced imports of targeted goods by about 2.5% and exports by nearly 10% (Fajgelbaum et al. 2020). In the agriculture sector, higher tariffs depressed US exports of targeted and related products, constraining US producers' competitiveness in international markets (Waugh 2019).

Across these studies, a consistent result is that outcomes depend not only on the magnitude of tariff increases but also on trading partners' responses. During the 2018–2019 episode, a unilateral 45% tariff increase reduced real wages in the US by 0.66%, while the impact on China was smaller; once China retaliated, losses spread and affected both economies simultaneously (Guo et al. 2018). A similar dynamic appears in simulations for 2025. A generalized 10% tariff applied globally, combined with a 60% tariff on China, was estimated to reduce US gross domestic product (GDP) by about 0.7% in the absence of retaliation, but the contraction rises to 1.3% when partners adopt reciprocal measures (Bouët et al. 2024). In North America, the imposition of 25% tariffs on Canada and Mexico also generates losses in terms of trade and output, which deepen when these countries respond with countermeasures (Ai et al. 2025a, Meltzer 2025).

The agricultural and food sector is particularly exposed under broad-based escalation scenarios. In a global trade war scenario characterized by a 10% across-the-board US tariff and retaliatory responses from major partners, US agricultural trade contracts sharply across commodities. Export losses are estimated to exceed 27% in oilseeds and reach around 13% in high-value products such as vegetables, fruits, and nuts, while imports of staple crops such as rice and wheat are estimated to fall by more than 40% in some cases (Ai et al. 2025b). A similarly pronounced contraction emerges in the Liberation Day scenario, which introduces a 10% supplemental tariff on imports alongside higher country-specific tariffs. Under this configuration, US agrifood exports are estimated to decline by 19.2% without retaliation and by 39.1% when partners respond, while agrifood imports are estimated to fall by 10.2% and 24.5%, respectively

(Piñeiro et al. 2025). Taken together, these findings highlight the scale of adjustment that agricultural markets may face under generalized tariff escalation.

# Methodology and scenario design

This analysis relies on economy-wide modeling using the Miragrodep computable general equilibrium model, a global multicountry and multisector framework designed to assess the broad effects of agricultural and trade policy changes. Miragrodep builds on the MIRAGE model and incorporates extensions specifically tailored to agricultural trade analysis (Bouët et al. 2021). The model integrates detailed bilateral trade flows, sectoral production structures, and macroeconomic linkages across countries, allowing for a coherent evaluation of both direct trade effects and broader economywide adjustments.

A central feature of the model is the Armington assumption, under which goods are differentiated by country of origin. This specification makes it possible to capture changes in sourcing decisions when tariffs or other trade distortions are introduced. In practical terms, it allows the model to reflect how importers substitute among suppliers in response to policy changes. Combined with country-specific social accounting matrices and detailed tariff data, Miragrodep traces how these shocks transmit through domestic production systems and global value chains. The model is implemented in a comparative-static framework. It compares equilibria before and after the policy shock without modeling transitional dynamics. The results therefore, capture medium- to long-run reallocations of resources across sectors and regions and quantify impacts on GDP, terms of trade, welfare, and agrifood trade patterns.

## Scenario definition

To assess the economic implications of recent shifts in global trade policy, the analysis is conducted under two alternative scenarios: a *reference scenario* and an *end of 2025 scenario*. The objective is not to forecast future developments but to illustrate how recent policy shifts have modified the structure and performance of agricultural trade. By comparing a more predictable, rules-based environment with the trade configuration observed at the end of 2025, the analysis provides a structured representation of the present agricultural trade situation. The *reference scenario* represents the global trade system prior to 2025, before the escalation of recent trade tensions. Trade policies largely correspond to existing commitments, with greater reliance on multilateral disciplines and

the most favored nation (MFN) principle.[13] This scenario therefore, reflects a more stable and rules-based multilateral trading system. The *end of 2025 scenario* represents the world as it stood at the end of 2025. It incorporates the tariff increases, retaliatory measures, counterretaliation responses, and policy adjustments that had been implemented by that date. The policy framework begins with a baseline 10% tariff applied broadly across countries and products, with explicit exceptions at the country level where differentiated tariff rates are imposed. These measures are further refined through country- and product-specific exceptions, demonstrating the targeted and highly differentiated nature of US trade policy.

This scenario captures not only existing tariff levels, retaliatory measures, and observed trade restrictions, but also heightened policy uncertainty and weakened multilateral trade disciplines. Notably, it incorporates counterretaliation measures, including the 15% tariffs imposed by China and the 25% tariffs on US auto and auto part imports applied by Canada.

Overall, tariffs currently applied to specific countries are generally lower than those announced on April 2, 2025 (so-called Liberation Day), reflecting the outcomes of bilateral negotiations that led to partial rollbacks of the initially proposed increases. Nevertheless, important exceptions persist, with certain country- and product-specific tariffs exceeding Liberation Day levels, most notably for iron and steel imports from the United Kingdom and Russia. Also, imports from Canada and Mexico that comply with the United States-Mexico-Canada Agreement (USMCA) are exempt from the supplemental tariffs. A similar pattern emerges in product-specific tariffs, with iron and steel, metals and metal products, and wood and wood products facing comparatively higher rates.

## Data sources, regional aggregation, and time horizon for comparison

The primary data source for Miragrodep is the GTAP 11 database, fully documented in Aguiar and colleagues (2019). This database provides global macroeconomic accounts and detailed trade flows for five benchmark years (2004, 2007, 2011, 2014, and 2017). It describes the values of production, intermediate inputs, and final consumption of goods and services across 141 countries or regions and 65 sectors. In addition, GTAP 11 contains information on bilateral trade flows, international transport margins, and

13 The WTO estimates that in 2022, about 83% of trade was conducted on an MFN basis. In 2025, after implementation of the new US tariff regime, this number was 74% (WTO 2025).

protection matrices, allowing for a consistent and detailed representation of economic linkages across countries and regions. The second data source consists of the most recent economic projections from the International Monetary Fund's World Economic Outlook and population projections from the United Nations.

Export taxes, tariffs, and ad valorem equivalents of non-tariff barriers are incorporated into the model by computing the corresponding tax rates from the GTAP database and assuming that these rates remain constant in the *reference scenario*. In the *end of 2025 scenario*, retaliatory tariffs are calibrated using the latest applied tariffs available as of December 2025. For US tariffs and counterretaliation measures, we rely on data compiled by Lowell and colleagues (2026) in the Trump 2.0 Tariff Tracker. To facilitate interpretation of the results, countries and products are aggregated into composite regional and sectoral groups.[14]

# Global results: estimated impacts on agricultural trade

## Scenario-based changes in global trade flows

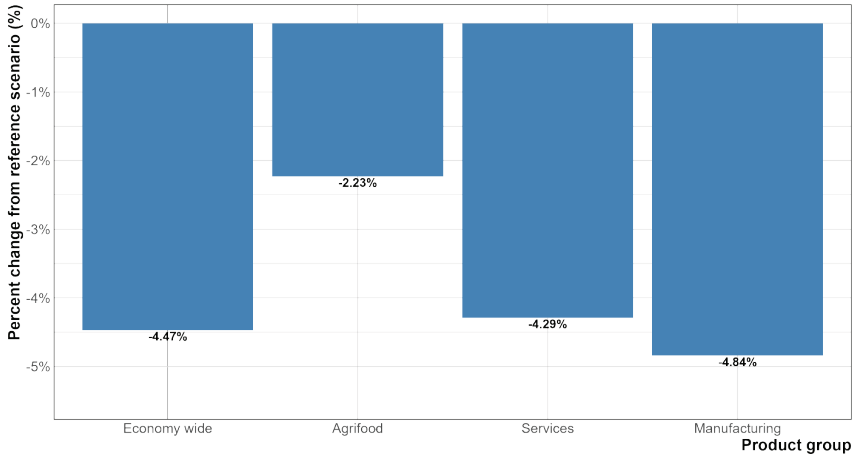
Relative to the *reference scenario*, the *end of 2025 scenario* generates a decline in global trade flows, driven by the combined effects of a global economic slowdown and higher tariff barriers. Negative percentage changes are observed across all major sectors, including manufacturing, agrifood products, and services. However, the magnitude of the impact differs across product groups. Manufacturing exhibits the largest adjustments, driven primarily by changes in tariffs targeting specific products such as metals and metal products, wood and wood products, iron and steel, and the automotive and auto parts sectors.

14 To facilitate comparison across scenarios, countries are aggregated into nine composite regions. These include: (1) North America, comprising the United States, Canada, Bermuda, Greenland, and Saint Pierre and Miquelon; (2) the European Union, including all EU member states; (3) the rest of Europe, covering non-EU European countries; (4) LAC, including Mexico, the Caribbean, Central America, the Andean region, and the Southern Cone; (5) North Africa, comprising Egypt, Morocco, Tunisia, Sudan, Algeria, Libya, and Western Sahara; (6) Sub-Saharan Africa, including all African countries not classified as North Africa; (7) China; (8) the rest of Asia, consisting of Asian countries excluding China; and (9) the rest of the world, which includes Oceania and all remaining countries not covered by the previous regional groupings. A similar aggregation is applied to the product dimension, with particular attention to agrifood sectors. The following product groups are considered: beverages and tobacco; cocoa, coffee, and tea; dairy products and eggs; fruits and vegetables; grains; meat and fish; plant-based fibers; processed food; sugar and sugar products; and vegetable oils.

These industries are typically more integrated into international supply chains and more sensitive to trade policy shifts, which amplifies their responsiveness to the scenario shock.

Although the agrifood trade is also adversely affected, it exhibits smaller aggregate percentage declines than manufacturing. This difference reflects both the targeted tariff increases on manufactured products (steel, aluminum, automobiles, and auto parts, etc.) and the larger share of manufactured goods in total global merchandise trade. Nevertheless, in agrifood products, the main concern is not the overall magnitude of the contraction, but the trade diversion generated under the *end of 2025 scenario*. The results point to a reallocation of trade flows across partner countries, indicating shifts in sourcing patterns rather than a uniform reduction in trade volumes (See Figure 1). Within this new trade environment, changes in relative prices and trade costs give rise to new patterns of comparative advantage across countries, reshaping bilateral trade relationships. When disaggregated to a more detailed product level, this reconfiguration may entail significant distributional and structural implications, despite the relatively moderate aggregate effects.

**Figure 1. Impact on global trade by product group at the *end of the 2025 scenario*, with percentage changes from the *reference scenario***



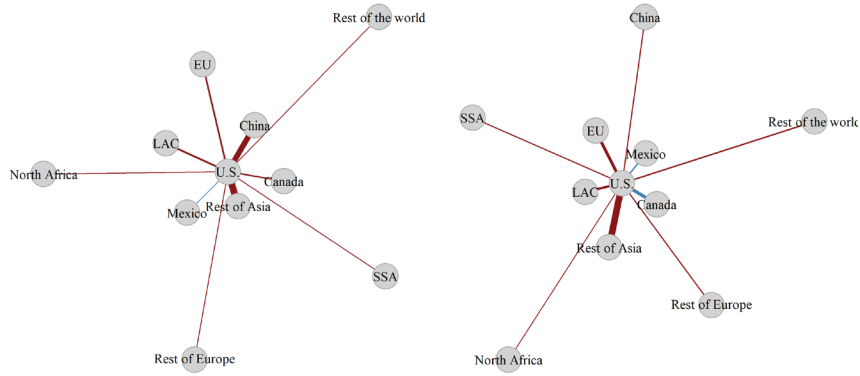

*Source: Authors' calculations based on MIRAGRODEP model simulations.*

Building on these aggregate and sectoral patterns, it is essential to assess how the reallocation of trade flows materializes at the bilateral level within the agrifood sector. The interaction between higher tariffs, shifting relative prices, and newly emerging patterns of comparative advantage affects not only overall agrifood trade volumes but also the geographic structure of agrifood trade relationships. A network-based representation is particularly well suited to capture the direction, magnitude, and concentration of these bilateral adjustments. Figures 2 and 3 provide such evidence for agrifood trade, illustrating how the *end of 2025 scenario* reconfigures export linkages for the US and China, respectively, across their main destination markets.

As shown in Figure 2, under the *end of 2025 scenario*, US agrifood exports contract across most partner regions. The largest negative changes, represented by the thickest red lines, are seen for China, the rest of Asia, and LAC (excluding Mexico), all of which account for non-negligible shares of total US exports, as reflected by their proximity to the center of the network. Although exports to Mexico display a positive change (blue line), the magnitude of this increase is insufficient to offset the substantial losses observed in other major destinations. Overall, the export panel points to a net decline in US agrifood external sales, driven primarily by contractions in key Asian and LAC markets.

On the import side (right panel of Figure 2), the US records increased agrifood imports from Mexico and Canada, largely because USMCA-compliant goods are exempt from the tariff increases. These exemptions promote trade diversion toward Canada and Mexico. In contrast, imports from LAC, the European Union, and the rest of Asia (excluding China) decline, as reflected by red lines of notable width. Despite gains within the USMCA bloc, the cumulative reductions across other regions imply that the overall impact on US agrifood imports remains negative, highlighting a process of regional reallocation rather than aggregate expansion.

**Figure 2. Trade diversion of US agrifood exports (left) and imports (right) under the end of 2025 scenario, with changes relative to the reference scenario**



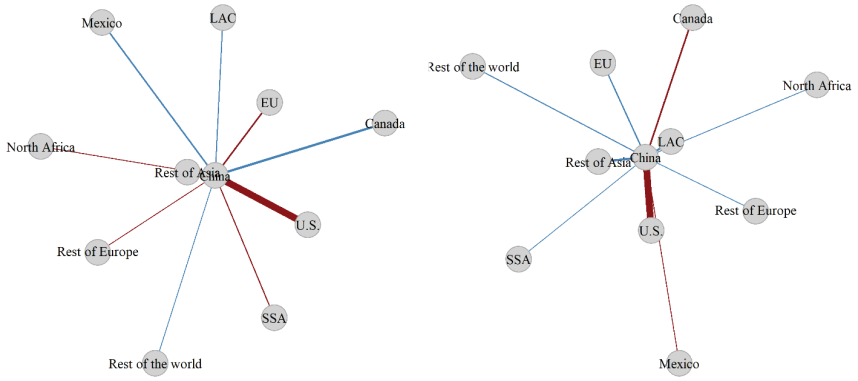

*Source: Authors' calculations based on MIRAGRODEP model simulations.*
*Notes: The country of interest, the United States, is shown at the center. The left panel displays US exports to partner countries/regions, while the right panel shows US imports from partner countries/regions. The proximity of partner countries/regions reflects their share in total US exports (left panel) and total US imports (right panel). The width of each connection represents the magnitude of the change in trade flows. Blue indicates a positive change, while red indicates a negative change. EU = European Union, LAC = Latin America and the Caribbean, SSA = Sub-Saharan Africa.*

As shown in Figure 3, from the export perspective, China displays a mixed pattern compared with the US. While China loses major markets in the US and the European Union (both account for more than 20% of China's exports), it gains exports in several other regions, including Canada, Mexico, LAC, and the rest of the world (Oceania), as indicated by the blue lines. Compared with the US, China's export profile exhibits broader regional gains, suggesting a more diversified adjustment across the network. However, these gains are not sufficient to fully compensate for the losses in key partners, and the overall pattern still reflects a net contraction in China's global agrifood exports.

Chinese imports display a pattern opposite to that of the US (right panel of Figure 3), with significant decreases in agrifood imports from the United States due to the imposition of counter-retaliatory tariffs. Imports from Mexico and Canada also decrease, as more exports from those countries are diverted to the US. In contrast, imports from all other regions show gains, reflecting broader regional diversification. However, despite these increases, the cumulative gains are not sufficient to offset the reductions from

North American partners. As a result, China's total agrifood imports still contract.

**Figure 3. Trade diversion of Chinese agrifood exports (left) and imports (right) under the end-of-2025 scenario, with changes relative to the reference scenario**




*Source: Author's calculations based on MIRAGRODEP model simulations.*
*Note: The country of interest, China, is shown at the center. The left panel displays Chinese exports to partner countries/regions, while the right panel shows Chinese imports from partner countries/regions. The proximity of partner countries/regions reflects their share in total Chinese exports (left panel) and total Chinese imports (right panel). The width of each connection represents the magnitude of the change in trade flows. Blue indicates a positive change, while red indicates a negative change. EU = European Union, LAC = Latin America and the Caribbean, SSA = Sub-Saharan Africa.*

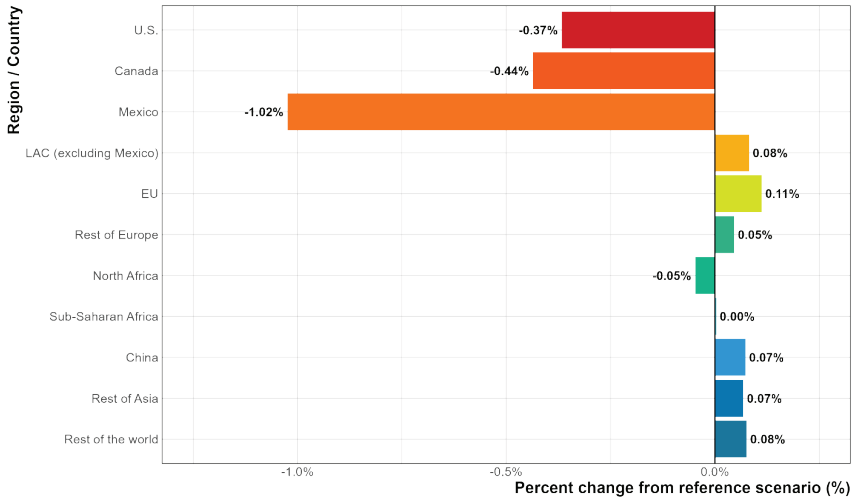
## Production effects

The contraction of the US, coupled with its strong trade ties to Mexico and Canada, creates negative spillover effects for the rest of North America. Agrifood production declines across these three countries, but the magnitude of the impact differs due to the central role of the US in the export structure of both Canada and Mexico. The more dependent a country is on US markets, the larger the contraction it experiences, highlighting the asymmetric effects of trade shocks within closely integrated regional networks.

In contrast, other countries outside this core North American bloc use the situation to expand their agrifood production (except Africa, which maintains limited trade links with the United States). While the increases are moderate compared with the contraction in North America, these adjustments reflect a

reallocation of global trade flows and a relative opportunity for countries less dependent on US markets to capture additional demand (See Figure 4).

**Figure 4. Impact on agrifood production by country/region, with changes relative to the reference scenario**




*Source: Authors' calculations based on MIRAGRODEP model simulations.*
*Note: EU = European Union, LAC = Latin America and the Caribbean.*

At a more disaggregated level, the production effects reveal substantial heterogeneity across product groups and countries within North America. In the US, the contraction is concentrated in primary agricultural activities. Production declines are particularly pronounced in grains (−1.4%), plant-based fibers (−2%), and meat and fish (−1.2%). By contrast, some downstream agrifood groups display resilience or even expansion, most notably vegetable oils (+2.4%).

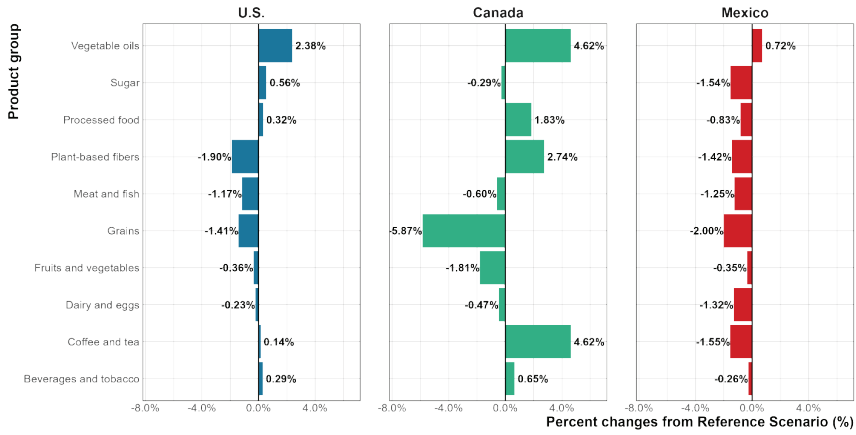
In Canada, the adjustment is more uneven and, in some cases, considerably larger in magnitude. The most significant contraction occurs in grains (−5.8%), followed by fruits and vegetables (−1.8%). However, Canada exhibits strong expansions in processed food (+1.8%), coffee, and tea[15] (+4.6%), vegetable oils

15 The coffee and tea product group includes live plants; cut flowers and flower buds, flower seeds and fruit seeds, and vegetable seeds; beverage and spice crops; unmanufactured tobacco; cereal straw and husks, unprepared, chopped or not, ground, pressed or in the form of pellets; swedes, mangolds, fodder roots, hay, lucerne (alfalfa), clover, sainfoin, forage kale, lupines, vetches, and similar forage

(+4.6%), and plant-based fibers (+2.8%). The sharp contraction in grains combined with strong growth in processing-related sectors points to a structural reorientation of production rather than a uniform downturn.

In Mexico, the effects are amplified because the US is its main export destination. Given Mexico's strong integration into US-centered value chains, the contraction in US demand translates into a broad-based decline across most agrifood product groups. This reflects both the high degree of trade dependence and the limited scope for short-run market diversification (See Figure 5).

**Figure 5. Impact on agrifood production by product group in the United States, Canada, and Mexico, with changes relative to the reference scenario**




*Source: Authors' calculations based on MIRAGRODEP model simulations.*

## Global welfare effects

At an aggregated level, the welfare[16] impact of the *end of 2025 scenario* varies considerably across regions, reflecting both the structure of trade linkages and the relative size of economies. The US experiences a small positive effect (0.02%), while Canada and Mexico benefit more substantially, with gains of 1.3% and 2.326%, respectively. In contrast, major economies such as China

products, whether in pellets or not; plants and parts of plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal, or similar purposes; sugar beet seed and seeds of forage plants; and other raw vegetable materials.

16 Welfare is computed as the sum of household consumption across product groups, expressed in constant values relative to the *reference scenario*.

(–0.1%) and the European Union (–0.3%) face moderate welfare losses, highlighting the asymmetric effects of the scenario across large trading nations. Other regions, including LAC, the rest of Asia, Sub-Saharan Africa, North Africa, and the rest of Europe, also experience negative impacts, though these are generally smaller. Overall, the global welfare effect is negative (–0.1%), indicating that losses outweigh gains at the world level.

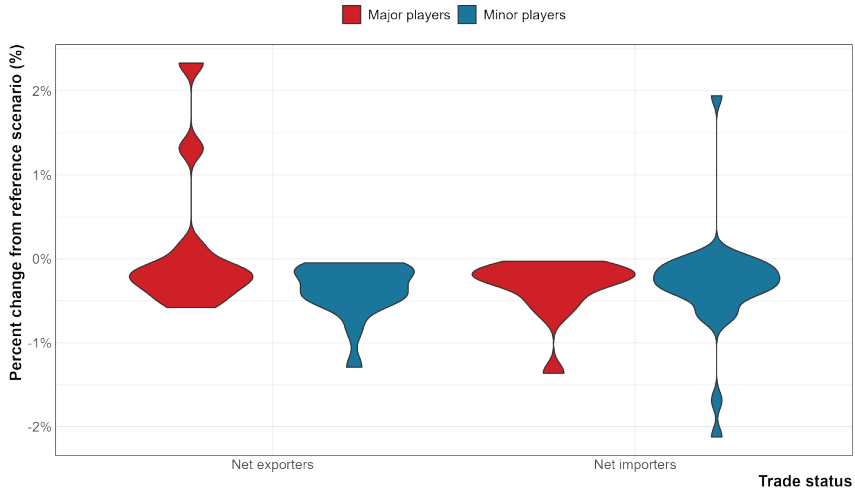
Figure 6 illustrates the effects of the *end of 2025 scenario* on welfare across countries at a more disaggregated level, differentiating by both trade status[17] (net exporters versus net importers) and size[18] (major versus minor trading nations). This highlights that the scenario does not impact all countries uniformly but instead produces heterogeneous effects depending on each country's role and scale in global trade. Three distinct patterns emerge from this analysis, revealing the nuanced ways in which trade shocks spread across different country types.

Major net exporters experience a welfare distribution concentrated mostly in negative values; the major exceptions are Mexico and Canada, which are exempt from the tariff increases. Minor net exporters and major net importers show a similar pattern, with welfare losses generally concentrated between 0 and –1%, indicating moderate but widespread vulnerability. In contrast, minor net importers exhibit a distribution that resembles that of major net exporters but with a broader range of negative values, reflecting greater exposure and sensitivity to the scenario.

17 Trade status is defined based on 2024 food trade values (excluding fish) from FAOSTAT. Countries are classified as net exporters if food exports exceed imports and as net importers otherwise.

18 Major (minor) trading countries are defined as those with a share of global merchandise trade above (or below) 0.2%, based on World Bank 2024 data.

**Figure 6. Distribution of impacts on welfare by country trade status and size of trade category, with changes relative to the *reference scenario***




*Source: Authors' calculations based on MIRAGRODEP model simulations.*
*Notes: Trade status is defined based on 2024 food trade values (excluding fish) from FAOSTAT; countries are classified as net exporters if food exports exceed imports and as net importers otherwise. Major (minor) trading countries are defined as those with a share of global merchandise trade above (or below) 0.2%, based on World Bank 2024 data.*

# Commodity-level impacts for key agricultural products

To complement the analysis by product groups, this section examines commodity-level effects, with a focus on trade diversion in key agrifood products. The contraction in the US, together with differential import tariffs, alters relative competitiveness across suppliers, prompting exporters to redirect shipments to alternative markets and enabling competing producers to capture new trade opportunities.

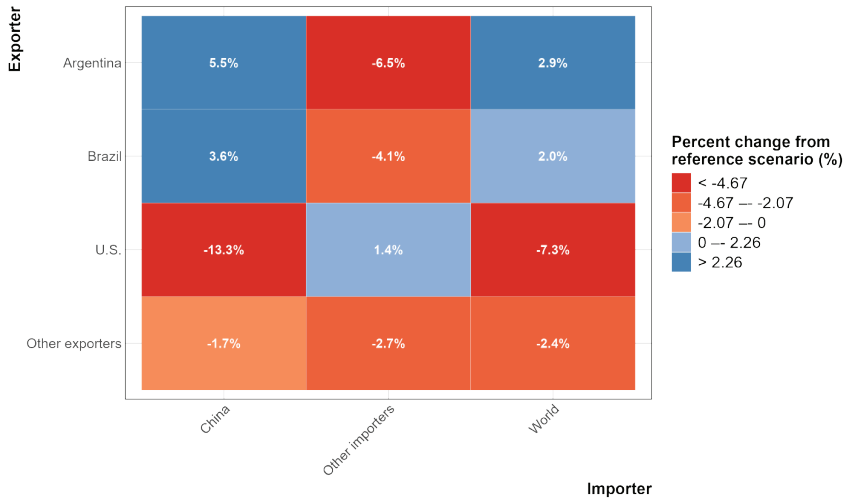
## Oilseeds

China plays a pivotal role in global oilseed markets, particularly as the dominant importer of soybeans. In the 2024/2025 marketing year, China imported 108 million metric tons of soybeans, or 60% of global soybean trade, which was driven by its need for soybean meal for animal feed and soybean oil for food use.

Since 2000, China's demand for soybean imports has expanded at an extraordinary average annual rate of 9.2%. Brazil and the US are the dominant suppliers for the Chinese market, accounting for a combined 92% of China's imports.

However, shifts in trade policy, such as the current 10% retaliatory tariff on US soybeans under the *end of 2025 scenario*, together with the ongoing US–China agreement to purchase 25 million tons of soybeans annually, could radically disrupt existing flows and prices in the global oilseed market. Under this scenario, US soybean exports to China would be reduced by 13% so that the agreement is slightly exceeded (Figure 7). Brazil, already China's largest supplier, would further consolidate its position, with Argentina also increasing shipments. Despite this adjustment, China's total oilseed imports are projected to decline by 2.5% due to supply constraints and higher prices. The US, meanwhile, would face an estimated 7% drop in oilseed exports overall, as new buyers in secondary markets (Europe and Mexico) only partially compensate for lost Chinese demand. Global oilseed trade would contract by 2%, revealing the scale of the distortion caused by tariff-induced trade redirection.

**Figure 7. Trade diversion of oilseeds, with changes relative to the *reference scenario***



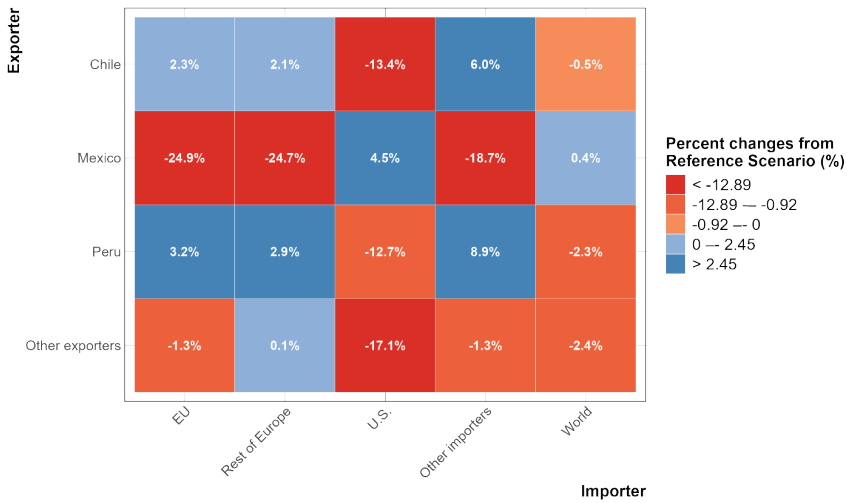

*Source: Authors' calculations based on MIRAGRODEP model simulations.*

## Fruit and vegetables

Under the *end of 2025 scenario*, Mexico is exempt from reciprocal US tariffs under the USMCA agreement, which enhances its competitiveness in the US market and strengthens its integration within this product group. However, this focus on the US may reduce Mexico's participation in other markets, such as the European Union, East Asia, and Central America. Given the relative importance of the US market, the resulting increase in exports to the US would also enhance Mexico's overall global export performance.

Facing higher costs and reduced demand from US buyers, other exporters, such as producers in Chile and Peru, are projected to redirect their exports to alternative markets. However, these markets are imperfect substitutes: longer shipping distances, differing sanitary standards, and underdeveloped distribution networks constrain the extent of trade diversion. As a result, global trade in fruits and vegetables is projected to contract by 2% (See Figure 8).

**Figure 8. Trade diversion of fruits and vegetables, with changes relative to the *reference scenario***



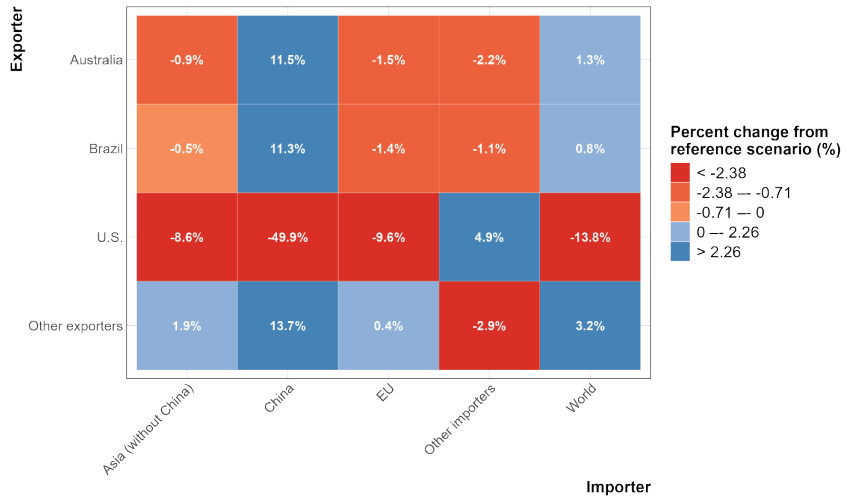

*Source: Authors' calculations based on MIRAGRODEP model simulations.*

## Plant-based fibers

Within the plant-based fibers product group, cotton is the dominant commodity, with Brazil (31%), the US (28%), and Australia (12%) accounting for more than 70% of global exports. On the import side, Asia represents the primary destination, capturing more than 80% of global imports. These are concentrated in Vietnam (19%), Bangladesh (19%), Pakistan (14%), China (12%), and India (7%). Global trade in cotton grew from 26 million tons in 2000 to around 40 million tons over the past five years.

Under the *end of 2025 scenario*, China's 10% retaliatory tariff on US cotton reduces US exports to China by 62%, effectively shutting out US shipments in a highly competitive market. US exports decline to nearly all major importers, leading to an overall drop of 15% in US global cotton exports. This withdrawal creates opportunities for other major exporters, with Australia and Brazil each capturing roughly 15% of the diverted trade, boosting their global exports significantly. However, despite this trade diversion, total global trade in cotton is expected to decline by 3% under the *end of 2025 scenario* (see Figure 9).

**Figure 9. Trade diversion of plant-based fibers, with changes relative to the *reference scenario***




*Source: Authors' calculations based on MIRAGRODEP model simulations.*

## Policy insights and concluding remarks

The analysis demonstrates the substantial economic and structural costs associated with the shift toward a more fragmented global trade regime. Comparing the pre-2025 trade environment with the current landscape of elevated tariffs and bilateral tensions indicates that trade fragmentation has resulted in a net decline in global welfare, alongside significant disruptions in agrifood production and trade flows. Structural adjustments are particularly pronounced in North America, where exemptions from tariff measures, combined with the indirect competitive gains stemming from the reduced competitiveness of tariff-affected countries, have reinforced regional trade advantages.

Under the *end of 2025 scenario*, shifts in trade policy, including the proposed 10% retaliatory tariff on US soybeans and the US–China agreement to purchase 25 million tons annually, are expected to significantly disrupt global oilseed markets, reducing US soybean exports to China by 13%, while Brazil and Argentina will be expected to expand shipments, leading to a 2% decline in total global oilseed trade. In fruits and vegetables, Mexico's preferential access to the US under USMCA enhances its competitiveness in the US market but limits participation in other markets, while producers in Chile and Vietnam face constraints in redirecting exports, resulting in a 2% contraction in global trade for the sector. In plant-based fibers, China's 10% retaliatory tariff on US cotton reduces US exports to China by 62% and lowers total global cotton trade by 3%, even as Australia and Brazil capture portions of the diverted flows. These sectoral disruptions illustrate that regional reallocations are insufficient to offset aggregate losses in global trade, highlighting the urgent need to restore predictability to stabilize investment, safeguard food security, and enhance agrifood resilience.

The scenario results presented in this chapter remain highly relevant, with more recent policy developments reinforcing their central message. Escalating tariffs, export restrictions, and persistent transparency gaps have weakened multilateral disciplines and increased uncertainty in global agricultural trade. The simulations underscore the importance of renewed multilateral engagement, particularly within the WTO framework, to contain fragmentation and reduce the costs of policy-driven trade reallocation.

The US administration's announcement on February 22, 2026, of a shift toward a more MFN-oriented tariff approach, which reduces certain country-specific differentiation, does not fundamentally alter the broader assess-

ment. Although the formal structure of tariff application may now appear more consistent with MFN principles, tariff levels remain elevated relative to the pre-2025 benchmark, and the recent sequence of announcements, reversals, exemptions, and temporary measures has reinforced perceptions of policy instability. Moreover, the Section 122 tariffs are set to remain in place for only 150 days, after which Congress must vote on their extension, introducing an additional layer of temporal uncertainty. At the same time, the administration has signaled the possibility of launching new Section 301 and Section 232 investigations, which could lead to higher non-MFN tariffs. For traders and investors, predictability depends not only on the legal form of measures but on the credibility, durability, and coherence of the overall policy environment. In this context, agricultural trade continues to operate under conditions of reduced predictability and heightened uncertainty.

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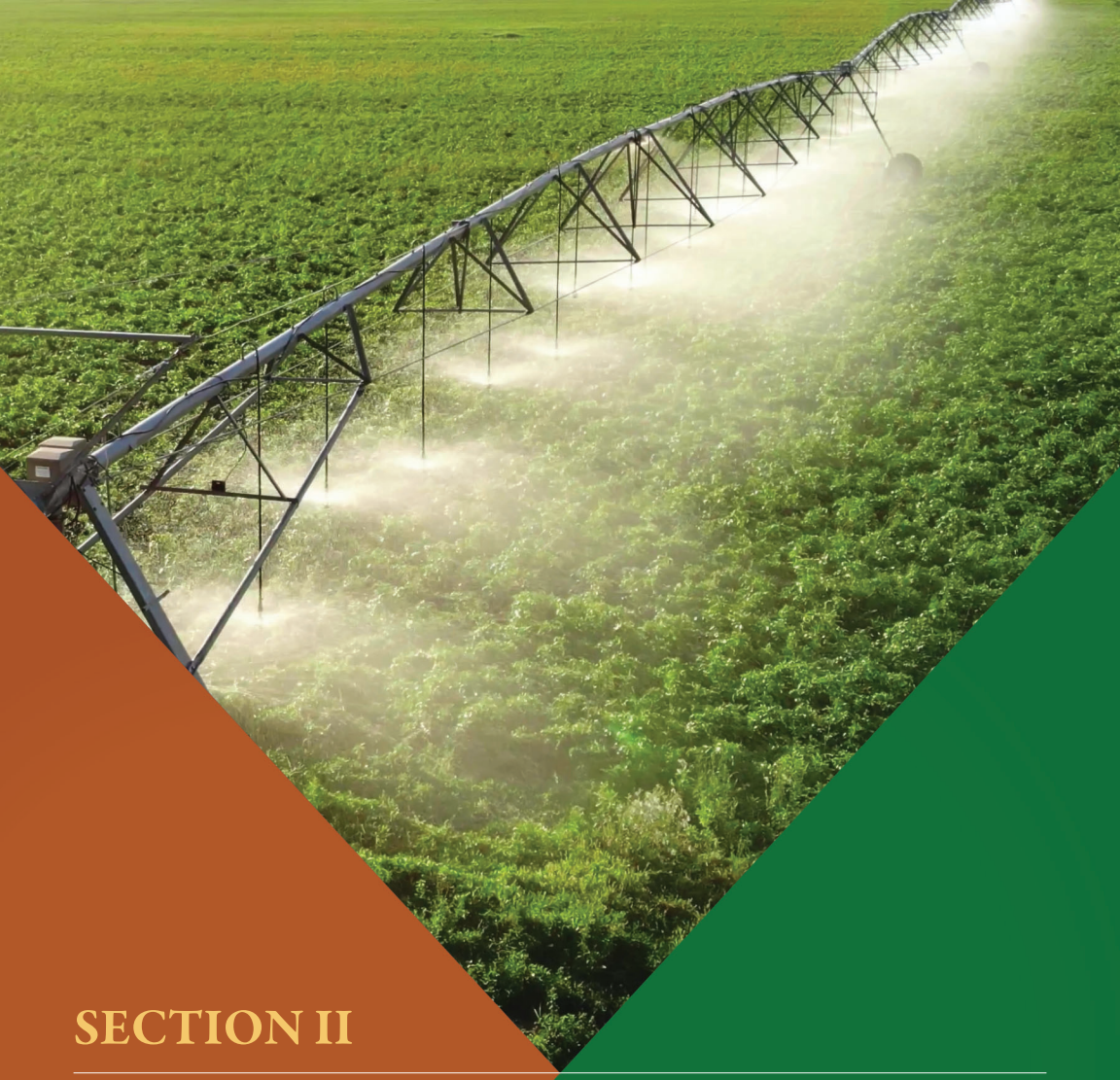


SECTION II

# LATIN AMERICA AND THE CARIBBEAN: REGIONAL PERSPECTIVE

# Chapter 2.1
# Agricultural Trade Structure, Disruptions, and Competitiveness in Latin America and the Caribbean

Valeria Piñeiro, Juan Pablo Gianatiempo, Jorge Rueda, and Mauricio Moreira

## Introduction

Latin America and the Caribbean (LAC) has a central position in global agricultural trade, both as a major exporter of staple commodities and as a region increasingly exposed to shifts in global demand, trade policy, and geopolitical fragmentation. Recent developments show that agrifood trade is no longer shaped primarily by gradual liberalization or isolated tariff disputes. Instead, it is being reshaped by a more complex environment in which higher tariffs coexist with selective application, exemptions, and preferential treatment.

