

# **Non-Tariff Barriers in Agriculture and Food Trade in APEC:**

## Business Perspectives on Impacts and Solutions







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APEC Business Advisory Council

University of Southern California, Marshall School of Business

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## *Executive Summary*

Strengthening food security—the available supply of affordable, nutritious, and safe food—is an urgent problem. One billion people suffer from hunger, yet there is enough food produced in the world to feed each person 2,700 calories and 75 grams of protein per day. Clearly, the world’s food is not reaching those in need. With a 60% increase in food production required to meet global demand by 2050, the world must work together to address the prevalence of hunger at a domestic, regional, and global level.

Trade enhances food security. It improves access to food, lowers costs, mitigates supply shocks, and strengthens economic and social prosperity. Over the past two decades, governments have introduced non-tariff measures (NTMs) at increasingly greater rates than ever seen. When used properly, NTMs enhance competition, increase product quality, and protect human and environmental well-being. When used improperly, they become non-tariff barriers (NTBs). NTBs create market distortions, decrease food security, and make consumers worse off.

The global trade-to-gross domestic product (GDP) ratio has fallen to its lowest level in 15 years. The WTO acknowledges that the absence of trade liberalization and creeping protectionism are playing a role in this decline. Governments should be concerned with this trend. Not only is economic growth slowing, but research shows that decreasing trade openness is correlated with an increasing prevalence of undernourishment.

Asia-Pacific Economic Cooperation (APEC) encourages openness to agriculture and food trade, but executives believe that APEC can and should do much more. Businesses are frustrated that food trade regulations across APEC are increasing in complexity and burdensomeness. The environment is particularly discouraging for micro, small, and medium enterprises (MSMEs). In the context of globalization, eliminating NTBs becomes critically important to preserving not only trade flows and access to key commodities, but also diplomatic good will.

The pessimistic outlook from businesses, coupled with increasingly anti-free-trade rhetoric, speaks to the potential for NTBs to become truly debilitating for businesses. However, it is crucial to remember that ultimately, the consumer suffers. To that end, businesses want a concerted effort to streamline NTMs and eliminate NTBs. Liberalizing and facilitating trade and investment in food markets will promote inclusive economic growth, encourage innovation, create jobs, improve prosperity, and enhance food security. Efficient food trade strengthens domestic and regional food security. This report aims to add the private sector’s perspective to the ongoing conversation on trade barriers, and generate a sense of urgency around mitigating NTBs.

Food security is key to an inclusive, prosperous, and integrated regional economy. APEC Business Advisory Council (ABAC) contends that businesses, in close partnership with governments, play a critical role in ensuring food security. Understanding the private sector’s perspective on how impediments raise costs, reduce competition, and discourage trade and investment, is crucial to developing a comprehensive approach to thoughtfully managing NTMs and NTBs in food and agricultural trade.

### **RESEARCH INITIATIVE**

ABAC commissioned the University of Southern California’s (USC) Marshall School of Business to identify the most burdensome impediments encountered by business in agriculture and food trade in the APEC region, with a specific focus on identifying the most egregious NTBs. The research focuses on capturing the “voice of business” by interviewing a broad cross-section of APEC food business leaders, with specific attention to the impact of NTBs on food security. The research included:

- **Interviewing 421 stakeholders in APEC**, including business executives, trade association leaders, government officials, and others, along with 216 survey respondents.
- **Developing a comprehensive evaluation framework for trade barriers** to assess the burdensomeness of NTBs across five dimensions that captures both the private and public sector perspectives.
- **Analyzing data across multiple perspectives to understand the complexity of NTBs.**  
**Capturing recommendations for practical solutions** to improve the trade environment for agriculture and food by reducing the impact of NTBs.



## KEY FINDINGS

### **NTMS are increasing in prominence and complexity... in all APEC economies.**

All 400+ interviewees spoke of an increasingly difficult and burdensome agriculture and food trading environment. Businesses complain that NTMs are a key source of higher transaction costs, raising operating expenses and food prices, and decreasing competitiveness. Sanitary and phytosanitary (SPSs) and technical barriers to trade (TBTs) requirements have increased substantially over the last ten years.

- *Substituting NTMs for tariffs.* While average tariff rates across APEC have and continue to fall, NTMs in agriculture and food trade have and continue to increase. New Zealand Institute of Economic Research (NZIER) research estimates that NTMs cost APEC \$790 billion in 2011, and raised transaction costs three times higher than tariffs. Compared to other sectors and industries, the negative impact of NTMs is greater for many agriculture and food products.
- *New challenges create more stringent NTMs.* Initiatives within APEC economies to improve health and food safety standards have led to more complex and stringent NTMs. Measures such as SPS requirements are now more common than a decade ago.
- *Disparate NTM approaches create complexity and increase transaction costs.* Even if all measures are appropriate and expertly applied, the multiple disparate approaches adopted across 21 APEC economies is enough to create complexity for business and raise transaction costs.
- *Declining tariffs are being replaced by “creative” protectionist NTBs.* APEC businesses reported encountering NTMs that are being “creatively applied” for protectionist purposes.

### **Procedural obstacles frustrate business... but TBT and SPS measures are the most burdensome.**

The top three NTBs discussed in our 400+ interviews were: procedural obstacles (390 instances), SPS measures (322 instances), and TBT measures (111 instances). However, in terms of negative impact and burdensomeness, TBT measures were ranked first, followed closely by SPS measures, and then procedural obstacles.

- **TBT measures** have the greatest negative impact in terms of time and cost.
- **SPS measures** are the most frequently abused to block or impede trade through ambiguous, inconsistent, and discriminatory enforcement. 68% of businesses described SPS requirements as arbitrary, complex, and nationalistic.
- **Procedural obstacles** are the most frequently encountered NTBs, stemming from inefficient and inadequate processes and procedures for compliance with NTMs.

### **NTMs are more than market access barriers... they impact and compound along the entire supply chain.**

Challenges begin for business *before-the-border*, with the search of accessing clear, complete, and transparent export requirements, and extend to new product registration requirements, licensing and rules of origin requirements, pre-shipment testing, and labeling requirements.

*At-the-border* business is challenged with inconsistently applied rules, discriminatory behavior, corruption, ad-hoc changes, burdensome administrative procedures, physical documentation requirements, lack of testing facilities, and inadequate customs capacity.

Challenges continue *behind (after)-the-border* when complying with industry and non-governmental organization (NGO)-imposed private standards, and inadequate transportation and information and communications technology (ICT) infrastructure. All these challenges compound to raise transaction costs and distort trade.

### **Increasing compliance costs hurt... but uncertainty and time delays cripple.**

Operating in a slim-margin industry with long product cycles and perishable products, agriculture and food enterprises are extremely sensitive to even the smallest increases in cost. However, time delays, inconsistencies in procedures, the lack of predictability, and uncertainty about future regulations raise business risks to levels that effectively block trade. Burdensome trade barriers drive the cost, time, and uncertainty of compliance beyond what is necessary to fulfill a legitimate objective, ultimately distorting and blocking trade flows. For business, NTMs become NTBs when compliance costs erode margins to the point that they are unprofitable, when uncertainty makes risk management impossible, or when the time required to develop a market opportunity is unrealistic.



### **Business identified five categories of egregious NTMs... that have to go.**

APEC businesses decried egregious applications of NTMs—those NTMs used by governments to manipulate trade. Used in these ways, NTMs transform into NTBs. Businesses categorized these uses into five forms:

- **As retaliatory “trade weapons.”** When governments change or impose new NTMs (frequently SPS measures) on agriculture and food products in trade disputes, businesses report significant real losses.
- **As “on-off valves.”** Business labels NTMs as egregious NTBs when governments selectively apply NTMs to allow, or prevent, imports to protect domestic producers and control prices. When domestic production can supply the domestic market, imports are rejected by the imposition of NTMs. When domestic production falls short of demand, imports are accepted.
- **As tools for discrimination by origin.** Business complains about intentional discrimination when governments apply NTMs selectively against imports from certain economies, but not others.
- **As protectionist tools.** Business deems NTMs crafted to explicitly protect certain agriculture and food sectors from foreign competition as unfair.
- **Unreasonable response times.** When businesses are trying to comply with NTMs, and the processes involve unreasonably long time periods for risk assessments or responses to their requests, these delays translate into NTBs.

### **Procedural obstacles are NTBs too... and they unnecessarily raise transaction costs.**

For business, burdensomeness is not just the strictness or complexity of NTMs. The efficiency of the processes and procedures for importing and exporting are of equal importance. Administrative burdens, organizational complexity, bureaucratic red tape, transparency of information, inadequate transportation and ICT infrastructure, presence of corruption, changing state of agriculture, time delays, inconsistency, and unpredictability, can all act as NTBs in the trading environment.

### **Interpreting food security as food self-sufficiency... promotes protectionism.**

Our research found that economies tended to lean toward more protectionism, and imposed more NTMs, when food security was interpreted as domestic food self-sufficiency, rather than engaging in trade. Though this philosophy is rooted in socio-economic welfare, food self-sufficiency was used to justify protecting inefficient agricultural sectors. Future global food supplies demand a more balanced approach to food trade if food production targets through 2050 are to be met.

### **NTBs disenfranchise MSMEs... but APEC must enable their inclusion in global value chains.**

The dramatic increase in the number and complexity of agriculture and food NTMs negates APEC and ABACs’ efforts to engage MSMEs in global value chains (GVCs). Lack of scale economies, lack of technical capacity, high compliance costs, and a general inability to handle the risks of rejected shipments effectively sideline MSMEs from being active trading partners. The research found that many support programs fall short of their targets. Most firms in APEC are MSMEs, so streamlining NTMs and removing trade-disabling NTBs is urgent and crucial.

### **Private standards accelerate coherence... but create problems too.**

Requirements imposed by supply chain partners and NGOs are capable of acting like “de facto” NTMs and NTBs by imposing their own set of compliance and transaction costs. Industry players, especially global retailers and multi-national corporations (MNCs), are pursuing their own coherent global standards beyond the influence of governments. The research found that they are making faster progress toward global standards than the initiatives of governments and world and regional organizations. When these industry standards align with government and societal interests, the outcome benefits all. However, when these interests are misaligned, global food security is at risk.

### **Business and governments’ perceptions of progress differs... exposing a deeper divide.**

The APEC business community’s perceptions of changes in agriculture and food trade regulation are much more acute and negative than those of APEC governments. While 80% of business executives believe that regulations are becoming more complex and opaque, only 31% of government officials agreed; 68% of businesses believe that SPS requirements are arbitrary, complex and economy-specific, compared with 70% of government officials, who believe their SPS requirements are transparent, science-based, and coherent with global standards. Businesses perceive that current agriculture and food trade policies tend to focus on controlling and restricting trade, rather than facilitating it. Businesses want to partner with governments, but find the process of engagement difficult.

## **ACTION AGENDA**

While many of these challenges, as well as their solutions, occur at the economy level, there is an opportunity to improve the Asia-Pacific trade environment through collective action. This report provides practical solutions to both mitigate and diminish the impact of NTBs. APEC and ABAC have the opportunity to listen to the voice of business, and open a dialogue among member economies to increase transparency and drive greater standard coherence. The foremost recommendation is simple—**communication between stakeholders needs vast improvement**. Differences in perspectives and interests inhibit a coherent foundation for future policies. To some extent, each of the following solutions aim to address communication deficiencies. Some provide more tangible impacts on the flow of goods. At the core of each solution is a commitment to encourage transparency and reduce uncertainty, excessive compliance costs, and unreasonable timelines.

### ***Use consensus building to drive public-private sector partnerships to reduce uncertainty.***

The first step toward meaningful progress in reducing NTBs is for all stakeholders to agree upon a coherent path forward. APEC should create specific forums to discuss the merits of mutual recognition, global standards, and national treatment to address NTMs and NTBs. This also applies at the economy level, where intra-industry forums introduce the voice of business into policy-making, and facilitate sharing of information and best practices.

### ***Expand the scope of the APEC Trade Repository to include all agriculture and food regulatory requirements.***

Across APEC, businesses believe that improving access to information and allowing ease of comparison across member economies would have a breakthrough impact in improving the trading environment.

### ***Encourage economies to designate a single point-of-contact for traders in key product categories.***

Complex agriculture and food issues cut across regulatory agencies, and even levels and departments within agencies. A single point-of-contact means designating a single agency or individual responsible for coordinating responses to inquiries and requests from business and governments. This would improve communication with business, as well as the reliability and timeliness of information, while having the power to eliminate confusion with overlapping agencies and bureaucracy.

### ***Accelerate the adoption of digital channels and automated processes.***

Digitizing the trading process will decrease human error, improve communication between stakeholders along supply chains, reduce opportunities for corruption, and decrease container processing times. It also supports risk management efforts through data analytics, providing a more resource-efficient approach.

### ***Accredit third-party laboratories to ease capacity and human capital issues***

Accrediting third party laboratories to handle testing procedures and conformity assessments will expand capacity, reducing approval timelines for businesses. These independent analyses support consistency and fairness in complying with regulatory requirements.

### ***Garner full commitment from member economies to the Free Trade Area of the Asia-Pacific (FTAAP), or similar binding agreements, as a forum to discuss NTMs and NTBs.***

Progress will only be made when economies agree to binding commitments. APEC has an opportunity to expand discussions on FTAAP, or similar binding agreements, to get NTMs and NTBs on the agenda. Inclusion of all members and stakeholders in a dialogue on NTMs and NTBs, with collaboration between executives and technical experts, will drive practical regulations and their implementation.





# Acronyms

ABAC	Asia Pacific Economic Cooperation Business Advisory Council	OECD	Organization for Economic Cooperation and Development
APEC	Asia Pacific Economic Cooperation	PNG	Papua New Guinea
AP-FIF	Asia Pacific-Food Industry Forum	PO	Procedural Obstacle
ASEAN	Association of Southeast Asian Nations	RSS	Rich Site Summary
C.A.F.E	Coffee and Farmer Equity	PPM	Parts Per Millions
CEO	Chief Executive Officer	PVS	Private Voluntary Standard
CI	Conservation International	PWC	Pricewaterhouse Coopers
CODEX	Codex Alimentarius collection of food standards	QA	Quality Assurance
FAO	Food and Agriculture Organization	RTA	Regional Trade Agreement
FTA	Free-Trade Agreement	SKU	Stock Keeping Unit
FTAAP	Free Trade Area of the Asia Pacific	SPS	Sanitary and Phytosanitary
GATT	General Agreement on Tariffs and Trade	TBT	Technical Barriers to Trade
GDP	Gross Domestic Product	UNCTAD	United Nations Conference on Trade and Development
Global G.A.P.	Global Good Agricultural Practice	UNCTAD TRAINS	UNCTAD Trade Analysis Information System
GVC	Global Value Chain	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
ICT	Information and Communications Technologies	USC	University of Southern California
ILAC	International Laboratory Accreditation Cooperation	WHO	World Health Organization
IP	Intellectual Property	WTO	World Trade Organization
local g.a.p.	Local Good Agricultural Practices		
MNC	Multinational Company		
MRA	Mutual Recognition Agreement		
MRL	Maximum Residue Level		
MSME	Micro Small and Medium Enterprises		
NGO	Non-Governmental Organization		
NTB	Non-Tariff Barrier		
NTM	Non-Tariff Measure		
NZIER	New Zealand Institute of Economic Research		



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## *University of Southern California—ABAC Partnership*

Since 2003, the Asia-Pacific Economic Cooperation’s Business Advisory Council has engaged the University of Southern California in an annual research study on a topic of special interest to that year. Twelve University of Southern California MBA researchers were selected to conduct the study under the guidance of ABAC leaders and faculty advisors.

In order to gather facts and understand the true business environment across APEC, researchers interviewed business executives and government leaders from all 21 APEC economies. Through these candid, anonymous interviews, the research team gains a unique perspective to capture and report the voice of business. After synthesizing the feedback from the interviews into a comprehensive report, the research team travels to the 4<sup>th</sup> 2016 ABAC meetings to present its findings. The research is included in the annual prioritized advice report that ABAC provides to the 21 APEC-economy leaders.

Topics that University of Southern California research teams have tackled in the past include e-Commerce, foreign direct investment, the investment landscape of sustainable energy, and trade in services across APEC. Previous recommendations have contributed to the development of APEC action agendas, and renewed focus on matters of economic importance. For example, the rules of origin study brought to light the high level of complexity in existing trade agreements that discourages business from using the trade agreements. University of Southern California’s findings led to simplified trade language in new agreements.

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Food trade, we learned quickly, is incredibly complex. A lot of things frustrated us as we researched and interviewed. Thus, we are grateful for the insights from more than 400 of our interviewees of leading business executives, industry figure heads, and policy makers across the APEC economies. We thank them for graciously sharing their experiences, knowledge, frustrations, and optimism. Their insights and recommendations form the substance of this report. For confidentiality, we have not listed specific individuals' names; only their organizations appear in the appendix.

Our appreciation for **Mr. Tony Nowell**, private sector co-chair for APEC Policy Partnership for Food Security and current New Zealand member of ABAC, is very personal. This is the fourth USC Marshall project that he has graciously invested a huge amount of personal time and energy. We are grateful for his willingness to allow us to learn tremendously valuable research skills. We are also extremely thankful to **Mr. Stephen Jacobi** and **Ms. Stephanie Honey** from ABAC New Zealand for their patience, expertise, engagement, and tireless support throughout the entire research project. Their assistance was essential to this study. We would also like to thank **Peru** for hosting us during the ABAC 4 meetings.

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# *Overview*

## **Section Summary**

Introduction

The Relationship between Trade and  
Food Security

Capturing the “Voice of Business”

Research Objectives, Design, and  
Methods

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## Introduction

The APEC Business Advisory Council (ABAC) tasked the University of Southern California’s (USC) Marshall School of Business to research the challenges and opportunities presented by the increasing impact of non-tariff barriers (NTBs) in agriculture and food trade. This research focused on capturing the “voice of business” by interviewing a broad cross section of APEC food business leaders, with specific attention to the impact of NTBs on food security across the APEC economies.

Governments have made progress lowering tariffs in many economies, but NTBs are increasingly prominent in Asia-Pacific markets. The agriculture and food sector is particularly susceptible to the impact of NTBs, which become magnified along global value chains, as products often cross multiple borders through the supply chain from source to consumer. As a result, NTBs impose a direct economic cost on consumers, businesses, and economies, while also impeding the supply of products and adequate nutrition to populations most in need.

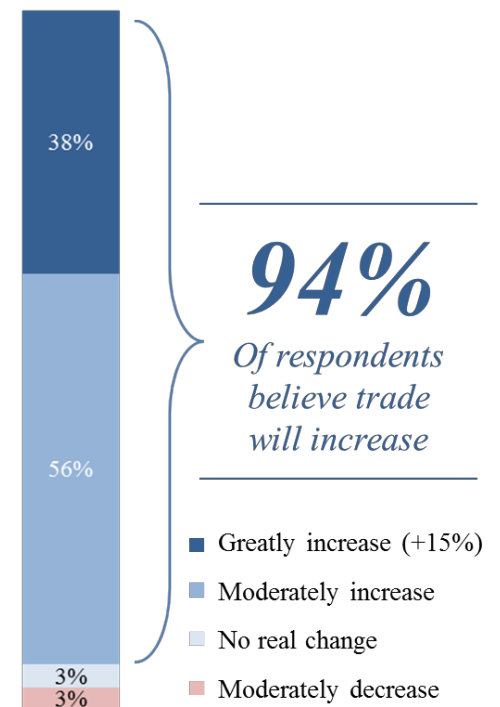
From the business perspective, NTBs are a source of frustration. Barriers raise the cost of trade, inhibit the development of efficient and safe supply chains, and restrict the critical participation of micro small and medium enterprises (MSME) in regional and global value chains. As a whole, they have the potential to jeopardize regional food security.

NTBs affect trade before the border, at the border, and behind the border. They come in a variety of forms, affecting a wide range of different products across many markets. NTBs can be opaque and unpredictable in application and impact. Their impacts are often subtle, indirect, and case-specific, making them difficult to identify, quantify, and address. They can have a chilling effect on trade by diminishing cost efficiency, degrading product quality and safety, distorting trade flows, and inhibiting necessary investment. NTBs serve as chokepoints in supply chains, adding time and cost to trade flows, and eroding margins. They can undermine food security by making food more expensive, less safe, or less available.

The World Trade Organization (WTO) and plurilateral and regional free trade agreements (FTAs) have had limited success in reducing NTBs, despite the sound rationale that underpins many of the relevant instruments. Some FTA provisions emphasize transparency, good regulatory practice, international cooperation, and mechanisms such as mutual recognition of goods standards. FTAs may clarify expectations among trading partners, and potentially reduce compliance burdens. However, recent studies show that the number of trade-restrictive measures is increasing.

While NTBs are understood primarily as government measures, the compliance burden of meeting private standards (PVSS)—those developed by specific companies or non-governmental organizations (NGOs) to set requirements for products or production processes—may have a similar impact. Compliance with these standards is voluntary, but companies who do not comply may find themselves excluded from markets or global value chains (GVCs). This report seeks to identify a few of the most burdensome PVSSs, and ways that they might be mitigated.

### Changes in future food and agriculture trade volume





## *Startling Facts<sup>1</sup>*

**60%**

Expected increase in food production required by 2050 to meet the needs of the growing population

**300M**

Number of people who are obese

**1B**

The number of people in the world who do not have enough food to lead a healthy and active lifestyle

**110M**

Number of people pushed into poverty as a result of the 2007-2008 food crisis

**2.2B**

The number of people in Asia and the Pacific who rely on agriculture for their livelihood

**44M**

Number of people pushed into poverty as a result of the 20010-2011 food price crisis

**2X**

NTMs are twice as impactful at restricting market access than tariffs

**12-14%**

Estimated decline in rice production by 2050 as a result of climate change

**1 in 9**

People in the world are chronically hungry

**75%**

Increase in the volume of food exports between 2000 and 2010 in Asian economies

**QUADRUPLE**

Expected increase in the number of container handling by 2030

**54%**

Of world trade accounted by APEC economies

**50-80%**

Of disposable income is spent on food by poor in developing countries

**40%**

Of the world's population is accounted for across APEC economies

**1/3<sup>rd</sup>**

Of food is wasted along the supply chain before it ever has the chance to be consumed

**57%**

Of global GDP accounted for by APEC economies

**5%**

Estimated cost of malnutrition on global GDP

**140**

**1B**

Number of people who are overweight

Number of free trade agreements signed by APEC economies

# The Relationship between Trade and Food Security

APEC's primary goal is "to support sustainable economic growth and prosperity in the Asia-Pacific region." APEC champions open trade and investment, pushes for regional economic integration, and provides expertise on technical economic co-operation matters.

The link between food trade and food security is fundamental to APEC's primary goal. Without it, opportunities go unrealized, human capital and institutional capacity development is diminished, and economic growth is muted. Food trade also has a bearing on price volatility, productivity, and supply.

Over the last several decades, there has been a significant decrease in tariffs globally.<sup>1</sup> This is primarily due to the WTO's Uruguay Round Agreement on Agriculture, along with the proliferation of regional trade agreements (RTAs). At the same time, there has been a concurrent increase in barriers borne from rules and regulations that dictate import and export requirements.<sup>2</sup>

Contrary to the rhetoric of free trade, restrictions are rising in many markets, not falling.

The WTO expects trade in 2016 to grow at the slowest pace since the 2008 financial crisis. The dramatic slowing of global trade growth, at 1.7%,<sup>3</sup> should serve as a serious wake-up call, especially in the context of growing anti-globalization sentiment. For the first time in 15 years, the ratio between trade growth and GDP has fallen below 1:1.<sup>4</sup> The WTO acknowledges slowing trade liberalization and creeping protectionism as playing a role. There is a significant amount of uncertainty about future trading arrangements, should current anti-trade rhetoric finds its way into trade policy.

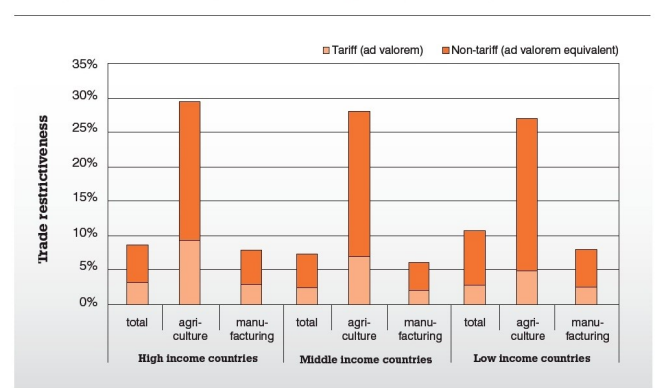
## "Food Trade = Food Security"

Anti-trade sentiments are in direct contradiction to decades of evidence that show liberalized trade creates stability in international and domestic markets, mitigating the impact of supply and demand-side shocks that can decimate socio-economic welfare. It has the power to transform economies, providing new opportunities and increasing access to capital.

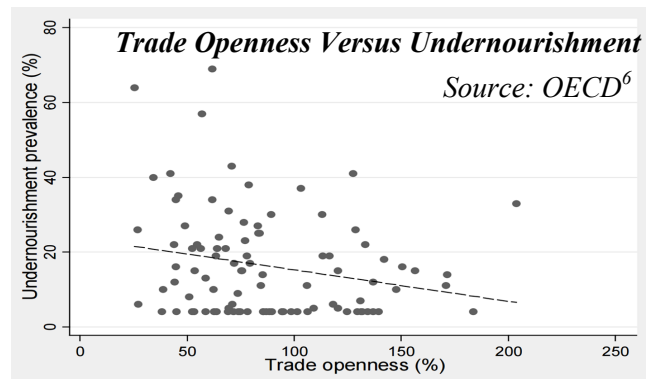
Clearly, there are synergies between food security, economic growth, and business opportunities. Moreover, food has never been safer and more available than it is today. If one were to divide all of the food produced by the number of people in this world, there result is 2,700 kcals and 75g of protein a day.<sup>4</sup> Yet food isn't reaching those who need it most. NTBs play a role in this disparity.

In order to achieve food security, APEC and ABAC must work together to eliminate distortions in the trading system, and allow the industry to benefit from the broader innovation in the global trading environment. Liberalizing food trade is not the only solution to food security—but, food security cannot be achieved without a smooth, unhindered food trading environment.

TARIFFS AND AD VALOREM EQUIVALENTS OF NTMs FACED BY EXPORTERS



Source: UNCTAD, 2012

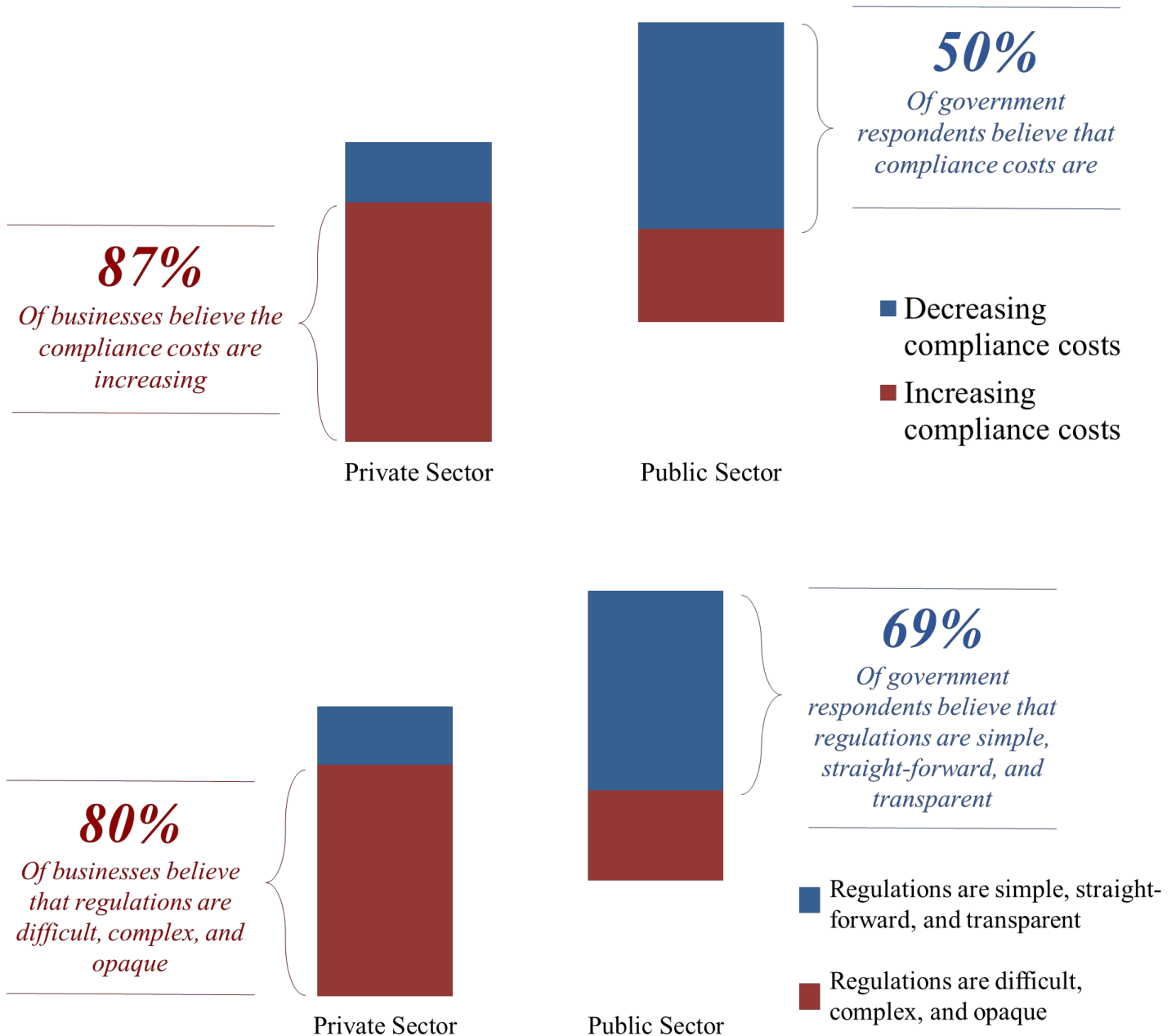


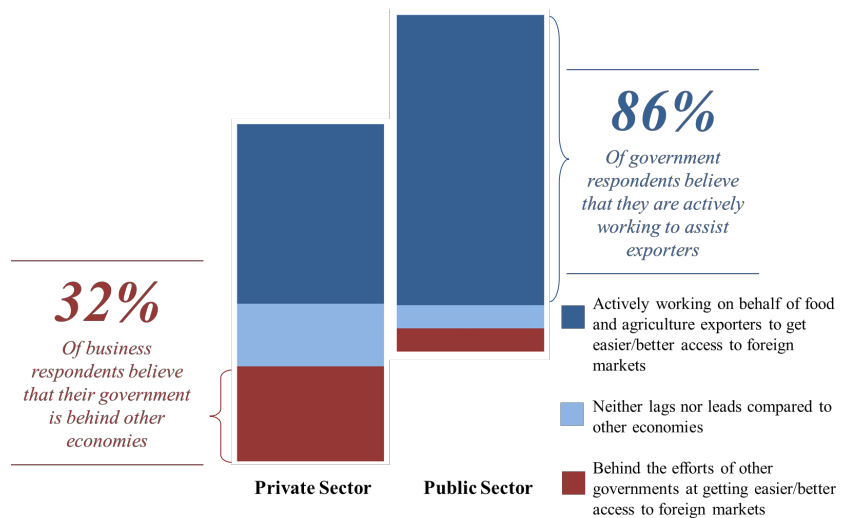
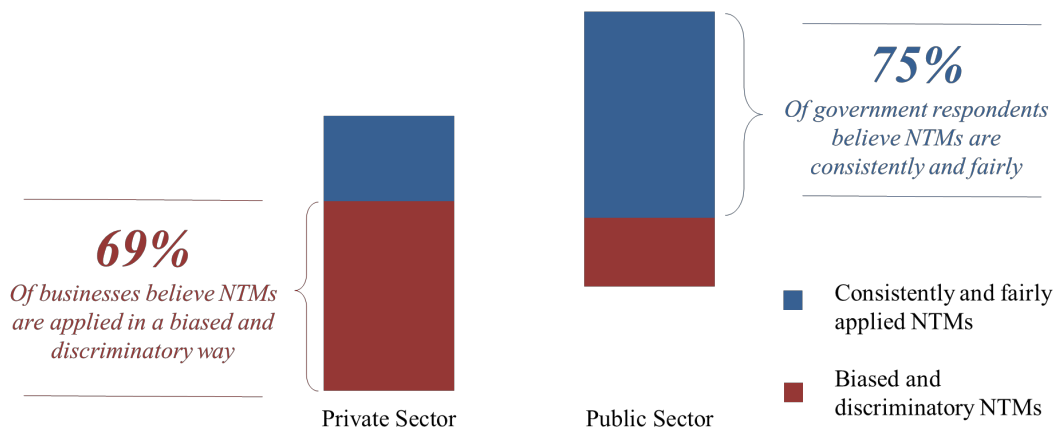
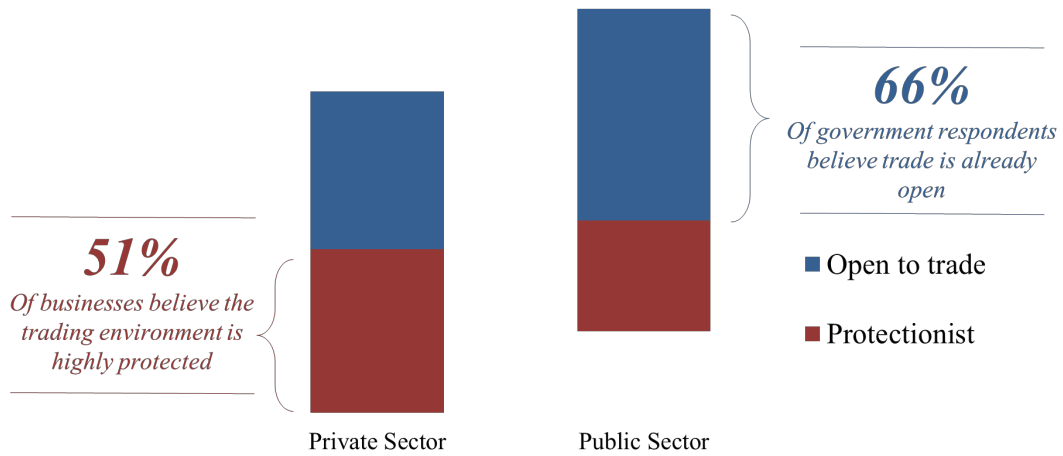
When economies rely on protectionism to increase food security, policies are likely counterproductive in the long term. Reduced investment, coupled with low or stagnant wages, increases rates of undernourishment.

**48 economies** experienced protests and riots triggered by food prices in 2007 and 2008.<sup>7</sup>

# Misalignment between Business and Government

Interviewees from both government and businesses agree that there is tremendous room for improvement in the global trade environment. However, their perspectives on virtually every aspect of NTMs and NTBs are very different. Given the disparity, businesses have a greater sense of urgency for policy reform than governments. Closing this gap in communication is critical for creating thoughtful policies that might enhance food security.











*Research Objectives, Design, and Methods*

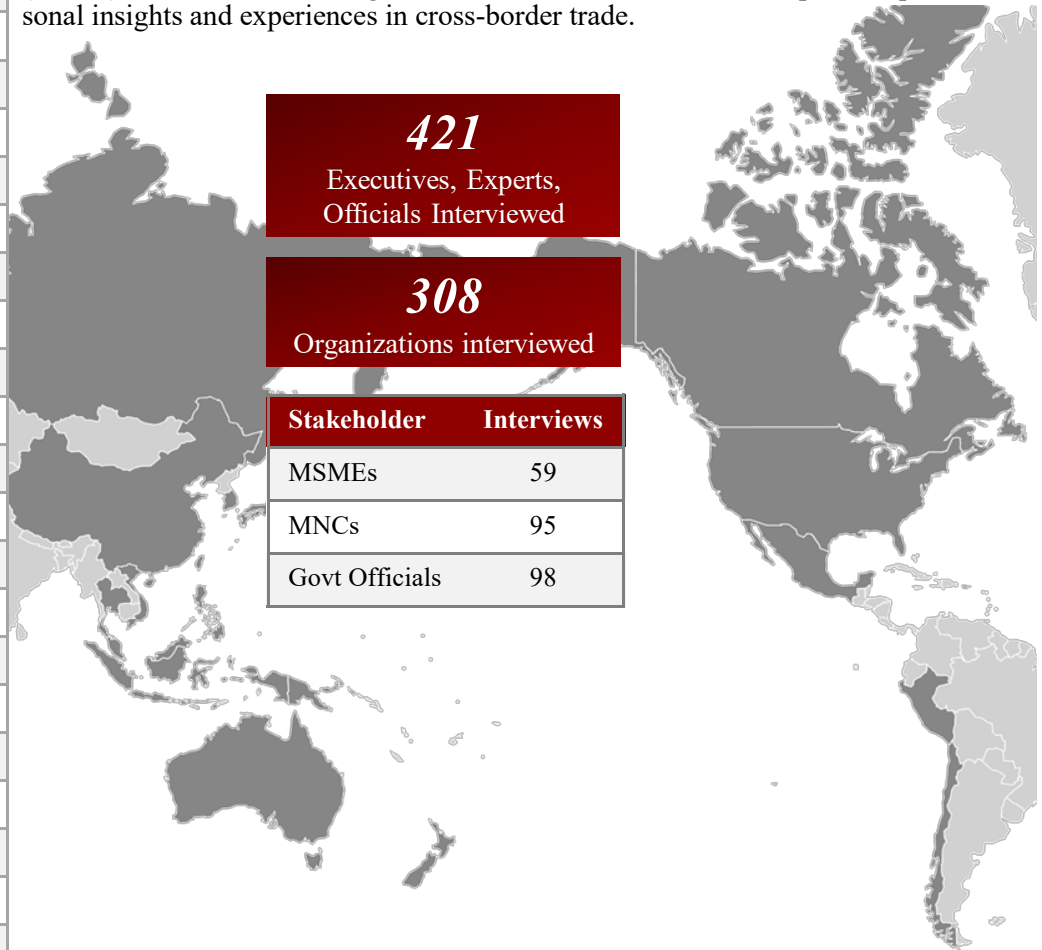


# Capturing the “Voice of Business”

## Interviews

The team ensured there was a broad subset of interviewees from each economy, representing various segments of the agriculture and food supply chain. Interviews sampled thought-leaders, MSMEs, multi-national corporations (MNCs), trade associations, government officials, and others to provide personal insights and experiences in cross-border trade.

Economy	Interviewees
Australia	28
Brunei	3
Canada	14
Chile	21
China	25
Hong Kong	20
Indonesia	11
Japan	28
Rep. of Korea	7
Malaysia	23
Mexico	39
New Zealand	37
Peru	20
Philippines	17
PNG	8
Russia	2
Singapore	28
Chinese Taipei	23
Thailand	22
USA	33
Viet Nam	12



## Survey

The wealth of information that came from the interviews created the context in which the team was able to build a survey. The goal was to confirm assessments of the most important barriers and impediments, and that ratings of the relative impact were consistent across economies.

