Non-tariff Measures

Australia, China, India, Japan, New Zealand, and Republic of Korea

Edited by

Lili Yan Ing
Denise Penello Rial
Rizqy Anandhika

ERIA
Economic Research Institute for ASEAN and East Asia

Non-tariff Measures

Australia, China, India, Japan, New Zealand, and the Republic of Korea

Edited by

Lili Yan Ing, Denise Penello, and Rizqy Anandhika

ERIA
Economic Research Institute for ASEAN and East Asia

Non-tariff Measures: Australia, China, India, Japan, New Zealand, and the Republic of Korea

National Library of Indonesia Cataloguing-in-Publication Data
ISBN: 978-602-5460-39-5

Published by

Economic Research Institute for ASEAN and East Asia (ERIA)
Sentral Senayan 2, 6th floor, Jalan Asia Afrika no.8,
Central Jakarta 10270, Indonesia

Published in September 2022

Cover Art by Lili Yan Ing and Ranti Amelia
Layout by Fadriani Trianingsih

Foreword

In efforts to achieve global and regional economic integration, Non-Tariff Measures (NTMs) have become increasingly prominent, as most tariffs have been significantly reduced. The majority of these NTMs are imposed for reasons not primarily related to trade: for human, plant, and animal, health, and environmental protection. Given the increasing presence of NTMs, their complexity, and the fact that they are enacted by multiple agencies, the lack of transparency and approaches to measuring their impact on international trade is a major challenge.

Collaboration between ERIA and UNCTAD to develop an NTM database is based on ERIA's vision of deepening regional integration and UNCTAD's goal of supporting countries in fairly reaping the benefits of integrated economies. At first, NTM data for ASEAN countries in 2014 were successfully collected. Upon request, by member States to support the negotiations of the Regional Comprehensive Economic Partnership (RCEP), the NTM data for Australia, China, India, Japan, Republic of Korea, and New Zealand were then mapped. The database helped navigate the current NTMs regimes in the RCEP members. The data for India are still relevant because the ASEAN-India Free Trade Area (AIFTA) is in force. The databases for all 16 countries are publicly available on the Trade Analysis Information System (TRAINS) website of ERIA and UNCTAD, Non-tariff measures (NTMs) | UNCTAD.

ERIA and UNCTAD have collaborated on numerous initiatives to promote the importance of understanding NTMs and addressing their challenges. ERIA and UNCTAD have provided capacity building to the 16 countries officials and academic for the collection, classification, and analysis of NTMs, and the NTM databases have been handed over to them for regular updating. This ensures transparency and provides the 16 countries with key input to the National Trade Repository. The NTM database helps researchers, policymakers, and businesses to get insight from the NTMs data for better informed policy and business decisions. ERIA and UNCTAD will continue to work with governments, academic, and businesses on impactful NTM-related programs to facilitate recovery in these challenging times.

Hidetoshi Nishimura

President
Economic Research Institute for ASEAN and East Asia (ERIA)

Isabelle Durant

Deputy Secretary-General
United Nations Conference on Trade and Development (UNCTAD)

Acknowledgements

This report was prepared in close collaboration between and the Economic Research Institute for ASEAN and East Asia (ERIA) and the United Nations Conference on Trade and Development (UNCTAD).

Country chapters were written by Ernawati Munadi and Martin Richardson (Australia); Mingcong Li, Miaojie Yu, and Zhihong Yu (China); Rael Sarmeen and Asha Sundaram (India); Kaoru Nabeshima and Ayako Obashi (Japan); Korea Institute for International Economic Policy (the Republic of Korea); and Mike Webb and Anna Strutt (New Zealand). The authors led teams that collected data in their countries. Other data collectors are Indah Rahayu (Australia); Xiaomin Cui, Shuai Guo, and Mengying Yu (China); Shyamala Sethuram (India); and Sho Haneda, Naohiko Ijiri, Yui Iwasaki, Toru Nagase, Lika Sasaki, Shyamala Sethuram, and Akihiro Yogata (Japan).

The core team, which worked to ensure the comprehensiveness and consistency of data, consists of Lili Yan Ing and Rizqy Anandhika of ERIA, and Denise Penello Rial, Chi Le Ngo, Seul Lee, and Ming Cong Li of UNCTAD. ERIA's Shujiro Urata and Lurong Chen and UNCTAD'S Santiago Fernandez de Cordoba, Narmin Khalilova, Fabien Dumesnil, Maxim Gubarev, Samuel Munyaneza, and Ralf Peters offered constructive comments and assistance. Miftahudin and Alvaro Grille helped organise the product codes. The report could have been published without significant support from the ERIA Management, Koji Hachiyama and Yasushi Iwata. We thank UNCTAD and ERIA's editorial team for their excellent work.

We extend our appreciation to the governments of Australia, China, India, Japan, the Republic of Korea, and New Zealand. They worked with us to support more transparent non-tariff measures (NTMs) and to deepen the understanding of NTMs among government officials and businesses, to design better NTMs and better implement them, and to move towards better trade and investment policy and regulations.

We gratefully acknowledge the financial support by ERIA and the governments of Australia, China, India, Japan, the Republic of Korea, and New Zealand for data collection and the report, and expertise from UNCTAD.

This publication was produced jointly with UNCTAD

UNITED NATIONS
UNCTAD

Table of Contents

Editors

Lili Yan Ing, Lead Advisor for Southeast Asia Region at Economics Research Institute for ASEAN and East Asia (ERIA)

Denise Penello Rial, Economist at UNCTAD

Rizqy Anandhika, Research Associate at Economics Research Institute for ASEAN and East Asia (ERIA)

List of Contributors

Gracia Hadiwidjaja, Social Protection Specialist, at World Bank

Mingcong Li, Trade Analysis Branch at UNCTAD

Ernawati Munadi, Lecturer at Wijaya Kusuma University, Surabaya

Kaoru Nabeshima, Professor at Waseda University

Ayako Obashi, Associate Professor at Aoyama Gakuin University

Denise Penello Rial, Economist at UNCTAD

Martin Richardson, Professor at The Australian National University

Rael Sarmeen, NTM Data Collection Consultant at UNCTAD

Anna Strutt, Professor of Economics at University of Waikato

Asha Sundaram, Senior Lecturer at The University of Auckland

Mike Webb, Lecturer at University of Waikato

Miaojie Yu, Professor at Peking University

Zhihong Yu, Associate Professor at The University of Nottingham

List of Figures

List of Tables

List of Boxes

Chapter 1
Non-tariff Measures: An Overview

Rizqy Anandhika and Denise Penello Rial

1. Introduction

This report describes non-tariff measures (NTMs) in six East Asian countries initially included in Regional Comprehensive Economic Partnership (RCEP) negotiations: Australia, China, India, Japan, Republic of Korea (henceforth, Korea), and New Zealand. This report also offers further analysis of the preliminary findings published in 2020, 'Non-tariff Measures in Australia, China, India, Japan, New Zealand and the Republic of Korea' (UNCTAD, 2020a). The countries apply thousands of NTMs, each affecting usually more than a hundred products at the tariff-line disaggregation level. Most NTMs are sanitary and phytosanitary measures (SPS) or technical barriers to trade (TBTs), a pattern also observed in the United Nations Conference on Trade and Development (UNCTAD) Trade Analysis Information System (TRAINS) global NTM database for other countries outside the region.

NTMs are an inseparable part of life, from cradle to grave, affecting the safety of our children's milk, setting maximum emissions allowed for vehicles, imposing technical standards on medical devices, amongst others. Because they have a non-trade objective, however, NTMs cannot be integrated easily into traders' business considerations and policymakers' analysis. The international trade community, therefore, has started to redefine, map, and classify NTMs to make them recognisable and measurable like tariffs and other trade-related instruments such as quotas, subsidies, and antidumping duties. The community must reach a consensus on NTMs and their properties.

NTMs are policy measures, other than customs tariffs, that potentially have an economic effect on international trade in goods, changing the quantities traded or prices or both (UNCTAD, 2019). This definition was presented by the Multi-Agency Support Team (MAST), comprising the Food and Agriculture Organization of the United Nations, International Monetary Fund, International Trade Centre (ITC), Organisation for Economic Co-operation and Development (OECD), UNCTAD, United Nations Industrial Development Organization, World Bank, and World Trade Organization (WTO), led by UNCTAD. To support transparency in trade, the team established the International Classification of NTMs, which was updated in 2019.

NTMs include not only technical regulations such as SPS or TBT measures, which assign characteristics to products or production processes, but also non-technical measures such as licenses and quotas or price-affecting measures, as well as financial or exchange rate regulations (Table 1.1).

The NTM classification is divided into chapters A to O for import NTMs, outlining technical and non-technical importing conditions or requirements. The export measures are in the last chapter, P.[1]

Table 1.1. Non-tariff Measure Broad Classification, based on M4

Imports	Technical measures	A.	Sanitary and Phytosanitary Measures
		B.	Technical Barriers to Trade
		C.	Pre-shipment Inspection and Other Formalities
	Non-technical measures	D.	Contingent trade protective measures
		E.	Non-automatic import licensing, quotas, prohibitions, quantity-control measures, and other restrictions not including SPS or TBT measures
		F.	Price control measures including additional taxes and charges
		G.	Finance measures
		H.	Measures affecting competition
		I.	Trade-related investment measures
		J.	Distribution restrictions
		K.	Restrictions on Post-sales services
		L.	Subsidies and other form of support
		M.	Government procurement restrictions
		N.	Intellectual property
		O.	Rules of origin
Exports		P.	Export-related measures

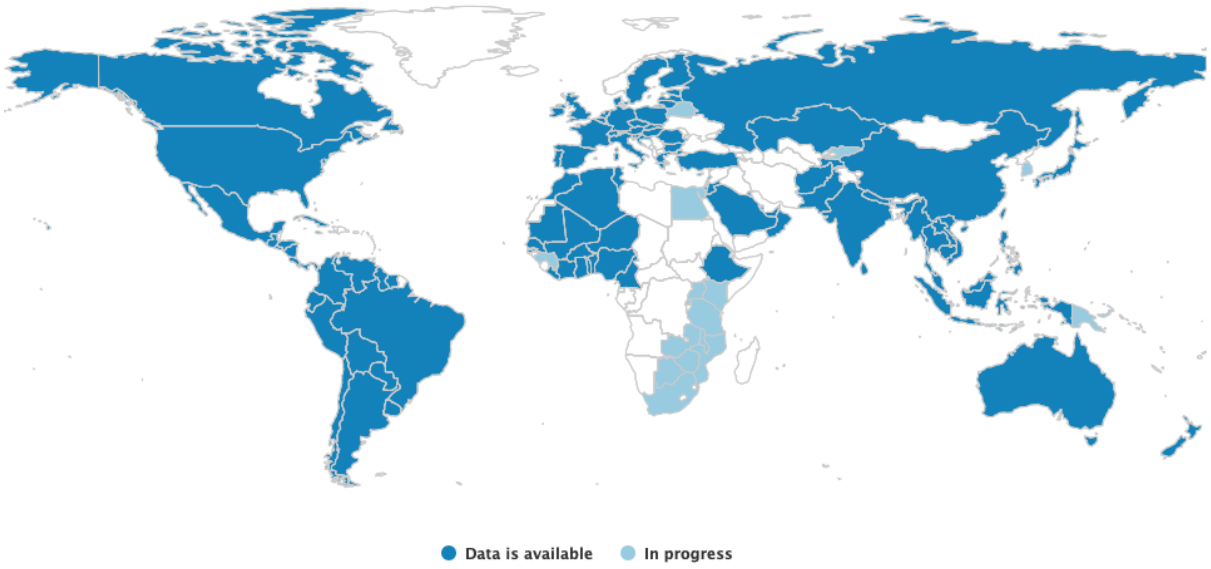
Source: UNCTAD (2019).

Chapter working groups overseen by MAST have refined the highly complex NTM classification. A working group chaired by UNCTAD revised chapters A to I and P. Multiple agencies worked on chapters J to O. The working group chaired by the World Bank developed chapter J (post-sales services) and K (distribution restriction), the one chaired by WTO enhanced chapter L (subsidies), the one chaired by OECD amended chapter M (government procurement), the one chaired by UNCTAD revised chapter N (intellectual property) with help from the World Intellectual Property Organization, and the one chaired by ITC improved chapter O (rules of origin) with help from the World Customs Organization.

[1] The country chapters use International Classification of NTMs, version M3, issued in 2012. At the date of publication of the report, version M4, published in 2019, was in use. The report presents the original data using the classification version in use when the data were collected, i.e., M3. UNCTAD, however, has converted all data collected before 2019 to the most updated classification version, M4, and shares it in M4 through dissemination portals. The main differences are found in chapters B, E, and P. M3 and M4 are the version of NTM classification based on MAST with the higher number denoting the later version. As of this publication, there are M1, M2, M3, and M4.

To increase NTMs' transparency globally, UNCTAD has cooperated with multiple regional agencies to build the NTM database, including Economic Research Institute for ASEAN and East Asia (ERIA) for Southeast and East Asia. The NTMs in the TRAINS database covered 109 countries in 2018 (Figure 1.1). ERIA's data collection for East Asia accounts for 20% of global measures collected. They do not, however, represent de-facto protectionism as their nature may greatly depend on regulations issued.[2]

Figure 1.1. Coverage of the Trade Analysis Information System Global Non-tariff Measure Database



Source: UNCTAD (2020b).

Understanding NTMs is more relevant now than ever. Steadily increasing globalisation has spurred trade liberalisation amongst countries. Most WTO member countries have already decreased their tariffs and been restricted from using protectionist measures and are massively utilising regional and bilateral free trade agreements. The average most favoured nations tariff rate of WTO members is 4.17%, reduced in 2017 (weighted average) from 9.69% in 1994. More and more NTMs, however, are implemented year by year.

The trend is typical and can be explained by (i) the political-economy hypothesis (use of non-tariff barriers [which are NTMs] to replace tariffs) and (ii) the income-effect hypothesis (NTMs as additional cost resulting from consumers' preference for higher-quality and safer products as incomes rise) (Ing et al., 2015).

In general, the concept of NTMs is neutral and does not imply a negative impact on trade or any legal judgement. A regulation registered as an NTM does not mean that the requirement is considered a barrier to trade. NTMs are needed for consumer safety and environmental protection, amongst other legitimate purposes. Whilst most NTMs are perceived as impeding

[2] For example, one measure applied to 90% of total tariff lines might be more significant than 10 different measures imposed on 1% of each total tariff line.

trade because they incur more compliance costs, NTMs can also facilitate trade, e.g., by providing information that attracts consumers to buy the product.

What companies and consumers need today are 'good' NTMs, i.e., regulations that meet policy objectives such as food safety, shield against the spread of pests, protect the environment, or ensure minimum quality for consumer safety, but that do not hinder trade more than necessary. Policy design and implementation need to ensure the minimum possible cost. The design of good regulatory practices is the ultimate objective of the NTM work programme.

2. Data Collection Process

The first stage was mapping NTMs and publishing in a single user-friendly online portal all regulations that are in force. The NTM database is comprehensive and the methodology for distinguishing and registering NTM requirements is the same across countries, which means that the information provided for each country is the same and, thus, comparable.[3] The guidelines to collect data on official NTMs (UNCTAD, 2020c) detail the principles steering the task. UNCTAD (2018) explains not only how NTM data are collected but also how they are disseminated.

The project collected data in several steps. First, data collectors looked for regulations related to trade in each country, i.e., legal text containing NTMs. Whilst most legal text is on the government agency's website, some data collectors needed to contact the agency's officers to access the text. The data collectors counted how many documents they found, then examined the regulations to identify the independent requirements for imports and exports – the NTMs. The data collectors reported how many NTMs they found, by type based on detailed classification and by issuing ministry or government agency. The last step was associating each NTM with the list of product codes. In each chapter, tables present the share of products that have one measure, two measures, and three or more measures. The largest share of products often has three or more measures applying simultaneously. All input data were then uploaded and stored in the TRAINS database and can be accessed publicly. The TRAINS database is updated regularly.

All NTM legal requirements in the database are associated with individual tariff line codes. No other database sheds light on all NTMs at the same time and signals which individual product codes are affected. The database is of immense value not only for traders who need to look up NTMs affecting their products but also for regulators who need to know what regulations are in force in a particular period for economic sectors of regulatory interest.

3. The Way Forward

The NTMs of the six countries are now included in the TRAINS database in a remarkable effort to achieve global trade transparency. The database can be used as the main source of information for a trade portal or repository. The data collection methodology ensures that all measures are

[3] Some unavoidable differences remain in styles of issuing legislation and in the sources available for official legislation in each country. See details in UNCTAD (2018; 2020c).

included and makes possible comprehensive analysis and comparison across countries. Thanks to their joint effort with ERIA and UNCTAD, the six countries will benefit from the database.