A key insight emerging from recent trade shocks is that markets can adjust, but adjustment increasingly takes place through the reallocation of trade flows rather than through smooth prices or production responses. This has important implications for LAC, where trade is often concentrated around a limited number of products and destinations. As adjustment costs rise, outcomes depend less on aggregate performance and more on structural characteristics such as diversification, bargaining power, and institutional capacity. Against this backdrop, the chapter situates LAC's experience within the broader global debate, emphasizing the need to align national and regional strategies with a changing global trade landscape.

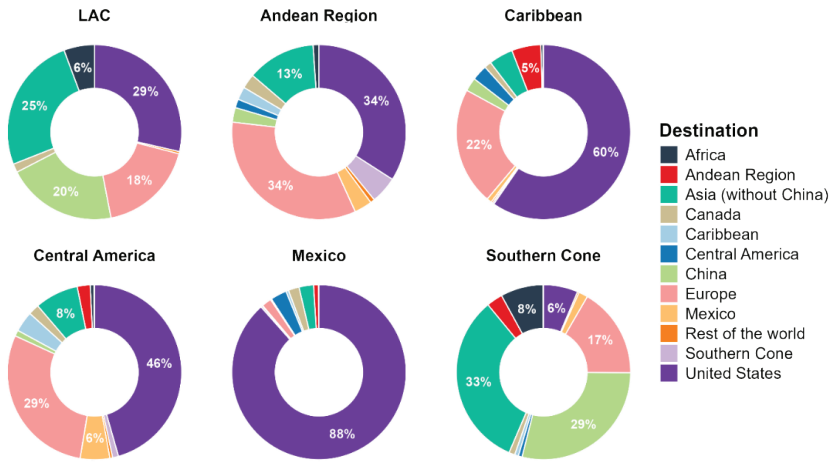
## Structure of LAC's agricultural trade

LAC's agricultural trade structure helps explain why the region has been especially vulnerable to recent global trade shocks. Both its export profile and its network of trading partners are relatively concentrated, meaning that policy

changes or disruptions affecting a small number of products or economies can have amplified effects on regional trade flows.

LAC's agrifood exports vary widely across subregions (Figure 1). Three distinct export patterns emerge from an analysis of this heterogeneity: first, Mexico exhibits a highly concentrated export structure, with 88% of its agrifood exports going to the United States (US), reflecting deep production integration and longstanding trade linkages within North America. Second, the Andean region, Central America, and the Caribbean also rely primarily on the US as their main export market, although Europe constitutes a secondary but still relevant destination. Third, Asia, particularly China, absorbs the largest share of agrifood exports from the Southern Cone, while Europe remains an important, though comparatively smaller, market for the subregion.

**Figure 1. LAC's agrifood export structure by subregion and destination (in 2024 USD)**

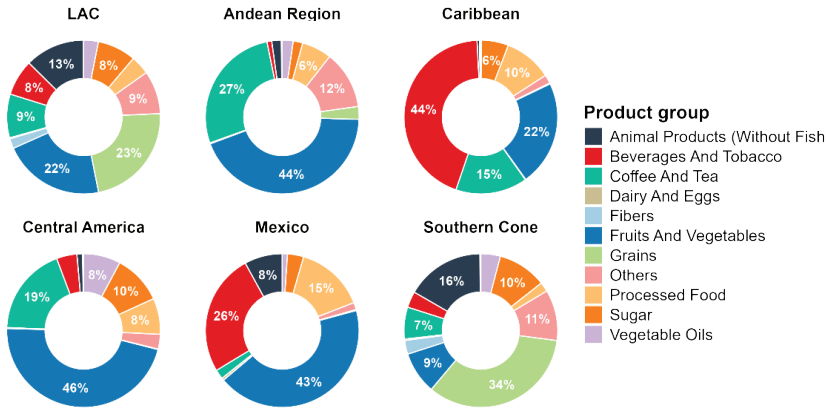



*Source: Authors' calculations based on FAO 2026.*
*Notes: Fisheries are not included. Intra-subregional trade is excluded.*

Figure 2 shows the structural heterogeneity of agrifood exports across LAC subregions, highlighting differences in product composition. As in the previous figure, three distinct patterns of specialization emerge. First, Mexico and the Caribbean display a relatively stronger concentration in beverages and tobacco, as well as in fruits and vegetables. Second, the Andean region and Central America exhibit a more pronounced specialization in traditional tropical com-

modities, particularly coffee, cocoa, and tea, alongside fruits and vegetables. Third, the Southern Cone has a strong share of grains and animal products, indicative of large-scale and land-intensive production systems.

**Figure 2. LAC's agrifood export structure by subregion and product group (in 2024 USD)**




*Source: Authors' calculations based on FAO 2026.*
*Notes: Fisheries are not included in agrifood products. Intra-subregional trade is excluded.*

Overall, the region's trade profile suggests limited margins for adjustment when external conditions shift. Because exports are concentrated on a handful of globally traded commodities and directed toward a small group of major markets, changes in tariffs, standards, or geopolitical relations can quickly affect domestic producers. Trade may be redirected, but the gains from diversion are uneven and depend on existing agreements, infrastructure, and competitiveness. At the same time, reliance on imported food products and key agricultural inputs exposes the region to external price spikes and supply disruptions. This combination of concentrated exports and strategic import dependence shapes how LAC experiences and responds to an increasingly uncertain global trading environment.

## Climate risks and geopolitical tensions in the global food system

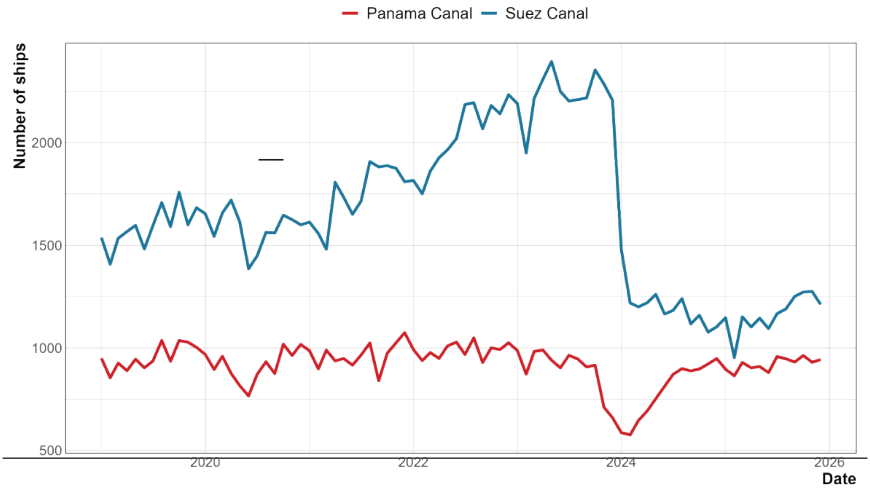
In the last decade, global agricultural trade has been operating under two simultaneous and structural disruptors: geopolitical tensions and weather variability. These forces are not isolated shocks (Han et al. 2026; Talebian et al. 2024) but instead interact with each other, input markets, logistics systems, and trade policy responses. Together, they are reshaping production patterns, trade corridors, and market relationships in ways that are likely to persist.

Geopolitical conflict has proven to be particularly disruptive because it affects several layers of the system at once. The Russian invasion of Ukraine in February 2022 triggered one of the most significant disruptions to global grain markets in decades. Ukraine's planting, harvesting, and export capacity collapsed as Black Sea ports were blockaded and logistics severely constrained. Maize production fell by 37.8% in 2022 and wheat by 35.6%, with harvesting areas reduced dramatically (FAO 2026). Countries in the Middle East and North Africa, heavily dependent on Black Sea wheat, were among the most exposed (Glauben et al. 2002; Devadoss and Ridley 2024).

Sanctions and countersanctions have amplified the disruption. At one point, up to 17% of globally traded calories were affected by trade barriers (Glauber et al. 2022). Although international prices later stabilized as other exporters expanded output, trade routes did not simply return to their previous configuration. When Russia withdrew from the Black Sea Grain Initiative in July 2023, safe passage arrangements ended again, and Ukrainian cereal and oilseed exports fell by approximately 50%. A larger share of Ukrainian maize was redirected toward Europe, permanently modifying trade flows (Glauber 2024).

Maritime disruptions reinforced these pressures. Between late 2023 and early 2024, attacks in the Red Sea reduced traffic through the Suez Canal by 80% (AXSMarine 2024; Kamali et al. 2024; Sainz 2025) (See figure 3). Ships were forced to reroute around the Cape of Good Hope, increasing transit times by up to 50% and raising transport costs by 130 to 230% (ITF 2024; Dunn and Leibovici 2024). Insurance premiums doubled and global shipping capacity declined as vessels spent more time at sea (World Bank 2025; EPRS 2024). Wheat shipments from the European Union (EU), Russia, and Ukraine to East Africa, South Asia, and China were directly affected.

**Figure 3. Ships transiting through the chokepoint by month, 2019–2025**




*Source: Authors' calculations based on IMF 2026.*

These developments show how agricultural trade remains dependent on a limited number of corridors and insurance markets. When those corridors are disrupted, markets adjust, but not without cost.

Climate variability and associated extreme weather events—such as droughts, storms, and floods—are taking an increasingly heavy toll on global agricultural production, logistics, and trade. This is particularly acute in low- to lower-middle-income countries, where agricultural losses accounted for more than one-quarter of overall disaster-related losses between 2008 and 2018 (Blackman et al. 2025). The LAC region alone lost approximately USD29 billion during that period due to reductions in crop and livestock production following climate-related disasters (FAO 2021).

More recently, the impacts of climate variability have been exemplified by prolonged droughts in the Rio de la Plata basin (2019–2023) and the Panama Canal (2022–2023) (See figure 3). The former severely depressed agricultural productivity and increased transportation costs for exports from Argentina, Paraguay, and Uruguay (WMO 2022). The latter, driven by record-low water levels in Gatun Lake, forced authorities to drastically reduce daily vessel transits, constricting one of the world's primary maritime corridors linking the Atlantic and Pacific (UNCTAD 2024a, 2024b; Muñoz et al. 2025). These restrictions resulted in protracted waiting times, elevated freight costs, and significant deliv-

ery delays (Ruiz and Shintani 2024). For agricultural commodities, particularly bulk grains and oilseeds, these bottlenecks disrupted trade flows and heightened uncertainty in international markets (Goyal et al. 2024).

The trade policy response has further complicated the adjustment of trade flows to this era of fragmentation. As the multilateral trading system weakens, nations are increasingly justifying trade-distorting measures on non-trade grounds, even when such actions are clearly rooted in protectionism.

Geopolitical motives are frequently invoked to justify not only historically high tariffs but also discriminatory increases that represent a clear departure from the most favored nation (MFN) principle. Discrimination compounds the economic costs of protection, particularly when trading partners retaliate. For instance, economy-wide modeling indicates that when protectionist measures are combined with distortions and retaliation, the contraction in agrifood and total trade is significantly larger than under uniform tariff increases alone, even when aggregate effects on gross domestic product (GDP) and welfare appear modest (Figure 4) (Piñeiro et al., forthcoming).[19]

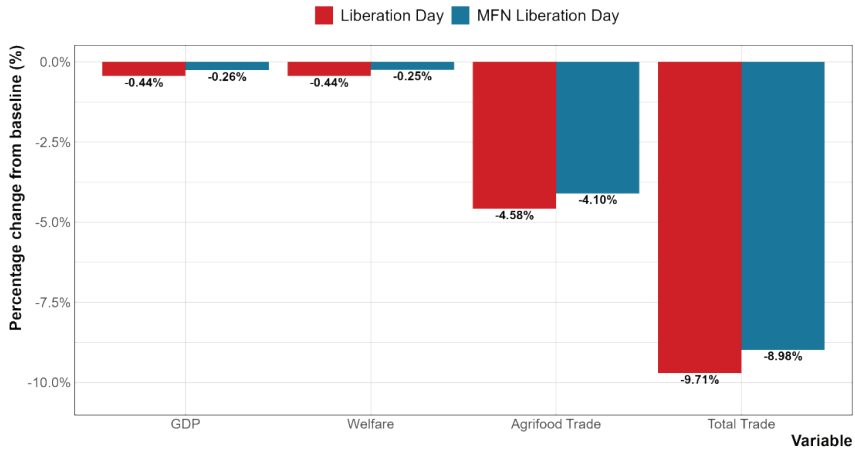
These costs are further exacerbated by non-tariff measures, specifically export restrictions, which disproportionately impact the agrifood sector (IFPRI 2026). Ranging from outright prohibitions and quotas to licensing requirements and minimum export prices, these measures reached a peak in 2024, concentrated in essential commodities such as rice, wheat, maize, and soybeans (OECD 2025).

Similarly, climate objectives are cited as justification for a growing array of unilateral, trade-distortionary actions—the so-called trade-related climate measures (TrCMs). These encompass carbon border taxes, enforceable environmental chapters in preferential trade agreements (PTAs), and complex sustainability regulations. Between 2009 and 2022, approximately 18,000 trade-related environmental measures were reported to the World Trade Organization (WTO), including 3,460 TrCMs (WTO 2023). While the climate objectives behind these regulations are legitimate, for low- and middle-income exporters in LAC

19 The scenarios draw on the framework developed in Piñeiro et al. (forthcoming), which evaluates alternative US tariff configurations introduced in 2025. The Liberation Day scenario reflects selective, non-MFN tariff increases consistent with the April 2, 2025 announcement, combined with symmetric retaliation by trading partners. The "MFN Liberation Day" scenario applies equivalent trade-weighted tariff increases on an MFN basis, preserving existing relative preferences across countries. Both scenarios are simulated using the MIRAGRODEP model, which relies on detailed bilateral trade, production, and tariff data to evaluate how alternative policy configurations affect trade flows, welfare, and sectoral performance

and Africa, they often entail unnecessary and discriminatory increases in trade costs. The ongoing controversies surrounding the EU Deforestation Regulation and the Renewable Energy Directives serve as primary examples of the structural challenges ahead (Blackman et al. 2025).

**Figure 4. Impact on world macro variables,% change from baseline (%)**

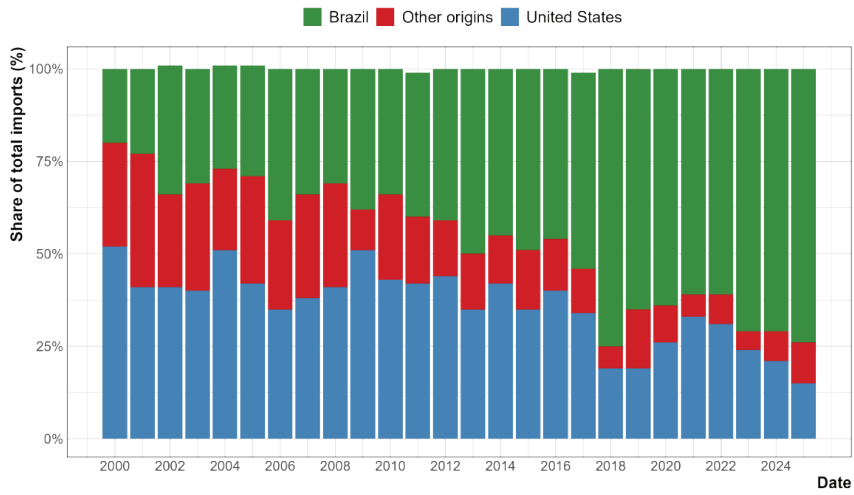



*Source: Piñeiro et al. (forthcoming).*
*Notes: Trade variables are constructed as the sum of imports and exports. See footnote for details about the scenarios. The United States announced its Liberation Day on April 2, 2025. MFN = Most favored nation.*

These dynamics increase uncertainty, amplify trade diversion, and shift competitiveness away from productivity and toward policy-driven advantages. As a result, adjustment processes become slower, and shocks leave more persistent effects on trade patterns.

The 2018 soybean dispute provides a clear illustration. Trade flows did not collapse but instead were reconfigured. China reduced its reliance on US soybeans and expanded imports from Brazil and Argentina, while US exporters redirected shipments to alternative markets, often at discounted prices.

**Figure 5. China's soybean import shares by origin, 2000–2025**




*Source: Authors' calculations based on TDM 2026.*

As shown in Figure 5, China's shares of soybean imports shifted following the onset of trade tensions. Importantly, these changes were not fully reversed once tensions eased. A temporary policy shock resulted in longer-lasting shifts in sourcing relationships, logistics, and market shares.

This same pattern—reallocation rather than collapse, but with significant adjustment costs—reappeared during the post-pandemic recovery and the war in Ukraine. Commodity prices surged, and many governments introduced export restrictions to shield domestic consumers. According to IFPRI (2026), a significant share of globally traded food was affected at some point by such measures. While individually rational, these defensive policies amplified volatility at the global level, reinforcing uncertainty and accelerating trade diversion.

The fertilizer market became a critical transmission channel linking geopolitical shocks to agricultural production and trade. Sanctions on Russia and Belarus, shipping disruptions, and reduced natural gas supplies sharply curtailed fertilizer availability. Belarusian potash exports fell by 50%, Russian ammonia shipments declined by 63%, and global fertilizer use dropped by 5% due to high prices and scarcity. For fertilizer-dependent regions in Africa, South Asia, and LAC, this directly increased risks to food production (Glauber and Laborde 2022).

The connection to the soybean case, and to broader trade reallocation, is direct. Just as tariffs reshaped sourcing decisions in 2018, input market disruptions reshaped production decisions after 2022. Higher fertilizer prices squeezed margins for producers and raised food prices for consumers. Some farmers shifted toward lower-input crops, altering cropping patterns and, consequently, trade flows. In this way, shocks that begin in trade policy or geopolitics spread through input markets, production systems, and ultimately global trade structures.

Markets eventually adjust, but the transition is costly. Exporters must find new buyers and often accept lower prices, while importers scramble to secure alternative suppliers and manage disruptions. In agrifood systems, where production is seasonal and input-dependent, these frictions are amplified. Reducing these costs requires timely information, analytical capacity, and coordinated policy; without them, repeated fragmentation can weaken competitiveness and erode food system resilience.

## Productivity challenges in a changing trade environment

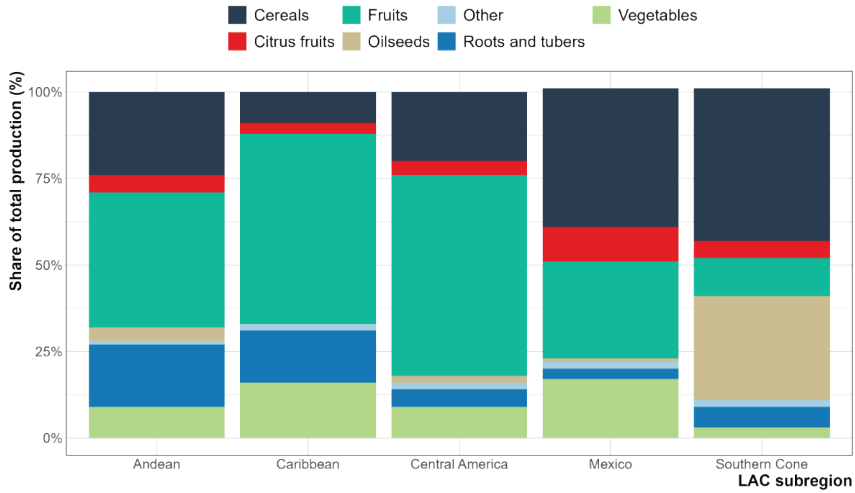
Agricultural production in LAC has expanded continuously since the early 1960s, reflecting a long-term expansion in scale rather than discrete episodes of growth accelerations. Between the 1960s and the 2010s, average annual growth rates remained within a relatively narrow range—approximately 2.5 to 3.1% per decade—indicating a stable capacity to increase production over time. This pattern, however, has shifted in recent years. During the 2020–2023 period, average output growth slowed markedly to around 1.7%, departing from historical trends and revealing the growing sensitivity of agricultural performance to structural constraints, including disruptions to trade, logistics, and market access (USDA 2026a; Salazar et al. 2025).

The evolution of total factor productivity (TFP) helps explain this behavior (USDA 2026b; Salazar et al. 2025). While output growth remained stable for several decades, productivity followed a much less even trajectory. Between the 1960s and the 1970s, average TFP growth was modest (around 1.0–1.3%), but it strengthened from the mid-1990s through the 2000s (reaching rates between 2.0 and 2.3%) before decelerating again more recently and falling to about 0.8%. This pattern suggests that short-run output expansion has relied primarily on input accumulation, with productivity gains occurring sporadically.

Importantly, these dynamics have not been homogeneous across LAC (Salazar and Martel 2025; Perego et al. 2020), revealing regional variations that in turn reflect structural differences in production environments and varying degrees of market integration. Between the 1960s and 2000s, the Southern Cone and Mexico recorded relatively stable output growth, averaging around 3.0–3.5% annually, while Central America expanded rapidly in the 1960s (above 5%) before slowing. The Caribbean showed weaker performance, averaging about 1.1% since the 2000s and experiencing contractions in the 1990s. During the 2020–2023 period, output growth slowed across all regions, dropping to around 1.4–1.5% in the Southern Cone and Central America, compared to 2.8% in the Andean region. Productivity trends reflect similar disparities. Mexico achieved sustained TFP growth of 3–4% from the 1990s onward, while the Southern Cone recorded gains of about 2–2.5%. Central America and the Caribbean experienced lower, more volatile, and sometimes even negative productivity growth. These patterns of agricultural output and productivity are associated with the consolidation of agricultural value chains across the region (Nin-Pratt 2025). In Central America, fruit-based production has increasingly dominated since 1990 and, together with cereals, now accounts for more than 75% of output, indicating a highly concentrated structure. The Andean region is more diversified, with fruits representing about 35–40% of output, while cereals and tubers each retain shares above 10% (Figure 6) (FAO 2026).

The Caribbean has seen fruits and vegetables exceed 50% of output, with vegetable production expanding notably since the 2000s. Mexico and the Southern Cone are more scale-oriented: cereals account for roughly 40% of output in Mexico, while in the Southern Cone, cereals and oilseeds have jointly represented more than 60% since the 1990s, even rising to around 70% after 2010, reflecting strong export specialization (FAO 2026).

**Figure 6. Share of total agricultural production by food group, LAC, 2020–2024 Average**




*Source: Authors' computation based on FAOSTAT 2026.*

Recent evidence suggests that competitiveness gaps are becoming more binding in a fragmented global context. After decades of steady expansion driven largely by scale, agricultural growth slowed between 2020 and 2023 amid trade disruptions, logistical constraints, fertilizer volatility, and climate shocks. At the same time, TFP growth weakened after a period of strengthening in the 1990s and 2000s, indicating greater reliance on factor accumulation rather than efficiency gains. In the context of selective tariffs and corridor disruptions, weak productivity raises adjustment costs and reduces resilience to shocks.

These constraints vary across subregions. The Southern Cone and Mexico, with stronger productivity performance, are better positioned to adjust, though export concentration heightens exposure to policy shifts. Central America and parts of the Andean region combine lower and more volatile productivity with narrow specialization, limiting flexibility. The Caribbean, marked by irregular productivity and dependence on perishable value chains, faces even tighter adjustment margins. Strengthening long-term competitiveness requires reinforcing the technological and institutional foundations of productivity growth.

## Strengthening competitiveness through innovation

LAC's agricultural trade remains highly concentrated in both products and markets. Export baskets are dominated by a small group of commodities, including soybeans, maize, beef, sugar, coffee, and selected fruits, while a limited number of destinations absorb most exports. This concentration supports export revenues but reflects limited diversification and slow movement into higher value-added activities such as processing and branding, leaving the region focused on primary or minimally processed goods. As a result, trade performance remains exposed to price cycles, demand shifts, and regulatory changes in a few key markets.

Climate variability and geopolitical fragmentation intensify these structural vulnerabilities. Greater climate variability affects yields, production stability, and infrastructure reliability, raising costs and uncertainty. At the same time, evolving sustainability standards, carbon-related trade measures, and environmental traceability requirements are reshaping access conditions in major markets. Geopolitical tensions further complicate the landscape through export restrictions, shifting alliances, and the strategic use of food trade. For a region with concentrated export structures, these distortions magnify exposure and limit room for maneuvering, especially where production systems lack adaptive capacity and technological depth.

These challenges are rooted in slowing productivity growth. Decelerating TFP, uneven technology diffusion, and persistent gaps between large and small producers constrain competitiveness, limit diversification, and hinder movement into higher value-added activities. As a result, trade diversification remains reactive. In this context, innovation—technological, organizational, and institutional—emerges as the strategic link between trade structure, distortions, and competitiveness, as illustrated by the transformation pathways of Argentina, Peru, and Brazil. (Piñeiro et al. 2026).

In Argentina, agricultural transformation was associated with profound productive reorganization based on integrated technological packages and new business models (Anlló et al. 2015; Bisang 2017). The diffusion of no-tillage systems, promoted through coordination with the National Agricultural Technology Institute and producer organizations such as Asociación Argentina de Productores en Siembra Directa—Aapresid (Trigo et al. 2009; Anlló et al. 2015), allowed producers to address soil degradation while simultaneously improving efficiency and sustainability. The adoption of biotechnology, alongside special-

ized services, silo-bag storage, and precision agriculture, increased the technical complexity of the production system and strengthened export competitiveness.

In Peru, transformation was primarily driven by public policies aimed at promoting non-traditional agricultural exports. Land reforms, tax incentives, investments in irrigation and logistics, and sector-specific innovation programs supported the expansion of high-value crops such as asparagus, grapes, blueberries, and avocado (Damonte et al. 2016; World Bank 2017; Piñeiro et al. 2025). Technological modernization (drip irrigation, integrated pest management, improved traceability, and sanitary compliance) enabled producers to access demanding international markets.

In Brazil, the dairy sector transformation was associated with a cooperative-based model. Market liberalization and growing competition triggered productive restructuring, in which cooperatives acted as vehicles for technological transfer, logistical coordination, and strengthened bargaining power for small producers (Beber et al. 2018; Beber et al. 2021). Supported by specific regulatory frameworks and credit policies, these organizations facilitated investment in infrastructure, sanitary compliance, and managerial professionalization.

Beyond national experiences, LAC's regional innovation architecture, including research networks and mechanisms such as Fontagro, demonstrates the importance of regional public goods and collective financing to sustain transformation. Coordination among national institutes, international centers, and regional platforms has supported joint responses to shared challenges such as pest control, climate adaptation, and genetic improvement.

These experiences show that reducing trade concentration and strengthening resilience require robust innovation systems, not just product diversification. Technological advances such as climate-resilient seeds, digital agriculture, improved logistics, and low-emission systems (Perego et al. 2020) must be complemented by organizational and institutional innovation. Given the region's heterogeneity, strategies must adapt to diverse constraints. Ultimately, productivity-driven innovation is central to reducing vulnerability, meeting environmental standards, and strengthening LAC's competitive position in global trade.

## Policy priorities: Moving forward and concluding remarks

This chapter shows that the current global agricultural trade environment reflects a structural break rather than a cyclical downturn. Trade fragmentation, selective tariffs, export restrictions, disruptions to logistics, fertilizer volatility, and more frequent climate shocks are increasing uncertainty and raising adjustment costs. These shifts are significant for LAC, where agriculture is central to growth and external balances. Even when aggregate GDP effects appear moderate, trade reallocation is uneven and disproportionately affects trade-dependent and less diversified economies.

Two priorities stand out. First, diversification of products and markets is essential, as recent trade tensions show that tariffs reshape trade relationships rather than halt trade. Countries with broader export bases adjust more smoothly. Second, competitiveness and logistics are critical. As adjustment occurs mainly through trade flows, investments in infrastructure, connectivity, and institutional capacity are needed to reduce frictions and lower transition costs.

The contrast highlighted in the modeling exercise comparing uniform and discriminatory protectionism underscores the importance of coordinated and rules-based frameworks. Selective measures, exemptions, and non-MFN practices amplify trade diversion and increase uncertainty, particularly for smaller economies that often lack the negotiating leverage and lobbying resources required to secure favorable treatment from major trading partners. In this context, governance and transparency are not abstract principles; they are mechanisms that reduce risk and improve predictability.

These mechanisms represent the fundamental reason why low- and middle-income economies should not abandon the multilateral trading system and its core principles of reciprocity and non-discrimination. Furthermore, there is no clear alternative to institutions such as the WTO for addressing systemic global issues such as domestic subsidies and climate-related externalities. While its current shortcomings are substantial, they are not insurmountable. The institution's mediation capacity was indeed severely undermined by the impairment of the Appellate Body; in addition, its ability to mitigate distortionary measures is constrained by the fact that both the General Agreement on Tariffs and Trade (GATT, Article XX) and the Agreement on Technical Barriers to Trade (TBT) permit unilateral measures for non-trade objectives, including national security and environmental sustainability.

Yet there is a pragmatic basis for optimism. First, the Multi-Party Interim Appeal Arbitration Arrangement—established by major members including the EU, China, and Japan—has enabled the WTO to preserve its mediating function, at least partially. Second, recent WTO dispute resolution recommendations (notably DS600) regarding EU biofuel regulations have reaffirmed the "balancing" principles of the GATT and TBT. These rulings clarify that the pursuit of legitimate non-trade objectives must be conducted with the least disruptive impact on trade. This precedent serves as a powerful tool to minimize distortions and align regulations with the diverse resources and capabilities of developing partners.

A renewed commitment to multilateralism, however, does not imply neglecting other complementary approaches. As a matter of policy, countries should aggressively negotiate and update agreements at the regional, interregional, or plurilateral levels to create a more predictable sub-environment within the broader global fragmentation. Modern PTAs—equipped, for instance, with enforceable TBT and sustainability chapters—can serve as powerful tools to prevent the arbitrary use of trade policy for non-trade objectives. For a region like LAC, which already possesses an extensive and sophisticated network of PTAs, this dual-track strategy offers the best opportunity to hedge against multilateral uncertainty while maintaining high-standard market access.

Regardless of the chosen strategic path, institutional preparedness is equally critical. Continuous trade monitoring, scenario analysis using tools such as economy-wide models, and early validation with observed data can help governments anticipate disruptions and design proactive responses rather than reacting once costs have materialized. In an era of "just-in-case" supply chains and rapid geopolitical shifts, the ability to quantify risk in real-time is no longer an academic luxury but is now a fundamental requirement for maintaining regional competitiveness.

Ultimately, markets will continue to adjust. However, adjustment is becoming slower, more costly, and more uneven. Without stronger regional coordination, improved competitiveness, and more effective governance, transition costs may become persistent, weakening inclusion and food security and widening gaps across subregions. As the international community reflected around MC14 and the future of agricultural trade rules, it became clear that aligning national strategies with regional initiatives and strengthening institutional capacity is essential to ensure that agricultural trade remains a source of resilience and sustainable growth in an increasingly fragmented and climate-constrained global system.

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# Chapter 2.2
# LAC's Role in Global Food Security and the Multilateral System

Nelson Illescas and Jimena Vicentin Masaro

## Introduction

Global food security is increasingly shaped by a confluence of systemic pressures that challenge both production capacity and the governance of international markets. At the same time, geopolitical fragmentation, armed conflicts, and strategic rivalries have disrupted trade flows, contributed to higher price volatility, and reinforced the perception of food as a strategic asset subject to unilateral policy intervention. These dynamics unfold against a backdrop of weakening confidence in multilateral institutions and rules-based cooperation, further complicating collective responses to food crises.

Within this evolving context, LAC occupies a structurally distinctive position in the global food system. Unlike many regions that have become increasingly dependent on food imports, LAC remains one of the world's main net exporters of agri-food products.[20] Over the past two decades, the expansion of LAC's agri-food exports has broadly tracked, and in some cases exceeded the growth of global food demand, underscoring its relevance as a long-term supplier rather than a residual exporter (OECD/FAO, 2025).

The region accounts for approximately 16% of global agricultural exports and 13% of total agricultural production, supplying a substantial share of internationally traded cereals, oilseeds, meat, and sugar. Through these commodities, LAC contributes a significant portion of globally traded calories and proteins and plays a central role in supplying international markets at scale (Salazar et al, 2025).

20 Within LAC, however, there is significant heterogeneity: Southern Cone countries (e.g., Argentina, Brazil, Paraguay and Uruguay) are structurally net exporters of agri-food products, while several Central American and Caribbean economies remain net food importers due to structural constraints related to scale, land availability, climate vulnerability, and production diversification.

Beyond aggregate export volumes, LAC's contribution to global food security is determined by structural and qualitative features of its production and trade profile. For example, the subregion of the Southern Cone combines large-scale land endowments, high productivity growth, and diversification across commodities (grains, oilseeds, meat, sugar, fruits and fisheries) and export destinations. This diversification reduces exposure to idiosyncratic shocks and mitigates concentration risks on both the supply and demand side.

In addition, the counter-seasonal production patterns of several South American exporters relative to the Northern Hemisphere increase temporal complementarity in global markets. This seasonal offset enhances the elasticity of world supply and contributes to moderating price volatility during tight market conditions. According to FAO and OECD assessments, LAC is expected to account for a growing share of global net agricultural exports over the coming decade, reinforcing its structural role in balancing food-deficit regions (OECD-FAO 2023).

These characteristics collectively reduce the probability of synchronized production shocks and allow exporters—particularly in the Southern Cone—to adjust shipments in response to demand shifts or supply disruptions elsewhere. In this sense, LAC performs a key role within the global food system, smoothing international food availability during periods of geopolitical tension, climatic stress, or market uncertainty.

However, the ability of LAC to sustain and strengthen this role depends critically on the functioning of the multilateral trading system. Predictable market access, transparency, and effective disciplines on trade-distortive measures influence investment decisions, production incentives, and the reliability of cross-border supply. Episodes of export restrictions and ad hoc policy interventions during recent food crises have demonstrated how quickly unilateral actions can amplify price volatility and undermine food security, especially for import-dependent countries (Koizumi, Furuhashi, and Sakuyama, 2025). For net exporting regions such as LAC, these dynamics not only threaten export revenues but also weaken the incentives to invest in productive and resilient agricultural systems.

This chapter argues that LAC's contribution to global food security cannot be understood in isolation from broader debates on trade governance and multilateral cooperation. As climate pressures, geopolitical fragmentation, and market volatility increasingly intersect, the credibility of the rules-based trading

system becomes a central determinant of global supply stability. In this context, LAC occupies a relevant position at the intersection of production capacity and global governance: as a major net exporter, it enhances international availability and moderates price volatility, thereby supporting affordability in food-deficit regions; yet, paradoxically, significant segments of its own population—particularly in parts of Central America and the Caribbean—still face constraints in affording a healthy diet (FAO, IFAD, UNICEF, WFP and WHO. 2025.). This dual condition underscores that food security is multidimensional, linking availability, access, and stability. By leveraging its comparative advantages while engaging constructively in WTO-centered trade governance reform—strengthening disciplines on export restrictions, transparency, and dispute settlement— the region can safeguard its export interests and perform a structural, system-wide balancing role in promoting a more resilient, predictable, and affordable global food system.

# Comparative advantage in global agri-food markets

## Natural endowments, productivity gains, and export specialization

LAC exhibits a distinctive and consolidated comparative advantage in global agri-food markets, grounded in the combined weight of its natural resource base, sustained productivity growth, and long-standing export specialization. At the regional level, Latin America and the Caribbean bring together abundant arable land reserves, comparatively favorable water endowments, and a wide spectrum of agroecological zones—from temperate Southern Cone systems to tropical and subtropical production belts—enabling large-scale output across cereals, oilseeds, meat, sugar, fruits, and fisheries. These structural attributes, when considered collectively rather than at the country level, position LAC as one of the few net surplus-producing regions in global agriculture and a structurally significant supplier of internationally traded food commodities (OECD/FAO, 2025).

Over time, Latin America and the Caribbean's natural resource endowments have been complemented—and increasingly superseded—by gains in total factor productivity (TFP). Evidence compiled by the Inter-American Development Bank shows that between 1961 and 2021 regional agricultural

output grew at an average annual rate of 2.9%, with TFP expanding by 1.7% per year—above the global average and accounting for the majority of production growth over the long run (Salazar et al, 2025). These gains reflect sustained technological change, mechanization, improved input use, and organizational upgrading across key value chains, particularly in soybeans, maize, sugar, and export-oriented livestock systems. However, performance remains markedly heterogeneous across subregions: while the Southern Cone and parts of Central America have relied heavily on productivity gains, the Caribbean has exhibited slower growth driven more by input accumulation than efficiency improvements. Moreover, the recent deceleration of TFP growth underscores emerging structural constraints and reinforces the need to sustain innovation, climate adaptation, and institutional support to maintain competitiveness and long-term food system resilience.