The team analyzed **216** industry responses to the questionnaire. It represents a robust cross-section in agriculture and food trade. Data from the survey appears throughout the report, with more information in the appendix.

# Research Objectives, Design, and Methods

## Objective

ABAC requested the USC Marshall School of Business to capture the business perspective, as it relates to NTBs impacting cross-border agriculture and food trade across APEC. Specific areas of focus included identifying the most burdensome NTBs, a review of effective past approaches to addressing NTBs, and the development of practical solutions that may be considered. The research was also to consider rising comment on the impact of private standards as a source of food trade restrictions.

This report contributes to substantial existing research on NTBs in food trade, offering policy-makers a richer and more granular business perspective. By highlighting pain points, this report also seeks to illuminate thematic issues in trade regulations. With this information, governments might more effectively manage regulatory policies that allow businesses to grow, and consumers greater access safe, nutritious, and affordable food

## Design of the Study

The research had three phases: desk research, interviews, and a survey. The first two phases, to some extent, ran concurrently, while the survey collected additional responses in the final weeks of the research.

**Desk Research.** This phase examined literature on food trade and food security to identify areas of critical interest. Specific NTBs and thematic issues identified served as the foundation for creating the interview protocol and analytical frameworks used in the report. The research team relied on reports from the WTO, the World Bank, OECD, and the United Nations (UN), among others. In addition, consulting companies and think-tanks, such as PwC and The Brookings Institution, provided additional analysis in

the early research phases. When necessary, the team relied on traditional news outlets to provide color to perspectives on the regulatory environment.

Given the inherent subjectivity of interview-based research, researchers were careful to validate interview findings with secondary data. Comparable metrics contextualized primary sources. Readers will find selected data from groups such as Transparency International, the World Economic Forum, and *The Economist*, among others. On an economy-by-economy basis, rankings and data indices generally validate interview conclusions.

**Interviews.** This phase had two parts. In the early months of research, the teams contacted “thought leaders” - executives, analysts, and other recognized industry experts—to get a more academic and considered perspective on food trade impediments. In many cases, the research team identified thought leaders from their contribution to desk research materials.

Researchers then traveled to 17 APEC economies to conduct in-person interviews. In the remaining economies, Papua New Guinea (PNG), Brunei, Canada and Russia, interviews took place by telephone. The pool of interviewees focused on producers, trade associations, and government officials. However, researchers attempted to curate a diverse set of perspectives, and secured interviews with ancillary stakeholders, such as laboratories, not-for-profits, and agriculture technology training facilities. Though the interviewees are attributed to the physical location of the interview, many provided information on multiple economies.

**Survey.** After a comprehensive review of interviews the research team crafted the survey. The questions pri-

marily asked respondents to identify specific policy outcomes that cause the most disruption, and to assess the burden of compliance derived from NTMs through to procedural obstacles. The survey was distributed to all of the interviewees, as well as thought leaders, and additional contacts provided by interviewees and ABAC.

The survey garnered 216 responses, representing a robust cross-section of agriculture and food trade. Readers will find survey data throughout the report, and a more detailed exploration of results in the appendix.

## Scope and Limitations

While the sources for this report come from virtually every sub-sector of the food industry, the research team would like to acknowledge some key limitations.

1. Researchers spoke with just over half as many MSMEs as MNCs. As a result, the challenges to smallholders may be under-represented. The higher representation of MNCs correlates to their volume impact on food trade.
2. Interviewees represent those who responded to inquiries. For several economies, the team was unable to get perspectives from every product category or relevant government agency.
3. Economies that are under-represented in sourcing were not overlooked. Rather, researchers had a difficult time reaching stakeholders, as well as gathering relevant perspectives from businesses in third-party economies. In part, this was due to challenges in identifying stakeholders, but in other cases, there was clearly a reluctance to take part in the research.





***What We Heard from Business:  
Stories from the “Battlefield”***



## *Stories from the “Battlefield”*

One economy enforces standardized container sizes for most processed fruits and vegetables. A pineapple producer claimed that impractical container sizes dissuaded consumers from purchasing the product.

One economy recently implemented new regulations and registration measures for importing processed feed. Canola meal sales to that economy went from \$83M in 2012 to virtually zero from 2013 to 2015. Producers scrambled to re-register their products under the new regulations, and canola meal sales stabilized in 2016.

In one economy, a business shipping highly perishable fruit reported more frequent instances of informal payments in ports with no cold chain infrastructure.

A company from one economy found that local agencies were misinformed of foreign standards. When exporting shrimp, the Ministry of Commerce confirmed that the product should be called “breaded shrimp,” but the shipment was rejected at customs, because it needed to be called “tempura shrimp.”

Producers take issue with antibiotic regulations, particularly in fish. Some economies use “positive lists” for antibiotics. Any other supplements, even those approved by international standards, are banned. Some of these antibiotics are metabolized out of the fish entirely, prior to processing.

One economy rejected raw chicken and eggs from Thailand, stemming from a bird flu outbreak in 2005. Eventually, cooked chicken was approved, but required cooking temperature of 80°C, making the product tasteless and less competitive.

One economy has historically banned U.S. apples, because of concern over codling moths. The apples are shipped in the dark at near freezing temperatures, with almost no oxygen, theoretically killing any pests. Producers successfully lobbied to lift the ban, at which point the target market’s government continued to deny shipments over concerns about fire blight, a bacteria that typically infects pears.

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One economy rejected shipments of beans from a Canadian producer due to dust traces. The producer claims the dust is actually residue from "precision-clean" bags, which are industry-standard packing containers.

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Economies with domestic Halal standards do not have mutual recognition of other economies. Businesses operating in multiple economies with mandated Halal certifications must pay redundant fees, including transportation and lodging for on-site inspectors. Typically, these processes are hampered by shortage of inspectors.

One economy has stringent regulations addressing fruit flies. Certain fruits do not attract them, but customs inspects all fruit shipments anyway. Due to high refusal rates, many producers halve and freeze exported fruit, reducing the quality and value of the product.

An economy changed the botanic name of a fruit, effectively closing the border overnight to shipments en route. Because the fruit only has a six-week shelf life, producers were forced to reroute shipments to nearby economies, which became flooded with the surplus. Buyers could only pay the producers half of the original price. Producers are still attempting to recertify the fruit under the new name.

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A Chinese company exporting canned mushrooms looked into an anti-dumping surtax levied in a key market. It found that other exporters from Viet Nam, the Philippines, and Indonesia, paid no surtax at all. Furthermore, the economy enforced lower quality standards for other foreign producers.

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One economy suddenly barred private corn buyers in favor of government intervention. Previously approved containers en route sat in the port for three months while the government decided what to do. Firms footed \$17,000 per day per shipment. The same economy is considering similar action with soy beans, creating massive uncertainty among producers.





# *Assessing Trade Barriers*

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**In this section:**

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The Difference between NTMs and NTBs

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Assessing Trade Barriers

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Evaluation Framework for Trade Barriers

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In-Depth Look at SPS Measures

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In-Depth Look at TBT Measures

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# The Difference between NTMs and NTBs

## Non-Tariff Measure (NTM)

The WTO defines NTMs as “**policy measures, other than tariffs, that can potentially affect trade in goods.**”<sup>1</sup> NTMs are government-imposed trade regulations unrelated to tariffs. Not all NTMs are bad; most are necessary for consumer safety, and environmental, animal, and plant protection. However, the study aims to articulate the most egregious NTMs that, intentionally or unintentionally, act as barriers to trade.

## Non-Tariff Barrier (NTB)

There are a number of other non-tariff challenges in the business environment that directly impact trade, such as infrastructure and private standards. For the purposes of this study, **NTBs include all barriers that businesses face in cross-border agriculture and food trade.** NTBs include private standards, procedural obstacles, infrastructure deficits, and other challenges faced by business that block or distort trade.

### TECHNICAL MEASURES

- SANITARY & PHYTOSANITARY MEASURES
- TECHNICAL BARRIERS TO TRADE
- PRE-SHIPMENT INSPECTION & OTHER FORMALITIES

### NON-TECHNICAL MEASURES

- CONTINGENT TRADE PROTECTIVE MEASURES
- NON-AUTOMATIC LICENSING, QUOTAS, PROHIBITIONS AND QUANTITY CONTROL MEASURES
- PRICE CONTROL MEASURES
- FINANCE MEASURES
- MEASURES AFFECTING COMPETITION
- TRADE RELATED INVESTMENT MEASURES
- DISTRIBUTION RESTRICTIONS
- RESTRICTIONS ON POST-SALE SERVICES
- SUBSIDIES
- GOVERNMENT PROCUREMENT RESTRICTIONS
- INTELLECTUAL PROPERTY
- RULES OF ORIGIN

### PROCEDURAL OBSTACLES

- ADMINISTRATIVE BURDENS
- INFORMATION / TRANSPARENCY ISSUES
- INCONSISTENT OR DISCRIMINATORY BEHAVIOR OF OFFICIALS
- TIME CONSTRAINTS
- INFORMAL OR UNUSUALLY HIGH PAYMENTS
- LACK OF SECTOR-SPECIFIC FACILITIES
- LACK OF RECOGNITION OR ACCREDITATION
- INFRASTRUCTURE DEFICITS

### PRIVATE STANDARDS

- NUMERICAL STANDARDS
- PROCESS STANDARDS
- PROCESS SCHEMES

### EGGREGIOUS NON-TARIFF MEASURES

- TRADE WEAPONS
- DISCRIMINATORY
- TRADE RESTRICTIVE
- NOT SCIENCE-BASED
- RETALIATORY
- VALVE
- PROTECTIONIST
- TIME AS A WEAPON

IMPORTS

### EXPORTS

- EXPORT-RELATED MEASURES

# Evaluation Framework for Trade Barriers

NTMs are used to organize and regulate markets. Many of these measures aim to achieve legitimate goals, such as safety, transparency, quality assurance, and to inform consumers. The findings from hundreds of interviews and survey results to inject the voice of business to develop a multi-dimensional framework to define “acceptable” and determine where an NTM becomes a “burdensome” along the supply chain.

## Defining Acceptable

- *Science-based and designed to fulfill legitimate objectives, such as the protection of human, animal, or plant safety*
- *Applied equitably and consistently, with well-defined and efficient procedures*
- *Consistent with the principle that they should be no more trade-restrictive than necessary to meet a legitimate objective, and emphasize equivalent outcomes*

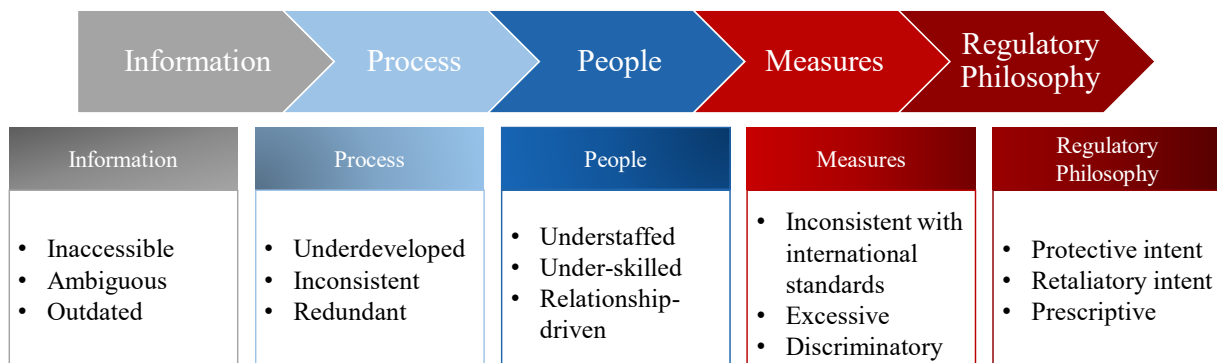
## Defining Burdensome

- *Increases time, cost, and uncertainty in compliance, beyond what is necessary and reasonable to meet a legitimate objective*
- *Discriminatory and inconsistently applied*
- *Discourages trading opportunities or are prescriptive in nature*

From a holistic view of supply chain, businesses understand that trade opportunities require significant planning and investment years in advance of going to market. They aim to maximize profit and minimize volatility by growing and diversifying revenue streams through expansion into new markets. A supporting analysis of NTBs must likewise take a holistic view, incorporating both quantitative and qualitative data to determine the level of burdensomeness. Taking this into account, the research team came up with a framework to evaluate NTMs and NTBs across five different dimensions.

For business, NTMs become NTBs when compliance costs erode margins to the point that they can no longer operate profitably in a particular market, when uncertainty makes risk management impossible, or when the time required to develop a market opportunity is unrealistic. One small change in any of these dimensions may seem innocuous, but can have profound impacts when layered together, or magnified along an entire value chain.

The idea that one economy’s NTM is another economy’s NTB depends on perspective. In some cases, businesses see NTBs differently than trade officials. Businesses define them more broadly in terms of their impact along the entire supply chain. This report, reflects the “voice of business,” and applies that lens to this evaluation.

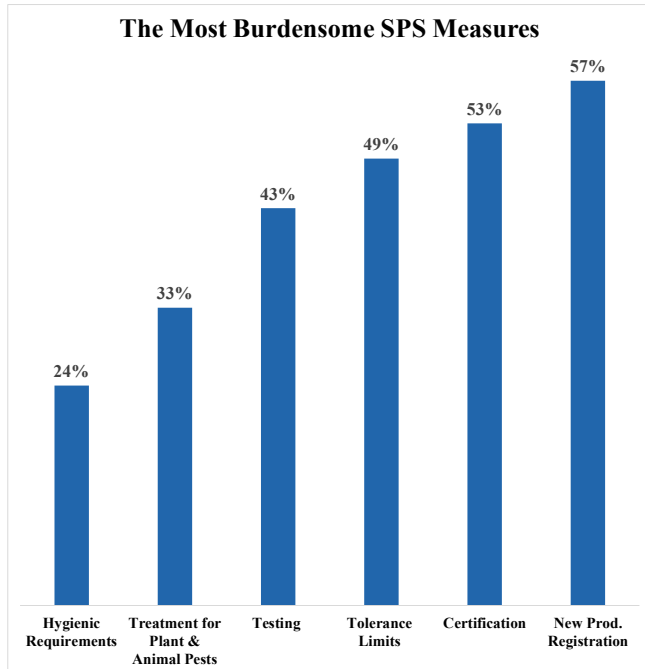


		Acceptable	Restrictive	Most Burdensome
Business Perspective	Information	<ul style="list-style-type: none"> <li>• Readily available and up-to-date</li> <li>• Consistent</li> <li>• One-stop access; digitized</li> <li>• Multi-language support</li> </ul>	<ul style="list-style-type: none"> <li>• Readily available</li> <li>• Scattered, but consistent</li> <li>• No fully digitized</li> <li>• Limited language support</li> </ul>	<ul style="list-style-type: none"> <li>• Unavailable, outdated / hidden rules, scattered, inconsistent</li> <li>• Not digitized</li> <li>• Domestic language only</li> </ul>
	Processes	<ul style="list-style-type: none"> <li>• Efficient clearance and reasonable number of documents</li> <li>• Efficient dispute resolution</li> <li>• Formal / well-defined time and cost of processes</li> <li>• Digitized and automated</li> </ul>	<ul style="list-style-type: none"> <li>• Long clearance and lengthy documentation processes</li> <li>• Slow or ineffective dispute resolution</li> <li>• No well– defined time and cost of processes</li> <li>• Not fully digitized</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistent, informal, or redundant processes</li> <li>• Overly complicated, fragmented</li> <li>• No dispute resolution</li> <li>• Discriminatory time and cost</li> <li>• Manual process</li> </ul>
	People	<ul style="list-style-type: none"> <li>• Regular training programs</li> <li>• People are qualified for the positions</li> <li>• Schedule matches business</li> <li>• Responsive / time-sensitive</li> </ul>	<ul style="list-style-type: none"> <li>• No training program</li> <li>• Underqualified / understaffed</li> <li>• Poorly scheduled</li> <li>• Slow response on issues</li> </ul>	<ul style="list-style-type: none"> <li>• High turnover, understaffed</li> <li>• Poorly scheduled</li> <li>• Non-responsive</li> <li>• Corrupt / relationship dependent</li> </ul>
Regulatory Perspective	Measures	<ul style="list-style-type: none"> <li>• Science-based</li> <li>• Non-discriminatory</li> <li>• Closely aligned with global standards (e.g., CODEX)</li> <li>• Effective risk management</li> </ul>	<ul style="list-style-type: none"> <li>• Not fully science-based</li> <li>• Non-discriminatory</li> <li>• Not fully consistent with global standards</li> <li>• Poor risk management</li> </ul>	<ul style="list-style-type: none"> <li>• Not science-based</li> <li>• Discriminatory / biased</li> <li>• Inconsistent with global standards</li> <li>• Lack of risk management</li> <li>• Used as a weapon in diplomatic and other disputes</li> </ul>
	Regulatory Philosophy	<ul style="list-style-type: none"> <li>• Principle of “least trade-restrictive”</li> <li>• Emphasis on equivalent and fair outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Developed with the principle of “protectionism” or “trade valves”</li> <li>• Not fully based on equivalent outcomes</li> </ul>	<ul style="list-style-type: none"> <li>• Developed with the intent of “retaliation”</li> <li>• Prescriptive</li> </ul>



## *In-Depth Look: Sanitary and Phytosanitary Measures*

Sanitary and phytosanitary (SPS) measures account for 60% of all APEC-wide reported NTMs.<sup>1</sup> Businesses also indicated that SPS measures are the most frequently used measures to block or impede trade. Ambiguity, inconsistency, and discriminatory behavior in both, information and enforcement of SPS regulations were most problematic. Under the WTO SPS agreement, governments may enact SPS measures to protect human, animal, and plant life and health, but requires that, *inter alia*, they are applied only to the extent necessary to protect human, animal, or plant life or health, do not unjustifiably discriminate between members and are not applied in a manner which constitutes a distinguished restriction on trade.



*“It’s a jungle out there.”*

-Malaysian Interviewee on SPS in APEC

### Overview

SPS measures can take many forms:

- Requiring products to come from a disease-free area
- Inspection of products for pests
- Specific treatment or processing of products
- Setting of allowable maximum levels of pesticide residues
- Prohibition of certain additives

Determining whether health and safety regulations are definitively inappropriate is challenging. The WTO requires that measures are<sup>3</sup>:

- Transparent
- Based on international standards e.g. Codex
- Science-based
- Intended to promote predictable and sustainable trade

### How SPS Inhibits Trade

One of the significant difficulties businesses face is acquiring accurate, timely information about SPS regulations. Not only are requirements often spread across several agencies, regulations can change frequently and without warning in some economies. This slows the certification, scaling, and customs inspection processes.

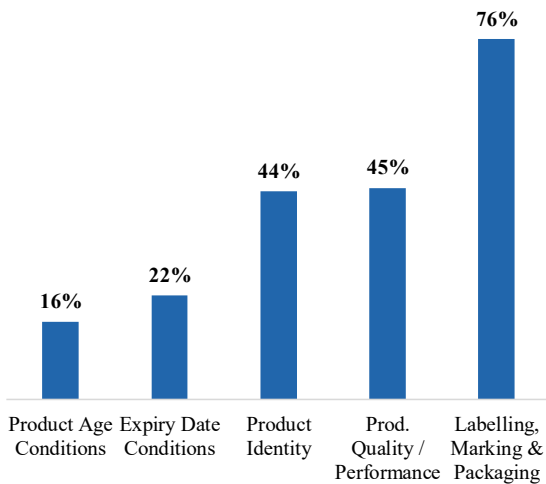
Even when information is readily accessible, compliance might be difficult. Businesses cited cases where limits on chemical residue exceeded levels found in the ambient air. Furthermore, in the wake of food crises, businesses reported a tendency for governments to tighten regulations, even in unrelated products.

Businesses also stated that regulations are only as effective as implementation on the ground. From inconsistent or discriminatory enforcement, to lack of testing facilities, businesses that comply with SPS regulations may still see shipments refused. This creates added risk and uncertainty in business models, even if the product in question is actually in compliance.

## In-Depth Look: Technical Barriers to Trade

In principle, governments enact TBT measures to protect consumers and the environment as well as to set conditions for competition. However, over 70% of businesses described technical barriers to trade (TBT) measures as the most burdensome barriers. Businesses cited inconsistency, lack of transparency, and sudden changes as the biggest challenges for TBT measures, particularly in regards to labeling, product classification and testing requirements. Governments may enact TBTs for reasons of consumer safety and information, product quality, environmental (or animal or plant) protection, and to prevent deceptive business practices, among others.

**The Most Burdensome TBT Measures**



*“Labeling regulations change more frequently than others, often for non-food-related issues, like redemption value for recyclables.”*

- Multi-National Beverage Corporation

### Overview

TBTs address several facets of production and supply chains:

- Production equipment and specific processes
- Labeling and packaging
- Product performance and quality control
- Environmental impacts
- Traceability and product identity
- Testing and certification

TBTs have several different ends. They facilitate competition by clearly defining product characteristics and quality assessment. TBTs also advance domestic goals by establishing minimum standards and safety requirements. However, they can also be used to protect domestic industry and stifle competition.

Sometimes, however, technical measures can become “technical barriers to trade”, or TBTs. The WTO TBT Agreement sets out rules and principles to ensure that technical regulations, and associated conformity assessment procedures, are not prepared, adopted or applied in a way that creates unnecessary obstacles to trade. The TBT Agreement also encourages WTO Members to use existing international standards as far as possible, and includes the concepts of harmonization and equivalence of technical measures, through, for example, mutual recognition of regulations.<sup>1</sup>

**Businesses indicated TBTs are the most burdensome barriers to trade.**

### How TBTs Can Inhibit Trade

The most challenging TBTs that business identified were labeling and packaging requirements. Customs has the authority to deny entry not only based on compliance with regulations, but also on whether or not commensurate labels about those checks appear on the packaging.

Beyond labeling, businesses cited the need for greater transparency with testing protocols, so that they are able to replicate these tests prior to shipping. They need easy and transparent access to information on test methods, which often involves esoteric and unique equipment.

Inaccurate product classification is also a challenge. A confectionary company reported difficulties with product classification for a product that included a toy within the candy. Customs inspectors repeatedly categorized the product as a “toy” rather than a confectionary product, which carries an entirely different set of product requirements. Naturally, those shipments were detained.





# *Comparative Analysis*

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**In this section:**

Assessment of APEC Economies

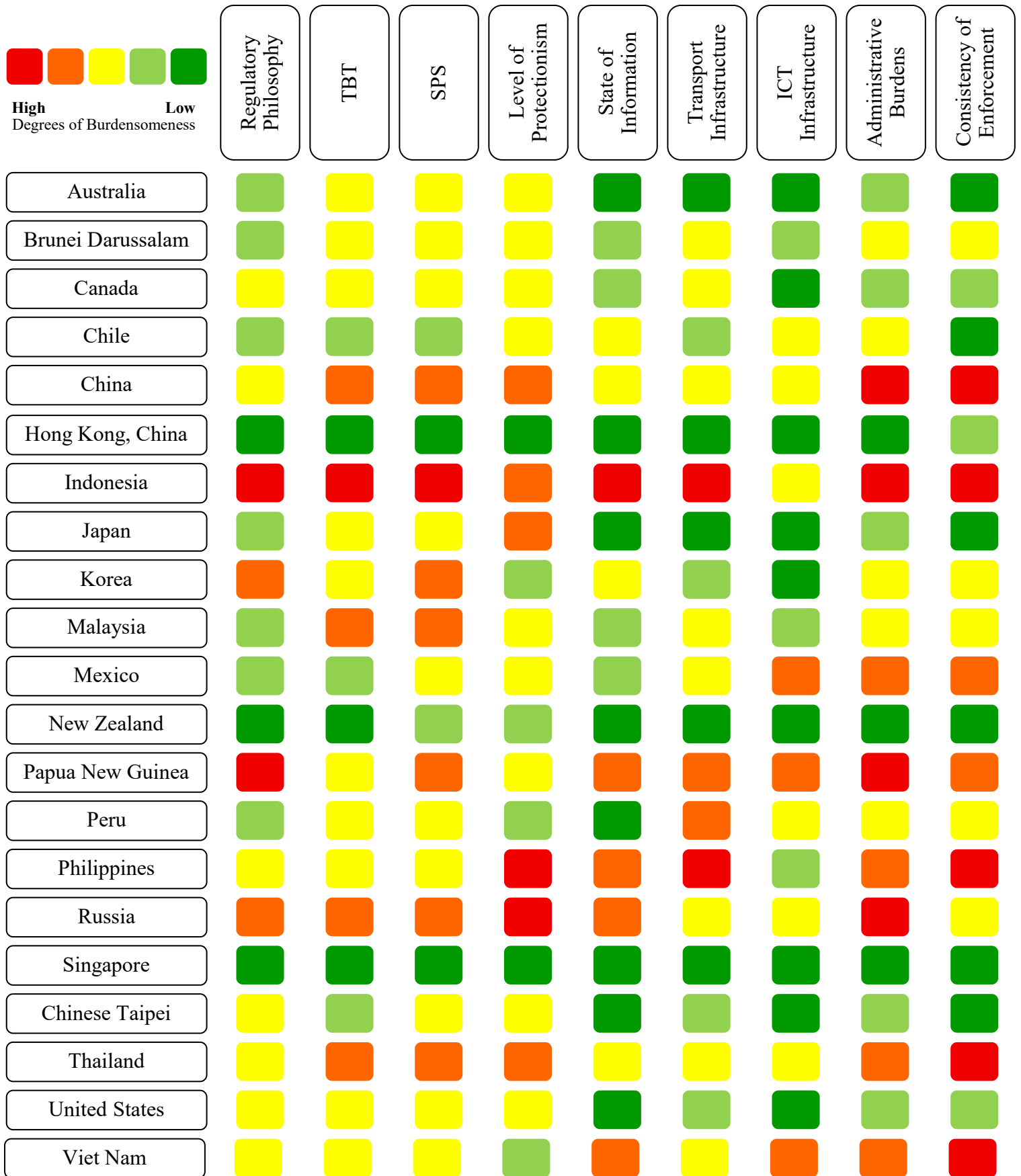
Voice of Business: Least and Most  
Restrictive Economies

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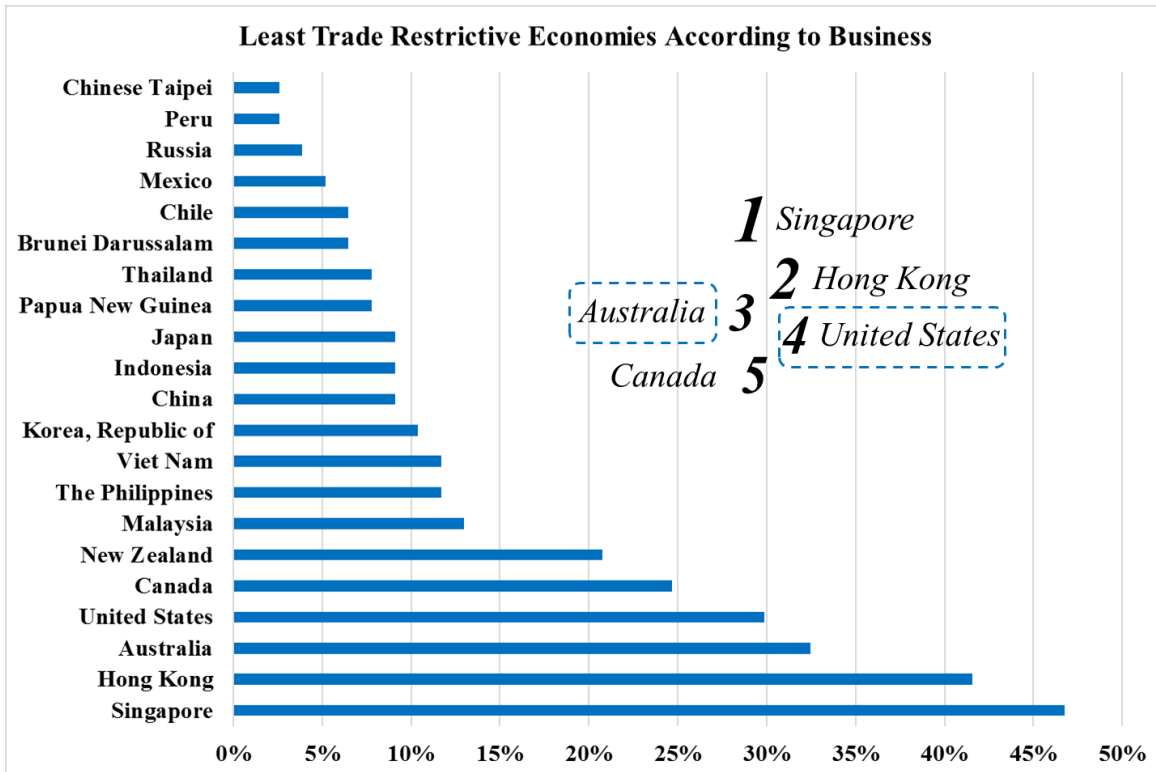
# Assessment of APEC Economies

For rubric and detailed analysis, see appendix



# Least and Most Trade Restrictive Economies

While it is expected that respondents have divergent opinions, the research indicates several notable contradictions. For example, that Australia and the United States were considered both some of the most trade restrictive and least trade restrictive economies.







# *Where NTMs and NTBs Cause Distortions*

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**In this section:**

Introduction

Supply Chain Perspective

Product Category Perspective

Developed vs. Developing Economy  
Perspective

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# Introduction

Examining trade barriers through many different perspectives illuminates varying effects on a complex global economy. They have thematic impacts when assessed by supply chain, product category, and developed versus developing economies. Understanding how NTBs interact with these perspectives illustrates challenges in risk management for agriculture and food products.

1 >

## SUPPLY CHAIN

NTBs can be implemented at any point along the supply chain – from manufacturing and testing requirements, to customs inspections and labelling, to behind the border processes. This demonstrates not only the intricacies that businesses have to comply with in order to be successful within the industry, but also how the trading environment is drastically changing and growing within a short timeframe.

2 >

## PRODUCT CATEGORY

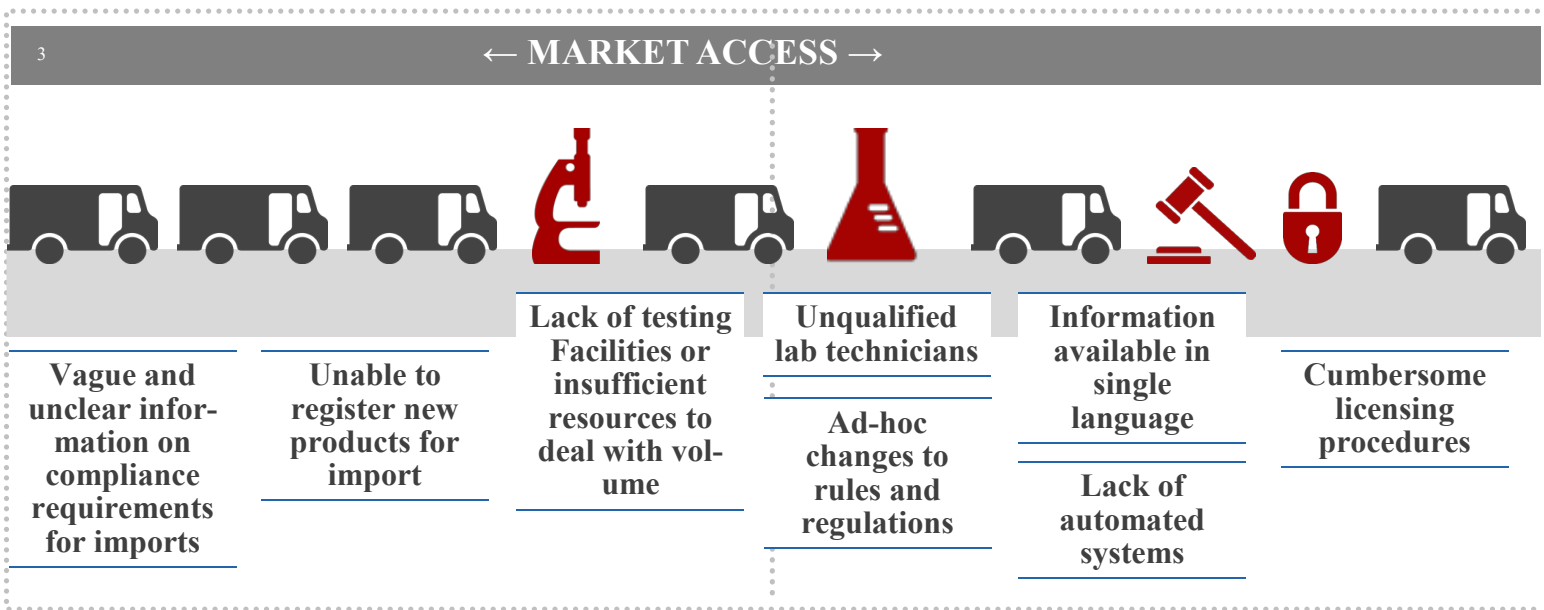
Differing cultures, governmental policies and objectives, and consumer preferences present an intense challenge for the businesses and economies involved in food production, manufacturing, and trading, especially when considering economic growth and a global move towards food self-sufficiency.

3 >

## DEVELOPED VERSUS DEVELOPING

With increasingly interconnected trade flows and supply chains, it is important to consider the differences in the impact of NTBs based on their country of origin. Business frequently cited the difference between developed and developing economies. The differences exist across not only infrastructure, but also in enforcement of regulations, and capacity.

# Where NTBs Cause Distortions: The Supply Chain

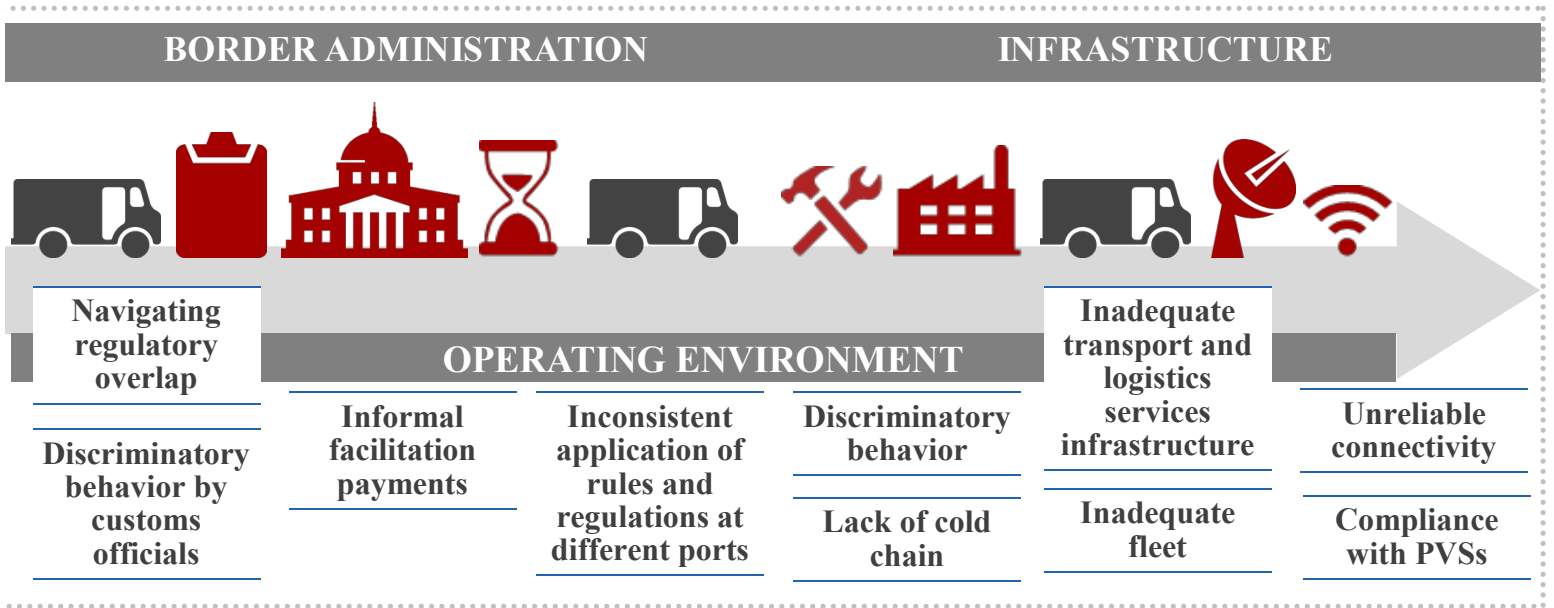


Today, international production of some food products is fragmented—manufacturing or processing activities increasingly take place in different economies, oftentimes independent of the target market. Firms across developed and developing economies add value along global supply chains by completing specific tasks in the most advantageous economy to create the finished product. These increasingly dynamic import and export activities challenge governments to manage complex trade flows. Adapted from World Economic Forum’s Enabling Trade report, the framework above depicts a visual representation of possible NTMs, NTBs, and procedural obstacles faced by business.<sup>1</sup>

At each segment along this supply chain, traders must satisfy all requirements, some of which are enacted into the economy’s laws and regulations, and others might informally be enforced. It is critical to note that each dimension has an impact every time a product crosses a border during production.

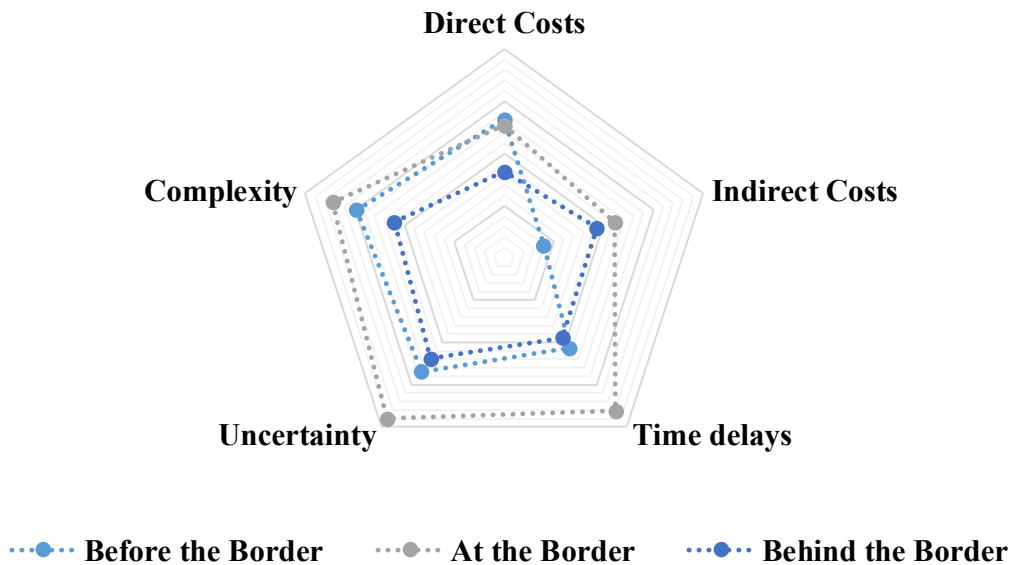
The four primary dimensions impacting trade are categorized as:

<b>Market Access</b>	Tariff and non-tariff barriers and trading preferences
<b>Border Administration</b>	Quality, transparency, and efficiency of border administration
<b>Infrastructure</b>	Capacity and quality of transportation and communications infrastructure
<b>Operating Environment</b>	Quality of key institutional factors impacting the business of traders



## How NTBs Impact Business across the Supply Chain

Percentage of Significant and Severe Issues as Reported by Businesses



	<i>Before the Border</i>	<i>At the Border</i>	<i>Behind the Border</i>
<i>Direct Costs</i>	53%	51%	33%
<i>Indirect Costs</i>	16%	44%	37%
<i>Time delays</i>	42%	72%	38%
<i>Uncertainty</i>	54%	76%	48%
<i>Complexity</i>	59%	69%	44%





# Product Category Perspective

The United Nations Centre for Trade and Development (UNCTAD) collects extensive product-level data on government imposed rules and regulations in the TRAINS database. By disaggregating the type and impact of SPS and TBT measures to drive insights within each product category, a clear picture emerges of varying compliance challenges. SPS and TBT measures were consistently the most burdensome across food categories with high-risk products such as dairy experiencing the largest share, driven by factors such as perishability, composition, MRL, and physical infrastructure capacity.

