

Agri-Food Non-Tariff Barriers in the APEC Region: Business Perspectives on a Stubborn Challenge

A Report for the APEC Business Advisory Council
June 2026

ABAC New Zealand

Executive Summary

Agri-food trade remains one of the most protected and distorted sectors in APEC. Tariff and other barriers on agriculture and food are still commonplace, despite impressive progress in the region over the last thirty years in liberalising other sectors, and are on average higher than trade barriers on manufactured goods. Trade barriers agri-food trade challenging for food businesses, and in turn may mean that food is less affordable, less available and less innovative for consumers.

Trade is heavily shaped by non-tariff measures (NTMs), found in every economy and virtually every product. An ABAC-commissioned report estimates the cost of agri-food NTMs in the APEC region to be more than USD $133 billion per annum, with the tariff-equivalent averaging four times the average trade-weighted tariffs on the same products. NTMs range from biosecurity and food safety requirements to standards, packaging and labelling rules, to import licensing and subsidies.

Many NTMs are intended to achieve legitimate and important public policy objectives, such as food safety, consumer protection, plant or animal health, or environmental protection. No farmer, fisherman, or processed food manufacturer wants to see the incursion of pests and diseases, consumers eating unsafe food, or unsustainable production methods degrading the land or oceans or harming the climate: many NTMs are vital to ensuring safe, sustainable food trade.

However, such measures can also become "non-tariff barriers" (NTBs), either due to deliberate protectionist goals, through poor design which adds unwarranted costs or red tape, or ignores science or international standards, or as a result of the way that the measures are applied. Legitimate NTMs can be characterised as 'intentional and necessary'. NTBs, on the other hand, may be 'intentional and *un*necessary' (deliberately protectionist); 'unintentional and unnecessary' (for example, procedural obstacles that arise from poor design), or 'intentional but unnecessary' (arising from mismatched systems that do not recognise the other's equivalence, for example).

NTBs act as 'grit in the machinery' of trade – adding costs, eroding margins, reducing competitiveness, and potentially excluding businesses from global value chains. This can be an acute challenge for micro-, small or medium-sized food producers and exporters (MSMEs), including those led by women and Indigenous entrepreneurs, who may lack the technical and financial resources to overcome them. In any case, the overall regulatory burden can be very high, even where legitimate NTMs are involved, and that can in itself discourage trade.

NTBs can also undermine food security by making food more expensive and less available. Measures such as subsidies can also incentivize production approaches that have negative biodiversity and other environmental impacts – even as sustainability-related NTMs are increasingly being introduced by policymakers, which can achieve sustainability goals if well-designed – or, like other NTMs, can become NTBs for protectionist or inadvertent reasons.

Given the vast array of NTBs, **policy solutions will need to be prioritized through careful assessment of business priorities, economic impact and tractability**. However, targeted policy approaches will deliver outsize benefits not only for trade, but also for food security and sustainability. These could include the following:

- **Apply the APEC Cross-Cutting Principles on NTMs** to food measures, including sustainability-related NTMs;
- **Prioritize 'systems recognition'** and **'equivalence'** in designing trade measures;
- **Prioritize convergence on relevant FTA chapters** in FTAAP Agenda work;
- **Support greater transparency in food NTMs**, including via an NTB portal;
- **Provide targeted capacity-building for MSMEs on SPS, TBT and paperless trade.**

Acknowledgements

This report was developed for the APEC Business Advisory Council (ABAC) under the leadership of Sarah Ottrey, ABAC New Zealand member.

The main body of the report was prepared by consultant Stephanie Honey. The annex includes a detailed econometric study that ABAC commissioned in early 2026, prepared by John Ballingal of Sense Partners, *Non-Tariff Measures affecting Agri-Food Trade in the APEC Region: A roadblock to trade, food security and sustainability*. We are enormously grateful to John for his excellent work on that report, and to the generous support of ABAC, the New Zealand Ministry of Foreign Affairs and Trade and the New Zealand Ministry for Primary Industries for their support for this project.

We also convey our thanks to the private sector stakeholders from across the APEC region who participated in the interviews for this report. They largely preferred not to be named so we have chosen to anonymise all quotes and case studies in the report. In preparing the report, we have also drawn on previous work undertaken by ABAC on food trade, food non-tariff barriers and food security, and featuring insights from the business community including:

- *The Future of Food Security in the Asia Pacific: Insights from Business Leaders*, Report for ABAC by ABAC Canada, February 2025
- *Non-Tariff Barriers in Agriculture and Food Trade in APEC: Business Perspectives on Impacts and Solutions*, Report for ABAC by the University of Southern California's Marshall School of Business, November 2016.

Agri-Food Non-Tariff Barriers in the APEC Region: Business Perspectives on a Stubborn Challenge

Introduction

Agri-food remains one of the most protected and distorted sectors in the global economy. Although APEC members have made impressive strides over the last thirty years towards achieving APEC's founding Bogor Goals of free and open trade, tariffs and non-tariff barriers (NTBs) on agriculture and food products remain stubbornly and disproportionately high. This makes for a challenging environment for food businesses in the region – whether farmers, fishers, food manufacturers, traders, retailers and associated services sectors – and in turn, for the region's consumers.

To investigate this complex and challenging landscape, and to provide a solid quantitative basis for solutions, in 2026 the APEC Business Advisory Council (ABAC), led by ABAC New Zealand member Sarah Ottrey, commissioned a report to investigate the scope and size of agriculture and food-related non-tariff measures (NTMs) in the APEC region, from Sense Partners.[1] This is attached as Annex A to this report.

The main body of this report is intended to be complementary to the Sense Partners report. It provides a discussion of the policy issues through a business lens, illustrating this with insights from agri-food businesses and policymakers from around the region. These can be found in quotes throughout the report. (These have been anonymised for reasons of commercial sensitivity.)

Overall the goal of the report is to explore possible solutions that might help to create a more enabling environment for agri-food trade in the region, providing benefits for the agri-food sector (including micro-, small and medium-sized enterprises, MSMEs) and for APEC communities and people, by seeking to ensure that food becomes more affordable, available, innovative and sustainable.

The current landscape for agri-food trade in the APEC region



Photo by Nick Sarvari on Unsplash.com

APEC is home to some of the world's most significant exporters and importers of agriculture and food products, ranging from staples such as cereals and oilseeds to animal products, fruits and vegetables, coffee and tea, spices, processed and innovative foods.[2]

Agri-food trade in the APEC region was worth USD$505 billion in 2023. However, the sector continues to face high tariff and other barriers. APEC statistics put the simple average applied MFN tariff on agri-food products in APEC at close to three times the rate on non-agriculture goods, with agri-food products on average facing tariffs of 11.2%. Behind that average, significant tariff peaks can be many multiples higher. [3]

[1] Sense Partners, *Non-Tariff Measures Affecting Agri-Food Trade in the APEC Region: A roadblock to trade, food security and sustainability*, Report for ABAC, 10 April 2026. The study was co-funded by ABAC and by the New Zealand Ministry of Foreign Affairs and Trade and the New Zealand Ministry for Primary Industries.

[2] Stephanie Honey (2020), *Agriculture Trade Reform and Sustainable and Inclusive Food Security*, Policy Quarterly Volume 16, Issue 4, Victoria University of Wellington

[3] StatsAPEC, Indicators for MFN Applied Tariff, Simple Average, Agriculture Products; and MFN Applied Tariff, Simple Average, Non-Agriculture Products (data only current to 2024).

As for NTMs, the Sense Partners study finds these measures across every APEC economy and virtually every agri-food product group, with an average of 17 NTMs identified per agri-food product. The average *ad valorem* equivalent (AVE) – that is, the economic impact of NTMs, were they to be in tariff form – is estimated at over 26%. This is more than four times the trade-weighted applied tariff on the same products, and considerably higher than earlier estimates of NTMs calculated across all products. In total, agri-food NTMs are estimated to cost more than USD $133 billion per annum. Research by the APEC Policy Support Unit shows that APEC implements around two to three times more NTMs on agriculture than on other goods.[4]

Chart 1: Key findings on agri-food NTMs in the APEC region



Source: Sense Partners (2026), *NTMs affecting Agri-Food Trade in the APEC region: A roadblock to trade, food security and sustainability*, Report for ABAC – see Annex A.

As Chart 1 shows, the NTMs accounting for the highest share of estimated costs are technical measures (TBT), at 49.6% of the estimated total cost, while sanitary and phytosanitary measures (SPS) account for 47.4% of total estimated costs. The Sense Partners report also reveals that the stock of NTMs is not spread evenly across products. Besides beverages (which have an outsize impact on costs, due to heavily regulated requirements around product standards, labelling and distribution rules), the most regulated product groups include fruits and nuts, animal feed, dairy and eggs, fats and oils, fish, meat and fish preparations, and sugar and confectionary. These are all important traded food categories in APEC.

Non-Tariff Measures

NTMs are defined by the relevant international organization, UNCTAD, as "policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities trade, or prices, or both".[5] They are predominantly imposed on imports, but can also be applied to exports. The number of NTMs (particularly SPS and TBT measures) globally has been increasing over time. [6]

[4] APEC Policy Support Unit (2025). *The Costs of Hidden Measures: APEC's Experience with Non-Tariff Measures (NTMs)*. Policy Brief No. 68. By Chang Yan Rong and Sylwyn Calizo Jr. (September 2025)
[5] UNCTAD, *International Classification of Non-Tariff Measures*, 2019
[6] ABARES (2025), *Non-tariff barriers: A multi-billion dollar burden*. ABARES Policy Insight. Issue 3 March 2025.

Table 1 illustrates the major NTMs typically found in the agri-food sector, grouped into a standard set of categories developed by UNCTAD. The Sense Partners study concurs with data from UNCTAD and others that the first two categories (SPS and TBT) contribute the largest share of costs.[7]

Table 1: Typical NTMs found in the Agri-Food Sector

Key Categories (based on UNCTAD categorization)[8]	Typical NTMs found in the agri-food sector
SPS ("sanitary and phytosanitary") measures	Biosecurity regimes, food safety standards (e.g. microbiological limits, maximum residue limits for pesticides), plant and animal health requirements, phytosanitary and health certificates, fumigation, bans on certain additives, plant approvals (plant inspection/conformity assessment, approval and audit) and associated certification of the plant or product, animal welfare rules
TBT ("technical barriers to trade") measures	Labelling rules (country of origin, nutrition panels, allergens, GMO disclosure); packaging requirements; technical certification and auditing (e.g. halal or other religious requirements, country of origin, organic), product composition or quality grade, standards on additives (not health-related), other technical measures such as animal welfare requirements, sustainability credentials, consularisation of documents (i.e. where export documents must be signed/stamped at an Embassy before export)
Pre-shipment inspection and other formalities	Mandatory inspection or testing in the country of origin before export, required use of specific ports of entry, certificates of conformity
Contingent trade-protective measures	Anti-dumping duties on food or agriculture, countervailing duties on subsidised imports of agri-food products
Quantitative restrictions (licensing, quotas and bans)	Import licensing for meat, dairy, horticulture goods or alcohol; tariff-rate quotas; outright bans on certain products
Price control measures	Minimum import prices for sensitive products, seasonal tariffs for horticulture, sugar or beverage taxes, excise duties on wines and spirits
Trade-related investment measures	Local content requirements for processed foods, including requirements to use a share of domestic inputs in food production processes
Subsidies	Direct producer payments or concessional credit, input subsidies for fertilizer, fuel or seed
Export-related measures	Export bans or temporary restrictions during shortages, export taxes on commodities, export licensing, mandatory pre-export inspection

Methodological challenges

While offering a robust assessment of the total cost of NTMs, the Sense Partners report also usefully identifies a range of methodological challenges, some of which include:

- Some NTMs are so prohibitive that they suppress trade, giving zero weighting in the trade-weighted estimates – this may mean that products and markets where business confronts a

[7] See for example, ABARES (2025), *Non-tariff barriers: A multi-billion dollar burden*. ABARES Policy Insight. Issue 3 March 2025.
[8] Based on UNCTAD, *International Classification of Non-Tariff Measures*, 2019; not an exhaustive list.

significant barrier (and perhaps avoids the market as a consequence) do not show up. In that sense, the USD$133 billion may be an under-estimate.

- Similarly, for products where tariffs remain very high or prohibitive, these may not show up in NTM tallies, since tariffs are in effect the binding constraint. This may (wrongly) imply that these products are not subject to trade barriers. Rice is a good example of this.

Distinguishing "barriers" from "measures": Identifying NTBs

NTMs frequently have legitimate public policy objectives, such as food safety, consumer protection, animal or plant health, or the protection of the environment. Many NTMs are not just legitimate, but in fact vital: without them, there could be risks of unsafe food, confusing labelling, or chaotic border processes, and a loss of consumer confidence. No farmer, fisherman or food manufacturer wants to see the incursion of pests and diseases, consumers eating unsafe food, or production methods that degrade the land and oceans or harm the climate.



Photo by Bruce on Unsplash.com

The use of legitimate NTMs can provide consumers with confidence that food is safe and of a desired quality, and can serve to boost trade.[9] However, such measures can all too easily become impediments to trade, or "non-tariff barriers" (NTBs), with real-world commercial impacts on food businesses. These NTBs can be the result of:

- Deliberate protectionist or discriminatory goals, where the imposing economy is seeking to shield domestic producers from competition from more efficient or better-quality imports;
- Poor design which adds unwarranted costs, unnecessary red tape or onerous compliance requirements, perhaps because measures are more restrictive than necessary, or may not be based on international standards or sound science, or are overly prescriptive;
- The way that measures are applied in practice, perhaps due to resource or capacity constraints (financial, human or infrastructure) or institutional complexity, which limit the smooth functioning of trade processes, even if this may not be the aim of the importing economy;
- A lack of transparency, or changeable and opaque rules that are not applied consistently.

Different categories of NTBs

Work commissioned by ABAC in 2008 provides a useful framework for thinking about how NTBs can arise from NTMs.[10] As Chart 2 shows, while many NTMs may be legitimate, efficient and welfare-enhancing (the "Necessary-and-Intentional" quadrant), others – NTBs – may be imposed for protectionist or discriminatory reasons (the "Intentional-but-Unnecessary" quadrant).

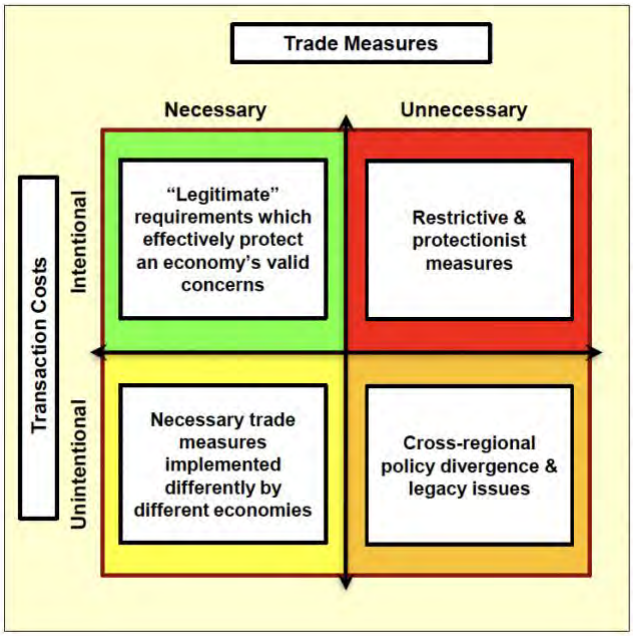
Besides the latter "protectionist" NTB category, other NTBs may be simply the unintended by-product of poorly-designed or outdated regulations (including those designed without recourse to international standards or science), or divergent or limited implementation of measures – that is,

[9] ABARES (2025). *Non-tariff barriers: A multi-billion dollar burden. ABARES Insights Issue 3 March 2025*
[10] University of Southern California Marshall School of Business (2008), *Non-Tariff Barriers to Trade in the APEC Region – When Non-Tariff Measures Become Non-Tariff Barriers: Insights from Agriculture and Accounting*, report for ABAC, 2008.

those falling into the "Unnecessary-and-Unintentional" and "Necessary-but-Unintentional" quadrants of Chart 2. In effect, trade is shaped by how systems work in practice.
In the case of "necessary-but-unintentional" barriers, these might arise where two economies are seeking to achieve the same outcome (for example, to ensure that a processing plant produces meat that is safe for consumers to eat), but where their respective regulatory approaches may vary. Without "systems recognition" [11] or application of the principle of "equivalence" [12], foreign producers might be faced with unnecessary costs arising from duplicative or clashing requirements or redundant conformity assessment processes such as audits – even though both economies' systems are able to deliver safe meat to their consumers.

> *"Systems recognition and equivalence is the gold standard we are really looking for. Audits of manufacturing premises adds a huge extra layer of cost and hassle. If we could get systems recognition, the outcome would be the same, but at a considerably lower cost."* – Food exporter

Chart 2: When NTMs Become NTBs



Quadrant 1 – Necessary and Intentional NTMs
Captures the NTMS that all acknowledge are legitimate requirements to place on exporting businesses. Exporting economies recognize the need to put in place regulations that protect against known threats and risks.

Quadrant 2 – Necessary and Unintentional NTBs
Reflects the necessary trade regulations that become unintentional NTBs. These are measures that, though designed to address a real risk, are implemented differently from economy to economy, creating unnecessary transaction costs.

Quadrant 3 – Unintentional and Unnecessary NTBs
The majority of NTBs in this section derive from unnecessary cross-economy divergence in regulations – the risk is the same, the solutions vary. Also in this set are legacy NTMs that have become obsolete but are still imposed due to bureaucratic inertia.

Quadrant 4 – Intentional but Unnecessary NTBs
Captures the NTBs generally referred to as restrictive and protectionist. Exporting economies debate the domestic economy's need for the NTM, and deem them to be "illegitimate".

Source: USC Marshall School of Business (2008), *Non-Tariff Barriers to Trade in the APEC region*

In any case, the overall regulatory burden of NTMs – both regulatory complexity and compliance cost – on exporters can be very high, and can in itself have a chilling effect on participation in trade. Feedback from food exporters highlighted the significant compliance costs that many now face across APEC markets. Research by UNCTAD notes that "For businesses, particularly smaller enterprises, the sheer volume of regulations and the difficulty of identifying which regulations apply to specific products can be overwhelming".[13]

As the Sense Partners report notes, TBT-related NTMs account for nearly 50% of total estimated costs in the region, although by count, TBT measures make up only 16% of the total tally. The

[11] "Systems recognition" is a concept that can be found in the WTO SPS Agreement and Codex. It is the recognition that different inspection and certification systems can meet the same objective (are equivalent), even if the systems or measures differ from their own.
[12] " "Equivalence" is the principle that different food safety measures, inspection systems, or processing methods can be accepted as equal if they objectively achieve the same level of health protection, thereby enabling economies and producers to use alternative, locally-appropriate methods without compromising consumer safety.
[13] UNCTAD (2026). *Invisible Barriers: The Costs of Non-Tariff Measures.* Global Trade Update.

implication is that technical rules such as labelling, packaging, testing and conformity assessment may be fewer in number, but cost more in commercial terms.

> *"We have been dealing with a challenging packaging issue in one market. The labelling regulations are highly prescriptive and designed for consumer labelling, but our product is an ingredient that goes into food manufacturing. We are having to supply complex and costly labels which are completely unnecessary and unjustified when applied to our product. This adds significant cost and reduces our flexibility to import to multiple customers."* – food exporter

Businesses note that a single product may be subject to:

- ***Fragmentation*:** the same product may be subject to different rules (for example, around labelling, testing requirements and certification and approval processes) across different markets
- ***Duplication***: the same product may be subjected to the same work repeated multiple times (for example, re-testing and certification across multiple markets, ***Delays and uncertainty***: approval timelines may be unclear, with multiple agencies involved and severe impacts on perishable products and associated supply chain risks.



A 2023 APEC report examining case studies in the grain trade highlighted the significant burden that exporters faced from varied regulatory regimes on maximum residue limits on pesticides, and the required information on phytosanitary certificates.[14]

> *"We are dealing with changing rules, inconsistent rules and a lot of extra cost. People ask why we are not doing more business with particular markets – the fact is that when markets are really unpredictable, commercially it just doesn't make sense to try to operate there."* – food exporter

The APEC Cross-Cutting Principles on Non-Tariff Measures, developed in 2018 (inspired by ABAC's own set of Principles in 2016), and the associated Best Practice Guidelines developed in 2025, offer a practical framework for minimising unintended frictions. (These Principles are found at Annex B to the report.)