These dynamics have shaped a clear pattern of export specialization. LAC accounts for a substantial share of global exports in key agri-food commodities, positioning the region as a price-relevant supplier in international markets. Unlike smaller exporters whose participation is marginal or sporadic, LAC's scale allows it to influence global availability in both normal conditions and periods of market stress. This scale effect is central to understanding the region's systemic relevance for global food security (Piñeiro, Hareau, and Andrade, 2025).

## Scale, diversification, and counter-seasonality in global supply

Beyond aggregate export volumes, the structure of LAC's participation in global food markets reinforces its comparative advantage. Scale is combined with a relatively high degree of diversification across products and destinations. Major exporters within the region typically maintain broad export portfolios that include bulk commodities, processed foods, and higher-value products, reducing vulnerability to demand shocks in specific markets.

Geographical diversification further strengthens this position. LAC exports are distributed across multiple regions, including Asia, Europe, the Middle East, and Africa, limiting dependence on a single destination and enhancing resilience to trade disruptions. This diversified market presence also allows LAC producers to respond more flexibly to shifts in global demand patterns, an increasingly important feature in a fragmented and uncertain international environment.

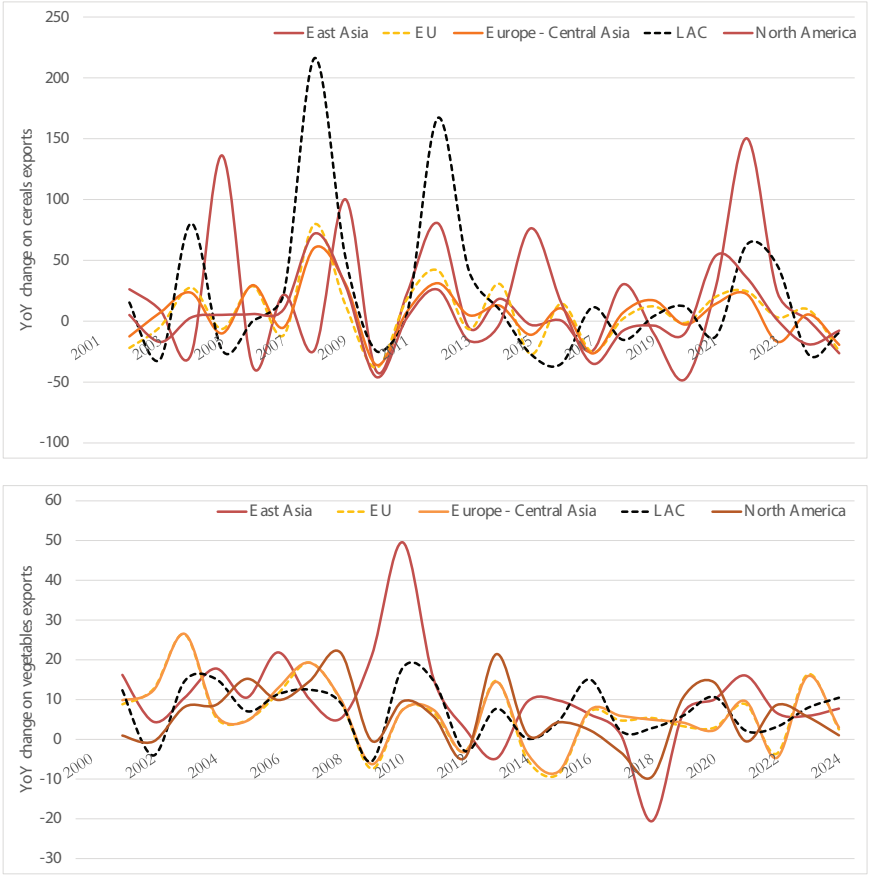
Counter-seasonality constitutes an additional, and often underappreciated, dimension of LAC's comparative advantage. Production cycles that differ from those of Northern Hemisphere exporters enable the region to supply international markets during periods when alternative sources are constrained. During the boreal winter (roughly November to March), when domestic production in the US, the European Union, and other temperate economies declines sharply, LAC exporters sustain the availability of fresh produce such as blueberries, table grapes, cherries, citrus, mangoes, avocados, apples, pears, asparagus, tomatoes, and green beans. Countries like Chile, Peru, Mexico, Argentina, Colombia, and Ecuador have developed sophisticated production, cold-chain, and logistics systems that allow them to fill seasonal supply gaps with high-quality, standards-compliant products.

This counter-seasonal dynamic has broader systemic implications. By smoothing seasonal fluctuations in supply, LAC contributes to reducing price volatility and mitigating the risk of synchronized production shocks in global markets. The region's agroecological diversity and Southern Hemisphere production cycles enhance resilience in international food systems, reinforcing LAC's role not merely as a large exporter, but as a stabilizing actor in global food availability during periods of climatic stress or geopolitical disruption.

## LAC as a relevant supplier in international food markets

Taken together, scale, diversification, and counter-seasonality position LAC as a stabilizing supplier in global agri-food markets. Empirically, the region has maintained positive net export positions across a broad set of food categories, even during episodes of heightened global uncertainty. Compared with other major exporting regions, LAC's export performance has exhibited relatively lower volatility over time, reflecting both production resilience and diversified trade linkages (Ruiz-Arraz et al 2023, Machado Parente and Moreau, 2024). In Figure 1, the year-over-year (YoY) changes in exports of cereals (excluding rice, maize, and wheat) and vegetables for LAC and other regions are shown. It can be observed that LAC's growth rate declines starting in 2010.

**Figure 1. % Year-over-year change in cereals (a) and vegetables (b) exports in LAC versus other regions**




*Source: Authors' calculations based on Comtrade data*

This stabilizing role has important systemic implications. In periods of global stress—such as food price spikes, supply chain disruptions, or climate or conflict shocks—the availability of large and relatively reliable export surpluses from LAC helps contain sudden changes in international markets. While the region is not immune to shocks, its aggregate capacity to sustain exports contributes to dampening global supply fluctuations.

From a policy perspective, recognizing LAC as a relevant exporter in global agri-food markets highlights the strategic importance of preserving open, trans-

parent, and predictable trade channels. The region's scale and export specialization in staple commodities position it among the core suppliers that materially shape international availability and price dynamics. These contributions—measured in volumes, calories, and proteins traded—constitute a system-relevant input into global food security. However, their effectiveness depends on a trade environment that facilitates continuous cross-border flows. When export restrictions proliferate or market access conditions become uncertain, the capacity of major net exporters such as LAC to fulfill their role as reliable suppliers is diminished, with adverse consequences for importing countries and for the overall affordability and security of food at the global level.

# Climate resilience and sustainable production capacity

## Climate-smart agriculture, innovation, and productivity–sustainability trade-offs

Rising temperatures, increased frequency of extreme weather events, and shifting precipitation patterns have heightened output volatility and amplified risks along agri-food supply chains (IPCC, 2019). For LAC, these pressures are particularly salient given the region's exposure to climate variability and its central role as a major food-exporting region.

In response, the expansion of climate-smart agricultural practices and innovation has become a critical component of sustaining production capacity. Across LAC, productivity gains increasingly depend on technologies and practices that enhance resilience, such as improved crop varieties, better soil and water management, digital agriculture, and more efficient livestock systems (Table 1). Table 1 shows that long-term yield growth rates for major crops in LAC have been sustained and broadly comparable to those observed in other key producing regions, supporting the region's role as a dynamic rather than static contributor to global food supply. These innovations seek to reconcile productivity growth with environmental sustainability, addressing what are often framed as productivity–sustainability trade-offs.

**Table 1. Annual yield growth rates for rice, soybeans, and maize. LAC, North America and rest of the World**

| | Rice | | | Soybean | | | Maize | | |
|---|---|---|---|---|---|---|---|---|---|
| | LAC | North America | ROW* | LAC | North America | ROW* | LAC | North America | ROW* |
| 1960-1970 | 1.28 | 3.08 | 1.47 | 0.35 | 0.59 | 3.51 | 1.02 | 1.51 | 2.92 |
| 1970-1980 | 2.86 | -0.45 | 0.59 | 3.66 | -0.04 | 2.66 | 0.81 | 2.27 | 3.10 |
| 1980-1990 | 1.24 | 2.28 | 1.34 | 0.94 | 2.53 | 2.73 | 0.16 | 2.65 | 1.10 |
| 1990-2000 | 1.84 | 1.28 | 1.28 | 2.42 | 1.09 | 1.45 | 4.01 | 1.38 | 1.21 |
| 2000-2010 | 1.31 | 0.69 | 0.83 | 1.94 | 1.34 | 1.32 | 2.88 | 1.20 | 2.13 |
| 2010-2024 | 1.79 | 1.02 | 0.51 | 4.85 | 1.09 | 0.22 | 1.20 | 1.14 | 0.73 |

*Note: * ROW refers to the average annual yield growth rates for the rest of the world.*
*Source: Authors' calculations based on FAOSTAT.*

Importantly, resilience-oriented investments are not merely adaptive responses to climate risk; they are integral to maintaining LAC's comparative advantage in global food markets. As climate pressures intensify, regions unable to adapt face declining yields and higher volatility, undermining their reliability as suppliers. In contrast, the adoption of climate-smart practices strengthens the capacity of LAC producers to sustain output over time, reinforcing their role in global food availability.

## Production resilience and export stability over time

A key dimension of LAC's contribution to global food security lies not only in its scale of production, but in the relative resilience and stability of its agricultural output and exports over time. Historical patterns indicate that, despite recurrent climate and external shocks, agricultural production in LAC has demonstrated sustained adaptive capacity, supported by agroecological diversity and heterogeneous production systems.

Export performance has also displayed comparatively moderate variability, reinforcing the region's role as a stabilizing supplier in global food markets. Ev-

idence suggests that LAC's agricultural exports have contributed to cushioning international supply disruptions during periods of stress (Piñeiro, 2023). Moreover, agricultural export flows in parts of the region have exhibited relatively lower volatility compared to other export categories, indicating a degree of structural stability within broader trade dynamics (Ruiz-Arranz et al., 2023).

From a global food security perspective, the relationship between production resilience and export stability is particularly relevant. Export volatility can transmit domestic shocks to international markets, exacerbating price spikes and uncertainty. Conversely, stable export performance helps dampen global fluctuations and supports predictable access for importing countries (Bouët and Laborde Debucquet, 2017).

This dynamic could become increasingly salient as climate-related shocks continue to intersect with geopolitical disruptions and deeper trade fragmentation. In such a context, regions capable of sustaining export volumes under adverse conditions may assume greater relevance in global food markets. In the case of LAC, sustained investments in productivity, logistics, and climate resilience have the potential not only to strengthen domestic production systems but also to enhance the region's capacity to remain a consistent and large-scale exporter. If consolidated and supported by predictable trade frameworks, these investments could generate positive cross-border spillovers by helping to maintain supply flows to international markets and reinforcing LAC's role as a major participant in global agri-food trade.

## Resilient production systems and global food availability

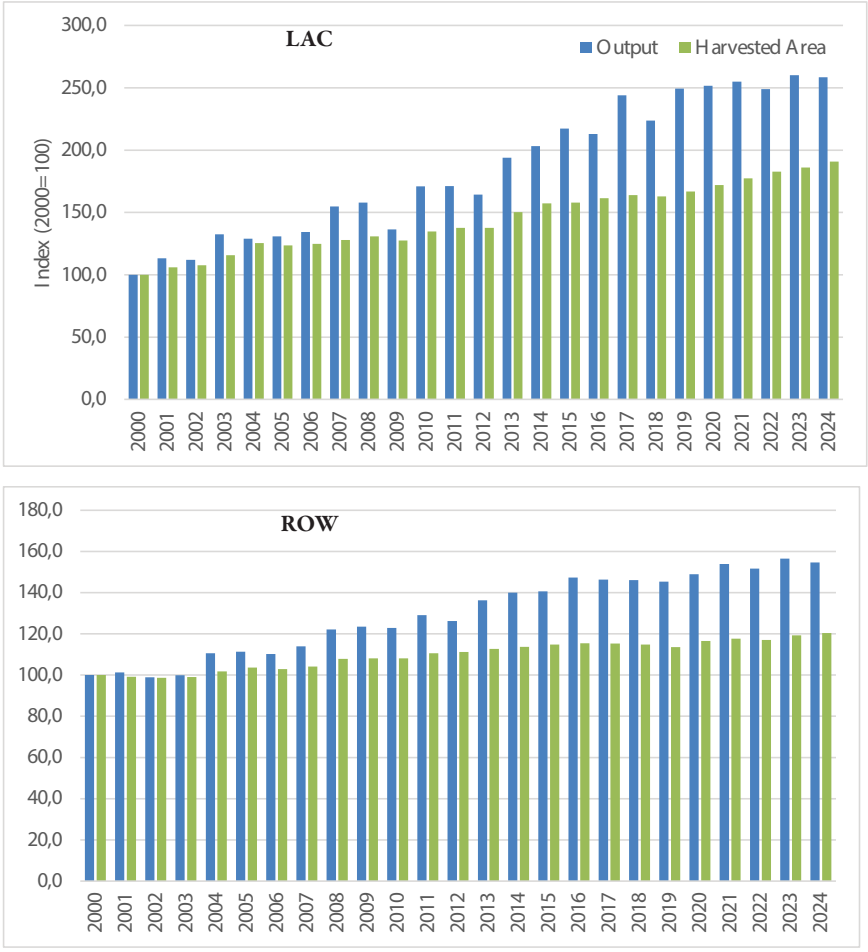
Resilient production systems in LAC contribute to global food security not only through availability and supply continuity, but also through their implications for food affordability at the international level. Agroecological diversity across subregions—ranging from temperate Southern Cone systems to tropical production structures in Central America and the Caribbean—reduces the probability of synchronized, region-wide production shocks (Ray, 2015). This spatial diversification, combined with counter-seasonal complementarities vis-à-vis Northern Hemisphere producers, expands effective global supply throughout the calendar year. By mitigating extreme price fluctuations and easing supply constraints during tight market conditions, these structural features enhance purchasing power in net food-importing countries and support the affordability dimension of food security, particularly for vulnerable populations exposed to international price volatility.

Beyond agroecological heterogeneity, structural features of Mercosur's production model further reinforce resilience and global food availability. LAC remains the world's largest net food-exporting region, playing a central role in stabilizing global supplies and reducing price volatility. Baseline projections indicate that future production growth in the ABPU countries is expected to rely primarily on efficiency gains, technological adoption, and the recovery of degraded lands rather than extensive cropland expansion. This productivity-led trajectory strengthens adaptive capacity under climate stress while preserving long-term supply potential. Moreover, the differentiated production structure across member countries—combining oilseeds, cereals, meats, and bioenergy—reduces systemic concentration risks and enhances aggregate supply continuity within global markets (Jorge et al, 2025).

Moreover, resilience-enhancing strategies increasingly intersect with sustainability objectives. Practices aimed at improving soil health, water efficiency, and biodiversity can reduce vulnerability to climate shocks while supporting long-term productivity. In this sense, sustainability and resilience should be viewed as mutually reinforcing rather than competing objectives. For global food security, the implication is clear: resilient and sustainable production systems are essential to ensuring reliable export surpluses over time.

LAC's experience highlights the importance of aligning innovation, sustainability, and resilience within a broader trade and governance framework that supports open and predictable markets (Salazar et al, 2025). Figure 2 illustrates that production growth in LAC has increasingly outpaced the expansion of harvested area, indicating a pattern of productivity-led growth consistent with adaptation under climate stress.

**Figure 2. Output and harvested area index (2000=100) of LAC and the rest of the World**




*Notes: Indexes were calculated the sum of output and harvested area of for soybeans, maize, and rice from LAC versus Rest of the World (ROW).*
*Source: Authors' calculations based on FAOSTAT data*

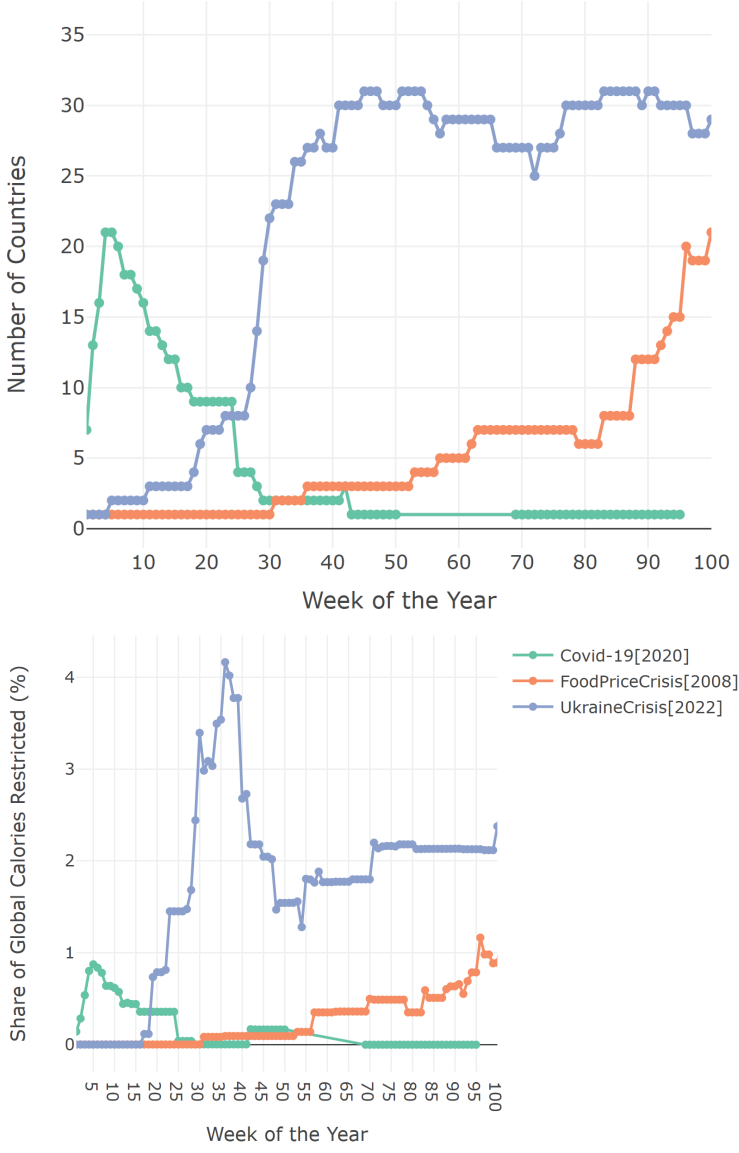
# Multilateral cooperation and global supply stability

## Trade rules as a buffer against volatility and unilateralism

The stability of global food supply depends not only on productive capacity but also on the rules and institutions that govern international trade. In recent years, episodes of heightened price volatility and supply disruptions have highlighted the critical role of trade rules as a buffer against unilateral policy responses. Export restrictions, ad hoc licensing requirements, and other trade-distortive measures have repeatedly amplified uncertainty in global food markets, often exacerbating the very crises they seek to address (Koizumi, Furuhashi, and Sakuyama, 2025).

For major net exporting regions such as LAC, the proliferation of unilateral measures represents a systemic risk. While short-term interventions may aim to protect domestic markets, their cumulative effect is to fragment global supply chains and undermine trust among trading partners. From a food security perspective, such fragmentation disproportionately affects import-dependent countries, increasing exposure to scarcity and price spikes. Figure 3 documents the repeated use of export restrictions and other trade-distortive measures during periods of global stress, underscoring how policy responses have amplified uncertainty rather than mitigated it.

**Figure 3. Time profile and period of implementation of export restrictions during the recent crisis**




*Source: Export restriction tracker. Laborde, Abdullah & Marie (2020) from WTO data.*

Multilateral disciplines are designed precisely to mitigate these risks. Transparency obligations, notification requirements, and agreed constraints on

trade-distortive measures help reduce uncertainty and facilitate coordination among countries. In this context, the role of the WTO is fundamental, as it provides the institutional framework where these disciplines are negotiated, monitored, and enforced. Through its rules, committees, and dispute-settlement mechanisms, the WTO underpins predictability and trust in the trading system. When effectively implemented, these rules contribute to smoother market functioning and reinforce the reliability of cross-border food supply.

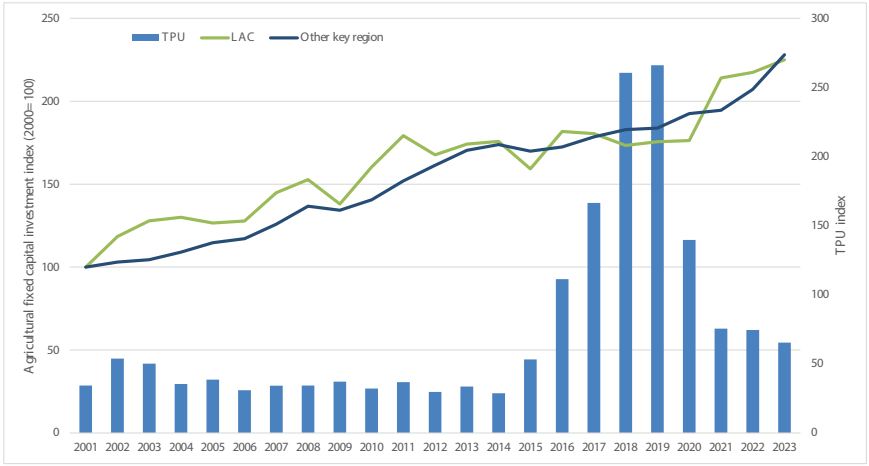
## Predictable market access and incentives for investment

Predictable market access is a central determinant of investment decisions in agriculture and agri-food value chains. Producers and exporters are more likely to invest in productivity, sustainability, and resilience when they can rely on stable access to international markets. Conversely, policy uncertainty—whether stemming from tariffs, non-tariff measures, or discretionary export controls—raises risk premiums and discourages long-term investment.

For LAC, the credibility of multilateral trade disciplines directly conditions its ability to sustain export-oriented growth, particularly in staple commodities where scale is decisive. The region's comparative advantage in crops such as maize, soybeans, wheat, rice, and basic animal proteins rests on large-scale production systems supported by substantial sunk investments in land development, logistics corridors, storage capacity, and technology. In staple markets, efficiency gains are intrinsically linked to scale economies, long planning horizons, and stable external demand. An international environment that rewards productivity and integration—rather than episodic recourse to self-sufficiency or ad hoc trade restrictions—is therefore essential. Predictable and enforceable rules reduce the risk that domestic shocks or external crises translate into abrupt trade disruptions in staple flows, preserving incentives to maintain and expand productive capacity in globally traded food essentials.

This link between market access and investment has broader implications for global food security. When major exporting regions face reduced incentives to invest, future supply growth may be constrained, increasing vulnerability to shocks. Strengthening multilateral disciplines, therefore, supports not only current trade flows but also the long-term expansion of global food supply. Figure 4 shows that episodes of heightened trade policy uncertainty coincide with periods of slower growth or temporary flattening in agricultural fixed capital investment, consistent with higher risk premiums and delayed long-term investment decisions.

**Figure 4. Agricultural investment dynamics and trade policy uncertainty in LAC versus other regions**




*Notes: LAC and Other key region Agricultural Fixed capital investment are shown as indexes (2000=100). The Trade Policy Uncertainty (TPU) index is shown on the right-hand axis and scaled so that 100 indicates that 1% of news articles reference trade policy uncertainty. For more methodological details see Caldara, Matteo Iacoviello, Molligo and Andrea (2019).*
*Source: Authors' calculations based on WTO data and Caldara, Matteo Iacoviello, Molligo and Andrea (2019) from FED*

## Transparency, cooperation, and global supply continuity

Transparency and cooperation mechanisms are increasingly central to managing food security risks in a fragmented global environment. Timely information on production conditions, trade measures, and stock levels allows markets and policymakers to anticipate disruptions and adjust responses accordingly. In this regard, the work of the Agricultural Market Information System[21] (AMIS), coordinated by FAO in collaboration with other international organizations, is particularly important, as it enhances transparency, improves data quality, and provides a shared analytical platform that helps reduce uncertainty and prevent overreactions in global food markets. In the absence of such information, uncertainty can trigger precautionary behavior, including hoarding and restrictive trade measures, which further destabilize markets.

LAC has a clear interest in reinforcing transparency frameworks within the multilateral system. As a reliable exporter, the region benefits from signaling

21 https://www.amis-outlook.org/home

supply availability and policy predictability to international markets. Enhanced notification and information-sharing mechanisms can help distinguish between genuine supply shortages and policy-induced disruptions, reducing the likelihood of contagion effects across markets.

Cooperation mechanisms also play a preventive role. Platforms for dialogue and coordination among exporting and importing countries can mitigate the escalation of trade restrictions during crises. For LAC, active engagement in these mechanisms reinforces its image as a responsible supplier and strengthens its credibility in global food governance debates.

# LAC and WTO reform: Food security as a strategic entry point

## Food security and development as converging agendas

Food security has long occupied a prominent place on the global policy agenda, but it has re-emerged with renewed urgency in economic governance debates, increasingly intertwined with development objectives, and the affordability of healthy diets. Rather than constituting separate policy domains, these agendas now converge around shared challenges: maintaining supply stability, strengthening resilience to shocks, ensuring that food remains economically accessible, and addressing the rising cost barriers that prevent millions from affording nutritious diets. This convergence carries important implications for the reform of the multilateral trading system, where traditional debates on market access and subsidies must increasingly be complemented by disciplines and cooperation mechanisms that support sustainability, resilience, price transmission stability, and the affordability dimension of food security.

For LAC, this is a strategic opportunity. As a major net food-exporting region with relatively resilient production systems, LAC is well positioned to frame food security not as a defensive issue, but as a shared global objective that depends on predictable trade rules. By emphasizing the link between open markets, investment incentives, and long-term supply expansion, the region can contribute constructively to reform discussions that seek to reconcile trade liberalization with climate and development goals.

Importantly, positioning food security through trade at the center of reform debates enables LAC to move beyond polarized narratives that put exporters

against importers and to reframe the discussion around shared vulnerabilities, mutual dependence, and collective gains from a more predictable and resilient trading system. In this sense, food security provides a unifying framework through which diverse interests can be aligned around the stability and credibility of the rules-based system

## LAC's role as a coalition-builder in multilateral reform debates

Historically, LAC's participation in multilateral trade negotiations has been characterized by a mix of coordination and fragmentation. While the region has at times articulated common positions—particularly on agricultural market access and domestic support—divergent national priorities have often limited sustained collective action. In the current context, however, food security offers a pragmatic basis for coalition-building that cuts across traditional negotiating blocs (Freund, 2021).

As both a supplier of global public goods in the form of stable food exports and a region with development concerns, LAC could act as a bridge between exporting and importing countries, as well as between advanced and developing economies. This intermediary role is particularly relevant in discussions on export restrictions, transparency, and emergency response mechanisms, where interests often overlap despite differing economic structures.

Effective coalition-building does not require full regional alignment on all issues. Rather, it involves identifying specific reform areas where shared interests are sufficiently strong to support coordinated engagement. By prioritizing food security–related disciplines, LAC can enhance its influence within reform processes and contribute to outcomes that reinforce both global resilience and its own strategic interests.

## Advancing plurilateral and multilateral solutions consistent with development needs

Given the complexity of current negotiations, reform of the multilateral trading system is likely to proceed through a combination of plurilateral initiatives and broader multilateral disciplines. For LAC, proactive and coordinated engagement in both tracks is critical—not only to ensure that emerging rules adequately reflect development priorities and productive realities, but also to

safeguard the coherence, inclusiveness, and long-term credibility of the multilateral system.

Food security provides a natural entry point for such engagement. Plurilateral efforts aimed at enhancing transparency, limiting the use of export restrictions, or improving information-sharing during crises can generate tangible benefits even in the absence of comprehensive multilateral agreements. At the same time, anchoring these initiatives within the broader framework of the WTO helps avoid fragmentation and preserves the inclusiveness of the system.

From a development perspective, it is critical that reform efforts recognize asymmetries in capacity and exposure to shocks. LAC's engagement can help ensure that new disciplines balance predictability with policy space, particularly for developing countries facing food security vulnerabilities. By advocating solutions that are both credible and flexible, the region can support a reform agenda that strengthens the system without undermining legitimate development objectives.

## Conclusions and policy implications

LAC has an important role in the global food system at a time of heightened uncertainty and systemic stress. As one of the world's main net exporters of agrifood products, the region plays a critical role in sustaining global food availability through its scale, diversification, and capacity to supply international markets on a reliable basis. These structural characteristics, reinforced by investments in productivity and climate resilience, position LAC as a stabilizing supplier in an increasingly volatile global environment.

The analysis in this chapter underscores that LAC's contribution to global food security cannot be understood solely in terms of production capacity. Rather, it is intrinsically linked to the functioning of the multilateral trading system. Predictable market access, transparency, and effective disciplines on trade-distortive measures are essential to ensure that productive potential translates into stable cross-border supply. Episodes of unilateral trade interventions and export restrictions have demonstrated how quickly the erosion of multilateral cooperation can amplify volatility and undermine food security outcomes, particularly for import-dependent countries.

From a forward-looking perspective, food security offers a pragmatic and unifying entry point for advancing reform of the WTO. The growing conver-

gence between food security and development agendas creates opportunities to reframe trade governance debates around shared systemic objectives rather than zero-sum outcomes. In this context, LAC is well-positioned to contribute constructively to reform discussions by leveraging its experience as a reliable food supplier and its interest in preserving a rules-based system.

Several policy implications emerge from this analysis. First, reinforcing multilateral disciplines related to transparency and export restrictions should be a priority, given their direct impact on global supply stability and investment incentives. Second, trade policy frameworks should recognize the role of resilient and sustainable production systems in supporting long-term food security, ensuring coherence between climate action and trade rules. Third, greater coordination among LAC countries—focused on specific, food security–related reform areas—can enhance the region's influence in multilateral negotiations without requiring full alignment on all trade issues.

Ultimately, strengthening the contribution of LAC to global food security requires aligning domestic investment in productive and resilient agriculture with an international environment that supports open, predictable, and cooperative trade relations. By engaging proactively in multilateral reform efforts and positioningx food security at the center of trade governance debates, LAC can help reinforce the credibility of the multilateral system while advancing its own development and export objectives in an increasingly fragmented world.

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# Chapter 2.3
# Innovation, Sustainability and the new Frontier of Competitiveness in the Agrifood Sector

Sabine Papendieck, Federico Villarreal and Pablo Elverdin

## Introduction

The global agricultural trade landscape is experiencing a structural transition. The longstanding emphasis on volume and price is increasingly being complemented—and in some cases replaced—by value-based considerations, whereby production processes - "how" products are produced- carry weight comparable to production outputs - "what" product is produced. This evolution reflects the growing integration of sustainability, traceability, and environmental performance criteria into global value chains and market access conditions (World Bank, 2024; OECD, 2023). For Latin America and the Caribbean (LAC), a major contributor to global net agrifood exports, this shift represents both a challenge and an opportunity to consolidate its role as a sustainable food supplier (OECD-FAO, 2024).

Although sustainability challenges demand collective global solutions, the increasing inclusion of sustainability provisions in bilateral trade agreements and the proliferation of unilateral measures are reshaping trade governance (WTO, 2023). Justified on the grounds of preventing "social and environmental leakage," these measures are distorting international trade flows and disproportionately affecting certain sectors and countries (UNCTAD, 2023). Although presented as environmentally motivated, the measure may inadvertently introduce trade distortions, suggesting the possibility that environmental objectives are intertwined with implicit protectionist effects (Böhringer et al., 2022).

In this scenario, LAC countries face a dual imperative: to ensure that emerging sustainability measures remain grounded in science, transparency, non-discrimination, fairness, and proportionality under the WTO and United Nations

Framework Convention on Climate Change (UNFCCC) principles, while simultaneously accelerating domestic investments and innovation to strengthen climate mitigation and showcase the sustainability attributes of regional agrifood systems.

In the lead-up to the MC14, the intersection of trade, innovation, and sustainability was increasingly shaping global competitiveness. This chapter examines how LAC can leverage its natural capital and technological capabilities to lead this transition. It also underscores the role of the multilateral system in effectively regulating the issue, thereby promoting positive outcomes for both trade and the environment.

## Sustainability as a differentiating factor of competitiveness

Sustainability regulations and due diligence requirements are playing an increasing role in international trade (Weber et al, 2025; IMF et al, 2024). However, there remains no clear consensus on the optimal combination of policies and instruments required to enable an effective and equitable climate transition within the framework of sustainable development (Weber et al, 2025; IMF et al, 2024; Pienknagura, 2024).

In any case, sustainability is no longer an external consideration to trade, it has become a central determinant of market access and competitive positioning, compelling both economic sectors and governments to accelerate innovation and institutional adaptation (IMF et al, 2024; Lumempouw, 2024; Bellelli and Xiu, 2022).

Over the past decades, companies have increasingly integrated sustainability considerations into their strategic decision-making, recognizing them as a key source of competitive advantage in accessing and expanding into new markets. Initially, these strategies—mostly voluntary in nature—emerged primarily to respond to market positioning objectives and to demands from new consumers and other actors across global value chains (Lumempouw, 2024; Pienknagura, 2024). However, the emergence of mandatory frameworks, encompassing multiple dimensions of sustainability, most notably the European Renewable Energy Directive (EU RED)[22] or the European Union Deforestation Regula-

22 Regulation (CE) 2009/28

tion (EUDR),[23] marks a shift from voluntary standards toward hard binding regulatory requirements (Papendieck and Elverdin, 2025; Evenett et al, 2024).

The urgency of responding to sustainability concerns is prompting governments to adopt increasingly unilateral and sector-specific policy approaches in recent years. Over 71% of government "reindustrialization" measures taken in 2023 were linked to import restrictions, potentially affecting up to 22% of global trade.

While these measures potentially incentivize firms to enhance innovation as a means of maintaining market competitiveness, it must be ensured that they comply with WTO standards and do not function as hidden barriers to trade.

## The crossroad of the "mirror effect"

Between 2009 and 2020, more than 5,500 climate-related measures were reported to the WTO. Half of these were regulatory (non-tariff) measures, affecting 26% of global trade (IMF et al, 2024). In these evolving global trade landscape, a "mirror effect" is emerging as sustainability standards set by importing economies increasingly influence domestic regulation and production practices in exporting countries (Weber et al, 2025; Ramos et al, 2024).

While these external demands can enhance sustainability performance, they also entail significant risks of exclusion, particularly for producers and countries facing financial, technological, or institutional constraints (Papendieck and Elverdin, 2025; IMF et al, 2024; Lumempouw, 2024). Limited transparency and insufficient adaptation to the realities of exporting countries, may generate asymmetric compliance costs, reducing income and competitiveness in exporting economies, reinforcing existing inequalities or creating unintended barriers to participation in global value chains (World Bank, 2025; IMF et al, 2024).

While these sustainability measures are justified as attempts to prevent potential leakage, their design and implementation may conflict with the principle of common but differentiated responsibilities of the Paris Agreement. In the absence of complementary support mechanisms, such measures risk increasing exclusion and market concentration, thereby constraining the development prospects of relatively less developed regions (IMF et al, 2024; WTO, 2022). These measures are proliferating rapidly, even though empirical evidence of their effectiveness in preventing carbon leakage is limited (IMF et al, 2024).

23 Regulation (EU) 2023/1115

Competitiveness is increasingly shaped by the social and environmental footprint of traded goods. For agri-food systems in LAC, this implies strengthening the quantification of environmental impacts through robust scientific evidence and harmonized metrics, while simultaneously increasing innovation and adopting mitigation strategies.

As a result, trade dynamics are shifting from a "race to the bottom" focused mostly on cost toward a "race to the top", where sustainability functions as reputational capital. Producers who can scientifically demonstrate environmental performance -such carbon sequestration, zero deforestation, biodiversity conservation, etc.- are better positioned to access high-value markets and reduce exposure to price volatility.

## Promoting innovation to enhance the value of differentiated sustainable attributes of agri-food production and trade

Innovation constitutes a central driver for enhancing the economic value of differentiated sustainability attributes. In this context, innovation encompasses not only technological change—farm-level practices, logistics, MRV systems–but also organizational and institutional innovation—data governance, interoperability rules, and public–private coordination. This transformation entails a transition toward nature-positive production systems that leverage digital technologies, data analytics, and biotechnology to optimize resource efficiency and reduce environmental externalities (OECD, 2023).

Environmental regulations (such as the EUDR) can trigger 'innovation offsets' that improve production efficiency and product quality. For LAC, these measures act as a catalyst, forcing the transition from commodity-based competition to one based on dynamic capabilities and high-value sustainable attributes. While sustainability regulations may entail significant risks of market exclusion and concentration, compliance can stimulate innovation processes, encouraging firms to upgrade production systems and adopt more efficient technologies (Bellelli and Xiu, 2022).

However, adaptive capacity remains uneven across countries and firms. Access to financing, technological infrastructure, and technical capabilities (largely shaped by national economic conditions and institutional environments) strongly influence the ability to respond to sustainability-driven trade require-

ments (IMF et al., 2024; World Bank, 2023). Organizational capabilities and firms' dynamic capabilities also play a decisive role in shaping innovation readiness and absorptive capacity (Teece, 2007).

More broadly, innovation tends to concentrate in sectors closely linked to export performance, particularly those deeply integrated into global value chains (GVCs), where knowledge spillovers and competitive pressures are stronger (Bellelli and Xiu, 2022; OECD, 2021). Nevertheless, trade restrictions imposed by third countries may generate heterogeneous sectoral effects: they can stimulate domestic innovation when affecting upstream segments of the value chain but may hinder competitiveness and innovation when constraints emerge in downstream, market-facing activities (Bellelli and Xiu, 2022).

## Enhancing sustainability performance in LAC

Innovation in LAC has increasingly moved beyond a traditional focus on yield maximization toward systemic transformations aimed at improving both productivity and environmental performance. Empirical evidence from the region suggests that conservation and regenerative practices (such as no-till farming and silvopastoral systems) can enhance soil carbon stocks, improve water retention, and stabilize yields under climate variability while maintaining competitive production levels and economic performance (FAO and IICA, 2022).

At the same time, the diffusion of precision agriculture technologies, including Internet of Things (IoT) applications and satellite-based monitoring systems, is enabling producers to optimize input use through data-driven decision-making, reducing the application of agrochemicals and lowering both environmental impacts and operational costs (World Bank, 2023). Furthermore, a critical pillar of this innovation is the region's leadership in biotechnology, particularly in gene editing (CRISPR).[24]

These technologies allow for the development of crops with enhanced nitrogen-use efficiency and drought resistance, directly contributing to the reduction of the carbon footprint per unit produced without compromising yields. Together, these innovations illustrate a shift toward knowledge-intensive production models in which sustainability and efficiency become mutually reinforcing drivers of competitiveness within global agrifood markets.