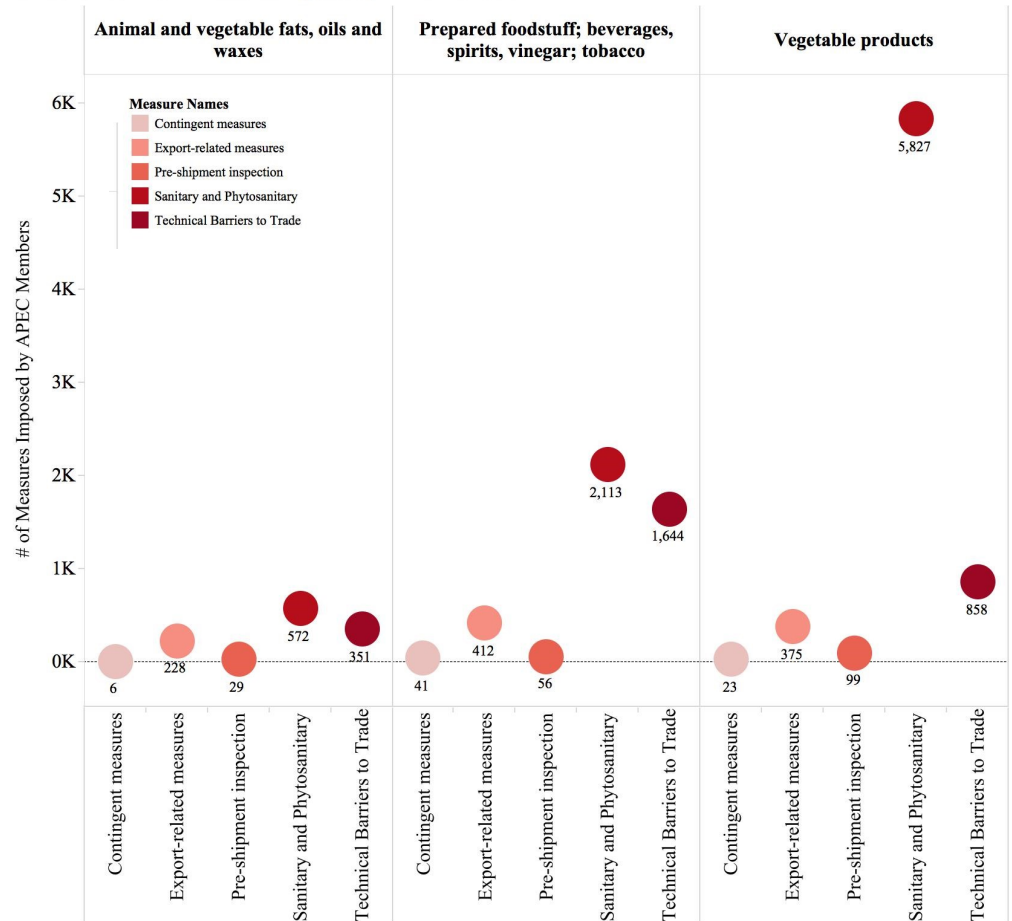
The UNCTAD findings are that SPS and TBT regulations dictate product specifications more than other non-tariff measures, with fresh produce most affected.<sup>1</sup> The raw number of regulations is one metric to consider, but so is the degree to which products are scrutinized at the border. Economies that have less sophisticated or more lenient regulations on SPS might find exports inspected more often as well.

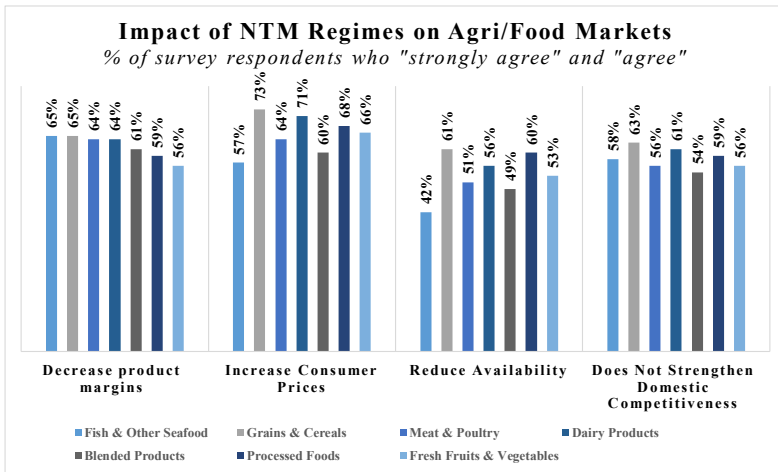
From interviews, businesses illuminated differences in regulatory oversight of different product categories. These differences articulate thematic approaches to risk management by governments. Regulatory agencies often strategically direct attention to specific categories based on risk.

On strictly anecdotal evidence, interviewees suggested that businesses trading in riskier categories expect more burdensome regulations for certification and licensing, as well as more frequent scrutiny from customs inspection.

Number of Non-Tariff Measures Imposed by APEC Members

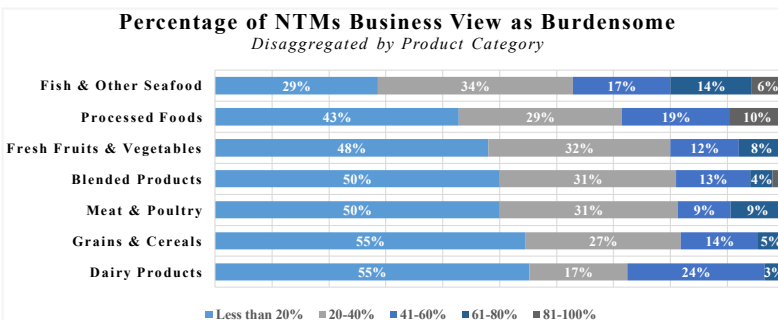
Source: UNCTAD TRAINS<sup>2</sup>



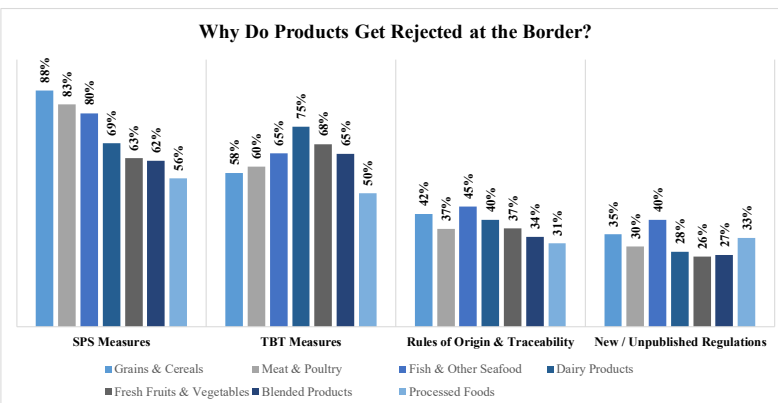


**Meat and Poultry.** Animal protein is a high-risk product category in trade terms. This is due to the relatively high risk of disease and foodborne illness, particularly in raw products. Some animal raising practices, including the use of supplements, antibiotics, hormones, and vaccinations, are also controversial. Perishability can be an issue for some livestock products but modern cold chains mitigate spoilage issues, except in some APEC economies. Delays and uncertainty that may result from trade policies can cause tremendous disruption due to the high associated costs and threat of spoilage.

**Fresh Fruits and Vegetables.** Produce has a high number of NTMs that business must navigate. Products run the risk of containing trace elements of potentially harmful substances used in production, as well as diseases and pests that result from shortcomings in post-harvest treatment. Highly perishable produce susceptible to loss from spoilage, poses a threat to the food supply and creates risk to business models.



**Dairy.** Dairy products are a high-risk product category. Potential sources of risk include contamination with foodborne illness. Most products therefore rely heavily on robust cold chains, the lack of which significantly increases risk to health and safety. Residues resulting from some production methods, such as hormone treatments, may also raise concerns. One additional challenge derives from using proteins from milk, such as whey and casein, in other products. Business reported frequent and often variable port-to-port product customs classification practices, dependent on the amount and source of these byproducts. A non-dairy product, such as margarine, may have traces of casein. Customs testing might detect this, and a business could have a shipment detained, because documentation did not fully satisfy domestic requirements for dairy products.

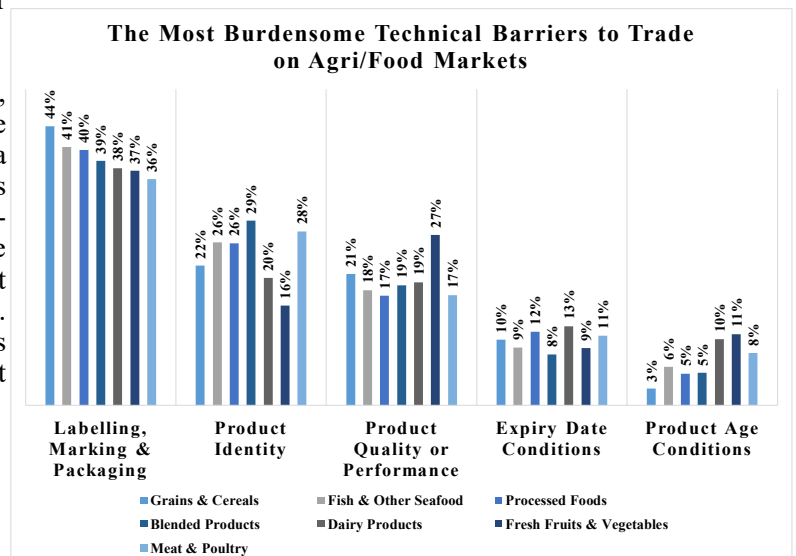
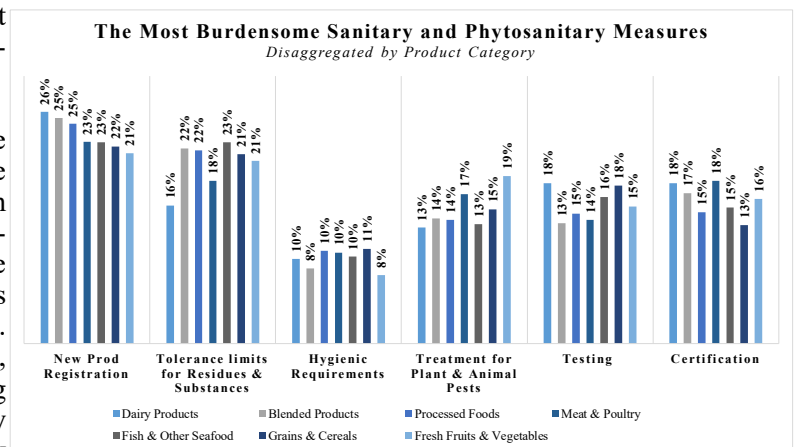
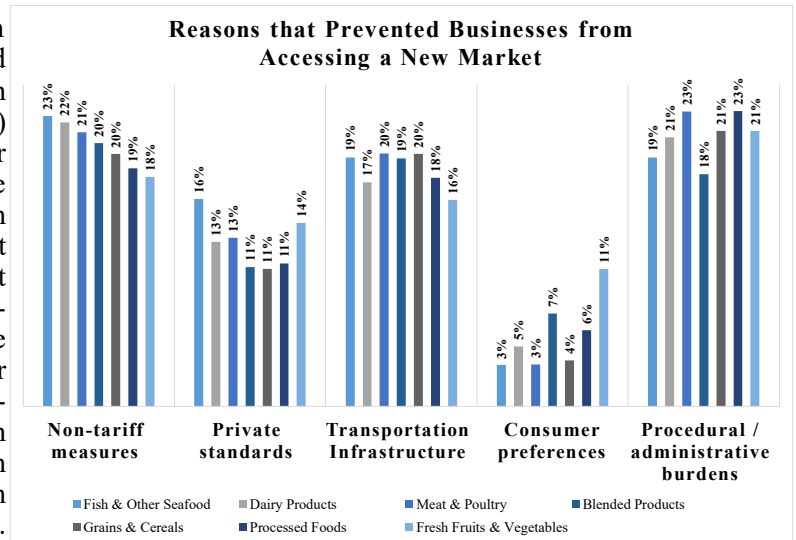


**Processed Foods.** This product category contains significantly more ingredients than others, making product identity requirements and labeling more complex and difficult to navigate than basic commodities. The burdens facing these businesses compound when economies require each ingredient, coloring, and additive to be tested, sourced, and certified individually. Due to these requirements, processed foods have the highest documentation compliance burden. Additionally, there is an increasing uncertainty about how GMOs and yet-to-be-developed additives will be regulated.

**Fish and Other Seafood.** Fish is a critical source of protein across APEC, with consumption at 65% higher than the world average.<sup>3</sup> The key challenges for this category have to do with a lack of transparency around minimum residue limit (MRL) testing, traceability requirements, and rules of origin. For MRLs and other import requirements, some economies have limits on substances like cadmium that exceed levels present in even the most pristine fisheries. Still others are unclear about what the limit is and the purpose it serves, making it difficult for exporting economies to institute the right controls. Traceability remains a challenge, primarily due to the complex nature of the seafood supply chain. This is particularly challenging for smallholders with limited resources. Comingling along the supply chain in fishery products is common, making identification of the country of origin and broader traceability along the chain of custody difficult. As a result, business cited fraud, in both species and origin, as a high concern in this product category. Lastly, aquaculture provides an alternative to wild capture fisheries in obtaining this critical source of protein. However, it also presents a set of new and emerging challenges in monitoring the chemicals, and additives used.

**Grains and Cereals.** These staple products are some of the most contentious products traded across commodities. The presence of specific government agencies that oversee rice in some APEC economies speaks to how critical grains and cereals are to national interests. Similar to fresh produce, these products often need to meet strict SPS and TBT regulations that may go beyond what is necessary to protect consumers. The risk of spoilage is typically lower. On the other hand, many cereal and grain traders are charged with purchasing buffer stock or acquiring special import licenses, which carry their own administrative and logistical burdens. While the risk might be comparatively lower, this category typically calls for additional procedures for a business to successfully trade.

**Blended Products.** Businesses trading in blended products, such as cooking oils, seemed to face the fewest risks. These products are typically shelf-stable and pose less risk from a spoilage perspective. One of the challenges businesses face is inconsistent testing, particularly when products need to be re-mixed prior to sampling. Overall, businesses did not feel the regulatory environment was overly strict. However, that is not to say that blended products pose less of a threat to consumers. This product category has caused a number of food crises across APEC, from listeria outbreaks to the sale of counterfeit oils, repackaged after commercial use.





## Developed vs. Developing Economy Perspective

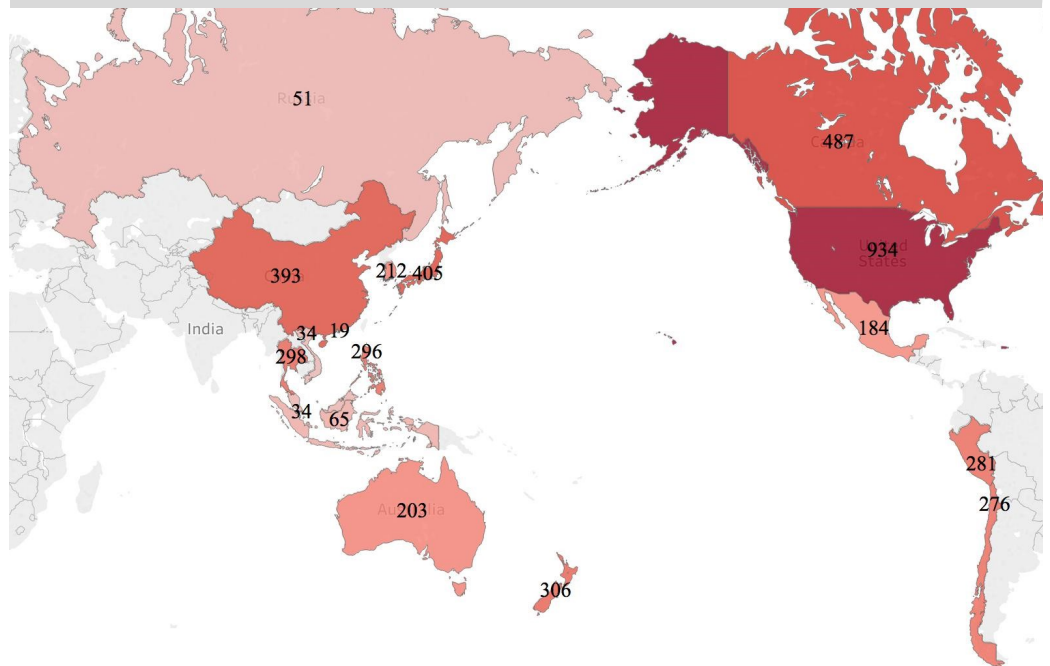
According to the UNCTAD TRAINS database, developed economies are more likely to impose NTMs in greater numbers. However, the consistency of enforcement limits the impacts. In developing economies, the lack of infrastructure and clear regulation result in a higher number of non-technical and procedural barriers. Businesses operating in both economies see very different sources of costs and risk.

### Developed Economies

When trading with developed economies, businesses direct most of their compliance efforts towards fulfilling relatively higher numbers of regulations, as well as relevant PVSS. Compliance around SPS and TBTs is, on the whole, easier in developed economies. Businesses cite consistency of implementation, enforcement, and clear guidelines as the primary reasons.

Though businesses see some lengthy timelines for certification, aside from individual cases of clearly protectionist procedures, business reported certification processing times of about 18 months in the worst cases. Following certification, sources of uncertainty for businesses depend on the ability to guarantee quality during production and sourcing, as well as maintaining product integrity during shipping. Added costs for complying with sophisticated NTM regimes might seem daunting, but they are easier to measure. Thus, businesses are able to reliably build these costs into revenue models, reducing risk.

Visual Representation of UNCTAD TRAINS Database<sup>2</sup>  
Number of NTMs Imposed by an Economy



*“Legislation is only as effective as the quality of implementation on the ground.”*

- Multi-national Food Distributor

**58%**

of questionnaire respondents cited procedural obstacles and administrative burdens as the most prevalent reason for not entering new markets

**60%**

of questionnaire respondents believe the trading environment will increase in complexity

## Developing Economies

Compared to developed economies, developing economies impose far fewer individual regulations. For instance, Indonesia has enacted 51 SPS regulations and Brunei Darussalam has five.<sup>2</sup> However, businesses unanimously agreed that the trade environment was far more challenging in developing economies.

NTBs in developing economies are typically procedural obstacles and non-technical measures, where business, face greater uncertainty and delays. While there may be fewer actual regulations, difficulties in acquiring certification, coupled with inconsistent enforcement, cause the most uncertainty. In many cases, the regulations themselves are not clearly defined, allowing for misinterpretation, selective implementation, and additional inspections. The lack of traceability, digital platforms, and physical infrastructure common in developing economies creates a problematic environment for establishing reliable supply chains.

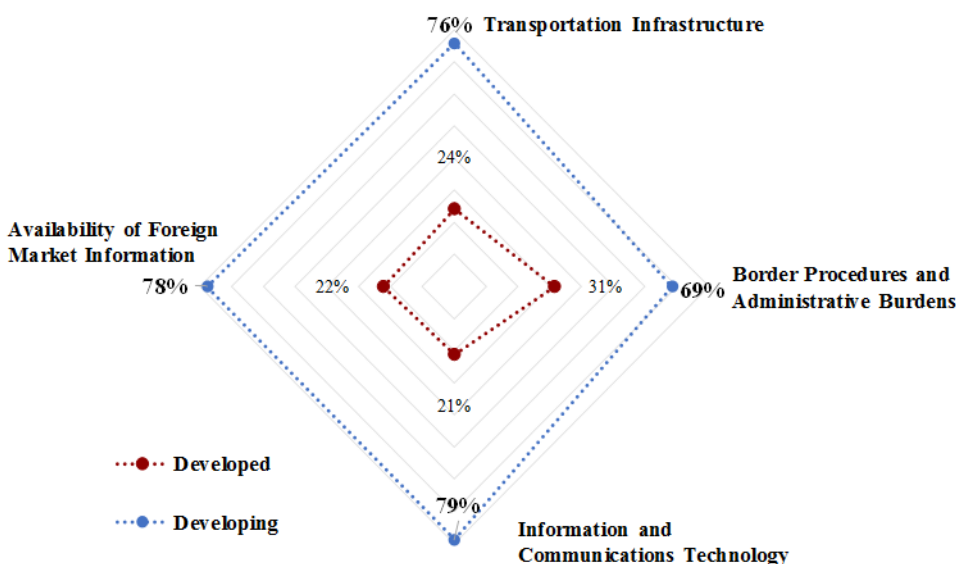
In the case of inconsistent enforcement, businesses operating in developing economies frequently cited that compliance in one port could not be guaranteed in another.

The prospect of lost shipments not only causes spoilage, but encourages a practice known as port shopping, when businesses select their point of entry based on favorable conditions. This can impact infrastructure capacity in target markets, as exporters push shipments through a select few ports. While developing economies have the capital and knowledge to build robust testing facilities for compliance checks, developing economies are more constrained. As a result, business sees extended delays for customs inspection, as well as increased rates of false positives due to poor lab capacity and equipment.

## Like-Products Have Higher Costs in Developing Markets

A pivotal effect of trading across diverse economies is that a business selling the same products in both developed and developing economies must account for additional cost from two vastly different sources—meeting high standards in developed economies, as well as costs stemming from uncertainty and procedural obstacles in developing markets. As a result, consumers could very well see relatively higher prices for the same product in developing economies, due the compliance burden for exporters supplying into those markets.

### Impediments to Trade: Developed versus Developing Economy



When asked about shipping challenges in the Philippines, one interviewee replied, “Oh, it’s the wild west out there.” He explained that after many years of trial and error, the company required sellers to send labels to destination ports ahead of shipments to confirm compliance. In some cases, the company produced different labels for products entering the same market to satisfy varying regulations between ports.<sup>7</sup>







# ***Finding I: NTBs and NTMs Create a Business Dis-abling Environ- ment***

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**In this section:**

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Layers of Complexity

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What Businesses Desire in Cross-Border Trade

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The MSME Challenge

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## *Layers of Complexity*

Businesses commented that layers of complexity in regulation, along with the sheer number of regulations, in effect acted as barriers to trade.

### **Accumulation of Standards**

A single product could need to comply with a large number of standards. For example, one producer of frozen processed foods explained that for a product like lasagna, each ingredient might need to have traceability and MRL documentation, which could result in over 200 pages of certification paperwork per shipment. The sheer volume of regulatory requirements – even if each individual measure is legitimate – can act as a burden on business.

### **Complexity of Regulations and Administrative Processes**

The complexity of these regulations, and the administrative processes used to implement them, can also be significantly burdensome. The process of collecting paperwork, applying for licenses, paying fees, and obtaining certificates for exports, adds levels of complexity that can, in some cases, force businesses to exit markets. Economies that have inconsistent implementation of regulations from port to port further exacerbates these issues. Lack of clear processes around regulatory changes regulation can hinder sound business planning and operations. Some regulations may not change for periods of years, while others, such as labeling, can sometimes change overnight. In fact some changes to legislation are not even published or made available to businesses. Businesses reported that they only learned about new legislation in some cases when their products are denied entry.

It is no wonder that businesses operating in multiple markets can sometimes employ hundreds of people to comply with evolving regulations across multiple jurisdictions. The regulatory atmosphere has fostered a boutique industry of consulting groups dedicated to managing compliance risk.

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*The trading environment  
has gotten so complex.*

- Multi-national Rice Trader

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*We're totally import-dependent. In general, if another country changes restrictions on exports, we have to adopt measures on the import side to mirror or deflect emerging concerns. We're constantly trying to make it easier to get products in. Foreign traders call us constantly to discuss regulation changes here, as well as abroad.*

- APEC Government Official

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## *What Businesses Desire in Cross-Border Trade*

The interview processes revealed some common goals for business in relation to their preferred model for NTMs (despite some key differences between MSMEs and MNCs). Businesses across the board desired a regulatory environment underpinned by basic business tenets: **transparency**, **consistency**, and **known time frames**.

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*If we could see any change, we just want information that is clear, so we can follow the regulations, and know how long it will take to get some of the certifications done.*

- Multi-National  
Confectionary Company

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*On a day to day basis, we deal with unclear inspection processes at the border that increase costs and uncertainties into our supply chain.*

- Multi-National  
Food Distributor

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*If I was “King for a day,” I would make sure that all economies go by the book with clear rules and strict adherence to scientific methods, in order to remove uncertainty and favoritism.*

- Multi-National  
Protein Producer

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Businesses seek to maximize profit and minimize volatility, by growing and diversifying revenue streams through expansions into new markets. With a holistic view of supply chains, businesses understand that trade opportunities require significant, long-term planning and investment.

When asked about characteristics of business-disabling trade regulations, interviewees cited that regulations that inhibit long-term planning reduce growth prospects and increase risk in revenue models. Businesses want regulations that are transparent and consistently applied. Given the complexity of the global trade environment, it is easy to see why businesses are pessimistic about the trade outlook.

Another critical factor is time. When asked about solutions, over 70% of survey respondents said commitment to reasonable and consistent timelines would have the greatest impact. Though somewhat nebulous, businesses endure lengthy timelines in certification and customs procedures that diminish market accessibility.

The pervasiveness of these responses prompted the research team to develop the primary framework for assessing regulations in the same context. Across processes, people, measures, and regulatory underpinning philosophy, the degree of burdensomeness in each category hinges across the three fundamental business needs.

Businesses clearly exist to make money. However, most businesses are also responsible corporate citizens, and have a vested interest in food security. Access to sufficient safe, nutritious food for communities improves the overall business environment, enhances labor productivity, sustains consumer demand, and contributes to political stability.

The information in this section is not earthshattering. On the contrary, the principles of transparency, consistency, and known time frames are fundamental to sound business modeling. The real surprise is that many of the businesses we interviewed think that the trade environment is deteriorating—and that these fundamentals are sacrificed during the creation and implementation of trade barriers. Most businesses also feel that there is little recourse for them. The gloomy outlook from businesses puts greater importance on groups like APEC to effect change.

# *NTMs and NTBs Threaten APEC's Ability to Enable Participation of MSMEs in Global Value Chains*

MSMEs are sources of innovation, competition, and employment. They are crucial to the stability and socioeconomic welfare of rural populations. APEC is committed to better integrating MSMEs in global value chains, but the current complexity of the trading environment remains a significant challenge. MSMEs are disproportionately exposed to the impacts of NTBs, which has far reaching implications in the current food industry landscape.

## **Inherent Challenges**

Given the small size of operations and output, MSMEs often seek outside assistance to export. Smallholders in some economies typically export goods through intermediaries. These additional players in the supply chain erode margins, ultimately making MSMEs less competitive. Large, vertically-integrated firms can shoulder not only greater direct costs, but also greater risk. Given the small margins in agriculture and food, MSMEs are less likely to find viable business models and growth prospects abroad in burdensome trade environments.

Capital costs and marginal production expenses are common for compliance with NTMs. These may be out of reach for many smallholders. Aware of the challenges, governments have taken an interest in programs that support MSMEs in accessing markets abroad. However, many programs fall short of targets. MSMEs are often unaware of government programs that support foreign market access. There is a gap in the knowledge of, and access to, government resources for labor-strapped MSMEs. Gaps in MSME outreach eliminate potentially massive gains from greater participation in global markets.

## **How NTBs Impact MSMEs**

NTBs are more effective at preventing market access for MSMEs. Interviewees representing MSMEs frequently reported instances in which compliance costs and uncertainty caused businesses to exit markets. Even with a well-researched revenue model, delays and uncertainty that result in lost shipments are debilitating. Proportionally, one shipment lost by a company that only makes a handful of export orders per year makes a far greater impact on the bottom line for MSMEs.

The cost of compliance is disproportionately higher for MSMEs: MSMEs face higher trade costs than large enterprises—comparatively, due to lack of scale economies, and respectively, in terms of the proportion of costs to total shipment valuation.<sup>1</sup>

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*Government needs to tell industry, 'This is what's available to you.' If that is happening, I'm not hearing about it.*

- Australian MSME

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**67%** <sup>6</sup>

survey respondents believe scale economies are a major or severe challenge for MSMEs

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**97%** of all businesses across APEC are MSMEs

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MSMEs employ more than **70%** across APEC

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MSMEs contribute **35%** of all exports across APEC<sup>1</sup>

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NTBs weaken the innovation pipeline. MSMEs are a primary source of innovation in many industries, agriculture and food notwithstanding. Innovation in agriculture not only inspires new products, but improves yields and nutritional profiles of crops. The results are healthier, more abundant food products. Regulations that drive MSMEs out of business discourage hotbeds of innovation, and threaten society's ability to adequately nourish future generations.

### **What MSMEs Want**

Interviews illuminated several business-disabling policies that were unique to MSME respondents. While MNCs might be concerned about macro effects, such as global weather patterns or exchange rate fluctuations, MSMEs' concerns are much more immediate. On the whole, APEC MSMEs reported programs and general government interest to provide support. The resources are there, but MSMEs complain that the funds go to programs that don't necessarily apply to the immediate needs for businesses, such as attending trade shows in non-competitive or inaccessible markets.

Some interesting, MSME-specific solutions include:

- IP protection laws that would incentivize innovation.
- Subsidies for certification processes, particularly for value-added production, such as organic and non-GMO.
- Labor mobilizing or enhancing programs to teach new farming techniques and information about weather patterns and other macro factors.
- Development of digital portals or individual agents to create a direct line of communication to answer questions about compliance and government aid.
- Inclusion of MSME producers in business forums that have the ear of legislators.
- Grants for trade associations to help smallholders adhere to global standards.

### **MSME Outlook**

ABAC's MSME and Entrepreneurship Working Group has several ongoing initiatives—to increase access to international markets and global value chains, promote innovation, and facilitate collaboration and synergy between large firms and MSMEs. Any solutions created for MSMEs in the agriculture and food industry are at the nexus of designing regulations that align with MSME business models, and improving MSMEs' capacity comply.

Interviewees had no shortage of suggestions to improve MSME competitiveness. From certification subsidies to pre-structured contracts, there are countless opportunities to assist small businesses. While governments should strive to create policies that embrace transparency, consistency, reasonable and formal payments, and known time frames, legislatures should be sure to consider different impacts on MSME business models. The viability of MSME business models during trade liberalization hinge on the inclusion of their perspective in policy creation.

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*“We had an exporting relationship with Indonesia. After dealing with uncertainty, lack of transparency, and ever-changing requirements, we decided to leave the market.”*

- Malaysian MSME

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*“We would love to sell to the US, but we need to find the right distribution partner. Small businesses don't have the resources to do all of the administrative work.”*

- Australian Food Exporter

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## ***Finding II: Food Security Is Often Interpreted as Self-Sufficiency***

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### **In this section:**

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Food Security vs. Self-Sufficiency

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Economies Wed Themselves to the Status Quo

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# Food Security vs. Self-Sufficiency

According to the World Bank, **food security is frequently viewed by governments as self-sufficiency, but do they meet the same ends?**<sup>1</sup> Many governments desire to be self-sufficient producers of key crops, thus “securing” their food supply, and restrict food imports threatening domestic production. This is a highly contentious issue in global trade policy, and contributes to the difficulty of having productive, transparent conversations about NTMs and NTBs.

## Government interventions aim to enhance food security:

- Protect against supply-side shocks and price volatility
- Support to MSMEs, smallholders and entrepreneurs
- Enable domestic employment in agri/food sectors and ancillary industries

## Food Security $\neq$ Self Sufficiency

## Government interventions may amplify food-insecurity:

- Reject long-term food supply in favor of short term development
- Discount the gains from competitive and comparative advantage
- Prevent inflow of new capital and innovation through FDI restrictions

## Differences in Underlying Philosophies of Food Security

APEC defines food security as when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.<sup>2</sup>

Food self-sufficiency is meeting consumption needs by purely from domestic production.

Advocates for a self-sufficiency approach to food security see it not only as the most “secure” form of food supply (hedging economies against uncertain trade flows internationally) but also as a means to protect domestic producers and infant industries against potentially more efficiently-produced competing imported food products.<sup>3</sup> Such approaches may also help to sustain rural populations (by ensuring continuing local production of particular food products), thereby meeting broader social and economic development policy goals.

However, self-sufficiency also exposes economies to potential supply-side shocks (as a result of a poor harvest or other factors). In fact, self-sufficiency requires food-production inputs, good infrastructure and distribution networks, and, in effect, may seek to sustain production that draws heavily on economic resources that could be better deployed elsewhere. For consumers, a self-sufficient approach may limit and raise the prices of available food in the market.

By contrast, advocates of food security seek to complement domestic agriculture and food production with imports of food, even in like products. ABAC recognizes that food trade serves an important role in helping to ensure that a greater range and volume of safe and nutritious food is accessible, and potentially more affordable, for consumers. Markets that are not distorted by trade barriers allow for a far better matching of food supply with food demand, on a regional and global basis. It allows economies to source food from the most competitive producers, and lets them allocate their own productive resources to activities that will deliver the greatest benefits to their economies overall. It frees up domestic food production policies to focus on improving productivity, yield, and nutrition in the food supply.



Clearly, a well-designed and business-friendly regulatory environment is a core component of such a system. As this report makes clear, good regulatory practices that eliminate NTBs helps create a virtuous circle for both food trade and food security. It is feasible to meet both critical domestic policy objectives while also minimizing negative impacts on trade. Markets free from distortion by trade barriers allow safe and nutritious food to flow quickly and easily to the areas of greatest demand and highest food *in*security.

### **Entirely to Businesses**

Food security is naturally agnostic to trade—little consideration is given to the benefits of freely exchanging goods. While it is easy to say that governments should embrace the business perspective of risk management, there are implications to consider. Food security by unfettered trade means consumers are relying entirely on the market to direct supply, safety, and regulation.

This report does not advocate for an unregulated market by any means. Complex global value chains and comingling of commodities requires oversight for consumer safety. Moreover, the population demands oversight. One need look no further than consumer outcry in the wake of a food safety scare. Businesses also do not have the resources to manage critical parts of trade policy, such as studies on effects of additives, or fishery management. In any case, governments and business should strive to reach an environment in which market forces have greater influence on food sourcing, and businesses are accountable.

### **Rationale for the Contradiction**

Free trade has generated relative wealth at rates unseen in human history. While comparative advantage and disparate labor costs have given way to rapid growth across APEC economies, for services and manufacturing in particular. The same principles that have offered prosperity to millions also threatens to upend domestic agriculture industries.

Governments have a vested interest in protecting local food producers. Employment in agriculture is significant in many economies, particularly in rural areas, where urban flight threatens the way of life. For some economies, protectionism is a generational practice in the farming industry. Since a large portion of those employed in this sector are small farmers and MSMEs, protectionism becomes a viable political platform. Industry contraction and food crises can result in unfavorable public outcry and increased political instability.

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## **Food Price Crisis of 2008**

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**83%** increase in the average price of food between 2005 and 2008

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**204%** increase in the price of maize

**127%** increase in the price of wheat

**170%** increase in the price of rice

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***IFPRI estimated that the 30% increase in prices that occurred in the first six months of 2008 are attributable to trade restrictions that were put in place as economies sought to protect their domestic economies***







## ***Finding III: Applications of Egregious Non-Tariff Measures***

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**In this section:**

NTMs as “Trade Weapon”

NTMs as a “Valve”

NTMs as a Discriminatory Tool

NTMs as Protectionism

“Time is Money” as a Trade Tool

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# Motivations and Applications of NTBs

Across the more than 400 interviews conducted, themes were identified when the researchers analyzed the data collected. Anecdotal evidence suggested that some economies actively use NTBs to specific ends. Governments seeking to restrict trade do so through a set of policy measures with little recourse for businesses.

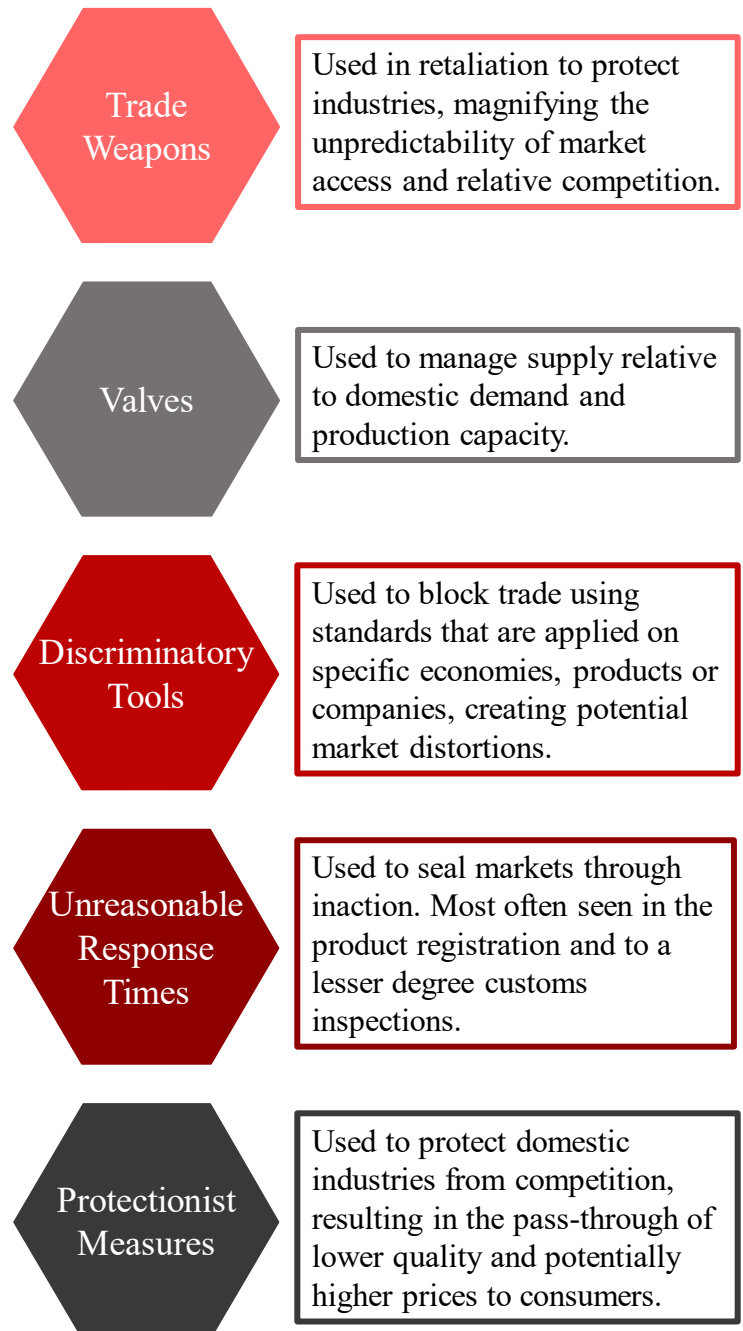
The motivations behind discretionary policies can have many sources. Interviewees offered several possible sources of these:

**Protectionism:** Historically, governments have used policies to insulate key producers from foreign competition. From a political strategy standpoint, protectionist policies in food trade provide income stability for rural farming populations, shield nascent industry during scaling, and preserve staple product producers in an attempt to hedge against supply-side shocks.