The TRAINS database will make information about NTMs in each country available globally. The region, together with the Association of Southeast Asian Nations (ASEAN), is home to 48% of the world's population and accounts for 32% of global gross domestic product (GDP). Four countries have bilateral and Australia and New Zealand have trilateral free trade agreements with ASEAN. Implementation of the RCEP agreement has furthered integration despite India's withdrawal.

The globally standardised methods of classification in the NTM database help researchers and policymakers compare cross-country NTMs and advance standard harmonisation and mutual recognition agreements. ERIA and UNCTAD started the initiative by publishing a compilation of methodologies for utilising NTM data, including ad valorem equivalent to computable general equilibrium modelling, to resolve broad issues, including regulatory convergence, government procurement, and environmental issues (Ing et al., 2019). Some literature has proposed instruments using the database, e.g., a regulatory gap indicator between countries, by using 'regulatory distance' (Knebel and Peters, 2019) and 'regulatory dissimilarity' (Nabeshima and Obashi, 2019).

ERIA–UNCTAD joint projects are part of a long-term commitment to increase transparency in the region. The first project was the ASEAN NTM database collection in 2014–2015 (Ing et al., 2016), endorsed by the Senior Economic Official Meeting of ASEAN Member States. The data were updated in 2018 (Doan and Rosenow, 2019) and endorsed as the main source of official data for the NTM section of the ASEAN Trade Repository in 2019. The present project is an extension of the work on NTMs in ASEAN as requested by the six countries. Furthermore, Viet Nam will launch the Vietnam National Trade Repository (VNTR) in 2022. The data in the VNTR that relates to NTM is populated entirely from the latest data collection carried out in 2020, coordinated by UNCTAD.

This chapter introduces the general concept of NTMs, including the classification we use in the report and the process of data collection and how the NTM database can be relevant in international trade discourses.

Chapter 2 discusses trade in Australia, China, India, Japan, Korea, and New Zealand; how the countries work in RCEP and with ASEAN; and individual countries' NTM statistics.

Chapters 3 to 8 discuss each country's NTMs, explaining the collected NTMs by type, issuing agency, product affected, and number of measures affected, whilst discussing each country's specific issues.

References

Doan, H.T.T and S. Rosenow (2019) (eds.), *Non-tariff Measures in ASEAN – An Update*. Jakarta: Economic Research Institute for ASEAN and East Asia (ERIA); Geneva: United Nations Conference on Trade and Development (UNCTAD).

Ing, L.Y., S.F. de Cordoba, and O. Cadot (2016), *Non-tariff Measures in ASEAN*. Jakarta: ERIA; Geneva: UNCTAD.

Ing, L.Y., O. Cadot, R. Anandhika, and S. Urata (2016), 'Non-tariff Measures in ASEAN: A Simple Proposal', in Ing, L.Y., S. F. de Cordoba, and. O. Cadot (eds.), *Non-tariff Measures in ASEAN*. Jakarta: ERIA, pp.13–36.

Ing, L.Y., R. Peters, and O. Cadot (2019), *Regional Integration and Non-tariff Measures in ASEAN*. Jakarta: ERIA.

Knebel, C. and R. Peters (2019), 'Non-tariff Measures and the Impact of Regulatory Convergence in ASEAN', in Ing, L.Y., R. Peters, and O. Cadot (eds.), *Regional Integration and Non-tariff Measures in ASEAN*. Jakarta: ERIA, pp.65–89.

Nabeshima, K. and A. Obashi (2019), 'Regulatory Dissimilarity: A First Look at the Newly Collected Non-Tariff Measure Database', *ERIA Discussion Paper*. Jakarta: ERIA.

United Nations Conference on Trade and Development (UNCTAD) (2018), *UNCTAD TRAINS: The Global Database on Non-tariff Measures User Guide,* 2017, Version 2. New York and Geneva.

UNCTAD (2019), *International Classification of Non-tariff Measures,* 2019 Version. Geneva.

UNCTAD (2020a), 'Non-Tariff Measures in Australia, China, India, Japan, New Zealand and the Republic of Korea', UNCTAD/DITC/TAB/INF/2020/6, Geneva.

UNCTAD (2020b), Data on Non-Tariff Measures, (Accessed 30 July 2021).

UNCTAD (2020c), *Guidelines to Collect Data on Official Non-tariff Measures.* Geneva.

Chapter 2
East Asian Trade Integration and Its Main Challenges

Lili Yan Ing and Gracia Hadiwidjaja

1. Introduction

East Asia has seen significant economic growth, transforming it from a group of poor countries into emerging developing economies and lifting about 3.2 billion people out of poverty. The region has recorded exceptional average annual economic growth of 10% in the last 2 decades (2000–2018).[1] The 'Big 5' Southeast Asian countries – Indonesia, Malaysia, Thailand, the Philippines, and Viet Nam – recorded average economic growth of 5.0% over the same period (World Bank, 2020). It is widely believed that that the successful economic growth of East Asia is largely driven by its opening up to trade and investment (Bhagwati, 1999; Frankel, Romer, and Cyrus, 1996; World Bank, 1993). The simultaneous growth of Southeast Asia and China increased East Asia's share of world trade from 19% in 2000 to 28% in 2019 (World Bank, 2020).

At least two major trade events have taken place in East Asia in the last 2 decades. The first one is the establishment of the Association of Southeast Asian Nations (ASEAN) Free Trade Area in 1992, followed by five ASEAN+1 free trade agreements (FTAs): the ASEAN–Australia–New Zealand FTA (in effect since 1 January 2010), the ASEAN–China FTA (1 January 2005), the ASEAN–India FTA (1 January 2010), the ASEAN–Korea FTA (1 January 2010), and the ASEAN–Japan Comprehensive Economic Partnership Agreement (1 December 2008) (WTO, 2020). The ASEAN Comprehensive Investment Agreement, signed on 26 February 2009, has improved the movement of capital. The second one is China's accession to the World Trade Organization (WTO) in January 2001. Since joining WTO, China has established itself as a centre of world trade. China's share of world trade increased from 2.2% in 2000 to 10.5% in 2018, after the United States, which contributed 15%, and followed by Germany (7%), Japan (4%), and France (4%) (UNCTAD, 2019). Since 2019, China's share of world trade has surpassed that of the United States.

Recognising that their trade and investment strategy had brought them to a higher level of economic growth, the 16 East Asian countries committed to form the Regional Comprehensive Economic Partnership (RCEP). It is expected to level up East Asian countries' trade and investment, overall development, and people's welfare.

[1] Based on the authors' calculation, which excludes Myanmar, the Lao People's Democratic Republic, and Brunei Darussalam, and data for 2015 due to missing values in some countries.

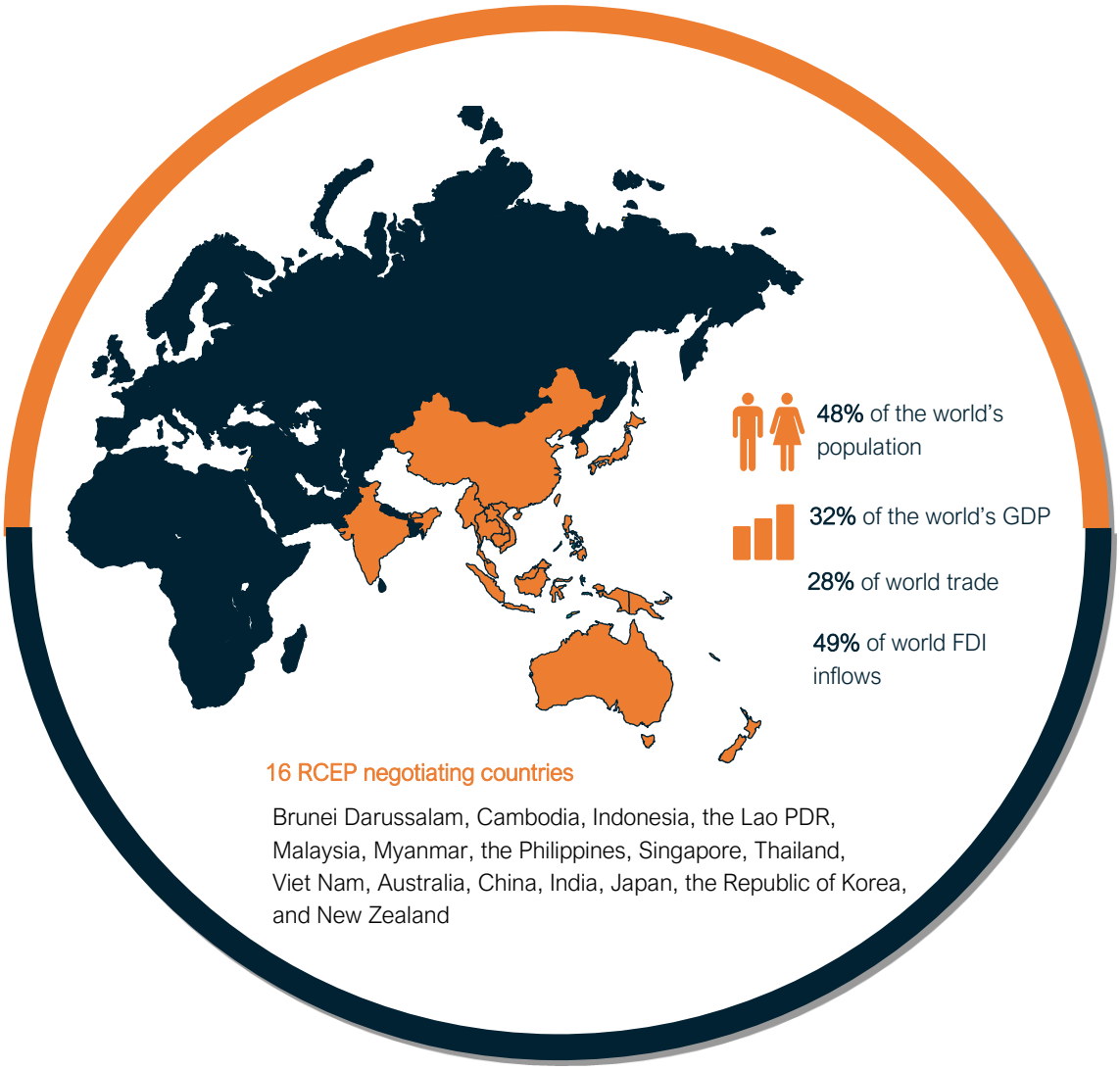
The RCEP, dubbed the biggest regional trade agreement in the 21st century, was substantially concluded on 4 November 2019. It consists of 15 countries: the 10 ASEAN Member States (AMSs),[2] Australia, China, Japan, New Zealand, and the Republic of Korea (henceforth, Korea). Combined, the RCEP represents 48% of the world's population, 32% of gross domestic product (GDP), 28% of exports, 28% of imports, and 42% of foreign direct investment inflow (Figure 2.1). The 15 member countries finally signed the agreement at the East Asia Leader Summit in November 2021.[3]

Although the RCEP negotiations have been concluded, however, a major challenge for East Asian and world trade is the increasing number of restrictive measures. To give us a clear picture of the measures in the six East Asian countries covered in our study,[4] we present all the trade-related measures that could have consequences on the quantity or price of traded goods or both: non-tariff measures (NTMs). NTMs are policy measures, other than customs tariffs, that can potentially have an economic effect on international trade in goods, changing the quantities traded or prices or both (UNCTAD, 2010). NTMs include technical regulations on the characteristics of products or production processes, sanitary and phytosanitary (SPS) measures, and technical barriers to trade (TBTs), as well as non-technical measures such as licences and quotas or price-affecting measures, and financial or exchange rate regulations.

Of course, not all measures are restrictive, and many are designed to serve as checks and balances on the quality of goods for health, safety, and environmental protection. Indeed, the number of measures does not reflect a country's level of protectionism. But how can we differentiate between good measures and restrictive measures? While tariffs have been reduced significantly, how can we manage the growing number of measures?

[2] Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam.
[3] India pulled out of RCEP negotiations in November 2019 (*India Today*, 2019; ASEAN, 2019), but many believe it will join soon. If not, it will incur significant costs. India would benefit from the integration: 1.4%–3.8% higher GDP, 3.0%–8.3% higher investment, and 4.0%–6.9% higher exports from the baseline, based on the global trade analysis project analysis (Itakura, 2019). Compared with its Southeast Asian neighbours, India has been left behind in many aspects of economic development. If it does not join the RCEP, India will miss the opportunity to integrate with the regional production network and to access new market access to rising powers in the Asia-Pacific (Choudhury, 2019).
[4] Australia, China, India, Japan, Korea, and New Zealand.

Figure 2.1. The 16 RCEP Negotiating Countries, 2018



FDI = foreign direct investment, GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic, RCEP = Regional Comprehensive Economic Partnership.
Notes: In 2021, the 15 RCEP signing countries represents about 30% of global GDP, population, trade, and FDI. Source: Authors, based on World Development Indicators (accessed 16 December 2019).

Our study provides a comprehensive review of all NTMs in six East Asian countries. Data were collected from mid-2016 to December 2018. The data cover all laws, regulations, and official notifications in effect in December 2018. An overview and analysis of NTMs in ASEAN are in Ing, de Cordoba, and Cadot (2016); Doan and Rosenow (2019); and Ing, Peters, and Cadot (2019).

Section 2 reviews the RCEP. Section 3 discusses East Asia's regional trade integration agenda and main challenges to trade in the region. Section 4 presents the frequency index, coverage ratio, and prevalence score of NTMs in the six countries. Section 5 draws conclusions and recommends policy.

2. Regional Comprehensive Economic Partnership: Long-awaited Trade Deal

On 15 November 2020, the 10 AMSs and five ASEAN FTA partners (Australia, China, Japan, Korea, and New Zealand) ended 8 years of exhaustive negotiations and signed the RCEP. The partnership is the largest trading bloc in the world, broader than even the United States–Mexico–Canada Agreement and the European Union. The RCEP includes a market of $26.2 trillion of output and 2.2 billion people, accounting for about 30% of global GDP and 30% of the world's population. The RCEP agreement will enter into force 60 days after at least six AMSs and three non-ASEAN partners ratify the agreement, and the RCEP's tariffs will be gradually eliminated over 20 years. The ratification (and thus the coming into effect of the agreement) is expected to take place 3 years after the signing.

The RCEP aims to integrate the region's economies by significantly reducing tariff rates and simplifying rules of origin to improve market access and investment opportunities offered in ASEAN+1 FTAs. Goods from any member nation will receive the same preferential tariff treatment, lowering the cost of exports and improving the ease of doing business. The simplification will incentivise firms to look within the RCEP region for suppliers. The RCEP will have larger positive impacts on the real GDP of almost all the AMSs than other FTAs of which the AMSs are members (Itakura, 2013). Income is expected to increase by about 3% for the AMSs under the RCEP by 2025 and is likely to go up by 3.9% for Korea, 1.8% for Japan, 1.4% for China, 1.4% for Australia, and 0.9% for New Zealand (Petri and Plummer, 2014). The RCEP can create trade amongst members but may divert trade away from non-members, which could also divert investment and change in supply chains (Pangestu and Armstrong, 2018).

Another objective of the RCEP is to deepen integration amongst member countries, with ASEAN becoming a central player. The RCEP, hence, has the potential to facilitate the creation of an Asia-Pacific free trade area and to diversify economic regionalism by adding ASEAN as an important player in the global economic order (Menon, 2013; Das and Reema, 2014; Gupta, 2014). If the RCEP expands to become an Asia-Pacific free trade area, then ASEAN – in consultation with Japan, China, and Australia – will become the agenda-setter for a highly important regional economy.

In November 2019, India indicated that it had several objections to joining the RCEP and decided to not sign the agreement. At the RCEP Summit, Prime Minister Narendra Modi said that 'the present form of the RCEP agreement does not fully reflect the basic spirit and the agreed guiding principles of RCEP. It also does not address satisfactorily India's outstanding issues and concerns in such a situation' (*Business Standard*, 2020). Protectionism has become more pronounced during the Modi administration, which feared that India's industries would be unable to compete with China's and that China's goods would overflow India's markets.

By not joining the RCEP, India will lose both economic and strategic influence in the region. If it joins the RCEP, India's income will increase by $60 billion annually (about 1.1 percentage points in real GDP gains) by 2030. If it does not join the agreement, India's income will fall by $6 billion (Petri and Plummer, 2020). India is unlikely to join the RCEP, however, blaming its $60 billion trade deficit with China on past trade agreements, and the RCEP demands reductions in dairy and e-commerce tariffs, which are politically sensitive issues in India (Gupta and Ganguly, 2020).

The RCEP has 20 chapters, 17 annexes, and 54 schedules of commitments that cover market access, rules and disciplines, and economic and technical cooperation. The chapters comprise goods, unified rules of origin, customs procedures and trade facilitation, SPS measures and TBTs, trade remedies, services, the General Agreement on Trade in Services, investment, intellectual property, electronic commerce, competition, small and medium-sized enterprises, economic and technical cooperation, government procurement, and dispute settlement, as well as institutional, general, and final provision chapters (ASEAN, 2019). A chapter dedicated to supporting micro, small, and medium-sized enterprise development is a key feature of the RCEP, which is expected to facilitate the integration of such enterprises into the global value chain.