24 Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) is a high-precision gene-editing technology that allows for the modification of specific plant genes to improve agronomic characteristics without necessarily introducing DNA from other species. This is why it is often distinguished from traditional genetically modified organisms (GMOs).

From a public policy perspective, these innovations signal a structural transformation in which technology adoption functions not merely as an efficiency tool but as an institutional lever to align agricultural competitiveness with land-use governance and environmental sustainability objectives.

## Intangible public goods at the service of innovation

An advantage for several LAC countries is the existence of intangible public goods, institutional frameworks, and data systems originally created for other purposes that can now be repurposed for sustainability compliance.

### Repurposing existing systems

Systems designed for animal health, fiscal control, forest monitoring, or land tenure are being transformed into tools for environmental traceability and due diligence statements. LAC countries have extensive experience in implementing public monitoring, supervision, and control mechanisms at various stages of agri-food chains, which constitute a particularly relevant inherited asset in the current context. Georeferenced rural land registries, sanitary traceability systems, and goods transit documents can be integrated to provide high-granularity geolocation tracking data, enabling product tracking throughout the supply chain at a fraction of the cost required to build new systems from scratch.

There are numerous concrete examples of public goods in the region that can be leveraged for the implementation of comprehensive traceability systems. In the case of Argentina, for example, the possibility of linking the National Sanitary Registry of Agricultural Producers (RENSPA)[25] number with the Unique Livestock Identification Code (CUIG)[26] and the Electronic Transit Document (DT-e)[27] allows for guaranteeing individual, georeferenced, and segregated traceability from the birth of the bovine to the products derived from its slaughter.

These documents are commonly used and mandatory in production and commercial operations, including for transactions within the domestic market. RENSPA is a registry where producers must upload their farms with their georeferenced polygons. The CUIG, for its part, is the mandatory individual

25 See https://www.argentina.gob.ar/senasa/micrositios/renspa

26 See https://www.argentina.gob.ar/senasa/programas-sanitarios/cadenaanimal/bovinos-y-bubalinos/bovinos-y-bubalinos-produccion-primaria/registros-y-habilitaciones/bovinos-y-bubalinos-produccion-primaria/identificacion-animal

27 See https://www.argentina.gob.ar/senasa/micrositios/dte

identification that each animal must carry permanently, forming the basis of the national bovine health system. Finally, the DT-e is the document that records all animal movements outside the establishment. During the DT-e application process, all transported animals must be identified with their corresponding CUIG.

With different elements and scopes, this type of example can be replicated for different sectors in many of the countries of the region (Olmos Soto and Palomo, 2025; Papendieck and Elverdin, 2025).

The use of these public goods reduces the compliance tax on producers. When the state provides the underlying data infrastructure, the private sector can focus on innovation rather than bureaucracy, leading to an improvement in the sector's systemic competitiveness.

### The role of digitalization and interoperability

The future of trade lies in the "interoperability" of data. This not only implies ensuring that a digital certificate issued by a local official agency is recognized by an importing customs authority but also requires that the supporting information used to issue the certificate be available for processing and analysis by the importer and/or the competent authority at the destination. Interoperability should be understood across three complementary layers: (i) technical interoperability (secure data exchange through APIs, common data formats, and digital identities); (ii) semantic interoperability (shared definitions, taxonomies, and sustainability metrics so that the same variable means the same thing across jurisdictions); and (iii) institutional interoperability (mutual recognition arrangements, governance protocols, and auditability that make data exchange legally and procedurally usable).

Centralized, digital platforms are essential to democratize access to information, allowing even small and mid-sized producers and exporters to compete on the global stage. However, digitalization alone is insufficient without metric standardization. LAC should pursue an equivalence-based pathway for the international recognition of national metrics, combining transparent methodological baselines (e.g., life-cycle assessment and MRV protocols), interoperability-ready registries, and cooperative verification mechanisms. This would prevent a 'spaghetti bowl' of conflicting environmental standards and ensure that local digital certificates are accepted globally as valid proof of sustainability.

In practice, these platforms function as sectoral digital public infrastructure (DPI) for trade and sustainability—publicly governed systems that lower transaction costs, reduce duplication, and enable private innovation on top of shared rails (identity, registries, verification, and secure data exchange). To be credible, interoperability also requires robust MRV pipelines and data integrity safeguards: versioned geospatial registries; audit trails; tamper-evident records; and cybersecurity-by-design. Without these elements, digital certificates risk becoming 'paperless paperwork'—easy to issue but weak as evidence in due diligence disputes.

The case of Uruguay's Environmental Value-Added System for Agricultural Production platform (SVAAPAG) is a concrete and highly valuable example in this regard.[28] Initially created to meet the requirements of the EUDR, this platform is designed as a broader strategy for adding value to the attributes of the country's agri-food production. With its creation, the Uruguayan government has centralized and made available to producers various public certificates that guarantee complete traceability and segregation, from farm to ship, throughout the beef value chain. These certificates can be submitted electronically by producers to exporters or other downstream actors in the value chain to verify the absence of illegal deforestation or to confirm compliance with additional production requirements, such as legal, tax, and labor compliance.

Beyond the Uruguay-specific context, three design principles are transferable: (i) modular architecture that integrates existing registries rather than replacing them; (ii) role-based access and API connectivity so downstream actors can verify claims without over-collecting sensitive data; and (iii) end-to-end traceability logic ('farm-to-ship') aligned with due diligence workflows.

Faced with a growing demand for traceability and the mitigation of legal, environmental, and social risks through due diligence schemes, facilitating access for producers and stakeholders in the value chain to relevant digital, free, and centralized records, certificates, and other public documents becomes a fundamental element for minimizing exclusion and increasing the competitiveness of agri-food systems.

Given that many of the public goods that can be useful for demonstrating compliance with export market requirements are dispersed across different government bodies, progress in this area requires a public-private governance model specifically designed to the particularities of each country, but it must have

28 See https://www.inac.uy/innovaportal/file/26975/1/eudr---uruguay-solution---paris.102024.pdf

clear leadership and a mandate to avoid overlapping and incomplete solutions. The EUDR requirements generated numerous responses and examples to consider. In any case, even in purely private initiatives to demonstrate production conformity, the use of public registries has facilitated and reduced implementation costs (Papendieck and Elverdin, 2025). Therefore, working with the private sector, identifying potential public goods that could be useful in ensuring compliance with requirements, and facilitating access to these resources digitally and remotely becomes a priority.

## Regional challenges: the risk of exclusion

Despite the potential, the sustainability agenda carries a significant risk of marginalizing large segments of the agri-food value chains in LAC region, especially small and informal producers.

- The Digital and Knowledge Divide: While large agro-industrial complexes can easily adopt satellite tracking, smallholders and others small actors in the value chain often lack the connectivity, financial capacity to make technological investment or lack the technical training to meet complex georeferencing requirements.
- Informality and Land Tenure: In many parts of LAC, unclear land titles make it difficult for producers to "prove" legal production according to international standards. Although not all external regulations require a land title to demonstrate the legality of production (as is the case with the EUDR), proving the legal use of land is not always easy.
- Supralegality: The scope of many due diligence requirements for sustainable supply chains far exceeds the legal requirements in the countries of origin. However, governments and the private sector in LAC must work to demonstrate legality in a simplified manner, limited to the material scope of external regulations and based on readily available and easily accessible documentation. Claiming overcompliance will increase compliance costs, undermine sectoral competitiveness, and raise the risk of exclusion (Papendieck and Elverdin, 2026).
- The Threat of Trade Diversion: If compliance costs become too high, buyers may shift their sourcing to large-scale producers, effectively de-linking smallholders from global value chains and potentially pushing them toward more unsustainable activities. To address this, policy must focus on the provision of traceability and relevant digital documentation for compliance with due diligence requirements as a universal public service. By ensuring that smallholders can access govern-

ment-led digital platforms for free or at a low cost, the region can avoid trade diversion and ensure that sustainability leads to inclusive growth.

## Harmonizing attributes and generating incentives for fairer sustainable trade: the role of the WTO

There is no doubt that current production and consumption patterns contribute to environmental degradation. In this context, promoting the transition to more sustainable production and consumption systems requires global coordination. Unilateral climate transition policies could lead to tariff races, technical requirements, and increased protectionism (Weber et al., 2025; IMF et al., 2024; Evenett et al., 2024). A lack of cooperation could create perverse incentives, leading to the relocation of production and distortions in trade flows, without resulting in a real improvement in the sustainability indicators of traded goods (Enssle et al., 2025; Weber et al., 2025).

In the context of global fragmentation, such as the one we are experiencing, incentives for cooperation are reduced. However, it is necessary to prevent the pursuit of sustainability from becoming a pretext for "green protectionism". The multilateral trading system must provide a framework for achieving harmonization. To the constant increase in sustainability regulations and trade barriers, we must also add the growing number of private standards and labels. According to the ITC Standards Map,[29] the number of active voluntary sustainability standards has grown to 373 (191 of them specific to the agricultural sector), and ecolabels have reached 456 (Ecolabel Index[30]).

This increasing unilateral implementation of public and private interventions increases the risk of excluding a significant number of actors from international markets, generating greater market concentration and increasing price volatility. Furthermore, there is also a risk that the geographical location of production could become more closely linked to financial or regulatory incentives related to climate transition policies rather than to countries' comparative environmental advantages for sustainable production (Weber et al., 2025; Evenett et al., 2024).

If sales prices fail to offset the incremental costs of implementing compliance measures, the distributional effects of these trade policies will disproportion-

29 See https://www.intracen.org/resources/tools/standards-map
30 See https://www.ecolabelindex.com/

ately impact producers, especially micro, small, and medium-sized enterprises (MSMEs), which have less capacity to influence prices or stockpile production while awaiting better market conditions.

The requirement for traceability and product segregation implies an increase in logistics and storage costs, which not all production actors are able to absorb. For example, the EUDR traceability cost in the palm oil in Indonesia is estimated between USD 9 and USD 15 per ton, plus an additional USD 68 for the due diligence process along the value chain (Drost et al, 2022). In Argentina, the costs of segregation in the soybean supply chain could exceed USD1 billion annually, while in Paraguay it would cost USD16 per ton (Papendieck and Elverdin, 2025a).

But it is not only the increase in costs that worries actors in LAC. In the absence of clear, standardized parameters, a heightened perception of environmental risk is likely to lead not only to changes in trade flows but also in investment volumes and financing costs (Weber et al., 2025; Knoblich, 2024). This is not insignificant, considering that low- and middle-income countries are more exposed to sustainability-related pressures and already face higher trade costs. (WTO, 2022), so the proliferation of unilateral and uncoordinated standards will generate even higher costs and greater exclusion if these restrictions are not accompanied by financing that allows the economic sectors of LAC and other developing countries to fully participate in the climate transition.

These dynamics reinforce the importance of multilateral regulatory approaches to govern environmentally related trade measures effectively.

## The multilateral negotiation space between the CTE, the TESSD, and the Committee on Agriculture

Although WTO Members retain the general authority to negotiate new trade disciplines within existing institutional structures, the organization currently lacks a specialized negotiating body or formal mandate explicitly devoted to trade–climate rulemaking (Van Asselt and Zelli, 2024).

The Trade and Environmental Sustainability Structured Discussions (TESSD) were launched in November 2020 within the WTO framework as a plurilateral and open-ended initiative designed to advance deliberation on the relationship between international trade governance and environmental sustainability.

Established through a Joint Statement by participating Members, TESSD aims to complement existing institutional mechanisms (particularly the WTO Committee on Trade and Environment (CTE) by fostering dialogue outside a formal rule-making negotiation on how trade policy instruments can contribute to climate mitigation and broader environmental objectives while maintaining the rules-based multilateral trading system.

With the adoption of its 2022 work programme, discussions have been organized into four thematic working groups (Trade-Related Climate Measures, Environmental Goods and Services, Circular Economy, and Subsidies) each addressing distinct trade–environment interaction pathways. Recent activities have focused on analytical exchanges and convergence-oriented outputs ahead of WTO Ministerial Conferences, positioning TESSD as an emerging forum contributing to soft-law norm development and epistemic coordination on trade and environmental sustainability (WTO, 2024).

While the CTE embodies the traditional institutional approach whereby environmental issues are examined through review and dialogue functions under its Marrakech mandate rather than through rule-making negotiations, TESSD represents a deliberative plurilateral space designed to address emerging sustainability challenges through policy dialogue, knowledge exchange, and soft coordination mechanisms.

Consequently, in the specific case of the agri-food sector, the establishment of a multilateral regime for environmentally efficient agricultural products within the WTO framework would ultimately need to be negotiated within the Committee on Agriculture in Special Session, given its competence over market access and domestic support disciplines under the Agreement on Agriculture.

## Special trade regimen for environmentally efficient agrifood-products

From a LAC perspective, the development of a preferential trade regime for environmentally efficient agricultural products requires rethinking the regulatory foundations through which environmental differentiation is incorporated into multilateral trade law.

Existing Environmental Goods and Services (EGS) initiatives have predominantly focused on industrial goods characterized by environmentally beneficial end uses, leaving largely unaddressed agricultural products whose environmental performance derives primarily from process and production methods

(PPMs). Advancing an agricultural sustainability regime, therefore, necessitates an institutional framework capable of operationalizing environmentally relevant production attributes in a manner consistent with WTO non-discrimination disciplines.

The implementation of such a regime would first require the establishment of a sustainability standards mutual equivalence system within the WTO framework, enabling Members to recognize differing regulatory approaches as comparable where they achieve equivalent environmental outcomes. Drawing conceptually on the equivalence logic embedded in the WTO Agreement on the Application of Sanitary and Phytosanitary Measures, this mechanism would rely on harmonized methodological baselines grounded in life-cycle assessment (LCA). Environmental efficiency would be assessed through cradle-to-market accounting frameworks incorporating greenhouse gas emissions intensity, land-use change dynamics, soil carbon performance, biodiversity indicators, and resource-efficiency metrics, while integrating geographically differentiated impact factors reflecting agroecological conditions and regional production systems. Equivalence would therefore be outcome-based rather than method-based, allowing regulatory diversity while ensuring scientific comparability through transparent reporting, independent certification, and verifiable monitoring procedures.

In this sense, the proposed equivalence framework reflects a broader maturation of the WTO "like product" analysis—from a static comparison centered on functional substitutability toward a dynamic assessment incorporating scientifically measurable environmental externalities embedded across production systems. By anchoring differentiation in verifiable environmental performance rather than origin-based distinctions, climate-conditioned market access could be reconciled with WTO principles of non-discrimination, transparency, and predictability, thereby enabling sustainability-oriented trade preferences to emerge within, rather than outside, the multilateral trading system.

Building on ongoing discussions on trade-related environmental measures and sustainability standards, a shared framework defining environmentally sustainable agricultural production could provide the legal and technical basis for differentiated tariff treatment negotiated multilaterally under existing agricultural market-access disciplines. Such an arrangement would require incorporation into Members' schedules of concessions and be subject to multilateral notification, peer review, and oversight mechanisms designed to ensure even-handed application and to prevent arbitrary or unjustifiable discrimina-

tion. Properly structured, preferential treatment would therefore operate not as a unilateral environmental exception but as a collectively agreed modality of market access reflecting comparable environmental performance.

Operationally, tariff differentiation would be conditioned on verified compliance with agreed sustainability benchmarks assessed through transparent methodologies, accessible certification pathways, and regulatory cooperation mechanisms facilitating participation by developing-country producers. In this configuration, preferential tariff treatment would function as a WTO-consistent incentive mechanism supporting the transition toward lower-emission and resource-efficient food systems while preserving competitive neutrality and legal certainty. Ultimately, such a regime would illustrate an endogenous evolution of multilateral trade law, whereby sustainability performance becomes integrated into the definition of competitive equivalence itself, marking a shift from trade–environment accommodation toward the structural embedding of environmental performance within the governance of agricultural market access.

The institutional plausibility of such an approach is reinforced by ongoing deliberations within the TESSD, which increasingly address the interaction between sustainability standards and market access conditions. While no WTO Member has formally advanced a proposal establishing preferential tariff treatment for environmentally efficient agricultural products, several developing-country Members (notably Brazil, Ecuador, El Salvador, and Paraguay) have introduced discussions emphasizing the environmental dimensions of agricultural trade and the implications of sustainability-related regulatory requirements for agri-food exports. These interventions marked a significant expansion of a dialogue initially centered on industrial environmental goods, bringing agricultural production systems and sustainability standards into the multilateral conversation.

## Final remarks

The growing integration of sustainability requirements into international trade governance reflects a structural transformation in the organization of global economic regulation. Agricultural trade, historically governed through tariffs, domestic support, and export competition disciplines, is increasingly shaped by sustainability performance criteria embedded in regulatory standards, market access conditions, and value-chain governance.

In this emerging landscape, sustainability is becoming a central determinant of competitiveness in the agri-food sector. Market access, investment decisions, and supply-chain sourcing increasingly depend on verifiable environmental performance, marking a transition from price-based competition toward sustainability-conditioned competitiveness in global agri-food markets. Competitiveness is therefore increasingly tied to data readiness.

However, this transformation is advancing largely outside coordinated multilateral rulemaking. The proliferation of climate-related standards and certification schemes risks regulatory fragmentation, rising compliance costs, and widening asymmetries between countries with unequal technological and institutional capacities. For developing agricultural exporters, the core challenge lies not in environmental ambition itself, but in the absence of internationally recognized mechanisms capable of translating diverse sustainability practices into mutually accepted trade outcomes.

This study has argued that a multilateral sustainability standards equivalence framework could bridge environmental objectives and existing trade disciplines. Building on equivalence principles already embedded in WTO practice, such a framework would allow Members to recognize distinct regulatory approaches as comparable where equivalent environmental outcomes are achieved. Operationalization would rely on harmonized methodological baselines grounded in life-cycle assessment (LCA), enabling outcome-based comparability while preserving regulatory autonomy and scientific credibility. A preferential regime for environmentally efficient agricultural products could operationalize a governance innovation by linking tariff advantages to verified sustainability performance within existing WTO institutional structures. Properly designed, such a regime could align trade incentives with climate and biodiversity objectives while preserving transparency, predictability, and non-discrimination.

Ongoing deliberative initiatives on trade and environmental sustainability further illustrate how soft institutional processes are shaping future trade norms through regulatory learning and epistemic convergence preceding formal negotiations. In this context, preparations leading up to MC14 called for proactive engagement from LAC. A pragmatic innovation agenda beyond MC14 could prioritize: (i) scaling interoperable traceability systems as digital public infrastructure; (ii) establishing MRV baselines and harmonized sustainability metrics grounded in an equivalence-based approach; (iii) mobilizing financing mechanisms and technical assistance to support MSME onboarding; (iv) deploying regional interoperability "sandboxes" to pilot mutual recognition

across countries and value chains; (v) strengthening public–private governance arrangements to avoid fragmented compliance architectures; and (vi) advancing WTO-compatible incentive schemes that link verified sustainability performance to preferential tariff treatment under agreed multilateral principles and mutual recognition frameworks, thereby creating market-based incentives to scale sustainable production.

By advocating science-based and non-discriminatory approaches that recognize diverse sustainable production models, LAC countries can help shape emerging trade–environment governance rather than adapt to externally defined standards. Ultimately, the integration of sustainability performance into agricultural trade governance represents a systemic choice for the multilateral trading system: unmanaged fragmentation or cooperative multilateral adaptation. Embedding sustainability through equivalence-based cooperation offers a pathway to align environmental effectiveness, competitiveness, and inclusive development, positioning sustainability as the new frontier of competitiveness in the global agri-food economy. Properly designed, these infrastructures generate positive spillovers beyond exports—improving sanitary control, fiscal transparency, land-use governance, and climate policy implementation—turning compliance into an engine of endogenous innovation and institutional upgrading.

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# Chapter 2.4
# The WTO from a Latin American and Caribbean Perspective: Why Rules Still Matter

Gloria Abraham Peralta

## A diverse region structurally exposed to agricultural trade

Latin America and the Caribbean (LAC) occupies a distinctive position in the global agri-food system. The region combines highly competitive agricultural exporters, systemic actors of considerable weight such as Mexico and Brazil, and small Caribbean Island economies that are structurally dependent on food imports. This internal diversity is central to understanding the continued importance of multilateral rules for the region's economic stability (World Bank 2020; FAO 2023).

Agriculture plays a structural—albeit differentiated—role in LAC economies. The Southern Cone economies are deeply integrated into global commodity markets, with well-established competitive positions in oilseeds, grains, meat, and other primary products. Much of Central America has developed export-oriented agricultural sectors in products such as coffee, sugar, tropical fruits, and horticulture, integrated into global value chains. Mexico combines significant export capacity with import dependence in certain staple products, reflecting both consumption patterns and its integration into North American production chains. In contrast, many Caribbean economies are structurally dependent on food imports and are particularly vulnerable to international price shocks, logistical disruptions, and spillovers from third countries' trade policies (FAO, IFAD, WFP, 2023).

This heterogeneity reinforces, rather than diminishes, the relevance of multilateral disciplines. LAC is structurally exposed to international agricultural

trade; export performance depends on predictable market access and rules limiting competitive distortions, while food security in several countries relies on stable and predictable trade flows. Consequently, any weakening of multilateral disciplines poses not an abstract but a direct economic risk, affecting both export competitiveness and internal stability (WTO 2023).

The region's trade integration reflects not only productive structures, but also deliberate public policy and institutional decisions. For decades, LAC countries have anchored their development strategies in legally binding regional and multilateral agreements. Frameworks such as MERCOSUR, the Andean Community, the Central American Integration System (SICA), and the Caribbean Community (CARICOM) reflect a sustained preference for formal legal frameworks that establish clear rights and obligations, institutional coordination mechanisms, and dispute settlement procedures (Bouët and Laborde 2018). This institutional tradition elects a deliberate strategy of international integration grounded in legal predictability to mitigate structural asymmetries and reduce vulnerability to unilateral measures. In a global context of rising geopolitical tensions, regulatory fragmentation, and proliferating unilateral measures, the stabilizing role of multilateral disciplines becomes even more significant. For small and medium-sized economies, multilateral rules not only facilitate trade but also help mitigate structural asymmetries of economic power (Hoekman and Nelson 2020). Even preferential trade agreements operate within the broader multilateral framework under Article XXIV of the GATT, which ensures systemic coherence.

For LAC, therefore, multilateral agricultural disciplines are not merely about market access. They are integral to managing structural exposure to global agricultural trade and ensuring a stable normative environment to address systemic economic risks. In an increasingly uncertain international environment, multilateral rules perform a fundamental stabilizing function, supporting both export competitiveness and regional food security (Hopewell 2016).

From this perspective, the region's relationship with the multilateral system is thus structural rather than circumstantial, and its preservation remains essential to its international economic strategy.

# Why WTO agricultural disciplines remain essential for Latin America and the Caribbean

## A framework in force but incomplete

The Agreement on Agriculture (AoA), adopted as a result of the Uruguay Round, established a structured legal framework regulating three fundamental pillars of international agricultural trade: market access, domestic support, and export competition (WTO 1994). This framework is complemented by transparency obligations, specific disciplines on export restrictions, and legally binding dispute settlement mechanisms which, although derived from the "Understanding on Rules and Procedures Governing the Settlement of Disputes" contained in Annex 2 of the Agreement Establishing the WTO, are cross-cutting in nature and apply to all WTO Agreements (WTO 1994).

Article 20 of the AoA explicitly recognizes that the outcome of the Uruguay Round constituted only the beginning of a broader reform process, by establishing the mandate to continue negotiations with a view to achieving a "fair and market-oriented" agricultural trading system (WTO 1994). This mandate reflects the recognition that the agreed disciplines represented an initial commitment but did not constitute a complete rebalancing of competitive conditions in international agricultural trade. This acknowledgment, embedded from the outset of the Agreement, confirms the premise that the balance achieved was necessarily transitional and that its consolidation depended on further progress in the reform process (Josling, Tangermann, and Warley 1996).

Three decades later, this normative architecture remains the principal legal framework governing global agricultural trade. While it has contributed to improved transparency and predictability, the reform process has been incomplete and uneven (Matthews 2014). For a region structurally exposed to international agricultural trade such as LAC, this situation has direct economic implications. The central issue is not the formal existence of disciplines, but the extent to which those disciplines effectively fulfill the objective of competitive balance and market orientation established in Article 20 (Orden, Blandford, and Josling 2011).

In the absence of alternative disciplines of comparable scope, the Agreement on Agriculture continues to set the legal and economic framework governing international agricultural trade.

For LAC, any constraint on the system's ability to evolve and address existing imbalances directly affects its prospects for competitive integration into global agricultural trade.

## Domestic support: asymmetries within an incomplete architecture

Among the pillars of the Agreement on Agriculture, domestic support remains the most technically complex and politically sensitive. The architecture of the Agreement—structured around the Aggregate Measurement of Support (AMS), the system of boxes (Amber, Blue, and Green), and the de minimis provisions—was designed to discipline trade-distorting support while allowing certain forms of support deemed non- or minimally trade-distorting (WTO 1994; Tangermann 2015).

While historical AMS entitlements have long been regarded as a source of structural asymmetry, the practical importance of de minimis provisions has gained increasing relevance over time (Matthews 2014). Unlike bound AMS commitments, de minimis provisions authorize support up to a specified percentage of the total value of agricultural production. As a result, the absolute level of support permitted under this provision increases automatically as the value of production grows (OECD 2023; Glauber and Laborde 2021).

In practice, this dynamic character has important systemic implications. Without an overall cap, support under de minimis provisions can expand over time without changes to formal commitments, raising concerns among developing countries and agricultural exporters about the shifting balance of rights and obligations in the multilateral agricultural system (WTO 2024a). The issue concerns not only historical support levels but also the potential future growth of authorized support not subject to reduction commitments (Tangermann 2015).

This creates structural and dynamic asymmetries, as Members' policy space for support can diverge according to the size and growth of their agricultural sectors.

For competitive exporters in the Southern Cone and parts of Central America, operating with limited fiscal space and relatively low levels of domestic support, and relying on market signals and their own competitiveness to guide production. The persistence of significant differences in authorized support ca-

pacity may affect competitive conditions and perceptions of fairness in international markets (FAO 2023; OECD 2023)

The current architecture thus not only reflects historical differences but continues to actively shape contemporary competitive conditions, with direct implications for the region's export opportunities.

The limited progress in reforming this pillar largely reflects the debate's technical complexity. Proposals such as overall caps on total support, stronger disciplines, or more proportional reduction commitments have faced deeply entrenched differences, making these technical issues a central obstacle to fulfilling the reform mandate under Article 20 of the Agreement.

Public stockholding for food security purposes (PSH), though technically linked to domestic support disciplines under Annex 2 of the AoA, has become a distinct and politically sensitive negotiating track since the 2013 Bali Ministerial Decision (WTO 2013). It reflects the persistent tension between safeguarding policy space for legitimate food security objectives and maintaining credible limits on trade-distorting support (WTO 2013; WTO 2022; FAO 2023).

The domestic support pillar is structurally relevant for LAC competitive exporters seeking more balanced and predictable competitive conditions, while other countries preserve policy space for development objectives. Advancing a fair and market-oriented agricultural trading system, as envisioned in the AoA, depends on reconciling these interests. Continued lack of substantive progress delays the reform mandate and perpetuates conditions many Members view as inconsistent with the Agreement's original objectives (WTO 1994; WTO 2023).

## Market access: fragmentation, limits of preferential treatment, and an unfinished agenda

Market access remains a structural pillar for many LAC economies, particularly those with competitive agro-export sectors integrated into global value chains. The AoA established bound tariffs and tariff-rate quotas (TRQs)as part of the balance achieved in the Uruguay Round (WTO 1994). Yet the effective reduction of applied protection has been uneven across products and markets. Consequently, actual access to agricultural markets continues to be shaped by tariff structures and administrative practices that fall short of the progressive market orientation envisaged in the AoA (WTO 2023; OECD 2023).

High tariffs, tariff peaks, tariff escalation, and quota administration practices persist, affecting sectors that are sensitive to the region, such as meat, sugar, dairy, grains, and high-value horticultural products. While formally consistent with multilateral commitments, these measures have concrete effects on the ability of LAC exporters to compete under predictable and balanced conditions (FAO 2023; OECD 2023).

While LAC countries have built extensive networks of preferential trade agreements to diversify markets, these do not eliminate systemic fragmentation. Today's agricultural trade is characterized by a complex overlap of multilateral bindings, bilateral and regional preferential commitments, and regulatory measures that interact dynamically. This hybrid architecture generates legal uncertainty and transaction costs, particularly when access conditions differ across markets or when multilateral disciplines lag behind productive realities. Such divergence affects investment, production planning, and integration (WTO 2023; IICA, FAO, and ECLAC 2023).

This creates a structural tension: preferential agreements support diversification but cannot replace a coherent multilateral foundation. They do not discipline domestic support in third countries outside the agreement, prevent the proliferation of divergent regulatory measures, or ensure uniform competitive conditions (Hopewell 2021; WTO 2023).

Their effectiveness ultimately depends on the coherence and credibility of the broader multilateral system. Current WTO discussions—focused on TRQ transparency, notification improvements, and non-tariff measures—reflect these constraints. Though technical, they are directly relevant for LAC exporters, whose performance depends on both preferential margins and systemic predictability (WTO 2024b).

The growing prominence of environmental, sustainability, and sanitary and phytosanitary requirements further complicates market access. While stronger multilateral coordination, regulatory divergence risks increasing fragmentation and compliance costs, particularly for medium-sized and small economies with limited institutional capacity (OECD 2023; IICA 2022).

For LAC, market access is therefore not only about tariffs but about regulatory coherence, predictability, and competitive balance. The unfinished reform mandate under Article 20 is evident in this pillar: absent substantive progress, the gap between bound commitments and real access conditions widens (WTO 2023). For a region structurally exposed to global agricultural trade,

credible and fair multilateral market access disciplines remain essential to economic stability and international integration (IICA, FAO, and ECLAC 2023; WTO 2023; IICA 2022; OECD 2023).

## Export restrictions, food security, and systemic volatility

If domestic support primarily affects competitive neutrality, export restrictions reveal another dimension of LAC's structural vulnerability to abrupt trade disruptions.

The 2008 food price crisis, the COVID-19 pandemic, and the market disruptions following the invasion of Ukraine showed how export bans and quantitative restrictions can amplify international volatility. Measures adopted as domestic responses to uncertainty cumulatively intensified tensions in international markets, affecting food availability and prices in third countries (FAO 2023; WTO 2023; OECD 2023).

Although Article 12 of the AoA establishes notification and consultation obligations, existing disciplines have proven limited in preventing the simultaneous adoption of measures that, taken together, aggravate systemic instability (WTO 1994; WTO 2023). When multiple suppliers restrict exports—especially in concentrated staple markets—the systemic effects can be significant (FAO 2023). Current rules enhance transparency but lack substantive constraints to prevent parallel measures that undermine stability.

For small island developing states in the Caribbean, which are structurally dependent on food imports and face significant logistical constraints, the sudden imposition of restrictions by major exporters has translated into immediate pressures on domestic prices, food security, and fiscal balances. This vulnerability is shared, to varying degrees, by several net food-importing economies that have played an active role in multilateral discussions aimed at enhancing the predictability of agricultural trade (IICA, FAO, and ECLAC 2023). Food security in the region, therefore, depends not only on physical supply but also on the normative stability of the trading system.

These concerns were reflected in the Ministerial Decision on the WTO Response to the Emergency on Food Insecurity adopted at MC12, where Members reaffirmed that export restrictions should be targeted, transparent, proportionate, and temporary, and should consider impacts on net food-importing and vulnerable developing countries (WTO 2022). While governments require

policy space in exceptional circumstances, system stability depends on preserving predictable trade flows.

For LAC agricultural exporters, the proliferation of restrictions in third markets distorts price signals, introduces commercial uncertainty, and weakens confidence in the reliability of global supply chains. For importing members within the region, it increases exposure to external shocks and constrains response capacity in the face of food crises (OECD 2023; FAO 2023). Accordingly, Members, including LAC countries, have sought to strengthen disciplines, improve transparency, and reconcile flexibility with systemic stability (WTO 2023).

For a region structurally exposed to agricultural trade, strengthening disciplines on export restrictions is an essential element not only for trade predictability, but for managing systemic risk in an increasingly uncertain environment. Both exporters and importers within the region share a structural interest in reinforcing disciplines that help preserve the continuity and predictability of international trade flows.

## Dispute settlement, effective binding character, and the economic value of commitments

The architecture of multilateral agricultural disciplines acquires full economic meaning only when its commitments are legally binding and effectively enforceable. With the creation of the WTO, agricultural rules became subject to the cross-cutting Dispute Settlement Understanding (DSU), whose final stage of adjudication, the Appellate Body, has been inoperative for several years (WTO 1994; Wolfe 2021). In the absence of a fully operational appellate mechanism, the predictability underpinning investment decisions, integration into value chains, and export strategies is inevitably eroded. The economic value of commitments thus depends not only on their normative content, but on confidence in their enforceability and justiciability (Bown 2022; Wolff 2020; WTO 2023).

For many LAC economies, the dispute settlement system is not simply an institutional preference but a structural necessity. Medium-sized and small economies lack the market power to counter non-compliance bilaterally; their interest lies in binding, enforceable rules applied under procedural equality (Wolff 2020; Hopewell 2021). In DSU reform discussions, several LAC members have emphasized restoring an appellate function that guarantees jurispru-

dential coherence, interpretative predictability, and timely procedures, avoiding situations where rulings can be indefinitely blocked.

The practice of "appeals into the void," whereby parties appeal despite the Appellate Body's paralysis, has in some cases prevented the adoption of panel reports, weakening the binding character of the system and creating uncertainty over enforceability, including in agriculture (Bown 2022; WTO 2023).

To mitigate this gap, some Members established the Multi-Party Interim Appeal Arbitration Arrangement (MPIA) under Article 25 of the DSU. This plurilateral mechanism, currently comprising 55 Members, includes Brazil, Chile, Mexico, Costa Rica, Colombia, Ecuador, Peru, Paraguay, and Uruguay, reflecting LAC's commitment to maintaining binding review despite institutional paralysis (WTO 2023).

However, the MPIA is provisional and limited to its participants; it cannot replace a universal, fully operational appellate mechanism (Wolff 2022; Baldwin 2023). When major actors weaken their reliance on multilateral disciplines, the stabilizing value of rules for smaller economies becomes more fragile, and the effectiveness of disciplines on domestic support, market access, or export restrictions depends critically on enforceability (Baldwin 2023; Wolff 2023; WTO 2023).

For LAC, restoring a fully functional and legally binding dispute settlement system is not merely an institutional priority. It is a structural condition for preserving the credibility, predictability, and economic value of the multilateral agricultural regime as a whole (IICA, FAO, and ECLAC 2023; WTO 2023). Without this guarantee, even formally existing disciplines risk progressively losing their economic effectiveness.

## Latin America and the Caribbean in the agricultural reform agenda: negotiating interests and commitment to strengthening the system

LAC's structural exposure to global agricultural trade has not led to a defensive retrenchment. Rather, many countries in the region have actively engaged in efforts to update and strengthen multilateral agricultural disciplines. Although positions are not uniform, there is strategic convergence around pre-

serving a functional, balanced, and credible rules-based system (WTO 2023; Hopewell 2021).

In this context, LAC acts not only as a beneficiary of multilateral rules but as a contributor to their evolution, reflecting both concrete economic interests and recognition that the system's credibility depends on its capacity to adapt to new productive, environmental, and geopolitical realities (Baldwin 2023; Wolff 2022).

Regional engagement is visible across the core pillars of agricultural negotiations and in cross-cutting debates on food security and sustainability, pursued through formal coalitions such as the Cairns Group as well as national initiatives (WTO 2024a; IICA, FAO, and ECLAC 2023). For economies closely integrated into agricultural trade, a stable and effective multilateral system is an essential condition for safeguarding market access, managing external risks, and sustaining competitiveness (OECD 2023; FAO 2023). At the same time, the region's internal diversity—encompassing competitive exporters, countries with sensitive sectors, and structurally import-dependent economies—has fostered a pragmatic reform approach that seeks to reconcile liberalization with food security and sustainability objectives (IICA 2022; WTO 2023).

Thus, LAC's role in agricultural reform reflects not only the defense of specific interests but also a broader commitment to maintaining a system capable of managing distributive tensions through common rules rather than economic power (Wolff 2023; Baldwin 2023). Preserving the effectiveness and credibility of multilateral disciplines remains essential for the region as a whole (IICA, FAO, and ECLAC 2023; WTO 2023).

## Domestic support: reform initiatives, proportionality, and the search for balance

Under the domestic support pillar, several members of LAC—within the Cairns Group—have consistently emphasized the need to advance disciplines that address the overall level of trade-distorting support and restore more equitable competitive conditions. For Southern Cone exporters, reducing asymmetries in the fiscal space available for subsidies is a structural priority directly linked to their capacity to compete under predictable market conditions (WTO 2023; OECD 2023).

These concerns reflect a broader diagnosis of the evolution of the multilateral agricultural system. The persistence of high levels of authorized support in

some of the major agricultural economies, combined with the dynamic character of certain support categories, has contributed to consolidating structural asymmetries that affect perceptions of fairness within the system (Hopewell 2021; OECD 2023).

In response, LAC members have sought to introduce approaches aimed at strengthening the coherence and balance of existing disciplines. Among them, the initiative initially presented by Costa Rica and subsequently reflected in Cairns Group proposals (JOB/AG/243) has emphasized the need to establish disciplines ensuring effective proportionality in domestic support reduction obligations, particularly in relation to the overall volume of authorized support and its potential trade-distorting effects (WTO 2024a).

This approach represents an effort to move beyond frameworks based exclusively on historical entitlements, incorporating criteria that reflect the evolution of productive capacities and the relative impact of support on competitive conditions. In particular, the treatment of de minimis provisions has attracted increasing attention, given their capacity to expand the volume of authorized support in line with growth in the value of agricultural production (OECD 2023; Glauber and Laborde 2021).

These initiatives reflect a commitment to systemic reform that goes beyond the defense of specific national interests. They seek to contribute to the construction of more balanced disciplines capable of preserving the legitimacy of the multilateral system and its capacity to provide a predictable framework for international agricultural trade (Wolff 2020; WTO 2023).

At the same time, recent proposals linking agriculture and sustainability have broadened the scope of the debate. The initiative presented by Brazil on sustainable agriculture (WT/GC/W869; WT/GC/W875) has sought to articulate environmental objectives with predictable trade disciplines, underscoring the importance of ensuring that the transition toward more sustainable production systems takes place within a framework compatible with the functioning of the multilateral system (WTO 2023; IICA 2022).