**Price Controls:** Selective enforcement of policies allows governments options to manage prices of key products. When supply exceeds local demand, authorities can interpret or enforce regulations to reject shipments at unusually high rates. In addition, governments could potentially relax regulations seasonally to allow products into the domestic market when a product is unavailable due to the local growing cycle.

**Diplomatic Leverage:** Some businesses speculated that governments imposed strict standards on imports from specific economies for diplomatic or trade relation reasons. Whether these claims have merit is open for debate. In theory, inconsistent or discretionary policy enforcement on key exports certainly has the potential to bring parties to the table for negotiations.

This section describes some methods of selective enforcement, along with anecdotal evidence collected from the more than 400 interviews in an effort to illustrate ends of trade policies beyond what is necessary to accomplish legitimate goals.



## *NTMs as a “Trade Weapon”*

NTMs as a **trade weapon** is when two or more economies apply regulations against each other as a retaliatory act. Agriculture products can easily get caught up in trade wars stemming from more lucrative industries. Businesses expressed great frustration with this practice, citing the challenge in predicting how relative competitiveness changes in these situations.

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An APEC economy retaliates against U.S. dairy products because the U.S. blocked that economy’s steel products.

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Industry consultants suggested that an APEC economy was able to leverage detained shipments of US beef containing Ractopamine. Typically, the penalty would be a multi-year ban from the market. That economy is the second biggest market for U.S. beef exports, and sources claimed the economy was able to use the regulation to negotiate a guarantee for arms sales at a later date.

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Filipino mangos were rejected at an economy’s border because of a territorial dispute.

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## *NTMs as a “Valve”*

NTMs can act as a **“valve”** that adjusts imports or exports to match supply with domestic demand and control price. In these cases, governments selectively enforce regulations to manipulate supply, usually through unreasonable SPS and TBT standards.

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One economy selectively enforced a ban on raw chicken with traces of salmonella. Businesses suggested that this protected domestically produced chicken. When supply exceeds demand, the regulation is enforced.

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In several economies, shellfish is tested for SO II, a sulfide. The chemical is absorbed into the shell, but most economies have no testing requirements that dictate if testing should take place with the shell on or off. As such, economies have the liberty to selectively enforce MRL regulations to match seasonal demand.

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A SPS rule on the presence of “bugs” was enforced on sorghum imports as a way to control supply. When supply is less than demand, the SPS test is not used at all. When local supply is sufficient, the SPS rule is enforced.

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## *NTMs as a Discriminatory Tool*

NTBs become a **discriminatory tool** when they inappropriately target a specific economy or company. In most of these cases, the rationale is not clear. Economies can basically ban imports of certain products by economy for “quality concerns.” In other cases, foreign businesses are asked to comply with unreasonable testing standards and thresholds (e.g., zero-tolerance). This application of policy creates baseless market distortions.

One economy enacted import quotas on meat. As a result, 80% of exported meat from New Zealand was blocked. Meat prices spiked, and consumers saw prices rise drastically.

An economy recognizes lab testing facilities from one economy and accepts the test results in verifying SPS and MRLs. However, that same economy does not grant testing reciprocity.

Despite being listed as an economy with the presence of hoof and mouth disease, one economy does not allow shipments of pork from Chinese Taipei, another country with the same disposition.

One economy allows citrus fruit from the US but not from Mexico or Peru.

## *Unreasonable Response Times as a Trade Tool*

Studies indicate that **each additional day in transit reduces trade volume by 1%, increases freight rates by \$56, and adds an average of 0.8% to the price of manufactured goods.**<sup>1</sup> Even more inflammatory were the stories about the timelines for processes required for market entry. Businesses expressed frustration with border policies and controls that took advantage of the time-sensitive nature of food trade.

Blueberries have not been approved for export to one economy for eight years due to SPS restrictions. Officials from that economy were invited to Peru to visit the farms and assess the process, but the visit has been perpetually delayed.

In an APEC economy, Stevia (the sugar replacement additive) took seven years to be approved, with no explanation. The additive was not specifically rejected, so many containers simply sat portside awaiting a verdict.

One economy took 20 years to conduct a risk assessment of Mexican avocados and only processes products one at a time. Mexico has a list of a dozen products they want exported to this country, but at this rate, it would take 200 years.

## *NTMs as a Protectionist Measure*

Businesses cited **protectionist measures** as the most common use of trade barriers. The effects of protectionism have been discussed at length by academia, but this report captured the cleverness in creating and enforcing some policies. Domestic industries might enjoy reduced competition from foreign counterparts, but consumers end up paying in the long term.

Under pressure from burgeoning local producers, an APEC economy detained shipments of olive oils with marginal residue of chlorpyrifosethyl, a common pesticide that is used at higher levels in other blended products, such as peanut butter. This legislation has impacted olive oil producers from Peru and Chile.

An APEC economy protects domestic shellfish producers by requiring that imports contain no more than 1 PPM of cadmium. Concentration in even the most pristine fisheries often exceeds 3 PPMs.

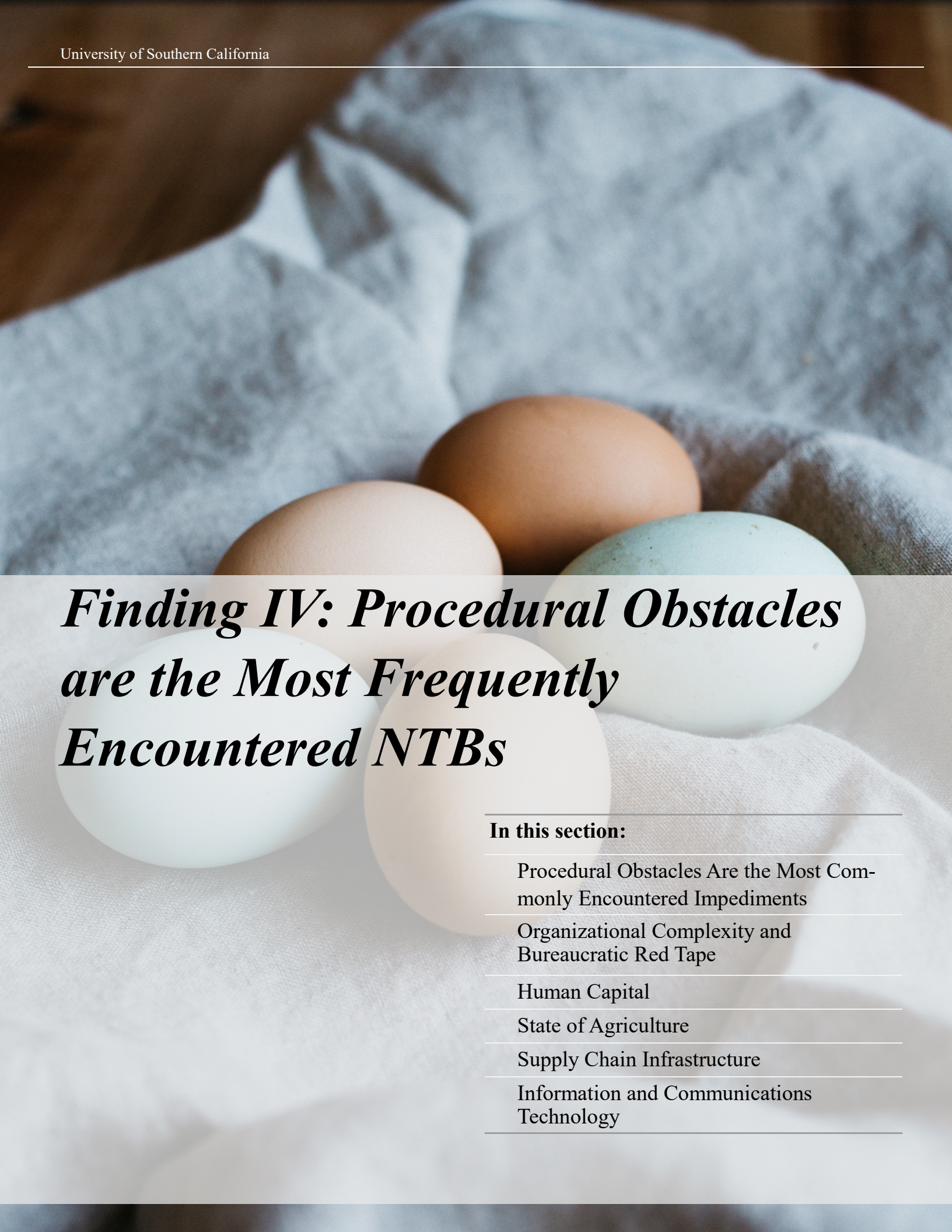
An APEC economy blocked the import of hoof and mouth disease vaccines to spur local vaccine production. The measure backfired and not only did local vaccine production fall short of demand, the market ended up losing 1/3rd of the country's pork to the disease due to poor vaccine quality

Mexico is restricted from exporting squash to one APEC economy. New Zealand, however, is able to export squash to this economy in the off-season, given opposite growing cycles.

KFC wanted to expand operations in an APEC economy. Domestic policy required that they buy the same quantity from domestic producers that they import. The chicken in the domestic economy does not meet KFC's quality standards, so they were unable to pursue this expansion.







***Finding IV: Procedural Obstacles  
are the Most Frequently  
Encountered NTBs***

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**In this section:**

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Procedural Obstacles Are the Most Commonly Encountered Impediments

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Organizational Complexity and Bureaucratic Red Tape

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Human Capital

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State of Agriculture

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Supply Chain Infrastructure

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Information and Communications Technology

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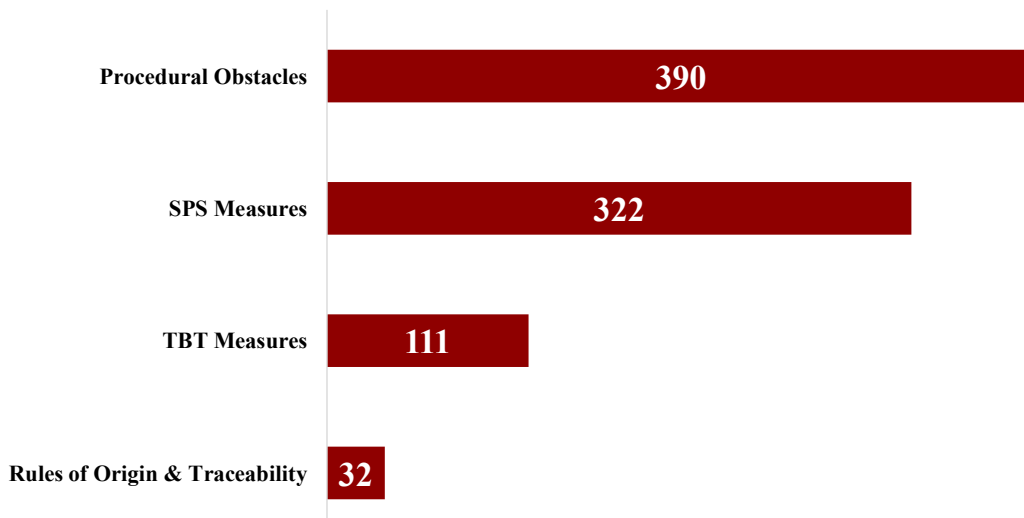


# Businesses Cited Procedural Obstacles as the Most Commonly Encountered Impediments

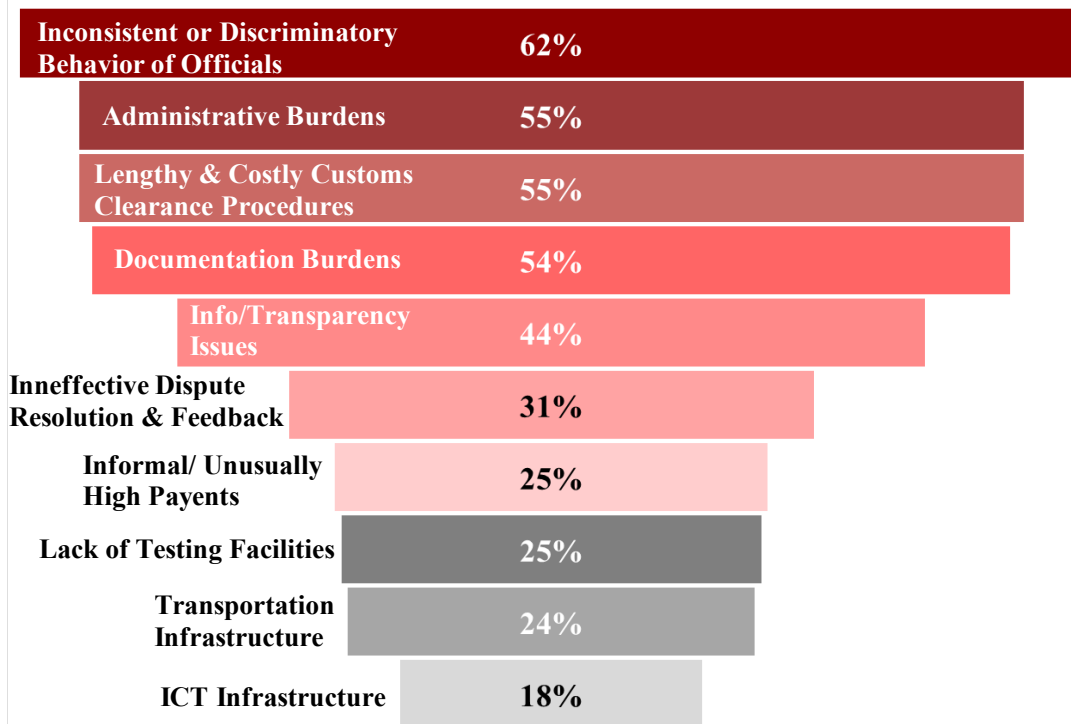
The survey explored why individual regulations are problematic. Respondents claimed more than 50% of NTMs were burdensome because of associated procedural obstacles, compared with only 16% because of the difficulty of compliance with the measure itself.

## Frequency of Barriers Businesses Face

Source: in-country interviews



## Where Procedural Obstacles Cause the Most Burden



## Administrative Burdens

One of the most widespread complaints from business relates to administrative burdens. As regulations increase, and markets become more sophisticated, the corollary is an increase in the amount of documentation required. This primarily affects two places in the supply chain—licensing and certification – as well as customs inspections once the product has been shipped. Administrative burdens add costs and time for business while also stifling market access efforts.

Administrative burdens were the most frequently identified criteria from survey respondents.

### Preparing Documentation

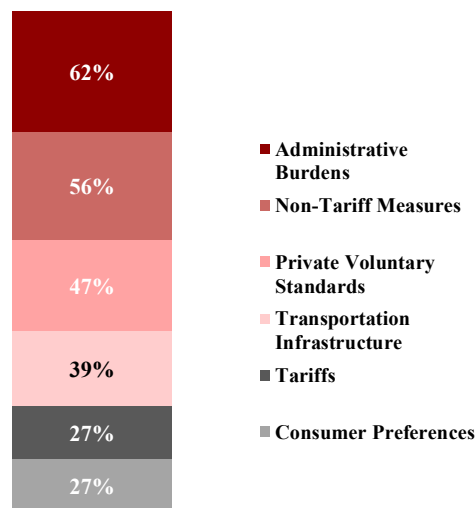
The document collection process to open a line of business in a new market, as well as to ensure shipments flow smoothly through customs, can be arduous. Coordinating concurrent and often conditional licenses between agencies can be difficult to manage. In many cases companies hire teams to handle these processes. Some economies require annual certification of certain products. The time required to complete the documentation can be lengthy, as companies are frequently required to acquire approval from their domestic trade agency, and in some cases subject their products to testing in a domestic lab, before seeking approval to export to a foreign market.

On more than one occasion, businesses mentioned excessive requirements. One company reported needing a signature from the exporting economy's finance minister for each container shipped. A fish processor explained that the U.S. required catch certificates for flying fish roe, indicating the exact location of the catch—a document that is nearly impossible to produce. In these extreme cases, businesses are at the mercy of not one, but two governments, which causes uncertainty when governments lack the resources, or sometimes desire, to handle requests efficiently.

*Labor costs for documentation and associated fees for licensing in one APEC economy caused a confectionary company to exit the market entirely*

### Reasons Businesses Choose Not to Access New Markets

Source: Survey



*“If I was “King for a day,” I would make sure that all economies go by the book with clear rules and strict adherence to scientific methods, in order to remove uncertainty and favoritism.”*

- Multi-National Protein Producer

### Little Margin for Error

The level of detail required for some of the paperwork can also be a major obstacle. In one case, a business reported losing a shipment of wine, because the customs form contained Roman numerals instead of Hebrew Arabic numbers. Compound this issue over what may amount to several hundreds of pages for thorough documentation for some processed foods, and it becomes clear how little margin for error businesses have. The question remains of how much this stringent enforcement of regulation is actually protecting consumers.

### Countervailing Requirements

Administrative burdens might also relate to countervailing requirements. Some APEC economies require firms to contribute and re-export buffer stocks when importing staple products like rice, coffee, and sugar, to name a few. Typically, this relates to procedures for the purchase or bidding for quotas. These present a separate administrative burden of its own, particularly for re-exporting buffer stocks.

### Consistency and Certainty

Few businesses would suggest that the core regulations that cause these administrative burdens are excessive. In the case of Japan, for example, the extensive checklist for SPS requirements on imports presents a challenge, but the information for compliance is available and consistently applied. The relative certainty, despite the seemingly onerous requirements,

## *Organizational Complexity and Bureaucratic Red Tape*

In every APEC economy, multiple government agencies have oversight of trade. Businesses reported problems related to “silo” agencies—cases when agencies did not communicate information well between them, so businesses could not guarantee compliance by speaking to only one.

Agencies with oversight on food trade typically consist of a food safety group, customs, animal and plant quarantine, environmental protection, and trade ministry, though some economies, such as Thailand, have as many as nine regulatory ministries for exports alone. While an increasing number of regulations poses a challenge to business, the problem is exacerbated if the regulations fall under the purview of different agencies. Businesses frequently discussed not knowing who to call to get information, or clear shipments through customs in case of delay.

The effects of organizational complexity are twofold. First, information is difficult to find. The process of expanding business lines into foreign markets is frequently dependent on the quality of information disseminated throughout government, and the communication between respective agencies. Businesses want to be sure that their products meet all of the foreign government’s regulations before shipping, but compliance is a result not only of due diligence on the part of business, but the accessibility of regulatory agencies in the importing economy. Fragmented government oversight on food trade is a stumbling block to facilitating trade.

The second effect of organizational complexity is that it opens the door to facilitation payments, and, in some cases, outright corruption. When businesses are at the mercy of government agencies, and there is an accompanying gap in both accountability and inter-agency communication, officials have the opportunity to seek payments, legitimate or not, from businesses. While some pundits have claimed that corruption is actually trade facilitating, the fact remains that not every company operates with a margin that allows for informal payments, limiting overall market access. Moreover, as one interviewee explained, “There are no limits to human greed—once you start paying, the price only goes up.”

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*“We have a lot to worry about. Even if we are in compliance, corruption in other countries can be a huge issue, much more than a regulatory atmosphere. It is variable too, because it crosses more people, some need money at certain times. **Corruption always increases.** One supplier has to pay off every person in the supply chain to even begin importing. How will that impact the business model over 5 years, especially once the business scales?”*

- Singaporean Logistics Company

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## *Human Capital*

Governments that invest in workforces that touch food supply chains see a smoother flow of goods. The more educated, trained, and compensated the employee, the more likely that person is going to meet performance targets. The people actually implementing the policies on the ground can enhance the efficiency of trade and effectiveness of regulations. Given these conditions, it is likely that governments will also see greater retention rates and decreased opportunities for corruption.

Human capital plays an integral role in the regulation of food trade – after all, these are the people actually implementing the policies on the ground. Businesses reported some key areas where individual employees played a pivotal role in the viability of food trade.

### **Turnover**

When new governments take control, officials tend to turnover at high rates, from cabinet members down to senior managers and support staff. This creates a knowledge gap in the short-term. Businesses might see new procedures or practices implemented overnight. In addition, businesses feel that reform efforts may grind to a halt. The critical input here on the part of governments, as voiced by businesses, is to streamline these handoffs. Trainings and shadowing programs might help offset the learning curve inherent with new appointees.

### **Scheduling**

Businesses frequently pointed out that trade is a 24 hour operation. Human capital does not always reflect this. Key labor inputs in the supply chain are scheduled for normal business hours, or at the least, see reduced staff during non-traditional hours. While 24 hour staffing, even through the weekend, increases the cost of labor, economies might see decreased timelines for container processing with staggered work schedules for customs and testing agents to cover more hours in the day.

### **Customs**

Customs is one of the biggest bottlenecks across APEC. It is where businesses report the most delays, and highest levels of uncertainty. It is also where they report the greatest incidence of corruption. Businesses like well trained, highly educated, and well compensated customs agents. The consistency of enforcement is commensurate, and uncertainty thus declines considerably.

### **Lab Technicians**

Frequently, government or contractor labs that oversee product testing offer fewer prospects to qualified employees. A testing lab in southern Chinese Taipei explained serious problems with retaining quality staff, not only due to the compensation offered, but also the remote location of the lab. The importance of qualified technicians cannot be overstated. A mistake in the lab can cost a company millions of dollars. In one case, a beverage company in Hong Kong had a shipment held in Australia, because a lab technician mistook casein as definitive evidence of dairy. The drink, popular with vegan consumers, was held, and the company was lambasted in the press. The company retested the sample, and found the Australian lab had flagged a false positive. The company curtailed operations in Australia for months, and lost millions of dollars in the process.



# State of Agriculture

Agriculture has evolved from sustenance farming into a commodity-based business that represents four percent of global GDP. Population growth, urbanization, and aging farmers force contribute to the uncertain state of agriculture. Addressing food security concerns will require a collaborative and sustainable approach across APEC.

*The world's population will reach **9.2 billion** by 2050, demanding a **60%** increase in food production<sup>1</sup>*

## Exploding Population

The world's population is expected to reach over nine billion in 2050,<sup>1</sup> requiring a 60% increase in food production.<sup>2</sup> There is an enormous amount of pressure on the farming industry to match pace, by increasing yields and decreasing waste. Likewise, logistics networks will feel similar pressure to reduce frictions along the supply chain. Investment in technology, seed viability, and trade infrastructure is critical to facilitating the growth in demand needed to meet the world's demand.

## Urbanization

The world's urban population reached 3.2 billion in 2005, and is expected to rise to 5 billion by 2030.<sup>3</sup> The rural population is expected to decline from 3.3 to 3.2 billion over the same period,<sup>4</sup> despite overall population growth.<sup>4</sup> Not only does the migration away from rural areas cause a labor shortage in agricultural communities, but the expansion of cities often consumes viable farmland. Several APEC economies already have challenges providing or protecting land for agriculture.

## Aging Farmers<sup>3</sup>

According to the FAO, Asia's population employed in agriculture declined from 50% to 37% between 1990 and 2014.<sup>5</sup> This symptom is not just limited to developed economies. A sample of average ages in farmers in APEC illustrates that actions must be taken now in order to prevent the continued deterioration of the trend.

Chinese Taipei has taken steps to encourage generation X and millennials to participate in the sector. The government offers an additional incentive on top of the wage for two years of agriculture training for new farmers, putting the final salary above the mean national wage. While there is interest in organic and sustainable farming, the replacement rate has not been as robust as expected. In addition, for every 10 farmers that retire, only three enter the industry.<sup>6</sup> Many APEC economies are experiencing similar pressure on the rural demography.

Viet Nam	39	8
Peru	49	
Chile	50	
Australia	52	
Thailand	52	
Philippines	57	
Chinese Taipei	58	
Malaysia	58	
United States	58	
Japan	66	

## Technology

Government grants and other measures are key to facilitating innovation. New equipment is critical to increasing yields with fewer labor inputs. Adaptation to climate change requires significant investment and innovation to tackle this issue. In some categories, existing legislation is inadequate to foster the innovation needed to meet future demand. For instance, the inland aquaculture industry is at the precipice of breakthroughs that could have massive impact on yields and reduction of disease in fish species. Weak IP rule of law in economies discourages producers from investing in filtration technology.<sup>7</sup>

*Urban populations will represent **82%** of developed economies and **57%** in developing economies<sup>9</sup>*

*The FAO estimates that **25%** of fish stocks are overexploited and **50%** are fully exploited<sup>10</sup>*

# Supply Chain Infrastructure

Businesses reported bottlenecks in the supply chain related to infrastructure along the supply chain. Three categories were most prevalent in our interviews: cold chain, port capacity, and domestic shipping capacity.

Most international gateways cannot handle a **50% increase** in trade <sup>1</sup>

Air freight is expected to **triple** in the next 15 years

Container handling is expected to **quadruple** by 2030

Over **2.5 times** today's level of infrastructure is needed to meet rising container shipping demand

**20% to 30%** of food is lost along the supply chain before it ever reaches consumers

**The WTO estimates that a \$53 trillion investment in infrastructure, or an annual average of 2.5% to 3.5% of the world's GDP, is required between 2010-2030 to meet rising trade volumes.**

## Cold Chain

By some estimates, Asia will require \$100 billion annually for the next decade to bring a sophisticated cold chain online.<sup>2</sup> Several businesses abandoned exploratory business ventures due to lack of infrastructure. An ice cream producer was unable to penetrate the market in Viet Nam, because retailers did not have adequate refrigeration at the point of sale. In another case, a chicken producer was unable to operate in China, due to unreliable refrigerated truck fleets. A robust cold chain not only allows for the proliferation of new products into developing economies, but hampers foodborne illness.

## Port Capacity

In developing economies, businesses reported delays due to port capacity. A beverage company in Hong Kong explained, "Containers take three to seven days to clear ports in most economies, but typically two or three weeks in devel-

oping economies." While this is not applicable to all product categories or economies, it paints a rough measure of the differences between markets.

Problems arise from three factors. First is human capital—the number of man hours available to process containers. Port size is another issue—the number of ships the port can service at once or the container capacity. Third is the actual equipment available on site. Some economies are primarily importing food, so they lack the infrastructure to, for instance, store and load large amounts of cereals for export portside. Capacity issues ultimately cause delays, uncertainty, and rising costs in the supply chain.

## Domestic Shipping Capacity

Virtually every APEC economy has shortcomings in logistics capacity. In Canada, producers complained about rail congestion. In the U.S., a seafood broker was forced to make

investments in its own fleet of trucks, because freelance truckers were not reliably available. In the Philippines, several businesses reported losing shipments due to traffic congestion in Manilla, which forced the government to halt daytime loading and unloading of trucks in the city—an issue that was unclear to exporters for several weeks.

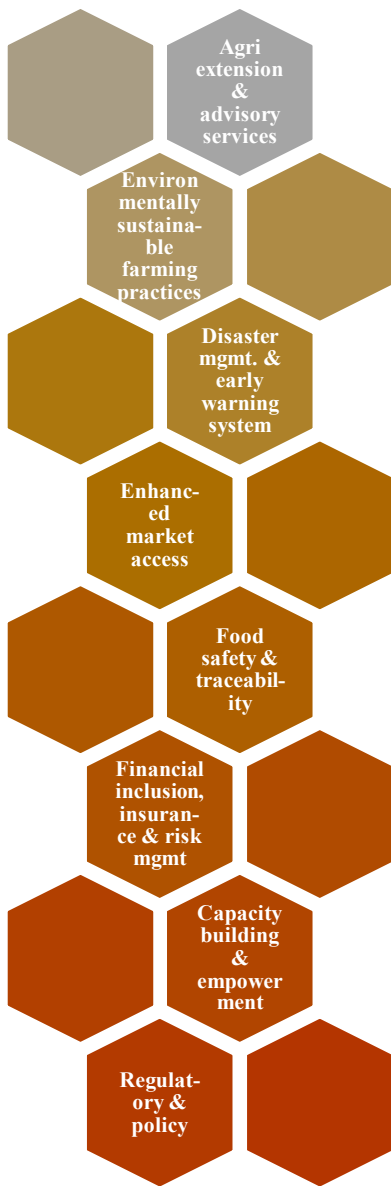
The challenges borne by small producers related to hard infrastructure are far more immediate. Of note are poor roads, inconsistent access to electricity and, and unreliable domestic shipping channels. Investments in key infrastructure areas could greatly reduce the uncertainty businesses face in shipping.

**95%** of exports in volume terms and **75%** in value terms is seaborne for Chile and Peru<sup>3</sup>

In the United States, the share of total trade transported by land is **34%**<sup>4</sup>

# Information and Communications Technology

ICT has the capacity to increase productivity, innovation, and drive standard coherence. The success of ICT is dependent on public-private partnerships, investment, and human capital. The lack of an integrated ICT architecture and supporting physical infrastructure can cause greater challenges than having an entirely offline economy.



Businesses at large supported ICT initiatives, claiming that trade conditions improved whenever humans had less interaction with the exchange. Information is more accessible, and accounting processes are more simple. Enforcement is more consistent, and corruption decreases.

ICT can be a major force in trade facilitation, however it is commonly misconceived as a government-owned tool, for single window environments. In reality, it is a tool that can be used by business and government alike to improve processes, create interconnectivity, strengthen risk management procedures, enable data sharing, and automate documentation. Research illustrates that economies have had a lot of success with ICT enhancements. However, there are critical challenges in implementation.

### Lack of Interoperability

Due to the lack of a “one-size-fits-all” ICT solution, systems often lack interoperability across borders, limiting gains from supply chain connectivity.<sup>1</sup> This may result in challenges transmitting data and risk management assessments, creating delays in processing documents, and a higher rejection rate of products.

### High Capital Expenditures

Investing in ICT enhancements can involve large capital investments. These could be sunk costs if the processes are not truly ready to transition online, and results in increased opportunity costs with other viable capital projects costs.

### System Errors

The inherent challenge with ICT systems is maintenance and reliability. If the systems are offline, trade essentially grinds to a halt. In these cases, staff needs to be highly educated on back up procedures and system repairs to quickly solve any issues.

### Cybersecurity Events

With a greater amount of payment and other information online, there is an increased risk of privacy issues and new opportunities to commit fraud. ICT integration also creates opportunities for agro-terrorism, whereby hackers can infiltrate supply chains affecting transportation or program logic.

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### ICT in Papua New Guinea

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PNG implemented of paperless trading with ASYCUDA World Plus for risk management ahead of adopting single window.<sup>1</sup> The lack of consistent access to power and the internet had completely undermined the effort. Companies still see redundant document submission between online and offline channels, which creates confusion with customs officials.

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***Finding V: Challenges and Opportunities of Private Standards***



# Private Voluntary Standards

Private Voluntary Standards (PVSs) create opportunities for business but come with a unique set of challenges. While PVSs do not form part of the “regulatory environment,” the experience of business is that, in some cases they can have a restrictive impact on trade that closely mimic NTBs. As one interview poignantly explained, “They may, in practice, become de facto mandatory, where compliance is required for entry into certain markets.” In other cases, PVSs can in fact have a trade-facilitating impact.

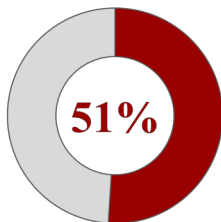
## A Range of Standards Exist

PVSs are business-to-business criteria applied to processes and production methods, and submitted for independent certification. They are present all over the world and are not regulated by government.

PVSs have varying purposes with varying degrees of impact. Though strictly non-governmental in nature, some are part of international trade policy architecture, including some recognized by CODEX. Others, such as Global Good Agricultural Practices (G.A.P.), are widely recognized and applied in global trade. Still others are particular to individual wholesale or retail distributors, or specific to certain markets.

Businesses adopt private standards for several reasons:

- Differentiate commoditized products
- Create a unique customer value proposition
- Assure product quality
- Increase brand penetration
- Manage risks against legal action from foodborne illnesses
- Provide access to markets



*of businesses say that PVSs are equal to or more burdensome than government NTMs*

## The Impact on Business

Businesses adopt private standards to align business interests, meet consumer preferences, strengthen production and supply chain processes, increase competitiveness, or command a price premium, among others. PVSs can allow businesses, particularly MSMEs, to compete in niche products. Whilst a common practice since the 1960s, businesses with sophisticated GVCs leverage PVSs as a hedge against uncertainty and risk.

PVSs are not always negative. They have and continue to incentivize transformations within and across supply chains and connect businesses to reach consumers. However, in some cases, PVSs can restrict trade by imposing costly compliance requirements, with no regard to science or practicality. They can also severely reduce market viability for those unable to foot capital or production costs for compliance.

The significant number of PVSs, many of which overlap in their “philosophy,” create an environment where businesses are stuck trying to determine the “market leader.” This can be particularly challenging for MSMEs who may be unable to comply with more than a few PVSs.

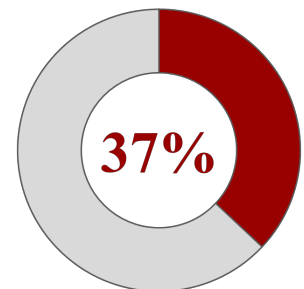
*“Our standards are more important than governmental standards.”*

**-Major Food Retailer**

## Spillover Effects

The additional regulations in PVSs can, conversely, create several positive effects for business, beyond immediate fulfillment. Depending on how stringently a PVS is developed and applied, compliance may be akin to mutual recognition, whereby securing a PVS-contingent contract immediately allows producers to meet government standards across many other developed economies, or supply to multiple markets for the buyer. In effect, PVSs incentivize businesses to adhere to international standards by opening new markets and connecting producers with eager consumers.

The value added by production techniques mandated by PVSs might also allow producers to charge a price premium for better quality goods in the local market. In addition, PVSs can create supply chain transparency, which increases compliance with traceability regulations, and allows for greater controls over inputs and sourcing.



*of businesses say that PVSs can make new market entry easier by ensuring mutual recognition with trading partners in other markets*

### Developed vs. Developing Economies

While PVSs exist in markets across the globe, they are mostly derived from developed economies. PVSs proliferate in markets that have knowledgeable consumers with sizeable disposable income, and strong consumer trust in both businesses and supply chain infrastructure. As a result, retailers that specialize in providing products abiding by PVSs might avoid developing economies, both for sourcing and retail operations.

Both MNCs and MSMEs in developing economies expressed concern over the exorbitant cost of implementation and operations maintenance, as well as the lack of overlap between foreign PVSs. In response, some developing economies have started introducing countervailing regional and local standards on domestic producers, including local g.a.p., to combat loss in competitiveness at home and abroad.

### MNCs vs. MSMEs

The overwhelming implementation cost of PVSs is an impediment even for vertically integrated businesses. MNCs have difficulty ensuring transparency across complex GVCs. However, the compliance challenges MSMEs face are much more dependent on capital. For certain products, such as tuna, businesses need to meet PVSs just to compete in the global marketplace. Compliance and documentation costs represent a greater proportional cost of goods sold for MSMEs than for MNCs. In addition, MNCs leverage buyer power in sourcing to transfer the burden of implementation and compliance to MSME suppliers. As a result, MSMEs frequently rely on co-ops and trade organizations to help meet PVSs.

### NGOs Yield the Power to Disrupt

NGOs, often founded by special interest groups or influential individuals, can style themselves as watchdogs for poor production methods and unethical business practices. Their reach and connections enable them to leverage media control and public figures to steer popular sentiment. This applies pressure to businesses to adopt PVSs that are not necessarily based purely on consumer preferences, rather than science. With added marketing prowess, NGOs can drive impractical or unnecessary standards that distort viable business models.

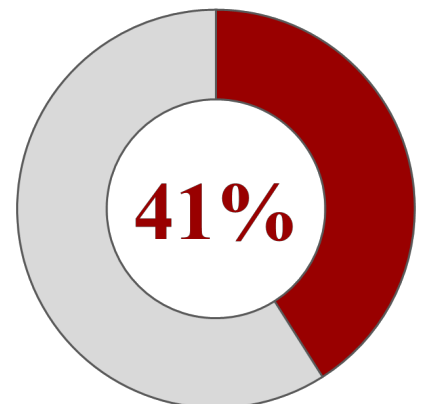
### Governments are Starting to Pay Attention to PVSs

Most businesses can choose to adopt PVSs to create a competitive, value-added product, or continue with current practices and compete in a different marketplace.

With diverging requirements between public and private standards, governments are becoming increasingly aware of the significant opportunities potentially available for their domestic MNCs and MSMEs. Researchers heard of several formalized programs dedicated to this task, including appointing PVS specialists to agriculture and trade ministries. The Philippines and Japan have dedicated resources to assist local businesses with certification procedures. These initiatives facilitate compliance, and link suppliers with demand centers. As a byproduct, regional supply chains become more reliable and transparent, matching those of developed markets.

### Conclusion

On the surface, PVSs create some of the largest trade barriers, due to added restrictions, increased procedural obstacles, and high costs. However, they can also create opportunities, cutting through the static to create synchronized standards across business enterprises and distribution channels. The impetus behind this report asked us to address burdensome impediments imposed by PVSs. And while businesses see increased costs and compliance issues, ultimately they have wide ranging positive effects for the hundreds of thousands, if not millions, of businesses who comply with PVSs.



*of businesses say that PVSs accelerate conformity to global standards much more rapidly than governmental efforts*

Chinese retailer Jingdong Mall recognizes the approval of other, trusted retailers when sourcing products. If a new product is approved for sale at two or more retailers, the supplier can forego inspection and certification prior to sale.





# *Practical Solutions*

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**In this section:**

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Introduction

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APEC Trade Repository

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Central Point of Contact

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Automated Cross-Border Systems

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Accreditation of Third Party Testing Labs

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Opportunities for FTAAP

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## Introduction

This section includes approaches that could be used to reduce the burden of NTMs and NTBs for businesses in a way that enhances food security, and reduces time, cost, and uncertainty. There are an abundant number of different programs, systems, theoretical frameworks, and specific policies that could have an impact. While businesses had no shortage of suggestions, ABAC’s directive emphasized practicality. The pages that follow only include approaches that can be reasonably applied across APEC, regardless of legal system, government structure, or relative reliance on imports or exports. It is critical to note that successful implementation hinges on consensus between stakeholders.