By encouraging transparency, proportionality, stakeholder consultation, science- and risk-based approaches, and alignment with international norms, the Principles help to ensure that legitimate objectives are met without imposing unnecessary costs, raising prices for consumers, or restricting the flow of food.[15]

⇨ **Recommendation 1:** Apply the 2018 APEC Cross-Cutting Principles on NTMs to the the food sector, utilizing the APEC Best Practice Guidelines and Good Regulatory Practices.

[14] APEC Policy Support Unit (2025). *The Costs of Hidden Measures: APEC's Experience with Non-Tariff Measures (NTMs)*. Policy Brief No. 68. By Chang Yan Rong and Sylwyn Calizo Jr. (September 2025)

[15] A copy of the APEC Cross-Cutting Principles is at Annex A.

⇨ **Recommendation 2**: Prioritise 'systems recognition' and 'equivalence' – for example, through establishing a dialogue on best practices and regulatory confidence-building among APEC economies.

As noted earlier, the Sense Partners study found that NTMs can be identified in all economies, and in almost all product groups. Over 90% of agri-food imports faced at least one NTM in every economy, with most in the 95-99% range.

> *"Tariffs aren't really the problem any more – we can access lots of FTAs which have reduced those tariffs around the region. But the rubber hits the road with NTBs. They are complex, often very technical and take a long time to resolve. Sometimes we can't even get a foot in the door to talk about them."* – Food exporter

This is not surprising, given the specific characteristics of food, being associated with a range of important considerations and risks such as food safety and protection of biosecurity, and consumer interests (for example, in relation to nutrition), which point towards regulated approaches to address those specific considerations and risks. For example, in respect of New Zealand, a recent publication on NTMs in the Asia-Pacific region notes:

> *"A major feature of New Zealand's NTM regime is its relatively stringent sanitary and phytosanitary (SPS) measures, reflecting the fact that New Zealand is a major agricultural producer and an island nation, free from many diseases and pests affecting international animal and plant product trade".*[16]

In 2016, ABAC commissioned an agriculture-specific study from the USC Marshall School of Business, which drew on interviews with over 400 agri-food sector representatives and policymakers.[17] The research revealed that businesses encountered NTBs throughout the trade pipeline, at and behind the border, and at every stage of the food supply and value chains, as Box 1 shows. These measures ranged from opaque information about market requirements, inadequate testing infrastructure and a lack of automated systems, through to cumbersome licensing procedures, discriminatory behaviour by Customs officials, inconsistent application of rules across different ports, unreliable connectivity and inadequate transport and logistics infrastructure for distribution in the market.

Box 1: NTBs through the Trade Pipeline



Source: University of Southern California, Marshall School of Business (2016), *Non-Tariff Barriers in Agriculture and Food Trade in APEC: Business Perspectives on Impacts and Solutions*, report for ABAC, November 2016

The 2016 Marshall School report also highlighted that NTBs are not necessarily limited to the standard categories in Table 1, but also a raft of other ad hoc procedural obstacles, delays, opaque and changeable information about market requirements or border processes, inadequate

[16] Webb, M. and A. Strutt (2022), 'Non-tariff Measures in New Zealand', in Ing, L.Y.,D.P. Rial and R. Anandhika (eds.), Non-tariff Measures: Australia, China, India, Japan, New Zealand and Republic of Korea. Jakarta: ERIA, pp. 90-100.
[17] University of Southern California, Marshall School of Business (2016), *Non-Tariff Barriers in Agriculture and Food Trade in APEC: Business Perspectives on Impacts and Solutions*, report for ABAC, November 2016.

infrastructure (such as a lack of or limitations on testing laboratories, transport and logistics, or IT infrastructure), human resource constraints (lack of staff, or unqualified technical staff), and even discriminatory or illicit behaviour.

More recent interviews with food businesses from around the region confirm that there has been little improvement in these challenges over the last decade. Business feedback also underscores that part of the challenge in defining NTBs is that the barrier may be 'in the eye of the beholder'. What may be seen as a legitimate measure to an importing economy may be experienced as a barrier by a food exporter – particularly for categories of measures where poor regulatory design or overly-burdensome processes are involved.

> *"We need to think more creatively about ways to resolve NTBs. Sometimes you need to get a Minister involved, just to give the issue sufficient status so that the technical officials are given the authority to engage in the necessary dialogue."* – Food exporter

This points to the need for close engagement with businesses on trade-related measures to identify where unwarranted extra costs and frictions can be found, especially in cases where these may be inadvertent or the implementing economy many not even be aware that they exist. There is also a need to support policymakers and regulators to engage on these issues, which can often be highly technical and require considerable resource to address.

- ⇨ **Recommendation 3: Support greater transparency in food trade measures.** Develop a mechanism for notification and consultation in the development of food-related NTMs; establish an online portal that would allow businesses to report trade barriers as they arise; and convene regular public-private dialogues on food NTM/NTB-related issues, including sharing of best practices and case studies of successful resolution of NTBs.

As discussed above, NTBs act as 'grit in the machinery' of trade, and add costs, erode margins and even potentially exclude businesses from participating in cross-border activity due to compliance and paperwork requirements. While larger firms may be in a position to meet these requirements and pass on the associated costs to importers or customers, smaller firms and those in developing economies have less ability to manage these additional burdens. NTBs may result in slower market entry, supply chain inefficiencies and reduced competitiveness.[18]

> *"Unfortunately we are seeing a deterioration in the trade environment. My guess is that we will see more and more of these NTBs. We need to make the investment in the resources needed to sustain our existing access into our markets – we are missing out on opportunities if we do not."* – Food exporter

Reforming these measures could unlock significant commercial and trade opportunities for APEC economies with a comparative advantage in agriculture, allowing farmers, smallholders and small food businesses in those economies to access new markets more efficiently, earn export income, and invest in higher-value products and innovation. For example, forthcoming analysis of the impact of the removal of trade-reducing NTMs in global markets on Australia's grains, red meat, fruit and vegetable sectors could be up to AUD $4 billion annually over the medium term.[19]

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[18] APEC Policy Support Unit (2025). *The Costs of Hidden Measures: APEC's Experience with Non-Tariff Measures (NTMs)*. Policy Brief No. 68. By Chang Yan Rong and Sylwyn Calizo Jr. (September 2025)

[19] ABARES (2025), *Non-tariff barriers: A multi-billion dollar burden*. ABARES Policy Insight. Issue 3 March 2025; based on Cao, L, forthcoming, 'An approach to quantifying NTM impacts in CGE models', ABARES technical paper.

> *"Digitalisation of border processes is so important – it would save a lot of friction and cost, particularly for smaller firms. We saw through the Covid pandemic that economies were able to pivot to digital when they had to. It doesn't make sense that we are still having to argue the case now."* – Food exporter

Realising the full potential of businesses to participate in trade also requires supporting their capacity to meet SPS and TBT requirements, and leveraging the efficiency of digitalised supply chains and border processes (such as paperless trade), would all help to unlock these opportunities.

- ⇨ **Recommendation 4:** Provide targeted capacity-building for MSMEs to understand and meet technical and SPS requirements, recognising the significant compliance burden and structural barriers they face in this area;

- ⇨ **Recommendation 5:** Redouble efforts towards universal adoption of paperless trade, including electronic SPS and country of origin (COO) certification, through the APEC Centre of Excellence for Paperless Trade (ACCEPT), with targeted training provided to MSMEs in the food sector.

Impacts of NTBs on food security

Food security depends on all people having reliable access to safe, nutritious and affordable food. Although APEC economies have made reforms to the region's food system over recent decades, the region has struggled to achieve durable, inclusive and region-wide food security, against the challenging backdrop of an expanding population and natural disasters and other shocks. In 2023, it was estimated that up to 757 million people were undernourished globally — an increase of approximately 152 million people compared to 2019 levels. Across APEC, while many economies have only low levels of moderate and severe food insecurity, four economies have rates of over 20%, and two of those are above 50%.[20]

The APEC *Food Security Roadmap Towards 2030* recognises the role of well-functioning food trade in achieving food security, as a complement to resilient domestic production:

> *"We recognise that international trade in food and agriculture is critical in achieving global food security and ensuring adequate nutrition. We also recognise that avoiding disruption of food supply chains is critical to ensure stable access to food. We highlight the importance of an open, fair, transparent, predictable, and non-discriminatory multilateral trading system underpinned by World Trade Organization (WTO) rules, to enhance market predictability, increase business confidence and allow trade to flow so as to contribute to food security and nutrition."*

Food trade allows economies to match supply with demand when needed, as a complement to domestic production. It also allows economies to mitigate supply shocks by drawing on the wider regional and global production base to fill gaps in its own market when local harvests or production falls short due to droughts, floods, pests, or disease outbreaks. Trade can also widen the range of nutritious foods available to consumers, helps to keep prices stable, and can boost the international competitiveness of domestic production.

For trade to play this stabilising role effectively, however, it must be reliable, predictable and relatively undistorted. NTBs can make food supplies less dependable and affordable, just when they are most needed. Ultimately NTBs mean higher prices and less choice for consumers. Such barriers can also serve to discourage investment in innovation and resilience in the food sector, which works

[20] ABAC Canada (2025), *The Future of Food Security in the Asia-Pacific: Insights from Business Leaders*

against food security in the longer term by reducing potential productivity gains, including from new technologies.[21]

Sustainability and NTBs

Sustainability and agri-food NTMs intersect in complex ways. OECD research shows that NTMs in the form of production-linked agricultural subsidies may drive monoculture, intensification, and excessive use of water and chemical inputs, with knock-on effects on water quality, biodiversity, land degradation and climate.[22] Reforming these subsidies can help to drive more sustainable systems.

At the same time, APEC economies are increasingly introducing NTMs with explicit environmental objectives, with the three-year moving average of WTO notifications rising from 505 in 2011 to 875 in 2023.[23] While these measures may be intended to achieve legitimate goals, even well-intentioned NTMs can become trade barriers if they are poorly designed.

The EU Deforestation-free supply chain Regulations (EUDR) is a prominent example, albeit outside the APEC region. The EUDR will require those who place products on the EU market to undertake and demonstrate due diligence that products are sourced from deforestation-free supply chains. Although the EUDR has a legitimate goal, it involves significant compliance costs to meet its onerous traceability and geolocation requirements. This risks excluding smaller producers – either directly as exporters, or indirectly where they produce inputs into other agri-food value chains going to the EU.

> *"EUDR is a good example of a regulation with the best of intentions, but which can still end up creating a major barrier to trade, which is felt throughout the supply chain."*
> *– Food exporter*

Industry representatives also highlighted unintended consequences of recent sustainability-driven regulations on packaging waste which are not well designed.

> *"The latest European regulation on packaging is a real headache. Once fully implemented, Europe is likely to be the only place where compliant packaging is manufactured. Ironically, we would have to import their packaging for our products, and then export it back to Europe. All that extra shipping would seem to undermine their climate goals."*
> – Food exporter

In other cases, environmental NTMs can amount to a form of "green protectionism", where the stated purpose masks an underlying intent to shield domestic producers. Conversely, where sustainability-related NTMs are well-designed and predictable, producers that can meet them often gain a real commercial advantage — securing access to premium markets, brand differentiation and stronger long-term customer relationships, leveraging their sustainability credentials alongside delivering more sustainable food.

Conclusion: Possible Solutions to Tackling Agri-Food NTBs in the APEC region

Tackling the complex and vast landscape of NTBs in the APEC region will require a multi-pronged approach. Possible levers include engagement across economies (grounded in regulatory

[21] ABAC Canada (2025), *The Future of Food Security in the Asia-Pacific: Insights from Business Leaders*
[22] OECD (2025), *Assessing the Impacts of Agricultural Support Policies on the Environment*. Food. Agriculture and Fisheries Papers No. 223.
[23] APEC Policy Support Unit (2025). *The Costs of Hidden Measu* Image: Shutterstock *ff Measures (NTMs)*. Policy Brief No. 68. By Chang Yan Rong and Sylwyn Calizo Jr. (September 2025)

confidence-building and supported by the sharing of best practices in regulation and administration); fostering an enabling rules-based, predictable and transparent trading environment; working to understand the real-world impacts of particular measures on businesses; and a focus on capacity-building and trade facilitation. Given the size and scope of measures, a rigorous process of prioritisation is also desirable. This could be informed by business priorities along with a careful assessment of the tractability of issues and the resources available. Actions should include:

- **Prioritize the application of the APEC Cross-Cutting Principles on NTMs to the food sector**
  - Apply the Cross-Cutting Principles to the development of new measures (including sustainability-related measures), utilizing the APEC Best Practice Guidelines and Good Regulatory Practices (GRPs);
  - Review existing measures where possible, to ensure coherence with the Principles

- **Prioritise 'systems recognition'** and **'equivalence'**
  - Recognising others' systems, and equivalence of outcomes, would reduce the compliance burden on both exporters and regulators, and thereby reduce trade costs.
  - Establish a dialogue on best practices and regulatory confidence-building mechanisms as part of ongoing APEC work in this area.

- **Prioritise convergence on relevant FTA chapters under the FTAAP Agenda**
  - As part of the top-down process under the Free Trade Area of the Asia Pacific (FTAAP) Agenda, prioritise work on FTA convergence of relevant chapters that can help to mitigate NTBs – notably, SPS, TBT, Customs and Trade Facilitation, Good Regulatory Practices and Digital Trade.

- **Support greater transparency in food trade**
  - Adopt mechanisms for notification and consultation in the development of food-related NTMs;
  - Establish an online portal (perhaps as part of the APEC Trade Repository) that would allow businesses to report trade barriers as they arise, and support policymakers in prioritizing resolution of high-impact issues;
  - Convene regular public-private Dialogues on food NTM/NTB-related issues, perhaps starting with sharing best practices on technical measures such as labelling and packaging, and also case studies of the resolution of particular NTBs to understand which kind of approaches might be most successful.

- **Provide targeted capacity-building for MSMEs**
  - Design tailored programmes to help MSMEs to understand and meet TBT and SPS requirements,
  - ecognising the significant compliance burden and structural barriers they face in this area;

- **Support trade facilitation for food products**
  - Support universal adoption of paperless trade, including electronic SPS and country of origin (COO) certification, through the APEC Centre of Excellence for Paperless Trade (ACCEPT), with targeted training provided to MSMEs in the food sector

Annex A

Non-tariff measures affecting agri-food trade in the APEC region

A roadblock to trade, food security and sustainability

Final report for ABAC, 10 April 2026

SENSE PARTNERS
DATA LOGIC ACTION

Key points

Findings at a glance

FIGURE 1 HEADLINE NUMBERS



NTMs on agri-food trade are embedded across APEC agri-food trade

- We identify 282,550 agri-food-specific NTMs, with an average of 17 NTMs per product.
- Across APEC, 96.1% of intra-regional agri-food trade is covered by at least one NTM.

The burden is heaviest in a few product groups

- The stock of NTMs is not spread evenly across products. The most regulated product groups by average count are fish, meat and fish preparations, dairy and eggs, fruit and nuts, and sugar and confectionery.
- That matters because these are important traded food categories within APEC. It suggests that the most commercially significant parts of the agri-food system are also some of the most regulation-intensive.

The overall cost of agri-food NTMs in APEC is over US$133b

- We trade-weight the count of NTMs and apply ad valorem tariff equivalents (AVEs) to estimate the cost imposed by different NTMs. This produces a more economically meaningful picture of where compliance burdens are falling across APEC agri-food trade.
- On a trade-weighted basis, we estimate that NTMs on intra-APEC agri-food trade are equivalent to a 26.4% tariff.
- The trade-weighted applied tariff on agri-food trade in APEC is around 6%, by comparison.
- Applied to US$504.9 billion of trade in 2023, agri-food NTMs have an annual cost of US$133.2 billion.

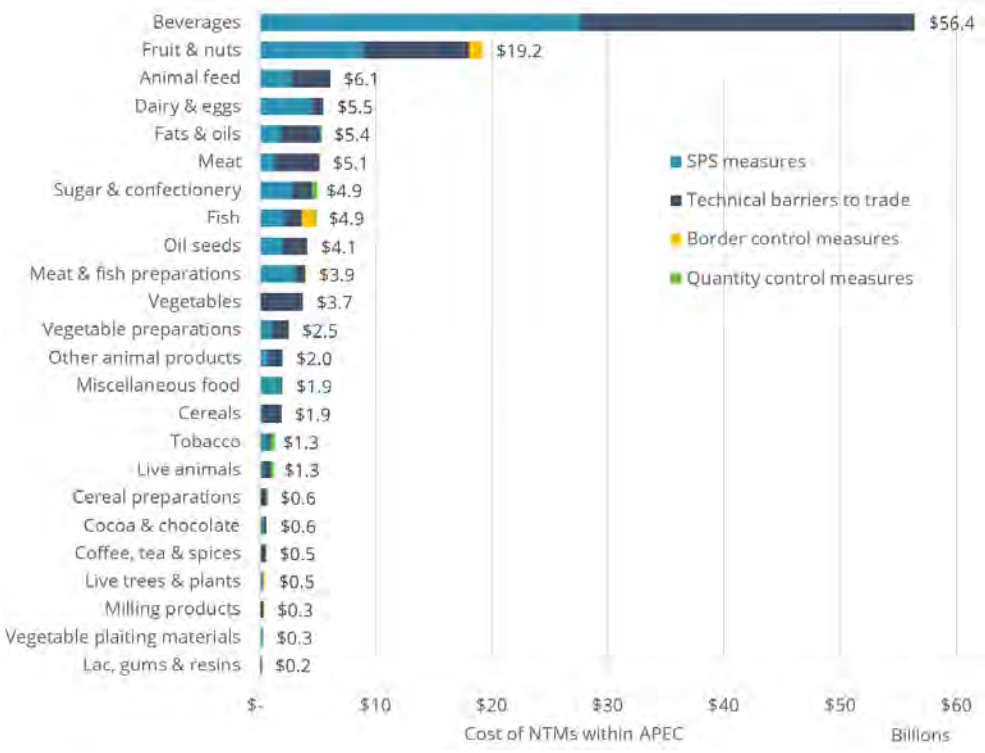
- Earlier analysis (NZIER, 2016) estimated NTMs across all products in APEC imposed a cost equivalent to a 9.7% tariff. Our research therefore demonstrates that agri-food trade is subjected to much higher costs than non-food/manufactured items.

Technical regulations drive more of the cost than raw counts imply

- Sanitary and phytosanitary (SPS) measures dominate by count (48.2% of all measures). Technical barriers to trade (TBT) account for a much smaller 16.0% share by number.
- But once trade values and AVEs are considered, the picture changes: TBT account for 49.6% of total estimated costs and SPS measures 47.4%.
- The implication is that technical rules such as labelling, packaging, testing and conformity requirements may be fewer in number, but they often cost more in commercial terms.

Beverages, fruits & nuts, feed and dairy NTMs impose largest costs

FIGURE 2 COST OF APEC AGRI-FOOD NTMS BY PRODUCT GROUP, US$B



SOURCE: COMTRADE; GOURDON ET AL (2020); AUTHOR'S CALCULATIONS

- Beverages account for over 40% of total NTM costs within APEC. This is largely due to high AVEs of alcoholic beverages, and especially wine and spirits. These products are often heavily regulated through product standards, labelling and distribution rules.

Improving the efficiency of NTMs would deliver large economic benefits by reducing the regulatory burden on firms

- The number of NTMs in place is increasing over time, with the strongest growth being in trade-distorting measures.[1]
- Not all NTMs are inherently bad. Many support legitimate objectives such as food safety, animal and plant health, traceability, consumer protection and sustainability.
- The issue is that even justified measures impose compliance costs, and poorly designed or inconsistent measures can become a serious drag on trade.
- The sheer number of agri-food NTMs we have identified places a significant regulatory burden on exporters and importers. APEC businesses will be devoting large amounts of their scarce time and resources to meeting compliance requirements. As the number of NTMs increases, so too does the regulatory burden.
- While this may just be seen as an unavoidable 'cost of doing business', that does not detract from the fact that complying with NTMs has a real resource cost – time and money that could be spent elsewhere on improving efficiency, boosting investment or innovating.
- The practical policy question for ABAC and APEC economies is therefore not whether to eliminate NTMs wholesale, but how to make them more transparent, more science-based, more proportionate and less unnecessarily costly. Doing so will free up business resources for more productive purposes.