Taken together, these initiatives demonstrate that LAC's reform agenda on domestic support goes beyond challenging the status quo. It offers concrete technical contributions designed to foster convergence, strengthen systemic balance, and preserve the credibility and functionality of the multilateral trading system.

## Market access: the persistence of a structural priority

Market access remains a central interest for several LAC members, particularly those with highly competitive agro-export sectors. Paraguay (JOB/AG/229), supported by MERCOSUR partners and other members from different regions, has consistently argued that this pillar must remain central to the agricultural agenda, stressing that systemic balancing cannot be addressed exclusively through domestic support reform, but also requires meaningful improvements in effective market access conditions. Beyond creating specific trade opportunities, market access is integral to maintaining the overall balance of rights and obligations within the multilateral agricultural system (WTO 2023c).

For many exporters in the region, issues such as tariff-rate quota (TRQ) administration, tariff peaks, specific tariffs, persistent non-tariff barriers, and the proliferation of divergent regulatory requirements directly affect their capacity to compete and integrate into global markets. Although preferential trade agreements (PTAs) have expanded access to certain destinations, they do not replace multilateral disciplines that ensure more uniform competitive conditions. The continued presence of these barriers underscores the unfinished nature of the agricultural reform process envisioned under the Agreement on Agriculture (OECD 2023; WTO 2023).

While PTAs provide additional opportunities, they cannot substitute for the multilateral system's role as a common reference framework. The coexistence of multiple preferential regimes alongside incomplete multilateral disciplines has contributed to greater trade fragmentation, increasing adjustment costs, and reducing overall system coherence (Baldwin 2016; Hopewell 2021).

The active participation of members of LAC in these discussions reflects an approach that combines pragmatism with strategic consistency: advancing where possible, without abandoning the objective of broader reform addressing the structural limitations of the current system (WTO 2023c; IICA, FAO, and ECLAC 2023).

Recent developments in agricultural negotiations indicate that, although domestic support has received growing attention, market access remains an essential component of the system's overall balance. For several members of LAC, the absence of progress in this pillar shapes perceptions of reciprocity and fairness in the reform process. This persistence confirms that market access remains a long-term structural interest for the region. Access is not merely an offensive

objective, but a core element of the perception of balance and reciprocity within the system (Hopewell 2021; WTO 2023).

This persistence reflects a structural logic. For economies whose international competitiveness depends heavily on their export capacity, predictability and fairness in market access conditions constitute fundamental elements of their international integration strategy (IICA 2022; OECD 2023).

## Food security, sustainability, and interregional dialogue

The coexistence in LAC of competitive agricultural exporters and economies structurally dependent on imports has fostered a nuanced approach to food security. Rather than adopting uniform positions, the region addresses the issue through its multiple trade, productive, and social dimensions affecting food system stability (IICA, FAO, and ECLAC 2023; FAO 2023).

Caribbean members and other net food-importing countries have emphasized strengthening the predictability of agricultural trade, particularly regarding export restrictions and price volatility, while preserving policy space for public food security programs in contexts of high external vulnerability (WTO 2023b; FAO 2023).

Initiatives advanced by countries such as Jamaica (JOB/AG/248) have more explicitly linked the agricultural agenda to food market stability, fostering dialogue beyond traditional exporter–importer divisions. This has enabled convergence with the African Group and other developing members, positioning LAC as a constructive actor seeking balanced solutions that reconcile food security with credible trade disciplines (WTO 2023; IICA 2022).

Recent regional proposals have further aimed to better articulate food security, sustainability, and trade. Brazil's initiative on sustainable agriculture (WT/GC/W/869; WT/GC/W/875) underscores the importance of resilient food systems within predictable trade frameworks, recognizing sustainability and food security as integral to the legitimacy and functionality of the multilateral system (WTO 2023a; IICA 2022).

Taking together, these positions demonstrate that LAC's engagement goes beyond defending national interests and reflects a broader commitment to strengthening and updating the multilateral trading system. By linking food security and sustainability to predictable trade disciplines, the region advances an approach that balances policy flexibility with normative stability while en-

hancing the system's capacity to address emerging economic and environmental challenges (Baldwin 2023; Wolff 2022; WTO 2023; IICA, FAO, and ECLAC 2023).

## Shared leadership, convergences in the evolution of the normative framework, and persistent asymmetries

The drive to deepen reform emanating from LAC does not develop in isolation, nor does it reflect a closed regional bloc logic. The region forms part of a broader core of members committed to strengthening the multilateral system, including countries such as Canada, Australia, New Zealand, Singapore, and Norway, among others. This convergence is based on a shared assessment: prolonged stagnation in core areas of the agricultural regime is not neutral and carries tangible economic costs, prompting coordinated efforts to preserve the system's credibility and functionality (WTO 2023; Baldwin 2023).

In domestic support, coordination within the Cairns Group has sustained calls to revisit the balance of rights and obligations. For many Latin American members, the lack of reform entrenches structural advantages for countries with greater fiscal capacity to subsidize (Hopewell 2021; OECD 2023).

LAC's engagement has extended beyond systemic concerns to concrete technical proposals aimed at enhancing transparency, strengthening coherence in existing disciplines, and advancing more balanced commitments—an approach focused on reinforcing the system as a whole (WTO 2024a; Wolff 2020).

The region has also played a bridge-building role in sensitive debates on public stockholding, export restrictions, and food security, facilitating dialogue between developed and developing members, particularly NFIDCs (IICA, FAO, and ECLAC 2023; WTO 2023). This reflects a strategic understanding that reform requires proportionate, politically viable compromises rather than rigid alignments (Baldwin 2023; Wolff 2022).

In a context where the risk lies in the consolidation of an unreformed system, sustained engagement is essential to maintaining credibility and adaptability; no single region can rebalance the system alone (Wolff 2023; WTO 2023). LAC therefore combines ambition with pragmatism—advocating substantive reforms where asymmetries persist while fostering convergence among diverse members—recognizing that a functional multilateral system is a fundamental strategic interest

In this sense, the strategy of LAC combines the push for deeper reform with negotiating pragmatism. The region promotes substantive adjustments in areas where the status quo perpetuates asymmetries, while recognizing that the political viability of reform depends on the ability to build convergence and preserve trust among members with diverse interests. This strategy reflects the recognition that preserving a functional multilateral system constitutes a fundamental strategic interest for the region (Hopewell 2021; IICA 2022).

## Systemic risks, economic costs of paralysis, and the imperative of a fully functional multilateral system

Agriculture occupies a singular position within the multilateral trading system, as it brings together competitiveness, food security, macroeconomic stability, and, increasingly, environmental sustainability. For a region structurally exposed to global agricultural trade, such as LAC, the effective functioning of the multilateral system constitutes an essential condition for economic stability (IICA, FAO, and ECLAC 2023; WTO 2023).

The principal risk facing the system is not only stalled negotiations, but the prolonged absence of substantive progress in key areas such as domestic support. This paralysis has effectively consolidated the status quo, favoring members with greater fiscal capacity to maintain high levels of support while limiting prospects for more balanced competitive conditions for exporters with narrower policy space (OECD 2023; Hopewell 2021). When widely recognized imbalances remain unaddressed, the system's credibility as an adjustment mechanism erodes. The lack of reform does not preserve equilibrium; it entrenches asymmetries and weakens confidence in the system's ability to ensure fair competition (WTO 2023; Baldwin 2023).

This credibility has systemic consequences. As expectations decline that disciplines will evolve and be effectively enforced, incentives increase to resort to unilateral instruments, regulatory measures with extraterritorial reach, or more restrictive trade approaches. In the absence of a multilateral framework perceived as capable of managing distributive tensions in a balanced manner, the space for protectionist responses tends to expand, weakening the system's role as the central governance framework for agricultural trade (Baldwin 2016; Wolff 2023). Rather than a formal breakdown, this dynamic may manifest as gradual fragmentation, with national measures at the margins of multilateral rules substituting for collective negotiation. For structurally exposed regions such as

LAC, this implies a more uncertain, asymmetric, and potentially more costly trade environment (WTO 2023; IICA 2022).

The cost of paralysis thus extends beyond the absence of new agreements; it entails a gradual loss of the system's stabilizing function at a time of rising geo-economic tensions and heightened demand for predictability (Baldwin 2023; Wolff 2022). Simultaneously, the global context is marked by regulatory fragmentation, divergent standards, and the growing use of trade instruments for non-commercial objectives, trends that further undermine systemic coherence in the absence of multilateral progress (OECD 2023; WTO 2023).

These risks are particularly acute for LAC, which has grounded its international integration in predictable rules, legally binding commitments, and relatively open market access. Greater unilateralism, reduced predictability, and proliferating restrictive measures would generate direct economic costs for both competitive exporters and import-dependent economies (IICA, FAO, and ECLAC 2023). When major actors reduce reliance on multilateral disciplines, medium-sized and small economies face higher uncertainty and fewer effective enforcement mechanisms. (Wolff 2020; Hopewell 2021).

In this context, the agricultural reform agenda acquires a strategic dimension that goes beyond specific technical adjustments. It is about preserving the credibility and functionality of a system that allows distributive tensions to be managed through common rules, rather than through the direct exercise of economic power (Baldwin 2023; WTO 2023). LAC participates actively in this effort, contributing technical proposals, engaging in negotiations, and fostering convergence among members with diverse interests (WTO 2024a; IICA 2022). The region acts not merely as a beneficiary but as a stakeholder in preserving and adapting the multilateral architecture, recognizing that without it, trade would become more fragmented, uncertain, and costly (Wolff 2023; Baldwin 2023).

A fully functional multilateral agricultural system requires not only balanced disciplines on domestic support, market access, and export restrictions, but also a legally binding and operational dispute settlement mechanism capable of ensuring the effective enforcement of commitments undertaken (WTO 2023). For LAC, strengthening this framework is not an abstract institutional objective but a structural condition for predictability, economic stability, and sustainable competitiveness in an increasingly complex global environment (IICA, FAO, and ECLAC 2023; Wolff 2020). Defending effective multilateral

disciplines is therefore a fundamental strategic interest, essential to maintaining the stability and sustainability of the region's international integration.

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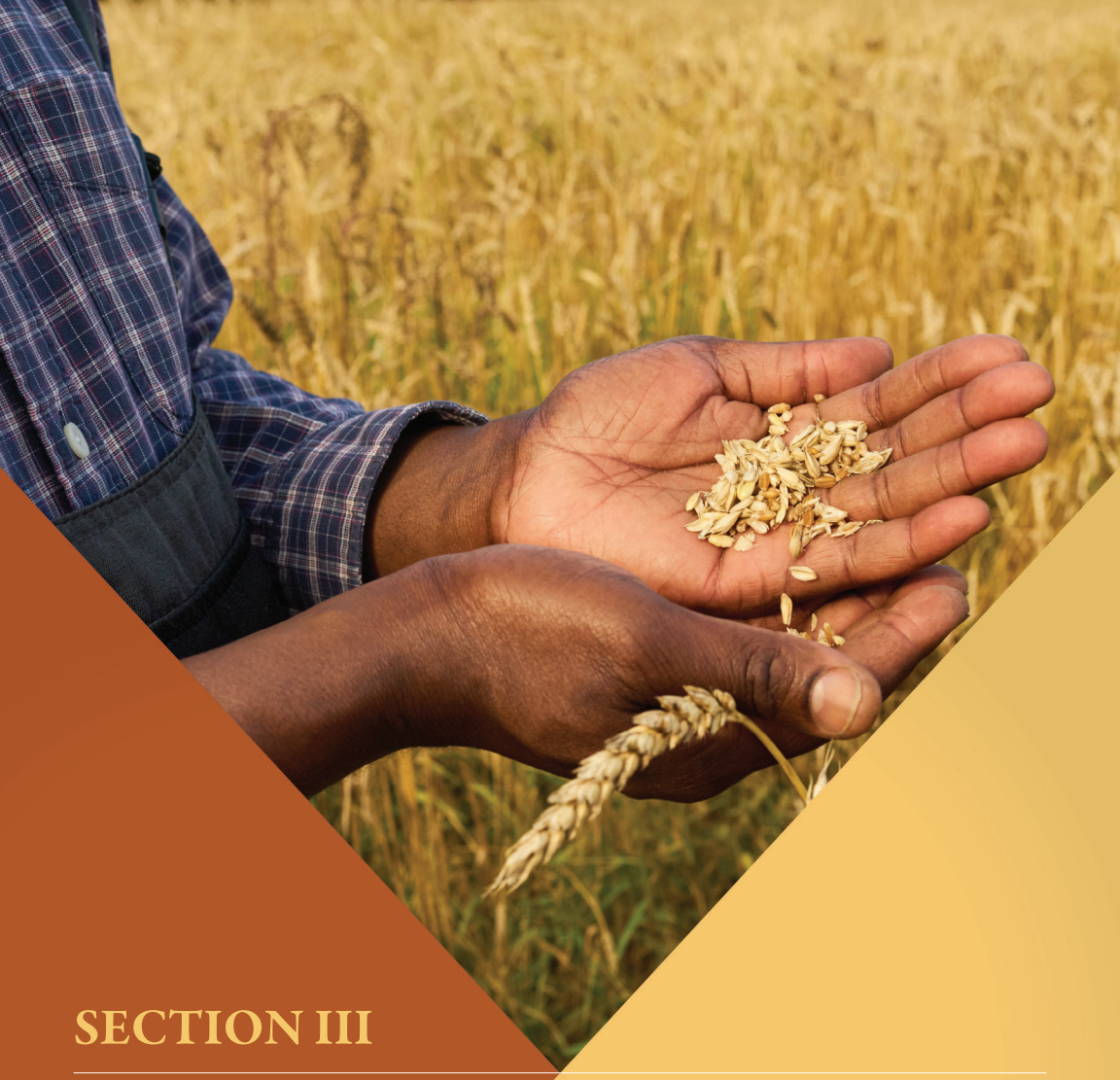


SECTION III

# AFRICA: REGIONAL PERSPECTIVE

# Chapter 3.1
# Africa's Agricultural Trade Performance and Structural Barriers

Fousseini Traore and Moukaila Takpara

## Introduction

Africa's agricultural trade has been characterized by a persistent trade balance deficit over the past decade, with import bills consistently outpacing export revenues. With the world's fastest growing population and weak domestic food systems, imports of agrifood products are increasing rapidly, raising the dependence of the continent on external markets and its exposure to global food price volatility. This vulnerability is compounded by the limited diversification of exports, which remain concentrated in a narrow range of primary commodities subject to significant price fluctuations, thereby contributing to macroeconomic instability.

At the same time, continent-wide initiatives such as the Comprehensive Africa Agriculture Development Programme (CAADP) and the African Continental Free Trade Area (AfCFTA) aim to address these structural challenges. Both frameworks seek to strengthen agrifood systems, enhance productive capacities, promote value addition, and better align agricultural production with domestic and regional demand, ultimately contributing to more stable and resilient food markets.

In this context, expanding intra-African trade can provide significant benefits. Greater regional integration can stimulate economic growth through wider market access, foster regional value chains, and improve food security by enhancing the availability and affordability of food across borders. However, despite broad consensus on these potential benefits, the actual level and trajectory of intra-African agricultural trade remain subject to debate, partly due to data limitations and differences in measurement approaches.

This chapter, therefore, provides a comprehensive assessment of Africa's agricultural trade performance over the past decade, examining both structural trends and persistent barriers that constrain diversification, competitiveness, and deeper regional integration.

# Agricultural trade performance

## Evolution of trade flows

The evolution of Africa's agricultural trade between 2013 and 2023 is marked by a persistent trade balance deficit, with imports systematically exceeding exports (Figure 3.1). Over the decade, agricultural exports grew at 3% annually, rising from USD50 billion to USD66 billion. Following a period of relative stagnation from 2013 to 2019, export growth accelerated significantly towards the end of the period, increasing by 32% over the subsequent four years. However, this rebound was driven primarily by price effects rather than by structural gains in competitiveness, as reflected in the evolution of the Food and Agriculture Organization (FAO) global food price index during the same period (Traoré et al., 2025).

Importantly, the apparent dynamism in export values masks underlying structural weaknesses. Using a shift-share (market share decomposition) analysis, Laborde et al. (2019) find that changes in Africa's export performance and market shares are largely explained by sectoral and geographical specialization patterns, while the competitiveness component remains limited, and in some cases negative. This suggests that export growth has been more a function of favorable commodity composition and destination markets than of improvements in productivity or value addition.

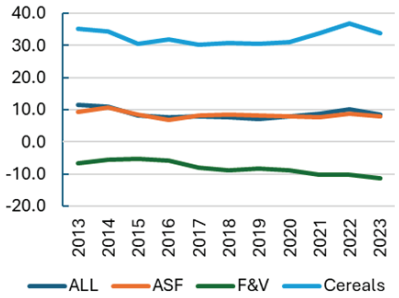
Agricultural imports followed a more volatile trajectory and grew slightly faster than exports, at an average annual rate of 3.4%. Aggregate imports remained stable at around USD70 billion from 2014 to 2019, then rose sharply, peaking at a value of USD98 billion in 2022. The surge in imports is highly correlated with the rise in global food prices caused by major supply shocks and disruptions, including droughts in major exporting countries, the Russia-Ukraine war, and the imposition of export restrictions, which pushed up international food prices.

As a result, the sustained excess of imports over exports led to a persistent trade deficit over the entire period of observation, with an aggravation at the end of the period. On average, Africa's agricultural trade deficit amounted to USD26 billion between 2013 and 2023 (Figure 1.1). A closer look at the deficit reveals the key role of cereals, which constitute the main contributor with USD28 billion. By contrast, sectors such as fruits and vegetables witnessed a surplus of USD14 billion, driven by high demand and prices in developed countries for fresh products.

**Figure 1.1. Africa's total international agricultural trade (US$ billion)**


*Source: COMTRADE and authors*[1]

**Figure 1.2. Import dependency ratios (%)**




*Source: COMTRADE, FAOSTAT and authors*

*Note: ASF: animal source foods; F&V: fruits and vegetables.*

Figure 1.2 further illustrates the continent's high reliance on external markets through import dependency ratios, that is, the share of net imports in total domestic supply. The ratio indicates how much of the available domestic food supply is imported and how much comes from the country's own production. Consistent with the persistent trade deficit discussed above, Africa exhibits substantial import dependency across several key agrifood categories. Cereals show the highest level of dependency, underscoring the continent's structural reliance on foreign supply for staple foods. In contrast, fruits and vegetables display negative dependency ratios, reflecting Africa's net exporter position in these products.

The sustained trade deficit and high import dependency are rooted in two interrelated structural dynamics. On the demand side, rapid population growth, rising incomes, and accelerating urbanization have led to sustained increases in aggregate food demand. On the supply side, structural constraints continue to limit domestic production capacity. These include low agricultural productivi-

ty, limited access to quality inputs and finance, inadequate farm management practices, weak infrastructure, and growing exposure to climate-related shocks.

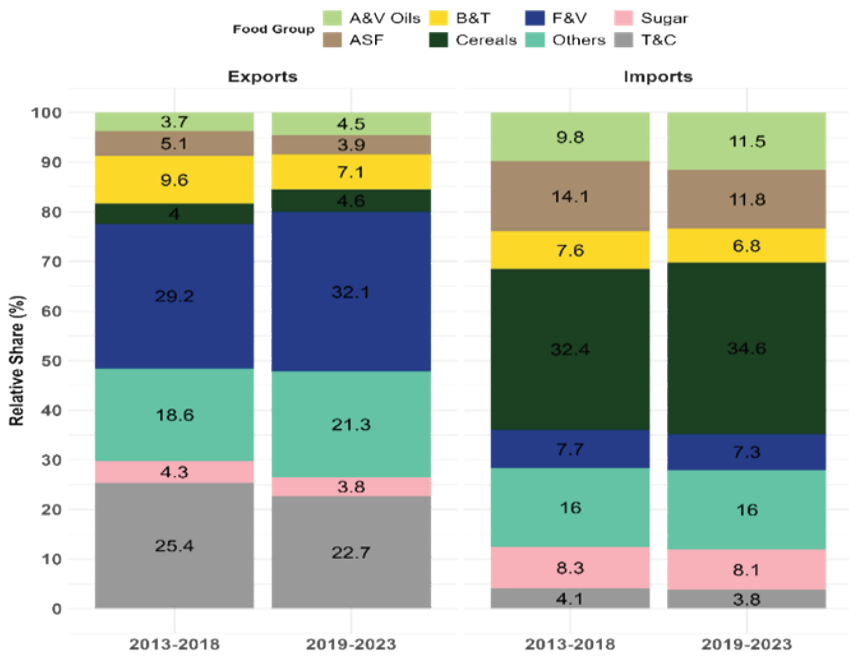
## Composition of trade flows

The composition of Africa's agrifood trade with the rest of the world differs substantially between export and import sides, and reveals the key role played by a limited number of products (Figure 2). On the export side, trade is highly concentrated in a few commodity groups. They include fruits and vegetables (32.1% in 2019-2023) and stimulants (22.7% in 2019-2023), such as cocoa and cocoa preparations, tea, and coffee. Other major exports include beverages, tobacco, animal and vegetable fats and oils. It is worth noting that cotton and fibers that constituted emblematic products in the early 2000s now represent only 3% of Africa's agricultural exports, reflecting a significant structural shift in the continent's export basket.

On the import side, Africa's dependence is even more concentrated. Cereals dominate, accounting for 34.6% of total agricultural imports over 2019–2023. They are followed by animal-source foods (11.8%), animal and vegetable fats and oils (11.5%), and sugars (8.1%). The prominent share of cereals underscores the structural dependency on global markets discussed in the previous subsection. Within this category, wheat and rice represent the largest shares, accounting for 51% and 26% of cereal imports, respectively.

Rice presents a particularly noteworthy case. It has become the fastest-growing staple food in Africa, with demand increasing at an annual rate of approximately 6% (Africa Rice, 2025). Despite policy efforts to boost domestic production, structural constraints—including low productivity, limited competitiveness, and mounting climate pressures—are expected to sustain high import dependence. As a result, Africa is projected to become the world's largest rice-importing region by 2035 (Traoré et al., 2025).

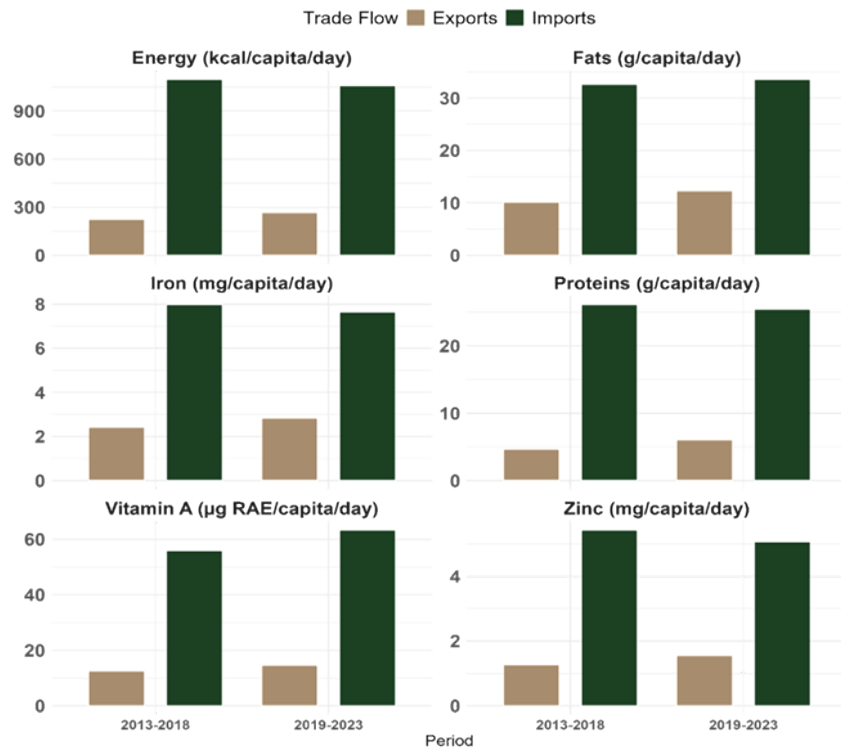
**Figure 2. Composition of Africa's agrifood external trade (%)**




*Source: AATM 2025 (Aboushadi et al. 2025) and authors computation*
*Note: ASF: animal source foods; A&V Oils: Animal and vegetable fats and oils; F&V: fruits and vegetables; T&C: tea, cocoa, and coffee.*

Interestingly, trade can affect diet quality and previous studies found that it plays a significant role in supplying both macro and micronutrients to Africa, providing 56% of caloric requirements and 90% of proteins requirements (Olivetti et al, 2023). Figure 3 compares the nutrient content of Africa's agrifood imports from and exports to the rest of the world. At the continental level, imports consistently exceed exports for all nutrients, confirming Africa's structural reliance on global markets to satisfy its dietary requirements. Africa's exports are largely concentrated in low-nutrient-dense or non-food agrifood products, including coffee, cotton, tobacco, flowers, tea, and certain fruits and vegetables. Imports, by contrast, are driven by income growth and changing dietary patterns and consist mainly of protein-rich foods, especially animal-source foods (meat, eggs, dairy products), and high-calorie products (cereals). In other words, Africa exports raw materials and unprocessed or minimally processed foods, while importing more processed, higher-value, nutrient-rich foods.

**Figure 3 Nutrient content of Africa's total exports and imports**[3]




*Source: FAOSTAT*

## Exports concentration

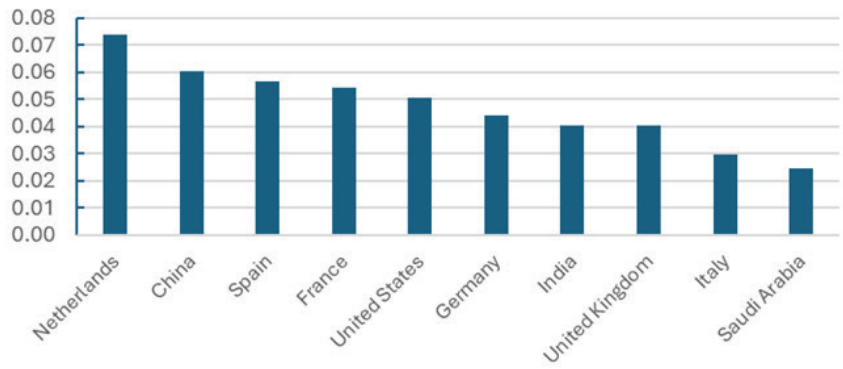
Export diversification—or conversely, export concentration—has long been a structural concern for Africa. As highlighted in the previous section, the continent's export profile remains concentrated in a limited number of products. Export diversification can be understood along two dimensions: the sectoral dimension, referring to the expansion in the range of distinct products exported, and the geographical dimension, referring to the broadening of trading partners. While both are important, policy debates have focused more on sectoral diversification.

At the sectoral level, Africa remains the second least diversified region in the world after Oceania, with diversification trends worsening during 2010–2019 compared to the previous decade (UNCTAD, 2022). The low diversification is

one of the main causes of the continent's weak integration in the global trading system and its vulnerability to world price shocks (Bouet et al. 2017; Bonaglia and Fukasaku, 2003). Structural factors help explain this pattern, including historical specialization rooted in colonial trade structures, persistent path dependencies, limited skills and technological capabilities, and insufficient industrial upgrading.

A diversified production and export base is critical for stabilizing export earnings, particularly because primary commodity prices tend to be more volatile than those of manufactured goods. Diversification is also essential for fostering economic growth, but it remains a challenge for African countries. Indeed, Africa has yet to achieve significant diversification, and the previous subsection illustrated the high level of concentration of the continent's exports, with the predominance of a few products. A similar pattern is observed with respect to trading partners. Figure 4 shows that the top ten export destinations account for 47% of Africa's total agricultural exports, with approximately 25% directed to European markets alone.

**Figure 4. Top 10 Africa partners (2019-2023 average)**




*Source: COMTRADE and authors' computation*

The analysis relies on more refined indicators of diversification or concentration. In addition to the well-established Herfindahl-Hirschman index (HHI) of concentration, a reciprocal indicator was computed (Bouët 2009; De Lombaerde and Iapadre 2012). This indicator corresponds to the inverse of the HHI and represents the number of equally sized markets (or products) that would generate the same degree of concentration as the one observed. In other words,

the higher the number of equivalent markets, the greater the level of diversification. The results are generated for both the geographical (trading partners) and sectoral (products) dimensions.

Figure 5.1 presents the geographical diversification of African countries, measured as the average number of equivalent markets by country over the period 2019-2023. While a few countries exhibit relatively more diversified (Egypt, South Africa, Kenya, Ethiopia, Nigeria, Ghana), the majority remain dependent on a limited number of partners (number of equivalent markets below 10). Countries such as Niger, Chad, Botswana, and South Sudan appear to be the least geographically diversified. As to sectoral diversification. The picture is even more concerning for sectoral diversification (Figure 5.2). With a few exceptions (Egypt, South Africa, Tanzania, and Morocco), most African countries' exports remained concentrated around a limited number of products, with Niger, Chad, Zimbabwe, and South Sudan presenting the lowest levels of diversification.

**Figure 5.1 Average number of equivalent markets (2019-2023)**

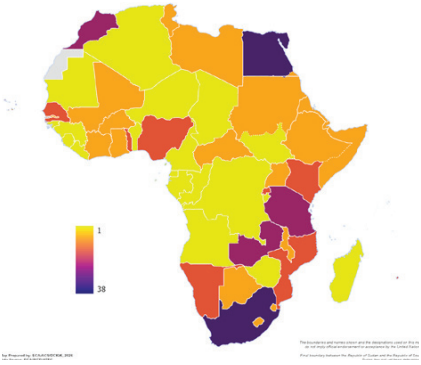
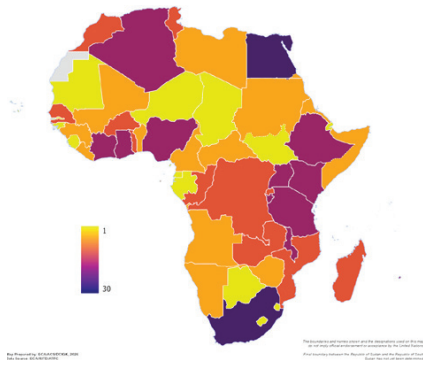



**Figure 5.2. Average number of equivalent products (2019-2023)**



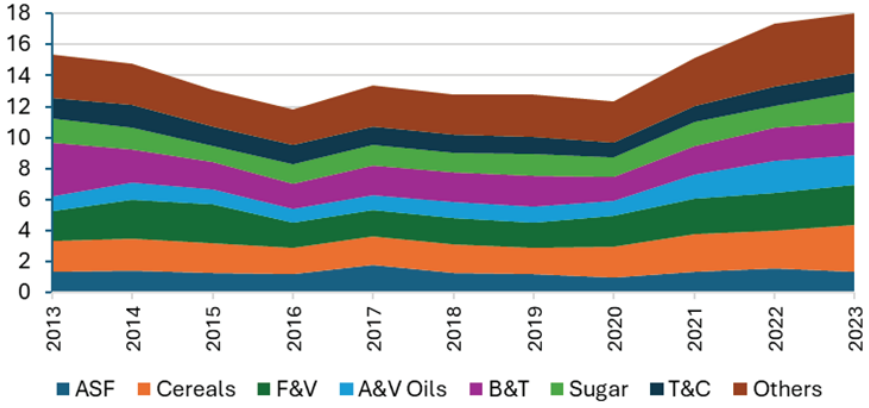

*Source: Comtrade and author's design*

## Intra-African trade of agrifood products

Compared to Africa's trade with the rest of the world, formal intra-African agrifood trade has remained relatively stable over time. Figure 6 presents the evolution of total intra-African trade of agrifood products, along with its breakdown across the main product groups considered in this analysis. On average, intra-African trade amounted to USD14 billion with a slight increase at the end of the period and grew by 18% from 2013 to 2023, roughly half the growth rate observed for Africa's exports to external markets. The composition of the

agrifood trade has also shown only moderate changes over time. Although cereals constitute the largest category, at the aggregate level, cash crops continue to play a key role. Fruits and vegetables represent the second category of products traded, followed by beverages and tobacco, while the share of animal source foods remained fairly low and stable over the entire period. A noticeable shift is the increasing share of animal and vegetable fats and oils starting from 2020.

**Figure 6 Intra- African agrifood trade 2013-2023 (USD billion)**




*Source: COMTRADE and authors' computation*
*Note: ASF: animal source foods; A&V Oils: Animal and vegetable fats and oils; F&V: fruits and vegetables; T &C: tea, cocoa and coffee*

The level of intra-African trade discussed above has long been the subject of debate (Barka 2012; UNECA and ADB 2010). Many researchers argue that Africa is "under-trading", meaning trading below its potential, resulting in relatively low intra-regional trade shares. Historically, much of this debate has centered on the share of intra-regional trade (SIT), defined as the ratio of intra-regional trade to total trade.

As illustrated in Figure 7.1, Africa's aggregate intra-regional trade share remains below 20%, compared to Asia or the European Union (EU), at 42% and 52%, respectively. The level of integration is higher than the average for animal source foods and systematically below 15% for cereals. Beyond the continental average and product composition, there is also geographic heterogeneity. At the level of Regional Economic Communities (RECs), previous studies identify the Southern African Development Community (SADC) as the most integrated

region, while the Arab Maghreb Union (AMU) appears as the least integrated (Traoré et al., 2025).

However, the SIT indicator presents several methodological limitations. That includes the lack of a clear theoretical benchmark for comparison, a dynamic ambiguity when the ratio increases, and high sensitivity to geographical fragmentation (Anderson & Norheim, 1993; Frankel, 1997; Iapadre & Luchetti, 2009). This fragmentation bias can be the most significant shortcoming, as it complicates cross-region comparisons. A region composed of many small countries may appear more integrated than another with a similar aggregate GDP but fewer member states, mainly due to geographical fragmentation.

**Figure 7.1 Share of intra-African agri-food trade (2013-2023)**

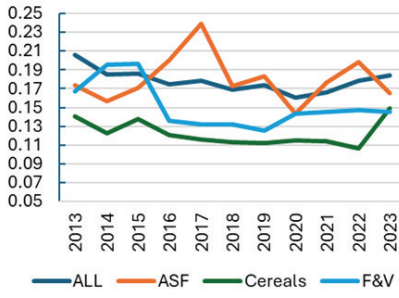
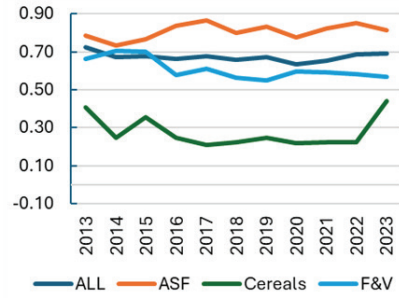



**Figure 7.2 Regional trade introversion of agrifood products (2013-2023)**




*Source: COMTRADE and authors' computation*
*Note: ASF: animal source foods; F&V: fruits and vegetables*

Given the limitations of the SIT, Iapadre and Luchetti (2009) proposed the regional trade introversion (RTI) index. This index is based on a modified version of the intra-regional intensity index and the extra-regional intensity index (Annex 1). Figure 7.2 presents the RTI indexes for Africa at the aggregate level and across three product groups. The results suggest that internal trade dynamics are present, with the continent appearing more introverted than extroverted overall, especially for animal source foods and relatively low for cereals, as revealed by the SIT. Unlike the SIT, the RTI index corrects for structural biases and suggests that Africa's level of regional integration is broadly comparable to that of other regions Bouet et al. 2017). Furthermore, gravity model estimates (Traore et al. 2025) conclude that, once standard trade determinants are controlled for, Africa is not systematically "under-trading" within the continent. Moreover, compared to other regions, informal cross-border trade, constitutes a

significant part of agricultural trade flows in Africa, is largely excluded from official statistics, implying that actual intra-African integration may be higher than reported (see Box 3).

### Box 3. Informal cross-border trade in Africa

Informal cross-border trade is a pervasive phenomenon in Africa, especially for agricultural products. In 2023 the African Union, Afreximbank and ECA launched an initiative to develop a continental methodology for ICBT data collection in Africa. As defined in the methodology, ICBT refers to transactions in goods and services between any two or more countries that are not entered in official records and therefore are not included in the official trade statistics.

ICBT results from various factors. While poverty pushes many actors to the informal sector, high import tariffs, prohibitions, bans, and quotas do play a significant role. In addition, complex regulations, and standards, particularly sanitary and phytosanitary measures to avoid official border crossing points (Bouquet, 2003). Finaly, historical and cultural determinants explain the presence of ICBT in Africa where ethnological and linguistic links play a key role in trade (Aker et al. 2014; Little et al. 2010; Tegegne et al. 1999).

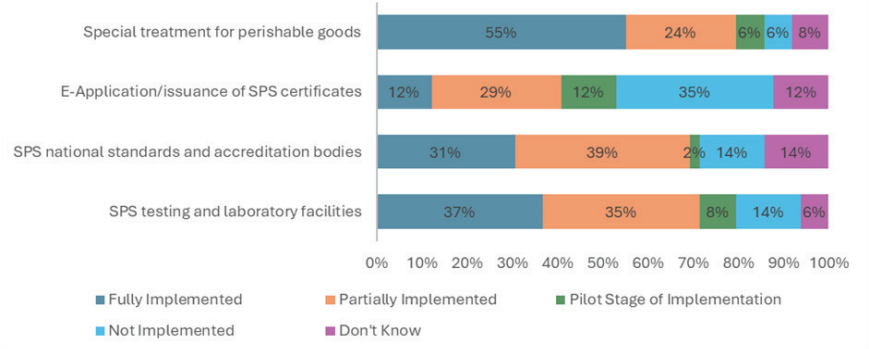
ICBT is estimated between 10% and 60% of total trade flows in the agricultural sector in Africa (Bouët et al., 2020). A comprehensive review and extrapolation performed by ECA (Gaarder et al. 2021) estimates that ICBT represents between 7% and 16% of intra-African trade and between 30% and 72% of the value of trade between neighboring countries. Another recent assessment in West Africa concludes that intra-ECOWAS agrifood trade is six times higher than what is officially reported (OECD/SWAC, 2025).

The continental methodology for ICBT data collection, which was adopted by the 38th Ordinary Session of the Assembly of Heads of States and Government of the African Union in February 2025, is being rolled out in several countries (ECA forthcoming) and will contribute to building a comprehensive and consistent picture of ICBT in the continent.