There is a critical gap in communication between the public and private sector. This is evident in the fact that governments are much more bullish on trade than businesses are. Officials generally think that timelines are becoming shorter; businesses do not. Businesses get extremely frustrated by how long governments take to get things done, but officials feel that businesses do not understand or respect the complexity of government workflows.

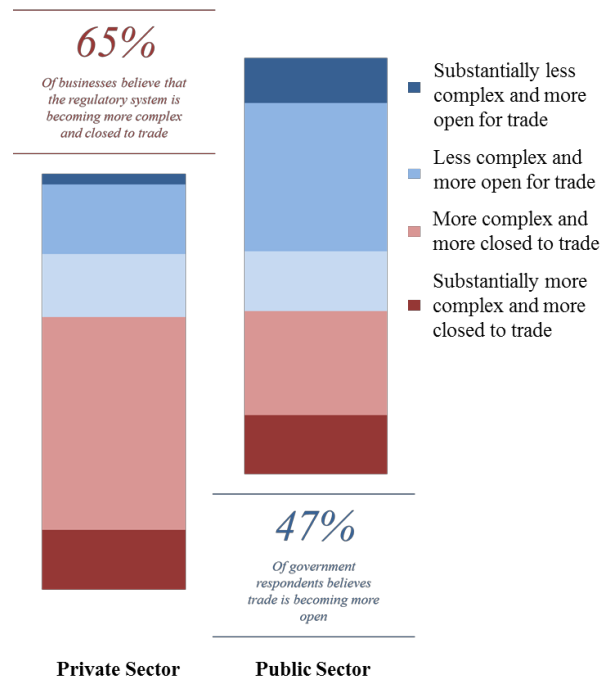
Regardless of the conditions, both parties see value in regular, productive communication. This is absolutely critical given an increasingly complex trade environment. Eliminating one bottleneck shifts attention to new bottlenecks. Moreover, legislation does not exist in stasis—when one policy might be eliminated, another policy might erode marginal benefits elsewhere in the supply chain. Communication is imperative to collect feedback and redeploy resources.

Whether economies heed these suggestions or not, businesses are expecting successive rounds of legislation on food trade. There is immense uncertainty in the impacts of some wide-reaching bills, such as the recent U.S.’ Agricultural Act of 2014, are difficult to assess. What is critical in these times, however, is that businesses have a reasonable expectation of the form and ends of policy. This puts a premium on building consensus.

### Consensus Building Among APEC Economies

The first step to making meaningful progress to reduce NTBs is for member states to agree upon a coherent path forward. When businesses made recommendations, the policy changes reflected one of three policy themes—harmonization, national treatment, or mutual recognition. Each has merit, but varying degrees of practicality. APEC should invest time and resources into determining which of these frameworks best facilitates policy creation in the future.

By creating consensus, policies become more transparent, standards become more consistent between economies, and businesses have coherent expectations of what the regulatory environment will look like in the future. We propose that APEC open a dialogue between member economies.



*“A few months ago, I would have told you that I wanted a chance to communicate more directly with the government, but luckily, we were just invited to regularly consult with officials.”*

- Chinese Taipei Pork Producer

*If I was ‘King for a day,’ I would want the same regulations in my importing market and exporting market.*

- Multi-National Nut Trader

**Harmonization of Global Standards:** Businesses most frequently suggested that governments move toward adopting a global (or at least regional) set of standards, similar to CODEX. This would greatly decrease the complexity of the regulatory environment. Businesses would be better informed, and goods would flow more freely across borders.

While businesses were most enthusiastic for this approach, it is the most difficult to implement. Applying like standards raises issues of sovereignty, and conflates differences between continental and common law systems within APEC. The existence of class action lawsuits in some economies causes friction in regulatory consensus, as well as processes for holding parties accountable during legal matters.

**Mutual Recognition:** This approach sets the conditions for recognizing foreign regulations and certification procedures. It is an agreement that meeting standards for one economy is sufficient for market access in another. The result is a tiered view of markets; a list of economies a firm can export to, given existing operations and product composition.

The challenge with implementing mutual recognition is the lengthy diplomatic and technical negotiations that may be required. It may also require a central database of regulations of economies, which does not currently exist. Firms are likely required to show additional certificates from one economy to gain access to another, as already required by some economies. Businesses have experienced significant delays when the certifying country has no incentive to provide the documentation.

**National Treatment:** This approach prohibits discrimination between domestic and foreign goods. It primarily addresses the application of internal taxation and government regulations after the foreign goods satisfy customs inspection. National treatment levels the playing field; firms can use comparative advantage to full effect. The elimination of testing at the border reduces uncertainty and market access barriers.

National treatment is anti-protectionist, creating employment and competition challenges in the short term. National treatment does little to alleviate concerns about transparency, access to information, or practicality of standards themselves. This approach does allow scrutiny of high-risk products. However, customs can still selectively enforce regulations in a discriminatory manner.

### Consensus Building Among Private Sector Stakeholders

Impartial observers noted that businesses can be part of the problem. The difficulty derives not only from divergent business and government concerns, but when intra-industry interests conflict.

Governments seeking input from business leaders, or reacting to private sector complaints, often hear muddled and contradicting points of view. In fact, it is common for two businesses in the same sector to have different opinions on the same issue. For example, fish producers might seek protective legislation to stem low-cost competition, while processed food companies that use imported seafood as inputs might seek trade facilitating legislation. Given the impasse, governments maintain the status quo. Conflicting industry perspectives can make governmental legislative efforts incredibly difficult.

Governments are also careful not to draw public outcry by immediately bowing to private interests. Particularly in an era of widespread lobbying, officials do not want to seem biased. Big businesses are typically the most vocal stakeholders when it comes to proposing new regulations.

To accurately assess impacts of prospective legislation, governments might seek out the perspective of MSMEs as well. Due to the natural fragmentation of MSMEs, governments find it difficult for meaningful outreach. It is not always apparent which businesses are most sensitive to policy changes. Fact-finding depends on breadth of the network of communication between governments and the private sector.

In the short term, governments might be best suited soliciting advice from a panel

of companies, of varying size and trading in different commodities. Several economies, such as Hong Kong, have structured forums that policy makers tap for information.

Businesses may also take additional steps—creating things like industry publications and conferences—to help build consensus within the same sector. Because businesses are in competition with each other, working together seems counterintuitive to their overall strategy. The hope is to at least create a coherent direction for future policy, incorporating disparate interests inherent in agriculture and food.

### Moving Forward

Once stakeholders begin making concerted effort toward consensus on regulatory philosophy, economies can implement a number of practical solutions to facilitate trade. On the surface, some may seem incapable of meaningful impact on the trade environment. Make no mistake, each of these solutions has viable models in at least one economy in APEC. Not only are businesses overwhelmingly optimistic about their effects, their implementation shows commitment from government to improve the trading environment.

The critical component of each solution is the impact on time, cost, reasonable timelines, and uncertainty. They each reduce risk at critical points in the supply chain, when the integrity of a shipment or business model depends solely on the action or inaction of the public sector.

The order of the following suggestions reflects the research team's opinion on the efficacy of each:

- A centralized online repository all agriculture and food regulations and certification procedures by economy
- Increased investment and adoption of automated online, cross-border systems
- Accelerated adoption of single-windows in all economies
- Recognition of approved private entities to do agriculture and food testing and certifications
- More APEC facilitation of dialogue across economies and food sectors

# *APEC Trade Repository*

The APEC Trade Repository was proposed at the first meeting on Trade and Investment in February 2015 to improve MSMEs' access to trade information. Serving as a single reference points on tariffs and trade regimes, the repository has the potential to serve as the central database for trade regulations all businesses so sorely need.<sup>1</sup> Of all programs that will allow for greater transparency, none would have more impact than this one.

## **APEC's Role**

The very existence of the repository suggests an acknowledgment of the challenge of navigating varied regulations across member states. The existing site is a great starting point. However, it should be expanded to better assist food and agriculture traders from all companies, not just MSMEs. The repository should include:

- Aggregation of economy-level regulations, with special attention paid to SPS and TBT requirements.
- Links to any paperwork available online.
- Other description of procedural obstacles business should expect to meet.
- An RSS-like feed to notify stakeholders of changing regulations.

## **Impact on Business**

The challenge of fragmented information across government agencies cannot be overstated. Businesses spoke at length about deficiencies in access to information, interpreting vague language, and tracking changes to policy in markets abroad. Aggregating the information is an arduous task, which often spans several overseeing agencies. This requires substantial investment of time and resources.

Beyond streamlining information accessibility, the repository will enable businesses to:

- Reallocate dedicated human capital resources away from fact-finding and research.
- Reduce time to market for new products.
- Decrease costs due to incomplete information and recertification or retesting.
- Reduce refusal rates during customs inspection.
- Increase certainty and transparency during market exploration or long term modelling of business lines.

## **Enabling Implementation**

The primary challenges with expanding the repository are human capital and communication. After all, someone needs to begin logging existing regulations, and synthesize industry knowledge to paint a realistic picture of what businesses can expect. Whether the human capital should come from member economies, or be part of APEC staff, is open for debate. In addition, custodians of the repository must keep up with changing regulations, which is difficult, as businesses repeatedly noted. For successful implementation, APEC must:

- Secure financial support for the initiative
- Clearly define roles and sources for human capital.
- Get firm commitments from each APEC economy to support aggregation and report changes to the relevant agent.
- Develop process for updating regulations across economies.
- Developing a campaign to raise businesses' awareness of the repository.

## Single Point of Contact

Interviewees frequently discussed how “single window” —an automated system for facilitating cross-border exchanges of goods, from documentation to fees—enables business. While many member economies have developed single window, or are making investments to do so, it is not ubiquitous. In the meantime, governments might be best served implementing a single point of contact for businesses to get information, not only about status of shipments, but also on certification processes and regulations themselves.

### APEC’s Role

This solution is primarily dependent on action by member economies. However, APEC can play a crucial role in sharing information and helping member economies efficiently allocate resources by:

- Suggesting successful programs upon which economies can model their programs—this will also support buy-in from economies.
- Assisting economies in determining the most important product categories that merit a single point of contact.
- Developing a forum for economies and individual agents to share best practices and illustrative cases.

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*“Even when you know who to call to resolve a conflict, half the time they never pick up the phone.”*

-Multi-National Pork Producer

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*“Administrative barriers are the biggest challenge...but governments need to invest more not in inspectors, but in trade facilitators. One of the issues with our point of contact is that he might not necessarily be interested in actually facilitating exports. We can ask about market access abroad, but his first reaction is to raise red flags rather than solutions.”*

-Canadian Seafood Broker

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### Impact on Business

One of the most consistent complaints from business involved overlapping agencies overseeing food trade. Typically, communication becomes mission-critical when shipments are held at the border. The challenge is determining who in the importing country is accountable for handling these queries on an ad-hoc basis. A single point of contact largely removes this burden, and will reduce costs and timelines by:

- Reducing or eliminating navigation of bureaucracy.
- Removing uncertainty during information search and conflict resolution.
- Quelling cries for overhaul of regulatory bodies.
- Bridging gap ahead of single window adoption.
- Assisting businesses with fact-finding during market exploration.

### Enabling Implementation

Challenges to implementation are mostly due to human capital and organizational complexity. In addition, economies strapped for resources might not be equipped to immediately hire or train points of contact. The learning curve is quite steep. Economies interested in creating points of contact must:

- Identify target products or categories.
- Establish commitment from domestic agencies to facilitate information sharing with points of contact.
- Develop training program and industry communication networks to quickly bring points of contact up to speed.
- Use the APEC trade repository as a tool to assist points of contact with regulations.

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Market based solutions rooted in secondary sources exist, but represent an unnecessary cost for business. Trade associations act as centralized sources of information for their constituents, but leveraging dues. Boutique consulting firms have also surfaced, specializing in consolidating compliance measures for business.

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# Automated Cross Border Trading Environment

**74%** of survey respondents believed that the adoption of an automated online cross-border system would lead to a major or break-through improvement. This involves streamlined many trading processes. Automation in the global trade environment involves digital platforms that automate or facilitate certification processes, document submission, feedback and communication loop, and payment.

## APEC's Role

APEC's contribution to the adoption of single window systems shows commitment to digital systems. The wealth of knowledge within APEC's immediate staff, as well as that of the member economies, can serve as the foundation for establishing goals and timelines for united adoption of cross-border trading systems. To facilitate the process, APEC should consider:

- Mining member economies' system to determine a viable model.
- Creating working groups to support pilot programs and establish timeline goals for implementation.
- Monitoring for advancements in technology that might provide useful inputs during updates.
- Facilitating interoperability between domestic systems, or promoting a universal system for economies.

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The implementation of Tradevan, Chinese Taipei's online customs clearance system for sea and air cargo, resulted in a decreased customs processing time from **4 hours to 15 minutes.**<sup>1</sup>

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## Impact on Business

The lack of digital processes allows inconsistent implementation. Automated digital trade systems have had tremendous impact in certain industries within economies. Businesses are largely supportive of these investments. They increase transparency, improve communication between stakeholders, and reduce complexity, and improve at-the-border rejection rates by:

- Driving efficiencies across the supply chain.
- Lowering paper handling costs.
- Reducing human error.
- Speeding up clearance time.
- Providing dynamic feedback and efficient conflict resolution.
- Allowing online payment of fees—which improves accounting practices.
- Providing definitive information on product flows across borders.

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Since 1998, Australia has issued around **38,000** electronic health certificates for meat exports to Japan every year.<sup>2</sup>

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## Enabling Implementation

The potential gains from automated cross-border trading systems are substantial. However, implementation requires substantial investment, and commitment to maintenance. Stakeholders must consider:

- Investment in existing ICT and power grid infrastructure for reliable service.
- Develop strong risk and data security protocols.
- Technical training for developers, agencies, and businesses.
- Challenges to universal buy-in from relevant industries.
- Legal systems' capabilities from adjudication of digital transactions.
- Capacity for ongoing maintenance and upgrades to digital systems.

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*"It is in the interest of countries from all groups to work together and develop the legal and technical protocols needed for the **seamless exchange** of regulatory and commercial data and documents along the international supply chain."*<sup>3</sup>

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# Accreditation for Third Party Testing

To reduce human capital capacity challenges and customs inspection times, APEC economies might consider accreditation of third-party laboratories to conduct certification processes, on-site facility audits, and customs testing. Third-party groups might allow governments to tap private sector talent, reduce bottlenecks, and decrease container and certification processing times.

## APEC's Role

Economies might be tentative to relinquish control over key responsibilities of domestic customs and licensing boards. APEC is in a position to build consensus, establish standards for accreditation, and monitor success. APEC should:

- Assess benefits by auditing economies that have already implemented accreditation.
- Provide a research-based approach to accreditation processes and requirements.
- Develop feedback systems to assess impacts to the trading environment, particularly around customs inspection times.
- Publish best practices for managing emerging SPS concerns in the food supply.

## Impact on Business

Accreditation of third-party testing and inspections can help reduce the administrative burden for governments and business alike. The private sector may have to resources to hire and train technicians to meet capacity challenges. For businesses, third party testing can result in:

- Shorter timelines for certification and customs testing.
- Reduced corruption and facilitation payments.
- Less time navigating bureaucracy.
- Shorter conflict resolution processes.

## Enabling Implementation

Significant accreditation infrastructure exists, offering robust models for implementation. Member economies with existing accreditation procedures, mutual recognition agreements, and the International Laboratory Accreditation Cooperation (ILAC) can pave the way for wider adoption.. To further ensure the success of third-party accreditation stakeholders need to:

- Determine eligible facilities for accreditation.
- Develop standards for accreditation.
- Continue to develop mutual recognition agreements and regional co-operations.
- Build consensus among consumers.
- Develop protocols around legal rights, quality assurance, and risk management procedures.

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Under the Food Safety Modernization Act of 2015, the U.S. Food and Drug Administration set the conditions for accreditation of third-party certification bodies to conduct food safety audits and issue certifications. It applies to some, but not all products, and carries a five-year, renewable accreditation.

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The Food Laboratory Alliance is a successful public-private sector partnership between labs, providers of testing services, and representatives of consumers focused on food safety and testing procedures.

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## *Forums for Progress: FTAAP*

Meaningful diplomatic communication on NTBs is in short supply. The general consensus from businesses is that WTO notifications raise awareness, but don't always lead to change. Moreover, both economies and businesses felt that, in most cases, it is better to write off a loss and adjust operations than to raise concerns on the international stage. While APEC is doing important work to improve the trade environment, progress is likely to come from a forum within an inclusive, binding charter, such as the Free Trade Agreement of the Asia-Pacific (FTAAP).

### **APEC's Role**

Over the past two decades, there has been a groundswell of interest in FTAs in the Asia-Pacific region, including the Trans Pacific Partnership and Pacific Agreement, among others. The complementary, yet competing, agendas are poised to serve as the foundation for FTAAP.

Given these challenges, the idea of FTAAP filling the void in communication and action on NTBs is open to debate. Regardless, binding FTAs deserve credence as vehicles of progress in the context of NTBs. FTAs need to go beyond simple working groups for SPS and TBT, and facilitate a broader theater for negotiation around NTBs in food. This is an extremely contentious issue, and will likely take years to distill the conflicting interests of party members into a workable agreement.

FTAAP has years of political capital behind it. Starting from scratch would be perhaps a greater challenge than revising the existing charter. APEC must make strides to include all member economies in whatever form such an agreement takes, and ensure the dialogue between members on NTBs can take place in a proper forum.

### **Impacts for Businesses**

Businesses repeated that NTBs have become de facto tariffs in the era of globalization. They also noted a deterioration and increased burden of the bureaucratic and evolving regulatory atmosphere, adding further complexity. FTAs and their benefits need to be reviewed in the context of NTBs to develop a roadmap for optimizing regional trade. Using a binding agreement as a forum for addressing NTBs allow for:

- Recourse for disputes outside of the WTO notification system.
- Mitigation of future challenges if regulations accumulate.
- Equality for member states, in disputes regardless of stage of development or other political challenges.
- Facilitation of capacity-building initiatives.
- Unity among members in developing trade-enhancing policies.

### **Enabling Implementation**

Implementation depends entirely on member economies. Conflicting interests make universal adoption extremely difficult. Implementation is only successful if FTAAP, or another binding FTA, includes all member economies of APEC. Including rank and file government officials familiar with NTMs and NTBs can strengthen the ability to provide practical perspectives on policy. Consensus building is imperative. More than anything, member economies must come together to avow themselves to embracing free trade principles, adopting constructive policies to mobilize workforces, and commit to thoughtful dispute resolution.





***Conclusion***





# Conclusion

1. NTMs are increasing in prominence and complexity across APEC
2. There is a misalignment between business and government on these issues
3. These barriers are capable of undermining food security
4. APEC's 3 billion citizens absorb the consequences in the form of increased prices, lower quality, and reduced access
5. Addressing these barriers provides additional pathways to meeting APEC's goal of inclusive economic development

If there is one thing the team learned from this project, it is that the trading environment for food and agriculture has the potential to become truly stifling. Competing sovereign interests, emerging consumer sentiments, and increased knowledge of human health and safety concerns has created a complex web of changing standards and practices. Compliance costs across supply chains has put a premium on vertical integration and economies of scale. **APEC's close to three billion citizens absorb the consequences of NTBs, in the form of increased prices, lower quality, and less access to varied products.**

Most regulations are typically rooted in genuine, altruistic motives. It is easy for governments and consumers alike to agree to necessary measures. However, continued layering of hundreds of regulations, varying in scope and impacts between economies, gives the impression that there is no end in sight. Interviewees were overwhelmingly pessimistic about the regulatory atmosphere of the future. Over time, the team came to understand that sentiment.

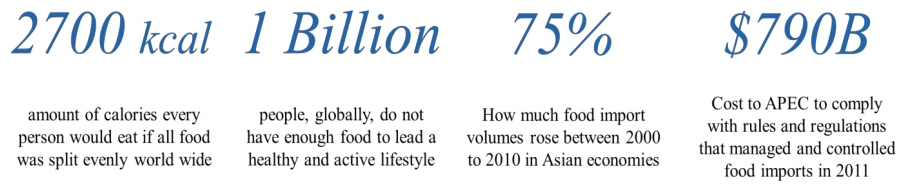
**NTMs and NTBs are increasing in prominence and complexity, impacting all APEC economies.**

While painfully obvious, the team began to see that the best way to improve the trade environment rests in the principles of free trade. The team acknowledges the political and practical challenges posed by unified progress. However, incremental gains posed by the solutions in this report, and others like it, garner greater commitment to free flow of goods and establish good faith between trading partners.

The team also acknowledges what is at stake for member economies. Clearly, there is a need for economies to invest resources to meet exploding global demand. However, aggressively implementing trade-enhancing policies has massive implications for rural populations and MSMEs. Never before have innovative policies and judicious government intervention been more critical to the integrity of food trade. Combining knowledge and skills across economies, sharing best practices for labor mobilization, and carefully studying policy implications are critical to managing the tenuous balance between competitive markets and short-term socio-economic welfare.

As research progressed, the team began to come to terms with the fact that long-term growth is the key to reaping the widespread benefits of trade and food security. Pursuing policies that make trade more challenging for business, and harder to plan reliably, caps growth opportunities. Moreover, **these barriers are capable of undermining food security.** Every stakeholder in this study benefits from strong trade relationships and stable food supply. The benefits, from increased revenue to enhanced food security, have spillover effects. Improved consumer health and stronger innovation enrich labor productivity and innovation, which are critical inputs toward meeting global demand.

The bottom line is that governments need to work together. Communication and collaborative investment are crucial. **Businesses and governments agree on the need for improvements to the trading environment, but misalignment exists between the public and private sectors on these issues.** Each member of APEC has a lot to lose if regional food insecurity proliferates. They also have much to gain from enhanced food trade, befitting businesses, consumers, and politicians alike.



**Addressing these barriers provides additional pathways to meeting APEC's goal of inclusive economic development; if businesses and governments work together, they can create policies that benefit consumers without hindering businesses ability to grow.**

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# *Appendix*



# *Appendix I*

## *Individual Economy Assessments*

Each economy was assessed against a set of indicators and data collected using primary & secondary research



# Individual Economy Assessments: Overview and Assessment Criteria

The following pages represent an aggregation of points of interest from primary and secondary research, applied to individual economies. The goal of this exercise was to contextualize relative challenges to conducting businesses and degree of openness to agricultural and food trade, using the voice of business as a metric. The result is a simple scoring system that allows readers greater insights on specific aspects of domestic trading environments. The category headings and scoring rubric is as follows:

Indicator	Criteria
SPS	Regulatory information is readily available, up-to-date, applied consistently, processes to enforce compliance are well-defined and efficient; personnel are appropriately trained, qualified, and scheduled to match business operations; standards are non-discriminatory against foreign businesses
TBT	Regulatory information is readily available, up-to-date, applied consistently, processes to enforce compliance are well-defined and efficient; personnel are appropriately trained, qualified, and scheduled to match business operations; standards are non-discriminatory against foreign businesses
Level of Protectionism	Number of commodities protected against foreign competition, extent of protectionism—to what degree does the economy protect commodities or sectors
State of Information	Availability of information, provided online, up-to-date, available in multiple languages, requirements are clear, clear point of contact
Quality of Infrastructure	<i>Physical:</i> roads, port congestion, lack of customs or testing facilities, quality and reliability of cold chain, agricultural infrastructure such as irrigation systems, arable land, and housing for livestock <i>Financial:</i> reliable banking systems, access to affordable financing <i>Information and communications technology:</i> power, internet access, penetration of mobile networks
Administrative Burden	Overlapping agencies, excessive red tape, redundant/excessive requirements and documentation, facilitation payments/para-tariffs, administrative capacity, reasonable time frames, frequent changes to policy
Consistency of Enforcement	Rules and regulations are enforced on a consistent basis, documents and products are checked according to an established protocol, known timeframes of customs procedures (including compliant and noncompliant), established fee schedule, products are treated the same regardless of mode of transportation (plane, ship, rail, truck), consistency in responses from different officials and offices, are businesses engaged in port shopping
Regulatory Philosophy	Discriminatory—does the measure discriminate against foreign firms, NTMs based on sound scientific principles, how closely does the economy align with international standards (e.g., Codex, ISO, WTO)

In addition, the assessments feature global indices developed by international research organizations, as well as relevant statistical data, in an attempt to provide a balanced perspective. In addition, researchers include a “most burdensome challenges to business” insert, which details pressing concerns from the private sector, as well as challenges unique to the economy in question.

The research team acknowledges serious shortcomings in the method used to create these assessments. In no way are these to be interpreted as gospel. Interview responses are

highly subjective and based largely on qualitative data. The integrity of the information rests largely on the integrity of the interview protocol, the interviewees themselves, as well as the interpretation of the research team. The consistency of scoring based on the rubric is also open to debate. Regardless of the framework’s deficiencies, and in light of the scrutiny these assessments might draw, the team opted to include this section in an effort to illuminate thematic similarities and differences between economies, as well as to provide transparency for the overall creation of this report.

## Standardized Scale Used to Assess Economies

	Regulatory Philosophy	TBT	SPS
1	Regulations are discriminatory and “trade restrictive” in nature. They are not transparent and do not align with international standards and norms.	TBT measures are proscriptive, discriminatory, and not outcomes-based. Compliance requirements add significant time and cost burden to business. Measures do not align with international norms. Severe amount of uncertainty and complexity reported by businesses.	SPS measures are discriminatory, prescriptive and not outcomes based. Compliance requirements add significant time and cost burden to business. Measures are not based in science and do not adhere with international norms. Severe amount of uncertainty and complexity reported by businesses.
2	Regulations are often discriminatory and “trade restrictive”. They are outdated, not fully transparent, and inconsistently enforced. Majority do not align with international norms.	TBT measures are proscriptive and not outcomes based. Efforts are underway or in-process to simplify procedures and compliance requirements. Businesses report that compliance burdens are significant, but not severe.	SPS measures are prescriptive and not outcomes based. Efforts are underway or in process to simplify procedures and compliance requirements as well as align with international norms. Businesses report that compliance burdens are significant but not severe.
3	Regulatory regime is sometimes discriminatory and “trade restrictive”. Measures are not fully transparent, but efforts are underway or align with some international norms.	Measures are prescriptive but generally not discriminatory. Most measures adhere to international standards and norms. Businesses report compliance burdens are significant but not severe.	Majority of measures are based in science, but prescriptive. Generally they are not discriminatory and adhere to international standards and norms. Businesses report compliance burdens are significant but not severe.
4	Regulations do not discriminate against imported goods or services, but are not consistently aligned to principles of “least trade restrictive”. Measures are transparent and closely aligned with international norms.	Measures are consistent with international standards and norms, non-discriminatory. Moderate level of compliance burdens reported by businesses due to inconsistent information or compliance burdens.	Measures are based in science, consistent with international standards and norms, non-discriminatory and adhere to international standards and norms. Moderate level of compliance burdens reported by businesses
5	Regulations do not discriminate against imported goods or services. Measures are consistent with the principle of “least-trade restrictive” and avoid restrictions that go beyond what is needed to meet a legitimate objective. They are transparent and closely aligned with international norms.	Measures are consistent with international standards and norms, non-discriminatory. Acceptable level of time and costs as reported by businesses.	Measures are consistent with international standards and norms, non-discriminatory. Acceptable level of time and costs as reported by businesses.

	Level of Protectionism	State of Information	Transport Infrastructure
1	Local agri-food sectors including commodities and staple foods are fully protected against imports. Measures are not equitable across sectors and are used as political tools in diplomatic relations. Protectionism is promulgated under the guise of self-sufficiency.	Access to information is extremely burdensome, time-consuming and unreliable. Regulations and trade requirements are unclear and unavailable in an online platform. The available information is published in the local language, is not updated frequently and lacks transparency.	Physical infrastructure is a major impediment for importers and exporters adding significantly to the cost of production and reducing the competitiveness of businesses in the global market. Railways and roadways are not interlinked across the economy. Lack of port capacity and cold chain infrastructure materially
2	Local agri-food sectors including commodities and staple foods are highly protected against imports. Measures are not equitable across sectors and economies leverage protectionism as a tool to achieve self-sufficiency in certain sectors.	Access to information is significantly burdensome and time-consuming. Regulations are partially available online but are not consistently updated with new regulations. Information is available in English in addition to the local language.	Poor physical infrastructure significantly adds to the cost of production. Railways and roadways are only developed in major cities and are in disrepair. Port congestion is a major challenge to trade. Little to no cold chain infrastructure exists.
3	A few agri-food sectors including are partially protected against imports. Measures are not fully equitable across sectors but some effort is underway to lower restrictions and open market access in these sectors.	Published information is ambiguous and inconsistent across mediums. Information is available in some languages and mostly available online but efforts are underway to create a fully integrated online ecosystem.	Railways and roadways are connected across the economy but require maintenance. Port congestion and some cold chain capacity challenges exist, with long-term development projects underway.
4	Select sectors are partially protected as a buffer against food-crisis related events. Government intervention is minimal as demand outweighs domestic supply capacity.	Published information is accessible online in multiple languages. Information is at time difficult to interpret or does not fully reflect all regulatory changes and may require additional follow-up.	Railways and roads are well-maintained and connected across the economy. Port system and cold chain infrastructure are well-established but have some capacity restrictions that can cause delays.
5	Government intervention is low to non-existent with a focus on trade liberalization. Demand significantly outweighs domestic supply capacity. Programs may be in place to promote FDI and trade inflows.	Regulations and requirements are available online in multiple languages. Information is easily accessible, up-to-date and reliable with a central point-of-contact for questions.	Roads and railways fully connect the entire economy, are modernized and can withstand major weather and climate events without events with minimal impact to trade. Extensive and automated port and cold chain capacity exists.

	ICT Infrastructure	Administrative Burdens	Consistency of Enforcement
1	Basic access to power and internet is extremely poor and sporadic, affecting ability to access online information, submit e-payment, leverage ecommerce and participate in digital document submission.	Multiple agencies with overlapping requirements, excessive red-tape, redundant documentation and frequent policy changes all create burdensome delays and add material cost for businesses. Significant lack of technical and human capital capacity within agencies. Facilitation payments are a requirement to doing businesses in this economy.	Lack of established protocol, documentation requirements and fee schedules creates opportunities for biased officials to discriminate based on economy, business or mode of delivery (enabling port shopping). This, coupled with rapidly changing regulations leads to inconsistency in enforcement amongst agencies.
	Low mobile penetration and broadband speeds. Minimal investment in and development of connectivity. Lack of integrated digital ecosystem for information, documentation submission, certification and e-payment.	Inconsistent and unreasonable timelines driven by lack of coordination between multiple agencies, frequent policy changes and excessive documentation. Understaffing and lack of trained personnel within agencies. Relationship-based structure with facilitation payments expediting approvals.	Poor information dissemination practices and lack of established protocols enables inconsistent implementation and unknown timelines. Outdated information open to interpretation by the official can lead to discriminatory behavior.
3	Good mobile and internet penetration in urban areas put lack of connectivity in rural regions. Customs ecosystem partially online but full integration efforts underway.	Known and reasonable timelines for approval with excessive documentation requirements for multiple coordinated agencies. Efforts underway to reduce corruption and red-tape, streamline organizations and enhance capacity and training at agencies.	Some protocols exist, but poor information dissemination as a result of rapidly changing regulations lead to officials with mismatching and outdated knowledge. Enforcement is largely consistent, but partially discriminatory depending on exporting economy and official.
4	High internet penetration and mobile penetration rates. Availability of most services through a digital platform. Recent investments made on enhancing internet speeds, connectivity and ICT training.	Reasonable and consistent timelines for previously approved businesses. Well-educated and trained agency personnel with some capacity issues. Integrated digital systems with mostly streamlined processes and documentation.	Protocols set in place to enable transparency and prevent discrimination in enforcement. Some inconsistency felt on frequency and depth of assessment depending on exporting economy, food sector and mode of entry.
5	Very high internet penetration and mobile penetration, driving interconnectivity across the economy. Fully integrated digital ecosystem including implementation of single window, traceability, certification, payment and risk management systems.	Known, reasonable and consistent timelines for all businesses, previously approved and newly registered. Integrated digital system, advance notice on policy changes, single agency contact, excess capacity and streamlined documentation facilitate trade in this economy.	Well established protocols for assessment, fee schedules and information dissemination enabling transparent and consistent enforcement of rules and regulations across agencies, regardless of exporting economy or mode of entry.



# Australia

## Regulatory Philosophy

4

Regulations do not discriminate against imported goods or services, but are not consistently aligned to principles of “least trade restrictive.” Measures are transparent and closely aligned with international norms. Mutual recognition agreements (MRA) are in place to facilitate trade.

## TBT

3

Strict and excessive labeling, testing, and classification requirements exist. Country of origin must be stated on products made and sold in Australia. There are currently five WTO disputes around Australia’s plain packaging measure.

## SPS

3

Businesses reported some excessive requirements that exceed those of other economies and international standards. All imported food must pass through mandatory quarantine. 100% of consignments containing “high-risk” products must clear through additional biosecurity assessments.

## Level of Protectionism

3

Businesses frequently cited creeping protectionism in Australia as a barrier to trade. Secondary research and interviews with government officials indicate that Australia is a proponent of free trade globally and in the APEC region and actively working to liberalize their agri/food market.

## State of Information

5

Information is available, provided online, up-to-date. It is also accessible in several languages, and there is a clear point of contact for business inquiries.

## Transport Infrastructure

5

Physical and financial infrastructure is well-established and interconnected across the economy. The transport infrastructure consistently ranks in the top 20 globally.

## ICT Infrastructure

5

Connectivity across the economy is extensive with 85% of the population having access to the internet and 133% with mobile cellular subscriptions.

## Administrative Burdens

4

Documentation required can be substantial. However, import documentation can be submitted digitally, and there is a 24-hour clearance for known and previously approved firms. There is a national digital single window that allows importers to submit their documentation electronically.

## Consistency of Enforcement

5

Rules and regulations are consistently enforced. Timeframes for customs processing is consistent and published for business planning purposes. Government officials are well-trained, knowledgeable, and non-discriminatory. Payments are official and commensurate.

# Australia

## The most burdensome challenges to business...

- Businesses felt that enforcement of SPS regulations protected domestic producers
- Australia's size creates logistics challenges and additional costs, especially in the case of perishable goods
- As an island nation, the economy is sensitive to foreign pests and diseases, requiring mandatory quarantine before final clearance
- The use of a local agent to facilitate clearance of goods through customs is highly recommended

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	13	4
World Bank Logistics Performance Index (Rank/160)	19	6
WEF Global Competitive Index (Rank/140)	21	9
Economist's Global Food Security Index (Rank/113)	4	3
Harvard Economic Complexity Index (Rank/124)	82	17
UN ICT Development Index (Rank/167)	13	4
UN e-Government Development Index (Rank/193)	2	1

### World Bank Indicators

	Hrs	USD
<i>Time to Export</i>		
• Border compliance	36	749
• Documentary compliance	7	264
<i>Time to Import</i>		
• Border compliance	37	525
• Documentary compliance	3	100

### UNCTAD TRAINS NTMs

NTMs affecting economy	2448
NTMs issued by economy	203

### WTO Complaints

Complaints issued against economy	15
Complaints issued by economy	7

Top Ranking Percentile	Bottom Ranking Percentile
0-20%	81-100%
21-40%	61-80%
41-60%	41-60%

## Brunei Darussalam

### Regulatory Philosophy

4

Lacking substantial arable land, Brunei is open and working to increase the flow of food trade. The government adheres to global standards, adopted the Harmonized Description and Coding System in 2014.

### TBT

3

Requirements and labeling regulations are extensive, but they are available online, including Halal certifications, and labeling requirements for meat, frozen meals, sauces, and breads. Personnel are well-trained, thanks to extensive government investment in human capital.

### SPS

3

Brunei has stringent disease and pest policies. All meat and poultry imports must be certified by the Ministry of Religious Affairs to comply with Halal requirements.

### Level of Protectionism

3

Brunei is a net importer and relies on imports for food security. However, there are price controls for key products, such as sugar and rice.

### State of Information

4

e-Government, an online platform, hosts all requirements for certification online. It is updated regularly, and in multiple languages. Payments for certifications can also be made online.

### Transport Infrastructure

3

Brunei's infrastructure is in need of updates. There has been significant investment in the transportation infrastructure over the last few years in line with the "Brunei 2035" vision. Improving roads, ports, and highway connectivity, as well as capacity for each, is a leading government priority.

### ICT Infrastructure

4

Brunei is making large investments in ICT, fiber installation and digital development education to work towards delivery of e-services. Mobile penetration is over 100%, and internet connectivity is steadily improving.

### Administrative Burdens

3

Product registration and certification documentation and payment are available online. Documentation can be extensive, however. Imports also require customs documentation five days prior to arrival to Brunei.

### Consistency of Enforcement

3

Customs officials are trained and held to strict rules. The economy has adopted a single window system and is compliant with global standards. Certification processes, especially around Halal have inconsistent timelines and enforcement.

# Brunei Darussalam

## The most burdensome challenges to business...

- Halal certification requirements are among the strictest in the world
- There is no single body that sets and controls SPS standards. Rules and regulations are administered and managed by a Board representing multiple agencies
- There is low interest from the younger generation in agriculture and farming in Brunei. Although it is not a large market, it is vital to trade and sustainability.
- Due to rainforest preservation, only 1% of land can be used for agricultural purposes.
- Efforts are underway to become self-sufficient in rice .

Trading Indices	World Ranking	APEC Ranking	World Bank Indicators	
			Hrs	USD
Transparency International Corruption Perceptions Index (Rank/167)	NA	NA	<i>Time to Export</i>	
World Bank Logistics Performance Index (Rank/160)	70	18	• Border compliance	72 / 340
			• Documentary compliance	168 / 90
WEF Global Competitive Index (Rank/140)	NA	NA	<i>Time to Import</i>	
			• Border compliance	48 / 395
Economist's Global Food Security Index (Rank/113)	NA	NA	• Documentary compliance	144 / 50
			UNCTAD TRAINS NTMs	
Harvard Economic Complexity Index (Rank/124)	NA	NA	NTMs affecting economy	4215
			NTMs issued by economy	5
UN ICT Development Index (Rank/167)	71	12	WTO Complaints	
			Complaints issued against economy	NA
UN e-Government Development Index (Rank/193)	83	16	Complaints issued by economy	NA
			Top Ranking Percentile: 0-20% (Green), 21-40% (Light Green), 41-60% (Yellow), 61-80% (Orange), 81-100% (Red)	
		Bottom Ranking Percentile		



## Canada

### Regulatory Philosophy

3

With 75% of fresh produce imported, Canada is open to trade. Diversified production among the provinces is used to support food security. Industries are integrated with the U.S. and Mexico. Regulators often demand Canadian-run scientific evaluations.

### TBT

3

Some regulations are discriminatory, such as proscribed container sizes for canned goods. Some standards of identity requirements are outdated, and businesses operate out of compliance.

### SPS

3

Regulations are readily available, clearly described, and up-to-date. However, in several agri-food sectors regulations discriminate against foreign products and businesses. Some SPS measures, such as MRLs for pesticides in certain food categories, are not science-based.

### Level of Protectionism

3

Some sectors are protected through supply management, such as poultry and milk. The economy is open to imports in food categories that are not domestically available or competitive. Quotas are used to limit import volumes.