[1] See section 4.1 and 4.2 of Sense Partners. 2022. 'Non-tariff measures Impacts, trends and effects on exports from New Zealand'. Report to New Zealand Ministry of Foreign Affairs and Trade. https://www.mfat.govt.nz/assets/Trade-General/Trade-stats-and-economic-research/Non-tariff-measures-Impacts-trends-and-effects-on-exports-from-New-Zealand-January-2022.pdf

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1. Purpose and scope of research

1.1. Context and purpose

Food markets in the APEC region continue to be affected – and at times materially distorted – by significant trade barriers, including tariffs and non-tariff measures (NTMs).[2]

Many agri-food NTMs serve legitimate policy objectives such as food safety, environmental protection, animal welfare, biosecurity risks and traceability. But NTMs also impose compliance costs on exporters and importers which are ultimately borne by consumers.

These compliance costs can be highly burdensome or discriminatory between economies. As such, "NTMs now shape market access not only through explicit restrictions but also through compliance costs and regulatory capacity differences. In this sense, NTMs increasingly influence who participates in global trade, with whom, and under what conditions" (Taglioni and Kee, 2025, p.15).[3]

NTMs matter for trade, food security and sustainability

The influence of NTMs thus matters for issues such as food security, a significant and increasing challenge in the APEC region. Population growth is increasing the demand for food at the same time as harmful climate change reshapes regional food production and distribution patterns.

Food trade has an important role to play in tackling food insecurity by enabling the matching of food supply with demand.

Food trade is also increasingly being shaped by sustainability-related NTMs. Well-designed NTMs can support the achievement of climate goals and enable businesses to attain a market premium for "sustainable" products. But they can also become barriers to trade if applied in a non-scientific or discriminatory fashion.

Given food security, open trade and sustainability are core interests of APEC economies and ABAC, so too must be the role of agri-food NTMs in the region.

ABAC has been an important player in regional discussions on NTMs

ABAC undertook extensive work on food non-tariff barriers (NTBs) in the mid-2010s, including a series of presentations at ABAC meetings, work in the APEC Policy Partnership on Food Security (PPFS), close involvement in the development of research on food NTBs[4], and the

[2] In this report we use non-tariff measures (NTMs) rather than non-tariff barriers (NTBs). See section 2.1.
[3] Taglioni, D., and H. L. Kee. 2025. 'It's Not (Just) the Tariffs: Rethinking Non-Tariff Measures in a Fragmented Global Economy'. World Bank Policy Research Working Paper 11236, October 2025.
[4] https://www.ncapec.org/docs/ABAC%20Documents/2016%20ABAC%20USC%20Marshall%20School%20-%20Non-Tariff%20Barriers%20in%20Agriculture%20and%20Food%20Trade.pdf

development of a set of cross-cutting Principles on NTBs (which in turn inspired APEC's NTM Principles).

Earlier research suggests NTMs are three times as costly as tariffs

NZIER (2016)[5] estimated that NTMs across all goods trade (not just agri-food) within APEC imposed trade costs of around US$790b in 2011 – equivalent to a 9.7% tariff. The cost of NTMs was around three times the costs imposed by APEC tariffs.

Since the NZIER report was published, the research base on NTMs has expanded considerably. Estimates of the costs of NTMs at the detailed product level have been updated and improved. It is therefore timely to take another look at the costs of NTMs in APEC.

Sense Partners has been engaged by ABAC to update and extend the NZIER research, with a focus on agri-food trade

Our research has two principal objectives:

1. Mapping the NTM landscape by:
    a. Preparing counts of NTMs on agri-food trade, by broad category, by APEC economy, at a detailed product level (around 5,600 products). These counts show the **regulatory landscape**.
    b. Trade-weighting these counts to demonstrate the **regulatory burden** facing importers and exporters.
    c. Estimating the **regulatory costs** of these NTMs in the APEC region, using updated ad valorem equivalents (AVEs).
2. Preparing a research report for ABAC and APEC economies to inform engagement with Ministers Responsible for Trade, APEC Economic Leaders and the PPFS.

1.2. Scope and caveats

1.2.1. Definition of agri-food products

For simplicity of reporting, we define "agri-food" trade as the 963 6-digit products (HS6) in chapters 01 to 24 in the 2022 Harmonised Trade System (HS). We acknowledge that some agricultural products are also traded in other chapters of the HS.[6] Extending the coverage of products may be a useful area for future research.

[5] NZIER. 2016. 'Quantifying the costs of non-tariff measures in the Asia-Pacific region: Initial estimates'. NZIER public discussion paper. Working paper 2016/4, November 2016.
[6] For example, certain food ingredients and processing inputs such as mannitol, sorbitol, essential oils, casein, albumins and modified starches, as well as agricultural raw materials such as hides, wool and cotton.

1.2.2. Definition of NTM vs NTB

Non-tariff measures (NTMs) are policy measures, other than customs tariffs, that can have an economic effect on international trade in goods, changing quantities traded, or prices, or both.

All NTMs introduce both costs and benefits. They should not all be seen as inherently 'bad'.

As noted in Sense Partners (2022)[7], the "vast majority of NTMs are intended to manage risks", such as legitimate food safety concerns, biosecurity risks and consumer safety risks. This risk management confers benefits on consumers and producers.

But even the most well-designed NTMs also impose costs on producers and consumers. Paperwork, product testing, labelling changes etc all impose real resource costs.

Non-tariff barriers (NTBs) are a minority subset of NTMs that are commonly defined as being more trade restrictive than necessary to meet a legitimate objective, unjustifiably discriminatory against imports, and/or not based on international standards or WTO commitments.[8] They tend to be used primarily for protectionist purposes, imposing significant costs on competitors relative to their purported benefits.

Quantitatively determining which NTMs are NTBs is a challenging exercise, and outside the scope of our research. This is not least because the benefits of NTMs are rarely quantified, which makes assessing the balance and distribution of benefits and costs challenging.

Therefore we define an NTM as any measure captured by UNCTAD's TRAINS dataset.[9] We do not distinguish between NTMs and NTBs. Rather than pass judgement on which regulations are 'bad' or 'good', we remain neutral and call them all NTMs.

1.2.3. Scope and accuracy of NTMs database

The data on the count of NTMs for some APEC economies is a little dated, most notably for Hong Kong and Korea (both 2016), the US (2019) and Russia (2020). Unless these economies have removed many NTMs in recent years, which seems unlikely, using this data is likely to understate the current stock – and hence cost – of NTMs in APEC.

Consistent with other international research in this area[10], we focus on NTMs that are (i) agri-food specific, and (ii) applied to all commodities within a given agri-food HS6 category.

---

[7] Sense Parters. 2022. 'Non-tariff measures: Impacts, trends and effects on exports from New Zealand'. Report to New Zealand Ministry of Foreign Affairs and Trade. https://www.mfat.govt.nz/assets/Trade-General/Trade-stats-and-economic-research/Non-tariff-measures-Impacts-trends-and-effects-on-exports-from-New-Zealand-January-2022.pdf

[8] See APEC's non-binding Cross-Cutting Principles on Non-Tariff Measures, for example.

[9] UNCTAD. 2024. TRAINS: Trade Analysis and Information System. United Nations Conference on Trade and Development. Available at: https://trains.unctad.org

[10] For example, Penello Rial, D. 2023. 'Metadata for Non-Tariff Measures Bulk Download Database: Variables in the 'Researcher File'. UNCTAD Research Paper No. 41. United Nations Conference on Trade and Development, Geneva; and UNCTAD and World Bank. 2018.' The Unseen Impact of Non-Tariff

That is, we exclude from our analysis NTMs which are imposed at a level of product detail beyond HS6 (i.e. economy-specific tariff lines at HS8 or HS10). We also exclude 'horizontal' NTMs that apply to all products, agri-food or not.

We use trade flow data from calendar year 2023, the latest year for which the UN COMTRADE database has full coverage of most APEC economies. To the extent agri-food trade within the APEC region has expanded since 2023, the aggregate cost of NTMs will also have risen.

Chinese Taipei is excluded from the analysis of the costs of NTMs as its trade data is not captured by the UN COMTRADE database. Russia is excluded due to concerns over data quality since 2022. Again, this means we will underestimate the aggregate cost of NTMs on agri-food trade in APEC.

We acknowledge there are differences in collection and reporting methodologies between parties providing data to UNCTAD from APEC economies. This is an unavoidable caveat on the data quality in the TRAINS database.

We do not go through the hundreds of thousands of NTMs recorded in the TRAINS database to confirm their classification has been appropriately recorded. We take the accuracy of TRAINS as given, implicitly accepting that there will be inevitable classification errors for specific NTMs.

1.2.4. Use of existing research on AVEs of NTMs

We do not prepare bespoke estimate of the AVEs of NTMs for this research. Rather, we use well-regarded existing estimates prepared by the OECD. Where gaps exist in the OECD dataset's coverage of APEC products or economies, we use simple statistical techniques to infer reasonable proxies of missing data.

The dollar costs of an NTM are based on the simple multiplication of trade flows and AVEs. No adjustment is made for pass-through or general equilibrium effects. We do not explore which parts of a product's supply chain bear the incidence of the costs of an NTM. That will vary by economy, product and individual business.

Measures: Insights from a New Database'. UNCTAD/DITC/TAB/2018/2. United Nations Conference on Trade and Development and the World Bank, Geneva.

2. Methodology and data

2.1. Data sources

2.1.1. NTM incidence data

NTM counts are based on the UNCTAD TRAINS research dataset.[11] This dataset categorises NTMs based on the UN MAST system, summarised below.

TABLE 1 SUMMARY OF TYPES OF NTMS

Code	Category	What it covers	Examples
A	Sanitary and phytosanitary measures (SPS)	Health, food safety, animal and plant protection requirements	Maximum pesticide residue limits; import certificates
B	Technical barriers to trade (TBT)	Product standards, labelling, testing and conformity assessment requirements	Electrical safety standard; nutrition labelling
C	Pre-shipment inspection and other formalities	Import-related inspection, customs and administrative formalities	Pre-shipment valuation inspection
D	Contingent trade-protective measures	Anti-dumping, countervailing and safeguard actions	Anti-dumping duties
E	Non-automatic licensing, quotas, prohibitions and quantity-control measures	Licensing or quantitative restrictions not justified by SPS or TBT reasons	Tariff rate quotas
F	Price-control measures, including additional taxes and charges	Measures that affect import prices directly or through extra charges	Excise taxes; minimum import prices
G	Finance measures	Restrictions on payment terms, foreign exchange or financing for imports	Advance import deposit
H	Measures affecting competition	Measures that alter the competitive conditions faced by imported goods	State trading monopoly
I	Trade-related investment measures	Investment measures linked to trade performance	Local-content requirement

[11] UNCTAD (2024). TRAINS: Trade Analysis and Information System. United Nations Conference on Trade and Development. Available at: https://trains.unctad.org

Code	Category	What it covers	Examples
J	Distribution restrictions	Restrictions affecting the internal distribution of imported goods	limits on retail channels for imported alcohol.
K	Restrictions on post-sales services	Restrictions affecting after-sales support for imported goods	Requirement to use a local service agent
L	Subsidies (excluding export subsidies)	Financial support favouring domestic producers in the home market	Price support for local farmers
M	Government procurement restrictions	Procurement rules that disadvantage foreign suppliers	Domestic preference margin in public tenders
N	Intellectual property	IP-related measures affecting trade in goods	patent-related import restriction
O	Rules of origin	Requirements used to determine product's origin	Certificate of origin requirement
P	Export-related measures	Measures restricting or regulating exports	Export ban

The 282,550 measures included in our analysis are non-horizontal and provide full coverage of a product at the HS6 level for a given reporter-partner-product combination.

That is, we exclude:

- Horizontal measures – those applied to *all* goods trade, not just agri-food products. Importer registration is a common example. We exclude these because they are not agri-food specific.
- Partial product coverage measures – those applied only to subsets of tariff lines within an HS6 code, or under certain conditions. They cannot be reliably allocated at HS6 level without overstating their regulatory burden.

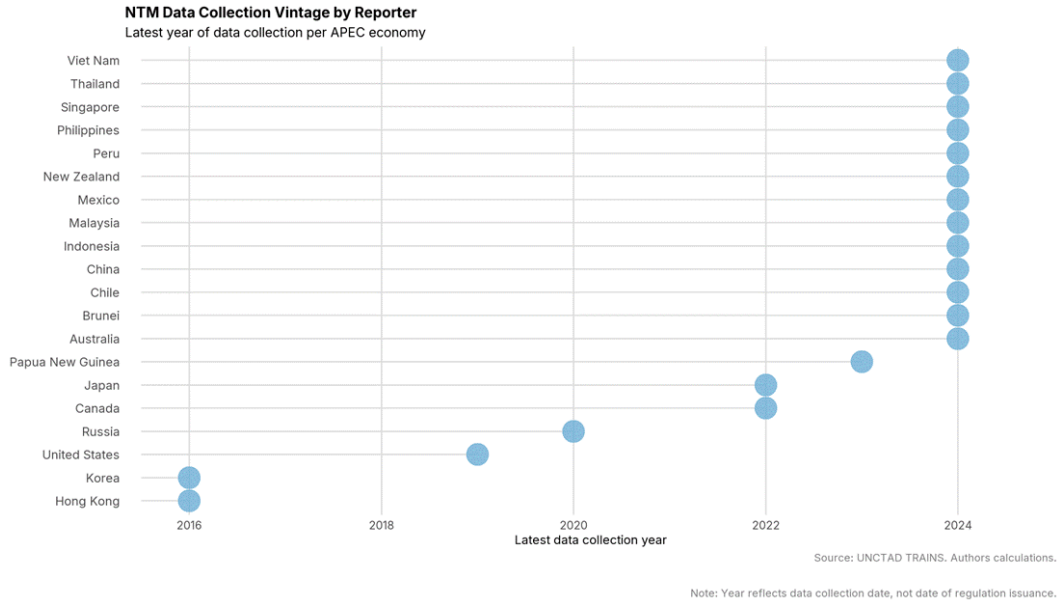
Excluding horizontal measures and partial HS6 coverage reduces the NTM count in our dataset by over 40%. NTMs that an APEC economy apply to all trading partners globally are included in our analysis.

Most (16) APEC economies' NTM collection dates are within the past four years. Data on the NTMs imposed by Korea, Hong Kong, the US and Russia are somewhat older (see Figure 3). No comprehensive TRAINS data is available for Chinese Taipei. Some gaps in the TRAINS dataset are filled using data from the Vienna Institute for International Economic Studies (WIIW) database on NTMs.[12]

[12] Grübler, J., & Reiter, O. (2020). "Characterising Non-tariff Trade Policy" (Research Report No. 449; Wiiw Research Report). The Vienna Institute for International Economic Studies. https://wiiw.ac.at/characterising-non-tariff-trade-policy-p-5375.html

In total, our NTMs data set has 282,550 exporter-importer-product-NTM data points.

FIGURE 3 APEC ECONOMIES' NTM DATA COLLECTION DATES



SOURCE: UNCTAD TRAINS

2.1.2. Trade data

Trade values in $US are sourced from UN COMTRADE for 2023. We use HS6 level data, which is the most detailed internationally comparable data publicly available. In total we have around 65,000 importer-exporter-product data points.

These trade values are used to construct importer and exporter weighting schemes (see sections 2.2.2 and 2.2.3 below) and to aggregate AVEs into total estimated cost measures.

Chinese Taipei's trade flows are not captured in the UN COMTRADE database, so it is excluded from the cost analysis, along with Russia (due to data quality concerns post-2022).

2.1.3. AVE data

We take our economy- and product-specific estimates of the ad valorem equivalent (AVEs) of NTM costs from Gourdon et al (2020).[13] The AVEs reflect, for each product and NTM, the percentage increase in price due to that NTM (i.e. equivalent to a tariff).

The AVEs are estimated using structural gravity modelling, a standard methodology in examining NTM costs.

[13] Gourdon, J., S. Stone and F. van Tongeren. 2020. 'Non-tariff measures in agriculture', OECD Food, Agriculture and Fisheries Papers, No. 147, OECD Publishing, Paris. http://dx.doi.org/10.1787/81933f03-en . The full set of AVEs was kindly provided to us by the paper's authors.

The coverage of that dataset is not complete for APEC agri-food trade. Korea's NTMs are absent and around 29% of intra-APEC food trade value lacks AVE estimates, likely due to inconsistent reporting of measures.

Missing AVEs are filled using sub-regional means, then larger aggregate groupings and then global HS4 means. TRAINS data are then used as a plausibility check, with imputed AVEs zeroed out where no corresponding TRAINS NTM data exist.[14]

2.2. Methodology

2.2.1. Measuring the stock of NTMs to map the regulatory landscape

The descriptive analysis counts the number of distinct NTM requirements imposed by an economy on a given product.

This raw **count approach is used to describe the regulatory landscape** before introducing trade weights. That is, just looking at the stock of regulations each economy has in place.

2.2.2. Trade-weighting the stock of NTMs to show regulatory burden

Trade weighting is required because not all NTMs impose the same compliance costs. And the aggregate measurable cost per NTM increases as the amount of trade that passes through it rises.

That is, **trade-weighting NTMs provides a picture of the regulatory burden** of APEC agri-food NTMs.

We use two weighted average measures to explore the exposure that an economy's exporters and importers face.

Importer trade-weighted NTM exposure

This index represents the expected regulatory burden on the marginal import dollar in each economy. That is, the regulatory burden that an economy places on itself through its own use of NTMs, given the products it imports and the sources it imports them from.

For each economy, a trade-weighted NTM exposure index is constructed by computing a value-share weighted average of NTM counts across all intra-APEC food trade flows into that economy. For a given importer *r*, each product-exporter flow (*r, p, hs6*) is assigned a weight equal to its share of the importer's total intra-APEC food import basket:

w(r, p, hs6) = import_value(r, p, hs6) / sum_all(import_value(r))

The weights sum to one within each importing economy across all exporters and all HS6 products. The trade-weighted NTM exposure index for importer *r* is then:

[14] We are happy to provide further detail as required.

*ntm_exposure(r) = sum[ntm_total(r, p, hs6) * w(r, p, hs6)]*

Mathematically this is a weighted average NTM count. Because the weights are value shares and sum to one, the index is scale-invariant and valid for cross-economy comparison regardless of the absolute size of each economy's import basket.

A key limitation of this approach is the trade-chilling effect. Where NTMs suppress trade in affected products, those products receive a lower weight in the import basket — potentially close to zero if trade has been severely restricted.

This means heavily regulated but thinly traded flows contribute little to the index, and the resulting measure understates the true regulatory burden on restricted products.

Exporter trade-weighted NTM exposure

This index captures regulatory exposure given an exporting economy's product and market specialisation. That is, it captures the average regulatory burden an exporting economy faces, given other economies' NTMs and the nature of their export composition.

Here the weighting methodology is restructured to reflect an exporter's perspective. Two levels of weighting are applied to account for both the product composition of an exporter's sales to each destination and the distribution of export value across destination markets.

At the first level, within each importer-exporter pair (*r, p*), each HS6 product is weighted by its share of that exporter's sales to that specific destination market:

w_exp(r, p, hs6) = import_value(r, p, hs6) / sum_hs6(import_value(r, p))

These weights sum to one within each importer-exporter pair and reflect the bilateral product composition of trade. Applying these weights to NTM counts produces an economy-specific NTM exposure index for each exporter-destination pair:

*ntm_exposure(p, r) = sum_hs6[ntm_total(r, p, hs6) * w_exp(r, p, hs6)]*

At the second level, these economy-specific indices are aggregated across all APEC destination economies by weighting each economy's index by the total export value flowing to that destination:

*ntm_exposure(p) = sum_r[ntm_exposure(p, r) * export_val(r, p)] / sum_r[export_val(r, p)]*

This produces a single aggregate index for each exporter reflecting the average NTM burden faced by a representative dollar of that exporter's food exports across APEC markets — accounting for both what they export and where they export it.