## Trade facilitation gaps as structural barriers to agricultural trade

Agricultural trade facilitation measures can reduce transaction costs along supply chains, improve market access for small-scale farmers, and contribute to food security and poverty reduction. The United Nations Trade Facilitation (UNTF) Survey[31] identifies four measures related to agricultural trade facilitation, all focusing on SPS requirements: testing facilities, national standards bodies, electronic SPS certificates, and special treatment for perishable goods. These measures are particularly important for agricultural products, which face unique trade barriers due to their perishable nature and stringent health and safety requirements, making efficient border procedures essential for preserving product quality and ensuring market access.

**Figure 8. State of Africa's implementation of agricultural trade facilitation measures in 2025**




*Source: authors' computation based on UNTF Survey on Digital and Sustainable Trade Facilitation (2025)*

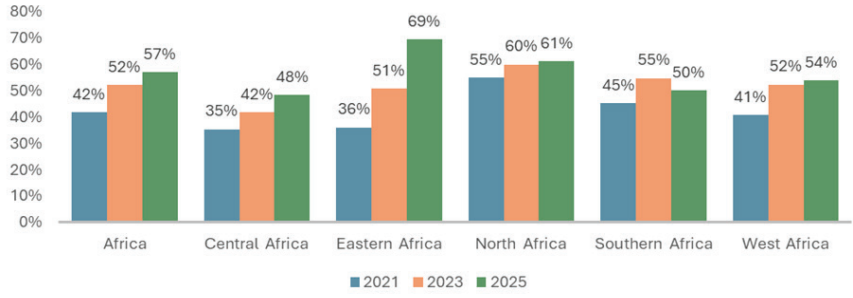
Figure 8 reveals uneven progress in the implementation of agriculture trade facilitation measures, with advances in some areas but persistent gaps in others. The digitalization of SPS procedures, particularly the electronic application and issuance of SPS certificates, remains the weakest area. Only 12% of countries report full implementation, while 35% indicate no implementation. This signif-

31 The Global Survey on Digital and Sustainable Trade Facilitation currently covers over 180 economies and 62 measures related to the WTO's Trade Facilitation Agreement (TFA) as well as to paperless trade and the UN treaty on cross-border paperless trade in Asia and the Pacific (CPTA). The survey is conducted jointly by all five UN Regional Commissions, UNCTAD and a growing number of global and regional partners every two years.

icant gap suggests that digital transformation is a major bottleneck, undermining efficiency, transparency, and competitiveness in agricultural trade.

Institutional frameworks also reveal shortcomings. Although national standards and SPS accreditation bodies show moderate advancement, a high share of partial implementation (39%) and "don't know" responses (14%) suggest institutional weaknesses and limited awareness or coordination. By contrast, SPS testing and laboratory facilities show relatively stronger performance, with 37% of countries reporting full implementation and 35% partial implementation. Nevertheless, 22% remain at pilot or non-implementation stages, reflecting ongoing infrastructure and resource constraints. In comparison, Special treatment for perishable goods stands out as the most widely implemented measure, with 55% of countries reporting full implementation. This suggests a policy prioritization of time-sensitive agricultural exports. Overall, the figure underscores the need to accelerate digital transformation, strengthen institutional capacity, and promote more consistent implementation across countries.

**Figure 9. Evolution of implementation of agriculture trade facilitation measures, in Africa globally and across sub-regions, 2021, 2023, 2025**




*Source: The UNTF Survey on Digital and Sustainable Trade Facilitation (2025) and authors' computation.*

The overall implementation of agriculture trade facilitation measures across African regions between 2021 and 2025 reveals a generally positive but uneven trajectory of progress (Figure 9). At the continental level, implementation has risen 15 percentage points since 2021, reaching 57% in 2025, indicating a gradual strengthening of trade facilitation frameworks for agriculture, likely driven by sustained reform efforts at the national level and under regional integration initiatives, particularly within RECs (Box 4).

All regions, except Southern Africa, recorded improvements over the period, though at varying speeds and from different starting points. North Africa consistently exhibited the highest level of implementation, rising from 55% in 2021 to 61% in 2025, reflecting relatively more advanced regulatory and institutional systems. Eastern Africa showed the most significant progress, jumping from 36% in 2021 to 69% in 2025, suggesting accelerated reforms and investment in trade facilitation mechanisms. West and Central Africa also made steady gains, albeit at more moderate rates. In contrast, Southern Africa experienced a decline between 2023 and 2025, falling from 55% to 50%, indicating potential implementation challenges or reform slowdowns.

### Box 4. Status of WTO trade facilitation agreement implementation in africa

We situate the above findings within the broader context of Africa's implementation of the WTO Trade Facilitation Agreement (TFA). Overall, Africa has made significant progress in implementing key provisions of the WTO-TFA, particularly those in Category A, which are applied upon entry into force. Measures such as pre-shipment inspection (Art. 10.5), detention (Art. 5.2), movement of goods (Art. 9), temporary admission (Art. 10.9), and separation of release (Art. 7.3) exhibit high total implementation rates, reflecting strong procedural alignment and facilitating trade across sectors, including agriculture.

However, other measures remain less implemented, highlighting areas for improvement. Authorized operators (Art. 7.7), risk management (Art. 7.4), test procedures (Art. 5.3), general disciplines on fees and charges (Art. 6.1), and single window (Art. 10.4) show lower implementation rates, particularly in Category A, indicating that these provisions are not yet fully operational. Strengthening these measures would help reduce trade bottlenecks, especially for perishable agricultural products.

Overall, while Africa has made steady progress in adopting agricultural trade facilitation measures, the continent continues to lag behind other regions, notably South-East and East Asia (67%) and South Asia (63%) (United Nations, 2025), highlighting the need for accelerated reforms and stronger implementation. Limited SPS infrastructure and procedures may be one of the factors contributing to this disparity, potentially constraining countries' ability to access

international markets and achieve food security objectives. Addressing these constraints is therefore essential to strengthen trade, improve food safety, and support sustainable development outcomes. Table 1 highlights the top and bottom five Trade Facilitation Agreement (TFA) measures in Africa, with a note on their relevance to agriculture.

### Box 5. Agricultural trade trends (country examples)

In 2025, the United Nations Economic Commission for Africa (ECA) supported 6 countries to strengthen their national statistical capabilities for trade data disaggregation and analysis (ECA forthcoming). The results of this project painted a mixed picture of the trade sector's contribution to the economy through direct trade gains, employment and consumption patterns. In Rwanda, for instance, since 2020, agricultural products, specifically rice (HS 100630), and pasta (HS 190219have featured in the top 5 traded products. In 2023 and 2024, mackerel fish (HS 030354) was also on the list of the top 5 products. In Zambia, frozen jack, and horse mackerel (HS 03055) and durum wheat (HS 100119) have featured in the list of top 5 products traded since 2019. Between 2020 and 2024, Côte d'Ivoire's trade focuses on high-value cash crops and agro-industrial raw materials, particularly coffee derivatives (HS 090111) latex (HS 400110) and cocoa (HS 180100). In Chad, staple crops and processed foods, including wheat flour (HS 110100), paddy rice (HS 100610) and pasta (HS 190219) ranked among the top five traded products. These patterns underscore the significance of raw agricultural commodities and agro-processing products in trade composition of the countries.

**Table 1: Top and bottom five Trade Facilitation Agreement (TFA) measures in Africa**

| | Measures | Total Implementation (%) | Breakdown (%) (A / B / C) | Relevance for Agriculture |
|---|---|---|---|---|
| Top 5 | Art. 10.5 – Pre-shipment inspection | 100 | 77.8 / 11.1 / 11.1 | Ensures the quality and safety of agricultural exports, reducing delays at borders |
| | Art. 5.2 – Detention | 100 | 72.2 / 22.2 / 5.6 | Minimizes unnecessary detention of agricultural shipments, preventing spoilage |
| | Art. 10.9 – Temporary admission of goods | 94.5 | 79.2 / 15.3 / 0 | Allows temporary import of inputs and equipment for agro processing |
| | Art. 7.3 – Separation of release | 94.5 | 66.7 / 16.7 / 11.1 | Reduces bottlenecks at customs, ensuring the timely release of perishable goods |
| | Art. 9 – Movement of goods | 94.4 | 83.3 / 11.1 / 0 | Facilitates faster transit of agricultural products across borders |
| Bottom 5 | Art. 7.7 – Authorized operators | 72.2 | 11.1 / 27.8 / 33.3 | Facilitates trusted operator schemes to reduce inspection times for agricultural exporters |
| | Art. 7.4 – Risk management | 66.7 | 16.7 / 0 / 50 | Supports targeted inspections, preventing unnecessary delays of perishable goods |
| | Art. 5.3 – Test procedures | 61.1 | 27.8 / 0 / 33.3 | Ensures timely and standardized testing of agricultural products to meet import/export requirements |
| | Art. 6.1 – General disciplines on fees and charges | 61.1 | 22.2 / 33.3 / 5.6 | Reduces unpredictable fees that can affect the costs of agricultural trade |
| | Art. 10.4 – Single window | 44.5 | 0 / 5.6 / 38.9 | Enables the submission of documents through a single platform, critical for the timely clearance of agricultural goods |

*Source: WTO-TFA database and authors' computation (accessed on 12/02/2026)*

## Conclusions

This chapter assessed Africa's agricultural trade performance over the past decade and identified persistent structural imbalances requiring coordinated and sustained policy action. Persistent trade deficits, high dependence on cereal imports, limited product and partner diversification, and exposure to global price shocks underscore the fragility of the continent's agricultural trade structure. Although intra-African trade and informal cross-border exchanges provide important resilience mechanisms, their full potential remains underexploited.

Addressing these challenges calls for a comprehensive reform agenda at the continental level. First, accelerating agricultural productivity growth through improved access to inputs, climate-resilient technologies, irrigation, and extension services is essential to reduce import dependency. Second, export diversification strategies must be strengthened by promoting agro-processing, value addition, and integration into regional and global value chains. Third, closing trade facilitation gaps, particularly in SPS infrastructure, testing laboratories, digital certification systems, and border procedures, should be prioritized to lower transaction costs and enhance competitiveness.

Regional cooperation frameworks, notably under the AfCFTA and RECs, provide critical platforms to harmonize standards, streamline trade procedures, and scale up digital solutions. Finally, targeted support for small and medium enterprises (SMEs), youth, and women traders, who play a central role in informal and cross-border agricultural trade, will be crucial to ensuring that agricultural trade contributes not only to economic growth, but also to food security, resilience, and inclusive development across Africa.

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# Annexes

Annex 1. Modified regional trade introversion (RTI) index

This indicator is based on a modified version of the intra-regional intensity index ($MIRTI_R$) and the extra-regional intensity index ($MERTI_R$). The RTI index is defined as follows:

$$RTI_R = \frac{MIRTI_R - MERTI_R}{MIRTI_R + MERTI_R}$$

where r and s represent countries; R is region R; $X_{s,s'}^{\cdot}$ is the total exports of country s to country s'; $X_{r,.}^{\cdot}$ is total exports of country r; and $X_{.,r}^{\cdot}$ is total imports of country r.

$$MIRTI_R = \frac{SIT_R}{\beta_R} = \frac{\frac{\sum_{s\epsilon R}\sum_{s'\epsilon R}\left(X_{s,s'}^{\cdot} + X_{s',s}^{\cdot}\right)}{\left(\sum_{r\epsilon R}\left(X_{r,.}^{\cdot} + X_{.,r}^{\cdot}\right)\right)}}{\frac{\sum_{s\epsilon R}\sum_{s'\notin R}\left(X_{s,s'}^{\cdot} + X_{s',s}^{\cdot}\right)}{\left(\sum_{r\notin R}\left(X_{r,.}^{\cdot} + X_{.,r}^{\cdot}\right)\right)}}$$

$$MERTI_R = \frac{(1 - SIT_R)}{(1 - \beta_R)}$$

With $\beta_R$ representing region R's share in trade with the rest of the world.

Since both $MIRTI_R$ and $MERTI_R$ are positive, $RTI_R$ is bounded and falls between −1 and +1. Values between 0 and +1 reflect that the region is more introverted than extroverted, and values between −1 and 0 suggest the opposite.

# Chapter 3.2
# Africa's Key Issues in WTO Negotiations, MC14 and Beyond

Ogwuche Sunday and Nelly Rita Muriuki

## Historical context of the agreement on agriculture negotiations

At the creation of the multilateral trading system in 1948, agriculture was formally covered by the General Agreement on Tariffs and Trade (GATT), including principles such as tariff bindings and non-discrimination. In practice, however, agriculture remained largely exempt from strict multilateral disciplines, as governments maintained wide policy space to support domestic farm sectors through subsidies, price controls, and non-tariff measures. This flexibility largely reflected the concerns of major agricultural economies, while developing countries, including many in Africa, remained primarily exporters of primary commodities with limited influence over global rule-making.

Early GATT negotiations focused mainly on tariff reductions, leaving agricultural support policies and non-tariff barriers only weakly regulated. As a result, agricultural trade continued to be shaped by substantial domestic subsidies and protection in developed economies, creating persistent distortions in global markets. For many African countries, these distortions contributed to structural disadvantages in agricultural trade, undermining the competitiveness of local producers and reinforcing dependence on food imports.

The Uruguay Round (1986–1994) marked a major turning point by introducing the Agreement on Agriculture (AoA), the first comprehensive multilateral framework governing agricultural trade. Developing countries, including several African countries, played a more visible role in the negotiations, highlighting concerns related to food-import dependence, rural development, and the need for special and differential treatment.[5] These concerns led to provi-

sions allowing developing countries greater flexibility, including lower reduction commitments and longer implementation periods.

Despite these advances, the Uruguay Round was widely recognized as only a first step in agricultural reform. Many structural distortions, particularly high levels of trade-distorting domestic support in developed countries, remained largely intact. Article 20 of the AoA mandated the continuation of reform negotiations, which formally began in 2000 and were later incorporated into the Doha Development Agenda launched at the Fourth WTO Ministerial Conference in 2001. Ministers were committed to comprehensive reforms aimed at improving market access, substantially reducing trade-distorting domestic support, and eliminating export subsidies.

Over the past two decades, agricultural negotiations have evolved in two broad phases. The first phase, lasting roughly until 2011, was pursued under the "single undertaking" approach, where progress across negotiating areas was linked. During this period, members reached important milestones, including the 2004 Framework Agreement, which introduced formulas for reducing tariffs and trade-distorting support and reaffirmed the commitment to eliminating export subsidies. In the second phase, negotiations shifted away from the comprehensive single undertaking as progress stalled across multiple negotiating areas. Attention is increasingly focused on public stockholding (PSH) for food security purposes, a key concern for many developing countries.

Despite serious engagement and negotiating efforts, no substantive outcome has been achieved in the agriculture negotiations since MC10, including on PSH, due to significant divergences in several key elements. For many African countries, the prolonged stalemate underscores the continuing challenge of addressing structural imbalance in global agricultural trade rules, which remain central to the continent's effort to strengthen food security, support rural development, and expand participation in international agricultural markets.

## Agrifood systems in Africa's trade landscape

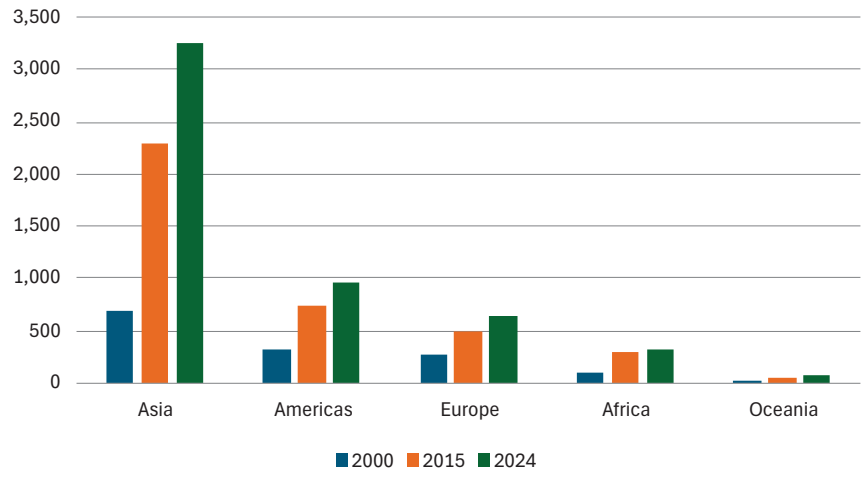
Africa has a strong bidirectional relationship with its agrifood system, with the continent's socio-economic structures influencing the evolution of the agriculture sector. According to the Food and Agriculture Organization (FAO) estimates (2026), agriculture accounted for approximately 45.5% of total employment in Africa in 2023, only slightly lower than 48.4% in 2015. This

share is significantly far above the global average of 26%, and higher than other regions, such as Europe (4.9%) and the Americas (8.6%). Within Africa, the dominance of agriculture varies considerably across subregions. Eastern Africa has the highest dependence on agricultural employment (60.0%), followed by Central Africa with 54.2%. By contrast, Southern Africa (19.2%) and Northern Africa (21.5%) show much lower shares, reflecting their relatively higher levels of industrialization.

These differences are consistent with broader structural transformation patterns across the continent. The Africa Industrialization Index 2022 (AfDB, 2022) identifies Northern and Southern Africa as the most industrially advanced subregions, with scores of 0.66 and 0.56, respectively, driven by countries such as South Africa, Morocco, Egypt, and Tunisia, which have consistently ranked among the most industrialized economies in Africa. In comparison, Central Africa scored 0.5, West Africa 0.49, and East Africa 0.48.

Despite the sector's critical role in employment and livelihoods, the continent also lags behind in terms of agricultural productivity. Figure 1 compares Africa's performance in terms of the value of agricultural production with regions of the world. Between 2000 and 2024, Africa recorded an increase of 196%, compared to a global average increase of 266% over the same period. It shows that Africa ranges way below the global trends. This productivity gap highlights a key structural challenge: while agriculture remains a dominant source of employment in Africa, its output growth has not kept pace with global improvements in productivity.

**Figure 1. Agriculture gross production value (USD billion)**




*Source: Authors' calculation based on FAO. FAOSTAT. Accessed February 24, 2026.* https://www.fao.org/faostat/en/#data.

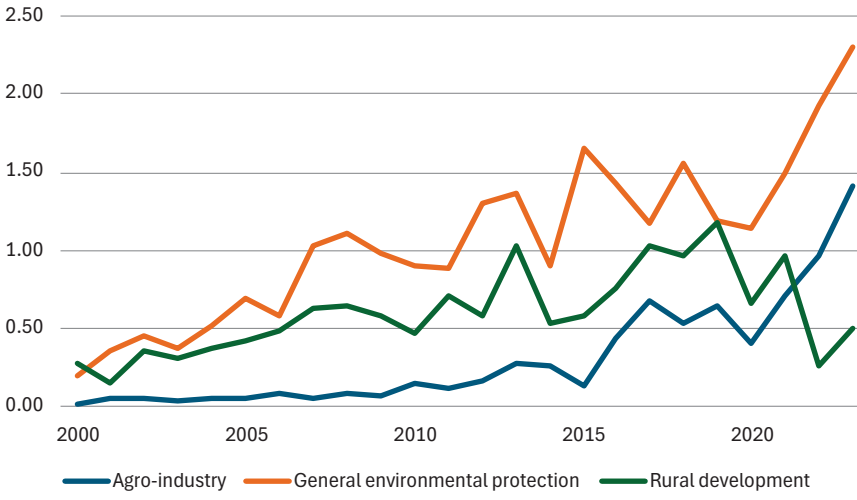
Achieving agricultural transformation in Africa requires sustained financial commitments. Within the African Union framework, the Maputo Declaration of July 2003 committed African Heads of States and Governments to allocate at least 10% of the national budget to agriculture and food security with the objective of halving hunger and poverty by 2025. However, progress toward this target has been limited. Between 2004 and 2024, only four countries met the 10% threshold for at least ten years: Ethiopia (21 years), Malawi (16 years), Mali (15 years), and Niger (12 years) (AKADEMYA, 2025).

In contrast, the continent's biggest economies have consistently fell below this target, with Nigeria averaging at 4.1%, South Africa at 2.1%, and Egypt at 1.9% of national spending allocated to agriculture. It is noteworthy that Zimbabwe, although not consistently meeting the target, has maintained an average of 10.2% since 2009. Globally, government spending on agriculture between 2001 and 2022 ranged between 1.5–2.1% of total spending (FAO, 2024).

Development finance flows into Africa's agricultural sector also present a mixed picture. As shown in Figure 2, investment in agro-industry and environmental protection fluctuated between 2010 and 2020 before a sharp upward trend following the COVID-19 pandemic. By contrast, financing for rural de-

velopment declined significantly during the pandemic period, with only a modest recovery observed in 2022.

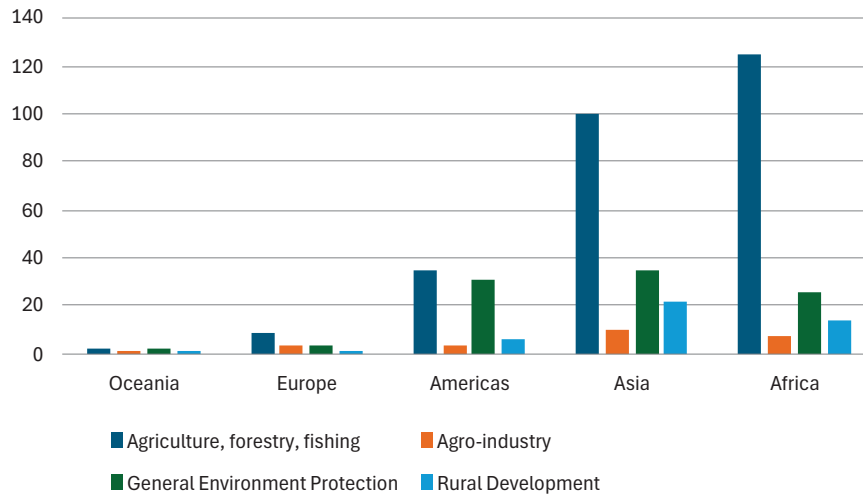
**Figure 2. Development flows into agriculture in Africa (US$ billion)**




*Source: Authors' calculation based on FAO. FAOSTAT. Accessed February 23, 2026.* https://www.fao.org/faostat/en/#data.

A global comparison of development flows into the agriculture sector shows a positive trend for Africa. Since 2000, Africa has received the highest flows of donor funding towards agriculture, forestry, and fishing, followed closely by Asia. The continent also received the third-highest donor flows earmarked for general environmental protection (Figure 3). These trends indicate sustained international support for strengthening the continent's agrifood systems and environmental resilience, although significant financing gaps remain relative to the scale of transformation required.

**Figure 3. Development flows into agriculture (US$ billion)**




*Source: Authors' calculation based on FAO. FAOSTAT. Accessed February 23, 2026.* https://www.fao.org/faostat/en/#data.

The AfCFTA holds immense potential in transforming the continent's agri-food systems. Empirical analysis by the United Nations Economic Commission for Africa (ECA) showed that, under full implementation of the Agreement by 2045, intra-African trade in both processed and non-processed foods is projected to record the largest increases (See Chapter 3.3 for more details). The AfCFTA is also an anchor on which regional value chains (RVCs) can be developed, enabling stronger production linkages across countries and supporting efforts to enhance food security and value addition within the continent. Although significant progress has been made over the past decades, persistent challenges continue to hinder the full realization of these opportunities.

Investment in research and development (R&D) in Africa remains significantly below global levels. According to the World Bank (2026), only Egypt spent more than 1% of its total GDP on R&D in 2023, while Rwanda and Kenya followed at approximately 0.8%. Other large economies spend less on R&D, including South Africa (0.6% in 2022) and Nigeria (0.3% in 2019). This trend pales in comparison to advanced economies that spend a much larger proportion of their GDP on research and development. For instance, in 2022, South Korea spent 5.2% of its GDP on R&D, while the United States and Japan spent 3.6% and 3.4%, respectively (World Bank, 2026). Strengthening R&D invest-

ment and capacity is therefore essential not only for agrifood system innovation but also for broader structural transformation.

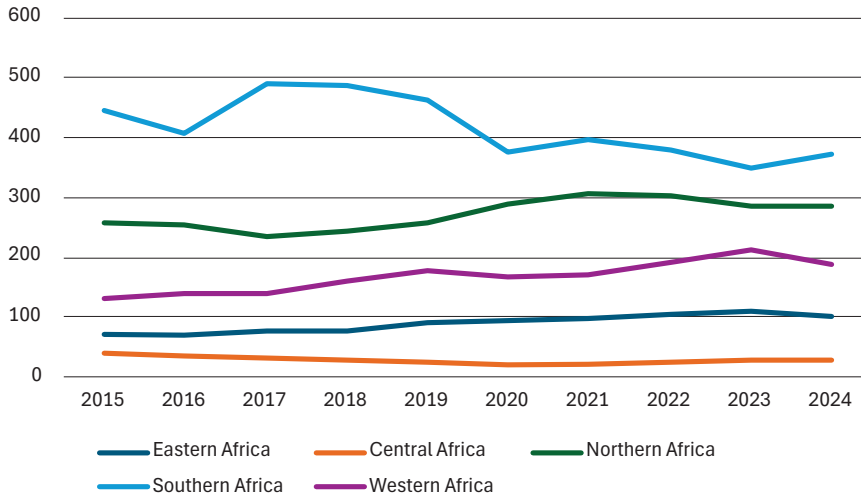
Underdeveloped infrastructure, especially transport and electricity, contributes to much of the food loss and waste on the continent. The World Bank Logistics Performance Index (World Bank, 2026), which measures the quality of trade and transport-related infrastructure, ranked sub-Saharan Africa at 2.3 out of 5, lower than the global average of 2.9. Eastern and Southern Africa ranked higher than the continental average at 2.5, while in Northern Africa, Egypt scored significantly higher, at 3.1 in 2021.

Limited electricity access further exacerbates inefficiencies in food systems. As of 2023, only about 53% of the population in sub-Saharan Africa had access to electricity, compared with 92% globally. Northern Africa performs significantly better, with 89.7% average access and universal coverage in Algeria, Egypt, Morocco, and Tunisia.

At a household level, lack of adequate access to electricity contributes to a high incidence of food loss and waste. The 2024 Food Waste Index Report (UNEP, 2024) estimated that average household food wastage in sub-Saharan Africa stood at 93 kilograms per capita per year, compared to a global average of 79 kilograms. The report noted that there was a high correlation between average temperatures and food waste, denoting that a lack of adequate advanced food storage techniques led to higher waste.

Access to finance represents another critical constraint to agrifood system development. As shown in the figure 4 below, the total credit[7] to agriculture in Africa has fluctuated since 2015. Western Africa recorded the highest growth of 43.6% between 2015 and 2024, with Northern Africa recording the modest 11% growth. Southern Africa and Central Africa, on the other hand, actually recorded a contraction in credit flows of 16% and 32.6% respectively over the same period. These financing gaps continue to limit investment in productivity, value addition, and the development of resilient agrifood value chains across the continent.

**Figure 4. Total credit to agriculture (USD billion)**




*Source: Authors' calculation based on FAO. FAOSTAT. Accessed February 25, 2026.* https://www.fao.org/faostat/en/#data.

The 2025 Economic Report on Africa (ECA, 2025) highlights that, realizing the gains from full implementation of the AfCFTA, Africa will need approximately USD121 billion in road, rail, sea, and air transport infrastructure equipment to meet the demand. Improvements in road connectivity alone will require between approximately $ 32 billion and $80 billion, while rail connectivity will require between USD26 billion and USD55 billion (Malabo Montpellier Report, 2025). Continental undertakings such as the Single African Air Transport Market (SAATM) and the Programme for Infrastructure Development in Africa (PIDA) are well-positioned to support the development of infrastructure connectivity.

Beyond transport infrastructure, transforming Africa's agrifood systems will require approximately USD77 billion in annual investment by 2030 (Malabo Montpellier Report, 2025). While public finance remains the main channel of funding, mobilizing greater investment from domestic and international private sectors, as well as bilateral and multilateral development partners, will be essential to close the financing gap. Increased investment in infrastructure, logistics, and agro-processing will play a critical role in boosting productivity, facilitating regional trade in agricultural products, and building modern, resilient, and

sustainable agrifood systems across the continent. Even in the face of these financing needs, it is essential to recognize that, across the continent, many countries are grappling with elevated debt burdens and limited fiscal space, which, coupled with the dwindling official development assistance flows, is likely to impede the much-needed mobilization of capital in the scale required to transform the continent's agrifood systems.

## Africa's priorities under agriculture negotiating pillars

Africa's interest in agriculture negotiations is driven by its critical need for food security, livelihood security, and rural development. The African Group consistently emphasizes that a medium and long-term WTO solution to food security challenges can only be delivered through outcomes that include a substantive food security and livelihoods package. This entails decisions on key issues such as domestic support, PSH, the Special Safeguard Mechanism (SSM), and Cotton. Furthermore, it is imperative to secure outcomes on domestic support that address the inequitable AMS entitlements and the trade-distorting use of the Blue and Green Boxes.

Achieving these objectives would contribute to the establishment of a fair and equitable agricultural trading system. This, in turn, would provide developing countries with greater policy flexibility, enabling them to effectively support agricultural production and improve livelihoods across the continent. The primary issues and priorities of the African Group under each pillar of the WTO agriculture negotiations are discussed in the following subsections.

### Domestic support

The African Group emphasizes that domestic support asymmetries remain a central source of distortion in global agricultural trade. Only 32 WTO Members hold Final Bound AMS entitlements, totalling about USD 174.37 billion as of 2018, About half of these beneficiaries are developed country Members, accounting for 88.8% of total Final Bound AMS entitlements. Developing country Members account for the residual 11.19%. The remaining 104 developing country Members have zero Final Bound AMS entitlements (de-minimis). This imbalance allows major subsidizing Members to concentrate large amounts of support on specific products, often far exceeding the sector's value of produc-

tion. The Group also raises concerns about the continued trade-distorting use of the Blue Box, which allows Members to provide substantial subsidies while maintaining policy space beyond de minimis limits, and about the growing reliance on Green Box measures, particularly direct payments, despite being classified as non-trade-distorting, which can significantly affect production and global market conditions. Addressing these distortions is therefore viewed as essential to creating a more equitable agricultural trading system that better supports developing countries' agricultural development and farmers' livelihoods.

## Public stockholding (PSH) for food security purposes

In the lead-up to the 9th WTO Ministerial Conference (MC9) in Bali in 2013, the African Group and G-33 called for greater flexibility in the existing multilateral trade rules on PSH programmes to allow developing countries to achieve public policy objectives in this area. While trade ministers agreed on an interim solution at Bali, they also committed to negotiating a permanent solution in the post-MC9 period. However, despite subsequent Ministerial and General Council decisions, as well as proposals submitted by the African Group and other Members ahead of MC10, MC11, MC12, and MC13, negotiations have yet to deliver a permanent outcome on this critical food security instrument.

PSH programmes are crucial for sustaining production and consumption, particularly for poor and vulnerable populations in developing countries, and are essential for achieving food security objectives. The role of PSH as an effective tool for guaranteeing food security, including during the COVID-19 pandemic and disruptions in international food supply chains, when many countries relied on public stockholding mechanisms to stabilize domestic markets, is all the more critical. The Africa Group is seeking a Permanent Solution that is "distinct from the agriculture negotiations" as reflected in the PSH mandate and not conditioned on the broader discussions on domestic support.

## Special safeguard mechanism (SSM)

The SSM is an important part of the Doha Round agriculture negotiations. If agreed upon, it would serve as a tool, within the WTO's AoA, that would allow any developing country to increase its duties above the bound rate in response to a fall in the price of imported products or an increase in the volume of the imported product beyond certain levels. An outcome on SSM is a necessary tool to cushion farmers in developing countries from the vagaries of

unpredictable global agricultural trade markets, such as import surges or price volatility, which have in recent times become regular occurrences that threaten the livelihoods of farmers, impact investment decisions, and ultimately affect food security. The African Group is seeking SSM decision not linked to the broader Market Access negotiations. However, non-proponent including the Latin American countries, have continued to consider SSM as a tool to facilitate market access reform in agricultural trade. It is this linkage between market access and SSM that has been the biggest political challenge to commencing substantive technical engagement since the launch of the Dedicated Session process in 2015 pursuant to the Nairobi Decision.

## Cotton

Apart from the development assistance components of the cotton initiative and the Ministerial Decision on Export Competition adopted at the 10th WTO Ministerial Conference in 2015 (WTO, 2015), the WTO has yet to deliver on the core trade-related elements, domestic support and market access, of the 2005 Hong Kong Ministerial Declaration, which called for the cotton issue to be addressed "ambitiously, expeditiously and specifically." The African Group maintains that cotton should be addressed swiftly and independently of the broader market access and domestic support negotiations, as progress on this issue is long overdue and continues to disadvantage vulnerable cotton producers in Africa and other developing countries, particularly least developed countries (LDCs). In line with the demands of the Cotton-4 countries, the African Group supports the elimination of product-specific cotton subsidies under Final Bound AMS, which distort markets and undermine the livelihoods of resource-poor producers. While improved market access for cotton is also of interest, the Group remains mindful that certain outcomes could erode existing trade preferences for LDCs and other beneficiaries of preferential access in key markets.

## Market access

This is an issue of interest to the Latin American Countries, the Cairns Group, USA and UK. The African Group believes progress on market access should follow advances in Domestic Support and other mandated issues. They warn of the dangers of premature market liberalization when Africa's agriculture sector is constrained from using necessary tools which are limited by the AoA. In addition, Africa continues to face the brunt of an uneven playing field in global agricultural trade that negatively impacts its food and livelihoods se-

curity. The African Group maintain that there is a logical sequencing that has always been appreciated and this needs to be followed in the area of agriculture. It consistently argued that tariff reduction negotiations can only take place after rebalancing the Domestic Supports pillar. In the Group's view, until this has been done and by its assessment, the WTO is nowhere near, there is no logic in asking developing countries to open their markets when these markets are distorted.

## Export restrictions

The African Group consider export restrictions as a critical tool that enables members to address the essential food needs of their people in times of food crisis. While the UK, Japan, the G-10[11], and the LDCs seek to strengthen existing AoA discipline on export restrictions, the Group is of the view that:

i. The current disciplines on Export Restrictions, both in the GATT (Article XI) and the AoA (Article 12) are sufficient and balanced to address export restrictions as well as to safeguard policy space when required to address essential food needs of Members in times of critical food shortages.
ii. Export Restrictions are a crisis response tool, especially for vulnerable net-food-importing countries (NFIDCs) and LDCs. This is recognized by GATT Article XI.2a, which allows it for addressing "critical shortages of foodstuffs", and Article 12 of the AoA (S&DT) provides flexible terms for notification to non-net-exporting developing countries and LDCs when such measures are taken. These articles balance the obligation with the need. Any effort to increase obligations on removing Export Restrictions, while not recognizing domestic needs to address the food crisis, will adversely affect this balance.
iii. There is limited empirical evidence that fully liberalizing agricultural exports would effectively address food crises or improve food security outcomes. The extent to which export restrictions contribute to or alleviate food insecurity during crises remains unclear. While such restrictions can disrupt global supply, their removal may also result in essential food supplies being allocated to the highest bidders, potentially limiting access for the most vulnerable populations. Experiences during the COVID-19 pandemic, when critical supplies such as masks and vaccines were largely secured by countries able to pay higher prices, illustrate the risk that unfettered market allocation during crises may exacerbate inequities in access to essential goods.

iv. The African Group maintains that existing WTO disciplines on export restrictions do not warrant weakening this important policy instrument. For many developing countries, export restrictions remain a key tool for safeguarding domestic food security during periods of price volatility or supply shocks. Rather than eroding this flexibility, priority should be given to ensuring Members comply with existing transparency and notification requirements under Article XI of the GATT and Article 12 of the AoA.

## Food-import dependence and NFIDC challenges

Africa remains the most food-insecure continent globally. Based on FAO (2026), the prevalence of moderate to severe food insecurity in the continent rose from a three-year average of 46.2% of the population in 2014-2016 to 57.9% in 2022-2024, an increase of 11.7 percentage points, nearly double the global average increase of 6.6 percentage points over the same period. In addition, 23 out of the 30 most food-insecure countries worldwide are in Africa. According to the IFPRI food import vulnerability index[32] (see annex 1), Africa leads with the number of countries most vulnerable to higher world food prices, with 7 out of the 10 most vulnerable countries.

The African Group stresses that NFIDCs and LDCs face considerable difficulties in providing adequate support for the development of their agricultural sectors. Limited policy space under WTO rules, combined with financial constraints and volatile global food markets, restricts their ability to strengthen domestic production and ensure stable food supplies. These structural vulnerabilities increase exposure to food insecurity and highlight the need for greater flexibility in agricultural policy frameworks.

In efforts to address these challenges, the African Group submitted a proposal on 15 January 2024, titled "Promoting Agricultural Production and Trade in NFIDCs and LDCs". The proposal has five elements that seek to; (i) enhance LDCs and NFIDCs' agriculture production and productivity; (ii) enhance their accessibility to food markets; (iii) enhance their access to finance for imports and enhancement of production; (iv) boost their productive capacity and (v) ensure transparency of food aid programmes and export credit, guarantee and insurance initiatives.

32 The national Food Import Vulnerability Index (FIVI) is calculated as the geometric mean of two components: the share of calories from the 15 staple foods that are imported and the share of the population experiencing food insecurity.

The proposal includes measures to expand policy space for domestic support for staple foods, mitigate the impacts of export restrictions on food-importing countries, establish compensatory financing mechanisms for food imports, improve transparency in food aid and export credit schemes, and strengthen cooperation with international institutions to support agricultural development and infrastructure in NFIDCs and LDCs.

The African Group views these proposals as practical measures to address persistent food insecurity and support agricultural development in vulnerable economies. However, the initiative has yet to gain consensus among WTO Members. One major point of contention arises from Latin American countries advocating for the graduation of certain NFIDCs from the existing list[14], which has complicated negotiations and delayed progress toward a collective outcome.

## African Group's MC14 priorities

- Agriculture negotiations at the WTO remain largely deadlocked. Despite the impasse, going into MC14 Members hoped for a decision that could go beyond political declarations and provide structured post-MC14 negotiating pathways with defined objectives and timelines. In this regard, the African Group advocated for an MC14 decision entailing: A commitment to level the playing field in terms of rules on domestic support, including for Cotton;
- Concrete steps to address trade-distorting domestic support, especially extra AMS entitlements, and instructions for Members to prioritize work for reaching an outcome that integrates special and differential treatment, including the preservation of Article 6.2 support for low-income and resource-poor farmers, which must be delivered before MC15;
- A Ministerial mandate to advance the dedicated discussions on the MC10 Cotton Decision and deliver on an outcome before MC15;
- Recognition of the importance of PSH for food security, reaffirmation of the MC9 Ministerial mandate and the 2014 General Council Decision, and provision of a clear roadmap and timelines for a permanent solution on public stockholding which must be delivered before the MC15 and;
- Reaffirmation of the importance of SSM, recognizing its reaffirmed mandate for an outcome from MC10 and instructions for Members to

prioritize work for reaching an outcome on this issue, which must be delivered before MC15.