Given its large and diverse membership, the RCEP is modestly rigorous. For example, it will eliminate tariffs on more than 80%–90% of products, compared with 96% eliminated by the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The RCEP includes flexibility in almost all the chapters of the agreement and excludes behind-the-border barriers, and its intellectual property provisions add little to existing ones. The RCEP does not have any chapters on labour, the environment, or state-owned enterprises. Its services and investment chapters tend to follow positive-list approaches to market access rather than the negative lists used in the CPTPP (Chaisse and Pomfret, 2019). The provisions and mechanisms for investor–state dispute settlement, consultation, trade facilitation, and regulatory cooperation are expected to be included and improved over time (Petri and Plummer, 2020).

The implementation of the RCEP may face several challenges. To start with, consolidating and harmonising tariff liberalisation is difficult to achieve. Each of the five ASEAN+1 FTAs has different tariff elimination schedules, and 55 tariff elimination schedules exist under the five ASEAN+1 FTAs (Fukunaga and Kuno, 2012). Not all member countries view greater openness as an advantage, and many, therefore, might not be willing to commit to deeper integration and tend to make lower offers than those under their existing FTAs. Some RCEP members are also members of the CPTPP, giving rise to concerns about potential confusion over the future implementation of both agreements, especially in dealing with behind-the-border commitments. The three major economies in the RCEP – China, Japan, and Korea – have relatively few trade agreements, so joining the RCEP means that these powerful economies must compromise with each other (Damuri, 2018).

3. East Asian Integration: Conclusion of the Regional Comprehensive Economic Partnership and Challenges to Trade

In East Asia, tariff rates have decreased significantly due to WTO commitments as well as bilateral and regional obligations, whilst the number of NTMs has increased. This phenomenon has also occurred in almost all countries (WTO, 2019). From May to October 2019, G20 economies introduced import-restrictive measures covering $460.4 billion of traded merchandise, representing a 37% increase over May–October 2018 (WTO, 2019).

Whilst the average applied tariff rates in the six countries declined from 12.3% in 2000 to 5.0% in 2018 (most favoured nation tariff rates declined from 13.6% to 7.9%), the number of NTMs increased. Recently, the measures have been largely dominated by TBTs and SPS measures, which account for 80% of all measures. The developed countries (Australia, Japan, and New

Zealand) reduced their applied tariffs from 3%–7% in 2000 to 2%–4% in 2017. Korea cut its applied tariff rates from 9.8% in 2000 to 5.4% in 2017. The developing countries – China and India – followed a similar pattern. In 2000, China and India implemented applied tariff rates of 16.4% and 33.4%, respectively, and cut them to 8.5% and 8.9% in 2017.

While East Asia has progressed in trade and investment openness, the next main challenge remains unsolved: the increasing number of NTMs.[5] The RCEP agreement includes provisions such as the harmonisation of standards, technical regulations, conformity assessment procedures, and cooperation for regulatory coherence. Streamlining NTMs is daunting for all countries in the region.

While tariffs were once commonly used as the sole protectionist measure, the rising adoption of preferential trade agreements or regional trade agreements with tariff liberalisation commitments across countries is framing NTMs as protectionist measures that substitute for tariffs. Using the specific trade concerns database of 1995–2010, the WTO (2012) assessed that TBTs may replace tariffs, although limited evidence is found on SPS measures.

On one hand, justified NTMs have no direct intentions towards protectionism since most have non-trade objectives such as the protection of health, safety, the environment, animal welfare, and culture, although the effects can be trade reducing. NTMs can be corrective – addressing market failures, i.e., adverse selection, moral hazard, and externalities that can emerge in asymmetric information in markets (Ing, Cadot, and Walz, 2017) – and even facilitate trade and enhance welfare (Beghin et al., 2013).

On the other hand, Bhagwati (1988) argues that industries protected by high tariff rates are less affected by NTMs than industries that have lower tariff rates, as governments tend to utilise NTMs as a substitute for tariffs (the Law of Constant Protection). The use of policy tools such as NTMs in international trade is inseparable from the domestic political economy. Grossman and Helpman (1994) argue that pressures from domestic interest groups can substantially affect policy outcomes. When it comes to importing goods, support from domestic producers pushes governments to implement more NTMs on imported final goods rather than intermediate goods. NTMs are usually largely implemented in import-competing sectors (Broda, Limao, and Weinstein, 2008).

Empirically, using a large cross-section of 91 countries, Kee, Nicita, and Olarreaga (2009) showed that the frequency index of NTMs increases with GDP per capita, whilst average tariff rates decrease. Bagwell and Staiger (2014) argued that developed countries tend to impose NTMs to form trade policy spaces for future negotiations with developing countries.

Table 2.1 shows that, on average, 34% of the measures are SPS and 50% TBTs. Export measures represent about 13%, whilst the rest are in other forms. China has the highest number of NTMs,

[5] The CPTPP imposes conformity, as it refers to the 'same or equivalent procedures, criteria, and other conditions. The WTO's TBT Agreement allows differences in procedures if an assurance of conformity to applicable technical regulations and standards is maintained. On the limitation of information requirements, the protection of legitimate commercial interests, and the adequacy of review procedures, the CPTPP applies the terminology 'shall explain', which is stronger than the TBT Agreement's 'shall ensure' and 'what is necessary'. On SPS measures, the CPTPP provides more clarity on specific aspects of science and risk analysis than the WTO's SPS Agreement and more comprehensive transparency and information sharing than the WTO's SPS Agreement.

whilst Japan records the lowest. Agricultural countries such as India largely use SPS measures, whilst manufacturing bases such as China mainly employ TBTs. However, a higher number of NTMs does not reflect the level of protectionism.

Table 2.1. Non-tariff Measures, by Type, in the Six East Asian Countries

Country	SPS		TBT		Export measures		Other measures		Total NTMs
	No. of NTMs	% of total NTMs	No. of NTMs	% of total NTMs	No. of NTMs	% of total NTMs	No. of NTMs	% of total NTMs	
Australia	292	15	1,035	55	468	25	102	5	1,897
China	1,659	23	4,380	59	1,052	14	274	4	7,365
India	2,311	50	1,674	36	485	11	148	3	4,618
Japan	264	21	722	56	194	15	98	8	1,278
Korea	707	37	809	42	307	16	107	5	1,930
New Zealand	1,547	51	1,404	46	60	2	42	1	3,053
Total	6,780	34	10,024	50	2,566	13	771	3	20,141

MFN = most favoured nation, NTM = non-tariff measure, SPS = sanitary and phytosanitary, TBT = technical barrier to trade.
Notes: For the detailed NTM classification, see the Appendix. The six countries are Australia, China, India, Japan, Korea, and New Zealand.
Source: Author, based on the UNCTAD TRAINS database, https://trainsonline.unctad.org/home (Accessed 20 June 2020).

4. Non-tariff Measures in the Six East Asian Countries

This section presents simple economic analyses of NTMs in the six countries. While a number of methods quantify the impacts of NTMs on trade (Deardorff and Stern, 2001; Ing and Cadot, 2017; de Melo and Nicita, 2018a), three main basic methods measure the prevalence of NTMs in trade by measuring the incidences of NTMs.

(i) *Frequency index* (FI) is the ratio of the number of products (calculated based on tariff lines) affected by at least one NTM to the total number of products within the product group. FI indicates the percentage of traded goods to which NTMs apply.

(ii) *Coverage ratio* (CR) is basically the FI weighted by the value of exports (imports). CR is the ratio of the value of traded products affected by at least one NTM to the total value of traded goods. CR measures the percentage of trade subject to NTMs.

(iii) *Prevalence score* (PS) is the average number of all unique types of NTMs applied simultaneously on traded goods, which is basically the average number of NTMs applied to traded goods.

$$FI_i = \frac{\sum_{k=1}^{hs} NTM_{ik} D_{ik}}{\sum_{k=1}^{hs} D_{ik}} 100 \quad (1)$$

$$CR_i = \frac{\sum_{k=1}^{hs} NTM_{ik} M_{ik}}{\sum_{k=1}^{hs} M_{ik}} 100 \quad (2)$$

$$PS_i = \frac{\sum_{k=1}^{hs} NoNTM_{ik} D_{ik}}{\sum_{k=1}^{hs} D_{ik}} 100 \quad (3)$$

In these equations, k denotes product, i represents the country enforcing the NTMs, NTM_{ik} is a dummy indicating the incidence of an NTM at the nomenclature of traded goods Harmonized System (HS) at the six-digit level, $NoNTM$ denotes the number of NTMs, M is the value of imports, and D is a binary variable that equals 1 when country i imports product k, and zero otherwise. M can be replaced by X to measured exported goods.

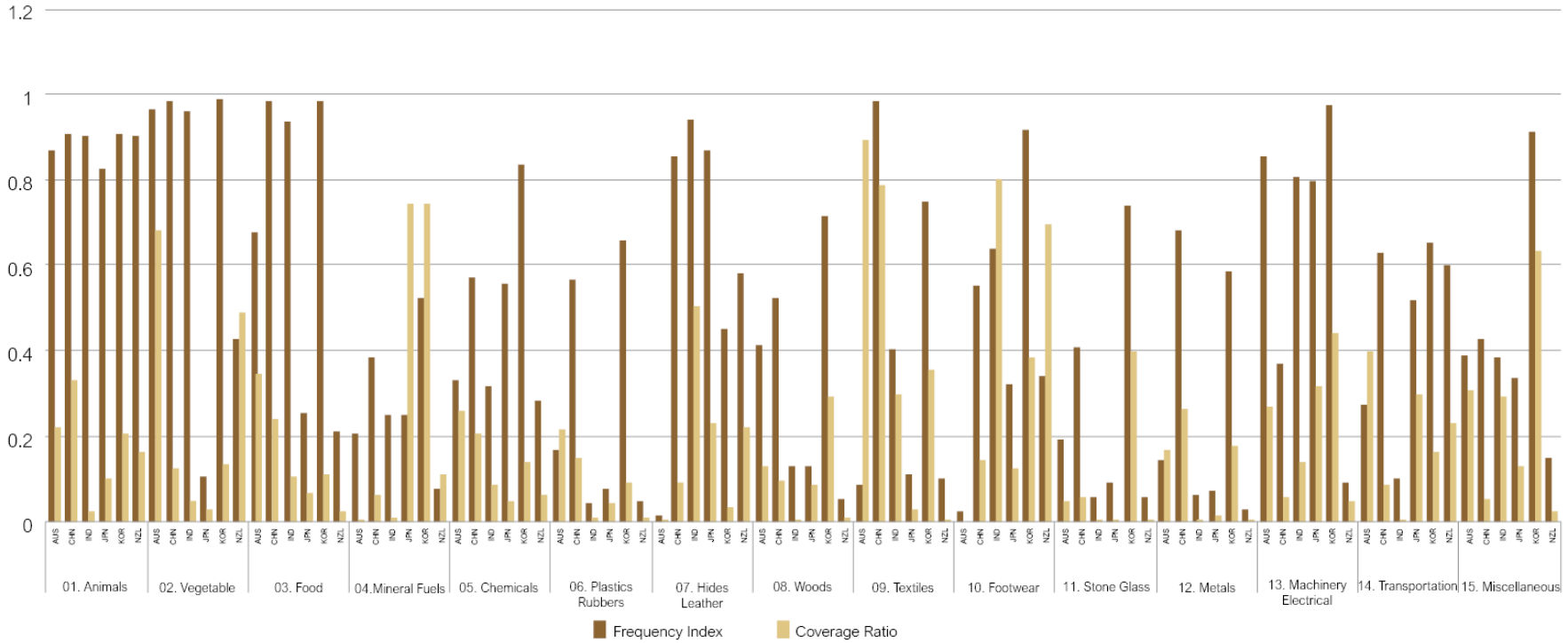
These indicators are mostly calculated on overall trade, considering all types of NTMs, but they can also illustrate the incidence of NTMs in specific groups of products (e.g., the average number of SPS measures applied to agricultural products, and TBTs to manufactured products).

NTM coverage varies, depending on countries' comparative advantage in certain sectors and need for imported products. A high-frequency index does not necessarily translate to a high coverage ratio. One plausible explanation is that countries tend to regulate imports of goods over which they have a comparative advantage and produce in excess, but not necessarily imported goods that they need. For example, in Japan, whilst NTMs are used more frequently for animal products than for mineral products, they cover a higher import value in minerals (85%) than animal products (72%). China, which has large shares of machinery and mineral fuels, applies NTMs to almost all machinery: about 99% of product lines in the machinery category are affected by at least one NTM. When weighted by the value of imports, about 96% of the value of machinery imports is affected by NTMs. In China, 95% of metal product lines are affected by at least one NTM, and when weighted by the value of its imports, 83% of China's metal imports are affected by NTMs. In contrast, a services-based developed country like Australia applies NTMs to only 7% of metal product lines.

Figure 2.2 shows the frequency index and coverage ratio for exports of the six countries across 15 product classifications (01 animal, 02 vegetables, 03 food, 04 mineral fuels, 05 chemicals, 06 plastic and rubbers, 07 leathers, 08 wood, 09 textiles, 10 footwear, 11 stone and glass, 12 metals, 13 machinery and electrical equipment, 14 transportation, and 15 miscellaneous). Except for Japan and New Zealand, most countries tend to regulate most animal, vegetable, and food products. The measures affect 68%–99% of products in those categories in four countries, whilst they affect only 10%–42% in Japan and New Zealand.

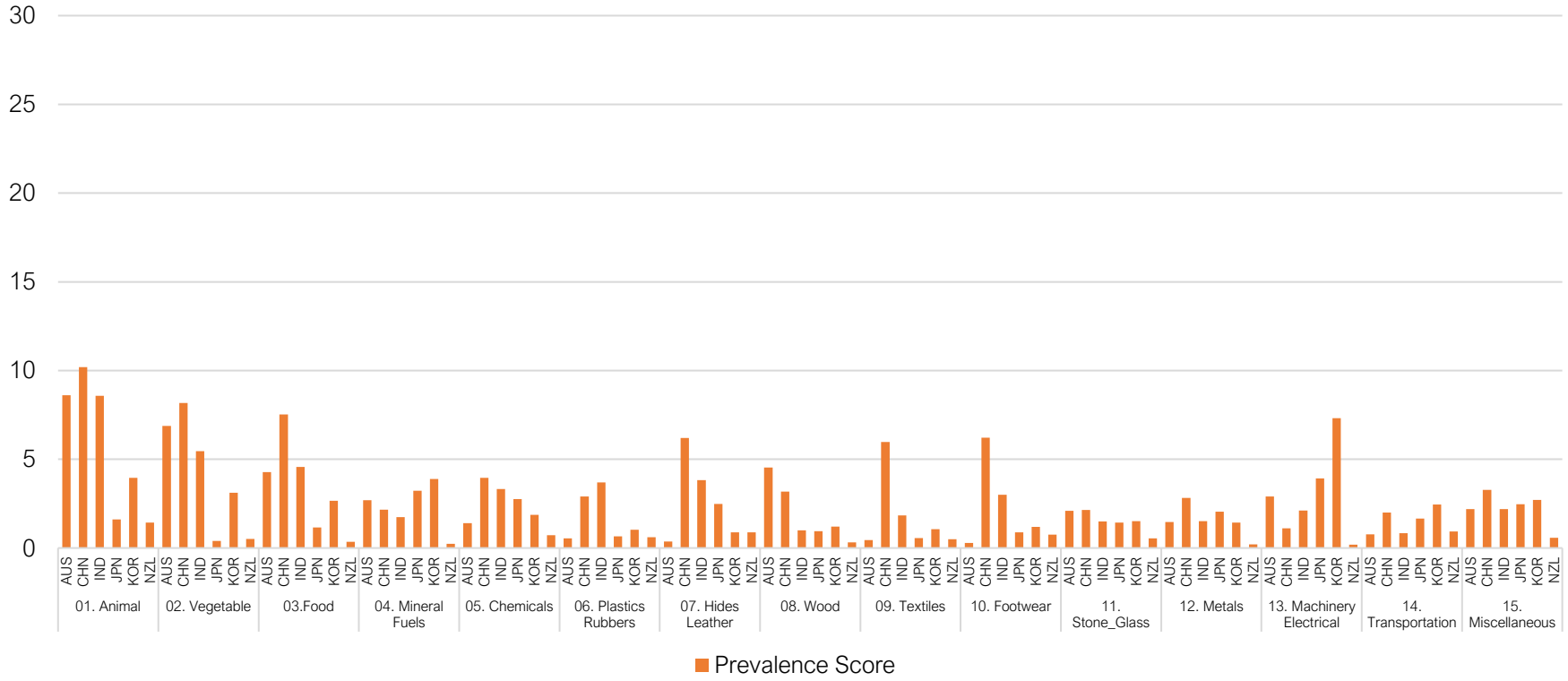
Figure 2.3 examines how heavily regulated a sector is relative to other sectors within a country and to the same sector in other countries. Through the prevalence score, we estimate the average number of NTMs applied to import products in six countries by sector. Although the score does not imply stringency, it provides some indication of the level of complexity that importers must face in each sector. Australia, China, and India apply more than eight measures to animal products, whilst Japan and New Zealand apply only about one or two measures (Figure 2.5).