An exporter specialising in heavily regulated sectors sold into restrictive markets will score higher than one selling lightly regulated products into open markets, even if the underlying regulatory landscape is identical. The index therefore captures regulatory exposure given export specialisation rather than the intrinsic restrictiveness of destination markets in isolation.

As with the importer index, the trade-chilling effect applies — suppressed trade flows receive lower weight, meaning the index understates the true burden where NTMs have already restricted trade.

2.2.3. Estimating the regulatory costs of NTMs using AVEs

The **regulatory costs** of NTMs are calculated from the bottom up, multiplying import flows between two economies in any given product by the AVE for that product and importing economy.

For reporting purposes, we generate trade-weighted average AVEs across intra-APEC agri-food flows using import values as weights.

3. Results

Consistent with our ToR, we focus our reporting here on the big picture rather than trying to cover all the details of each economy's 5,000+ HS6 imports.

We present a two-page summary of results for each economy in Appendix A. The detailed results are also available in spreadsheet form on request.

3.1. Headline results

FIGURE 4 SUMMARY OF QUANTITATIVE ANALYSIS

Indicator	Result
Total stock of agri-food NTMs in APEC	282,550
Average NTMs per agri-food product	17
Share of agri-food imports facing at least one NTM	> 90% in every economy; most in 95-99% range
Trade-weighted aggregate AVE on APEC agri-food trade	26.4%
Intra-APEC agri-food trade value, 2023	US$504.9b
Estimated total NTM cost	US$133.2b
Share of total costs attributable to beverages NTMs	42%
SPS and TBT shares of estimated AVE costs	TBT 49%, SPS 47%

SOURCE: AUTHOR'S CALCULATIONS

3.2. Mapping the NTM landscape

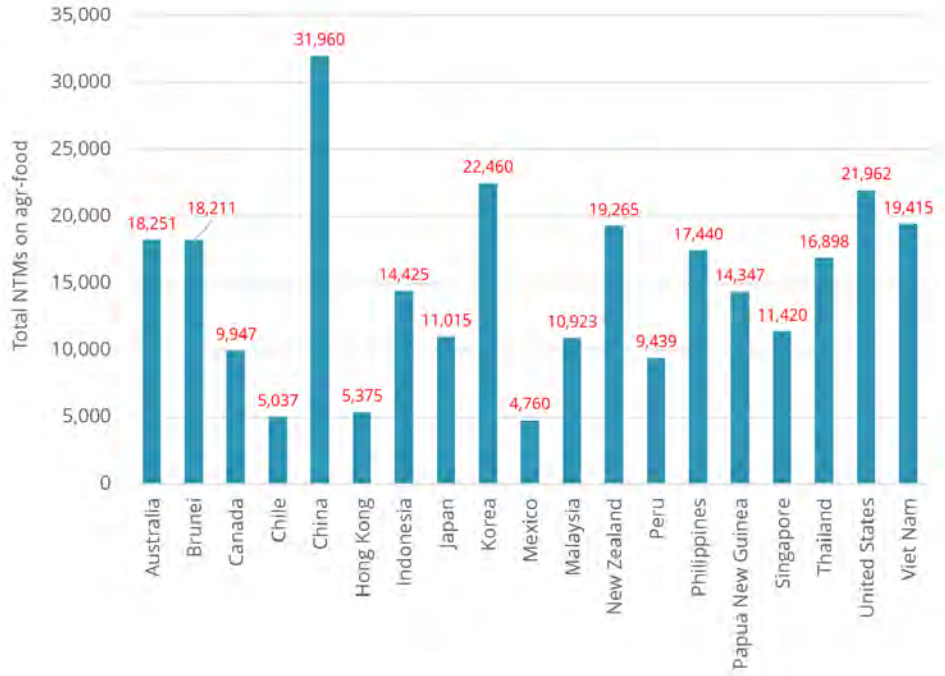
3.2.1. Counts of NTMs

In total, over 282,000 NTMs apply specifically to agri-food trade within the APEC region. The use of NTMs varies significantly across economies, with no obvious correlation with size, geography or export/import composition (Figure 5).

The composition of these agri-food NTMs varies across economies (Figure 7). In total, 48.2% are SPS measures, 21.0% are export measures and 16.0% are TBT measures (Figure 6).[15]

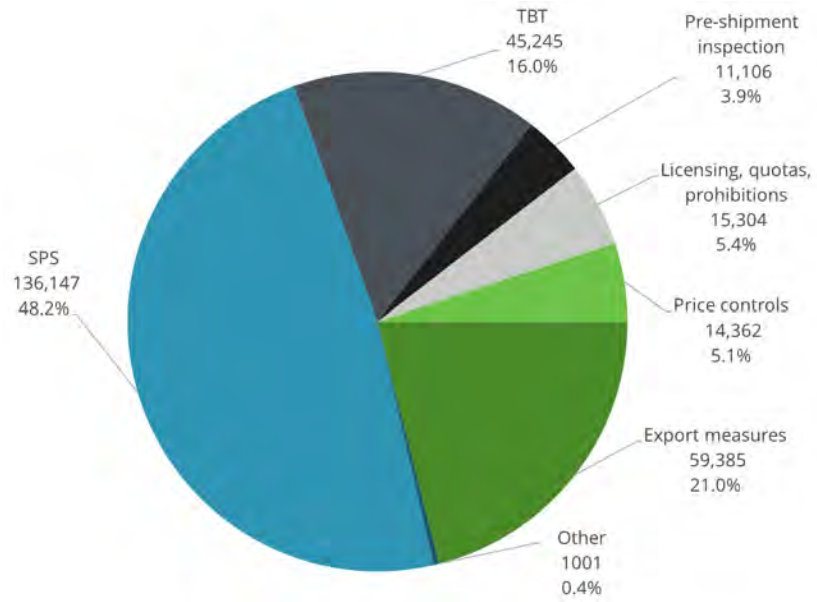
[15] The UNCTAD data is collected according to the UN MAST taxonomy of NTMs. See Table 1 on section 2.1.1 for examples of each type of NTM. Here, 'Other' is the sum of finance measures, competition measures, contingent trade protection, and trade-related investment measures.

FIGURE 5 NUMBER OF NTMS IMPOSED BY APEC ECONOMIES



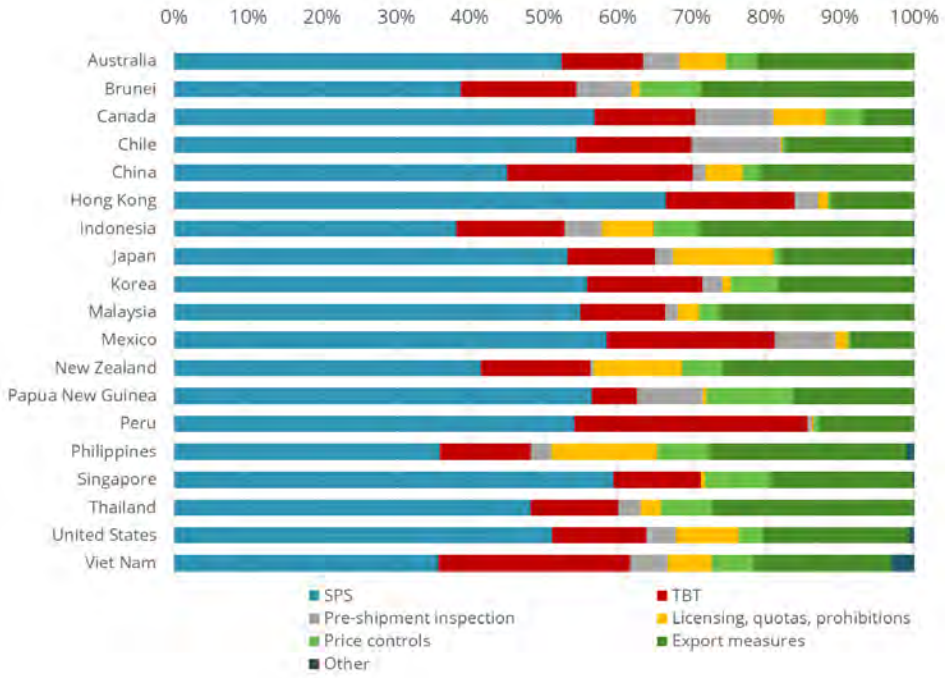
SOURCE: UNCTAD TRAINS

FIGURE 6 COMPOSITION OF NTMS ACROSS APEC REGION



SOURCE: UNCTAD TRAINS

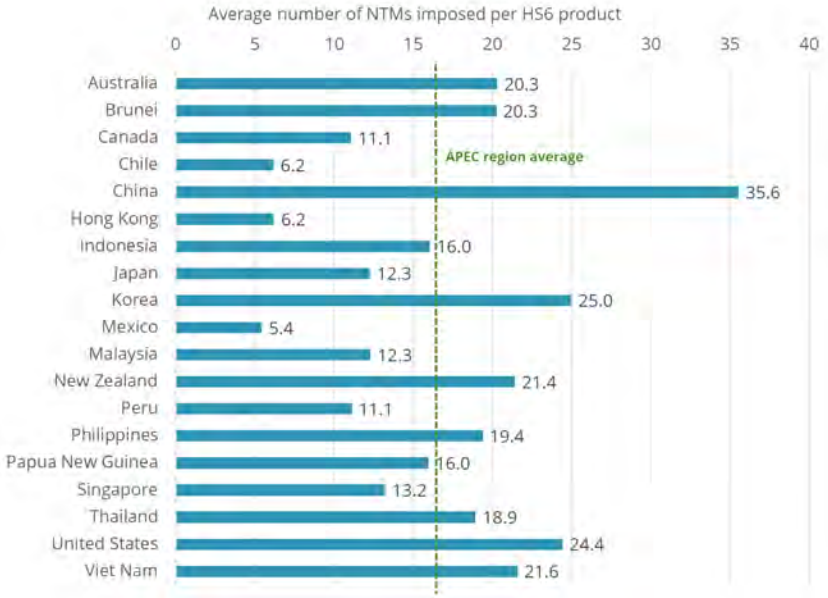
FIGURE 7 COMPOSITION OF NTMS ACROSS APEC ECONOMIES



SOURCE: UNCTAD TRAINS

On average, APEC economies apply between 5.4 and 35.6 NTMs per agri-food product, with an APEC-wide simple average of 16.7 (Figure 8).

FIGURE 8 AVERAGE NUMBER OF NTMS PER PRODUCT BY APEC ECONOMY

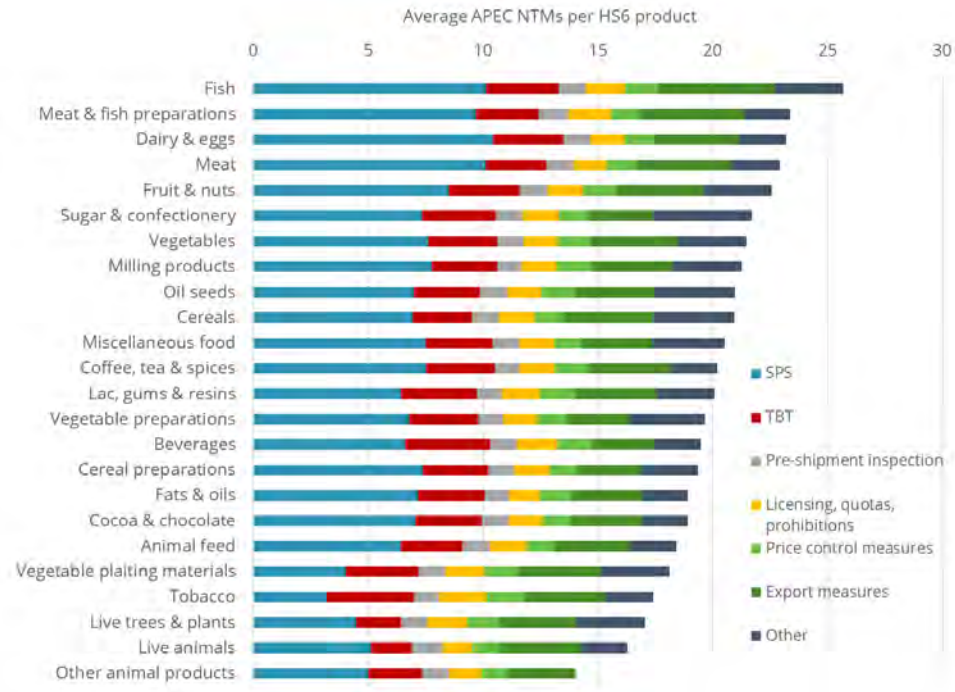


SOURCE: UNCTAD TRAINS

When thinking about the average number of NTMs applied across product groupings (i.e. HS chapters), the five product groups facing the most NTMs on average are:

- Fish (26 NTMs)
- Meat and fish (23)
- Dairy and eggs (23)
- Fruit and nuts (23)
- Sugar and confectionary (22).

FIGURE 9 AVERAGE APEC NTMS PER PRODUCT



SOURCE: UNCTAD TRAINS

3.2.2. Importer exposure to agri-food NTMs

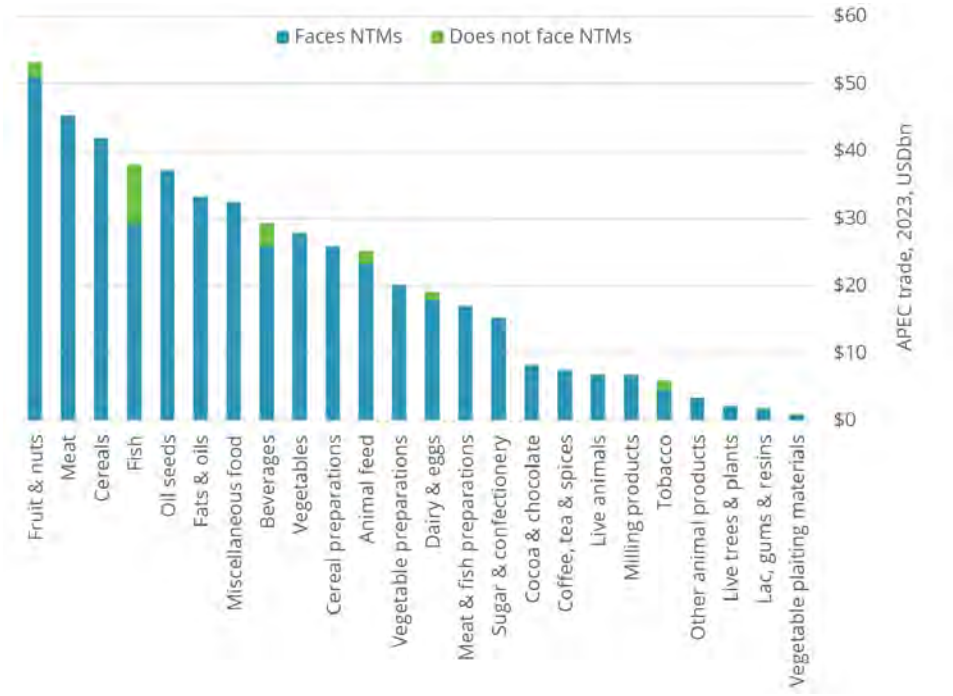
While the count of NTMs is interesting context, it treats each NTM equally in terms of how much it might matter.

As such, it provides useful information on the regulatory *landscape* but it has little economic significance because it does not consider how much APEC trade is affected – it tells us little about the regulatory *burden* of NTMs.

So we now adjust the NTM count data to consider how much trade passes through each measure. By weighting the NTM data by import flows we can see how the composition of an economy's import basket affects the average number of NTMs in place – the regulatory burden it faces on its imports.

The results (see Figure 10) show very little agri-food trade escapes NTMs within APEC. We estimate only 4% of intra-APEC agri-food trade is free from the types of NTMs we include in our analysis.[16]

FIGURE 10 APEC AGRI-FOOD TRADE NTM COVERAGE



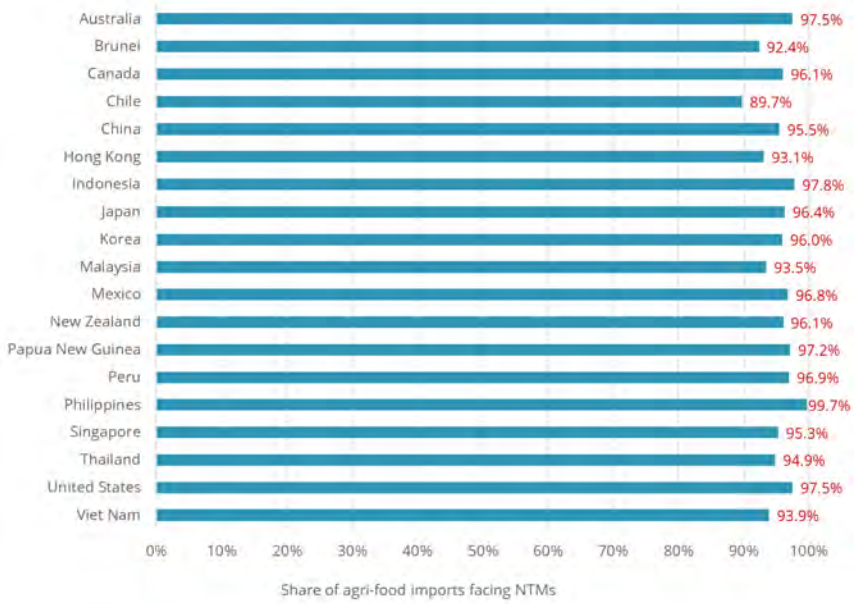
SOURCE: UNCTAD TRAINS; COMTRADE; AUTHOR'S CALCULATIONS

At the economy level, every APEC economy has at least 90% of its agri-food imports facing at least one NTM, with most economies having between 95% and 99% import coverage (see Figure 11).

Across the APEC region, 96.1% of agri-food trade is covered by non-horizontal, fully covered NTMs.

[16] Note that this calculation may be affected by a lack of reporting of NTMs on these products in the TRAINS database. Around 210 HS6 products are *not* covered by any agri-food specific (i.e. non-horizontal) or full coverage NTMs, according to TRAINS. These products may however attract generic/horizontal NTMs or be subject to NTMs applied only at HS8 or HS10. The largest trade flows are in 220299 Non-alcoholic beverages (other) US$3.34b; 030743 Frozen cuttlefish & squid US$2.51b; 030632 Live/fresh/chilled lobster US$1.51b; 041090 Other edible animal products US$1.06b; 080521 Fresh/dried mandarins US$1.01b.

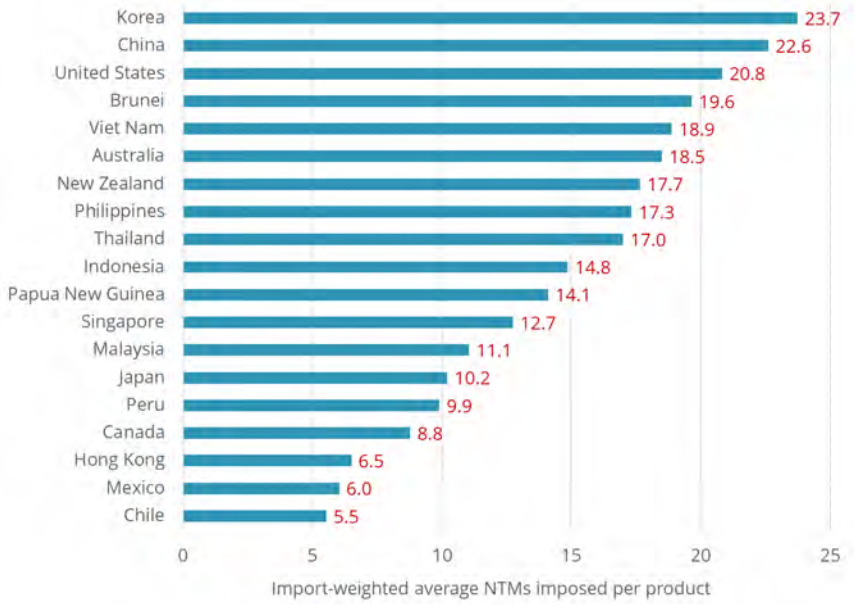
FIGURE 11 SHARE OF ECONOMIES' AGRI-FOOD IMPORTS COVERED BY AT LEAST ONE NTM



SOURCE: UNCTAD TRAINS; COMTRADE; AUTHOR'S CALCULATIONS

After import-weighting the count of NTMs shown in Figure 8, the average number of NTMs imposed by each economy is shown below. Comparing Figure 8 and Figure 12 one can see that some economies (such as China) impose many agri-food NTMs on products which are not heavily imported.