Despite efforts by the African Group to advance negotiations on these key issues, however, the MC14, like other preceding conferences, failed to achieve meaningful progress on agriculture.

## Post-MC14 negotiating strategies

Although MC 14 failed to deliver substantive results on agriculture, the African Group remains committed to pursuing outcomes that would level the playing field within global agricultural trade, with the goal to create a more balanced trading environment that enables all Members to compete equitably. Additionally, the Group would vigorously pursue outcomes that would grant developing countries the necessary policy flexibility to implement strategies aimed at achieving food security, bolstering domestic agricultural production, and ensuring that agricultural systems remain resilient to global shocks.

The African Group emphasizes the necessity of prioritization in agricultural negotiations, with focus placed on issues directly related to food security and crises. The Group maintains that Domestic Support and matters with clear mandates – such as PSH, SSM, and Cotton – should take precedence, while underscoring that precise, effective and operational S&DT remains a core principle in any further negotiations. It also advises against broadening the negotiation agenda to encompass new topics like Sustainable Agriculture or Emerging Agricultural Trade Issues, noting that such expansion could be counterproductive given existing imbalances within the AoA. In the same spirit, it is important that further market opening and reduction of policy space to support farming and farmers in developing countries and LDCs, in the name of "reform" is not superimposed on developing countries as a solution. They must determine their own development pathways and needs. Above all, restoration of trust in the negotiating process is imperative to ensure progress in a transparent and mutually beneficial manner and to overcome the current impasse.

Going forward, the Group's priorities include the following outcomes:

***a. Domestic support***

i. Disciplines on de minimis – Introduce disciplines that cap support at de minimis levels or eliminate AMS support above these thresholds,

while integrating special and differential treatment in reduction commitments to address existing asymmetries in the AoA.

ii. Disciplines on Blue Box subsidies – Establish tighter disciplines for countries that have made use of this support through the introduction of a cap. This would ensure that these subsidies are actually decoupled from production. Provisions should also allow countries, particularly developing countries, that have not used this instrument to access it in the future.

iii. Disciplines on Green Box subsidies – Introduce stricter disciplines to guard against the abuse of direct payments granted under paragraphs 5-13 of Annex 2 of the AoA through the introduction of a cap.

iv. Crisis response mechanism – Establish a trigger-ready mechanism allowing developing countries to temporarily exceed de minimis limits through product-specific support during severe food crises.

### *b. Decision on PSH*

i. Cover existing and future PSH programs undertaken by developing countries, with no ceiling to the quantity or value of products procured.

ii. Include a dynamic external reference price (ERP) that is alive to current realities in the determination of what constitutes domestic.

iii. Include Transparency arrangements that do not pose burdensome requirements on countries undertaking these programs in a manner that makes it de facto impossible to apply.

iv. Include Safeguards and anti-circumvention mechanisms to guarantee against possible PSH induced distortions to trade that could undermine Africa's productive capacity. It is of critical importance that the stocks procured under PSH programmes do not enter the market, distort trade, or adversely affect the food security of other Members.

### *c. Decision on SSM*

i. Provide both volume (i.e. import quantities) and price-based triggers that will address the impact of surges in imports and price declines that are disruptive to domestic agricultural sectors of developing countries. Equally important is sufficient trigger levels on both price and volume thresholds, whilst also providing extra flexibility for LDCs

ii. Have an inbuilt mechanism to address instances of currency depreciation to retain the effectiveness of the measure.

iii. Ensure appropriate coherence and address possible overlaps between similar measures that might be applicable in preferential trade arrangements.

***d. Cotton trade-related component***

i. Seek to reduce substantially and progressively the trade-distorting domestic support in the cotton market.
ii. Seek to reduce market access barriers, pursuant to the Hong Kong, Bali, and Nairobi Ministerial Decisions, for LDCs that produce and export cotton.
iii. Include commitments to improving transparency and monitoring of cotton-related trade measures affecting the global cotton market through the Dedicated Discussions on cotton held on a bi-annual basis.
iv. Include commitment by Members to open their markets to allow greater purchases of cotton products and by-products from cotton-producing LDCs and the C-4+ countries, including by providing them with duty-free and quota-free market access.

## Conclusion

The African Group's priorities are well aligned with the continent's agricultural transformation goal. This transformation will be enabled by, among other factors, a level-playing field in the international arena, where all countries have proportional influence over trade; adequate policy space to support agricultural productivity and infrastructure development; and commensurate development in the socio-economic spheres. This way, the continent will be in a position to address food insecurity and other long-standing structural challenges emanating from the underdevelopment of the agricultural sector.

The African Group aims to exercise flexibility to preserve the gains made thus far, to ensure consensus on a high-level political declaration at MC-15, which will reinforce commitments for more ambitious post-MC14 negotiations on key issues of interest, including PSH, SSM and cotton.

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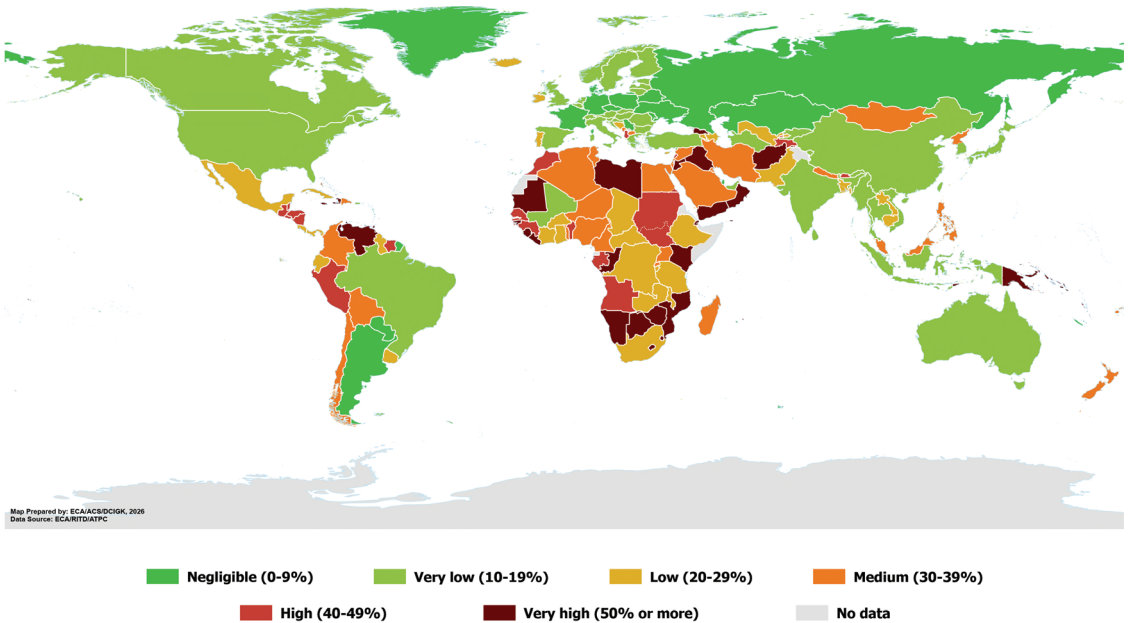
# Annex

## Annex 1. Food import vulnerability index (all 15 staple foods)




The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Final boudary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed by India and Pakistan. The Final Status of Jammu and Kashmir has not yet been agreed. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

*Source: Minot, N., Vos, R., Park, B., Kim, S., Zaki, S., & Mamboundou, P. (2023). Vulnerability to Global Market Shocks V.2: Price Shocks to Major Staple Foods. Food Security Portal.* https://www.foodsecurityportal.org/node/2505

# Chapter 3.3
# Regional Integration, Resilience, and Innovation

Leysa Maty Sall, Mahlet Girma, Victoria Havsteen Branner

## Introduction

Regional integration has become a strategic objective for Africa in an era marked by global tensions, climate vulnerability, and persistent structural transformation challenges. Despite decades of regional trade agreements, intra-African trade remains limited and concentrated in a narrow range of products, reflecting shallow productive integration and high trade costs. These constraints are particularly present in agriculture, which employs nearly 60% of Africa's labor force and plays a central role in food security, income generation, and poverty reduction (Mamboundou et al. 2026). The launch of the African Continental Free Trade Area (AfCFTA) represents a structural shift toward continent-wide deep integration, with the potential to expand intra-African trade, strengthen regional value chains, and enhance economic resilience. At the same time, digital innovation and climate imperatives are reshaping the policy landscape, creating both opportunities and adjustment pressures. This chapter examines the interconnections between regional integration, resilience, and innovation in Africa, assessing the evolution and performance of regional trade integration, evaluating the projected impacts of AfCFTA implementation, and analyzing the roles of digitalization and climate-smart trade pathways in supporting inclusive and sustainable transformation. In the context of the post-MC14, the chapter contributes to ongoing debates on how regional integration can complement multilateral reform, particularly in agriculture, digital trade governance, and climate-related trade measures.

# Regional integration in Africa

This section examines whether African regional integration has generated measurable trade creation, especially in agriculture. Regional trade integration is measured using the Regional Trade Introversion (RTI) index proposed by Iapadre (2006) and later applied by Bouët, Cosnard, and Laborde (2017). Unlike simple intra-regional trade shares, the RTI is symmetric and scale-independent, addressing the size and symmetric limitations of traditional measures, and enabling meaningful comparisons across Regional Economic Communities (RECs) and over time.[33] Importantly, the index increases only when intra-regional trade grows faster than extra-regional trade, thereby avoiding the biases inherent in traditional indicators.

The analysis covers the eight RECs officially recognized by the African Union (AU): COMESA (Common Market for Eastern and Southern Africa), EAC (East African Community), ECCAS (Economic Community of Central African States), ECOWAS (Economic Community of West African States), SADC (Southern African Development Community), AMU (Arab Maghreb Union), CEN–SAD (Community of Sahel–Saharan States), and IGAD (Intergovernmental Authority on Development). In addition, other regional initiatives are included, notably WAEMU (West African Economic and Monetary Union), TFTA (Tripartite Free Trade Area), and SACU (Southern African Customs Union).

## Evolution of regional integration in Africa

Applied to African regions, the RTI calculated using the African Agriculture Trade Monitor (AATM) database reveals pronounced heterogeneity across blocs, sectors, and time periods (2003-2005, 2011-2013, and 2021-2023) (Table 1). For industrial goods, continental introversion declined over the past two decades. Africa's RTI decreased from 0.52 in 2003-2005 and 2011-2013 to 0.44 in 2021-2023, signaling a growing orientation toward extra-African markets in manufacturing and other non-agricultural sectors. Most regions followed this downward trend, though EAC, WAEMU, and IGAD sustained a relatively

33 Formally, the symmetric RTI for a region $i$ can be written as $\mathrm{RTI}_i = \frac{H_i/E_i - 1}{H_i/E_i + 1}$ where:

- $H_i$ = intra-regional trade intensity, i.e., the ratio of intraregional trade to total trade,
- $E_i$ = extra-regional trade intensity, i.e., the ratio of trade with the rest of the world to total trade.

By construction, the RTI ranges from −1 to +1, with: $RTI > 0$ indicating that intraregional trade is stronger than extra-regional trade (introversion); $RTI < 0$ indicating relative extraversion; $RTI = 0$ indicating parity between intra- and extra-regional trade.

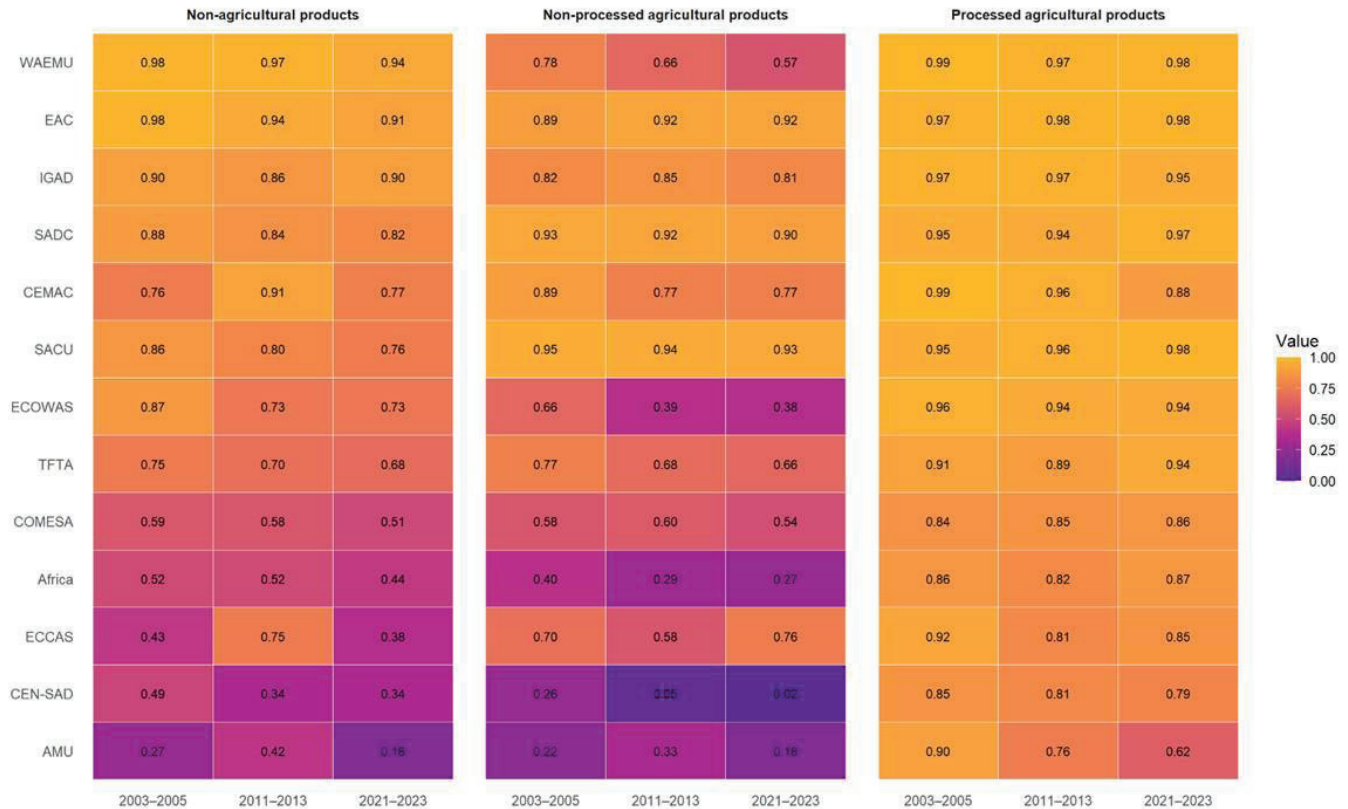
high level of introversion by 2021-2023. Conversely, AMU exhibited a sharp drop, indicating a stronger shift toward extra-regional industrial trade.

For unprocessed agricultural products, the continental RTI also fell from 0.40 to 0.27 over the two decades, reflecting growing global orientation in raw agricultural trade. Yet several RECs in Southern and Eastern Africa continued to display robust intra-bloc linkages, while CEN-SAD saw its index collapse almost to zero.

A different pattern emerges for processed agricultural products, where introversion remains higher than in other sectors, reaching 0.87 at the continental level in 2021-2023. Many RECs record near-unity indices for processed goods, highlighting the strength of regional circuits for value-added agricultural products relative to raw commodities or manufactured non-agricultural goods.

The contrast between processed and unprocessed agricultural products is particularly telling. While raw commodity trade has become more extraverted over time, driven by global demand for primary agricultural exports, processed agricultural trade remains deeply anchored within African regions. This suggests that regional markets in Africa may serve as platforms for food processing and regional value chains, where countries exchange and integrate value-added goods more intensively than raw inputs.

**Table 1: Evolution of regional trade introversion in Africa by sector and regional economic community**




*Source: African Agriculture Trade Monitor (AATM) 2025 database. Authors' computations.*

## Ex-post assessment of Regional Trade Agreements

Building on the descriptive analysis of the RTI trends across regions and sectors, this section examines how the design features and legal depth of regional trade agreements translate into measurable integration outcomes. The analysis relies on a structural gravity model using Poisson Pseudo-Maximum Likelihood (PPML) with high-dimensional fixed effects, controlling multilateral resistance terms and unobserved bilateral heterogeneity over time. This specification retains zero trade flows and provides consistent estimates under heteroskedasticity. The baseline analysis focuses on the period 1995–2024, corresponding to the post-establishment of the WTO, which offers a more institutionally consistent global trade environment. Two robustness checks complement the baseline specification: (i) an extended sample covering 1988–2024 to capture pre-WTO dynamics, and (ii) specifications interacting regional trade agreements with WTO membership to examine whether regional integration effects differ within the multilateral framework (see Tables 3 and 4 in Annex).[34] This approach allows to compare pre- and post-WTO dynamics. Agricultural trade in Africa is characterized by a large share of informal cross-border exchanges, which are not captured in official trade statistics (Bouët et al. 2020). Bouët, Sy, et al. (2025) show that, in 2018, the COMTRADE database missed 84% of the total value of trade flows for the 33 products investigated by the ECO-ICBT database. As a result, econometric estimates based on formal trade flows are likely to underestimate the true extent of regional integration in agrifood markets.

The findings reveal substantial heterogeneity in trade effects[35] across regions. Strong and statistically significant positive trade effects are observed for SACU, IGAD, EAC, and ECCAS (Figure 1). Among these, SACU displays by far the largest trade-creating impact, with agricultural trade increasing by approximately 180%, indicating deep intraregional integration. IGAD also stands out, with agricultural trade increasing by nearly 150%, substantially exceeding its aggregate trade impact (119%), suggesting that regional cooperation in this bloc operates primarily through agrifood exchange. EAC shows

34 The analysis combines bilateral trade data from the BACI database (1995–2024), covering 233 countries, with information from the CEPII Gravity database (2025), the WTO RTA database (2025), and the World Bank Deep Trade Agreement database (2025). Detailed data construction procedures and empirical specifications are provided in (Sall et al. 2025 and Sall et al. , forthcoming) and summarized in Annex 1.

35 Trade effects are computed by exponentiating the estimated coefficients and correcting for Jensen's inequality:

$$\frac{\partial \ln(X_{ijt})}{\partial RTA_{ijt}} = (e^{\hat{\beta}_{RTA} - \frac{\hat{\sigma}^2_{RTA}}{2}} - 1) * 100$$

significant and stronger effects in agriculture (52%) than in total trade, while ECCAS records robust and balanced positive impacts (around 50%) across both sectors (Figure 1).

### *Formal agreements do not automatically generate agricultural trade creation*

In contrast to the strong performers identified above, several regional agreements show limited or uneven trade effects. COMESA exhibits modest positive effects for total trade at 11%, but its agricultural trade effect is statistically insignificant. This suggests that while the agreement may have facilitated aggregate trade flows, it has not generated robust integration in agrifood markets. CEMAC presents a more contrasting pattern: total trade shows an insignificant effect, while agricultural trade displays a negative at roughly 50%, indicating that sectoral dynamics differ substantially within the bloc and that agricultural integration has lagged behind broader trade patterns. Similarly, TFTA shows no statistically significant effects in either total trade or agriculture, pointing to limited measurable trade creation.

WAEMU records a negative and statistically significant agricultural trade effect of about -40%, with an insignificant aggregate effect. CEN-SAD, by contrast, presents a sector-specific pattern, with positive agricultural effects (21%) despite insignificant aggregate results. This suggests that the existence of a formal agreement is not sufficient to generate trade creation; the depth of implementation and the effectiveness of policy coordination are critical determinants of outcomes.

### *Agriculture as a primary channel of integration*

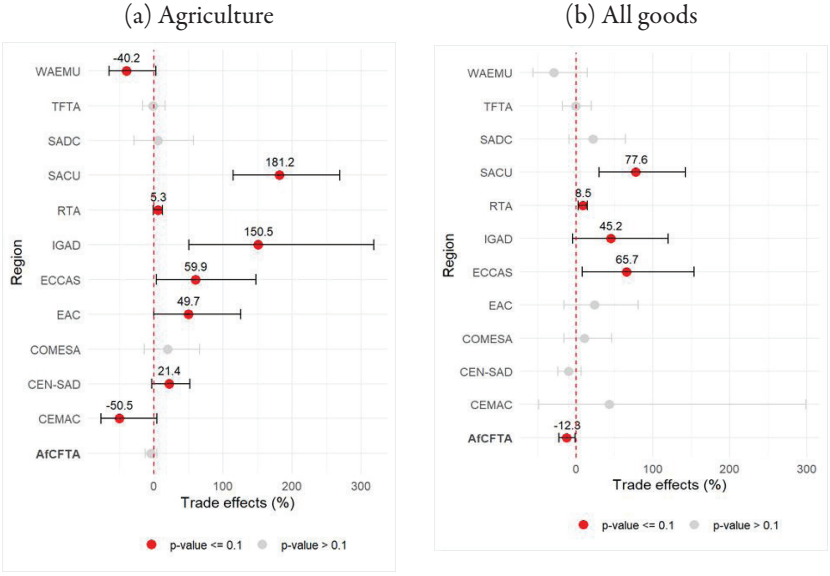
A notable pattern across the estimates is that agricultural trade often responds more strongly than aggregate trade to regional integration. This is particularly evident in SACU, IGAD, EAC, and CEN-SAD, where agricultural trade effects exceed those for total trade (Figure 1). This result is consistent with the RTI evidence showing that processed agricultural products exhibit the highest levels of regional introversion across many RECs. Together, the descriptive and causal findings point to a structural feature of African integration: regional agreements play a central role in consolidating agrifood markets and strengthening regional value chains. While industrial trade in several regions increasingly targets global markets, agricultural trade remains more deeply embedded within regional circuits.

### *AfCFTA effects reflect transitional dynamics*

The AfCFTA variable is negative and statistically significant for total trade and statistically insignificant for agriculture over the observed period. Given the short implementation window and the gradual nature of tariff dismantling schedules, this result likely reflects transitional dynamics rather than structural underperformance. The sensitivity analysis for 1988-2024 broadly confirms the ranking and sign of the main results, reinforcing the robustness of strong performers such as SACU and IGAD and maintaining the negative agricultural effect for WAEMU (Table 3 in Annex).

Overall, the ex-post evidence confirms that regional integration in Africa can generate meaningful trade creation, particularly in agriculture, but outcomes vary substantially across agreements. A limited group of RECs, notably SACU, IGAD, ECCAS, and EAC, combine strong positive impacts with sectoral depth in agrifood markets, while others exhibit insignificant or even negative effects. These findings underscore that African regional integration is neither uniformly successful nor uniformly ineffective; its trade-creating impact depends critically on institutional depth, policy implementation, and sector-specific governance, especially within agricultural value chains.

**Figure 1: Trade effects by regions, 1995-2024**




*Source: Authors' simulations*
*Note: ECOWAS is excluded from the analysis because it entered into force in 1995, leaving no pre-treatment variation for estimation.*

## Multilateral-regional coherence: interactions between regional groupings, WTO, and AfCFTA

To examine whether regional integration in Africa operates in isolation or in complementarity with broader multilateral and continental frameworks, we introduce interaction terms in the structural gravity framework. Those interaction terms capture: (i) complementarities between regional grouping and WTO membership (Region × WTO), and (ii) potential amplification effects between regions and the AfCFTA (Region × AfCFTA).

The results confirm heterogeneity across regional groups, both in their standalone trade effects and in their interactions with the WTO and AfCFTA frameworks. For agricultural trade, several regional blocs with limited or insignificant trade effects display positive interaction effects with WTO membership (Table 2). For instance, COMESA shows a non-significant coefficient but a strong positive Region × WTO interaction (+51%), suggesting that the multilateral system may enhance the effectiveness of regional commitments. The same holds for CEMAC, which has a very large positive interaction with WTO membership (+331%), indicating that WTO participation may compensate for regional integration where baseline effects are weak.

Conversely, regional blocs such as IGAD and SACU, which already exhibit strong positive baseline effects, show either insignificant or negative interactions with WTO membership. This suggests that their trade gains stem primarily from internal regional coordination rather than multilateral reinforcement.

For total trade, the results mirror the agricultural's findings. Regional blocs such as CEMAC display strong positive interaction effects with WTO membership, despite negative baseline regional effects. In contrast, blocs such as SACU and IGAD again show insignificant interaction terms. This suggests that the role of WTO membership varies across regional groupings, acting as a complementary framework in some cases (e.g. IGAD and SACU), while in others regional trade dynamics appear less dependent on multilateral reinforcement (e.g. CEMAC).

The Region × AfCFTA interaction terms provide limited evidence of systematic amplification effects. In agriculture, only IGAD exhibits significant negative interaction (-29%), suggesting potential adjustment or reallocation effects, while all other regions show no measurable AfCFTA impact. For total trade, COMESA records a negative interaction (-13%), whereas most other regions display no statistically significant effects. Overall, the results indicate that the AfCFTA has not yet generated measurable additional trade gains beyond existing regional arrangements during the period considered, consistent with its recent implementation and gradual operationalization.

## Table 2: Regional trade effects and multilateral/continental complementarity, 1995-2024

**(a) Agriculture**

| | Baseline Effect | | Region x WTO | | Region x AfCFTA | |
|---|---|---|---|---|---|---|
| WAEMU | -40% | ▼ | | | | • |
| ECOWAS | | | | • | | • |
| COMESA | | • | 51% | ▲ | | • |
| EAC | | • | | • | | • |
| CEMAC | -94% | ▼▼▼ | 331% | ▲▲ | | • |
| SADC | | • | | • | | • |
| TFTA | | • | | • | | • |
| UMA | | | | | | • |
| ECCAS | | • | | • | | • |
| IGAD | 182% | ▲▲▲▲ | | • | -29% | ▼▼ |
| CEN-SAD | 42% | ▲ | | • | | • |
| AfCFTA | | • | | • | | |
| SACU | 159% | ▲▲▲▲ | | | | • |
| **N** | **1143724** | | | | | |

**(b) All goods**

| | Baseline Effect | | Region x WTO | | Region x AfCFTA | |
|---|---|---|---|---|---|---|
| WAEMU | | • | | | | • |
| ECOWAS | | | | • | | • |
| COMESA | | • | | • | 13% | ▼ |
| EAC | | • | | • | | • |
| CEMAC | -85% | ▼ | 484% | ▲▲ | | • |
| SADC | | • | | • | | • |
| TFTA | 39% | ▲ | -38% | ▼▼ | | • |
| UMA | | | | | | • |
| ECCAS | 105% | ▲▲ | | • | | • |
| IGAD | 71% | ▲▲▲ | | • | | • |
| CEN-SAD | | • | | • | | • |
| AfCFTA | | • | | • | | |
| SACU | 83% | ▲▲▲▲ | | | | • |
| **N** | **1550813** | | | | | |

*Source: Author's estimations.*

*Note: ▲ significant positive effect ▼ significant negative effect*

*• not statistically significant*

*Interactions in grey are omitted in the estimation due to limited variation.*

## Legal enforceability and RTAs effectiveness

Beyond membership, the depth of trade agreements plays a central role in shaping trade outcomes. While shallow agreements focus primarily on tariff reductions, deeper agreements, like the AfCFTA, extend to behind-the-border policies such as services, investment, competition, and regulatory cooperation. These provisions can reduce policy uncertainty, lower trade costs, and support participation in value chains, particularly where regulatory compatibility matters (Baldwin, 2011). Empirical evidence shows that deeper agreements tend to generate stronger trade effects, especially in services and value-added trade (Mattoo et al., 2017; Fernandes et al., 2021).

Trade agreement depth is captured using the World Bank's Deep Trade Agreement (DTA) database along two complementary dimensions: horizontal depth reflects the number of policy areas covered by an agreement, while vertical depth captures the degree of legal enforceability.

In addition, provisions are grouped into WTO-plus and WTO-X categories. WTO-plus provisions cover trade-related disciplines that deepen commitments within the traditional trade policy sphere (e.g., tariffs, customs procedures, sanitary and phytosanitary measures (SPS), technical barriers to trade (TBT), services, state aid). WTO-X provisions, in contrast, extend beyond the WTO framework into areas such as investment, competition policy, labor, environment, governance, and production-related cooperation.

Following the classification of Aboushady et al. (2023), WTO-plus provisions are grouped into three categories: (1) tariffs; (2) non-tariff measures (NTMs); and (3) services. WTO-X provisions go beyond the WTO's scope and are grouped into five broad categories: (1) agriculture and health; (2) institutional and regulatory frameworks; (3) production processes and economic policies; (4) cooperation and institutional support, and; (5) Other policy areas covering political, security, and social policies beyond economic issues (See Annex 3 for details).

African RTAs tend to display strong enforceability in traditional areas, especially tariffs, but limited enforceability in services and broader WTO-X provisions. To assess whether deeper and more enforceable agreements improve trade performance, we interact RTA membership with the vertical depth of the eight policy areas described above (3 WTO-plus and 5 WTO-X areas). Within each area, vertical depth is measured as the share of provisions legally enforceable

and subject to dispute settlement. The full econometric specification is further detailed in Annex 1.

The results show that the effects of legal enforceability are not uniform across policy areas.

The interaction between RTA membership and "Institutions and Regulatory Frameworks" under WTO-X provisions is consistently negative and statistically significant across several regions for overall trade. In agriculture, however, the pattern is more nuanced: while negative effects also appear, they are not uniformly significant across all regional groupings. This indicates that strengthening legal enforceability of provisions will not necessarily enhance trade performance and may even constrain it, as observed for WAEMU (Table 3). One possible explanation of the negative interaction is the regulatory nature of these commitments. Provisions, such as environmental laws, competition policy, anti-corruption measures, data protection, consumer protection, and intellectual property rights, often impose compliance costs and administrative requirements. In developing regional contexts, these measures may enhance long-term institutional quality and regulatory credibility, but they can generate short- to medium-term trade frictions.

In contrast to "Institutions and Regulatory Frameworks" enforceability, cooperation-oriented provisions ("Cooperation and Institutional Support" under WTO-X provisions) display more mixed effects on agricultural trade. While results vary across regional groupings, cooperative mechanisms appear more conducive to agricultural trade than strict legal enforceability. A similar pattern is observed for all goods (Tables 3 and 4). This suggests that coordination instruments, such as regulatory dialogue, information exchange, and technical cooperation, may facilitate gradual convergence without imposing excessive rigidity. In agriculture, where regulatory systems differ widely across countries, such flexible mechanisms seem particularly valuable.

Ultimately, WTO-plus provisions related to non-tariff measures (NTMs) show strong positive effects on average in agriculture, although at the regional level these effects are not uniformly significant (Table 3). Given the structural importance of SPS standards, technical regulations, and border procedures in agricultural markets, harmonization or mutual recognition of NTMs can substantially reduce trade friction. Deeper NTM integration may also introduce compliance costs, stricter harmonization requirements, and implementation challenges. Where regulatory capacity is uneven, adjustment frictions can limit

immediate gains. Nevertheless, compared to broad institutional judicialization, NTM-related deepening appears more directly linked to trade facilitation in agriculture. The contrast with total goods confirms that regulatory alignment is particularly critical for agricultural integration.

### *Strategic implications for cooperation under AfCFTA*

The findings suggest that institutional depth matters for agricultural trade, but its form and sequencing are decisive. While stronger legal enforceability of broad institutional provisions is, in some cases, associated with weaker trade performance, cooperation-based mechanisms and WTO-plus NTM provisions appear more compatible with agricultural trade expansion. These results suggest that AfCFTA coordination should prioritize functional integration before expanding the legal enforceability of deeper institutional commitments. Achieving sustainable continental integration will therefore require carefully calibrated institutional design, differentiated implementation speeds across regions, and strong capacity-building support.

**Table 3: Regional interaction effects of the legal enforceability of trade agreement provisions in agriculture**

| | Agriculture | | | | |
|---|---|---|---|---|---|
| | **Estimate** | **Stderr** | **Stars** | | **166688.99** |
| UEMOA | ✓ 1.86 | 0.59 | *** | ✓ | 198.16 |
| EAC | ✗ -2.08 | 1.23 | * | ✓ | 2.15 |
| ECCAS | ✓ 0.94 | 0.51 | * | ✓ | 82.37 |
| SACU | ✓ 0.91 | 0.13 | **** | ✓ | 90.73 |
| UEMOA x Institution | ✗ -22.78 | 6.11 | **** | | |
| EAC x Production | ✗ -9.31 | 4.46 | ** | | |
| ECCAS x Production | ✗ -5.92 | 2.82 | ** | | |
| SACU x Production | ✓ 2.47 | 1.46 | * | | |
| UEMOA x Cooperation | ✓ 2.30 | 1.36 | * | | |
| COMESA x Cooperation | ✗ -1.48 | 0.68 | ** | | |
| EAC x Other | ✗ -41.79 | 6.78 | **** | | |
| SADC x Other | ✓ 31.94 | 5.50 | **** | | |
| RTA x NTMS | ✓ 7.35 | 1.31 | **** | | |

*Source: Author's estimations.*
*Note: *p<0.10; **p<.05; ***p<.01; ****p<0.001. Only coefficients of statistically significant interaction terms are reported. Institution = "Institutions and Regulatory Frameworks" WTO-X area. Production = "Production Process and Economic Policies" WTO-X area. Cooperation= "Cooperation and Institutional Support" WTO-X area. Other= "Other Policy Areas". NTMs= "Nontariff measures" WTO-plus area*

**Table 4: Regional interaction effects of the legal enforceability of trade agreement provisions for all goods**

| | All goods | | | | | |
|---|---|---|---|---|---|---|
| | Estimate | | Stderr | Stars | | Trade effects |
| UEMOA | ✓ | 1.09 | 0.31 | **** | ✓ | 104.66 |
| COMESA | ✗ | -2.21 | 0.88 | ** | ✓ | 2.73 |
| EAC | ✗ | -3.05 | 1.71 | * | ✓ | 0.40 |
| ECCAS | ✓ | 1.30 | 0.35 | **** | ✓ | 127.03 |
| SACU | ✓ | 0.56 | 0.14 | **** | ✓ | 63.62 |
| UEMOA x Institution | ✗ | -14.76 | 3.65 | **** | | |
| COMESA x Institution | ✗ | -11.30 | 5.21 | ** | | |
| EAC x Institution | ✗ | -8.87 | 4.58 | * | | |
| ECCAS x Institution | ✗ | -19.59 | 5.21 | **** | | |
| RTA x Institution | ✗ | -0.41 | 0.12 | **** | | |
| COMESA x Production | ✓ | 16.41 | 8.09 | ** | | |
| ECCAS x Production | ✓ | 4.56 | 2.32 | ** | | |
| COMESA x Cooperation | ✗ | -2.39 | 0.92 | *** | | |
| CEMAC x Cooperation | ✓ | 5.37 | 2.28 | ** | | |
| ECCAS x Cooperation | ✓ | 2.52 | 1.19 | ** | | |
| AfCFTA x Cooperation | ✓ | 3.22 | 1.45 | ** | | |
| RTA x Cooperation | ✓ | 0.22 | 0.11 | * | | |
| EAC x Other | ✗ | -24.52 | 10.51 | ** | | |
| SADC x Other | ✓ | 42.40 | 16.42 | *** | | |
| EAC x NTMs | ✓ | 6.46 | 2.67 | ** | | |

*Source: Author's estimations.*
*Note: * p<0.10; ** p<.05; *** p<.01; **** p<0.001. Only coefficients of statistically significant interaction terms are reported. Institution = "Institutions and Regulatory Frameworks" WTO-X area. Production = "Production Process and Economic Policies" WTO-X area. Cooperation= "Cooperation and Institutional Support" WTO-X area. Other= "Other Policy Areas". NTMs= "Nontariff measures" WTO-plus area.*

## AfCFTA and intra-African trade

The AfCFTA is a continent-wide trade agreement designed to establish a single African market for goods and services. Through the gradual elimination of tariffs, reduction of non-tariff barriers, and improved trade facilitation, the agreement aims to deepen economic integration, expand intra-African trade, and support the development of regional production networks and value addition across the continent.

## Economic and trade effects of implementation

While the previous section assessed regional integration through observed trade patterns and ex-post evidence from existing regional trade agreements, evaluating the potential impacts of the AfCFTA requires a forward-looking, ex-ante analytical approach. This section, therefore, draws on the simulation from the MIRAGE computable general equilibrium (CGE) model to simulate the potential impacts of AfCFTA implementation. The model compares an AfCFTA scenario for 2045 with a counterfactual baseline in which the agreement is not implemented.

In the AfCFTA scenario, the simulation incorporates a set of core trade reforms, including:

- Implementation of the agreed AfCFTA modalities on trade in goods;
- A 50% reduction of actionable non-tariff measures (NTMs) on goods within Africa; and
- A 50% reduction of actionable trade barriers to trade in priority services sectors, including communication, tourism, transport, business, and financial services, as well as health and education services.

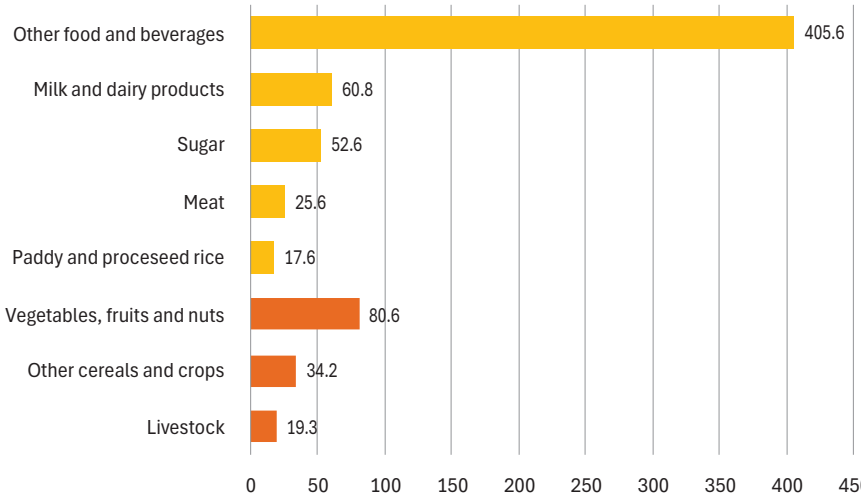
Although the reforms are assumed to be fully implemented by 2035, results are reported for 2045 to allow sufficient time for the economy to adjust and reach a long-term equilibrium after the policy changes.