Figure 2.2. Frequency Index and Coverage Ratio of Exports: Australia, China, India, Japan, Korea, and New Zealand



AUS = Australia, CHN = China, HS = Harmonized System, IND = India, JPN = Japan, KOR = Republic of Korea, NTM = non-tariff measure, NZL = New Zealand.
Notes: Data on NTMs are from the UNCTAD TRAINS database (accessed 1 May 2020). Data on imports for each country in 2018 are from the World Bank WITS database at the HS six-digit level. The trade year used was based on the year the NTM data were collected. The sector is defined at the HS 2017 two-digit level.
Source: Authors.

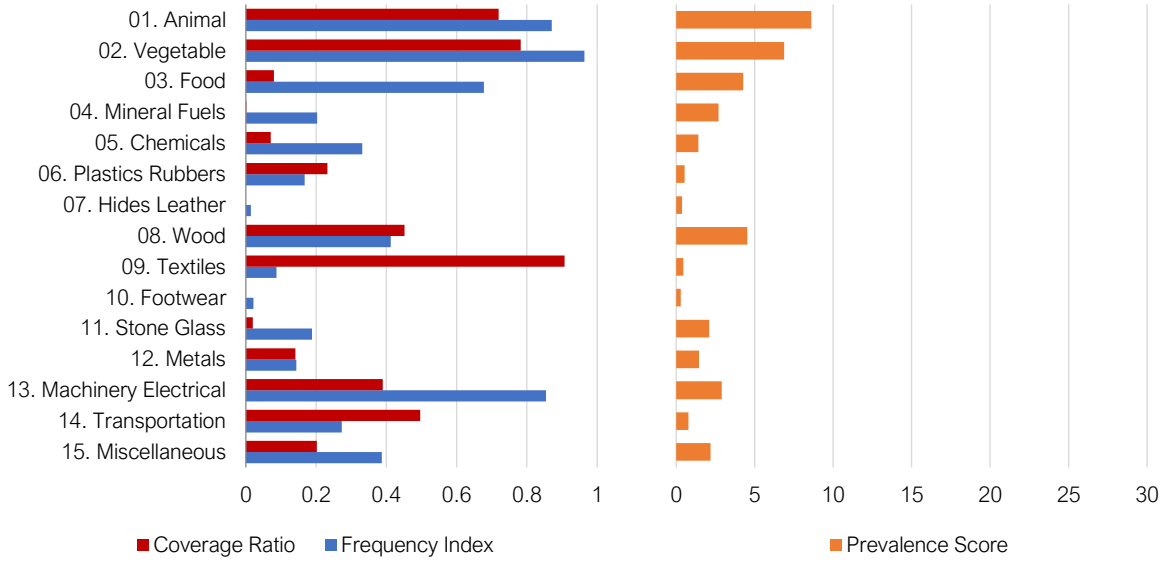
Figure 2.3. Prevalence Score of Exports: Australia, China, India, Japan, Korea, and New Zealand



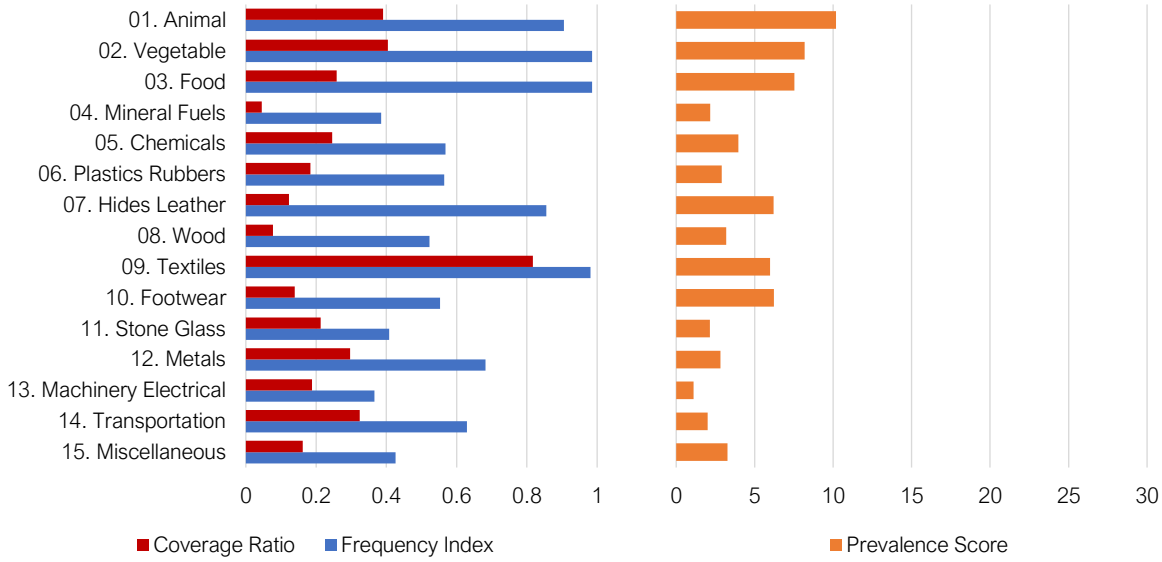
AUS = Australia, CHN = China, HS = Harmonized System, IND = India, JPN = Japan, KOR = Republic of Korea, NTM = non-tariff measure, NZL = New Zealand.
Notes: Data on NTMs are from the UNCTAD TRAINS database (accessed 1 May 2020). Data on imports for each country in 2018 are from the World Bank WITS database at the HS six-digit level. The trade year used was based on the year the NTM data were collected. The sector is defined at the HS 2017 two-digit level.
Source: Authors.

Figure 2.4. Frequency Index, Coverage Ratio, and Prevalence Score of Exports for Six East Asian Countries

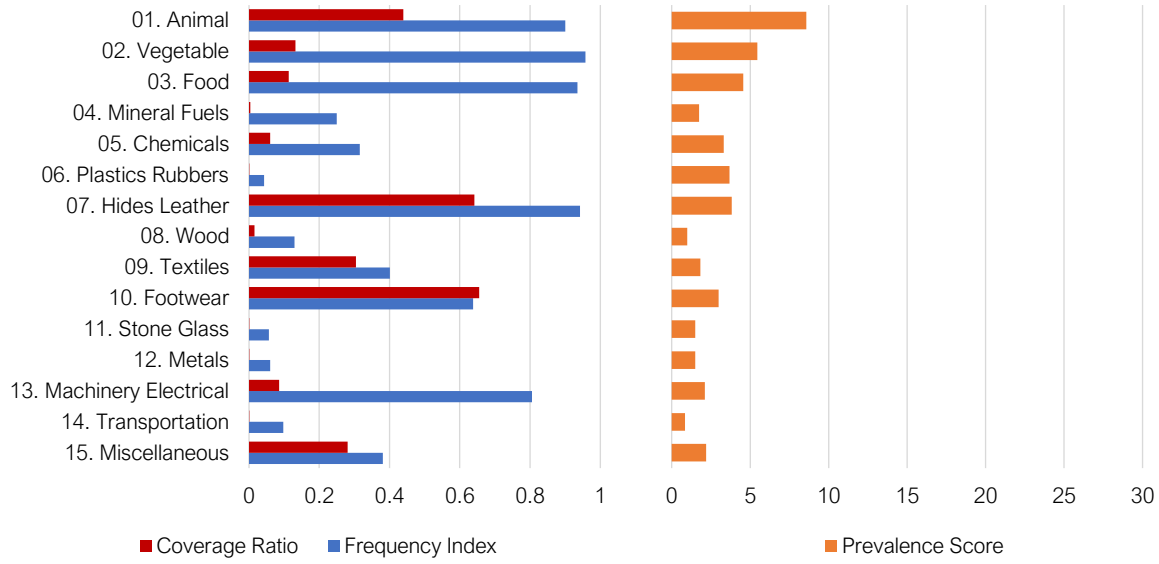
2.4a. Australia



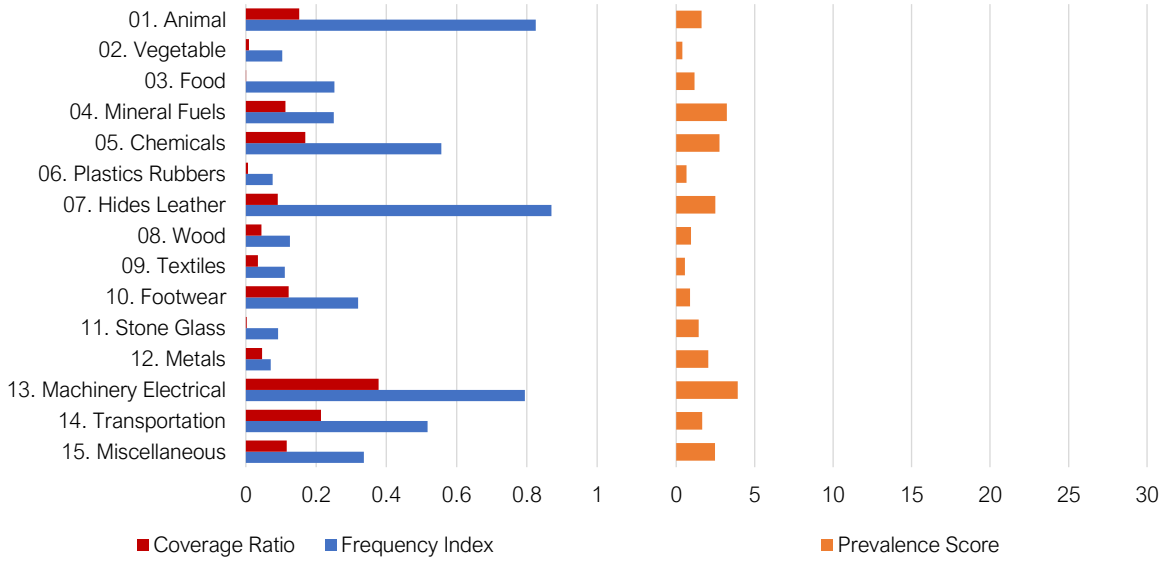
2.4b. China



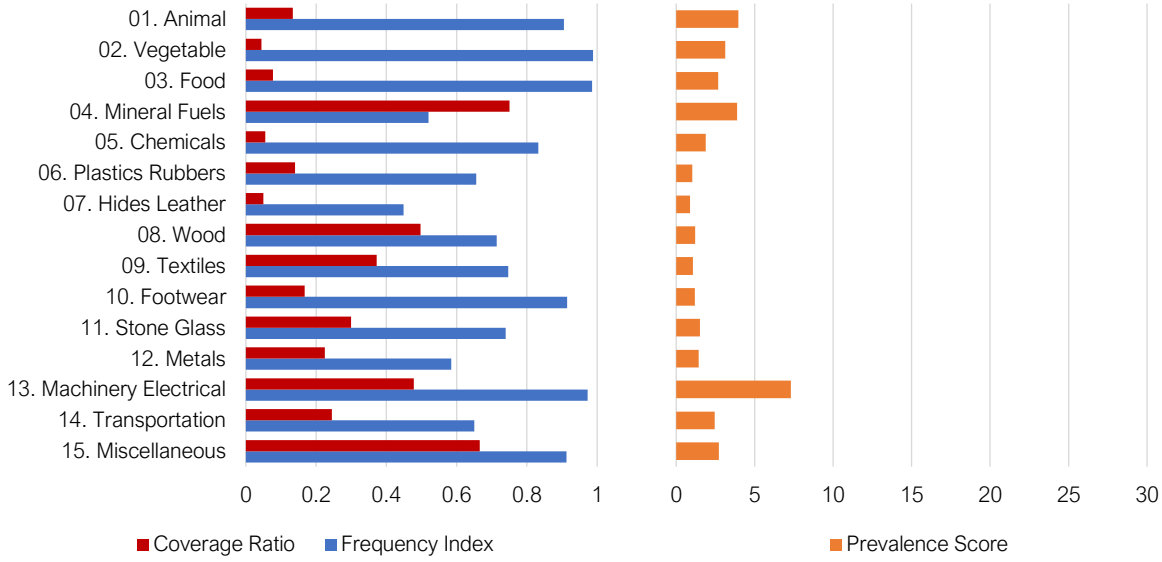
2.4c. India



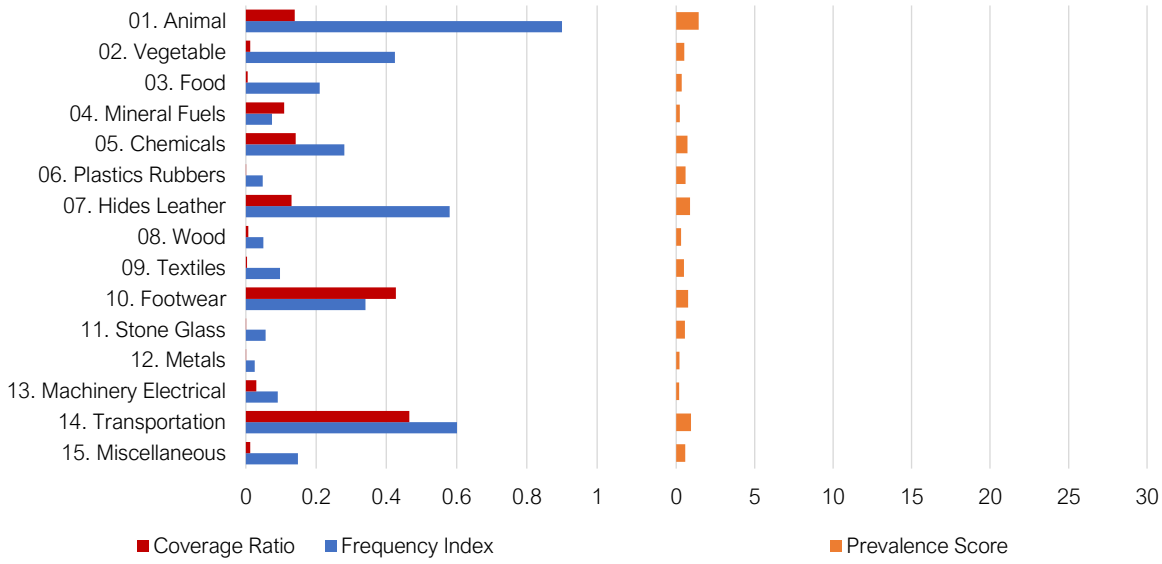
2.4d. Japan



2.4e. Korea



2.4f. New Zealand

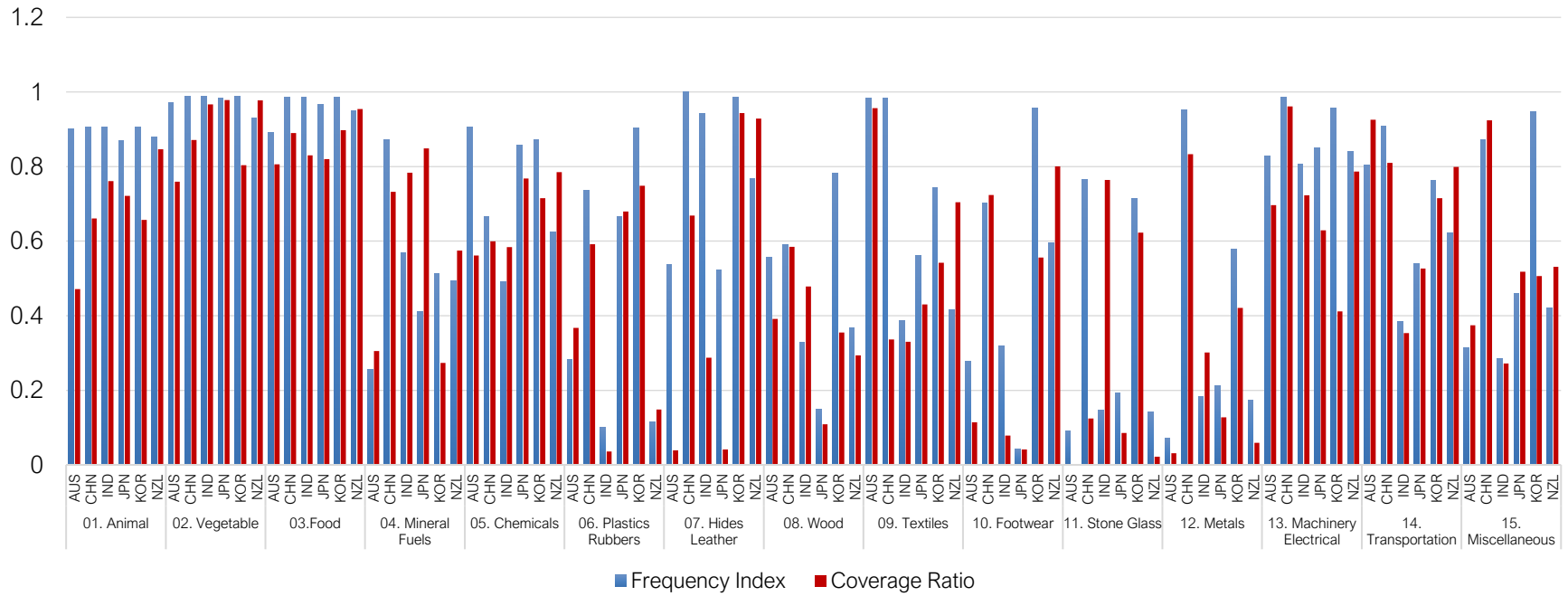


HS = Harmonized System
Notes: Data on NTMs are from raw data from the UNCTAD TRAINS database (accessed 1 May 2020). Data on imports for each country in 2017/2018 are from the World Bank WITS database at the HS six-digit level. The trade year used was based on the year the NTM data were collected. The sector is defined at the two-digit level using HS 2017.
Source: Authors.