### State of Information

4

Information is generally available online. Requirements are clear and available in multiple languages. One agency is responsible for food regulations and inspections.

### Transport Infrastructure

3

Roads and cold chain are developed, but rails have insufficient capacity to meet demand. Cargo traversing North America via truck may have challenges meeting regulations across each economy. Canada's size and harsh winters make timely transport difficult and costly.

### ICT Infrastructure

5

ICT infrastructure is accessible to business and consumers alike. There is wide proliferation of internet access and mobile subscriptions among the population.

### Administrative Burdens

4

Regulatory overlap is not a concern, so redundancy is limited. However, customs schedules do not always align with business timeframes.

### Consistency of Enforcement

4

Rules and regulations are generally enforced on a consistent basis, but results vary per inspector. Regulatory approval of new technologies is subject to inconsistent timeframes on the order of several years.

# Canada

## The most burdensome challenges to business...

- Some measures for imported products are not science-based, such as proscribed container sizes for canned goods
- New business registration processes disadvantage non-resident companies
- Lack of rail car infrastructure to transport products to ports and ineffective trucking logistics arrangements with the U.S. and Mexico add time and costs to business
- Delays in regulatory approval of new technologies stifles innovation
- Lack of adequate representation of smaller agri-food producers in lobbying threatens MSMEs
- Private standards driven by food marketing and consumer preferences introduce costly certifications processes

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	9	3
World Bank Logistics Performance Index (Rank/160)	14	5
WEF Global Competitive Index (Rank/140)	13	9
Economist's Global Food Security Index (Rank/113)	8	4
Harvard Economic Complexity Index (Rank/124)	39	10
UN ICT Development Index (Rank/167)	23	8
UN e-Government Development Index (Rank/193)	14	7

World Bank Indicators	Hrs	USD
<i>Time to Export</i>		
• Border compliance	2	167
• Documentary compliance	1	156
<i>Time to Import</i>		
• Border compliance	2	172
• Documentary compliance	1	163
<b>UNCTAD TRAINS NTMs</b>		
NTMs affecting economy		4248
NTMs issued by economy		487
<b>WTO Complaints</b>		
Complaints issued against economy		18
Complaints issued by economy		35
Top Ranking Percentile	Bottom Ranking Percentile	
0-20%	21-40%	41-60%
	61-80%	81-100%

# Chile

## Regulatory Philosophy

4

Chile is one of the world's largest agricultural and food exporters. The government promotes exports, but insulates domestic farmers. Chile adheres to WTO and CODEX and is working to extend standardization.

## TBT

4

Stringent labeling requirements exist, though they are transparent and consistent. Due to many FTAs, foreign economy standards are accepted for classification. Spanish labelling is a must.

## SPS

4

Regulations are typically based in science. Strict quarantine procedures are in place for all imports. Many regulations adhere to CODEX, but some are more stringent. Importers must have access to facilities to store goods until they have been cleared.

## Level of Protectionism

3

Chile's economy largely relies on the export of food and agriculture goods, so the government is committed to protecting local industries. Foreign goods end up being considerably more expensive than domestic products and must pass through heavy SPS testing before reaching market.

## State of Information

3

Current information is provided online, but changes are not widely advertised. Digital platforms exist, but information is only available in Spanish.

## Transport Infrastructure

4

Due to the decline of the railway system, roads and ports are the major transportation facilitators in Chile. The trucking industry is very robust.

## ICT Infrastructure

3

Approximately 64% of citizens use the internet, and mobile proliferation is high at 130%. The traceability of goods across the economy is difficult, due to inconsistent connectivity throughout rural areas. However, there is a digital single window system for imports and exports in place.

## Administrative Burdens

3

Chile uses a positive list for food additives, which creates unnecessary burden for new products. SPS regulations create added documentation burden on products that may carry diseases or pests not found within Chile. Despite the single window system, there is inefficiency at the border.

## Consistency of Enforcement

5

The rules and regulations are enforced consistently, without the threat of corruption. The digitization of regulations and documentation has largely standardized importation processes, payments, and time frames.

# Chile

## The most burdensome challenges to business...

- SPS regulations are often more stringent than international standards for high-risk products.
- Businesses see importing agents as a necessity due to high buyer power between the three concentrated supermarkets that prefer to purchase products from distributors
- Strict fumigation and quarantine regulations coupled with strong consumer preference for high quality fresh foods makes meeting consumer demands difficult
- Free on board costs common for imports can be as high as 10% or more against local products
- Trading costs generally make foreign producers noncompetitive against domestic firms in a few high-quality products

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	23	8
World Bank Logistics Performance Index (Rank/160)	46	13
WEF Global Competitive Index (Rank/140)	35	13
Economist's Global Food Security Index (Rank/113)	24	7
Harvard Economic Complexity Index (Rank/124)	69	16
UN ICT Development Index (Rank/167)	55	10
UN e-Government Development Index (Rank/193)	42	9

### World Bank Indicators

	Hrs	USD
<i>Time to Export</i>		
• Border compliance	60	290
• Documentary compliance	24	50

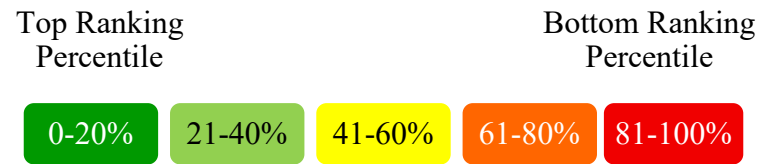
	Hrs	USD
<i>Time to Import</i>		
• Border compliance	54	290
• Documentary compliance	36	50

### UNCTAD TRAINS NTMs

NTMs affecting economy	4245
NTMs issued by economy	12

### WTO Complaints

Complaints issued against economy	13
Complaints issued by economy	10





# People's Republic of China

## Regulatory Philosophy

3

Food security is interpreted as self-sufficiency. Regulations used as discriminatory tools to protect local producers and influence price. Regulatory changes are made on an ad-hoc basis without considering international standards. Improvement has occurred since joining WTO.

## TBT

2

Registration requirements and labeling are identified as the most complex issues facing businesses. China has very unique requirements on labeling and complex authentication process for imported goods which is burdensome for business to import products into China.

## SPS

2

China has unique hygienic requirements and MRLs which are not entirely science-based or consistent across governmental departments. Trading partners believe China utilizes SPS measures as discretionary trade tools.

## Level of Protectionism

2

For the purpose of food self-sufficiency, China has import quotas on most of the staple goods under the guideline of the WTO and only those state-owned enterprises can bypass the quotas. SPS is used as a major tool to protect and develop local industries (e.g. dairy).

## State of Information

3

Information is available online, but some regulations are vague and inconsistent. Difficult to interpret the meaning of online information and further enquiry to the local government agencies via phone or in-person meeting is a necessary to clarify information.

## Transport Infrastructure

3

China has a well establish highway, railway, and port system, but there are capacity issues with the infrastructure in the rural areas. The lack of cold-chain system is viewed as the largest impediment to trade.

## ICT Infrastructure

3

China has already initiated reforms on the integration of a regional customs system and established regional centers with unified declarations, risk-control material reviews and processing platforms. The complete integration of systems at national level is forecasted for 2020.

## Administrative Burdens

1

Administrative capacity is relatively low in China, therefore the timeframe for processing documents or clearing customs can vary depending on the relationship with the officers and size of the business. For MSMEs, the importation request can go years without a decision or reply.

## Consistency of Enforcement

1

Understanding regulations varies among different government agencies. Therefore, local governmental agencies have different processes for the same regulation at the implementation stage. There is no mutual recognition nor common understanding among local governments.

# China

## The most burdensome challenges to business...

- Due to the large volume of international trading, administrative capacity is relatively low in China, which may raise the unknown timeframes for customs clearances and uncertain risks to businesses
- Inconsistently applied regulations from port to port creates uncertainty and leads to port shopping
- TBT is a big issue because of the difficult authentication procedure for imported goods
- Lack of cold chain is the largest cited infrastructure problem by businesses
- Past food safety incident outbreaks in China resulted in severe criticism of government’s inability to protect consumers. In response, China has overhauled its food safety and management system to be stricter and tougher for non-compliance.

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking: 83  
APEC Ranking: 13

World Bank Logistics Performance Index (Rank/160)

World Ranking: 27  
APEC Ranking: 9

WEF Global Competitive Index (Rank/140)

World Ranking: 28  
APEC Ranking: 11

Economist’s Global Food Security Index (Rank/113)

World Ranking: 42  
APEC Ranking: 11

Harvard Economic Complexity Index (Rank/124)

World Ranking: 19  
APEC Ranking: 6

UN ICT Development Index (Rank/167)

World Ranking: 82  
APEC Ranking: 14

UN e-Government Development Index (Rank/193)

World Ranking: 63  
APEC Ranking: 12

### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	26	522
• Documentary compliance	21	85

#### Time to Import

• Border compliance	92	777
• Documentary compliance	66	171

### UNCTAD TRAINS NTMs

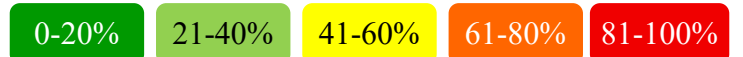
NTMs affecting economy	4245
NTMs issued by economy	393

### WTO Complaints

Complaints issued against economy	37
Complaints issued by economy	13

Top Ranking Percentile

Bottom Ranking Percentile



# Hong Kong, China

## Regulatory Philosophy

5

Hong Kong is in line with international standards, implementing CODEX. Ultra-reliant on food imports, Hong Kong does not meaningfully discriminate against foreign firms.

## TBT

5

TBT requirements enacted under CODEX. Businesses felt well informed on both existing and changing regulations. Human capital concerns went unreported.

## SPS

5

Businesses reported unfettered access to regulatory information and excellent communication about updated requirements. Interviewees were satisfied with the quality of relevant personnel and expertise. CODEX is the domestic standard, and it is applied equally.

## Level of Protectionism

5

Hong Kong does not produce much food and is highly dependent on food imports. As a result, it does not protect any commodities.

## State of Information

5

The government holds regular forums with industry to disseminate new information. Content is uploaded on line, updated, and available in multiple languages.

## Transport Infrastructure

5

Hong Kong has one of the most sophisticated seaports in the world, and is a major trading hub with excellent infrastructure.

## ICT Infrastructure

5

As a highly developed finance and services economy, Hong Kong received no complaints about ICT infrastructure from businesses.

## Administrative Burdens

5

Businesses had positive sentiment toward the level of administrative burden for Hong Kong. Quality and ease of communication with ministries is reportedly exceptional. Required documentation is not excessive.

## Consistency of Enforcement

4

Businesses reported occasionally inconsistent interpretation of CODEX at the port, and felt that there was a stark contrast in frequency and depth of inspections between wet and hyper markets in country.

# Hong Kong

## The most burdensome challenges to business...

- The few producers in Hong Kong feel that the government is unable to adequately represent and defend them in firm-specific trade disputes
- Unequal implementation of regulations between wet and hyper markets distorts prices and reduces competition
- Customs delays for shipments arriving via the Chinese land border—some businesses are forced to work with consultants to ensure reliable passage of both imports and exports
- Lack of affordable and readily available real estate

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
18	6

World Bank Logistics Performance Index (Rank/160)

9	2
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WEF Global Competitive Index (Rank/140)

7	4
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Economist's Global Food Security Index (Rank/113)

NA	NA
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Harvard Economic Complexity Index (Rank/124)

18	5
----	---

UN ICT Development Index (Rank/167)

9	2
---	---

UN e-Government Development Index (Rank/193)

NA	NA
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### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	19	282
• Documentary compliance	1	52

#### Time to Import

• Border compliance	19	266
• Documentary compliance	1	130

### UNCTAD TRAINS NTMs

NTMs affecting economy 4219

NTMs issued by economy 19

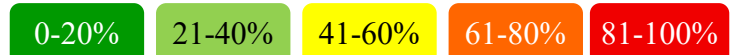
### WTO Complaints

Complaints issued against economy 0

Complaints issued by economy 1

Top Ranking Percentile

Bottom Ranking Percentile





# Indonesia

## Regulatory Philosophy

1

Indonesia designed a highly complex and controlled food system that promotes self-sufficiency, protects consumers, and insulate domestic producers. Policies may be unfavorable to foreign products. Indonesia is a respondent in eight current WTO disputes in agriculture and food products.

## TBT

1

Labeling requirements are strict—although they may be placed on or within the packing of food, businesses are often required to create unique packaging or repackage goods to be cleared through customs. Businesses felt that ingredient identity standards are subjective.

## SPS

1

Certifications must be submitted to three different agencies and may be denied for key products that compete with domestic staples. Regulations are not extensive, but are not consistently assessed. Testing facilities and officials lack capacity to handle requests in a timely manner.

## Level of Protectionism

2

Border measures are used to protect some commodities. Poultry producers must have documentation of manual slaughter practices. However, Indonesia is committed to trade liberalization in the context of IMF-induced reforms and the WTO.

## State of Information

1

Information is not easily accessible and is often vague and outdated. There is no single point of contact for inquiries. The online platforms created to provide information and facilitate imports contain some broken links.

## Transport Infrastructure

1

The main port that handles 50% of imports ranks among the least efficient in Southeast Asia. Cold chain is unavailable throughout a majority of the economy. Recent attempts to improve infrastructure nationally have stalled.

## ICT Infrastructure

3

22% of citizens use the internet, but mobile proliferation is incredibly high, at 132%. Over 96% of citizens have access to electricity, but the traceability of goods across the economy is difficult due to inconsistent connectivity in rural areas.

## Administrative Burdens

1

Regulatory overlap is burdensome and leads to inconsistent guidance and diverging instructions. Business cited that published timeframes for border clearance, certification, and product registration are underestimated.

## Consistency of Enforcement

1

Different ports do not always consistently enforce regulations, incentivizing port-shopping by businesses. Due to the rapid change of regulations, officials are often enforcing outdated standards.

# Indonesia

## The most burdensome challenges to business...

- FDI restrictions, import quotas, and local purchase requirements cap business growth
- Lack of enforcement on intellectual property violations
- Infrastructure deficits and limited cold chain prevent timely transportation of goods, and add costs
- Businesses cited high, informal facilitation payments
- All documents must be translated into the local language
- Regulatory overlap may result in delays and inconsistent guidance
- Indonesian courts are not bound by precedents in disputes or appeals, leading to unpredictability and uncertainty

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
88	14

World Bank Logistics Performance Index (Rank/160)

63	15
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WEF Global Competitive Index (Rank/140)

37	14
----	----

Economist's Global Food Security Index (Rank/113)

71	16
----	----

Harvard Economic Complexity Index (Rank/124)

56	14
----	----

UN ICT Development Index (Rank/167)

108	19
-----	----

UN e-Government Development Index (Rank/193)

116	18
-----	----

### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	39	254
• Documentary compliance	72	170

#### Time to Import

• Border compliance	100	383
• Documentary compliance	144	160

### UNCTAD TRAINS NTMs

NTMs affecting economy 4229

NTMs issued by economy 65

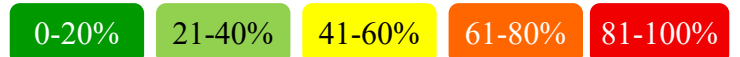
### WTO Complaints

Complaints issued against economy 14

Complaints issued by economy 10

Top Ranking Percentile

Bottom Ranking Percentile



# Japan

## Regulatory Philosophy

4

Although Japan has high regulatory standards for agri/food products, the economy has outcomes-based approaches, such as approval of third-party testing facilities outside of the economy. Due to declining population, it is gradually adopting more liberal free trade policies.

## TBT

3

Requirements are somewhat prescriptive. Traders must comply with a complex list of requirements beyond international norms, and labelling rules are some of the most complex.. But information is available, processes well-defined, officials qualified, and measures applied consistently.

## SPS

3

SPS requirements are complex (e.g., 200 points of chemical inspection for rice). Customs processes are well-defined, officials qualified, and measures based on risk management principles. Japan allows third-party testing certificates in other economies to facilitate trade.

## Level of Protectionism

2

Japan has a high level of protectionism on agriculture products that include: rice, beef, milk products, wheat, and pork. The government has vowed to reduce the protectionism under the negotiations for the Trans-Pacific Partnership.

## State of Information

5

Japan publishes all of its information online. It is available in multiple languages, and frequently updated to reflect any changes to regulation. Businesses seem well informed about regulations and practices.

## Transport Infrastructure

5

Japan has an advanced and well-maintained infrastructure. An extensive road network spans from Tokyo to the entire country. Modern rail network and world-class sea ports also facilitate trade.

## ICT Infrastructure

5

Japan is a highly connected economy at a government, business, and personal level. There are current efforts to expand international internet bandwidth and the number of secure servers.

## Administrative Burdens

4

Administrative burdens exist, due to the high number of regulations. Beyond paperwork, however, burdens are minimal as the government has established streamlined organizations to facilitate the clearance of products across its borders.

## Consistency of Enforcement

5

Although Japan has very strict regulations, they are consistently enforced regardless of where the products enter, and as long as they comply with the regulatory requirements. Corruption is relatively rare.

# Japan

## The most burdensome challenges to business...

- Local partners are recommended to efficiently and successfully navigate local customs and culture
- Several-hundred-point checklists require extensive due diligence for compliance with SPS MRLs
- Protectionism around key national commodities prohibit imports or require a government intervention
- Barriers to FDI reduce opportunities for foreign firms seeking to expand their business
- Global distribution networks group Japanese goods together rather than with other similar commodities, primarily in value added products (e.g., sake is included with other Japanese products rather than wine)
- It is strongly recommended that consignments of new products not be shipped until product compliance has been verified

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
18	7

World Bank Logistics Performance Index (Rank/160)

12	4
----	---

WEF Global Competitive Index (Rank/140)

6	3
---	---

Economist's Global Food Security Index (Rank/113)

22	6
----	---

Harvard Economic Complexity Index (Rank/124)

1	1
---	---

UN ICT Development Index (Rank/167)

11	3
----	---

UN e-Government Development Index (Rank/193)

11	5
----	---

### World Bank Indicators

#### Time to Export

	Hrs	USD
• Border compliance	48	306
• Documentary compliance	3	15

#### Time to Import

• Border compliance	48	337
• Documentary compliance	3	23

### UNCTAD TRAINS NTMs

NTMs affecting economy 4238

NTMs issued by economy 405

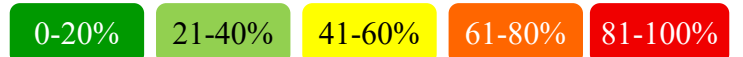
### WTO Complaints

Complaints issued against economy 15

Complaints issued by economy 22

Top Ranking Percentile

Bottom Ranking Percentile





## Republic of Korea

### Regulatory Philosophy

2

Although progressing towards science-based standards, Korean's regulations sometimes omit details to enable accurate and timely decisions. *Chaebols* have a high degree of power and influence over domestic markets and use this to create barriers in food trade for foreign competitors.

### TBT

3

Korea is shifting to a 'positive list' for agro-chemicals/residues and the implementation of this system may positively impact trade volume. Labelling standards change frequently requiring businesses to engage with local Korean contacts to ensure compliance.

### SPS

2

Tolerance levels exist on a product-by-product basis. Although Korea follows CODEX, if a food additive is not registered in Korea, use of that additive is prohibited.

### Level of Protectionism

4

Korea uses selective import quotas and tariffs to protect domestic industries. Favoritism for domestic firms is not uncommon or unique to Korea. Revised regulation does not appear to discriminate against targeted firms, but generally applies to an industry as a whole.

### State of Information

3

Information is readily available through digital channels. The quality and completeness may be a concern. The government is fairly open and transparent; however, Korean companies consistently receive an 'F'-grade in private information disclosure.

### Transport Infrastructure

4

Korea has sophisticated transportation and logistics infrastructure, which include temperature-controlled distribution network that covers the entire supply chain. Its ports are semi-automated container terminals and infrastructure investment remains a priority.

### ICT Infrastructure

5

With the fastest global internet speed, Korea is ranked #1 in the ICT Development Index. Declarations can be made online for paperless import clearances.

### Administrative Burdens

3

Online portal allows for the electronic submission of customs documentation to reduce burden. Korean regulations lack specificity that generate confusion, according to business. Efforts are underway to consolidate regulatory agencies to reduce inefficiencies.

### Consistency of Enforcement

3

Provincial officials also have authority, in addition to national agencies, to verify labelling of standards. Opportunities exist for some inconsistencies in enforcement.

# Republic of Korea

## The most burdensome challenges to business...

- Varying interpretations of CODEX between Korea and some of its trading partners creates confusion
- Vague product classification definitions create interpretation issues at the border
- Lobbying plays a crucial role in policy development, but not all businesses are involved—this creates uncertainty for those outside of the conversation
- Translators and interpreters are essential to navigate trade requirements
- Businesses see lengthy timelines for registration of food additives for use in products

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	37	10
World Bank Logistics Performance Index (Rank/160)	24	7
WEF Global Competitive Index (Rank/140)	26	10
Economist's Global Food Security Index (Rank/113)	28	8
Harvard Economic Complexity Index (Rank/124)	4	2
UN ICT Development Index (Rank/167)	1	1
UN e-Government Development Index (Rank/193)	3	2

World Bank Indicators	Hrs	USD
<i>Time to Export</i>		
• Border compliance	14	185
• Documentary compliance	1	11
<i>Time to Import</i>		
• Border compliance	6	315
• Documentary compliance	1	27
UNCTAD TRAINS NTMs		
NTMs affecting economy		4236
NTMs issued by economy		212
WTO Complaints		
Complaints issued against economy		16
Complaints issued by economy		17
Top Ranking Percentile	Bottom Ranking Percentile	
0-20%	21-40%	41-60%
	61-80%	81-100%

# Malaysia

## Regulatory Philosophy

4

There is limited land available for agriculture and food production. Malaysia as a net importer. Adherence to the WTO's "Standard Code" for product certification, and APEC's Mutual Recognition Arrangement supports "least trade restrictive" philosophy.

## TBT

2

Most requirements are available and clearly communicated. All imported beef, lamb, and poultry products must be Halal by Malaysian standards, and follow labor and logistics requirements under the regulation. Packaging requirements change frequently and are inconsistently assessed.

## SPS

2

Information and requirements are available online. Certification requires on-site inspection, limited by human capital. Inspectors inconsistently apply published standards. Certificates must be renewed or extended annually.

## Level of Protectionism

3

Rice is regulated by one agency that certifies producers, as approved by the WTO until 2020. Certain fruits seen as sacred goods, like mangosteen and durian, are also protected.

## State of Information

4

There is a central point of contact through MAQIS. Information is available online in multiple languages with access to online certification systems, registration, and traceability through government digital platforms.

## Transport Infrastructure

3

Heavy government and foreign investment are improving transportation and physical infrastructure of major cities. There is a focus on improving highways, airports, rail systems, and ports.

## ICT Infrastructure

4

There is a focus on enhancing internet speeds and connectivity and to provide education, training and development in ICT around the economy. There are digital platforms and services available for registration, tracking, origins, certifications, and online records.

## Administrative Burdens

3

Government developed MAQIS is a central point of contact of governmental organizations for businesses engaged in food and agricultural trade. Offices and customs are well staffed, educated, and trained. Timelines and requirements are stringent but clearly defined.

## Consistency of Enforcement

3

Businesses felt policies offer more support for firms owned and operated by indigenous Malaysians. Inconsistency between published standards and enforcement by inspection agents in both certification and customs.

# Malaysia

## The most burdensome challenges to business...

- Halal certification is very strict for both importers and exporters and there is no MRA for Halal certification in the region; certificate validity limited to one year with maximum extension of two years.
- To create product differentiation and meet consumer demand, retailers often require additional Halal certifications and documentation beyond government mandates
- Competition among retailers is intense ,with MNCs thinning margins in a price-inelastic market
- Frequent requirement for on-site inspection hampered by human capital constraints
- Certain coloring and food additives generally accepted around the world are not allowed in imported products
- It is imperative to have a domestic partner to create market demand and a clear path for your goods

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	54	11
World Bank Logistics Performance Index (Rank/160)	32	10
WEF Global Competitive Index (Rank/140)	18	8
Economist's Global Food Security Index (Rank/113)	35	9
Harvard Economic Complexity Index (Rank/124)	28	9
UN ICT Development Index (Rank/167)	64	11
UN e-Government Development Index (Rank/193)	60	11

### World Bank Indicators

	Hrs	USD
<i>Time to Export</i>		
• Border compliance	20	321
• Documentary compliance	10	45

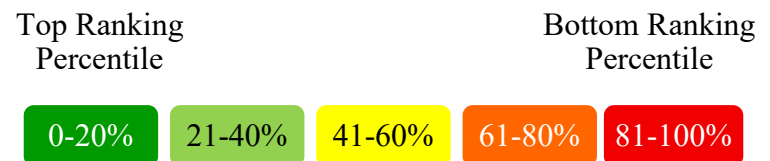
<i>Time to Import</i>		
• Border compliance	24	321
• Documentary compliance	10	60

### UNCTAD TRAINS NTMs

NTMs affecting economy	4225
NTMs issued by economy	37

### WTO Complaints

Complaints issued against economy	1
Complaints issued by economy	1





# Mexico

<i>Regulatory Philosophy</i>	4	Pro-trade philosophy and regulatory coherence with global standards. Active participant in multiple FTAs. However, politicians are slow to act, sometimes blocking international agreements. There is pressure to protect powerful and influential players in some agricultural sectors.
<i>TBT</i>	4	Requirements are strict, but not considered unreasonable by business. The cost and the time involved in obtaining import certifications and inspections can be onerous. Standards are imposed on all imported products, but are often not imposed on competitive domestic products.
<i>SPS</i>	3	Requirements are complex. Long delays often frustrate business, but are science-based and aligned with global standards, particularly those in the U.S. Requirements differ by state, which increases the burden for business. SPS regulations used in retaliatory ways in trade disputes.
<i>Level of Protectionism</i>	3	While Mexico seeks open and competitive markets it continues protect key products. Protectionism also exists for select, politically connected sectors. Discrimination against certain economies occurs. NTBs are sometimes used as political tools in trade disputes, especially with the U.S.
<i>State of Information</i>	4	Mexico has made significant investments in establishing and maintaining online systems. Documents are available for review and submission electronically. The government is continuing to improve systems. Mexico is ahead of major trade partners in e-certifications.
<i>Transport Infrastructure</i>	3	Bottlenecks at ports (land and sea) and underdeveloped road and rail infrastructure present logistics challenges. Access to cold chain is sometimes problematic. Crime and theft in the supply chain continues to be a challenge.
<i>ICT Infrastructure</i>	2	While the Mexican government has an aggressive agenda to move all government processes online, the general ICT environment in Mexico continues to lag. Access to connectivity remains a challenge outside major cities.
<i>Administrative Burdens</i>	2	Cost and time delays in obtaining certifications and inspections is a major challenge. New regulations are enforced without a corresponding increase in human resources. Required authorizations on documents are often difficult to obtain. Corruption at the border is an ongoing challenge.
<i>Consistency of Enforcement</i>	2	Inconsistent application of rules and procedures is a major frustration for business. Inadequately trained personnel, and understaffed agencies, create time delays. The prevalence of corruption compounds the problem.

# Mexico

## The most burdensome challenges to business...

- Transportation infrastructure is a challenge within the economy, making distribution of goods difficult and costly
- Import regulations can change rapidly without advance notice to business, causing delays and import rejections
- Many domestic industries are able to enact trade barriers through governmental pressure and lobbying
- Connectivity in rural areas remains a problem for tracking goods around the economy
- Public sector agencies have monopolized transportation network, increasing the cost of trade
- Corruption remains a burdensome challenge for businesses

Trading Indices	World Ranking	APEC Ranking	World Bank Indicators	Hrs	USD		
Transparency International Corruption Perceptions Index (Rank/167)	95	16	<i>Time to Export</i>				
World Bank Logistics Performance Index (Rank/160)	54	14	• Border compliance	20	400		
WEF Global Competitive Index (Rank/140)	57	18	• Documentary compliance	8	60		
Economist's Global Food Security Index (Rank/113)	39	10	<i>Time to Import</i>				
Harvard Economic Complexity Index (Rank/124)	22	7	• Border compliance	44.2	450		
UN ICT Development Index (Rank/167)	95	15	• Documentary compliance	17.6	100		
UN e-Government Development Index (Rank/193)	59	10	UNCTAD TRAINS NTMs				
			NTMs affecting economy		4250		
			NTMs issued by economy		185		
			WTO Complaints				
			Complaints issued against economy		14		
			Complaints issued by economy		23		
			Top Ranking Percentile		Bottom Ranking Percentile		
			0-20%	21-40%	41-60%	61-80%	81-100%

## New Zealand

### Regulatory Philosophy

5

New Zealand not only aligns itself with international standards such as CODEX, but is also very proactive in international policy discussions in several diplomatic forums.

### TBT

5

Regulatory information is readily available, up-to-date, and applied consistently. Processes to measure compliance are well-defined and efficient. Businesses reported no challenges with human capital capacity. Lenient restrictions on country-of-origin documentation are business-enabling.

### SPS

4

SPS regulations enforced, but equitable application. Largely science-based, but some measures far exceed international standards. Businesses are well informed on regulations and relevant changes. No challenges with human capital capacity.

### Level of Protectionism

4

Predominantly open to trade, though cases of protectionism in key subsectors, such as meat and dairy, have been reported. Delays in farm audits and high standards affect foreign producers' ability to compete.

### State of Information

5

Import requirements and regulations are clearly described on the customs website, which is up-to-date, available in a variety of languages, and comprehensive. There is a point of contact available to all prospective traders.

### Transport Infrastructure

5

Road and rail network is extensive. Multiple highly-efficient container ports support the economy's export-oriented economy. Businesses reported no challenges related to infrastructure in New Zealand.

### ICT Infrastructure

5

The government has extensively invested in increasing the connectivity of the population and promoting trade via digital initiatives. Internet availability is extremely high, with 88% internet accessibility rate, and a 122% cellular subscription rate. ICT supports adoption of digital portals in trade.

### Administrative Burdens

5

Rigorous SPS regulations naturally require more documentation. However, New Zealand has well-trained personnel, open lines of communication, clear guidelines, and reasonable time frames for procedures. Policy changes are rational and announced in advance.

### Consistency of Enforcement

5

Rules and regulations are consistently enforced across the economy, regardless of mode of entry. Customs has transparent timeframes for processing and government officials are consistent and qualified. Payments are clear, transparent, and fair.

# New Zealand

## The most burdensome challenges to business...

- Typical of island nations, businesses must meet strict SPS regulations with regards to high-risk food categories, including meat, dairy, and fresh produce
- High shipping costs due to the economy's remote geographical location
- Strong agriculture sector producing the highest quality products creates challenges for foreign firms trying to compete with the high local standards
- New Zealand has a small consumer market compared to other APEC economies, so foreign market access is critical to domestic producers
- There is an immediate and long-term shortage of skilled labor across the agriculture industry

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
4	1

World Bank Logistics Performance Index (Rank/160)

World Ranking	APEC Ranking
37	11

WEF Global Competitive Index (Rank/140)

World Ranking	APEC Ranking
16	7

Economist's Global Food Security Index (Rank/113)

World Ranking	APEC Ranking
11	5

Harvard Economic Complexity Index (Rank/124)

World Ranking	APEC Ranking
49	12

UN ICT Development Index (Rank/167)

World Ranking	APEC Ranking
16	6

UN e-Government Development Index (Rank/193)

World Ranking	APEC Ranking
8	4

### World Bank Indicators

#### Time to Export

	Hrs	USD
• Border compliance	38	337
• Documentary compliance	3	67

#### Time to Import

	Hrs	USD
• Border compliance	25	367
• Documentary compliance	1	80

### UNCTAD TRAINS NTMs

NTMs affecting economy 4237

NTMs issued by economy 306

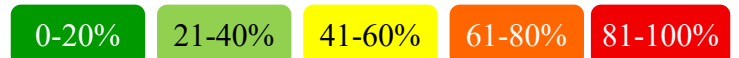
### WTO Complaints

Complaints issued against economy 0

Complaints issued by economy 9

Top Ranking Percentile

Bottom Ranking Percentile





# Papua New Guinea

## Regulatory Philosophy

1

Government is working towards self sufficiency. Policies develop on an ad-hoc basis without considering international standards or the impact on foreign and domestic firms. NTMs are used as discriminatory tools against imports to incentivize and enable domestic monopolies.

## TBT

3

Regulations are prescriptive in nature and change often, with little consideration of international standards. Local authorities do not have the capacity or training to consistently apply regulations.

## SPS

2

Regulations are not always based in science. However, the larger issue stems from the inability and capacity of government agencies to accurately test for the regulations put in place. Few testing facilities are located in PNG, and Singapore or New Zealand take contracts as a result.

## Level of Protectionism

3

As a net importer, PNG is working towards expanding focus on agri-food production. However, the government issues import bans in certain sectors to promote monopolization by local industry, effectively inflating the price in the local market.

## State of Information

2

Information is available online, but there is lack of consistent access to the internet within the economy. Regulations can be changed overnight and digital platforms are not always updated in a timely manner.

## Transport Infrastructure

2

Transportation is the largest impediment to competitive market access for businesses. The government is working on expansion initiatives including Lae Port Development Project to reduce port congestion.

## ICT Infrastructure

2

Banks take 10-15% of each transaction due to market rejection of the Kina. PNG is making large strides towards digitization and single window implementation. Basic access to power and internet is unreliable, affecting the ability to submit documents online within the economy.

## Administrative Burdens

1

Facilitation payments, monopolization of regulation and industry by government, and frequency policy changes impede trade with the economy. There is a movement developing to stay nepotism and cronyism within the government and positions of power.

## Consistency of Enforcement

2

Timeframes are largely unknown, leading to inconsistent enforcement as a result of administrative capacity issues and ad-hoc regulation changes. Information sharing is slow, so officials implement varying standards.

# Papua New Guinea

## The most burdensome challenges to business...

- Government manipulates trade to enable monopolistic control by domestic firms
- Infrastructure is in disrepair, causing delays, lost cargo and robberies
- The high cost of transportation and production prices excludes many producers from the global market, forcing PNG exporters to offer products differentiated through costly PVSs
- Poorly trained and understaffed agencies cause unwarranted rejections, create delays, and prevent expansion
- Lack of power and internet connectivity continues to be a major issue, undermining digitized customs processes
- 97% of land is customarily owned; government proposed a new bill that extinguishes state leases, mortgages, and sub-leases held by non-citizens

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

**World Ranking** **APEC Ranking**

139

20

World Bank Logistics Performance Index (Rank/160)

105

21

WEF Global Competitive Index (Rank/140)

NA

NA

Economist's Global Food Security Index (Rank/113)

NA

NA

Harvard Economic Complexity Index (Rank/124)

116

19

UN ICT Development Index (Rank/167)

NA

NA

UN e-Government Development Index (Rank/193)

179

19

### World Bank Indicators

Hrs USD

#### Time to Export

- Border compliance 72 675
- Documentary compliance 96 375

#### Time to Import

- Border compliance 72 810
- Documentary compliance 120 425

### UNCTAD TRAINS NTMs

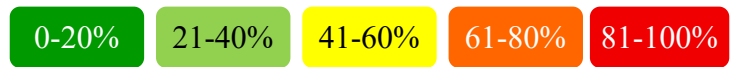
- NTMs affecting economy 4215
- NTMs issued by economy NA

### WTO Complaints

- Complaints issued against economy NA
- Complaints issued by economy NA

Top Ranking Percentile

Bottom Ranking Percentile



# Peru

## Regulatory Philosophy

4

High standards and strict inspections are applied on locally produced agriculture products. Most standards adopted by the government are close to international standards but sometimes more stringent. Risk assessment processes can be slow and onerous.

## TBT

3

Regulations tied to CODEX, but exceed some standards. Risk assessment and certification procedures can be quite slow. MSMEs reported challenges extensive government requirements, particularly around labeling. Government has restrictions on import of some types of equipment.

## SPS

3

Regulations are based on CODEX, but are more stringent. Peru imposes challenging rules for handling of high-risk products, such as pork, and requires proof of certification with each shipment. SENASA is working with trade groups to create a consensus-based approach for regulations.

## Level of Protectionism

4

Peru is an open economy that welcomes imports. After years of intervention in the 60s and 70s, the government is encouraging value-added products, rather than protectionism. However, the government is making major investments in key sectors, such as cotton, which may be insulated.

## State of Information

5

The VUCE system provides online and up-to-date information and the ability to register as import and exporters. All information is digitalized and VUCE website is one-stop information center for businesses, which significantly reduces red-tape and time associated with registration.

## Transport Infrastructure

2

Roads are often congested causing time delays in major cities. The road infrastructure is poor in the highland areas and is an obstacle for business to reach the port. The major port has capacity issues, and cargo trucks have extensive entry wait times

## ICT Infrastructure

3

Though making progress, Peru has low penetration rates of ICT in rural areas. Internet and mobile accessibility is somewhat low. Online portals and single window exist for firms with the hardware to access them. E-commerce is slowly proliferating in the industry.

## Administrative Burdens

3

The VUCE Single Window system has significantly reduced the red-tape, payments, and time associated with product registration. Businesses reported challenges with overly stringent rules on documentation formatting and facilitation payments.

## Consistency of Enforcement

3

Rules and regulations enforcement is subject to favoritism and bias. Facilitation payments are necessary to doing business. There is little to no assistance for businesses to dispute or challenge regulations.

# Peru

## The most burdensome challenges to business...

- The government handles all SPS issues raised by associations and business but is short human resources to bring in inspectors from trading countries to Peru. The assessment process can take 8 to 10 years for some products
- Physical infrastructure, including capacity issues on roads and in ports, continues to be a problem for transporting goods to and from ports and around the economy
- Customs officials sometimes enforce standards that are more stringent than required by partner economies
- Dietary supplements are classified as drugs and can only be sold in limited channels. Business who want to import supplements using certain compounds must reformulate their products to meet the standard

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
88	15

World Bank Logistics Performance Index (Rank/160)

69	17
----	----

WEF Global Competitive Index (Rank/140)

69	19
----	----

Economist's Global Food Security Index (Rank/113)

55	14
----	----

Harvard Economic Complexity Index (Rank/124)

92	18
----	----

UN ICT Development Index (Rank/167)

104	18
-----	----

UN e-Government Development Index (Rank/193)

81	15
----	----

### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	48	460
• Documentary compliance	48	50

#### Time to Import

• Border compliance	72	583
• Documentary compliance	72	80

### UNCTAD TRAINS NTMs

NTMs affecting economy	4228
NTMs issued by economy	281

### WTO Complaints

Complaints issued against economy	5
Complaints issued by economy	3

Top Ranking Percentile

Bottom Ranking Percentile

0-20%	21-40%	41-60%	61-80%	81-100%
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## The Philippines

### Regulatory Philosophy

3

Agencies are modeled after the U.S. and other key trading partners. In theory, policies should not be trade restrictive. Due to regulatory overlap and challenges in human capital there are widespread opportunities for informal payments and procedures, as well as bureaucratic red tape.

### TBT

3

Philippines allow labeling standards accepted in the U.S. Local regulations sometimes require different labelling content for some products, and require local language.