FIGURE 12 IMPORT-WEIGHTED AVERAGE NUMBER OF NTMS IMPOSED BY ECONOMIES



SOURCE: UNCTAD TRAINS; COMTRADE; AUTHOR'S CALCULATIONS

3.2.3. Exporter exposure to agri-food NTMs

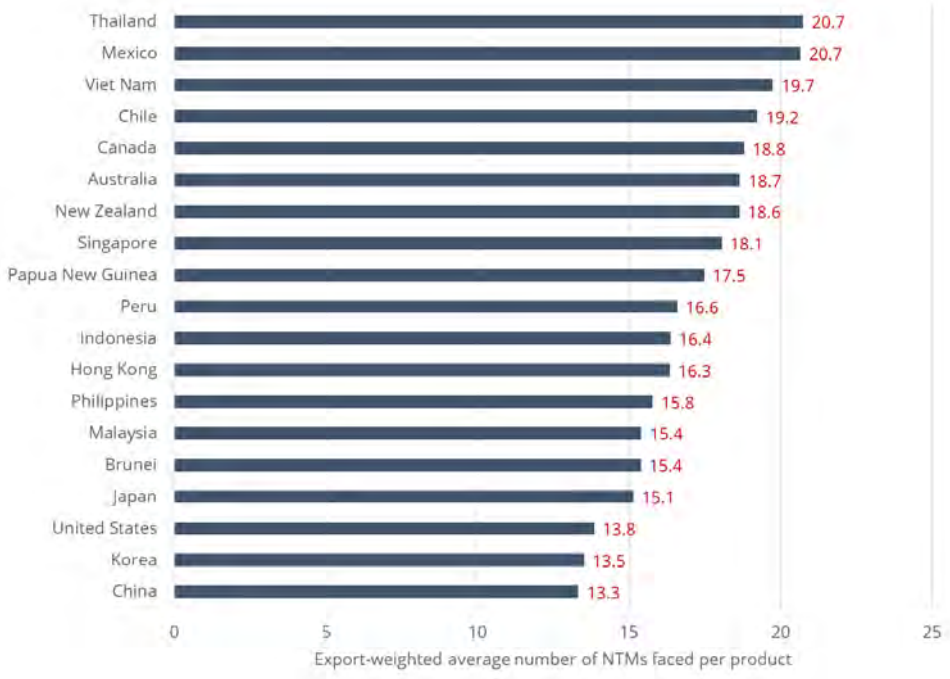
We can also weight the NTMs count from an exporting economy's perspective. For each destination market, NTM counts are weighted by the exporting economy's product composition of exports to that specific market. The weight of each HS6 product reflects its share of the exporting economy's basket of exports to each particular market.

A low export-weighted index indicates an economy's export mix (products and markets) faces relatively few NTMs. A high index indicates an economy exports products that attract many NTMs and/or they sell to markets that impose a relatively high number of NTMs. See Figure 13.

The result for Thailand, for example, is largely due to its high share (26%) of APEC agri-food exports going to China, which is one of the markets that imposes a relatively high number of NTMs.

In contrast, the low NTM export exposure for China reflects that over a third of its agri-food exports are sent to markets with relatively low NTM counts, such as Japan and Hong Kong.

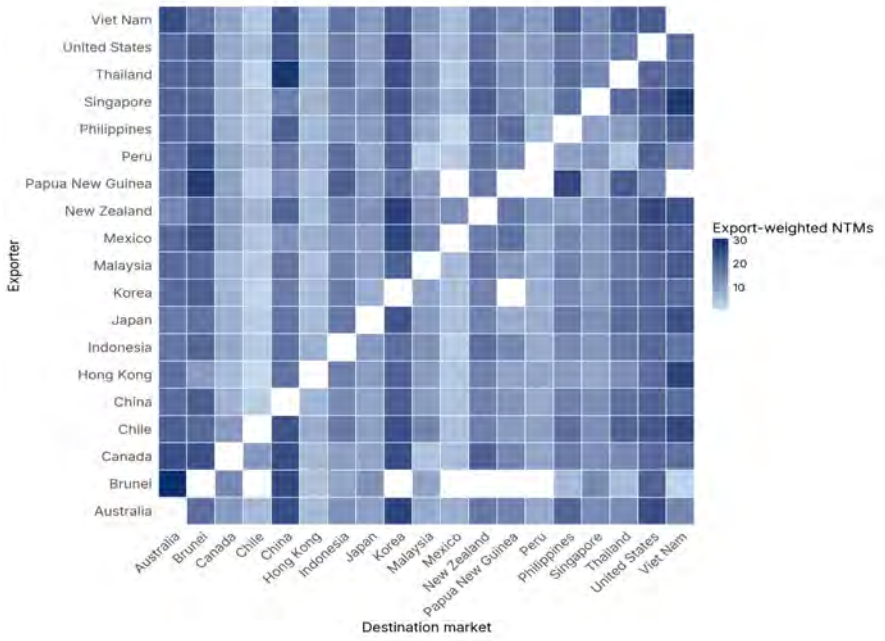
FIGURE 13 EXPORT-WEIGHTED AVERAGE NUMBER OF NTMS FACED BY ECONOMIES



SOURCE: UNCTAD TRAINS; COMTRADE; AUTHOR'S CALCULATIONS

The matrix in Figure 14 presents these bilateral NTM relationships further. The darker the square for any exporter-destination pair, the higher the regulatory burden facing the exporting economy given its export mix to that market.

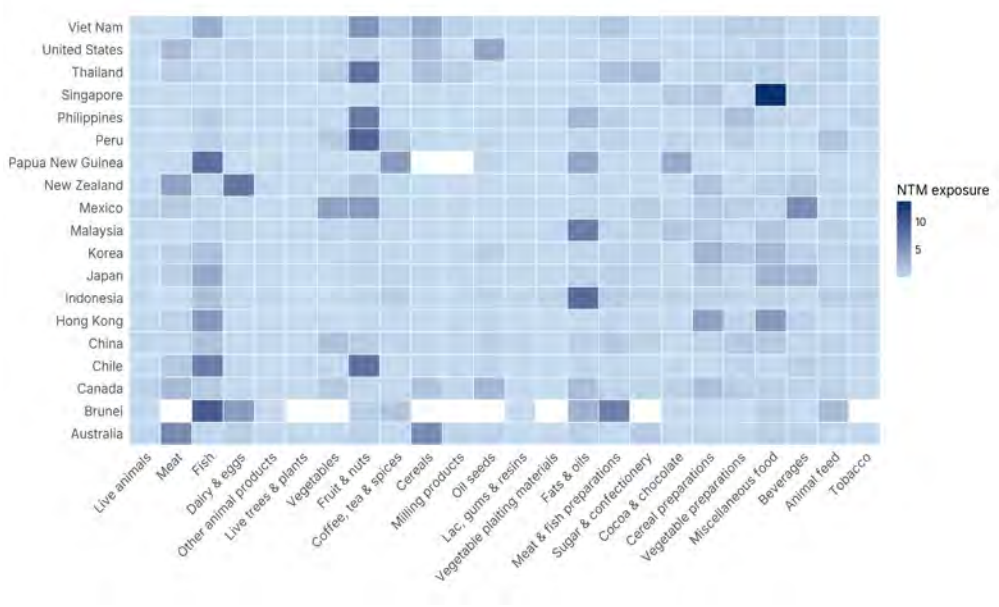
FIGURE 14 TRADE-WEIGHTED BILATERAL HEATMAP



SOURCE: UNCTAD TRAINS; COMTRADE; AUTHOR'S CALCULATIONS

We can also look at each economy's exports by product group and examine which attract the highest NTM burden after trade-weighting (Figure 15). The darker the colour in the plot, the more trade-weighted NTMs are in place on that product for that exporting economy.

FIGURE 15 TRADE-WEIGHTED NTM BURDEN BY EXPORTING ECONOMY AND AGRI-FOOD GROUPING



SOURCE: UNCTAD TRAINS; COMTRADE; AUTHOR'S CALCULATIONS

3.3. Costs of NTMs

3.3.1. Overview of approach

We now estimate the regulatory cost of the 282,550 NTMs identified in our analysis. To do so, we multiply bilateral trade flows in each HS6 product by the AVE of the various types of NTMs prepared by OECD authors.

This analysis captures the fact that not all NTMs are created equal in terms of their specific costs:

- If an NTM requires (literally) ticking a box in an online form once a year, its AVE will be close to zero and the aggregate cost of billions of dollars of trade flowing over it will be very small.
- In contrast, if every shipment of a product requires costly fumigation in containers, or an importing economy has very complex regulations for distributing, marketing and retailing a product, then the AVE will be high and the aggregate cost (providing trade still flows) will also be high.

We caveat here that we take the OECD's AVEs as given. It is outside the scope of this report to estimate these AVEs ourselves or sense-check every one of the AVEs provided.[17] Our main contribution to the examination of AVEs has been to fill in data gaps for certain products or economies (see section 2.1.3).

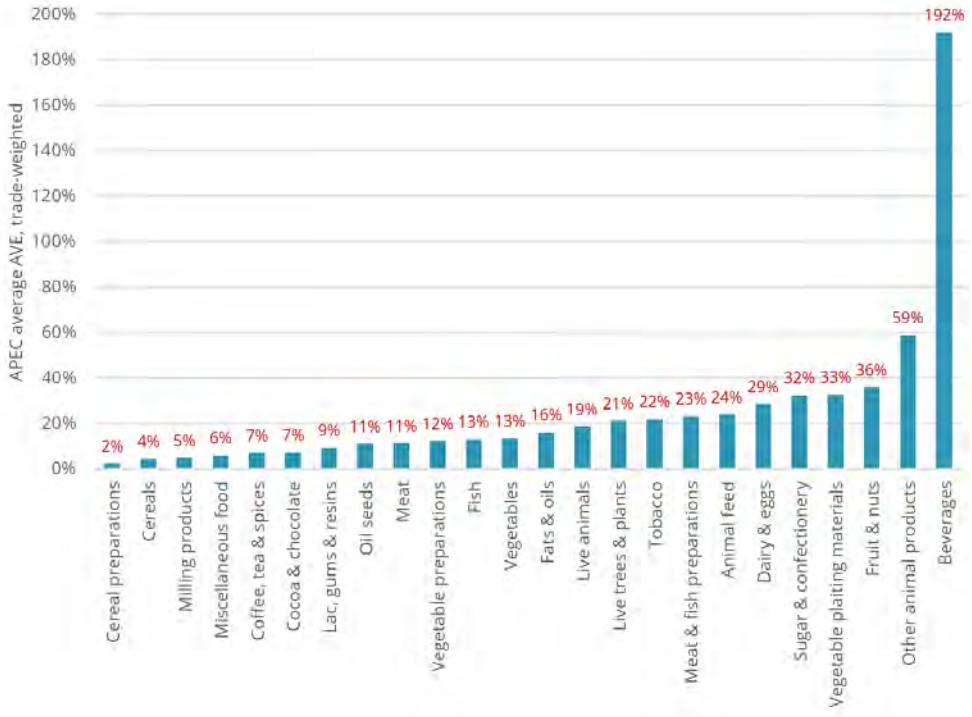
A key feature of the AVEs dataset to note is the very high AVEs for alcoholic beverages (see APEC-wide averages in Figure 16).

These estimates make a large contribution to the aggregate results, but in our view it is plausible that alcoholic beverages have higher estimated NTM AVEs than many other agri-food products. They are heavily and heterogeneously regulated, particularly through technical rules such as labelling and packaging.

However, some caution is required. It is also possible that these very high AVEs are due to estimation problems: empirical methods may partly capture quality premia and product differentiation rather than pure regulatory trade costs.[18]

[17] See section 4.2 for potential extensions of our research.
[18] See section 3.5 of Sense Partners. 2022. 'Non-tariff measures: Impacts, trends and effects on exports from New Zealand'. Report to New Zealand MFAT, January 2022. https://www.mfat.govt.nz/assets/Trade-General/Trade-stats-and-economic-research/Non-tariff-measures-Impacts-trends-and-effects-on-exports-from-New-Zealand-January-2022.pdf

FIGURE 16 TRADE-WEIGHTED AVES BY PRODUCT GROUP



SOURCE: COMTRADE; GOURDON ET AL (2020); AUTHOR'S CALCULATIONS

3.3.2. Estimated costs: total, product group, NTM type

The cost of NTMs on intra-APEC food trade is estimated to be **equivalent to a 26.4% tariff**. This compares to a trade-weighted applied tariff of around 6% on APEC agri-food trade.[19]

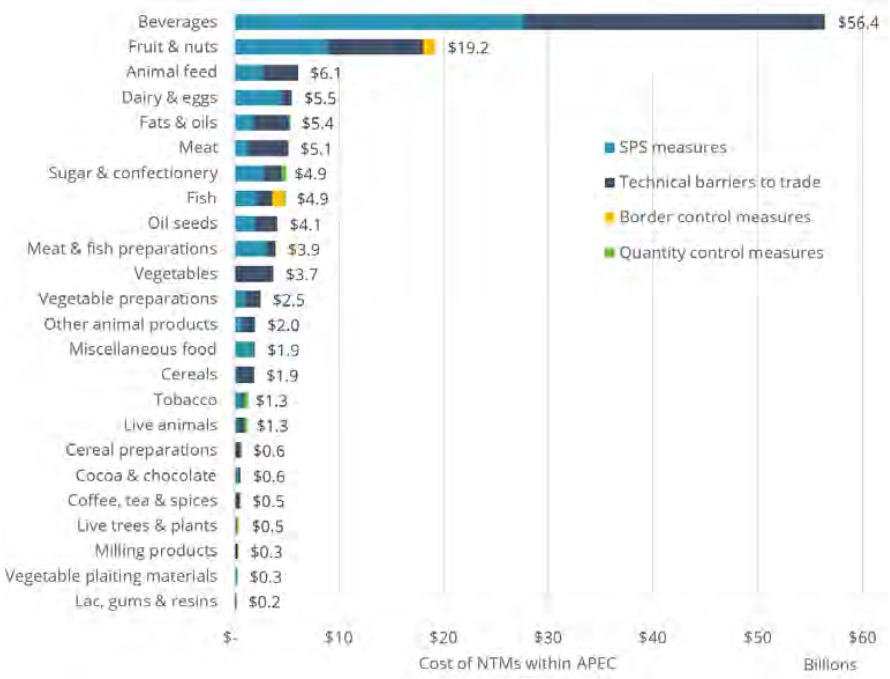
Applied to intra-APEC food trade valued at US$504.9 billion in 2023, **this yields an estimated total NTM cost of US$133.2 billion.**

The sectoral distribution of those costs is uneven, reflecting variances in both the volume of trade and the size of the AVEs across product groups (see Figure 17).

For example, beverages alone account for 42% of total NTM costs, or around US$5b, driven primarily by high AVEs. Fruit and nuts trade faces the highest cost of foodstuffs (US$19b), reflecting both high trade values within APEC and high AVEs.

[19] Author's calculations based on COMTRADE and WTO tariff data. Assumes 100% utilisation of FTA preferences within APEC.

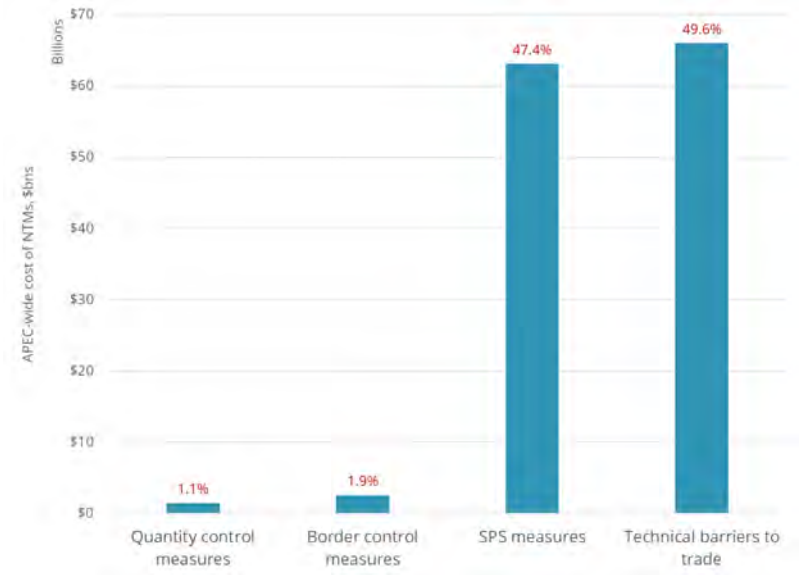
FIGURE 17 COST OF NTMS BY PRODUCT GROUP AND NTM TYPE WITHIN APEC



SOURCE: COMTRADE; GOURDON ET AL (2020); AUTHOR'S CALCULATIONS

By NTM type, SPS measures are much more prevalent by count (see Figure 3), but the cost estimates suggest that TBT measures contribute US$66b (49.6%) of aggregate AVE costs and SPS US$63b (47.4%), together accounting for 97% of total estimated NTM trade costs on agri-food trade within APEC (Figure 18).

FIGURE 18 COST OF NTMS BY TYPE WITHIN APEC



SOURCE: COMTRADE; GOURDON ET AL (2020); AUTHOR'S CALCULATIONS

3.3.3. Estimated costs by economy

Figure 19 and Figure 20 show the estimated costs of NTMs in AVE and US$b terms.

The dollar costs of an economy's NTMs will be driven by a combination of:

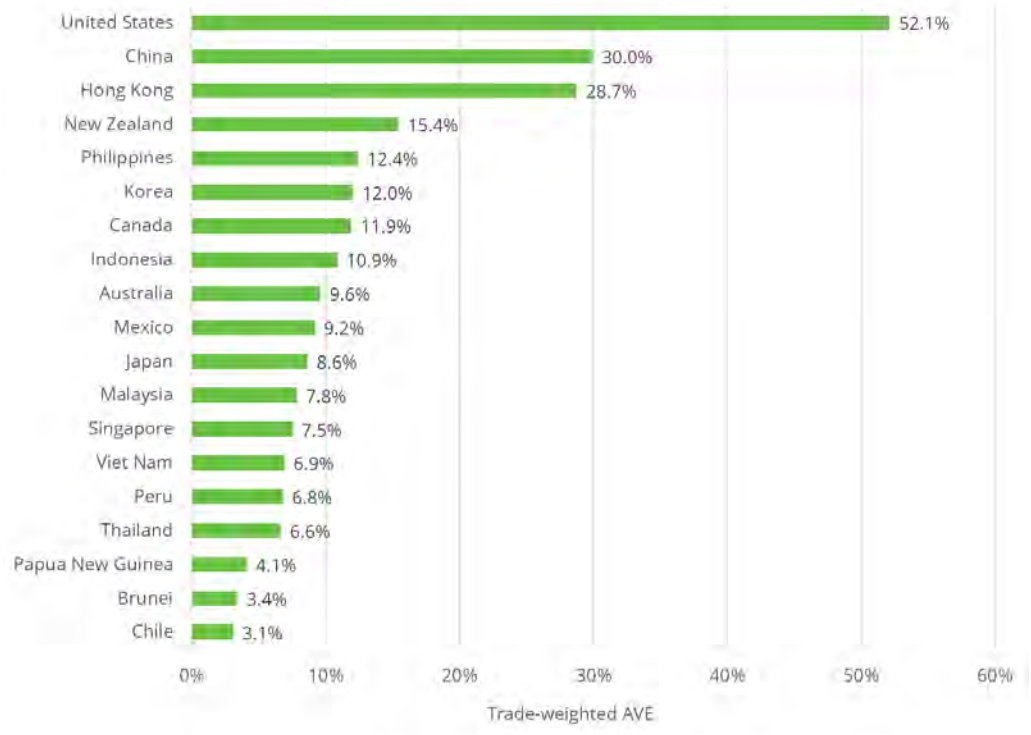
- The number and type of NTMs it has per product
- The AVEs of those NTMs
- The level of agri-food imports
- The composition of these imports.