Figure 2.5 shows the frequency index and coverage ratio for imports of the six countries across 15 product classifications. In general, animal, vegetable, and food products tend to be more regulated than products in other categories, largely because of quality and safety standards. Except for Australia, the measures affect 66%–98% of trade in those sectors.

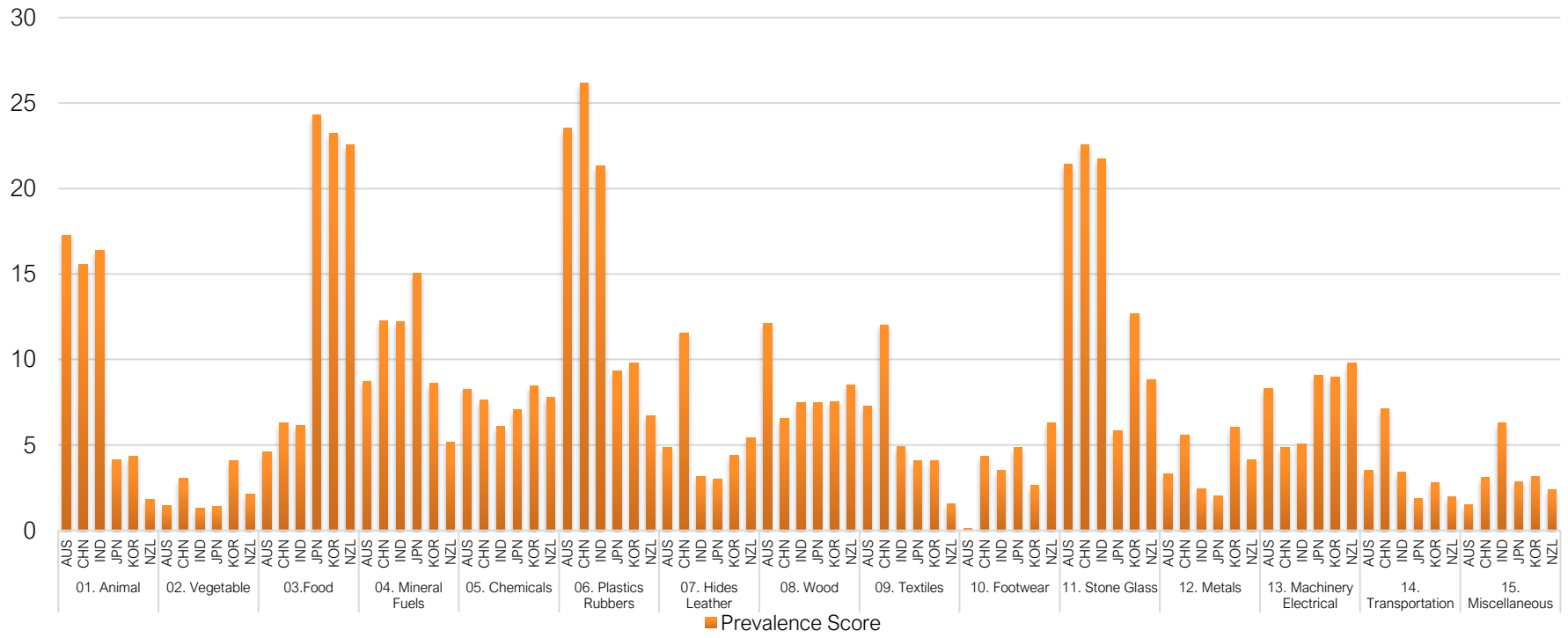
Figure 2.6 shows the prevalence score of imports in the six countries. There are considerable variances in the average number of measures applied to imports across countries and sectors. The food and vegetable sectors are subject to more NTMs applied to the same product, whilst fewer NTMs are applied to less traded products such as wood (HS.08) and stone and glass (HS.11). Within those sectors, India applies on average more than seven measures to stone and glass products (HS.11) whilst Australia and New Zealand barely impose any measures, with detailed figures of each country presented in Figure 2.7.

Figure 2.5. Frequency Index and Coverage Ratio of Imports: Australia, China, India, Japan, Korea, and New Zealand



AUS = Australia, CHN = China, HS = Harmonized System, IND = India, JPN = Japan, KOR = Republic of Korea, NTM = non-tariff measure, NZL = New Zealand.
Notes: Data on NTMs are from the UNCTAD TRAINS database (accessed 1 May 2020). Data on imports for each country in 2028 are from the World Bank WITS database at the HS six-digit level. The trade year used was based on the year the NTM data were collected. The sector is defined at the HS 2017 two-digit level.
Source: Authors.

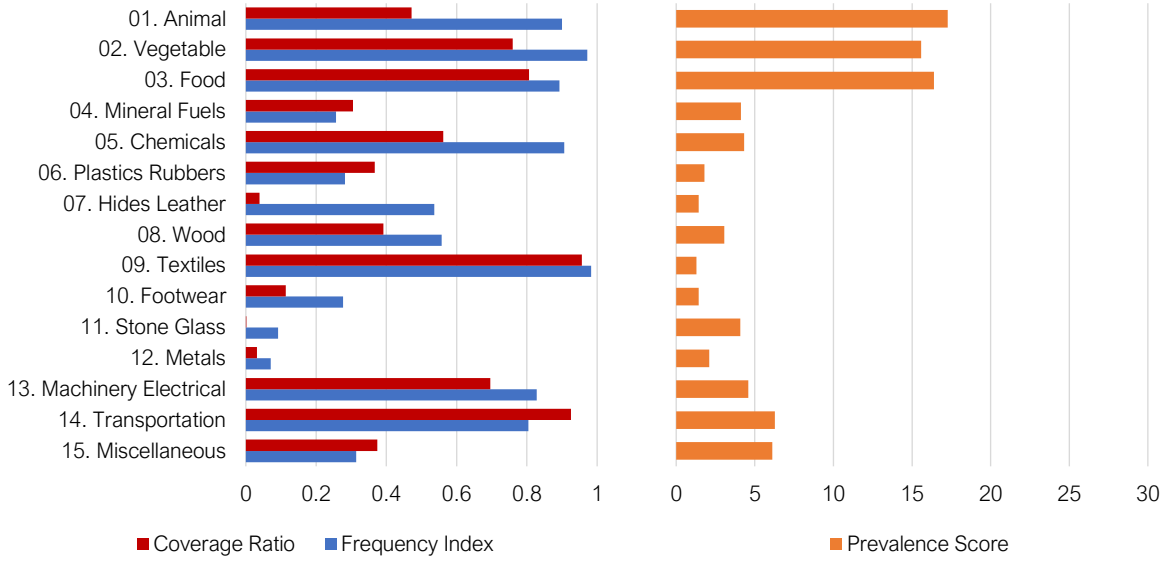
Figure 2.6. Prevalence Score of Imports: Australia, China, India, Japan, Korea, and New Zealand



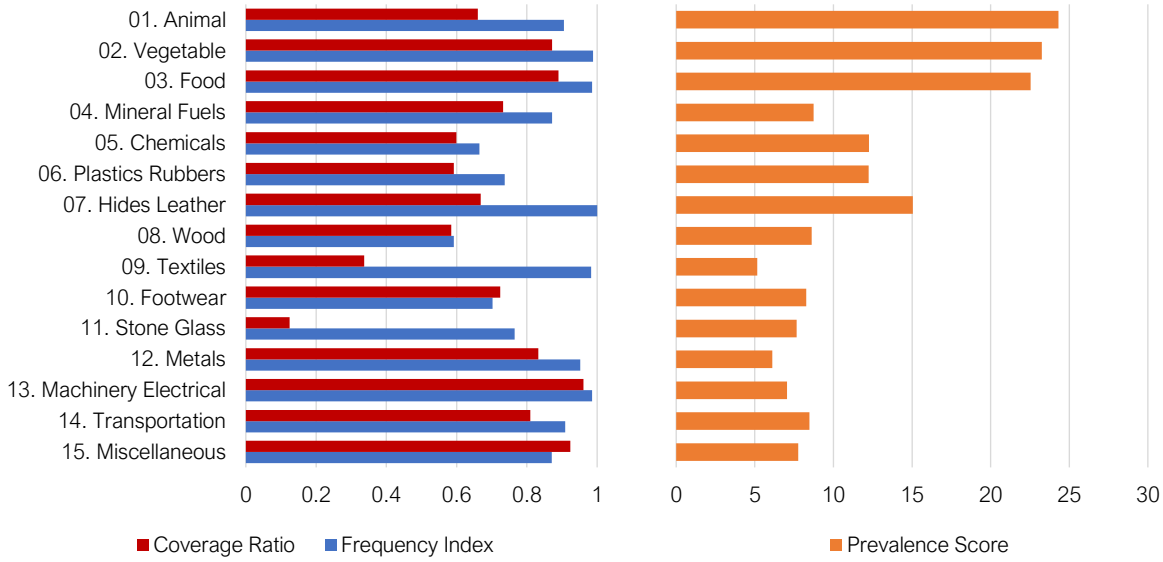
AUS = Australia, CHN = China, HS = Harmonized System, IND = India, JPN = Japan, KOR = Republic of Korea, NTM = non-tariff measure, NZL = New Zealand.
Notes: Data on NTMs are from the UNCTAD TRAINS database (accessed 1 May 2020). Data on imports for each country in 2018 are from the World Bank WITS database at the HS six-digit level. The trade year used was based on the year the NTM data were collected. The sector is defined at the two-digit level, based on HS 2017.
Source: Authors' calculations.

Figure 2.7. Frequency Index, Coverage Ratio, and Prevalence Score of Imports for Six East Asian Countries