### SPS

3

Currently, national microbiological standards have not yet been set. Food regulations are patterned after Codex, the US Food and Drug Administration, and other similar regulatory bodies in other economies.

### Level of Protectionism

1

Quotas have been lifted on all products except rice. Tariff Rate Quotas still exist for corn, poultry meat, pork, sugar, and coffee. Minimum access volumes have been established for these commodities.

### State of Information

2

Information is available online but not consistently updated or maintained. Businesses interviewed referenced its unreliability as a credible source of information.

### Transport Infrastructure

1

As an island economy, Philippines does not have an interconnected system of roads or railways uniting different economic centers. Cold chain is not available throughout and neither are adequate roads. Frequent port congestion and ad-hoc truck bans further burden business.

### ICT Infrastructure

4

One of the most connected economies in the world. Mobile penetration is incredibly high throughout, but many rural communities have no access to broadband connections, making business outside of urban centers dependent on mobile networks.

### Administrative Burdens

2

Anti-Red Tape Act was recently enacted to improve federal and local government responsibility and accountability. However many procedures are required for import and export activities involving numerous agencies. Lack of coordination among agencies delays clearances.

### Consistency of Enforcement

1

Inconsistent application of rules and regulations most frequently cited by interviewees as the most challenging attribute of importing products.

# Philippines

## The most burdensome challenges to business...

- Implementation of ad-hoc truck bans most problematic for perishable products that require traders to find alternative markets or modes of transportation to reach end consumer. Non perishable products experience delays in delivering products.
- Long and arduous process to establish a company (16 procedures and average of 36 days).
- Protection of sugar adds significant costs to MSMEs who are unable to arbitrage production outside of the Philippines and must assume the additional cost (firms referenced minimum 20% high cost of sugar compared to Vietnam)

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	95	17
World Bank Logistics Performance Index (Rank/160)	71	19
WEF Global Competitive Index (Rank/140)	47	16
Economist's Global Food Security Index (Rank/113)	74	17
Harvard Economic Complexity Index (Rank/124)	40	11
UN ICT Development Index (Rank/167)	98	16
UN e-Government Development Index (Rank/193)	71	13

### World Bank Indicators

	Hrs	USD
<i>Time to Export</i>		
• Border compliance	42	456
• Documentary compliance	72	53
<i>Time to Import</i>		
• Border compliance	72	580
• Documentary compliance	96	50

### UNCTAD TRAINS NTMs

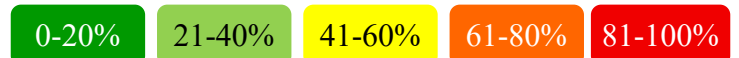
NTMs affecting economy	4228
NTMs issued by economy	296

### WTO Complaints

Complaints issued against economy	6
Complaints issued by economy	5

Top Ranking  
Percentile

Bottom Ranking  
Percentile



# Russia

## Regulatory Philosophy

2

Russia is aiming for self-sufficiency in food production. Russia's trade policy is highly subject to current geopolitical concerns. Barriers to trade are highly variable based on non-transparent factors, such as importer's status, port of entry, and product category.

## TBT

2

Russia does not recognize international safety or quality certifications. All imported food product labels and packaging must be printed in Russian without the use of stickers.

## SPS

2

Businesses reported an SPS system that seems to be affected by diplomatic relations. Regulations are not based in science and often used as discriminatory weapons in international affairs.

## Level of Protectionism

1

Recently, government focus has shifted to self-sufficiency, pursuant to the war in the Ukraine. Russia has banned all imports from the EU in retaliation to EU and US sanctions. Minimum access quotas and governmental intervention are standard for many products.

## State of Information

2

Information is available online, but not consistently updated or maintained. Exporters highly recommend verifying import requirements through buyers, and even send samples ahead, before any goods ship.

## Transport Infrastructure

3

Due to the massive size of Russia, transportation costs are a larger component than the customs process for some products. With a poor road system, there is pressure on Russian Railway's development plan to fill large gaps in capacity and reliability.

## ICT Infrastructure

3

The government is working to adopt state-of-the-art customs information technologies, but plans for all customs documentation to become electronic fully electric by October 2011 have been delayed.

## Administrative Burdens

1

High level of red-tape at the border. Compliance issues increase cost of business substantially. Despite ongoing preparation for WTO accession, agencies' control over imported foodstuffs is confusing for businesses. Facilitation payments are required to conduct business.

## Consistency of Enforcement

3

Facilitation payments aside, enforcement is relatively consistent, with the exception of economies experiencing strained diplomatic relations with the Russian government.

# Russian Federation

## The most burdensome challenges to business...

- Exchange rate fluctuations and economic downturn have made conducting business much harder, particularly for sound pricing
- The use of food import bans as a tool in diplomatic relations creates uncertainties and inconsistencies for business
- There is a consistent threat of government or third-party intervention within private business affairs
- Compliance issues and corruption increase the cost of doing business
- Transportation and logistics burdens are more difficult to navigate than the customs process

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
119	19

World Bank Logistics Performance Index (Rank/160)

99	20
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WEF Global Competitive Index (Rank/140)

45	15
----	----

Economist's Global Food Security Index (Rank/113)

48	12
----	----

Harvard Economic Complexity Index (Rank/124)

50	13
----	----

UN ICT Development Index (Rank/167)

45	9
----	---

UN e-Government Development Index (Rank/193)

35	8
----	---

### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	96	1125
• Documentary compliance	43	500

#### Time to Import

• Border compliance	96	1125
• Documentary compliance	42.5	500

### UNCTAD TRAINS NTMs

NTMs affecting economy	4220
NTMs issued by economy	51

### WTO Complaints

Complaints issued against economy	7
Complaints issued by economy	4

Top Ranking Percentile

Bottom Ranking Percentile

0-20%	21-40%	41-60%	61-80%	81-100%
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# Singapore

## Regulatory Philosophy

5

Singapore is wholly dependent on imports. As a matter of policy, regulations align domestic standards with international standards, increase food security through the facilitation of trade, and keep consumers safe by adhering to science-based NTMs.

## TBT

5

Labeling, testing and identity classification must comply with CODEX standards. Standards are non-discriminatory against foreign businesses and consistent across the economy, regardless of point or mode of entry.

## SPS

5

There is a consistent adherence to CODEX for all regulations. All information is available and accurate on a single, efficient digital platform. Customs officials are well trained, knowledgeable and efficient.

## Level of Protectionism

5

Due to lack of domestic resources, protectionism is non-existent. The government routinely hosts free public seminars in conjunction with foreign governments to help answer business's questions, hear their concerns, and resolve burdens to help increase international trade.

## State of Information

5

All requirements are clearly described on customs website, which is current, available in multiple languages and comprehensive. A single point of contact available 24 hours per day, as well as specific email and in-person provisions.

## Transport Infrastructure

5

The main port is the most efficient port in the world. There is ample access to reliable cold chain, storage and testing facilities. Roads are modern and maintained and interconnected throughout the entirety of the economy.

## ICT Infrastructure

5

The ICT infrastructure is state-of-the-art and often considered the gold standard for international trade. The connectivity proliferation allows businesses to track goods and reduce uncertainty. 82% of the population are internet users and 146% of people have mobile subscriptions.

## Administrative Burdens

5

There are seven steps to import goods. Import documentation can be submitted digitally, and there is a 24 hour clearance for known and previously approved importers. A national digital single window allows importers to submit documentation immediately around the world.

## Consistency of Enforcement

5

Rules and regulations are uniformly enforced across the economy, regardless of mode of entry. Customs maintains transparency in their timelines for processing and officials are consistent and professional. All payments are clear, transparent, and ethical.

# Singapore

## The most burdensome challenges to business...

- Prevalence of PVSs are increasing as consumers demand unique goods and businesses look to increase product differentiation and value throughout the supply chain
- Recent influx of foreign workers is starting to create nervousness for domestic firms

### Trading Indices

	World Ranking	APEC Ranking
Transparency International Corruption Perceptions Index (Rank/167)	8	2
World Bank Logistics Performance Index (Rank/160)	5	1
WEF Global Competitive Index (Rank/140)	2	1
Economist's Global Food Security Index (Rank/113)	3	2
Harvard Economic Complexity Index (Rank/124)	12	3
UN ICT Development Index (Rank/167)	19	7
UN e-Government Development Index (Rank/193)	4	3

### World Bank Indicators

#### Time to Export

	Hrs	USD
• Border compliance	12	335
• Documentary compliance	4	37

#### Time to Import

	Hrs	USD
• Border compliance	35	220
• Documentary compliance	1	37

### UNCTAD TRAINS NTMs

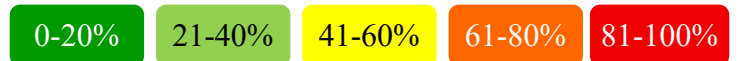
NTMs affecting economy	4216
NTMs issued by economy	4

### WTO Complaints

Complaints issued against economy	0
Complaints issued by economy	1

Top Ranking Percentile

Bottom Ranking Percentile



## Chinese Taipei

### Regulatory Philosophy

3

Chinese Taipei employs more strict regulations than international standards. Though not explicitly discriminatory, the government has used food trade issues as leverage for political ends. Government beginning to support businesses to better compete with foreign producers.

### TBT

4

Businesses by and large had few complaints about TBT, but interviewees from burgeoning industries, such as aquaculture, explained that existing legislation restricts innovation via new technology, and does not suit the existing business landscape.

### SPS

3

SPS rules are clearly defined and readily available. However, they far exceed international norms. The government specifically does not enforce CODEX or the like, and has created successive waves of regulations on MRLs, etc. The TFDA has over 800 regulations on food additives alone.

### Level of Protectionism

3

The hoof and mouth epidemics of the 1990s decimated the agriculture sector. Chinese Taipei still has a large proportion of agriculture workers for a developed nation, which is critical for rural employment. The government does what it can to protect the industry, though it is gradually liberalizing.

### State of Information

5

Businesses did not report challenges within Chinese Taipei regarding availability of information. Digital portals, robust trade associations, and dedicated farming development offices keep businesses informed.

### Transport Infrastructure

4

The infrastructure is quite advanced, including highways and high-speed rail. One issue is that ports are set up for imports. Businesses have had challenges acting on short term opportunities to export, due to the lack of facilities to prepare commodities (e.g., corn) for export portside.

### ICT Infrastructure

5

ICT is quite sophisticated. Companies reported no difficulty with telecommunication or software application. The government is investing in online portals for certification, customs, and accounting for some sub-sectors, and apps to improve production and regulatory compliance for farmers.

### Administrative Burdens

4

Businesses reported extensive documentation for compliance checks, and longer review periods. However, agencies are clearly accountable. Regulation changes have sufficient lead times and communication. Implementation of digital portals gradually reducing burden on business.

### Consistency of Enforcement

5

Businesses did not report inconsistency in enforcement during interviews. However, labs contracted by the government for customs inspections mentioned challenges occasional false positives due to staffing challenges. Food crises cause periods of more stringent enforcement and testing.

# Chinese Taipei

## The most burdensome challenges to business...

- Compliance with strict SPS requirements for imports, particularly from developing economies
- Uncertainty regarding effects of pending free trade agreements—businesses in different subsectors will have wildly different experiences in dealing with foreign competition
- Lasting impacts of the hoof and mouth epidemics of the 1990s has reduced labor force, decreased rural population, increased production costs, and created negative perception of exported goods abroad.
- Difficulty transitioning production to high-quality, value-added products to compete on the open market, due to issues in educating farmers and drawing in new, young producers to farm organic produce.
- Vacillating consumer preferences for commodities, based on country of origin, PVS, et al

Trading Indices	World Ranking	APEC Ranking	World Bank Indicators		
			Hrs	USD	
Transparency International Corruption Perceptions Index (Rank/167)	30	9	<i>Time to Export</i>		
World Bank Logistics Performance Index (Rank/160)	25	8	• Border compliance	17	335
			• Documentary compliance	31	84
WEF Global Competitive Index (Rank/140)	15	6	<i>Time to Import</i>		
			• Border compliance	47	389
Economist's Global Food Security Index (Rank/113)	NA	NA	• Documentary compliance	41	90
			UNCTAD TRAINS NTMs		
Harvard Economic Complexity Index (Rank/124)	NA	NA	NTMs affecting economy	4226	
			NTMs issued by economy	145	
UN ICT Development Index (Rank/167)	NA	NA	WTO Complaints		
			Complaints issued against economy	0	
UN e-Government Development Index (Rank/193)	NA	NA	Complaints issued by economy	6	
			Top Ranking Percentile	Bottom Ranking Percentile	
	0-20%	21-40%	41-60%	61-80%	81-100%



# Thailand

<i>Regulatory Philosophy</i>	3	Thai FDA generally uses CODEX and U.S. FDA regulations, with exceptions, (e.g.: zero MRL for Ractopamine in pork), and sets its own levels. Importers find that Thai regulations change often and are not always science-based.
<i>TBT</i>	2	Changes in regulation, particularly labeling, is a major challenge, exacerbated by underreporting of new regulations between government websites and the WTO. Product identity requirements are inconsistent with international norms.
<i>SPS</i>	2	SPS information is available, but not consistently applied. Businesses see significant delays driven by variable interpretation of global standards, lack of coherent domestic standards, and extensive auditing and testing.
<i>Level of Protectionism</i>	2	As a key net exporter in APEC, Thailand is protectionist across sectors, including poultry, palm oil, shrimp, and sugar. Post food-crises, commodities like rice have opened up to foreign competition.
<i>State of Information</i>	3	Information is available online in Thai and, to a slightly lesser degree, in English. Some information is available on fees and waiting times but often needs to be supplemented with calls to specific departments.
<i>Transport Infrastructure</i>	3	Traffic and congestion continues to be a major challenge. Laem Chabang is considered world's 22nd busiest container port, with new expansion plans as part of \$75bn infrastructure overhaul.
<i>ICT Infrastructure</i>	3	Thailand has a weak ICT infrastructure currently, but investment is increasing. The government is focusing on digital repositories and paperless trading. E-commerce is also starting to develop as a tool to support MSME expansion.
<i>Administrative Burdens</i>	2	Trading can be a slower process for exporters due to multiple agencies, red-tape and overlap. It is also a largely relationship-based system with favoritism and facilitation payments expediting approvals.
<i>Consistency of Enforcement</i>	1	Due to the multi-agency structure, there can be a lack of consistency in responses from officials. Officials can change harmonized code if it affects their commissions. There are some known discrepancies in enforcement amongst trading partners, particularly around informal payments.

# Thailand

## The most burdensome challenges to business...

- Importers experience delays or temporary bans driven by misalignment in regulations or unwillingness of Thai government to adopt global standards
- MSMEs have a hard time accessing capital, at reasonable rates even with government programs for soft loans
- Labeling was cited as one of the largest challenges for business, ranging from content disclosure requirements, sticker acceptance, new laws around marketing, and graphics allowance
- Businesses must get approval from multiple agencies, some of which are siloed, leading to overlap and delays
- Pre-shipment inspections require significant pre-production planning and pose significant costs and delays due to government officials' bias and lack of transparency

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
76	12

World Bank Logistics Performance Index (Rank/160)

45	12
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WEF Global Competitive Index (Rank/140)

32	12
----	----

Economist's Global Food Security Index (Rank/113)

51	13
----	----

Harvard Economic Complexity Index (Rank/124)

26	8
----	---

UN ICT Development Index (Rank/167)

74	13
----	----

UN e-Government Development Index (Rank/193)

77	14
----	----

### World Bank Indicators

#### Time to Export

	Hrs	USD
• Border compliance	51	223
• Documentary compliance	11	97

#### Time to Import

• Border compliance	50	233
• Documentary compliance	4	43

### UNCTAD TRAINS NTMs

NTMs affecting economy 4228

NTMs issued by economy 298

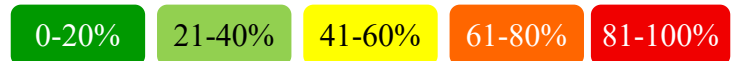
### WTO Complaints

Complaints issued against economy 4

Complaints issued by economy 13

Top Ranking Percentile

Bottom Ranking Percentile



## The United States

### Regulatory Philosophy

3

Discrepancies between rhetoric & policy initiatives creates a muddled regulatory environment, particularly challenging MSMEs. While the U.S. is a highly diverse market that sources around the world, the government has historically protected some producers and been subject to lobbying.

### TBT

3

Labeling is a challenge, due to robust consumer protection, and because of the imperial system. Standards are open and accessible, but complicated by certifications, inspections, and traceability. Product identity can be strict and arbitrary. PVSs increasingly under government purview.

### SPS

3

A proponent of science-based measures, the U.S. has many SPS regulations that exceed international standards. Inconsistent MRLs across similar product lines causes confusion for businesses. Some product bans reflect unreasonable concern for high-risk products, such as mangoes.

### Level of Protectionism

3

Trade agreements and harmonized standards are evidence of promoting international trade. The U.S. does protect and subsidize key sectors of historical importance, such as corn and soy. The government is subject to intense lobbying pressure, as shown by the catfish wars.

### State of Information

5

There is an abundance of trade-related information available online and in multiple languages. Annual reports on regulatory changes for key trading partners enable business. Points of contact are published, but businesses reported regulatory overlap.

### Transport Infrastructure

4

Privatized transport and logistics infrastructure (e.g., cold chains) is in optimal condition. Rails & ports remain the most cost efficient modes for importers. There is increasing deferred maintenance with public works projects. Businesses reported some issues with unionized human capital.

### ICT Infrastructure

5

The US is a global leader in ICT innovation and services, driving advancements in digitized applications across the supply chains.

### Administrative Burdens

4

Though currently acceptable, administrative and regulatory burdens are expanding. The complexity of document compliance was a common complaint, and business emphatically noted that it is more challenging to conduct business today than in the past.

### Consistency of Enforcement

4

The level of enforcement is strict, but equitable for importers and exporters. The regulatory environment has increased in complexity, but businesses felt enforcement is generally fair, with predictable timelines.

# United States

## The most burdensome challenges to business...

- In addition to complying with the regulatory environment, businesses seeking to export products to US retailers will need to comply with complex, redundant, and costly private standards
- The number of documents necessary to meet regulatory filings has the capacity of eroding production efficiencies due to the significant amount of time and cost involved
- Many TBT/SPS standards required to compete are unique to the U.S.
- Lack of oversight on PVS-certifying organizations, coupled with media scrutiny of issues like GMO products
- Uncertainty over new regulations, including the latest Farm Bill, which is extremely wide-reaching

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
16	5

World Bank Logistics Performance Index (Rank/160)

10	3
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WEF Global Competitive Index (Rank/140)

3	2
---	---

Economist's Global Food Security Index (Rank/113)

1	1
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Harvard Economic Complexity Index (Rank/124)

14	4
----	---

UN ICT Development Index (Rank/167)

15	5
----	---

UN e-Government Development Index (Rank/193)

12	6
----	---

### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	1.5	175
• Documentary compliance	1.5	60

#### Time to Import

• Border compliance	1.5	175
• Documentary compliance	7.5	100

### UNCTAD TRAINS NTMs

NTMs affecting economy 4312

NTMs issued by economy 935

### WTO Complaints

Complaints issued against economy 127

Complaints issued by economy 111

Top Ranking Percentile

Bottom Ranking Percentile

0-20%	21-40%	41-60%	61-80%	81-100%
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## Viet Nam

### Regulatory Philosophy

3

Vietnam views food security as food self-sufficiency, but has increased efforts to be open to food trade, FDI, and building GVCs. The economy follows the trend of national standards, but defaults to Codex when no regulation exists.

### TBT

3

Some regulations, such as labeling, are unclear and contain vague language. Inspection for compliance with traceability requirements is inconsistent.

### SPS

3

Regulations are non-discriminatory. Where there are no regulations, the economy defaults to CODEX. However, inspection processes are sometimes poorly defined and inefficient, adding uncertainty and delays.

### Level of Protectionism

4

Viet Nam is open to FDI and trade. Protection of certain food sectors to ensures a modicum of self-sufficiency in key products, such as dairy and salt. This is used as a buffer against food crises that have plagued the economy in the past.

### State of Information

2

Information is not always readily available and consistently up-to-date. Requirements are often unclear for businesses. There is a mistrust of in-country data and statistics. Information online is available in other languages, including English and Chinese.

### Transport Infrastructure

3

Cold chain is underdeveloped; distributor freezers have inadequate capacity, and retail freezers often fail to meet technical specifications. Investment in rail and highways is crucial to increase capacity as MNCs increasingly look to Viet Nam for opportunity.

### ICT Infrastructure

2

131% of citizens have mobile cellular subscriptions, but only 53% of the population has access to the internet. The government is working with MNCs to encourage FDI in ICT projects. Broadband growth is increasing, which should eventually lead to more online platforms for trade.

### Administrative Burdens

2

Administrative procedures are redundant and excessive. Timeframes for feedback are unpredictable. Payments to officials are high and informal. Inspector schedules do not coordinate with business operations, particularly for truckers.

### Consistency of Enforcement

1

Enforcement and testing is inconsistent across a variety of agri-food sectors. Documents and products are not always checked according to established protocols. Procedures vary among provinces. Regulations vary according to mode of transportation: land, sea, and air.

# Viet Nam

## The most burdensome challenges to business...

- Shortage of trained work force for farming and processing
- Inconsistent behavior from inspectors and agencies, including excessive red tape, high payments, and inconsistent testing and sampling methods
- High cost of capital, and the inability to use alternate sources of collateral such as letter of credit
- Limited list of economies registered as trading partners for Viet Nam—businesses have difficulty lobbying government to add economies to that list
- Keeping smallholders competitive and developing their ability to comply with foreign NTM regulations
- Sophisticated black market for some products stifles competition, particularly for foreign MNCs

### Trading Indices

Transparency International Corruption Perceptions Index (Rank/167)

World Ranking	APEC Ranking
112	18

World Bank Logistics Performance Index (Rank/160)

64	16
----	----

WEF Global Competitive Index (Rank/140)

56	17
----	----

Economist's Global Food Security Index (Rank/113)

57	15
----	----

Harvard Economic Complexity Index (Rank/124)

58	15
----	----

UN ICT Development Index (Rank/167)

102	17
-----	----

UN e-Government Development Index (Rank/193)

89	17
----	----

### World Bank Indicators

Hrs USD

#### Time to Export

• Border compliance	57	309
• Documentary compliance	83	139

#### Time to Import

• Border compliance	64	268
• Documentary compliance	106	183

### UNCTAD TRAINS NTMs

NTMs affecting economy 4224

NTMs issued by economy 34

### WTO Complaints

Complaints issued against economy 0

Complaints issued by economy 3

Top Ranking Percentile

Bottom Ranking Percentile

0-20%	21-40%	41-60%	61-80%	81-100%
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# *Appendix 2*






## *Leading Indices*

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## Appendix 2: Leading Indices

Report	Description	Organization
<b>Transparency International Corruption Perceptions Index</b>	<p>The Transparency International Corruption Perceptions Index (CPI) covers data for 178 countries and territories to measure a country’s perceived level of public sector corruption. The index scores economies’ administrative and political corruption on a scale of 0 (highly corrupt) to 100 (very clean). The CPI score is calculated based on the average of the standardized scores (0-100), which source information from 13 surveys and 12 institutions.</p>	
<b>World Bank Logistics Performance Index</b>	<p>The World Bank Logistics Performance Index (LPI) ranks 160 countries on a weighted average basis on the following six dimensions:</p> <ol style="list-style-type: none"> <li>1) Efficiency of the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs;</li> <li>2) Quality of trade and transport related infrastructure (e.g., ports, railroads, roads, information technology);</li> <li>3) Ease of arranging competitively priced shipments;</li> <li>4) Competence and quality of logistics services (e.g., transport operators, customs brokers);</li> <li>5) Ability to track and trace consignments;</li> <li>6) Timeliness of shipments in reaching their destination</li> </ol>	
<b>WEF Global Competitive Index</b>	<p>The World Economic Forum’s Global Competitive Index (GCI) is a comprehensive assessment of the competitive landscape and drivers of productivity and prosperity for 140 countries. The GCI includes data from international organizations including IMF, UNESCO, WHO and the WEF. It reviews 114 indicators grouped into 12 pillars and categorized into three sub-indices.</p>	
<b>The Economist Global Food Security Index</b>	<p>The Global Food Security Index leverages the 1996 World Food Summit definition of food security to assess the core issues of affordability, availability and quality. It is a dynamic, quantitative and qualitative scoring model using 28 indicators to assess food security across 113 countries. This is the first index to examine food security across these core factors, leveraging qualitative indicators not currently adopted in similar indices.</p>	
<b>Harvard Economic Complexity Index</b>	<p>The Center for International Development’s Economic Complexity Index (ECI) is a holistic approach that aims to measure that broader economic system rather than the sum of its parts. The index can also be a proxy for economic development by illustrating an economy’s export market, total trade volume, and how these dynamics evolve over time.</p>	

Report	Description	Organization
<b>UN ICT Development Index</b>	<p>The United Nations ICT Development Index (IDI) is created by the UN International Telecommunication Union (ITU) annually, which assesses 11 indicators to monitor and compare developments in information and communication technology (ICT) for 167 economies. These indicators are grouped into 3 sub-indices:</p> <ol style="list-style-type: none"> <li>1) Access sub-index capturing 5 ICT readiness indicators</li> <li>2) Use sub-index capturing 3 ICT intensity indicators</li> <li>3) Skills sub-index capturing 3 ICT capability indicators</li> </ol>	
<b>UN e-Government Development Index</b>	<p>The UN e-Government Development Index is based on a comprehensive survey conducted every 2 years by the Department of Economic and Social Affairs pertaining to the online presence of the 193 UN member states. The 2016 survey uses three normalized scores on the important dimensions to rate the e-government development status of the economies. It serves as a tool for decision-makers to identify respective areas of strength and challenges in e-government and to guide related policies and strategies. The survey is intended for government officials, academics, intergovernmental institutions, civil society organizations, the private sector, and citizens at large.</p>	
<b>World Bank Ease of Doing Business Index</b>	<p>The World Bank's Ease of Doing Business Index leverages the input from government officials, lawyers, business consultants and other professionals to evaluate the business environment across 189 economies. The rankings are determined by sorting the aggregate distance to frontier scores on 10 topics, from which this report focuses on trading across borders. Within this topic, the USC Marshall ABAC report assesses the following indicators for each APEC economy:</p> <ol style="list-style-type: none"> <li>1) Time and cost to export: Border compliance</li> <li>2) Time and cost to export: Documentary compliance</li> <li>3) Time and cost to import: Border compliance</li> <li>4) Time and cost to import: Documentary compliance</li> </ol>	 <p><b>THE WORLD BANK</b> IBRD • IDA   WORLD BANK GROUP</p>
<b>UNCTAD TRAINS Database</b>	<p>The UNCTAD Trade Analysis Information System (TRAINS), in partnership with the World Bank, provides a global perspective on development data and statistics that includes world development indicators, statistical capacity indicators, education statistics, health nutrition and population statistics.</p>	
<b>WTO Complaints</b>	<p>The WTO Integrated Trade Intelligence Portal (I-TIP) is a comprehensive database of information and classifications on over 25,000 measures applied by WTO members. The notifications and complaints include NTMs such as technical barriers, SPS issues, and anti-dumping and countervailing measures.</p>	



# *Appendix 3*

## *Participating Companies*

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## *Participating Companies*

100% Pure New Zealand Honey Ltd	CAMARA NACIONAL DE INDUSTRIALES DE LA LECHE	Complexities in Food Supply Chains in Asia - Lunch Series
Abbott China	CAMARA NACIONAL DE LA INDUSTRIA DE LA TRANSFORMACION	Consejo Nacional Agropecuario
Abbott Laboratories	Canada Turkey Farmers Association	Conservation Agriculture Alliance of Australia and New Zealand
ADEX	Canadian Association of Importers and Exporters	Council of Agriculture, Chinese Taipei
ADM	Canadian Federation of Agriculture	CP Retail and Marketing Co., Ltd (CPRAM)
Advance Marketing	Canadian Produce Marketing Association	CPL Group
AGAP	Canadian Vitners Association	D. N. Harris & Associates
Agricola Cerro Prieto	CANILEC	Dachan-Great Wall
Agrosanjorge	Canola Council and CAFTA	Daesang corporation
Aires de Campo	Canon Institute for Global Studies	Dairy Australia
Ajinomoto	Cargill	Dairy Companies Association of New Zealand
Alimentos y Frutos S.A. Chile	Cargill Philippines, Inc.	Dairy Farm/Cold Storage
AMB International Lab	Carol Bate, Strategic Policy Consultant	Dana Food
AmCham	Century Pacific Food, Inc.	Danone
Andrew Hudson	Chapi	Darussalem Enterprises
APEC Wine Regulatory Forum	Charoen Pokphand Foods Public Company Limited	Department of Standards Malaysia
APPAMEX - Asociacion de proveedores de productos agropecuarios (Mexico)	Chen Aquaculture	DIGESA
ASEAN Food and Beverage Alliance	Chicken Farmers of Canada	DIRECON, Chile
Asian Trade Center, Singapore	Chilean Association of Olive Oil Industry	Earth Trade Solutions® Washington Apple Commission, Northwest Cherries
Asociación de Exportadores de Frutas de Chile, A.G.	Chilean Association of Pork Producers	EasiYo
Asociación de Vinos de Chile A.G.	Chilean Association of Saumon Industry	Ecological
Austrade	Chilean Fruit Exporters Association	Elders Limited
Australian Food & Grocery Council	China Tea Co., LTD	Export Council of Australia
Australian Meat Processor Corporation	City Pharma	Exportadora Yucay
Beef + Lamb New Zealand	CJ Cheiljedang	Farmer Jo
Beingmate	Clear Hills Farm	FCPC food and consumer products of canada
Bim Group	CMSales Solutions	Federation of Thai Industries
BluePrint	COAPROB Consejo Agroalimentario de Productos Basicos	FEMSA
Board of Trade of Thailand	Cold Storage Singapore	Department of Fisheries, Malaysia
BRF Asia	Colún	FIVS-Abridge
Bureau of Animal and Plant Health, Chinese Taipei	COMCE	FNA Group International

\* Some participating companies explicitly requested to remain anonymous and have not been listed here

Fonterra	Indonesia Fruit and Vegetable Exporter and Importer Association	MIMOS Malaysia
Food & Grocery Council	Indonesia Agricultural Quarantine Agency	Ministerio de Relaciones Exteriores, Chile
Food and Environmental Department, Hong Kong	Indonesia Small Business Exporters Consortium	Ministry for Primary Industries, New Zealand
Food Industry Asia	Institute of Strategic and International Studies (ISIS) Malaysia	Ministry of Agriculture and Agro-based Industry, Malaysia
Freshco	International Enterprise Singapore	Ministry of Agriculture, Chile
Ghanim International	International Food Corporation Limited	Ministry of Agriculture, Forestry, and Fisheries, Japan
Gien Jia	International Rice Research Institute	Ministry of Health, Labour and Welfare, Japan
Golden Arches Corporation Philippines	IPEH	Ministry of International Trade and Industry (MITI), Malaysia
Golden Bridge Foods Manufacturing Pte Ltd	Itochu Group	Ministry of the Economy, Mexico
Golden Resources	Jack Link's	Ministry of Trade, Japan
Government of PNG	JA-Zenchu	Mitsui & Co., LTD.
Greenlea	KC Foods	Msafina Home
Griffins Foods Ltd	Ken Geard	MSD - Animal Health, Singapore
Grupo Empresas Cardoen	Koahsiung District Agricultural Research and Extension Station--Council of Agriculture, Chinese Taipei	Multi-Brand
Grupo Herdez	Kumpulan Fima Berhad	MY Traceability, Malaysia
Grupo PM	Kyokurei Logistics	National Fisheries Authority
GS1 Malaysia	Lapanday Foods Corporation	National Food Institute, Ministry of Industry, Thailand
GTGF Food Corporation	Liangyun Group	National Meat Processor Association (NAMPA)
Ha Noi Kinh Bac Agriculture	Long Chi Zen Industrial Corp	Neptune Bio Innovations Pty. Ltd.
haitai htb co. ltd.	Lumo Agricultura	New Zealand Embassy of South Korea
Hanyang Women's University	Manager of Public Affairs, Hong Kong	New Zealand Horticulture Export Authority
HKSAR Food and Health Bureau	Manufacturers Council of PNG	New Zealand Trade & Investment
Holafoods	Manuka Health	New Zealand Winegrowers
Horticulture New Zealand	Meat and Livestock Australia	Nichirei Foods
IE Canada and Keith Mussar and Associates	Meat Industry Association of New Zealand	Nobex
I-Mei	Meiji University	Office of Agricultural Affairs, Embassy of the United States of America, Thailand

\* Some participating companies explicitly requested to remain anonymous and have not been listed here

Oficina de Estudios y Políticas Agrarias	Shanghai Academy of Agriculture Sciences	University of Asia and the Pacific
Omni-life	Sierra exportadora	Universal Robina Corporation
Organic Commodities PTY Ltd	Smokey Bay Fish Co (broker, not producer)	UPC
Pacific Fresh Products	SMS International	Urban Farmer
PECC	Sojitz Research Institute, Ltd.	US Dairy Export Council
Perfect Food Manufacturing	Soyuz Foods International Inc	US Embassy, Jakarta
PNG Highlands Summit Coffee Co.	Standards Malaysia	USA Poultry & Egg Export Council
Princess Green Nursery Social Enterprise	SuKarne	US-ASEAN Business Council
ProChile	Sunshine International Co., Ltd.	US Department of Agriculture
ProMexico	Swiss Contact	Viet Trang Craft
Pt Salitrosa Ausasia	T&G	Vietnam Association of Seafood Exporters and Producers
Pulse Canada	Tea Association & FAO working group for Tea	Vietnam Chamber of Commerce and Industry
Pricewaterhouse Coopers	Teck Soon Hong Flavours & Fragrances Ltd.	Vietnam Food Association
PYME	Tee Yih Jia Food Manufacturing Pte Ltd	Vitasoy International Holdings LTD
Qau Manager	Terng Ming Biological Co., Ltd.; DERHO Trading Co., Ltd.	Waseda University
S&P Syndicate Public Co., Ltd.	Terry Farms	Wellcome
SAGARPA - Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food	Thai Feed Mill Association	Winemakers' Federation of Australia
Salmon Chile	Thai Frozen Food Association	Wira Group
Sanford	Thai G.A.P.	Workington
Seafood New Zealand	Thai Rice Exporters Association	Yen & Brothers Enterprise Co. Ltd.
Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación	Thai Tuna Industry Association	Zenag Chicken
Secretaría de Economía de Mexico	T-HAM (Taiwan Farm Industry)	Zespri
SENASICA	The Economist	ZunHuai Foundation
Seri Pekatan Sdn Bhd	The Golden Cup Pharmaceutical Co., Ltd.	