We repeat again here that we are only looking at the costs of NTMs, not passing judgement on whether the NTMs are justifiable or delivering benefits above these costs.

The US's NTMs have both the highest average AVE and dollar costs. The US$73b cost of the US's NTMs is driven by both high import values as the world's largest economy and high AVEs in some products – especially beverages.

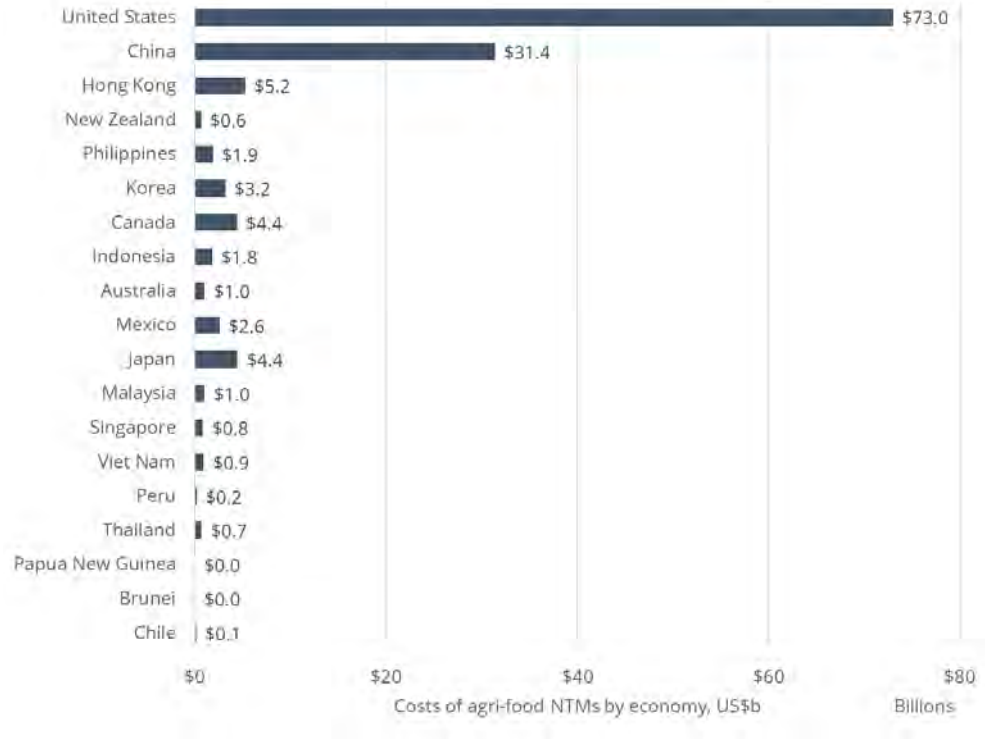
China's NTM costs are the next largest at US$31b, again reflecting the size of its economy (and hence demand for imports) and relatively high average AVEs.

FIGURE 19 AVERAGE AVES BY ECONOMY



SOURCE: COMTRADE; GOURDON ET AL (2020); AUTHOR'S CALCULATIONS

FIGURE 20 COST OF NTMS BY ECONOMY IMPOSING THEM



SOURCE: COMTRADE; GOURDON ET AL (2020); AUTHOR'S CALCULATIONS

4. Conclusions and options for further research

4.1. Key findings

NTMs are pervasive in intra-APEC agri-food trade

There are over 282,000 agri-food NTMs across APEC economies, at an average of 17 NTMs per HS6 product. Most economies have over 95% of their agri-food imports covered by at least one NTM.

TBT measures are – in aggregate – more costly than SPS measures

Second, although SPS measures dominate by count (48% vs 16% for TBT), TBT measures contribute a greater share of aggregate estimated costs (49%). This highlights that simple counts of NTMs alone will misrepresent where the largest commercial burdens lie.

Trade-weighting and incorporating AVEs matters

When considering overall costs, it is important to consider how much trade flows across NTMs (trade-weighting) and the stringency of each NTM (AVEs):

- Trade-weighted measures materially improve the economic relevance of the analysis because they connect the regulatory landscape to actual trade flows.
- Subsequently incorporating AVEs allows full quantification of costs in dollar terms. We estimate NTMs impose costs of US$133b on agri-food trade within APEC, with an average tariff-equivalent of over 26%.

NTMs costs are much higher on agri-food trade than other products

This 26% tariff equivalent of NTMs on agri-food trade is far higher than the 9.7% average tariff equivalent estimated by NZIER (2016) for all products. While the two studies differed in their scope, methodology and data sources, it is clear NTMs impose far higher costs on APEC agri-food trade than on non-agri-food/manufactured products.

Previous research has shown the number of NTMs imposed globally has increased over time – especially non-technical measures that have the greatest potential for distorting trade. This indicates the costs of complying with NTMs will also have risen.

NTM costs should be seen as indicative, not definitive

The results presented above should be interpreted cautiously for at least three reasons:

i. The trade-chilling problem means weighted indices likely understate cost burdens where NTMs have already suppressed trade.

ii. Some, likely most, NTMs will deliver economic and social benefits that at least partially offset their costs.

iii. The aggregate costs are heavily influenced by the costs of NTMs in one product grouping – beverages. Within this grouping, wine and spirits have very high AVEs that may warrant further analysis.

The 'size of the prize' highlights the benefits of efforts to make NTMs more efficient

Not all NTMs are inherently bad. Many support legitimate objectives such as food safety, animal and plant health, traceability, consumer protection and sustainability.

The issue is that even justified measures impose compliance costs, and poorly designed or inconsistent measures can become a serious drag on trade. Complying with NTMs redirects scarce business resources from productive activities towards paperwork and bureaucratic processes.

The practical policy question for ABAC and APEC economies is therefore not whether to eliminate NTMs wholesale, but how to make them more transparent, more science-based, more proportionate and less unnecessarily costly.

4.2. Options for future research

There are various options available to extend this analysis should ABAC and/or APEC economies wish to. These could include:

(i) Extending the analysis to include agri-food products outside HS chapters 01-24 (e.g. casein, starches, animal products such as hides and skins and wool).

(ii) Carrying out empirical analysis to estimate APEC agri-food NTM AVEs rather than relying on pre-existing estimates from earlier (2021) research. This would allow the latest trade and NTM data and methodological improvements to be taken into account.

(iii) Exploring which APEC agri-food NTMs are trade-creating as well as cost-inducing, to identify which types of NTMs are more likely to be net beneficial.

(iv) Considering how to confront the 'endogeneity' problem of NTMs that are so prohibitive they allow zero trade, meaning these NTMs have zero weighting in our trade-weighted estimates, despite obviously being very costly.

Appendix A Economy profiles

Australia agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 94.1% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 9.6% versus APEC average of 26.4%.
- Total implied NTM trade cost: $994.2m across intra-APEC food imports, representing 0.7% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	9.6%	26.4%
SPS measures	7.3%	12.5%
— Restrictions (A1)	6.2%	9.8%
— Regulations (A2-A6)	0.5%	1.3%
— Conformity (A8-A9)	0.6%	1.3%
Technical barriers (TBT)	2.1%	13.1%
— Restrictions (B1)	0.3%	4.4%
— Regulations (B2-B7)	1.8%	7.3%
— Conformity (B8-B9)	0.1%	1.4%
Border controls	0.1%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO AUSTRALIA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
220210	Waters; including mineral and aerated...	New Zealand	$132.5m	49.8%	$66m
220830	Whiskies	United States	$114.5m	55.2%	$63.2m
220429	Wine; still, in containers holding mo...	New Zealand	$128.1m	30.3%	$38.8m
220421	Wine; still, in containers holding 2 ...	New Zealand	$101.8m	35.4%	$36m
210690	Food preparations; n.e.c. in item no....	Singapore	$415.1m	7.6%	$31.4m
170490	Sugar confectionery; (excluding chewi...	China	$96.8m	25.7%	$24.9m
220300	Beer; made from malt	Mexico	$43.2m	50.3%	$21.7m
220300	Beer; made from malt	China	$37.9m	50.3%	$19.1m
010129	Horses; live, other than pure-bred br...	New Zealand	$71.2m	22.8%	$16.2m
220870	Liqueurs and cordials	United States	$28.3m	56.8%	$16m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM AUSTRALIA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220421	Wine; still, in containers holding 2 ...	United States	$220.5m	280.1%	$617.8m
040221	Dairy produce; milk and cream, concen...	China	$259.1m	107.9%	$279.5m
020442	Meat; of sheep (including lamb), cuts...	China	$573.5m	45.3%	$259.7m
020230	Meat; of bovine animals, boneless cut...	China	$1.1bn	17.7%	$198.9m
220421	Wine; still, in containers holding 2 ...	Hong Kong	$162.1m	101.3%	$164.2m
220429	Wine; still, in containers holding mo...	United States	$74.6m	189.1%	$141.1m
040210	Dairy produce; milk and cream, concen...	China	$238.6m	57.2%	$136.4m
020230	Meat; of bovine animals, boneless cut...	Korea	$744.2m	12.6%	$93.7m
170114	Sugars; cane sugar, raw, in solid for...	Japan	$696.1m	13.2%	$91.7m
220210	Waters; including mineral and aerated...	United States	$34.3m	226.2%	$77.6m

Brunei agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 94.6% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 3.4% versus APEC average of 26.4%.
- Total implied NTM trade cost: $18m across intra-APEC food imports, representing 0.01% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	3.4%	26.4%
SPS measures	1.7%	12.5%
— Restrictions (A1)	1%	9.8%
— Regulations (A2-A6)	0.2%	1.3%
— Conformity (A8-A9)	0.5%	1.3%
Technical barriers (TBT)	1.5%	13.1%
— Restrictions (B1)	0.5%	4.4%
— Regulations (B2-B7)	0.5%	7.3%
— Conformity (B8-B9)	0.5%	1.4%
Border controls	0.1%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO BRUNEI, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
010229	Cattle; live, other than pure-bred br...	Australia	$5.1m	19%	$964.5k
080390	Fruit, edible; bananas, other than pl...	Malaysia	$6m	15.5%	$928.9k
020230	Meat; of bovine animals, boneless cut...	Australia	$6.9m	9.8%	$674.3k
160232	Meat preparations; of the poultry of ...	Malaysia	$3.5m	19%	$664k
210390	Sauces and preparations therefor; mix...	Malaysia	$8.7m	7.6%	$657.2k
170199	Sugars; sucrose, chemically pure, in ...	Thailand	$3.3m	17.8%	$587k
160100	Meat preparations; sausages and simil...	Malaysia	$2.6m	21.2%	$560.7k
030289	Fish; fresh or chilled, n.e.c. in hea...	Malaysia	$7.6m	5.6%	$425.4k
030229	Fish; fresh or chilled, flat fish, n....	Malaysia	$6m	6.4%	$382k
081090	Fruit, edible; fruits n.e.c. in headi...	Malaysia	$9.9m	3.8%	$380.7k

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM BRUNEI INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
030617	Crustaceans; frozen, shrimps and praw...	Japan	$2.4m	6.5%	$158.4k
160521	Crustacean preparations; shrimps and ...	Australia	$504.1k	8.9%	$44.7k
040721	Birds' eggs, in shell; fresh, not for...	Singapore	$682.1k	6%	$41.2k
030617	Crustaceans; frozen, shrimps and praw...	Australia	$528.6k	6.5%	$34.6k
030343	Fish; frozen, skipjack tuna (stripe-b...	Japan	$618.1k	5.1%	$31.4k
150420	Fats and oils and their fractions; of...	Canada	$369.2k	7.6%	$27.9k
030617	Crustaceans; frozen, shrimps and praw...	China	$280.7k	6.5%	$18.4k
040210	Dairy produce; milk and cream, concen...	Singapore	$137.9k	11.2%	$15.5k
030611	Crustaceans; frozen, rock lobsters an...	China	$148.8k	10.4%	$15.4k
210690	Food preparations; n.e.c. in item no....	China	$122.4k	8.4%	$10.3k

Canada agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 92.7% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 11.9% versus APEC average of 26.4%.
- Total implied NTM trade cost: $4.4bn across intra-APEC food imports, representing 3.3% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	11.9%	26.4%
SPS measures	2.3%	12.5%
— Restrictions (A1)	1.4%	9.8%
— Regulations (A2-A6)	0.6%	1.3%
— Conformity (A8-A9)	0.3%	1.3%
Technical barriers (TBT)	8.4%	13.1%
— Restrictions (B1)	0.2%	4.4%
— Regulations (B2-B7)	7.4%	7.3%
— Conformity (B8-B9)	0.8%	1.4%
Border controls	1.1%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO CANADA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
220720	Ethyl alcohol and other spirits; dena...	United States	$1.6bn	102.8%	$1.6bn
081010	Fruit, edible; strawberries, fresh	United States	$344.3m	36.9%	$127.1m
230910	Dog or cat food; put up for retail sa...	United States	$1.2bn	9.9%	$117.2m
081020	Fruit, edible; raspberries, blackberr...	Mexico	$258.8m	36.6%	$94.8m
220421	Wine; still, in containers holding 2 ...	United States	$396.6m	22.1%	$87.6m
170490	Sugar confectionery; (excluding chewi...	United States	$343.8m	18.5%	$63.5m
010229	Cattle; live, other than pure-bred br...	United States	$297.6m	19%	$56.6m
160249	Meat preparations; of swine, meat or ...	United States	$229.6m	23.9%	$54.8m
020130	Meat; of bovine animals, boneless cut...	United States	$501.4m	10.9%	$54.8m
080440	Fruit, edible; avocados, fresh or dried	Mexico	$231m	23.3%	$53.9m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM CANADA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
151419	Vegetable oils; low erucic acid rape ...	United States	$3.4bn	47.9%	$1.6bn
230641	Oil-cake and other solid residues; wh...	United States	$1.5bn	76.5%	$1.1bn
030612	Crustaceans; frozen, lobsters (Homaru...	United States	$525.5m	190.9%	$1bn
220870	Liqueurs and cordials	United States	$255m	354.3%	$903.7m
120510	Oil seeds; low erucic acid rape or co...	China	$3.5bn	25.4%	$880m
030614	Crustaceans; frozen, crabs, in shell ...	United States	$785.8m	108.8%	$854.7m
170220	Sugars; maple sugar, chemically pure,...	United States	$278.8m	225.3%	$628m
220830	Whiskies	United States	$214.4m	284.1%	$609.2m
160530	Crustacean preparations; lobster, pre...	United States	$302.9m	195.8%	$593m
220210	Waters; including mineral and aerated...	United States	$201.2m	226.2%	$455.1m

Chile agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 84.6% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 3.1% versus APEC average of 26.4%.
- Total implied NTM trade cost: $83.6m across intra-APEC food imports, representing 0.1% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	3.1%	26.4%
SPS measures	1.3%	12.5%
— Restrictions (A1)	0.1%	9.8%
— Regulations (A2-A6)	0.4%	1.3%
— Conformity (A8-A9)	0.8%	1.3%
Technical barriers (TBT)	0.7%	13.1%
— Restrictions (B1)	0.2%	4.4%
— Regulations (B2-B7)	0.1%	7.3%
— Conformity (B8-B9)	0.4%	1.4%
Border controls	1.1%	0.5%
Quantity controls	0%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO CHILE, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
080440	Fruit, edible; avocados, fresh or dried	Peru	$93.1m	13%	$12.1m
230310	Residues of starch manufacture and si...	United States	$145.5m	7.9%	$11.4m
100199	Cereals; wheat and meslin, other than...	Canada	$159.8m	3.1%	$4.9m
100199	Cereals; wheat and meslin, other than...	United States	$107.4m	3.1%	$3.3m
150420	Fats and oils and their fractions; of...	China	$152m	1.7%	$2.6m
230990	Dog or cat food; (not put up for reta...	United States	$49.6m	3.9%	$1.9m
110900	Wheat gluten; whether or not dried	China	$23.5m	7.9%	$1.9m
080212	Nuts, edible; almonds, fresh or dried...	United States	$12.6m	13%	$1.6m
160529	Crustacean preparations; shrimps and ...	China	$17.9m	8.9%	$1.6m
081190	Fruit, edible; fruit and nuts n.e.c. ...	Peru	$11m	13%	$1.4m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM CHILE INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220421	Wine; still, in containers holding 2 ...	United States	$138m	280.1%	$386.4m
080929	Fruit, edible; cherries, other than s...	China	$2.6bn	14.5%	$370.2m
230120	Flours, meals and pellets; of fish or...	China	$222.2m	144.1%	$320.2m
220421	Wine; still, in containers holding 2 ...	China	$172.9m	148.4%	$256.5m
080610	Fruit, edible; grapes, fresh	United States	$652.2m	27.3%	$178.2m
030441	Fish fillets; fresh or chilled, salmo...	United States	$2.3bn	7.6%	$170.1m
081040	Fruit, edible; cranberries, bilberrie...	United States	$227.3m	65.7%	$149.3m
080940	Fruit, edible; plums and sloes, fresh	China	$258.6m	30.4%	$78.5m
220429	Wine; still, in containers holding mo...	United States	$40.5m	189.1%	$76.5m
080929	Fruit, edible; cherries, other than s...	Hong Kong	$460.1m	14.5%	$66.7m

China agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 92.8% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 30% versus APEC average of 26.4%.
- Total implied NTM trade cost: $31.4bn across intra-APEC food imports, representing 23.6% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	30%	26.4%
SPS measures	13%	12.5%
— Restrictions (A1)	8.5%	9.8%
— Regulations (A2-A6)	1.5%	1.3%
— Conformity (A8-A9)	3%	1.3%
Technical barriers (TBT)	16.6%	13.1%
— Restrictions (B1)	5.9%	4.4%
— Regulations (B2-B7)	7.5%	7.3%
— Conformity (B8-B9)	3.1%	1.4%
Border controls	0.3%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO CHINA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
081060	Fruit, edible; durians, fresh	Thailand	$4.6bn	106.1%	$4.8bn
081060	Fruit, edible; durians, fresh	Viet Nam	$2.1bn	106.1%	$2.3bn
071410	Vegetable roots and tubers; manioc (c...	Thailand	$1.3bn	126.2%	$1.7bn
120190	Soya beans; other than seed, whether ...	United States	$15.3bn	10.4%	$1.6bn
040221	Dairy produce; milk and cream, concen...	New Zealand	$1.4bn	107.9%	$1.5bn
151190	Vegetable oils; palm oil and its frac...	Indonesia	$3.9bn	30.1%	$1.2bn
230120	Flours, meals and pellets; of fish or...	Peru	$762m	144.1%	$1.1bn
120510	Oil seeds; low erucic acid rape or co...	Canada	$3.5bn	25.4%	$880m
230120	Flours, meals and pellets; of fish or...	Viet Nam	$425m	144.1%	$612.5m
050400	Animal products; guts, bladders and s...	United States	$433.7m	118.2%	$512.8m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM CHINA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220190	Waters; other than mineral and aerate...	Hong Kong	$640.7m	317.1%	$2bn
220890	Spirits, liqueurs and other spirituou...	Hong Kong	$194m	92.7%	$179.8m
220890	Spirits, liqueurs and other spirituou...	United States	$45.7m	365.2%	$167m
160232	Meat preparations; of the poultry of ...	Japan	$743.7m	22.3%	$165.5m
010129	Horses; live, other than pure-bred br...	Hong Kong	$704.8m	22.8%	$160.6m
010392	Swine; live, other than pure-bred bre...	Hong Kong	$389.6m	35.2%	$137.2m
170490	Sugar confectionery; (excluding chewi...	United States	$138.6m	79.4%	$110.1m
030199	Fish; live, n.e.c. in heading 0301	Hong Kong	$177.1m	57.9%	$102.4m
240220	Cigarettes; containing tobacco	Hong Kong	$138.8m	66.4%	$92.3m
160419	Fish preparations; fish prepared or p...	Japan	$365.4m	22.8%	$83.2m