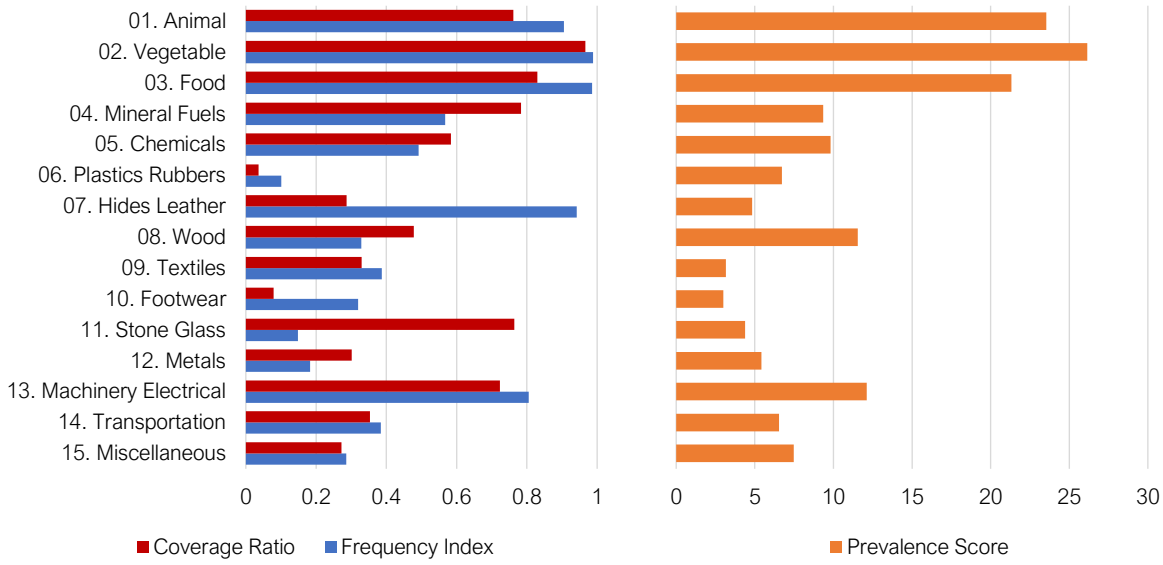
2.7a. Australia



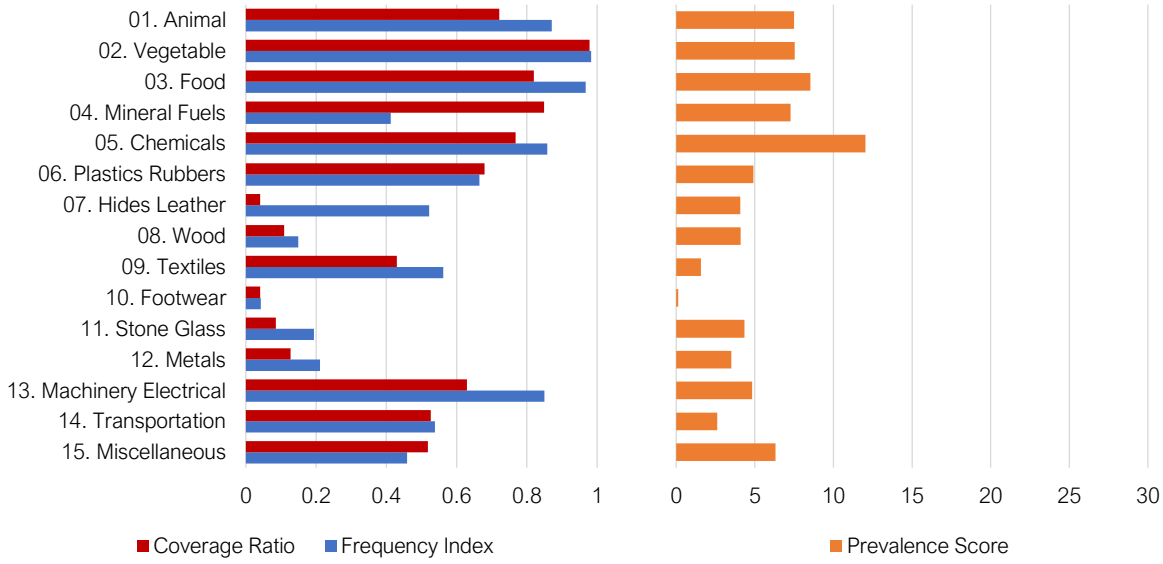
2.7b. China



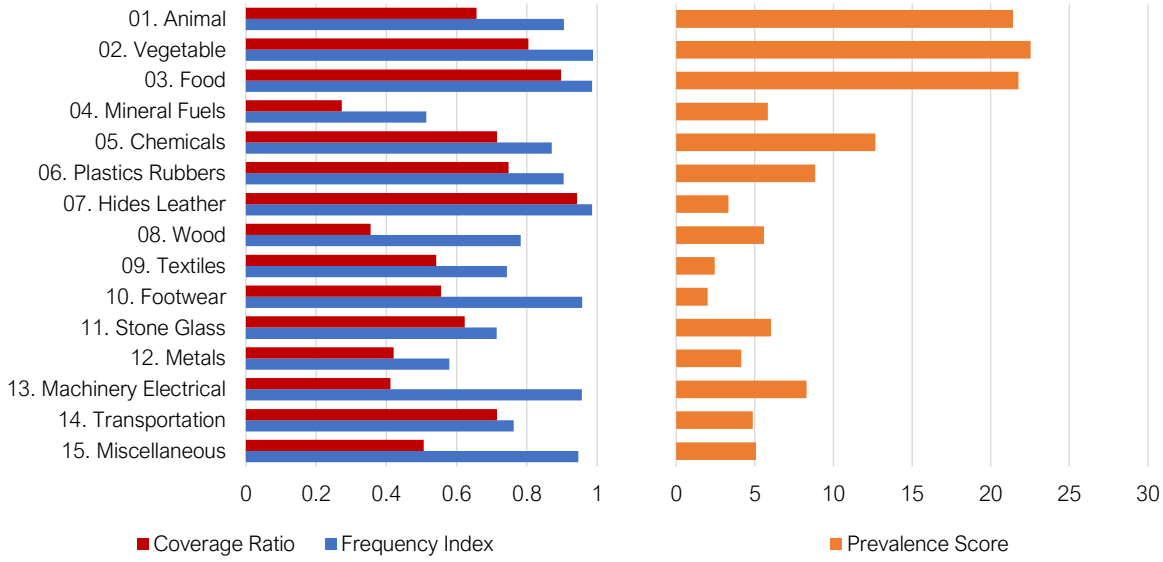
2.7c. India



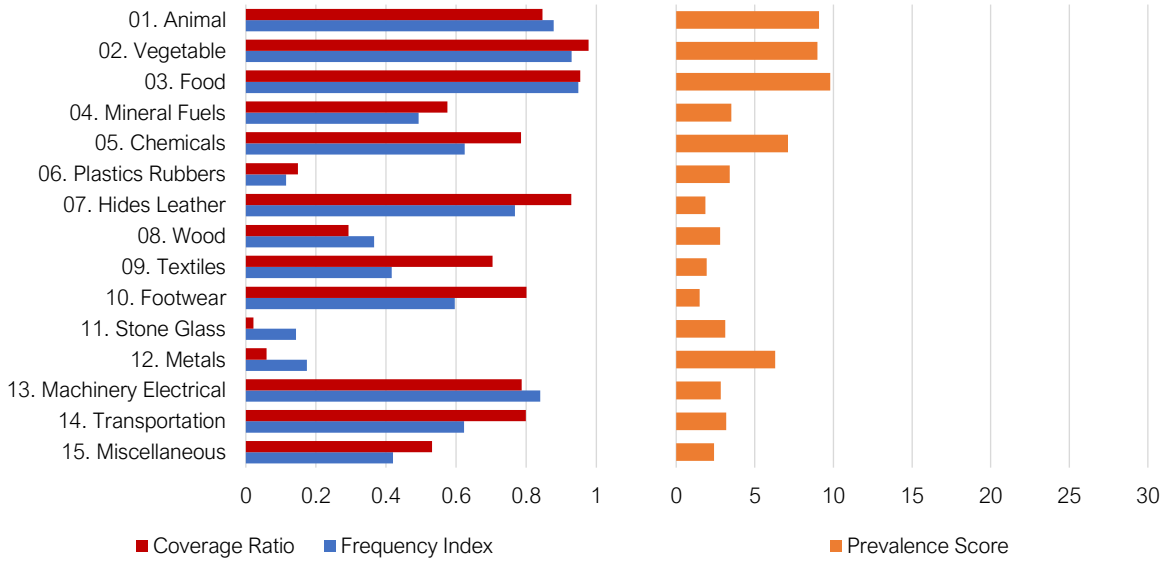
2.7d. Japan



2.7e. Korea



2.7f. New Zealand



Notes: Trade data were downloaded from the World Bank WITS database at the Harmonized System (HS) six-digit level for 2017. The trade year used was based on the year the non-tariff measures data were collected. The sector was defined in HS 2017 two-digit sections.
Source: Authors, based on UNCTAD TRAINS raw data (accessed 1 May 2020).

5. Conclusions and Policy Recommendations

While the RCEP was substantially concluded in November 2019 and signed by the leaders in November 2020, NTM issues will still pose a significant challenge for East Asian integration.

First, at the national level, all countries should not only adopt online licensing procedures, but also ensure that automatic licensing is in place. Second, they should streamline NTMs and the procedures to obtain licences and/or permits. Third, at the regional level, East Asia should consider establishing a regional committee with enforcement powers to deal with NTMs to harmonise standards and mutual recognition agreements and to review all regulations. Unless all members fulfil their commitments to reduce restrictive trade measures, the RCEP may have less significant impacts on trade and investment in the regional and worldwide.

References

ASEAN (2019), *Regional Comprehensive Economic Partnership Agreement, Legal Text of the RCEP Agreement*. Available at: http://rcepsec.org/legal-text/ (accessed 20 November 2020).

ASEAN (2019), Joint Leaders' Statement on the Regional Comprehensive Economic Partnership (RCEP), 4 November, Bangkok, Thailand.

Bagwell, K. and R.W. Staiger (2014), 'Can the Doha Round Be a Development Round? Setting a Place at the Table', in R.C. Feenstra and A.M. Taylor (eds.) *Globalization in an Age of Crisis: Multilateral Economic Cooperation in the Twenty-First Century,* National Bureau of Economic Research Conference Report. Chicago and London: University of Chicago Press, pp.91–124.

Beghin, J.C., A. Disdier, S. Marette, and F. van Tongeren (2013), 'A Cost–Benefit Approach for the Assessment of Nontariff Measures in International Trade', in J.C. Beghin (ed.) *Nontariff Measures with Market Imperfections Trade and Welfare Implications*, *Frontiers of Economics and Globalization,* vol. 12. Bingley, United Kingdom: Emerald Group Publishing, pp.15–41.

Bhagwati, J. (1988), *Protectionism*. Cambridge, MA: MIT Press.

Bhagwati, J. (1995), 'US Trade Policy: The Infatuation with FTAs', *Department of Economics Discussion Paper Series*, No. 726. New York: Columbia University.

Bhagwati, J. (1999), 'The "Miracle" that Did Happen: Understanding East Asia in Comparative Perspective', in E. Thorbecke and H. Wan (eds.), *Taiwan's Development Experience: Lessons on Roles of Government and Market*. Boston, MA: Springer, pp.21–39.

Broda, C., N. Limao, and D.E. Weinstein (2008), 'Optimal Tariffs and Market Power: The Evidence', *The American Economic Review*, 98(5), pp.2032–65.

Business Standard (2020), 'What Is RCEP'. Available at: https://www.business-standard.com/about/what-is-rcep (Accessed 24 December 2020).

Cadot, O., A. Asprilla, J. Gourdon, C. Knebel, and R. Peters (2015), 'Deep Regional Integration and Non-tariff Measures: A Methodology for Data Analysis', *Policy Issues in International Trade and Commodities Research Study Series*, No. 69. New York and Geneva: United Nations Conference on Trade and Development.

Chaisse, J. and R. Pomfret (2019), 'The RCEP and the Changing Landscape of World Trade', *Law and Development Review,* 12(1), pp.159–90.

Choudhury, R.N. (2019), 'Why Did India Betray RCEP?', *East Asia Forum.* Available at: http://www.eastasiaforum.org/2019/12/21/why-did-india-betray-rcep/ (Accessed 23 December 2020).

Damuri, Y. (2018), 'How Might the Trans-Pacific Partnership Affect the Game?' in J. Drake-Brockman and P. Messerlin (eds.), *Potential Benefits of an Australia–EU Free Trade Agreement: Key Issues and Options*. Adelaide, Australia: University of Adelaide Press, pp.75–94. (Accessed 23 December 2020).

Das, S.B. and B.J. Reema (2014), 'The Regional Comprehensive Economic Partnership: New Paradigm or Old Wine in a New Bottle?' *ISEAS Economics Working Paper,* 2014-3, pp.1–32.

Deardorff, A.V. and R.M. Stern (2001), 'Measurement of Non-tariff Barriers', *Journal of International Economics*, 55(1), pp.239–42.

Doan, H.T.T. and S. Rosenow, eds. (2019), *Non-tariff Measures in ASEAN – An Update.* Jakarta: Economic Research Institute for ASEAN and East Asia (ERIA).

Frankel, J.A., D. Romer, and T. Cyrus (1996), 'Trade and Growth in East Asian Countries: Cause and Effect?' *NBER Working Paper Series,* No. 5732. Cambridge, MA: National Bureau of Economic Research.

Fukunaga, Y. and A. Kuno (2012), 'Toward a Consolidated Preferential Tariff Structure in East Asia: Going Beyond ASEAN+1 FTAs', *ERIA Policy Brief,* No. 2012-03. Jakarta: ERIA. Available at: https://www.eria.org/ERIA-PB-2012-03.pdf (accessed 3 January 2021).

Grossman, G.M. and E. Helpman (1994), 'Protection for Sale', *The American Economic Review*, 84(4), pp.833–50.

Gupta, S. (2014), 'Making RCEP about Region-Wide Liberalisation', *East Asia Forum,* 23 February. Available at: https://www.eastasiaforum.org/2014/02/23/making-rcep-about-region-wide-liberalisation/ (Accessed 24 December 2020).

Gupta, S. and S. Ganguly (2020), 'Why India Refused to Join the World's Biggest Trading Bloc', *Foreign Policy*, 23 November. Available at: https://foreignpolicy.com/2020/11/23/why-india-refused-to-join-rcep-worlds-biggest-trading-bloc/ (Accessed 24 December 2020).

India Today (2019), 'India First: Amit Shah Explains Why PM Modi Said No to RCEP', 13 November.

Ing, L.Y., O. Cadot, R. Anandhika, and S. Urata (2016), 'Non-tariff Measures in ASEAN: A Simple Proposal', in L.Y. Ing, S.F. de Cordoba, and O. Cadot (eds.) *Non-tariff Measures in ASEAN*. Jakarta: ERIA, pp.13–36.

L.Y. Ing, S.F. de Cordoba, and O. Cadot (eds.) (2016), *Non-tariff Measures in ASEAN*. Jakarta: ERIA.

Ing, L.Y., O. Cadot, and J. Walz (2017), 'Transparency in Non-tariff Measures: An International Comparison', *The World Economy*, 41(3), pp.884–912.

Ing, L.Y. and O. Cadot (2019), 'Ad Valorem Equivalents of Non-tariff Measures in ASEAN', in L.Y. Ing, R. Peters, and O. Cadot (eds.), *Regional Integration and Non-tariff Measures in ASEAN.* Jakarta: ERIA, pp.40–64.

Ing, L.Y., R. Peters, and O. Cadot, eds. (2019), *Regional Integration and Non-tariff Measures in ASEAN.* Jakarta: ERIA.

Itakura, K. (2013), 'Assessing the Economic Effects of the Regional Comprehensive Economic Partnership on ASEAN Member States', in L.Y. Ing (ed.) *East Asian Integration*. Jakarta: ERIA, pp.1–24.

Itakura, K. (2019), 'Impacts of NTMs on Trade and Welfare: A Case Study on ASEAN', in L.Y. Ing, R. Peters and O. Cadot (eds.), *Regional Integration and Non-tariff Measures in ASEAN*. Jakarta: ERIA, pp.27–39.

Kee, H.L., A. Nicita, and M. Olarreaga (2009), 'Estimating Trade Restrictiveness Indices', *The Economic Journal,* 119(534), pp.172–99.

Knebel, C. and R. Peters (2019), 'Non-tariff Measures and the Impact of Regulatory Convergence in ASEAN', in L.Y. Ing, R. Peters, and O. Cadot (eds.) *Regional Integration and Non-tariff Measures in ASEAN.* Jakarta: ERIA, pp.65–89.

Limão, N. and P. Tovar (2011), 'Policy Choice: Theory and Evidence from Commitment via International Trade Agreements', *Journal of International Economics*, 85(2), pp.186–205.

De Melo, J. and A. Nicita (2018a), 'Non-tariff Measures: Data and Quantitative Tools of Analysis', *FERDI Working Paper*, No. 218. Clermont-Ferrand, France: Foundation for Studies and Research on International Development.

De Melo, J. and A. Nicita (2018b), 'Non-tariff Measures Scope and Overview', in J. de Melo and A. Nicita (eds.) *Non-tariff Measures: Economic Assessment and Policy Options for Development*. Geneva: United Nations Conference on Trade and Development, pp.1–12.

Menon, J. (2013), 'Supporting the Growth and Spread of International Production Networks in Asia: How Can Trade Policy Help?' *ADB Working Paper Series on Regional Economic Integration*, No. 112. Manila: Asian Development Bank.

Nasbeshima, K. and A. Obashi (2019), 'Regulatory Dissimilarity: A First Look at the Newly Collected Non-tariff Measure Database', *ERIA Discussion Paper Series*, No. 12. Jakarta: ERIA.

Pangestu, M. and S. Armstrong (2018), 'Asian Economic Integration: The State of Play', in S. Armstrong and T. Westland (eds.), *Asian Economic Integration in an Era of Global Uncertainty.* Canberra: ANU Press, pp.15–61. Available at: https://press-files.anu.edu.au/downloads/press/n4106/pdf/ch02.pdf (accessed 24 December 2020).

Petri, P.A. and M.G. Plummer (2014), 'Asia-Pacific Regional Integration: Economic Effects and Implications for the Global Trading System', 5 June, Available at: http://econbrowser.com/archives/2014/06/guest-contribution-asia-pacific-regional-integration (accessed 24 December 2020).

Petri, P.A. and M.G. Plummer (2020), 'East Asia Decouples from the United States: Trade War, COVID-19, and East Asia's New Trade Blocs', *PIIE Working Paper*, 20-9. Washington, DC: Peterson Institute for International Economics. Available at: https://www.piie.com/system/files/documents/wp20-9.pdf (Accessed 5 January 2021).

RIS (2015), 'Non-tariff Measures and Standards', *World Trade and Development Report: Mega Regionals, WTO and New Issues*. New Delhi: Research and Information System for Developing Countries, pp.39–56.

Van Tongeren, F., J. Beghin, and S. Marette (2009), 'A Cost–Benefit Framework for the Assessment of Non-tariff Measures in Agro-Food Trade', *OECD Food, Agriculture and Fisheries Working Papers*, 21. Paris: Organisation for Economic Co-operation and Development.

United Nations Conference on Trade and Development (UNCTAD) (2010), *Non-tariff Measures: Evidence from Selected Developing Countries and Future Research Agenda.* New York and Geneva.

UNCTAD (2016), *Guidelines to Collect Data on Official Non-tariff Measures.* New York and Geneva.

UNCTAD (2018), *UNCTAD TRAINS: The Global Database on Non-tariff Measures User Guide,* 2017, Version 2. New York and Geneva.

UNCTAD (2019), *International Classification of Non-tariff Measures,* 2019 Version. New York.

UNCTAD and World Bank (2018), *The Unseen Impact of Non-tariff Measures: Insights from a New Database*. Geneva.

UNCTAD Trade Analysis Information System (TRAINS), *Non-tariff Measure Database*. Available at: https://trainsonline.unctad.org/home

World Bank (1993), *The East Asian Miracle: Economic Growth and Public Policy.* New York: Oxford University Press.

World Bank (2020), *World Development Indicators*. Available at: https://wits.worldbank.org/

World Trade Organization (WTO) (2012), *World Trade Report 2012 – Trade and Public Policies: A Closer Look at Non-tariff Measures in the 21st Century*. Geneva. Available at: https://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report12_e.pdf

WTO (2019), *Report on G20 Trade Measures: Mid-October 2018 to Mid-May 2019*. Geneva. Available at: https://www.wto.org/english/news_e/news19_e/g20_wto_report_june19_e.pdf

WTO (2020), *Report on G20 Trade Measures: Mid-October 2019 to Mid-May 2020*. Geneva. Available at: https://www.wto.org/english/news_e/news20_e/report_trdev_jun20_e.pdf

Chapter 3
Non-tariff Measures in Australia

Ernawati Munadi and Martin Richardson

1. Introduction

Australia has made good progress in reducing trade restrictions and trade-distorting measures affecting goods, particularly since the late 1980s. With respect to tariffs, Australia reduced its most-favoured nation tariff from 4.4% in 2000 to an average of 3.5% in 2005. Many countries have replaced tariffs with non-tariff measures (NTMs) to control the flow of international trade. In many developed countries, consumers increasingly demand safer products (World Trade Organization [WTO], 2012).[1]

The NTM data in Australia collected in 2016 revealed that 241 NTMs had been implemented in 2000, which contrasts sharply with the 1,842 NTMs recorded in 2017. Each NTM requirement can be counted as an independent legal requirement irrespective of the number of products that they each affect. Of all the NTMs imposed, 63.1% are technical barriers to trade (TBTs) and 25.6% are export-related measures (United Nations Conference on Trade and Development [UNCTAD] Integrated Trade Intelligence Portal, 2017). The exact impacts of NTMs on trade flows are often not well understood. Unlike tariffs, data on NTMs are not merely numbers, and relevant information is often hidden in legal and regulatory documents (UNCTAD, 2013). Collecting data on NTMs is a matter of collecting information embedded in the regulations.

Australia, however, has been making progress in improving transparency of its NTMs. The centralised regulation source has significantly improved the accessibility of information. The user-friendly web portal makes it easy to identify acts that are in force, as well as all related or associated implementing regulations. The website also provides a consolidated version of the regulations, a feature that makes it easy to analyse them and is helpful for traders.

NTM data collection began in the 1990s with UNCTAD's Trade Analysis Information System database (Nicita and Gourdon, 2013). However, data were not consistently updated until a new approach to collection was initiated following the Multi-Agency Support Team discussions in 2006–2012. NTM data collection is led by UNCTAD and often implemented in collaboration with other agencies, such as the World Bank. UNCTAD collaborated with the Economic Research Institute of ASEAN and East Asia in 2014 to focus on collecting NTM data from Association of Southeast Asian Nations (ASEAN) members (later expanded to ASEAN+6 members, which include Australia).