\* Some participating companies explicitly requested to remain anonymous and have not been listed here

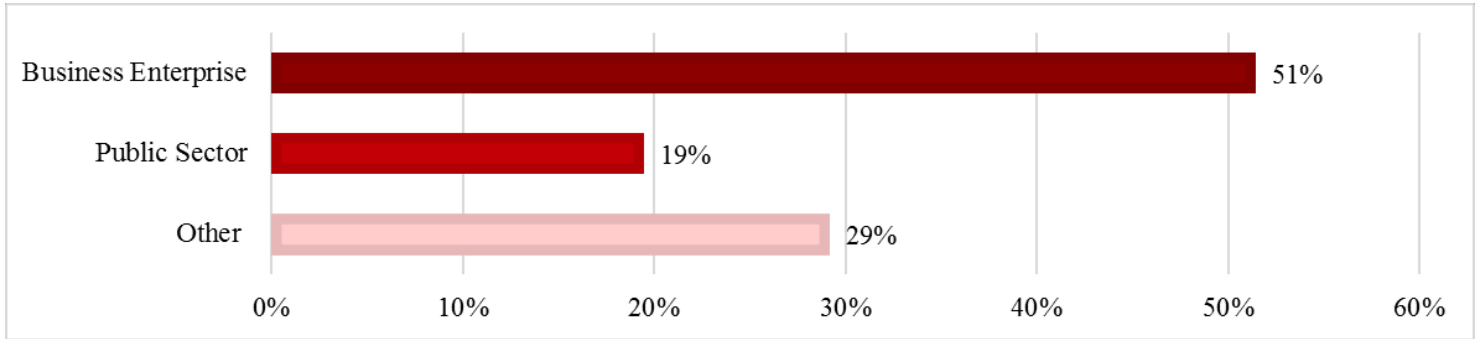
# *Appendix 4*

## *Survey Results*

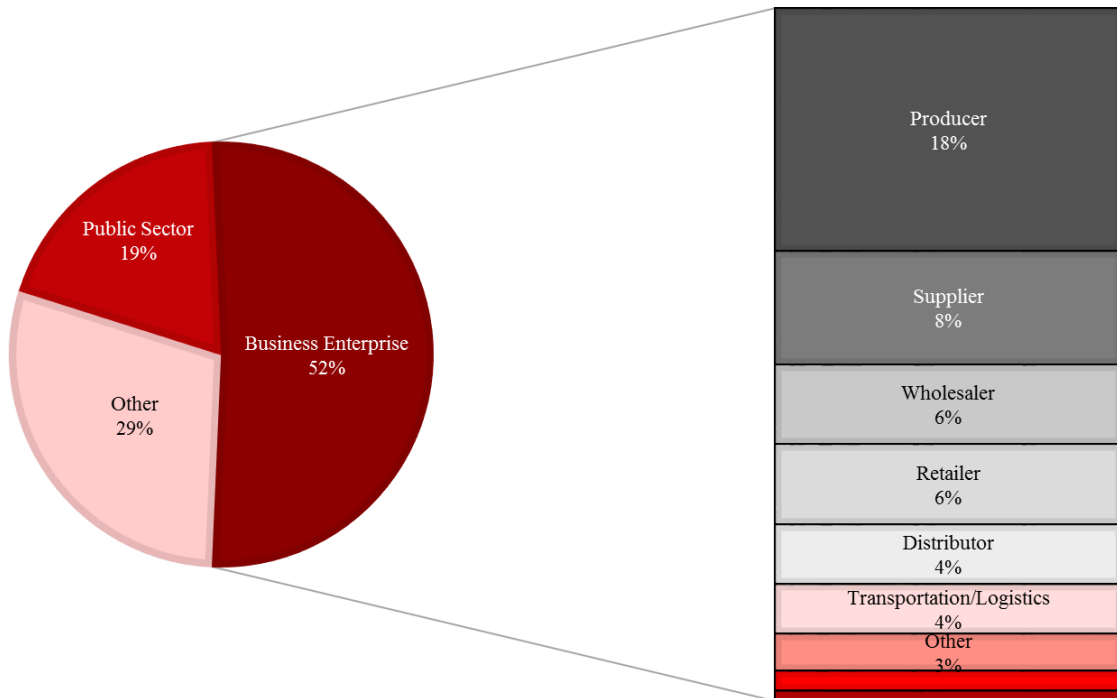
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# Survey Results

Q. Establishing Your Perspective. Select the type of enterprise/organization you work for.

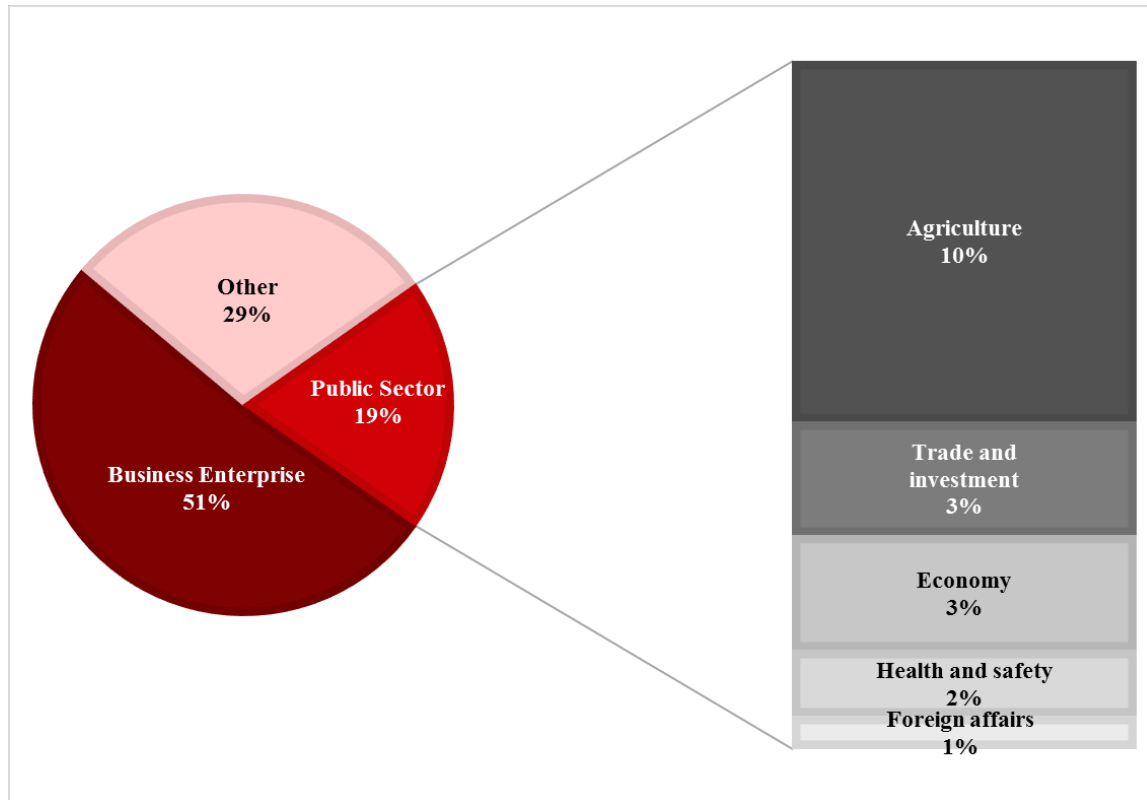


Q. If business enterprise is selected, which type of business enterprise/organization do you work for?

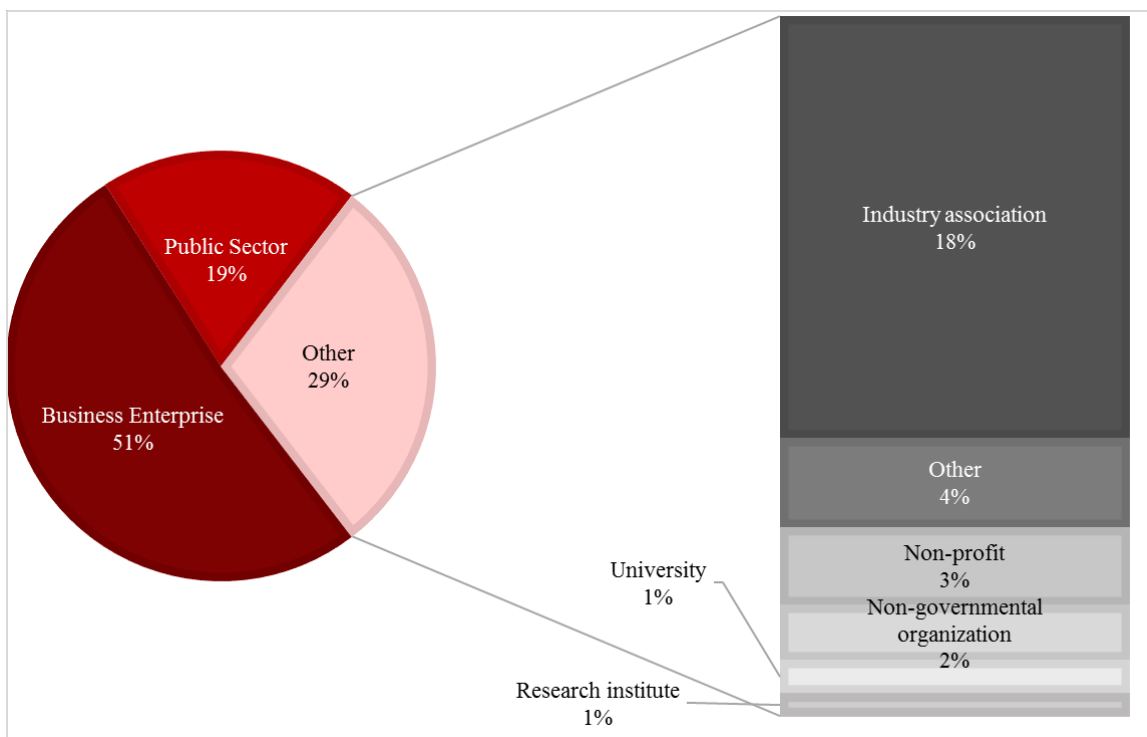




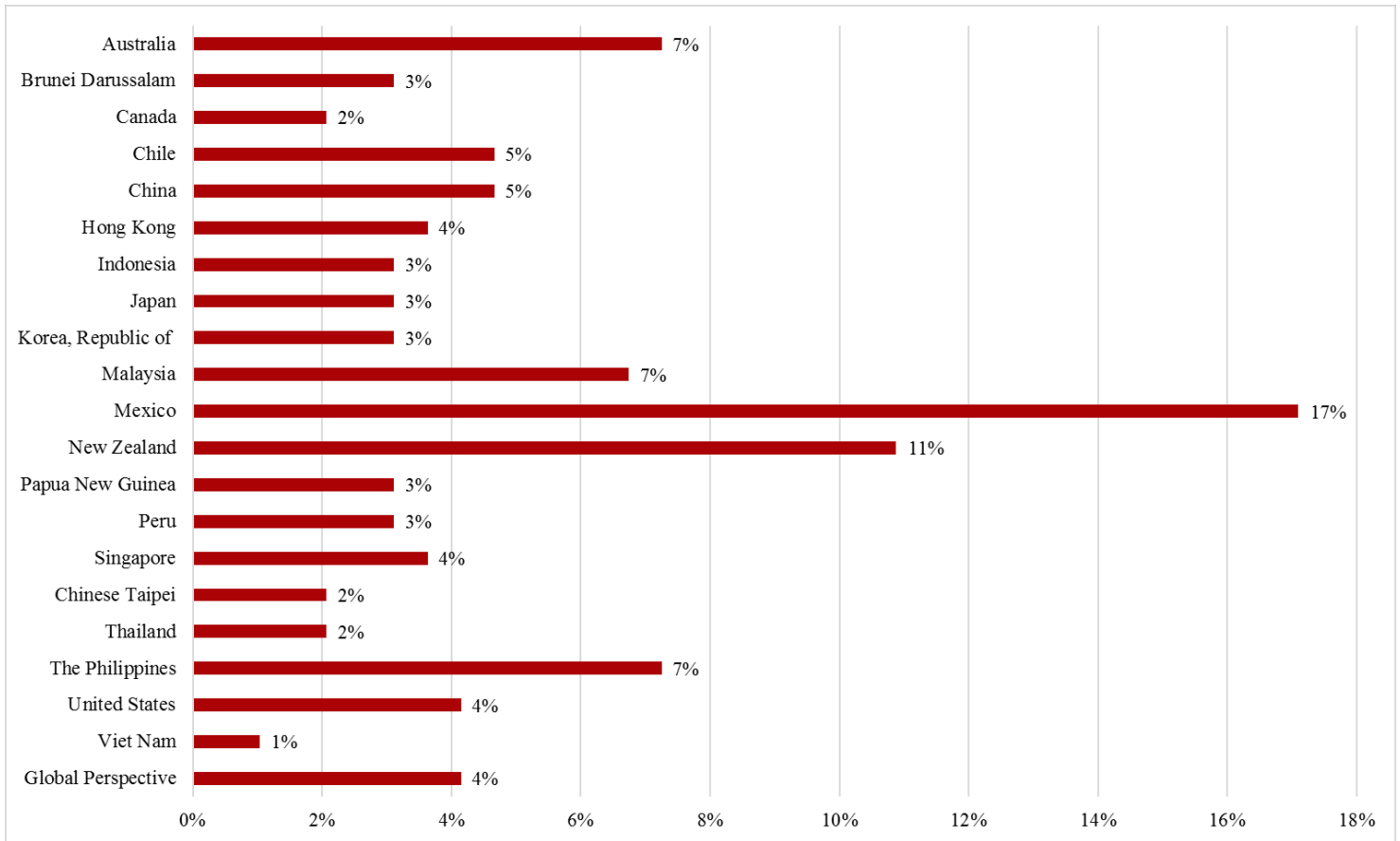
Q. (If respondent selected 'public sector agency') Which type of organization/agency/ministry within the public sector do you work for?



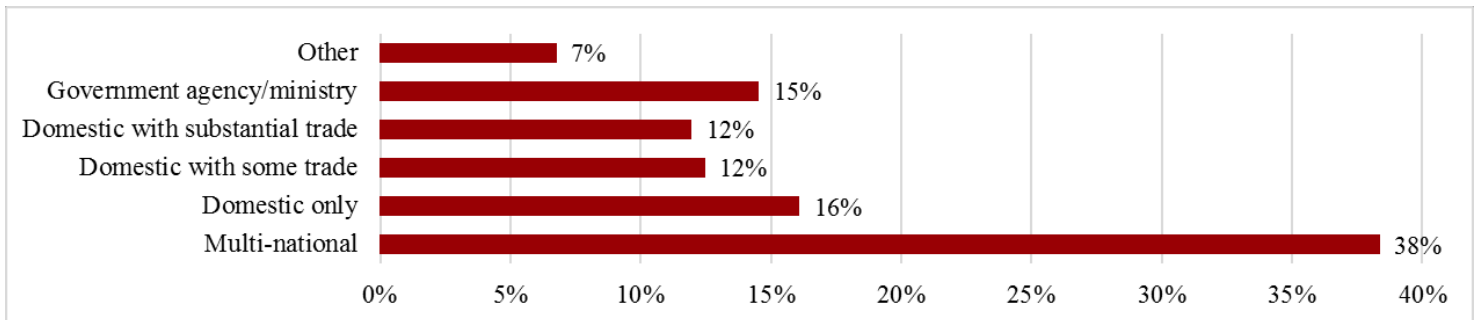
Q. If selected other organization, which type of enterprise/organization do you work for?



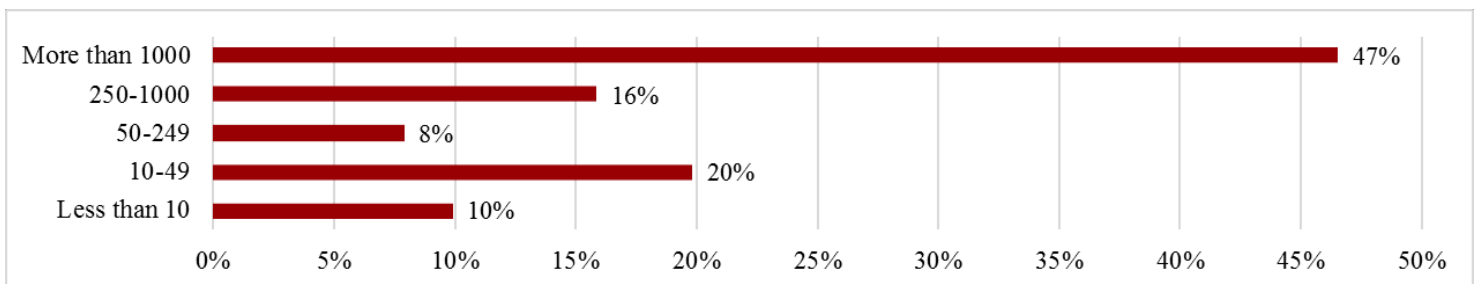
Q. From which economy will you be evaluating when completing this survey?



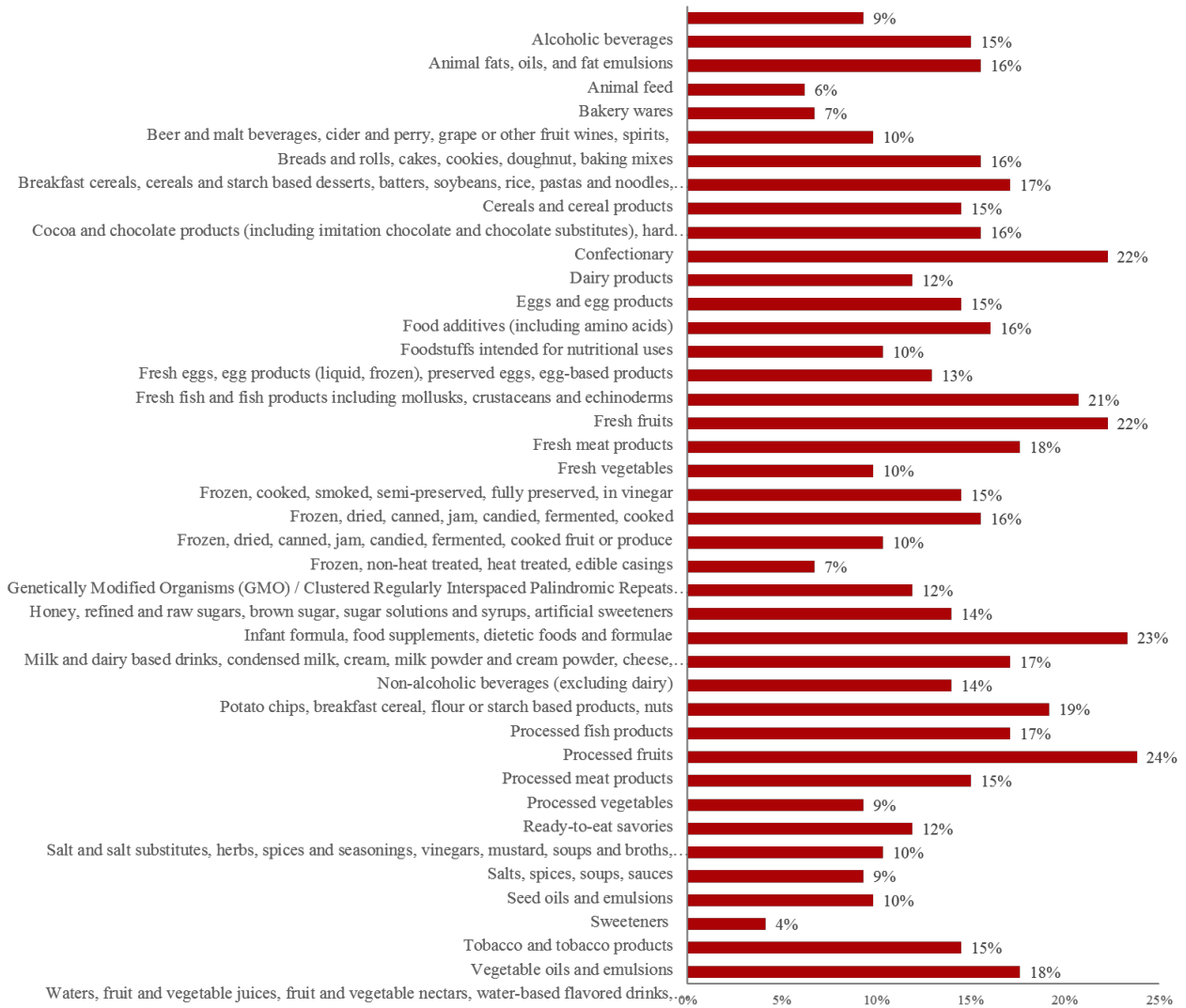
Q. Is your enterprise/organization international (based in multiple economies) or domestic?



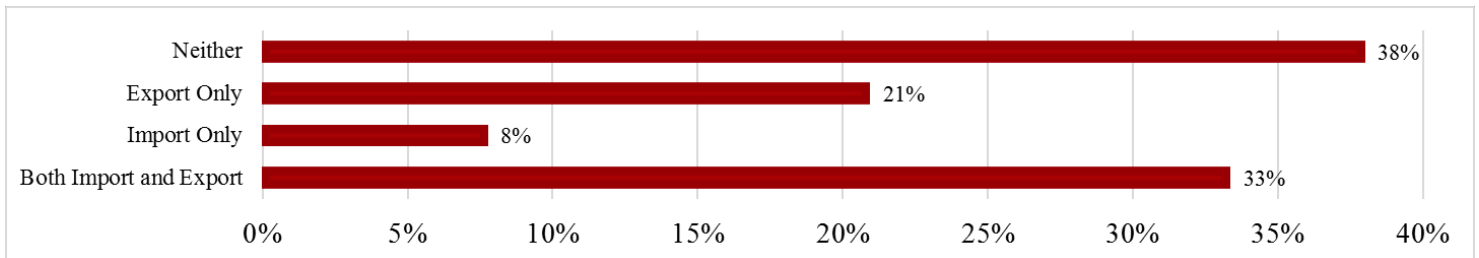
Q. If you are from a business enterprise, how many employees work in your organization?



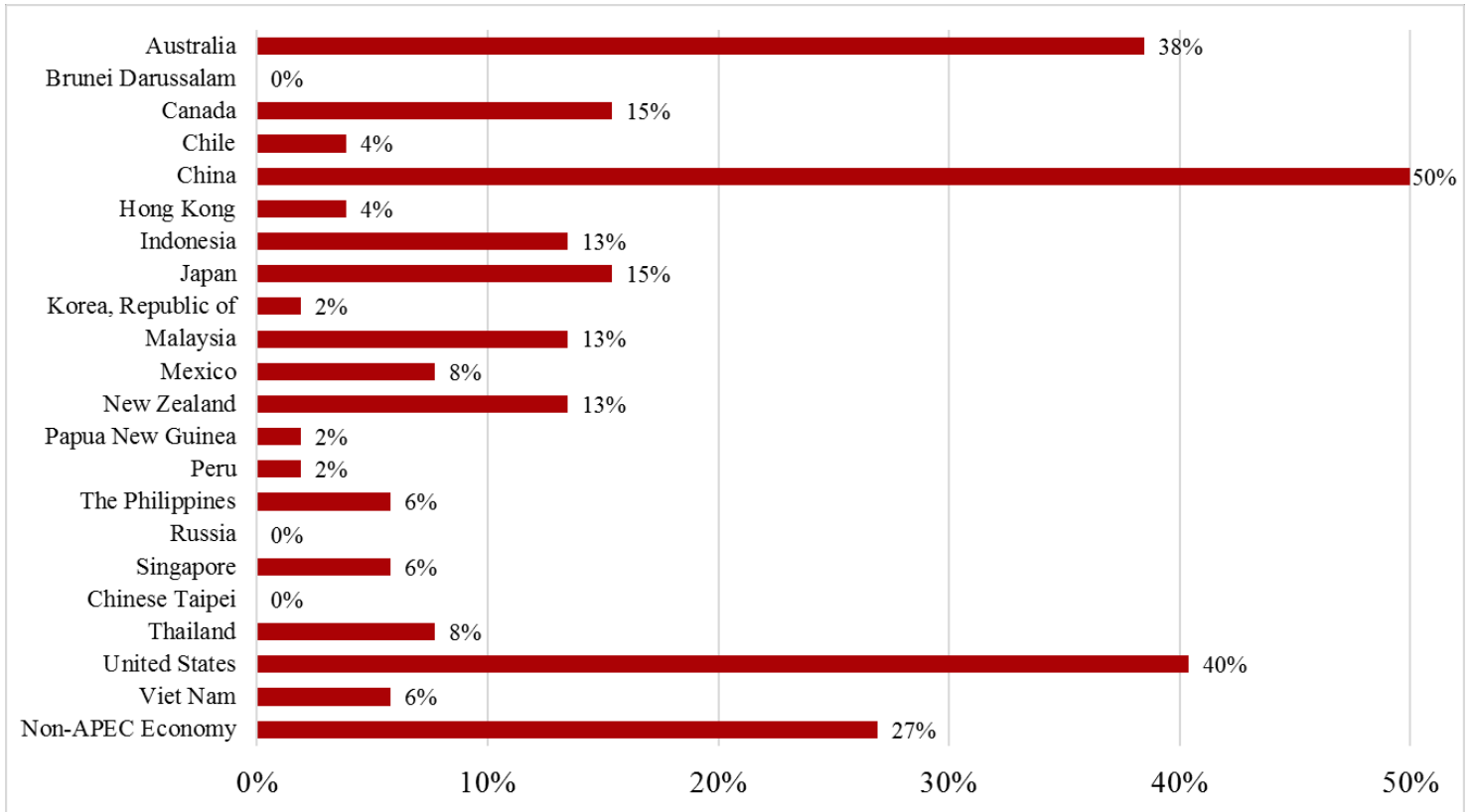
Q. Your Organization's Product (s). Which product categories do you import and/or export? If you represent a trade association, what are your focal product (s)?



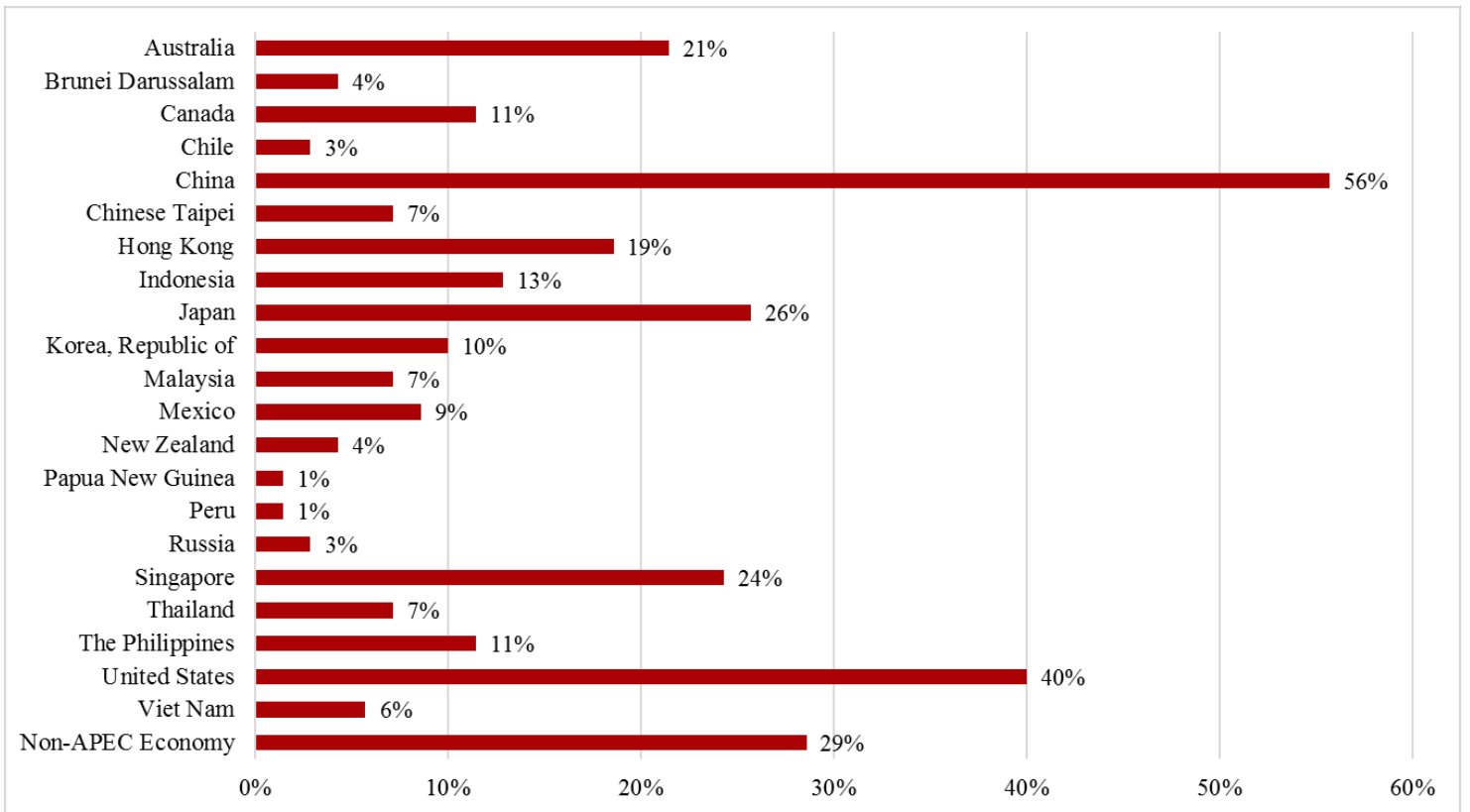
Q. Does your organization import and/or export products?



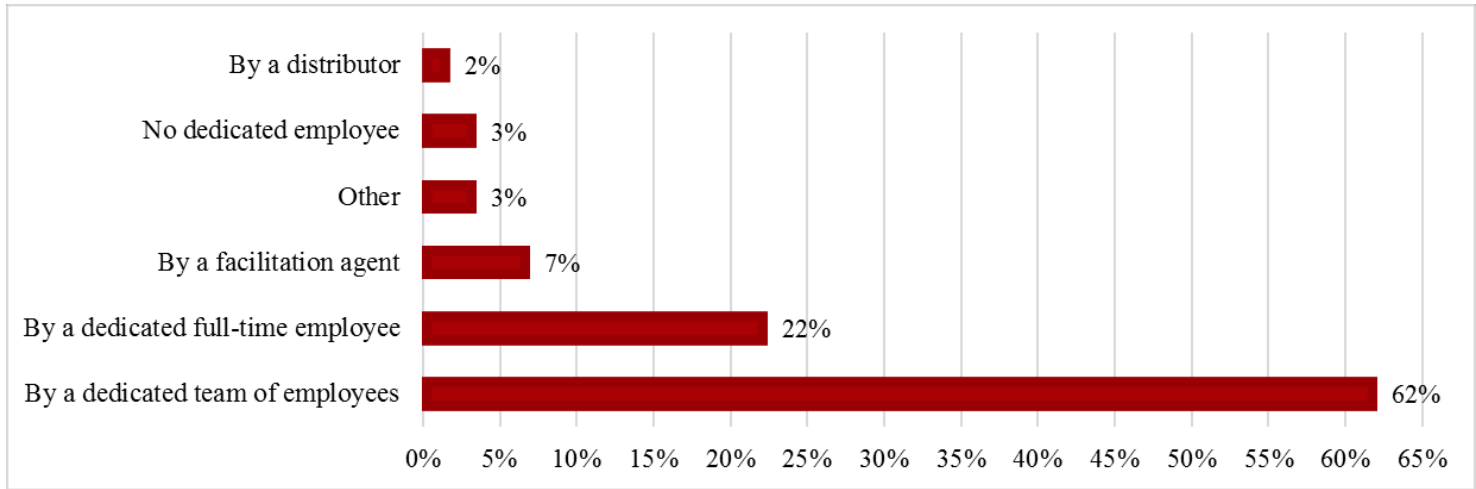
Q. Top economies you import from?



Q. Top economies you export to?



Q. If you are from a business enterprise, how are imports and/or exports managed in your enterprise?







# *Appendix 5*

## *APEC Interview Protocol*

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## *APEC Interview Protocol*

<p><b>Thought-Leader Interviews</b></p>	<p>The research team identified a list of potential thought-leaders in the area of food and agriculture trade. Topics ranged from production, academia, policy and regulation, and market access issues. Preliminary interviews were conducted with 39 individuals in businesses, government, and industry groups that provided deep insights on both agri-food trade and economy specific concerns. Coupled with secondary research, the team created an in-country interview protocol to explore the challenges posed by barriers to trade, and to illuminate trends in agriculture and supply chain management. Thought leaders also aided in identifying in-country personnel for additional interviews.</p>
<p><b>Economy Interviews</b></p>	<p>The research team conducted in-country interviews across the majority of APEC economies during May and June 2016, some of which required phone interviews. Interviews followed the protocol to the extent the interviewee was able to interpret the questions in the native language or rely on a translator. Interviewees were offered total anonymity. Some interviewees were hesitant to accept invitations to participate in the research, and the response rate to our interview requests reflects that. Those that were responsive provided economy-specific perspectives on the food and agriculture trade environment.</p>
<p><b>Post-Interview Survey</b></p>	<p>Following several months of in-person and phone interviews, the research team aggregated the critical themes and issues expressed by businesses and governments. A survey was created consisting of roughly 50 questions and sent out to both interviewees and trade professionals. The questions ranged from identifying most burdensome regulations to rating prospective solutions. The survey platform allowed for extensive cross-tabulation to examine responses by economy, agricultural sector, business size, et al.</p>
<p><b>Information Synthesis</b></p>	<p>The preliminary research, interviews, and survey results provided confirming information and a subsequent framework to assess the burdensomeness of regulations. As key themes emerged from the collective field research, the team identified the most burdensome impediments to trade and developed solutions for businesses and governments to consider in the future.</p>

**Research instruments are available upon request by emailing the project faculty lead, Carl Voigt, at [cvoigt@marshall.usc.edu](mailto:cvoigt@marshall.usc.edu)**

## *Procedures Were Standardized for Each Interview*

### **Research Project Description**

The University of Southern California is conducting an APEC-wide research study on opportunities and challenges in food trade within the APEC region for the APEC Business Advisory Council (ABAC). This study specifically seeks to identify the most egregious NTBs affecting trade in agri-food products, review approaches that have been effective in the past in addressing such trade barriers, and consider the impact of private standards on food security in the APEC economies. The study seeks to capture the voice of the business community on this topic. The research team conducted in-person interviews in the following APEC economies: Australia, New Zealand, China, Japan, Philippines, Chile, Peru, Malaysia, Singapore, Thailand, Indonesia, Vietnam, Hong Kong, Korea, Chinese Taipei, U.S. and Mexico. Additional interviews were conducted in the remaining APEC economies.

### **Confidentiality Statement**

Interview and survey responses remained confidential. While our report attempts to present the conclusions of our research, we did not disclose the names of individuals, companies, or specific NTB-examples within our report. With prior permission, we only disclosed corporations in an appendix that wished to be listed as contributors.

*There are several limitations to a field study built on interview data.*

**Limited Research Scope**

The explicit objective was to capture the concerns from APEC businesses on barriers and impediments in food and agriculture trade. This means adopting what is referred to throughout this report as the “business perspective.” The business perspective includes all the non-tariff measures that impact a firms’ strategic and profit-seeking decisions in trade. No effort was made to limit discussion with business executives to non-tariff measures that can be influenced by policy initiatives in the short or medium term.

The report explicitly acknowledges that many of the non-tariff barriers included in the analyses, such as private standards, are beyond the influence of governments. However, the team opted to include them, because of their emerging magnitude and impact on cross-border trading environment. Our analysis was meant to be objective and aimed to gather relevant information as reported by interviewees and survey respondents to adequately assess the current APEC trading environment.

This study is intentionally a field research project predicated on interviews with APEC businesses, and limited to conditions affecting trade in food and agriculture during the 2016 project period. This report is not intended to substitute existing econometric studies. Rather, it is an exposé that illustrates the day-to-day challenges reported by individuals, industries, and economies. While offering colorful examples and perspective, most of the data is qualitative. The team made every attempt to account for perspectives across all economies.

The validity and generalizability of the findings in this report are constrained by the quality and knowledge of the interviewees and survey respondents. The ABAC Secretariats made honest attempts to allow researchers to access a representative sample of business executives and industry “multipliers.” However, the findings of the report are directly limited to the quality and comprehensiveness of the information received from the interviews. Limited numbers of interviews were obtained in Russia, PNG and Brunei. For these economies, substantial use of secondary information complements the primary data.

Twelve researchers and two faculty advisors conducted research and analysis. In most cases, one interviewer conducted all or a majority of the interviews within each economy. Larger economies were assigned multiple researchers. Whether the project scope captures a fair sample of executive opinions across APEC economies is open to interpretation. The findings in the report are based primarily on repeated themes, and consistently identified barriers and impediments. The team acknowledges that qualitative frequency analysis forms the foundation of the findings, which is a major limitation of this study.



# *Appendix 6*

## *Research Team*

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## Research Team



### **Sarah Horn | United States & Belgium | Team Co-Lead**

#### *Researcher for Japan and Philippines*

Sarah holds a bachelor's degree from George Washington University. Sarah brings five years of consulting experience in the international development field with Deloitte Consulting, supporting clients on trade facilitation, anticorruption, and democracy and governance in Afghanistan, Pakistan, and the Philippines. After receiving her MBA, Sarah will continue her career at Deloitte Consulting.



### **Carlie Carpio | United States | Team Co-Lead**

#### *Researcher for Brunei and Malaysia*

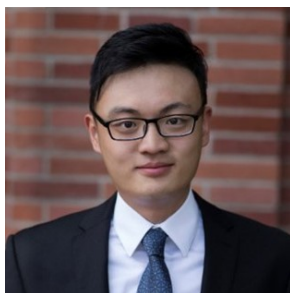
Carlie earned a bachelor's degree in construction science, with a minor in Spanish, from the University of Oklahoma. She brings four years of engineering experience with a focus in business development and project management. Carlie is also a certified fitness professional and founded RegularGirlFitness, a social community for health, inspiration, and self-love. After Marshall, Carlie plans to move into a business development role within a social enterprise.



### **Rachel Bitter | United States**

#### *Researcher for Australia and New Zealand*

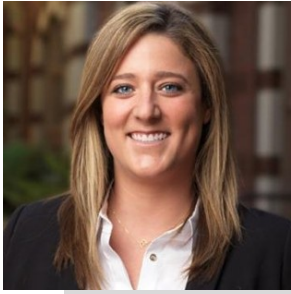
Rachel holds a Bachelor of Science in Wine and Viticulture, with a minor in agribusiness, from California Polytechnic State University. She performed field work at various wineries as a researcher under the guidance of the University of Adelaide. She presented her work at the 8th Academy of Wine Business Research Conference in Germany, and has also been published in the *Journal of Food Distribution Research*. She brings six years of experience in the wine industry, and worked as a project manager in the telecommunications industry. Rachel will pursue entrepreneurial endeavors after receiving her MBA.



### **Jieyu (Steven) Chen | China**

#### *Researcher for China and United States*

Steven holds a bachelor's degree from Shanghai University of Finance and Economics. Prior to Marshall, Steven worked as an auditor with Deloitte Consulting for four years, managing due diligence for M&A and audit related projects. Steven also worked as a strategy consultant on business transition for an international trade firm. Steven is pursuing a career in consulting.



**Michelle Green | United States & Ireland**

*Researcher for Indonesia and Singapore*

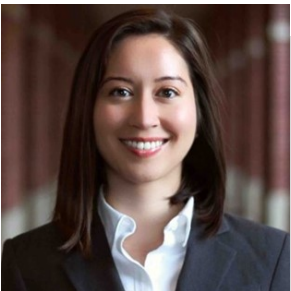
Michelle is a Bachelor of Arts in Political Science from the University of California, Los Angeles. Prior to USC Marshall, she worked at Live Nation Entertainment, where she served as project manager and director of marketing for VIP Nation. Michelle helped VIP Nation grow into a multi-million dollar global division through strategic marketing and program management. Upon receiving her MBA, she will pursue a career in the consulting industry.



**Tania Hansraj | United States & Pakistan**

*Researcher for Papua New Guinea and Thailand*

Tania earned a bachelor's degree in finance and marketing from New York University. After graduation, Tania spent over five years in strategy, planning and finance roles at American Express, as well as a technology startup. Her experience includes business development and long-range planning with senior management and the C-suite.



**Jennifer Jodoin | United States**

*Researcher for Canada and Viet Nam*

Jennifer holds a bachelor's degree in chemistry from Stanford University. For four years, Jennifer worked in research and development at Abbott Medical Optics Inc.'s cataract franchise, developing new medical devices for global markets. After receiving her MBA, Jennifer will pursue a finance and strategy role in life sciences.



**Nicholas Shiya | United States**

*Researcher for Korea and United States*

Nicholas earned his Bachelor of Science in Construction Engineering from Arizona State University. He was a consultant for KPMG in New York City, where he advised clients on capital programs and construction projects. Post-graduation, Nicholas plans to pursue a career in real estate development and investment in California and Asia.



**Xiaozhu (Gillian) Sun | China**

*Researcher for China and Russia*

Gillian holds a bachelor's degree in international economics and trade from Dalian University of Technology in China, where she conducted extensive research on evolution of macroeconomics. For four years, Gillian worked at PricewaterhouseCoopers China as a senior audit associate in charge of field work. Gillian is also a member of the Association of Chartered Certified Accountants. Post-MBA, she will pursue a career in corporate finance in the technology industry.



**Nate Thompson | United States**

*Researcher for Chinese Taipei and Hong Kong*

Nate received a Bachelor of Arts in International Relations from Boston University. His thesis examined strategic and cultural origins of Norwegian and Finnish foreign policies during the Cold War. Nate brings three years of experience in data analytics and marketing from the early education and ecommerce payments industries. He is pursuing a career in the spirits industry.



**Yiding (Debora) Zhang | China**

*Researcher for Canada and Chiles*

Debora holds a bachelor's degree from Tongji University and a master's degree from Tsinghua University in software engineering. She worked for Symantec in storage management and backup software. Later, she oversaw the international trade business as technical vice president at a process instrumentation company. She is pursuing entrepreneurship in the manufacturing industry.



**Renhang (Michael) Zhou | China**

*Researcher for China and Peru*

Michael studied economics at University of Warwick (UK), before working at KPMG Advisory for three years. Michael then started his own business, developing mobile software for the hospitality industry. He later worked for Fortune River Capital as an investment manager in the technology sector. Upon completing his master's degree, he hopes to start a new business in the U.S.



**Julia Porter Liebeskind | Ph.D | England**

*Faculty Advisor*

Dr. Julia Liebeskind has worked government, business, and academia. She worked as an economic analyst for the English Tourist Board, then for a number of years as an independent consultant based in Rome, before joining Tate & Lyle PLC. Julia worked at the University of Southern California teaching competitive strategy, focusing her research on corporate diversification and restructuring, and intellectual property. She lives between Los Angeles, California, and Oxford, UK.



**Carl W. Voigt | Ph.D | China**

*Faculty Director | Researcher for Mexico*

Carl Voigt a professor of clinical management & organization. He has worked jointly with ABAC since 2005 to direct teams of MBA researchers on 12 research projects for ABAC. He specializes in teaching business, corporate, and global strategy, and management courses in University of Southern California Marshall's undergraduate and MBA programs.

# *Appendix 7*

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