Hong Kong agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 91.7% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 28.7% versus APEC average of 26.4%.
- Total implied NTM trade cost: $5.2bn across intra-APEC food imports, representing 3.9% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	28.7%	26.4%
SPS measures	15.9%	12.5%
— Restrictions (A1)	15%	9.8%
— Regulations (A2-A6)	0.6%	1.3%
— Conformity (A8-A9)	0.4%	1.3%
Technical barriers (TBT)	10.3%	13.1%
— Restrictions (B1)	2.2%	4.4%
— Regulations (B2-B7)	6.5%	7.3%
— Conformity (B8-B9)	1.5%	1.4%
Border controls	0.2%	0.5%
Quantity controls	2.4%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO HONG KONG, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
220190	Waters; other than mineral and aerate...	China	$640.7m	317.1%	$2bn
240220	Cigarettes; containing tobacco	Indonesia	$311m	66.4%	$206.7m
220890	Spirits, liqueurs and other spirituou...	China	$194m	92.7%	$179.8m
220421	Wine; still, in containers holding 2 ...	Australia	$162.1m	101.3%	$164.2m
010129	Horses; live, other than pure-bred br...	China	$704.8m	22.8%	$160.6m
010392	Swine; live, other than pure-bred bre...	China	$389.6m	35.2%	$137.2m
220820	Spirits obtained by distilling grape ...	Singapore	$127.8m	85.7%	$109.5m
030199	Fish; live, n.e.c. in heading 0301	China	$177.1m	57.9%	$102.4m
240220	Cigarettes; containing tobacco	China	$138.8m	66.4%	$92.3m
081060	Fruit, edible; durians, fresh	Thailand	$367.7m	25%	$91.8m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM HONG KONG INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
190590	Food preparations; bakers' wares n.e....	China	$296.2m	13.9%	$41m
210690	Food preparations; n.e.c. in item no....	China	$333.8m	8.4%	$28.1m
030192	Fish; live, eels (Anguilla spp.)	China	$176.1m	14.7%	$25.8m
220421	Wine; still, in containers holding 2 ...	Singapore	$62.2m	35.5%	$22.1m
030192	Fish; live, eels (Anguilla spp.)	Korea	$130m	12.5%	$16.2m
240220	Cigarettes; containing tobacco	China	$46m	16.1%	$7.4m
200819	Nuts and other seeds; whether or not ...	China	$22.4m	15.2%	$3.4m
030729	Molluscs; scallops and other molluscs...	United States	$5.6m	57.9%	$3.3m
220900	Vinegar and substitutes for vinegar; ...	United States	$1.3m	236.2%	$3m
190230	Food preparations; pasta (excluding s...	China	$21.8m	13.9%	$3m

Indonesia agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 95.5% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 10.9% versus APEC average of 26.4%.
- Total implied NTM trade cost: $1.8bn across intra-APEC food imports, representing 1.4% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	10.9%	26.4%
SPS measures	5%	12.5%
— Restrictions (A1)	2.2%	9.8%
— Regulations (A2-A6)	0.9%	1.3%
— Conformity (A8-A9)	2%	1.3%
Technical barriers (TBT)	4.8%	13.1%
— Restrictions (B1)	1.3%	4.4%
— Regulations (B2-B7)	0.8%	7.3%
— Conformity (B8-B9)	2.6%	1.4%
Border controls	0.8%	0.5%
Quantity controls	0.2%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO INDONESIA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
170114	Sugars; cane sugar, raw, in solid for...	Thailand	$1.2bn	13.2%	$158m
120190	Soya beans; other than seed, whether ...	United States	$1.3bn	10.4%	$130.7m
100630	Cereals; rice, semi-milled or wholly ...	Thailand	$706.4m	15.2%	$107.3m
100630	Cereals; rice, semi-milled or wholly ...	Viet Nam	$653.8m	15.2%	$99.3m
040210	Dairy produce; milk and cream, concen...	New Zealand	$211.2m	40.1%	$84.6m
040210	Dairy produce; milk and cream, concen...	United States	$209.7m	40.1%	$84m
240120	Tobacco; partly or wholly stemmed or ...	China	$145.4m	51.7%	$75.2m
170114	Sugars; cane sugar, raw, in solid for...	Australia	$512.5m	13.2%	$67.5m
010229	Cattle; live, other than pure-bred br...	Australia	$342.2m	19%	$65.1m
080610	Fruit, edible; grapes, fresh	China	$265.7m	18.7%	$49.7m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM INDONESIA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
151190	Vegetable oils; palm oil and its frac...	China	$3.9bn	30.1%	$1.2bn
160510	Crustacean preparations; crab, prepar...	United States	$324.2m	123.5%	$400.5m
240220	Cigarettes; containing tobacco	Hong Kong	$311m	66.4%	$206.7m
151329	Vegetable oils; palm kernel or babass...	China	$525.6m	35.3%	$185.3m
151790	Edible mixtures or preparations of an...	China	$968.9m	17.4%	$168.4m
140490	Vegetable products; n.e.c. in chapter 14	Japan	$382.5m	43.2%	$165.1m
230660	Oil-cake and other solid residues; wh...	New Zealand	$200.8m	55%	$110.5m
151190	Vegetable oils; palm oil and its frac...	Malaysia	$681.6m	15.3%	$104.1m
151620	Vegetable fats and oils and their fra...	China	$705.5m	13%	$91.9m
152000	Glycerol, crude; glycerol waters and ...	China	$197.6m	45%	$88.9m

Japan agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 94% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 8.6% versus APEC average of 26.4%.
- Total implied NTM trade cost: $4.4bn across intra-APEC food imports, representing 3.3% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	8.6%	26.4%
SPS measures	4.5%	12.5%
— Restrictions (A1)	0.4%	9.8%
— Regulations (A2-A6)	3.1%	1.3%
— Conformity (A8-A9)	1.1%	1.3%
Technical barriers (TBT)	3.1%	13.1%
— Restrictions (B1)	0.9%	4.4%
— Regulations (B2-B7)	1.8%	7.3%
— Conformity (B8-B9)	0.4%	1.4%
Border controls	0.8%	0.5%
Quantity controls	0.2%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO JAPAN, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
160232	Meat preparations; of the poultry of ...	Thailand	$1.5bn	22.3%	$324.8m
160232	Meat preparations; of the poultry of ...	China	$743.7m	22.3%	$165.5m
140490	Vegetable products; n.e.c. in chapter 14	Indonesia	$382.5m	43.2%	$165.1m
120190	Soya beans; other than seed, whether ...	United States	$1.5bn	10.4%	$154.7m
080390	Fruit, edible; bananas, other than pl...	Philippines	$760.1m	15.5%	$118.1m
170114	Sugars; cane sugar, raw, in solid for...	Australia	$696.1m	13.2%	$91.7m
160419	Fish preparations; fish prepared or p...	China	$365.4m	22.8%	$83.2m
230910	Dog or cat food; put up for retail sa...	Thailand	$308.6m	26.7%	$82.5m
160242	Meat preparations; of swine, shoulder...	United States	$280.8m	28.8%	$81m
220710	Undenatured ethyl alcohol; of an alco...	United States	$92.4m	83.5%	$77.2m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM JAPAN INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220830	Whiskies	United States	$92.7m	284.1%	$263.3m
220600	Beverages, fermented; (e.g. cider, pe...	United States	$80.4m	225.9%	$181.6m
220210	Waters; including mineral and aerated...	United States	$47.2m	226.2%	$106.7m
220870	Liqueurs and cordials	United States	$17.9m	354.3%	$63.6m
220830	Whiskies	Singapore	$47m	126.1%	$59.2m
240220	Cigarettes; containing tobacco	Hong Kong	$74.8m	66.4%	$49.7m
220600	Beverages, fermented; (e.g. cider, pe...	China	$83.7m	47.6%	$39.8m
220300	Beer; made from malt	United States	$9.3m	377.5%	$35.1m
030199	Fish; live, n.e.c. in heading 0301	Korea	$75.2m	32.9%	$24.7m
210690	Food preparations; n.e.c. in item no....	China	$262.2m	8.4%	$22.1m

Korea agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 93.4% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 12% versus APEC average of 26.4%.
- Total implied NTM trade cost: $3.2bn across intra-APEC food imports, representing 2.4% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	12%	26.4%
SPS measures	4.9%	12.5%
— Restrictions (A1)	2.3%	9.8%
— Regulations (A2-A6)	1.1%	1.3%
— Conformity (A8-A9)	1.5%	1.3%
Technical barriers (TBT)	6.4%	13.1%
— Restrictions (B1)	2.5%	4.4%
— Regulations (B2-B7)	1.7%	7.3%
— Conformity (B8-B9)	2.2%	1.4%
Border controls	0.5%	0.5%
Quantity controls	0.2%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO KOREA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
230330	Brewing or distilling dregs and waste...	United States	$369.6m	29.4%	$108.6m
020220	Meat; of bovine animals, cuts with bo...	United States	$583m	17.4%	$101.4m
020230	Meat; of bovine animals, boneless cut...	Australia	$744.2m	12.6%	$93.7m
220720	Ethyl alcohol and other spirits; dena...	United States	$157.8m	51.4%	$81.2m
020230	Meat; of bovine animals, boneless cut...	United States	$641.3m	12.6%	$80.7m
020329	Meat; of swine, n.e.c. in item no. 02...	United States	$486.8m	13.9%	$67.6m
220421	Wine; still, in containers holding 2 ...	United States	$75.5m	87.5%	$66.1m
210690	Food preparations; n.e.c. in item no....	United States	$1.1bn	5.7%	$62.1m
020130	Meat; of bovine animals, boneless cut...	United States	$796.2m	7.8%	$62m
170114	Sugars; cane sugar, raw, in solid for...	Australia	$438.3m	13.2%	$57.7m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM KOREA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220890	Spirits, liqueurs and other spirituou...	United States	$47.6m	365.2%	$174m
170199	Sugars; sucrose, chemically pure, in ...	China	$115.3m	48.7%	$56.2m
030343	Fish; frozen, skipjack tuna (stripe-b...	Thailand	$96.4m	46.4%	$44.7m
220210	Waters; including mineral and aerated...	United States	$17m	226.2%	$38.5m
220300	Beer; made from malt	United States	$9.6m	377.5%	$36.1m
240220	Cigarettes; containing tobacco	Hong Kong	$53.4m	66.4%	$35.5m
190230	Food preparations; pasta (excluding s...	China	$216.1m	13.9%	$29.9m
200899	Fruit, nuts and other edible parts of...	United States	$213.6m	12.6%	$26.9m
240220	Cigarettes; containing tobacco	Japan	$385.7m	5.9%	$22.7m
220600	Beverages, fermented; (e.g. cider, pe...	United States	$8.4m	225.9%	$18.9m

Malaysia agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 92.6% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 7.8% versus APEC average of 26.4%.
- Total implied NTM trade cost: $967.4m across intra-APEC food imports, representing 0.7% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	7.8%	26.4%
SPS measures	3.2%	12.5%
— Restrictions (A1)	2.4%	9.8%
— Regulations (A2-A6)	0.6%	1.3%
— Conformity (A8-A9)	0.3%	1.3%
Technical barriers (TBT)	3.2%	13.1%
— Restrictions (B1)	1.7%	4.4%
— Regulations (B2-B7)	1.3%	7.3%
— Conformity (B8-B9)	0.3%	1.4%
Border controls	0.3%	0.5%
Quantity controls	1.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO MALAYSIA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
151190	Vegetable oils; palm oil and its frac...	Indonesia	$681.6m	15.3%	$104.1m
170114	Sugars; cane sugar, raw, in solid for...	Thailand	$275m	13.2%	$36.2m
151110	Vegetable oils; palm oil and its frac...	Indonesia	$100.8m	31%	$31.3m
210690	Food preparations; n.e.c. in item no....	Singapore	$305.5m	7.6%	$23.1m
040210	Dairy produce; milk and cream, concen...	New Zealand	$104.9m	21.5%	$22.5m
070320	Vegetables, alliaceous; garlic, fresh...	China	$228.6m	9.3%	$21.3m
151311	Vegetable oils; coconut (copra) oil a...	Indonesia	$166.9m	12.5%	$20.8m
080810	Fruit, edible; apples, fresh	China	$49.7m	41.5%	$20.6m
080119	Nuts, edible; coconuts, fresh or drie...	Indonesia	$49.5m	41.5%	$20.5m
040210	Dairy produce; milk and cream, concen...	United States	$88m	21.5%	$18.9m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM MALAYSIA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
151190	Vegetable oils; palm oil and its frac...	China	$1.2bn	30.1%	$366.5m
081190	Fruit, edible; fruit and nuts n.e.c. ...	China	$273.1m	29.2%	$79.8m
230660	Oil-cake and other solid residues; wh...	New Zealand	$128.3m	55%	$70.6m
151190	Vegetable oils; palm oil and its frac...	Philippines	$417.6m	15.5%	$64.8m
230120	Flours, meals and pellets; of fish or...	China	$33.8m	144.1%	$48.7m
060314	Flowers, cut; chrysanthemums, flowers...	Japan	$45.8m	97.8%	$44.8m
140490	Vegetable products; n.e.c. in chapter 14	Japan	$102.9m	43.2%	$44.4m
151329	Vegetable oils; palm kernel or babass...	China	$119.6m	35.3%	$42.2m
151190	Vegetable oils; palm oil and its frac...	Korea	$347.1m	11.3%	$39.2m
230660	Oil-cake and other solid residues; wh...	China	$123.1m	22.9%	$28.2m

Mexico agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 94.6% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 9.2% versus APEC average of 26.4%.
- Total implied NTM trade cost: $2.6bn across intra-APEC food imports, representing 1.9% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	9.2%	26.4%
SPS measures	3.7%	12.5%
— Restrictions (A1)	2.3%	9.8%
— Regulations (A2-A6)	0.8%	1.3%
— Conformity (A8-A9)	0.6%	1.3%
Technical barriers (TBT)	4.2%	13.1%
— Restrictions (B1)	0.9%	4.4%
— Regulations (B2-B7)	0.4%	7.3%
— Conformity (B8-B9)	2.9%	1.4%
Border controls	0.1%	0.5%
Quantity controls	1.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO MEXICO, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
170260	Sugars; fructose, other than chemical...	United States	$221.2m	135.5%	$299.6m
040210	Dairy produce; milk and cream, concen...	United States	$522.9m	55.1%	$288.4m
020312	Meat; of swine, hams, shoulders and c...	United States	$1.8bn	14.6%	$269.3m
050400	Animal products; guts, bladders and s...	United States	$260.3m	60.9%	$158.6m
120190	Soya beans; other than seed, whether ...	United States	$1.4bn	10.4%	$141.3m
040620	Dairy produce; cheese of all kinds, g...	United States	$173.8m	53.2%	$92.5m
220710	Undenatured ethyl alcohol; of an alco...	United States	$231.7m	38.4%	$88.9m
020130	Meat; of bovine animals, boneless cut...	United States	$765.9m	11.1%	$85.1m
040590	Dairy produce; fats and oils derived ...	New Zealand	$173.1m	45.9%	$79.5m
100590	Cereals; maize (corn), other than seed	United States	$4.8bn	1.5%	$70.4m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM MEXICO INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220300	Beer; made from malt	United States	$5.8bn	377.5%	$21.9bn
220890	Spirits, liqueurs and other spirituou...	United States	$4.8bn	365.2%	$17.5bn
080440	Fruit, edible; avocados, fresh or dried	United States	$2.8bn	72.8%	$2bn
220210	Waters; including mineral and aerated...	United States	$594.6m	226.2%	$1.3bn
170490	Sugar confectionery; (excluding chewi...	United States	$1.1bn	79.4%	$911.5m
081020	Fruit, edible; raspberries, blackberr...	United States	$2bn	32.3%	$650.3m
081040	Fruit, edible; cranberries, bilberrie...	United States	$599m	65.7%	$393.4m
220110	Waters; mineral and aerated, includin...	United States	$151.2m	206.1%	$311.5m
081010	Fruit, edible; strawberries, fresh	United States	$1.2bn	26.5%	$311.4m
070200	Vegetables; tomatoes, fresh or chilled	United States	$2.8bn	11%	$311.3m

New Zealand agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 95.2% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 15.4% versus APEC average of 26.4%.
- Total implied NTM trade cost: $642.4m across intra-APEC food imports, representing 0.5% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	15.4%	26.4%
SPS measures	8%	12.5%
— Restrictions (A1)	2.7%	9.8%
— Regulations (A2-A6)	0.5%	1.3%
— Conformity (A8-A9)	4.8%	1.3%
Technical barriers (TBT)	7.3%	13.1%
— Restrictions (B1)	3.7%	4.4%
— Regulations (B2-B7)	1.4%	7.3%
— Conformity (B8-B9)	2.2%	1.4%
Border controls	0%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO NEW ZEALAND, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
230660	Oil-cake and other solid residues; wh...	Indonesia	$200.8m	55%	$110.5m
230660	Oil-cake and other solid residues; wh...	Malaysia	$128.3m	55%	$70.6m
170211	Sugars; lactose and lactose syrup, co...	United States	$85.1m	23.2%	$19.7m
220421	Wine; still, in containers holding 2 ...	Australia	$52.9m	22.4%	$11.9m
170114	Sugars; cane sugar, raw, in solid for...	Australia	$86.4m	13.2%	$11.4m
180690	Chocolate and other food preparations...	Australia	$54.7m	17.1%	$9.3m
210690	Food preparations; n.e.c. in item no....	Australia	$105.7m	8.6%	$9m
190590	Food preparations; bakers' wares n.e....	Australia	$64.5m	13.9%	$8.9m
210690	Food preparations; n.e.c. in item no....	Singapore	$98.5m	8.6%	$8.4m
050400	Animal products; guts, bladders and s...	United States	$9.4m	79.1%	$7.5m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM NEW ZEALAND INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
040221	Dairy produce; milk and cream, concen...	China	$1.4bn	107.9%	$1.5bn
220421	Wine; still, in containers holding 2 ...	United States	$521.1m	280.1%	$1.5bn
020442	Meat; of sheep (including lamb), cuts...	China	$803.4m	45.3%	$363.8m
040490	Dairy produce; natural milk constitue...	United States	$304.2m	110%	$334.5m
040210	Dairy produce; milk and cream, concen...	China	$512.8m	57.2%	$293.3m
220429	Wine; still, in containers holding mo...	United States	$101.3m	189.1%	$191.6m
190110	Food preparations; of flour, meal, st...	China	$1.3bn	13.9%	$184.1m
040510	Dairy produce; derived from milk, butter	China	$506.7m	27.8%	$140.6m
050400	Animal products; guts, bladders and s...	China	$112.6m	118.2%	$133.2m
020230	Meat; of bovine animals, boneless cut...	China	$749m	17.7%	$132.5m

Papua New Guinea agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 96.4% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 4.1% versus APEC average of 26.4%.
- Total implied NTM trade cost: $38.9m across intra-APEC food imports, representing 0.03% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	4.1%	26.4%
SPS measures	2.7%	12.5%
— Restrictions (A1)	1.6%	9.8%
— Regulations (A2-A6)	0.4%	1.3%
— Conformity (A8-A9)	0.7%	1.3%
Technical barriers (TBT)	1.4%	13.1%
— Restrictions (B1)	0.5%	4.4%
— Regulations (B2-B7)	0.7%	7.3%
— Conformity (B8-B9)	0.3%	1.4%
Border controls	0%	0.5%
Quantity controls	0%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO PAPUA NEW GUINEA, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
210690	Food preparations; n.e.c. in item no....	Singapore	$51.2m	7.6%	$3.9m
050400	Animal products; guts, bladders and s...	Australia	$4.2m	82.4%	$3.5m
100199	Cereals; wheat and meslin, other than...	Australia	$85.6m	3.1%	$2.6m
020442	Meat; of sheep (including lamb), cuts...	Australia	$71.2m	2.7%	$1.9m
170199	Sugars; sucrose, chemically pure, in ...	Malaysia	$9.9m	18.3%	$1.8m
170199	Sugars; sucrose, chemically pure, in ...	Thailand	$9.7m	18.3%	$1.8m
100630	Cereals; rice, semi-milled or wholly ...	China	$128.3m	1.3%	$1.7m
170199	Sugars; sucrose, chemically pure, in ...	Singapore	$8.8m	18.3%	$1.6m
210390	Sauces and preparations therefor; mix...	Australia	$12.7m	7.6%	$958k
050400	Animal products; guts, bladders and s...	New Zealand	$1.1m	82.4%	$906k