The most significant macroeconomic gains from AfCFTA implementation are projected to arise from the expansion of intra-African trade. Estimates by the United Nations Economic Commission for Africa (ECA) suggest that relative to a baseline without the agreement, intra-African exports could increase by 44.5% in 2045, which is equivalent to USD275.7 billion. In cumulative terms, aggregating the additional trade generated annually between 2021 and 2045, the increase in intra-African exports is projected to amount to approximately USD3 trillion. As a result, the formal share of intra-African trade in Africa's total trade is expected to increase from 15% in 2021 to nearly 25% in 2045. These projections are likely conservative, as they exclude informal cross-border trade, which remains substantial but difficult to quantify due to data limitations (ECA, forthcoming-b).

Sectoral projections show that the largest proportional increases are concentrated in the agrifood trade. Agrifood trade is projected to expand by 60% (or USD58.6 billion) in 2045 compared to the baseline without the AfCFTA. In

cumulative terms, this represents an increase of approximately US$696.3 billion in total intra-African agrifood trade between 2021 and 2045. On the product level, the largest increases are expected for processed agrifood, which is projected to grow by 56% (or USD563.2 billion), while non-processed agrifood is expected to expand by 44% (or USD134.1 billion) (ECA, forthcoming-b) (Figure 2).

**Figure 2: Projected cumulative trade gains in agrifood (2021-2045), in USD billions**




*Source: ECA, forthcoming-b*
*Note: Yellow represents processed agrifood, and orange indicates non-processed agrifood.*

These projected gains are particularly relevant in the context of persistent food insecurity across the continent. In 2023, about 58% of Africa's population (around 846.6 million people) experienced moderate to severe food insecurity, while 20.4% were undernourished (FAO 2025). Structural factors continue to constrain progress, notably the relatively high protection applied to agriculture. On average, tariffs imposed by African countries on agricultural products (23.8%) are more than three times higher than those on non-agricultural goods (7.1%) (ECA forthcoming-b). In addition, many RECs classify key food items as "sensitive" or "excluded" products, while persistent non-tariff barriers further restrict cross-border agricultural trade.

These constraints contribute to Africa's continued reliance on external suppliers: between 2015 and 2024, about 72% of Africa's agrifood imports origi-

nated from outside the continent. This dependence increases vulnerability to global supply disruptions, such as those observed during the Russia–Ukraine conflict (ECA forthcoming-b). By reducing tariffs and non-tariff barriers, the AfCFTA has the potential to create a more integrated continental food market, enabling agricultural products to move more efficiently from surplus to deficit regions and strengthening food security across Africa.

These results should be interpreted with some caution, given the underlying modelling approach and data limitations. The CGE models calibrated on the GTAP database exclude a large share of informal cross-border trade, which may lead to an underestimation of intra-African trade and the associated gains from integration. In addition, the static framework focuses on long-term equilibrium outcomes and does not capture short-term adjustment dynamics or the immediate effects of global shocks, including recent episodes of price volatility and currency depreciation.

## Implications for regional value chains and agrifood transformation

Beyond its effects on trade flows, AfCFTA implementation is expected to play an important role in the development of regional value chains (RVCs). Modelling results indicate that implementation of the AfCFTA is expected to reconfigure Africa's trade structure in ways that support the emergence and deepening of RVCs. By expanding both intermediate and final trade flows, the Agreement strengthens production linkages across countries and enables firms to source inputs regionally rather than externally.

However, these dynamics unfold against a persistent structural constraint: African exports remain highly concentrated in a narrow range of primary commodities, leaving African economies exposed to commodity price volatility. In this context, while Africa is likely to remain largely engaged in trade in intermediate goods—reflecting its current role as a supplier of raw and semi-processed inputs—the extent to which AfCFTA can support a transition toward higher value-added production depends critically on overcoming this structural dependence.

Under the AfCFTA implementation, African exports are projected to rise by 17% for final goods and services and by 5.2% for intermediate goods and services by 2045 compared with a baseline without the agreement. Imports are also expected to increase; particularly intermediate inputs used in production. Among

all sectors, agrifood exhibits some of the strongest potential for RVC development, largely because intra-African agricultural trade currently faces relatively high tariffs and non-tariff barriers. Their reduction generates disproportionately large gains once liberalization is implemented (ECA and CEPII 2025).

AfCFTA implementation is projected to substantially increase in intra-African agrifood trade for both final consumption (food products traded for direct use) and intermediate consumption (inputs used in processing and manufacturing). In 2045, projected changes include (ECA and CEPII 2025):

- Non-processed agrifood (final consumption): +81.6%
- Processed agrifood (final consumption): +62.8%
- Processed agrifood (intermediate consumption): +59.7%
- Non-processed agrifood (intermediate consumption): +30.6%

These projections indicate a substantial expansion of intra-African agrifood trade for both intermediate and final consumption following the implementation of the AfCFTA, supporting the development of RVCs in the agrifood sector.

In addition to trade flows, assessing the development of RVCs requires examining changes in value added across sectors. Value added measures the increase in a product's value generated by production, capturing the contribution of labor, capital, and other inputs while excluding the cost of intermediate goods. Processed agrifood subsectors such as dairy, meat, sugar, and prepared foods experience increases in both trade and value added, indicating genuine value-chain formation across borders. In contrast, non-processed agriculture expands in trade volume but shows limited or declining value added, as these products are mostly used directly in final consumption, with no value chain likely to be created during the process (ECA and CEPII 2025).

Regional studies identify strong opportunities for agrifood value chain creation under the AfCFTA, including fish and shellfish, fruits and vegetables, cashew and almond processing, root- and tuber-based flours, and cocoa products in West Africa. Several countries in Eastern and Western Africa also hold comparative advantages in cereals, though trade remains dominated by unprocessed outputs—highlighting significant scope for value-chain upgrading (ECA et al. 2025; ECA 2025b).

By fostering more integrated and predictable agrifood production networks, the AfCFTA could gradually narrow Africa's deficit in processed agrifood trade

and strengthen domestic value addition (ECA 2025a). Realizing these gains will require addressing structural barriers faced by women, who make up the majority of smallholder farmers, through complementary frameworks such as the AfCFTA Protocol on Women and Youth in Trade and the 2025 Kampala Comprehensive Africa Agricultural Development Programme (CAADP) Declaration (ECA forthcoming-b).

## Regional value chains and digitalization

Africa has significant potential to develop competitive and integrated agri-food value chains, including higher value-added and processed products. However, realizing this potential requires structural transformation across the agrifood system. Persistent bottlenecks, such as weak logistics and transport infrastructure, fragmented standards and certification regimes, weak quality control and traceability systems, limited access to affordable finance, and pronounced information irregularities, continue to constrain productivity, value addition, and integration into both regional and global markets. These structural gaps disproportionately affect smallholders and agri-SMEs, limiting their ability to upgrade and fully benefit from expanded market opportunities.

In this context, digitalization offers a powerful enabler to address these constraints while enhancing the resilience, efficiency, and sustainability of agrifood systems. By applying data-driven technologies across the value chain, from farm management to processing, logistics, and trade, digital solutions can improve productivity, optimize input use, reduce post-harvest losses, and strengthen climate resilience (FAO, 2022). Digital platforms facilitate coordination among producers, processors, aggregators, and traders across borders, lowering transaction costs, improving market access, and enhancing traceability and standards of compliance throughout regional and global value chains (RVCs & GVCs). Tools such as mobile-based advisory services, remote sensing, artificial intelligence, and digital financial services also support risk management and informed decision-making, which are critical for stabilizing regional supply chains and enabling cross-border trade.

Recognizing this transformative potential, Africa has explicitly positioned digitalization as a strategic pillar of agricultural transformation. Continental frameworks, including the Agenda 2063, the Malabo Declaration, the Digital Transformation Strategy for Africa (2020–2030), and the Science, Technology and Innovation Strategy for Africa (STISA-2024), identify agriculture as a

priority sector where digital solutions can drive modernization, value addition, and regional trade. Complementing these initiatives, the AfCFTA Protocol on Digital Trade establishes common rules for digital transactions, cross-border data flows, and payments, providing a regulatory foundation for digitally enabled agricultural value chains and cross-border trade.

Importantly, Africa's digital agriculture and value chain strategies are also shaped in a way that interacts with global trade and digital governance frameworks. Initiatives such as the WTO and World Bank's Digital Trade for Africa project support African countries in strengthening regulatory environments for e-commerce, electronic transactions, and cross-border data flows.[36] By combining digitalization with policy frameworks that support trade facilitation, standards compliance, and cross-border integration, Africa is positioning its agrifood systems not only for stronger intra-African trade under the AfCFTA but also for meaningful participation in global markets.

Evidence from African countries highlights the transformative role of digitalization in strengthening agricultural value chains and regional trade. Ethiopia provides a notable example through its Digital Agriculture Roadmap (DAR) 2025–2032, which deploys integrated digital platforms, such as AgDataHUB, the Ethiopian Digital Agro Climate Advisory Platform (EDACaP), the Agricultural Stress Index System (ASIS), SIMAGRI, the NextGEN Fertilizer Advisory tool, the Ethio-seed Exchange Platform, and the Climate-Smart Agriculture Knowledge Hub, to support farmers, extension services, and policymakers.[37] These initiatives have delivered measurable results, for example, the NextGEN fertilizer advisory tool has increased wheat yields by 14–25% and improved

36 See https://www.wto.org/english/thewto_e/minist_e/mc13_e/policy_note_digital_trade_africa_e.pdf

37 **AgDataHUB:** Ethiopia's central agriculture data platform that collects and shares real-time agronomic, climate, market, and extension data to support evidence-based decision-making.
**EDACaP:** Provides real-time climate and farming advice (weather, planting time, irrigation, pests) to support climate-smart decisions.
**ASIS:** Monitors and predicts drought using satellite data; gives early warnings and maps drought risk areas.
**SIMAGRI:** A simulation and decision-support tool for planning, budgeting, and analyzing farming and market scenarios.
**NextGEN Fertilizer Advisory:** AI-based tool that gives customized fertilizer recommendations based on soil and crop needs.
**Ethio-Seed Exchange Platform:** Tracks seed demand, supply, and distribution to improve seed planning and availability.
**Climate-Smart Agriculture Knowledge Hub:** A data platform that provides research-based insights to support climate-smart agriculture decisions.

farmers' incomes, while EDACaP, as the climate advisory services, have raised yields by around 25% and enhanced supply predictability (Seid et al. 2025).

Similar initiatives across Africa, such as Kuuzacomores[38] in Comoros, provide smallholders with digital access to market opportunities and buyers, an online presence for their agricultural products, helping farmers connect directly with consumers. In Ghana, mobile platforms such as Esoko[39], provide smallholders with real-time weather forecasts and climate information, up-to-date market prices, and agronomic advice, helping farmers make informed decisions about planting, selling and crop management.

These examples demonstrate how low-cost digital tools can enhance production efficiency, market transparency, and coordination between producers and buyers in resource-constrained environments. Such experiences highlight the potential for replication and adaptation across diverse agro-ecologies, reinforcing the role of digitalization in structuring regional agricultural value chains, facilitating intra-African trade under the AfCFTA, and enhancing competitiveness in global markets.

Despite promising progress, the adoption of digital agriculture across Africa remains uneven. Limited rural connectivity, unreliable power supply, low digital literacy among farmers, data governance gaps, high costs of digital tools, and constrained access to finance continue to hinder the transition from pilot-level initiatives to system-wide transformation (IFPRI 2025). Gaps in extension services, combined with disparities in access to resources and opportunities across different population groups, further limit inclusive uptake. Addressing these barriers will require targeted investments in digital infrastructure, capacity building, and supportive policy frameworks that expand both technological access and human capital. When effectively implemented, digital agriculture can significantly boost productivity, strengthen regional and global value chains, and enhance Africa's competitiveness in international markets, particularly when aligned with international trade rules and standards.

## Climate-smart and green trade pathways

The climate and environmental impacts of AfCFTA implementation are projected to be modest at the continental level but uneven across sectors and

38 see https://www.kuuzacomores.com/
39 See https://www.esoko.com/

regions. ECA modelling suggests that full implementation would raise cumulative greenhouse gas emissions by around 0.14% between 2021 and 2045, compared to a baseline without AfCFTA. This increase would largely reflect higher $CO_2$ emissions from expanded economic activity and transport. The relatively small aggregate effect is explained by Africa's low emissions base, partial substitution away from extra-continental trade, and declining output in some emissions-intensive sectors. However, these estimates may understate environmental pressures, as they do not fully account for emissions linked to trade-induced land-use change. Projected agricultural expansion and continued pressure on forest resources could therefore generate additional emissions and reduce carbon sinks (ECA, forthcoming-a). At the same time, the global proliferation of climate-related trade measures (TrCMs), including carbon border adjustment mechanisms, sustainability standards, due diligence requirements, and product traceability rules, is reshaping the external trade environment facing African exporters. These measures may create additional compliance costs and market access challenges, particularly for carbon-intensive and agriculture-based exports, but they also strengthen the case for greener production systems and regional value chains under the AfCFTA.

Beyond emissions, AfCFTA implementation may affect biodiversity, water resources, fisheries, and waste generation. Agricultural land is projected to expand by around 2% cumulatively between 2021 and 2045, raising localized risks of habitat loss and fragmentation, particularly where export-oriented cash crops expand. Water use patterns shift, with lower irrigation and livestock demand but rising industrial and residential water consumption, leading to largely stable aggregate water stress but increased pressures in some countries. Waste generation and pollution are expected to rise alongside production and consumption, underscoring the importance of complementary environmental regulation and enforcement to avoid adverse outcomes (ECA forthcoming-a).

At the same time, the AfCFTA provides a platform for advancing climate-smart and green trade pathways. Expanding trade in sustainably produced agricultural products offers a pathway to align AfCFTA implementation with climate and biodiversity objectives. Agriculture is one of the largest sources of emissions and ecosystem pressure in Africa, but climate-smart practices can enhance carbon storage, reduce land degradation, and strengthen resilience. Provisions in the Goods Protocol enable the harmonization of sustainability standards and the reduction of trade costs for eco-friendly products. Continental standards and ecolabelling schemes developed by African institutions support regulatory convergence, facilitate market access, and incentivize low-emission

and biodiversity-friendly production. By promoting compliance with harmonized sustainability standards, the AfCFTA can help scale climate-smart agriculture, foster value addition within the continent, and support a more sustainable transformation of African agrifood systems (ECA forthcoming-a).

## Conclusions

The findings of this chapter offer insights for the post-MC14 and the broader debate on the future of the multilateral trading system. First, the evidence demonstrates that regional integration in Africa can generate substantial trade creation, particularly in agriculture, when institutional depth and effective implementation accompany formal liberalization. The strong responsiveness of agricultural trade to regional integration highlights the strategic role of agrifood markets in advancing resilience, food security, and structural transformation in Africa, suggesting that WTO agricultural reform should be aligned with regional value-chain development in Africa, supporting trade facilitation, standards harmonization, and investment in productive capacity.

Second, the results highlight the importance of institutional interactions. Multilateralism, through WTO membership, appears to compensate for weaker regional implementation in some RECs, indicating that multilateral rules can reinforce fragile regional arrangements. At the same time, institutional depth does not automatically translate into stronger trade outcomes. Stronger legal enforceability of broad institutional (WTO-X) provisions is, in some cases, associated with weaker trade performance, likely reflecting compliance costs and adjustment constraints. In contrast, WTO-plus provisions targeting non-tariff measures, along with cooperation-based mechanisms, appear more conducive to agricultural trade expansion.

Third, the projected gains from AfCFTA implementation indicate that deep South–South integration can complement rather than undermine the multilateral trading system. Finally, the chapter highlights the growing importance of digitalization and climate-smart trade pathways in shaping the future of agricultural trade. Digital trade facilitation can significantly reduce transaction costs, improve traceability, and strengthen the efficiency of cross-border supply chains. At the same time, the integration of sustainability standards and climate-smart production practices offers opportunities to align trade expansion with environmental and biodiversity objectives

Taken together, the African experience suggests that a reformed multilateral trading system should view deep regional integration not as fragmentation but as a complementary building block. When embedded within transparent, rules-based frameworks and supported by digital and green transitions, regional integration can strengthen resilience, enhance inclusiveness, and promote sustainable development. For the WTO, recognizing and supporting such regional dynamics, particularly in developing countries, will be critical to ensure that the global trading system remains relevant, equitable, and capable of addressing the interconnected challenges of food security, and economic transformation.

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# Annexes

## Annex 1: Econometric specification and estimation method

### *A. Structural gravity specification*

The baseline structural gravity equation estimated for both goods and agricultural goods is:

$$X_{ij,t} = \exp\left[\pi_{i,t} + \chi_{j,t} + \mu_{ij} + \beta_1 RTA_{ij,t} + \beta_2 WTO_{ij,t} + \beta_3 (RTA_{ij,t} \times WTO_{ij,t}) + \sum_r \gamma_r \; Region_{r,ij,t} + \sum_r \delta_r \; (Region_{r,ij,t} \times Z_{ij,t})\right] \varepsilon_{ij,t} \quad (1)$$

where:

- $X_{ij,t}$ denotes exports from country $i$ to country $j$ at time $t$;
- $\pi_{i,t}$ and $\chi_{j,t}$ are exporter-time and importer-time fixed effects, controlling for multilateral resistance terms and all country-specific time-varying determinants of trade.
- $\mu_{ij}$ represents country-pair fixed effects absorb all time-invariant bilateral trade frictions.
- $RTA_{ij,t}$is a dummy equal to one if countries $i$ and $j$share a regional trade agreement at time $t$.
- $WTO_{ij,t}$ is a dummy equal to 1 if both countries are WTO members at time $t$.
- $Region_{r,ij,t}$ denotes dummy variables for membership in specific Regional Economic Communities (RECs) or regional initiatives $r$, including the AfCFTA.
- $\varepsilon_{ij,t}$ is the multiplicative error term.

The interaction term $Z_{ij,t}$varies depending on the specification. In the first interaction, $Z_{ij,t}$ includes multilateral and continental integration variables, namely $WTO_{ij,t}$and $AfCFTA_{ij,t}$, so that regional heterogeneity is captured through interactions between regional membership and these institutional frameworks. In the second interaction, $Z_{ij,t}$ instead represents

the vertical depth of trade agreements ($DTA_{ij,t}$), measured for different provisions areas defined in the chapter allowing the trade effects of agreement depth to vary across regions. Interactions are therefore included when necessary to test whether the impact of multilateral integration, AfCFTA membership, or agreement depth differs across African regions.

The model is estimated using Poisson Pseudo Maximum Likelihood (PPML), and coefficients are interpreted as semi-elasticities of bilateral trade flows.

### *B. Treatment of overlapping regional memberships*

Overlapping regional memberships are explicitly permitted. Multiple regional dummies may take the value 1 for a given country pair each year, reflecting the institutional structure of African integration.

Country-pair fixed effects absorb all time-invariant bilateral characteristics (e.g., distance, common language, colonial ties) and address the potential endogeneity of trade agreements due to self-selection into RTAs, following the identification strategy in Baier and Bergstrand (2007).

Multicollinearity concerns are mitigated by the inclusion of pair fixed effects and the simultaneous control for the main overlapping regional blocs.

# Annex 2: Sensitivity analysis

**Table 1: Estimated trade effects of African regional trade agreements (PPML Gravity Model), 1988–2024 and 1995–2024**

| | 1988-2024 | | 1995-2024 | |
|---|---|---|---|---|
| | All products | Agriculture | All products | Agriculture |
| WAEMU | -0.360 | -0.553** | -0.308 | -0.476* |
| | (0.243) | (0.279) | (0.243) | (0.275) |
| ECOWAS | 4.551**** | 4.512**** | 0 | 0 |
| | (0.426) | (0.425) | (.) | (.) |
| COMESA | 0.231* | 0.271 | 0.115 | 0.190 |
| | (0.133) | (0.165) | (0.141) | (0.169) |
| EAC | 0.357* | 0.523** | 0.232 | 0.426** |
| | (0.196) | (0.204) | (0.194) | (0.209) |
| CEMAC | 0.738 | -0.248 | 0.497 | -0.631* |
| | (0.480) | (0.361) | (0.522) | (0.380) |
| SADC | 0.454*** | 0.287* | 0.212 | 0.0778 |
| | (0.142) | (0.158) | (0.151) | (0.202) |
| TFTA | -0.0151 | -0.0228 | -0.000716 | -0.0125 |
| | (0.095) | (0.084) | (0.095) | (0.084) |
| AMU | 0 | 0 | 0 | 0 |
| | (.) | (.) | (.) | (.) |
| ECCAS | 0.516** | 0.427** | 0.528** | 0.494** |
| | (0.205) | (0.207) | (0.218) | (0.222) |
| IGAD | 0.421** | 0.938**** | 0.395* | 0.952**** |
| | (0.208) | (0.234) | (0.212) | (0.261) |
| CEN-SAD | -0.0747 | 0.254** | -0.0981 | 0.201* |
| | (0.086) | (0.122) | (0.086) | (0.115) |
| AfCFTA | -0.137** | -0.0616 | -0.129** | -0.0478 |
| | (0.062) | (0.046) | (0.062) | (0.046) |
| SACU | 0.713**** | 1.200**** | 0.587**** | 1.043**** |
| | (0.156) | (0.134) | (0.159) | (0.138) |
| RTA | 0.0764*** | 0.0608* | 0.0824*** | 0.0525* |
| | (0.029) | (0.034) | (0.029) | (0.033) |

| | 1988-2024 | | 1995-2024 | |
|---|---|---|---|---|
| | All products | Agriculture | All products | Agriculture |
| numRTA | -0.0149 | -0.00255 | -0.0302 | -0.0183 |
| | (0.019) | (0.021) | (0.020) | (0.021) |
| cons | 23.61**** | 20.99**** | 23.65**** | 21.05**** |
| | (0.013) | (0.020) | (0.013) | (0.020) |
| N | 1550813 | 1368628 | 1297643 | 1143724 |

*Source: Author's estimations.*
*Note: ECOWAS and AMU are omitted in the estimation due to limited variation in the timeframe.*

**Table 2: Sensitivity analysis of regional trade agreement effects: interaction with WTO membership (1995-2024)**

| | All products | | Agriculture products | |
|---|---|---|---|---|
| | (1) | (2) | (1) | (2) |
| WAEMU | -0.306 | -0.308 | -0.479* | -0.476* |
| | (0.243) | (0.243) | (0.275) | (0.275) |
| ECOWAS | - | - | - | - |
| | - | - | - | - |
| COMESA | 0.113 | 0.115 | 0.190 | 0.190 |
| | (0.141) | (0.141) | (0.169) | (0.169) |
| EAC | 0.230 | 0.232 | 0.441** | 0.426** |
| | (0.194) | (0.194) | (0.211) | (0.209) |
| CEMAC | 0.492 | 0.497 | -0.645* | -0.631* |
| | (0.521) | (0.522) | (0.384) | (0.380) |
| SADC | 0.205 | 0.212 | 0.0839 | 0.0778 |
| | (0.150) | (0.151) | (0.205) | (0.202) |
| TFTA | -0.00155 | -0.000716 | -0.0141 | -0.0125 |
| | (0.095) | (0.095) | (0.084) | (0.084) |
| UMA | - | - | - | - |
| | - | - | - | - |
| ECCAS | 0.530** | 0.528** | 0.501** | 0.494** |
| | (0.218) | (0.218) | (0.222) | (0.222) |

| | All products | | Agriculture products | |
|---|---|---|---|---|
| | (1) | (2) | (1) | (2) |
| IGAD | 0.393* | 0.395* | 0.950**** | 0.952**** |
| | (0.212) | (0.212) | (0.261) | (0.261) |
| CEN-SAD | -0.101 | -0.0981 | 0.202* | 0.201* |
| | (0.086) | (0.086) | (0.115) | (0.115) |
| AfCFTA | -0.129** | -0.129** | -0.0529 | -0.0478 |
| | (0.062) | (0.062) | (0.046) | (0.046) |
| SACU | 0.587**** | 0.587**** | 1.038**** | 1.043**** |
| | (0.159) | (0.159) | (0.138) | (0.138) |
| RTA | 0.0647 | 0.0824*** | 0.224* | 0.0525 |
| | (0.084) | (0.029) | (0.122) | (0.033) |
| numRTA | -0.0299 | -0.0302 | -0.0150 | -0.0183 |
| | (0.020) | (0.020) | (0.021) | (0.021) |
| WTO | 0.101 | | -0.0859 | |
| | (0.076) | | (0.107) | |
| RTA x WTO | 0.0179 | | -0.182 | |
| | (0.083) | | (0.123) | |
| cons | 23.56**** | 23.65**** | 21.13**** | 21.05**** |
| | (0.070) | (0.013) | (0.103) | (0.020) |
| N | 1297643 | 1297643 | 1143724 | 1143724 |

*Source: Author's estimations.*
*Note: ECOWAS and AMU are omitted in the estimation due to limited variation in the timeframe.*

# Annex 3: Description of WTO-X and WTO-plus areas

*Description of WTO-plus areas*

| Category | Description | Provisions |
|---|---|---|
| **Tariffs** | Goes beyond WTO tariff bindings by accelerating or expanding liberalization | Complete elimination of tariffs in certain sectors under FTAs (FTA Industry and FTA Agriculture)* |
| **Nontariff measures** | Expands or deepens rules on trade barriers other than tariffs | · Customs procedures (deeper trade facilitation rules)* |
| | | · Export taxes (restrictions on export duties) |
| | | · TBT* |
| | | · SPS (harmonization or mutual recognition of standards)* |
| | | · Trade remedies (stricter rules on antidumping and countervailing duties)* |
| **Services** | Extends GATS commitments in trade in services | · State aid (competition rules on subsidies)* |
| | | · Public procurement (more open government procurement markets) |
| | | · TRIMs (additional investment rules) |
| | | · TRIPS (stronger IPR protection) |
| | | · GATS (greater market access in specific service sectors)* |

*Note: * Provision is mentioned in the AfCFTA.*

*Description of WTO-X areas*

| Category | Description | Provisions |
|---|---|---|
| **Agriculture and Health** | Provisions related to agriculture, food security, and public health | Agriculture, Health |
| **Institutions and Regulatory Frameworks** | Governance and legal provisions enhancing transparency, market competition, and consumer rights | Anticorruption, Competition, IPR, Environmental Laws, Consumer Protection, Data Protection, Human Rights, Information Society, Social Matters, Statistics |
| **Production Process and Economic Policies** | Policies affecting investment, labor, education, innovation, and energy markets | Investment, Labor Market Regulation, Movement of Capital, Innovation Policies, Education & Training, Energy, Research and Technology, SMEs* |
| **Cooperation and Institutional Support** | Provisions related to economic dialogue, financial assistance, taxation, governance, and regional integration | Economic Policy Dialogue, Financial Assistance, Taxation, Public Administration, Regional Cooperation |
| **Other Policy Areas** | Covers political, security, and social policies beyond economic issues | Approximation of Legislation, Audio-Visual, Civil Protection, Cultural Cooperation, Illegal Immigration, Illicit Drugs, Industrial Cooperation, Mining, Money Laundering, Nuclear Safety, Political Dialogue, Terrorism, Visa and Asylum |

*Only Regional Cooperation, SME, Human Rights, and Movement of Capitals are WTO-X provisions included in the AfCFTA Agreement.*

# Final Remarks

Valeria Piñeiro, Martin Piñeiro, Simon Mevel, and Beini Liu

Agricultural trade is at a crossroads. The global agricultural trading system is undergoing a transformation and, as this book has argued, the changes observed in recent years are not temporary disruptions but reflect a deeper structural shift. The system has moved away from a relatively predictable, rules-based environment toward a more fragmented setting, where trade outcomes are increasingly shaped by geopolitical tensions, environmental disruptions, evolving policy instruments, and persistent structural asymmetries across countries. The erosion of predictability, the proliferating use of selective and non-MFN measures, the interaction between trade and broader geopolitical objectives, and the growing role of supply chains and logistics are redefining how agricultural trade operates.

This transformation builds on longer-term changes in global trade dynamics but is now being accelerated by a convergence of trade and logistical shocks and policy responses by the affected countries. Across the chapters, a consistent message emerges: the mechanisms through which trade adjusts, the actors that shape it, and the constraints faced by countries have all changed in ways that make the system more unpredictable and complex. These dynamics, discussed across contributions in this book highlight how the multilateral system is under strain and how the space for coordinated, rules-based outcomes have narrowed.

Section I of the book provides a global framing for this shift. Chapter 1.1 shows how geopolitical changes are reshaping trade relations, with countries using trade policy more and more as a strategic instrument related to wider economic and political objectives. This is reflected in the reconfiguration of trade partnerships and in the growing use of tariffs, export restrictions, and other measures linked to broader policy objectives. These developments are reinforced by the trends analyzed in Chapter 1.3. The proliferation of selective tariffs, exemptions, non-MFN measures, regulatory requirements, and private standards has fundamentally altered the landscape of trade policy. Trade governance is no longer defined by a single set of multilateral rules, but by a layered system of overlapping instruments that reduce visibility and contribute to unevenness across countries.

At the same time, Chapter 1.2 highlights that the WTO remains central, even in this more fragmented environment. Core issues—domestic support, market access, and export competition—remain largely unresolved, but they continue to define the structure of agricultural trade. However, progress has been limited, and the gap between existing rules and current realities has widened. As a result, countries increasingly turn towards unilateral or plurilateral approaches with mixed effects. Chapter 1.4 reinforces this point through modeling analysis, showing that when protectionism is combined with distortions, such as selective measures and retaliation, the contraction in agrifood trade is significantly larger than under uniform tariff increases. Fragmentation does not simply reduce trade; it reshapes it in ways that are uneven, persistent, and costly.

A key implication of these dynamics is that adjustment in agricultural trade is no longer driven primarily by changes in prices or production, but increasingly by the reallocation of trade flows. Trade policy, in turn, is no longer shaped solely by tariffs and traditional market access concerns. It is now influenced by a broader set of factors, including geopolitical tensions, digitalization, environmental measures, evolving supply chain networks, and domestic policy priorities.

As highlighted by the modeling and empirical analyses presented in this book, adjustment in global agrifood markets is occurring mainly through shifts in trade patterns rather than gradual changes in production or prices. This process leads to uneven outcomes: some countries may experience temporary gains, while others face significant losses. It also contributes to more persistent transformations in trade relationships, as supply chains reorganize and market linkages adapt to policy and logistical shocks. Section II shows how these global dynamics interact with the structural characteristics of Latin America and the Caribbean (LAC), a highly heterogeneous region that includes both major agricultural exporters and net food-importing countries. Chapter 2.1 highlights this dual nature: countries with strong production capacity and a significant presence in global markets coexist with others that rely heavily on food imports. Across both groups, vulnerabilities are closely linked to concentration—whether in export products and destinations or in import sources—as well as to uneven competitiveness and infrastructure gaps. These structural features become more binding in a fragmented and uncertain trade environment.

Insights from Chapter 2.2 further show that LAC's role in global food systems is shaped not only by its scale, but also by diversification across products and markets, as well as by counter-seasonal production patterns that allow the

region to supply global markets when other suppliers face constraints. These characteristics can enhance resilience by reducing exposure to localized shocks and smoothing global supply. However, they are not evenly distributed across countries, reinforcing asymmetries within the region.

Countries with more diversified production and trade structures are better able to adjust to shifting trade patterns, while those with more concentrated export or import profiles, or limited infrastructure, face higher adjustment costs and greater exposure to external shocks. In this context, strengthening competitiveness increasingly depends on innovation and productivity gains. The ability to adopt new technologies, upgrade value chains, and improve efficiency becomes central not only for expanding production, but for adapting to changing market conditions, meeting evolving standards, and sustaining participation in global agricultural trade. Chapter 2.3 emphasizes that improving competitiveness increasingly depends on innovation, sustainability, and the ability to upgrade value chains. Competitiveness is no longer mostly driven by efficiency or comparative advantage, but increasingly by the ability to respond quickly to shifting policies, changing standards, and disruptions in transport and supply chains. However, the capacity to adapt remains uneven across countries, creating risks that new sustainability requirements and market conditions may reinforce existing asymmetries.

Chapter 2.4 places these issues in the broader context of global food security. LAC plays a critical role as a supplier of agricultural products, but this role depends on stable and predictable trade conditions. At the same time, food security concerns have moved to the center of the trade debate. The recent sequence of shocks—including disruptions in major trade corridors, volatility in input markets, and the increasing use of export restrictions—has highlighted the vulnerabilities of global food systems. Trade remains a critical mechanism for moving food from surplus to deficit regions, but its reliability is no longer taken for granted. For exporters, this translates into unstable demand and increased exposure to policy changes in key markets, while for importers, it results in uncertain supply conditions, greater exposure to price volatility, and increased vulnerability to disruptions in global markets.

Section III provides a comprehensive perspective on Africa's position in the global agricultural trading system, highlighting both persistent structural constraints and emerging opportunities. Chapter 3.1 shows that agricultural trade performance continues to be shaped by deep-rooted structural challenges, including high trade costs linked to weak infrastructure and inefficient border

procedures, a narrow export base in primary commodities with limited value addition, and growing food import dependence. These constraints not only define the continent's trade profile but also heighten its exposure to external shocks and limit its capacity to respond when disruptions occur. Despite agriculture's central role in employment and GDP, Africa remains positioned at the lower end of global value chains, with limited value addition and reduced ability to capture gains from trade. Weak logistics systems, low connectivity, and gaps in trade facilitation further constrain trade expansion, particularly for time-sensitive and perishable agricultural goods.

Chapter 3.2 connects these structural challenges within the multilateral trading system, highlighting how persistent asymmetries in the Agreement on Agriculture continue to disadvantage African countries. Limited policy space to provide domestic support, combined with competition from heavily subsidized producers, constrains the transformation of Africa's agrifood systems and exacerbates food security vulnerabilities. In this context, African priorities in WTO negotiations should reflect the need to rebalance the global trading system while preserving the flexibility required to support domestic production and ensure food security. At the same time, structural financing and investment gaps remain critical, underscoring the scale of resources required to enable meaningful transformation of the sector.

Against this backdrop, Chapter 3.3 highlights the potential of regional integration—particularly through the African Continental Free Trade Area (AfCFTA)—to address these structural weaknesses and strengthen resilience. Evidence suggests that agricultural trade is especially responsive to regional integration, with significant potential for expanding intra-African trade, developing regional agrifood value chains, and supporting structural transformation. Digitalization emerges as a key enabler to improve efficiency, transparency, and market access across agricultural value chains, but its impact remains constrained by uneven implementation, connectivity gaps, and inclusion challenges. Moreover, effective implementation of the AfCFTA requires robust governance, legal readiness, and stronger coordination across regional economic communities.

Together, Section III conveys a clear message: Africa's deeper integration into global and regional markets will depend on simultaneously addressing structural constraints, building institutional capacity, and advancing coherent trade policies across national, regional, and multilateral levels. Regional integration, anchored in the AfCFTA, offers a viable pathway to reduce vulnerability, enhance value addition, and build resilient agrifood systems.

For LAC and Africa, these developments carry particular significance. Both regions are deeply integrated into global agrifood markets, yet their roles differ in ways that are largely complementary. Parts of LAC are major agricultural exporters with strong production capacity and long-standing participation in global markets. Africa, by contrast, remains concentrated in a narrow range of largely unprocessed agricultural commodities and relies heavily on imports across most key agrifood categories, especially staple food. Despite these differences, both regions share vulnerabilities: exposure to policy uncertainty, rising protectionism pressures, and limited influence over the evolution of global trade rules.

Across the sections of this book, a consistent message emerges: preserving a multilateral system remains essential, but it is no longer sufficient on its own. Open markets are necessary but insufficient; predictability, transparency, and coordination are equally important. Without these, trade can amplify volatility rather than mitigate it. This reinforces the need to strengthen governance at both the multilateral and regional levels, and to ensure that trade rules support, rather than constrain, national food system strategies.

The discussions within the WTO Committee on Agriculture reflect this evolving landscape. There is growing recognition that negotiations must move beyond procedural repetition and engage more directly with the realities faced by countries. However, while renewed engagement is important, comprehensive outcomes are unlikely in the short term.

The post-MC14 period will be critical. Defining a forward-looking agenda that clarifies priorities and aligns interests to guide future work will be essential, not only in terms of what can be agreed multilaterally, but how countries navigate and respond to an increasingly fragmented and uncertain global environment.

For LAC and Africa, this implies moving beyond parallel positions toward more deliberate and strategic coordination where interests converge. A joint working agenda between the two regions could play a critical role in this process, not by eliminating differences, but by building on complementarities and shared priorities. Key areas for cooperation include:

- Strengthening coordination in multilateral negotiations. Both regions have an interest in preserving and revitalizing a rules-based system that ensures predictability and limits the use of unilateral and distortionary measures;

- Deepening cooperation on food security and trade, including improved information sharing, early warning systems, and coordinated responses to shocks;
- Promoting regional and interregional trade, particularly between surplus and deficit regions, although these remain constrained by infrastructure, standards, and regulatory barriers;
- Addressing structural constraints related to competitiveness and inclusion remains essential, particularly for smallholders and vulnerable groups; and
- Integrating emerging issues, including environmental-related trade measures and digitalization into the agenda, building on regional experiences, to avoid new forms of exclusion and ensure continued participation in global markets.

Underlying all these areas is the need to strengthen institutional capacity, data systems, and analytical tools. Importantly, this agenda must extend beyond Geneva, involving national governments, regional organizations, the private sector, and civil society. As trade policy becomes increasingly interconnected with broader development strategies, effective coordination across multiple levels will be essential. The value of such an agenda lies not only in its content but also in the process it creates. By fostering dialogue, building trust, and encouraging collaboration, it can help bridge differences and create a more cohesive approach to global trade challenges.

As highlighted throughout the book, the current trade environment is characterized by both disruptions and opportunities. While fragmentation and uncertainty pose significant challenges, they also create space for new forms of cooperation and innovation. LAC and Africa are well-positioned to take advantage of this space, given their complementary roles in global food systems.

This book provides a foundation for the next step, post-MC14, based on LAC and Africa's challenges and opportunities, and in a pragmatic and sustained way, linking multilateral discussions with regional and national strategies.

Ultimately, agricultural trade reform cannot be reduced to technical negotiation alone. It requires restoring confidence in rules, aligning trade with development objectives, responding to sustainable and food security challenges, and strengthening the capacity of developing regions to act collectively. The foundations for this effort are already in place. The task now is to build on them.

# About the Authors

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