[1] Whilst consumer and societal interests are frequently cited as the reasons for the use of NTMs, however, some NTMs can conceal old-fashioned producer-based protectionism.

This chapter presents the results of NTM data collection in Australia and highlights several important findings, including the government agencies responsible for issuing NTM-related regulation and the types of NTMs imposed, amongst others. The chapter then recommends policy.

2. Summary of Non-tariff Measures and Main Findings

2.1 Comprehensiveness of Australia's Non-tariff Measure Regulations

Table 3.1 depicts the comprehensiveness of NTM data collection. Comprehensive NTM data collection ensures that all regulations affecting trade directly or indirectly are included in the data set.

Information on NTMs has been collected from 504 NTM-related regulations (or legal texts) from 12 government agencies. There are 1,897 coded NTMs (or independent legal requirements within a legal text), affecting 6,184 Harmonized System categories at the national tariff level, accounting for 100% of all tariff lines.

Table 3.1. Comprehensiveness of Non-tariff Measures in Australia

Number	Comprehensiveness	Number
1	Total NTM-related regulations (acts, ordinances, etc.)	504
2	Total NTMs reported to the World Trade Organization	-
3	Total number of coded NTMs (each legal requirement)	1,897
4	Total affected products (Harmonized System lines, national tariff lines)	
	(i) Total number of affected products	6,184
	(ii) Affected products as a share of total products	100%
5	Total number of issuing institutions	12

NTM = non-tariff measure.
Source: Authors, based on the NTM database.

According to the Ministry of Foreign Affairs of Japan (2018), the implementation of NTMs in Australia, including import licensing procedures, is fully consistent with the WTO Agreement. Standards and technical regulations are implemented in accordance with international obligations.

2.2 Government Agencies Issuing Non-tariff Measures

As in many other countries, NTM regulations in Australia are distributed amongst government agencies. In the Commonwealth, Food Standards of Australia and New Zealand is responsible for mandatory food standards in both countries. The Therapeutic Goods Administration, under Australia's Department of Health, is responsible for developing standards for pharmaceuticals and therapeutic goods. The Department of Infrastructure, Transport, Cities and Regional Development (DITRDC) is responsible for developing national standards for vehicle safety and emission requirements. The Consumer Affairs Division of the Department of the Treasury develops mandatory Commonwealth safety and information standards for selected consumer

products. According to the 1992 Commonwealth/State Agreement on Mutual Recognition, a product that conforms with the requirements of at least one state or territory (i.e., is legally saleable) can be sold throughout Australia.

Australia has a centralised information source for regulations. Information on regulations related to NTMs in Australia is publicly available. The 2016 collection of NTM data identified 504 NTM-related regulations and 1,897 coded NTMs. The regulations originated from 12 agencies. DITRDC issued the highest number of regulations (23.6%), followed by the Department of Health (22.2%), Department of Agriculture (16%), Department of Treasury (12.1%), Department of Communication and the Arts (9.5%), and Department of Environment and Energy (8.5%) (Table 3.2).

Table 3.2. Non-tariff Measure-related Regulations, by Regulatory Agency

No.	Regulatory Agency	NTM-related Regulations (number)	%
1	Department of Agriculture	81	16.07
2	Department of Home Affairs	8	1.59
3	Department of Communications and the Arts	48	9.52
4	Department of Health	112	22.22
5	Department of Treasury	61	12.10
6	Department of Foreign Affairs and Trade	19	3.77
7	Attorney-General's Department	2	0.40
8	Standards Australia/Standards New Zealand Committee	8	1.59
9	Department of Defence	2	0.40
10	Department of Environment and Energy	43	8.53
11	Department of Infrastructure, Transport, Cities and Regional Development	119	23.61
12	Industry, Innovation and Science	1	0.20
	Total	504	100.00

NTM = non-tariff measure.
Source: Authors, based on the NTM database.

Aligned with the Australia's commitment to strictly impose NTMs for protection and safety, more than 50% of the total number of NTMs are issued by the Department of Agriculture, Water, and the Environment (DAWE) (formerly the Ministry of Agriculture) and the Department of Health. DAWE holds a key role in issuing policies that ensure safety, competitiveness, and sustainability for live products and is responsible for issuing human, animal, and environmental protection regulations. The Department of Health pursues health safety and issues more than 15% of total measures.

With the merging of two departments into DITRDC, it is now the second-most important agency responsible for issuing NTMs. It issues more than 20% of measures, which reflects Australia's strong focus on improving the quality and safety of transport products. Australia has the highest coverage ratio for transport products amongst the six countries.

Import-related measures account for more than 75% of a total of 1,897 NTMs (Table 3.3). Technical measures are the most-used form of NTMs, with quantity control and price control measures a far second. Technical measures spread across chapters A, B, and C, and some in P, in total account for 93% of import NTMs or 70% of total NTMs. The most common NTMs are TBTs for imports, which account for 52% of the total, followed by export measures (22%) and sanitary and phytosanitary (SPS) measures for imports (16%).

Table 3.3. Non-tariff Measures, by Issuing Institution, in Australia

No.	Issuing Institution	NTMs (number)	NTMs (% of total)
1	Department of Agriculture, Water and the Environment	673	35.48
2	Department of Home Affairs	135	7.12
3	Department of Infrastructure, Transport, Regional Development, and Communications	399	21.03
4	Department of Health	308	16.23
5	Department of Treasury	157	8.28
6	Department of Foreign Affairs and Trade	42	2.21
7	Attorney-General's Department	20	1.05
8	Standards Australia	6	0.32
9	Department of Defence	6	0.32
10	Department of Environment and Energy	150	7.91
11	Department of Industry, Innovation and Science	1	0.05
	Total	1,897	100

NTM = non-tariff measure.
Source: Authors, based on the new NTM database.

2.3 Types of Non-tariff Measures Imposed by Australia

Australia has well-developed regulations, including those related to NTMs. The justifications for imposing them on imports are protection of human health, hygiene and sanitation standards, protection of animal and plant life, environmental conservation, and essential security, in compliance with domestic laws and policies (including revenue objectives) and international commitments (Ministry of Foreign Affairs of Japan, 2018) in accordance with the WTO Agreement.

Australia has 1,897 NTMs (Table 3.4), of which more than 75% are import related and the rest export related. Import NTMs are mostly technical measures, referring to technical regulations and procedures for assessing conformity with technical regulations and standards. They include measures covered by the Sanitary and Phytosanitary Agreement (chapter A), such as restricted use of certain substances in foods and feeds and their contact materials, and TBTs (chapter B) such as product quality or performance requirements. Technical measures (chapters A, B, and C, and some in P) account for 93% of import NTMs or 70% of total NTMs, leaving only 7% for non-technical measures, such as customs inspection, processing, and servicing fees.

Table 3.4: Non-tariff Measures, by Type, in Australia

Code	NTMs by Type (chapter)	NTMs (number)	NTMs (% of total number)
A	Sanitary and phytosanitary measures	292	15.39
B	Technical barriers to trade	1,035	54.56
C	Pre-shipment inspection and other formalities	6	0.32
D	Contingent trade-protective measures	0	0
E	Non-automatic licensing, quotas, prohibitions and quantity control measures other than for sanitary and phytosanitary measures or technical barrier to trade reasons	18	0.95
F	Price control measures including additional taxes and charges	77	4.06
G	Finance measures	0	0
H	Measures affecting competition	0	0
I	Trade-related investment measures	0	0
J	Distribution restrictions	0	0
K	Restrictions on post-sale services	0	0
L	Subsidies (excluding export subsidies under P7)	0	0
M	Government procurement restrictions	0	0
N	Intellectual property	1	0.05
O	Rules of origin	0	0
P	Export-related measures	468	24.67
Total coded NTMs		1,897	100

NTM = non-tariff measure.
Source: Authors, based on the NTM database.

The most common type of NTM is TBTs, accounting for 55% of the total, followed by export measures (25%), and SPS measures (15%) (Table 3.4). The non-technical measures consist of price control measures, including additional taxes and charges (4%), and non-automatic licensing, quotas, prohibitions, and quantity control measures other than for SPS or TBT reasons (1%).

There are 78 different types of NTMs, based on the most disaggregated level of the Multi-Agency Support Team 2012 Classification. With respect to imports, the most common types of NTMs are product standard requirements for TBT reasons (B7), testing (B82), and labelling requirements (B31). There are 288 occurrences of product standard requirements, 213 occurrences of testing requirements, and 163 occurrences of labelling requirements. With respect to exports, the most common types of NTMs are licensing or permit requirements to export (P13) (131 occurrences), export technical measures not elsewhere specified (P69) (125 occurrences), and export taxes and charges (P5) (107 occurrences) (Table 3.5).

Table 3.5. Types of Non-tariff Measures Imposed by Australia

No.	Type of NTM	Total	No.	Type of NTM	Total	No.	Type of NTM	Total
1	A11	1	28	B11	24	52	C3	4
2	A14	25	29	B14	79	53	C9	2
3	A15	1	30	B15	7	54	E112	6
4	A19	5	31	B19	8	55	E231	1
5	A21	10	32	B21	16	56	E321	1
6	A22	32	33	B22	14	57	E322	8
7	A31	21	34	B31	163	58	E329	2
8	A32	2	35	B32	39	59	F3	1
9	A33	15	36	B33	33	60	F31	1
10	A41	1	37	B41	7	61	F39	2
11	A51	6	38	B42	4	62	F4	1
12	A59	20	39	B49	6	63	F61	15
13	A61	6	40	B6	9	64	F65	1
14	A62	4	41	B7	288	65	F69	1
15	A63	31	42	B81	33	66	F72	6
16	A69	25	43	B82	213	67	F73	46
17	A81	2	44	B83	18	68	F79	3
18	A82	7	45	B84	30	69	N	1
19	A83	30	46	B85	29	70	P11	21
20	A84	6	47	B851	1	71	P12	15
21	A85	6	48	B852	1	72	P13	131
22	A851	5	49	B859	3	73	P14	13
23	A852	1	50	B89	7	74	P5	107
24	A859	2	51	B9	3	75	P61	22
25	A86	1				76	P62	32
26	A89	23				77	P69	125
27	A9	4				78	P9	2
Total	1,897							

NTM = non-tariff measure.
Source: Authors, based on the NTM database.

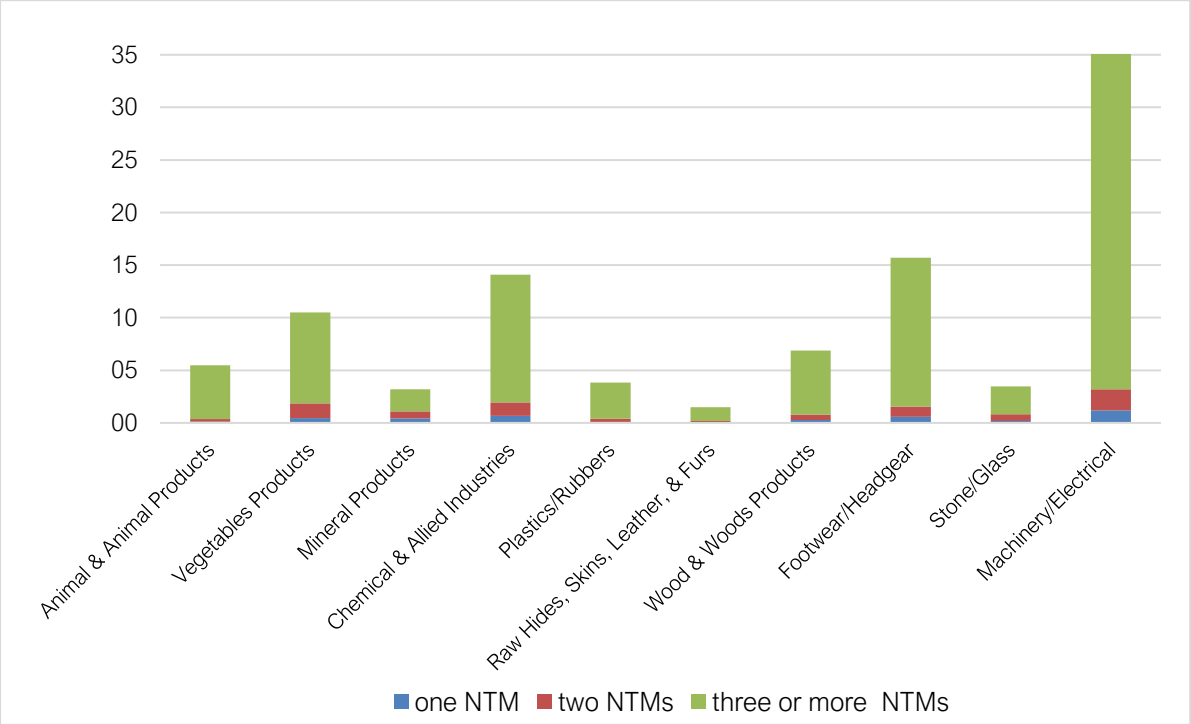
3. Tariff Lines Covered by Non-tariff Measures and Multiple Non-tariff Measures

Figure 3.1 shows the frequency of NTMs across product groups. Machinery and mechanical appliances are the most heavily covered, accounting for more than 35% of total tariff lines, followed by footwear/headgear (15.5%) and chemical and allied industries (14.1%). Vegetable products account for a high proportion of NTMs (10.5% of 6,184 total tariff lines). Based on Trademap (2018a) data, the total import bill in 2018 was US$227.6 billion, of which more than a quarter was machinery (including computers) and electrical products and equipment. Transportation ranked second (14.6%) and mineral products/fuels third (13.9%). The abundance of NTMs imposed on machinery and electrical products indicate that they might have significant impacts.

Figure 3.1 is dominated by green bars, which represent implementation of three or more NTMs, by far the most common frequency in industries and accounting for 85.1% of all 6,184 tariff lines, leaving 5.6% tariff lines subject to just one NTM (blue bars) and 9.3% to two NTMs (red). Some

product groups such as machinery/electrical, animals and animal products, and textile products have an overwhelming number of tariff lines affected by three or more NTMs.

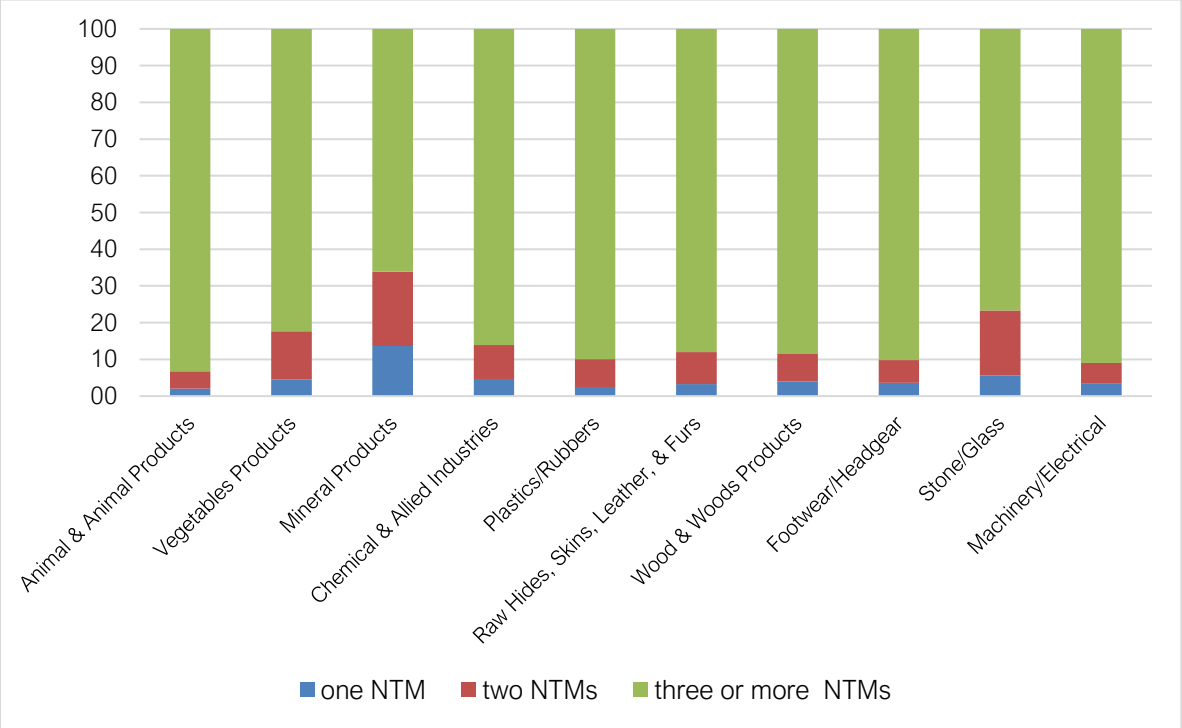
Figure 3.1. Incidence of Non-tariff Measures, by Product, as a Percentage of Total Tariff Lines in Australia (%)



NTM = non-tariff measure.
Note: As the figures reflect the percentage of total tariff lines, the percentage of each category also reflects the number of tariff lines in the category, instead of merely the number of products affected by NTMs.
Source: Authors, based on the new NTM database.