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM PAPUA NEW GUINEA INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
030343	Fish; frozen, skipjack tuna (stripe-b...	Thailand	$33.9m	46.4%	$15.7m
030343	Fish; frozen, skipjack tuna (stripe-b...	Philippines	$56.9m	26.3%	$15m
151110	Vegetable oils; palm oil and its frac...	Malaysia	$41.1m	31%	$12.8m
030342	Fish; frozen, yellowfin tunas (Thunnu...	Philippines	$40.4m	15.9%	$6.4m
090111	Coffee; not roasted or decaffeinated	Australia	$35.2m	10.2%	$3.6m
151311	Vegetable oils; coconut (copra) oil a...	Malaysia	$28.1m	12.5%	$3.5m
180100	Cocoa beans; whole or broken, raw or ...	United States	$26.6m	11.9%	$3.2m
030342	Fish; frozen, yellowfin tunas (Thunnu...	Thailand	$17.4m	17.7%	$3.1m
120300	Copra	Philippines	$8.6m	33.2%	$2.9m
090111	Coffee; not roasted or decaffeinated	United States	$45.4m	5.6%	$2.5m

Peru agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 86.6% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 6.8% versus APEC average of 26.4%.
- Total implied NTM trade cost: $166.8m across intra-APEC food imports, representing 0.1% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	6.8%	26.4%
SPS measures	2.3%	12.5%
— Restrictions (A1)	1.1%	9.8%
— Regulations (A2-A6)	0.6%	1.3%
— Conformity (A8-A9)	0.5%	1.3%
Technical barriers (TBT)	4.5%	13.1%
— Restrictions (B1)	0.2%	4.4%
— Regulations (B2-B7)	0.9%	7.3%
— Conformity (B8-B9)	3.5%	1.4%
Border controls	0%	0.5%
Quantity controls	0%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO PERU, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
100199	Cereals; wheat and meslin, other than...	Canada	$494.9m	3.1%	$15.3m
220720	Ethyl alcohol and other spirits; dena...	United States	$154m	7.5%	$11.6m
100590	Cereals; maize (corn), other than seed	United States	$65m	15.7%	$10.2m
040221	Dairy produce; milk and cream, concen...	United States	$56.3m	13.7%	$7.7m
120190	Soya beans; other than seed, whether ...	United States	$59.4m	10.4%	$6.2m
040210	Dairy produce; milk and cream, concen...	United States	$35.3m	14.9%	$5.3m
040221	Dairy produce; milk and cream, concen...	New Zealand	$31m	13.7%	$4.2m
160414	Fish preparations; tunas, skipjack tu...	Thailand	$38.9m	10%	$3.9m
020714	Meat and edible offal; of fowls of th...	United States	$36.6m	9.8%	$3.6m
040590	Dairy produce; fats and oils derived ...	New Zealand	$21.6m	16.4%	$3.5m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM PERU INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
230120	Flours, meals and pellets; of fish or...	China	$762m	144.1%	$1.1bn
081040	Fruit, edible; cranberries, bilberrie...	United States	$922.5m	65.7%	$605.9m
080610	Fruit, edible; grapes, fresh	United States	$1.1bn	27.3%	$306m
080440	Fruit, edible; avocados, fresh or dried	United States	$162.8m	72.8%	$118.6m
070920	Vegetables; asparagus, fresh or chilled	United States	$304m	21.9%	$66.7m
081040	Fruit, edible; cranberries, bilberrie...	China	$228.6m	28.5%	$65.1m
080610	Fruit, edible; grapes, fresh	China	$148.4m	42.8%	$63.6m
080440	Fruit, edible; avocados, fresh or dried	China	$108.1m	41.4%	$44.7m
080450	Fruit, edible; guavas, mangoes and ma...	United States	$118.9m	35.5%	$42.2m
080610	Fruit, edible; grapes, fresh	Canada	$141.9m	23.4%	$33.2m

Philippines agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 97% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 12.4% versus APEC average of 26.4%.
- Total implied NTM trade cost: $1.9bn across intra-APEC food imports, representing 1.4% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	12.4%	26.4%
SPS measures	5.5%	12.5%
— Restrictions (A1)	3.8%	9.8%
— Regulations (A2-A6)	0.4%	1.3%
— Conformity (A8-A9)	1.3%	1.3%
Technical barriers (TBT)	5.7%	13.1%
— Restrictions (B1)	0.5%	4.4%
— Regulations (B2-B7)	1.2%	7.3%
— Conformity (B8-B9)	4%	1.4%
Border controls	0.6%	0.5%
Quantity controls	0.5%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO PHILIPPINES, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
100630	Cereals; rice, semi-milled or wholly ...	Viet Nam	$1.2bn	15%	$183.2m
230400	Oil-cake and other solid residues; wh...	United States	$1.4bn	7.9%	$109.5m
040210	Dairy produce; milk and cream, concen...	United States	$306m	35%	$107m
170199	Sugars; sucrose, chemically pure, in ...	Thailand	$429.5m	21.7%	$93m
220720	Ethyl alcohol and other spirits; dena...	United States	$152.5m	49.7%	$75.8m
151190	Vegetable oils; palm oil and its frac...	Indonesia	$453.5m	15.5%	$70.4m
151190	Vegetable oils; palm oil and its frac...	Malaysia	$417.6m	15.5%	$64.8m
220710	Undenatured ethyl alcohol; of an alco...	Indonesia	$54.8m	112.1%	$61.4m
220710	Undenatured ethyl alcohol; of an alco...	Australia	$51.2m	112.1%	$57.4m
040590	Dairy produce; fats and oils derived ...	New Zealand	$102.7m	30%	$30.9m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM PHILIPPINES INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
080390	Fruit, edible; bananas, other than pl...	Japan	$760.1m	15.5%	$118.1m
160510	Crustacean preparations; crab, prepar...	United States	$65.6m	123.5%	$81m
151319	Vegetable oils; coconut (copra) oil a...	United States	$223.7m	34.9%	$78m
080390	Fruit, edible; bananas, other than pl...	China	$427.2m	15.5%	$66.4m
080430	Fruit, edible; pineapples, fresh or d...	China	$175.5m	29%	$50.8m
151311	Vegetable oils; coconut (copra) oil a...	United States	$157m	22.2%	$34.8m
080390	Fruit, edible; bananas, other than pl...	Korea	$210.6m	15.5%	$32.7m
030199	Fish; live, n.e.c. in heading 0301	China	$69m	29.6%	$20.4m
080430	Fruit, edible; pineapples, fresh or d...	Japan	$116.5m	16.5%	$19.2m
160414	Fish preparations; tunas, skipjack tu...	United States	$31.3m	60.9%	$19.1m

Singapore agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 92% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 7.5% versus APEC average of 26.4%.
- Total implied NTM trade cost: $824.1m across intra-APEC food imports, representing 0.6% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	7.5%	26.4%
SPS measures	5.1%	12.5%
— Restrictions (A1)	4.3%	9.8%
— Regulations (A2-A6)	0.4%	1.3%
— Conformity (A8-A9)	0.4%	1.3%
Technical barriers (TBT)	2.3%	13.1%
— Restrictions (B1)	0.8%	4.4%
— Regulations (B2-B7)	1.2%	7.3%
— Conformity (B8-B9)	0.3%	1.4%
Border controls	0.1%	0.5%
Quantity controls	0%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO SINGAPORE, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
220890	Spirits, liqueurs and other spirituou...	China	$152.7m	52.4%	$80m
220830	Whiskies	Japan	$47m	126.1%	$59.2m
220830	Whiskies	United States	$34.2m	126.1%	$43.1m
220421	Wine; still, in containers holding 2 ...	Australia	$76.2m	35.5%	$27m
220890	Spirits, liqueurs and other spirituou...	Mexico	$45.7m	52.4%	$23.9m
170199	Sugars; sucrose, chemically pure, in ...	Thailand	$101.3m	22.9%	$23.2m
220210	Waters; including mineral and aerated...	Malaysia	$97.5m	22.7%	$22.1m
220421	Wine; still, in containers holding 2 ...	Hong Kong	$62.2m	35.5%	$22.1m
210690	Food preparations; n.e.c. in item no....	Indonesia	$181.8m	7.6%	$13.8m
040221	Dairy produce; milk and cream, concen...	New Zealand	$112.2m	11%	$12.4m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM SINGAPORE INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
210690	Food preparations; n.e.c. in item no....	United States	$3bn	7.6%	$230.6m
220820	Spirits obtained by distilling grape ...	Hong Kong	$127.8m	85.7%	$109.5m
220890	Spirits, liqueurs and other spirituou...	Hong Kong	$47.1m	92.7%	$43.6m
240220	Cigarettes; containing tobacco	Indonesia	$91.7m	36%	$33m
210690	Food preparations; n.e.c. in item no....	Australia	$415.1m	7.6%	$31.4m
210690	Food preparations; n.e.c. in item no....	Philippines	$357.5m	7.6%	$27.1m
210690	Food preparations; n.e.c. in item no....	Malaysia	$305.5m	7.6%	$23.1m
210690	Food preparations; n.e.c. in item no....	Thailand	$282.9m	7.6%	$21.4m
220421	Wine; still, in containers holding 2 ...	Hong Kong	$20.8m	101.3%	$21.1m
210690	Food preparations; n.e.c. in item no....	Viet Nam	$260.9m	7.6%	$19.8m

Thailand agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 93.3% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 6.6% versus APEC average of 26.4%.
- Total implied NTM trade cost: $690m across intra-APEC food imports, representing 0.5% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	6.6%	26.4%
SPS measures	4.6%	12.5%
— Restrictions (A1)	3.4%	9.8%
— Regulations (A2-A6)	0.5%	1.3%
— Conformity (A8-A9)	0.7%	1.3%
Technical barriers (TBT)	1.9%	13.1%
— Restrictions (B1)	0.5%	4.4%
— Regulations (B2-B7)	1%	7.3%
— Conformity (B8-B9)	0.4%	1.4%
Border controls	0.1%	0.5%
Quantity controls	0%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO THAILAND, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
030343	Fish; frozen, skipjack tuna (stripe-b...	Korea	$96.4m	46.4%	$44.7m
120190	Soya beans; other than seed, whether ...	United States	$254m	10.4%	$26.3m
210690	Food preparations; n.e.c. in item no....	Singapore	$282.9m	7.6%	$21.4m
100199	Cereals; wheat and meslin, other than...	Australia	$630.4m	3.1%	$19.5m
080610	Fruit, edible; grapes, fresh	China	$233m	6.9%	$16m
030343	Fish; frozen, skipjack tuna (stripe-b...	Papua New Guinea	$33.9m	46.4%	$15.7m
040221	Dairy produce; milk and cream, concen...	New Zealand	$226.2m	6.6%	$14.9m
040210	Dairy produce; milk and cream, concen...	New Zealand	$98.6m	12.6%	$12.5m
030343	Fish; frozen, skipjack tuna (stripe-b...	Japan	$26.8m	46.4%	$12.5m
090111	Coffee; not roasted or decaffeinated	Viet Nam	$121.6m	10.2%	$12.3m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM THAILAND INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
081060	Fruit, edible; durians, fresh	China	$4.6bn	106.1%	$4.8bn
071410	Vegetable roots and tubers; manioc (c...	China	$1.3bn	126.2%	$1.7bn
160232	Meat preparations; of the poultry of ...	Japan	$1.5bn	22.3%	$324.8m
160414	Fish preparations; tunas, skipjack tu...	United States	$518.2m	60.9%	$315.7m
230120	Flours, meals and pellets; of fish or...	China	$205.4m	144.1%	$296m
081190	Fruit, edible; fruit and nuts n.e.c. ...	China	$773.3m	29.2%	$225.9m
170290	Sugars; n.e.c. in heading no. 1702, i...	China	$854.1m	26.3%	$224.5m
081090	Fruit, edible; fruits n.e.c. in headi...	China	$460.9m	43.3%	$199.6m
080450	Fruit, edible; guavas, mangoes and ma...	China	$626m	31.2%	$195.1m
170114	Sugars; cane sugar, raw, in solid for...	Indonesia	$1.2bn	13.2%	$158m

United States agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 93.4% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 52.1% versus APEC average of 26.4%.
- Total implied NTM trade cost: $73bn across intra-APEC food imports, representing 54.8% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	52.1%	26.4%
SPS measures	25.8%	12.5%
— Restrictions (A1)	23.6%	9.8%
— Regulations (A2-A6)	1.5%	1.3%
— Conformity (A8-A9)	0.7%	1.3%
Technical barriers (TBT)	25.5%	13.1%
— Restrictions (B1)	9.4%	4.4%
— Regulations (B2-B7)	15.9%	7.3%
— Conformity (B8-B9)	0.3%	1.4%
Border controls	0.6%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO UNITED STATES, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
220300	Beer; made from malt	Mexico	$5.8bn	377.5%	$21.9bn
220890	Spirits, liqueurs and other spirituou...	Mexico	$4.8bn	365.2%	$17.5bn
080440	Fruit, edible; avocados, fresh or dried	Mexico	$2.8bn	72.8%	$2bn
151419	Vegetable oils; low erucic acid rape ...	Canada	$3.4bn	47.9%	$1.6bn
220421	Wine; still, in containers holding 2 ...	New Zealand	$521.1m	280.1%	$1.5bn
220210	Waters; including mineral and aerated...	Mexico	$594.6m	226.2%	$1.3bn
230641	Oil-cake and other solid residues; wh...	Canada	$1.5bn	76.5%	$1.1bn
030612	Crustaceans; frozen, lobsters (Homaru...	Canada	$525.5m	190.9%	$1bn
170490	Sugar confectionery; (excluding chewi...	Mexico	$1.1bn	79.4%	$911.5m
220870	Liqueurs and cordials	Canada	$255m	354.3%	$903.7m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM UNITED STATES INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
220720	Ethyl alcohol and other spirits; dena...	Canada	$1.6bn	102.8%	$1.6bn
120190	Soya beans; other than seed, whether ...	China	$15.3bn	10.4%	$1.6bn
050400	Animal products; guts, bladders and s...	China	$433.7m	118.2%	$512.8m
020649	Offal, edible; of swine, (other than ...	China	$786.3m	63.5%	$498.9m
240120	Tobacco; partly or wholly stemmed or ...	China	$426.4m	102%	$435m
100590	Cereals; maize (corn), other than seed	China	$2.6bn	15%	$392.5m
170260	Sugars; fructose, other than chemical...	Mexico	$221.2m	135.5%	$299.6m
040210	Dairy produce; milk and cream, concen...	Mexico	$522.9m	55.1%	$288.4m
020312	Meat; of swine, hams, shoulders and c...	Mexico	$1.8bn	14.6%	$269.3m
230120	Flours, meals and pellets; of fish or...	China	$174.7m	144.1%	$251.7m

Viet Nam agri-food NTM Profile

Non-tariff measures on intra-APEC food trade

- NTM coverage (TRAINS): 93.7% of import lines face at least one NTM, versus an APEC average of 93.1%.
- Trade-weighted AVE (OECD): implied NTM cost equivalent of 6.9% versus APEC average of 26.4%.
- Total implied NTM trade cost: $904.5m across intra-APEC food imports, representing 0.7% of total intra-APEC NTM costs.

Implied NTM Trade Costs

TRADE-WEIGHTED AD VALOREM EQUIVALENTS BY NTM MEASURE AND SUBCATEGORY

NTM measure	Trade-weighted AVE	APEC average AVE
Total NTMs	6.9%	26.4%
SPS measures	4.9%	12.5%
— Restrictions (A1)	2.4%	9.8%
— Regulations (A2-A6)	0.6%	1.3%
— Conformity (A8-A9)	1.9%	1.3%
Technical barriers (TBT)	1.8%	13.1%
— Restrictions (B1)	0.6%	4.4%
— Regulations (B2-B7)	0.8%	7.3%
— Conformity (B8-B9)	0.4%	1.4%
Border controls	0.1%	0.5%
Quantity controls	0.1%	0.3%

Top 10 Import Lines — Highest Implied NTM Cost

INTRA-APEC FOOD IMPORTS INTO VIET NAM, RANKED BY IMPLIED NTM COST

HS6	Product	Source	Trade	AVE	Cost
120190	Soya beans; other than seed, whether ...	United States	$450.7m	10.4%	$46.7m
220210	Waters; including mineral and aerated...	Thailand	$359m	11.4%	$41m
010229	Cattle; live, other than pure-bred br...	Australia	$188.9m	19%	$35.9m
230330	Brewing or distilling dregs and waste...	United States	$359.2m	10%	$35.8m
170260	Sugars; fructose, other than chemical...	China	$105.4m	29.6%	$31.2m
100199	Cereals; wheat and meslin, other than...	Australia	$922.1m	3.1%	$28.5m
151190	Vegetable oils; palm oil and its frac...	Indonesia	$626.5m	4.2%	$26.5m
230400	Oil-cake and other solid residues; wh...	United States	$214.1m	10.5%	$22.4m
230110	Flours, meals and pellets; of meat or...	United States	$105.4m	20.5%	$21.6m
210690	Food preparations; n.e.c. in item no....	United States	$266.8m	7.6%	$20.2m

Top 10 Export Lines — Highest NTM Burden in APEC Markets

INTRA-APEC FOOD EXPORTS FROM VIET NAM INTO APEC DESTINATION MARKETS, RANKED BY IMPLIED NTM COST

HS6	Product	Market	Trade	AVE	Cost
081060	Fruit, edible; durians, fresh	China	$2.1bn	106.1%	$2.3bn
230120	Flours, meals and pellets; of fish or...	China	$425m	144.1%	$612.5m
080132	Nuts, edible; cashew nuts, fresh or d...	United States	$745.5m	50.7%	$378.1m
071410	Vegetable roots and tubers; manioc (c...	China	$197.7m	126.2%	$249.5m
100630	Cereals; rice, semi-milled or wholly ...	Philippines	$1.2bn	15%	$183.2m
081090	Fruit, edible; fruits n.e.c. in headi...	China	$378.9m	43.3%	$164.1m
100630	Cereals; rice, semi-milled or wholly ...	Indonesia	$653.8m	15.2%	$99.3m
160510	Crustacean preparations; crab, prepar...	United States	$66.5m	123.5%	$82.1m
160414	Fish preparations; tunas, skipjack tu...	United States	$134.6m	60.9%	$82m
100630	Cereals; rice, semi-milled or wholly ...	China	$454.5m	14.9%	$67.9m



SENSE PARTNERS

DATA LOGIC ACTION

Annex B: APEC Cross Cutting Principles on Non-Tariff Measures (2018)

Noting that non-tariff measures (NTMs) have increased in the APEC region,

Noting previous evidence presented in APEC on the cost NTMs impose on trade in the region,

Noting that unwarranted NTMs constitute non-tariff barriers (NTBs), which can be particularly burdensome for micro, small and medium-sized enterprises,

Recognising in this regard the concerns raised by the APEC Business Advisory Council in its 2016 Report to APEC Economic Leaders, as well as international studies on the topic,

While recognising that economies have the ability to implement warranted policy measures based on each economy's individual circumstances,

APEC adopts the following principles as a reference to guide member economies' development and implementation of NTMs,

To reduce the extent to which NTMs act as an unjustified barrier to trade, and

To facilitate free and open trade in the Asia-Pacific region, as envisioned in the Bogor Goals.

Principles:

- The processes to develop non-tariff measures should be transparent, consultative (including with business and other affected stakeholders) and timely, resulting in predictable, coherent, and non-discriminatory application; and information about non-tariff measures should be publicly available;

- Non-tariff measures should be consistent with member economies' commitments and obligations as members of the WTO;

- Non-tariff measures should not be more trade-restrictive than necessary to meet a legitimate objective, and where appropriate, should focus on outcomes, rather than mandating prescriptive approaches;

- Non-tariff measures should be based on relevant international standards, where appropriate, and should be developed in accordance with the WTO TBT Agreement, the WTO SPS Agreement or recommendations and/or decisions of the WTO TBT Committee or the WTO SPS Committee;

- Non-tariff measures should not arbitrarily or unjustifiably discriminate against imported products;

- Non-tariff measures should not pose unwarranted barriers to the development of new technologies that drive innovation; and

- A regulatory impact analysis could be considered as a possible tool to assess consistency with the principles stated above.