The imposition of NTMs is characterised by the simultaneous application of many different measures to the same product (Table 3.6) and, therefore, creates overlapping NTMs (Figure 3.2). The calculation is carried out on each tariff line, which includes import and export NTMs. For example, in the animals and animal products group, almost 93.2% of tariff lines are affected by three or more NTMs. Only 2.1% of animals and animal products tariff lines are subject to one NTM and 4.7% to two NTMs. Of the machinery/electrical product tariff lines, 91% are subject to three or more NTMs, leaving only 9% subject to one or two NTMs. The same can be seen with footwear/headgear, where 90.2% of tariff lines are subject to three or more NTMs.

Figure 3.2. Multiple Non-tariff Measures, by Product Group, in Australia (%)



NTM = non-tariff measure.
Source: Authors, based on the NTM database.

Table 3.6 expands the data behind Figure 3.1 to give the number of tariff lines subject to one, two, and three or more NTMs, organised by product group. Of the 6,184 tariff lines, machinery/electrical products, animal and animal products, and textiles are the most regulated sectors. In machinery/electrical products, for example, 98% of the 930 tariff lines are subject to three or more NTMs. The least regulated sector is mineral products.

Table 3.6. Number of Tariff Lines Subject to Multiple Non-tariff Measures, by Product Group, in Australia

	Product	One NTM	Two NTMs	3 or more NTMs	Products with One NTM (%)	Products with Two NTMs (%)	Products with 3 or more NTMs (%)
01–05	Animals and animal products	7	16	316	2	5	93
06–15	Vegetable products	16	66	281	4	18	77
16–24	Foodstuffs	13	20	254	5	7	89
25–27	Mineral products	27	40	131	14	20	66
28–38	Chemical and allied industries	41	80	751	5	9	86
39–40	Plastics/rubbers	6	18	214	3	8	90
41–43	Raw hides, skins, leather, and furs	3	8	81	3	9	88
44–49	Wood and wood products	17	32	377	4	8	88
50–63	Textiles	28	54	829	3	6	91
64–67	Footwear/headgear	7	6	47	12	10	78
68–71	Stone/glass	12	38	164	6	18	77
72–83	Metals	35	54	494	6	9	85
84–85	Machinery/electrical	5	18	930	1	2	98
86–89	Transportation	10	14	214	4	6	90
90–99	Miscellaneous	23	38	349	6	9	85
	Total tariff lines	250	502	5,432	4	8	88

NTM = non-tariff measure.
Source: Authors, based on the NTM database.

Food products are subject to many NTMs, with 89% of tariff lines subject to three or more. Australia is a big producer – and exporter – of agricultural goods and, whilst many of the NTMs doubtless exist for SPS and food safety reasons, they also tend to serve the interests of domestic producers. In 2018, Australia was the world's third-largest exporter of meat and edible meat offal products (Trademap, 2018) and the ninth-largest cereal exporter in the world. In 2017, agriculture exports totalled $37.0 billion, about 11.3% of total exports of goods and services. Beef is the largest export, accounting for 14.7% of total agriculture exports from the country (Table 3.7). Other types of meat, including lamb (6.07%), are also in high demand in the export market.

Table 3.7. Australia's Top 10 Agricultural Exports, by Value, 2017
(US$ million)

Major Agriculture Export Products	Share of Total Exports (%)
Beef	14.70
Wheat and maslin	12.07
Lamb	6.07
Legume, dried	5.46
Barley	5.29
Wine	5.27
Sugarcane and sucrose	4.19
Rape and colza seed	3.24
Fuel wood	2.94
Bovine	2.37

Source: Center for International Development (2017), ATLAS. https://atlas.cid.harvard.edu/explore?country=14&product=undefined&year=2017&productClass=HS&target=Product&partner=undefined&startYear=undefined (Accessed 10 April 2020).

Whilst its simple average applied tariff on agriculture is only 1.2% (WTO, 2019), and 'Australia's support to agricultural producers continues to be amongst the lowest in the OECD [Organisation for Economic Co-operation and Development], estimated [at] around 2% of gross farm receipts for the period 2016-18, with total support to agriculture (TSE) representing around 0.2% of GDP' (OECD, 2020), Australia has many NTMs that can protect domestic producers. NTMs also apply for SPS reasons, as food products are the source of numerous foodborne illnesses (due to pathogens, toxins, and chemicals). All food products must be unadulterated (not bear or contain any poisonous or deleterious substances), be fit for consumption, and not be contaminated or decaying, to be allowed for consumption (Jouanjean, Maur, and Shepherd, 2012).

How does Australia compare with other countries in terms of NTMs? This study shows that it uses NTMs in much the same way as other developed countries, but that it is a heavier user of NTMs than other countries in the region. The Indonesian Trade Analysis and Development Agency (2019) compared the incidence of NTMs in Australia with its main Free Trade Agreement (FTA) partners using frequency and coverage ratio indicators. The agency found an average frequency index value of 75.5%, which indicates that 75.5% of national tariff lines are affected by NTMs. These NTMs affect 75.1% of these countries' total trade. The data suggest that the United States, Thailand, Pakistan, Malaysia, and Japan have moderate frequency and coverage ratios that are lower than the average, whilst Viet Nam, Singapore, the Philippines, the Republic of Korea, the European Union, and Australia have frequency ratio values that are greater than the average. Australia has the highest frequency and coverage ratio indicators. It is common for countries to apply multiple NTMs to the same product.

3. Policy Recommendations

Access to information on NTM-related regulations in Australia has been significantly improved by a centralised, user-friendly regulation web portal. It allows users to easily identify acts and legislative instruments that are in force and no longer in force and provides a consolidated version

of regulations, helping traders and other users. NTM-related regulations are the responsibility of 12 government agencies. The Department of Agriculture is responsible for issuing the largest share. The 1,897 coded NTMs stem from 504 NTM-related regulations, of which 75% are import measures and 25% are export measures.

Cases of multiple NTMs are common in Australia. About 88% of the 6,184 tariff lines are subject to three or more NTMs. Only 4% are subject to a single NTM and 8% to two NTMs. Machinery/electrical, animals and animal products, and textiles are the most highly regulated product groups.

Some policy recommendations are as follows:

(i) Regularly review existing policies and regulations to identify those that negatively impact customers and do not achieve the government's objectives. Such a review is also important for improving market access, particularly for developing countries. For example, more than 57% of Australia's imports of animal and animal products during 2012–2018 came from WTO high-income members, whilst developing countries contributed about 20%, least-developed countries 0.7%, and low- and middle-income members about 21%. The ubiquity of NTMs in this sector, then, could have significant consequences for poorer countries that export to Australia.

(ii) Increase the amount of NTM information available to traders, as such mechanisms are lacking for NTMs other than SPS measures. Comprehensive information on SPS measures in Australia can be accessed online at the Australian Government's Biosecurity import conditions database (https://bicon.agriculture.gov.au/BiconWeb4.0), but such a source does not exist for other types of NTMs.

References

Center for International Development (2017), ATLAS. Available at: https://atlas.cid.harvard.edu/explore?country=14&product=undefined&year=2017&productClass=HS&target=Product&partner=undefined&startYear=undefined (Accessed 10 April 2020).

Jouanjean, M.-A., J.-C. Maur, and B. Shepherd (2012), 'Reputation Matters: Spillover Effects in the Enforcement of US SPS Measures', in O. Cadot and M. Malouche (eds.) *Non-tariff Measures – A Fresh Look at Trade Policy's New Frontier*. Washington, DC: World Bank.

Ministry of Foreign Affairs of Japan (2018), Australia–Japan Trade and Economic Framework (Joint Study). Available at: https://www.mofa.go.jp/region/asia-paci/australia/study0504/index.html (Accessed 2 February 2019).

Trade Analysis and Development Agency (2019), 'A Study on NTMs Policy Mapping which Inhibits National Exports', Ministry of Trade Republic of Indonesia.

World Trade Organization (2012), 'Trade and Public Policies: A Closer Look at Non-tariff Measures in the 21st Century', *World Trade Report 2012.* Geneva.

Nicita, A. and J. Gourdon (2013), 'A Preliminary Analysis on Newly Collected Data on Non-tariff Measures', *UNCTAD Policy Issues in International Trade and Commodities Study Series*, 53.

Organisation for Economic Co-operation and Development (2020), *Support for Agriculture: Australia – Summary*. Available at: https://www.oecd.org/agriculture/topics/agricultural-policy-monitoring-and-evaluation/ (Accessed 24 April 2020).

TradeMap (2018), *Trade Statistics for International Business Development.* Available at: https://www.trademap.org/index.aspx (Accessed 2 May 2020).

United Nations Conference on Trade and Development (UNCTAD) (2013), 'Non-Tariff Measures to Trade: Economic and Policy Issues for Developing Countries', *Developing Countries in International Trade Studies.* New York and Geneva.

UNCTAD (2017), Integrated Trade Intelligence Portal. Available at: https://trainsonline.unctad.org/home (Accessed 20 January 2019).

World Trade Organization (2019), Agriculture Trade. Available at: https://www.dfat.gov.au/trade/organisations/wto/Pages/agricultural-trade (Accessed 10 April 2020).

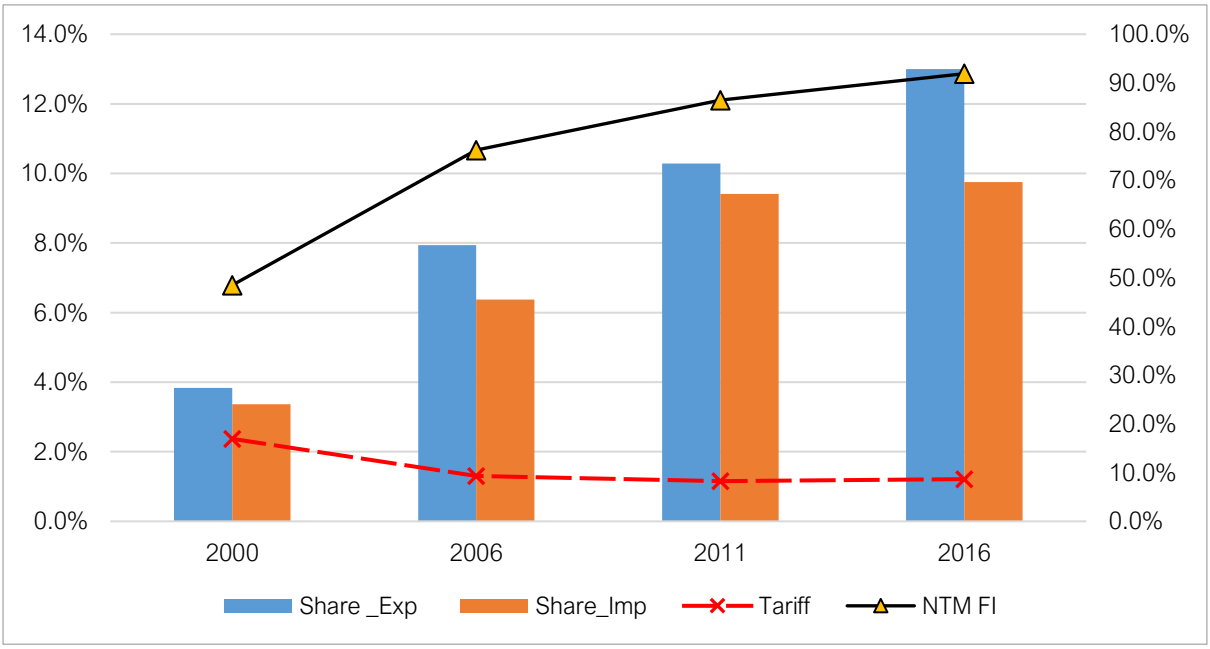
Chapter 4
An Anatomy of China's Non-tariff Measures

Mingcong Li, Miaojie Yu, and Zhihong Yu

1. Introduction

Since the 1990s, when China adopted the reform and opening-up policy, the world has witnessed a dramatic expansion of its foreign trade and the consequent substantial transformation of its trade policy, especially after its World Trade Organization (WTO) entry. In 2000–2016, China's share in world exports (imports) increased from about 4% (3.4%) to 13% (9.8%), with an annual growth rate of 10% (9.4%) (Figure 4.1). More important, extraordinary growth was accompanied by an increase in value added of exports. The share of non-processing exports undertaken by domestic Chinese firms rose from less than 33% in 2006 to nearly 50% in 2014, whilst processing exports undertaken by foreign-owned firms declined sharply from nearly 45% to 31% (Yu, 2020). Since processing trade uses foreign intermediate inputs intensively and thus has lower value added, the declining share of processing trade indicates a rise of the domestic value added in total exports. The composition of China's trade, however, has also changed dramatically. In the late 1990s, it was dominated by labour-intensive consumer products such as textiles, footwear, and shoes. But, in 2016, machinery exports such as electronics accounted for almost half of total trade. Taken together, the last 2 decades have witnessed a substantial upgrading of the trade structure, reflecting ongoing catching up of domestic Chinese firms with the world's technological frontier after 20 years of high-speed export expansion.

Figure 4.1. China's Share in World Trade, Tariff and Non-tariff Measures



Share_Exp = export share to the world, Share_Imp = import share to the world, NTM FI = NTM frequency index.
Share_Exp and Share_Imp refer to left hand side axis (in %); Tariff and NTM FI refer to right hand side axis (in %).
Source: Authors.

China's trade policy has transformed dramatically. In preparation for WTO entry, China's average tariff declined sharply from about 40% in the early 1990s to 16% in 2000, continued to decrease to 8%–9% in 2006, then remained relatively stable until 2016. Tariff liberalisation, especially substantial reductions in input tariffs, has been studied extensively, with strong evidence that it has generated positive impacts on China's total productivity growth (Yu, 2015) and quality upgrading (Fan et al., 2018). Since China's tariff barrier is historically low, however, the role of non-tariff measures (NTMs) in trade policy has become more important over time. The share of products subject to NTMs increased substantially in 2000–2006 and kept rising until 2016, when more than 92% of product lines were subject to some form of NTM (Figure 4.1).

Research on China's non-tariff barriers to trade, however, is limited. China has been moving away from a restrictive export qualification and import barrier system towards a more market-oriented and transparent policy framework (Tan et al., 2016). In line with its WTO commitments, China has been removing most quotas, licensing, and price control measures since 2001. However, NTMs have been increasing over time rather than decreasing (Figure 4.1), which was the focus of Bao and Qiu (2010), who examined the effects of China's technical barriers to trade (TBTs) on imports in 1998–2016 using the gravity equation. The most interesting finding was that the impacts of TBTs could be positive, negative, or zero, depending on the period, the TBT measures applied, and the type of product. TBTs have trade promotion effects for manufacturing goods but trade destruction effects for agriculture products.

Bao (2014) re-examined the issue by focusing on the effects of TBTs on the likelihood of imports across China's trade partners. The most important finding was that TBTs reduce the import

probability of potential trade partners but increase the trade value for existing trade partners. Bao and Qiu (2012) further extended their studies to 105 countries in 1995–2008 to see if their findings for China could be generalised. They found that importers' TBTs reduce the extensive margins but increase the intensive margins of trade partners, which is consistent with previous findings for China. Niu (2018) calculated the ad valorem equivalents (AVEs) of China's NTMs in 1997–2015 and showed that AVEs generally increased and that NTMs have become the dominant trade policy measure. NTMs substituted for tariffs in 1997–2000, with their effect strongest for products with above-average tariff cuts. The studies focus on the effects of NTMs at the product or country level. Yu (2010), however, investigates the effects of China's trade liberalisation measured by tariff and NTM reduction on manufacturing firms' total factor productivity, using firm-level balance-sheet data and customs data of China from 1998 to 2002. Trade liberalisation has significantly increased firms' productivity, and the positive impacts are stronger for exporters than for non-exporters.

The NTM literature, especially on China, reveals two important features of NTMs. First, they do not necessarily generate negative impacts on the economy by reducing trade. As economies become wealthier and more modern, especially fast-growing ones like China, the regulatory expansion of safety and technical measures may simply reflect the switch of consumers' preferences towards safer and higher-quality products as a result of higher income per capita. Consequently, the value of total imports may also increase due to higher import unit value (as a proxy for quality), although imports may decrease due to more selective product preference. Second, NTMs are complicated and difficult to measure. Collecting and identifying information on NTMs are far from straightforward (Melo and Nicita, 2018). Availability of NTM data is often subject to limitations, especially domestic regulations not designed to directly affect trade but that could generate important trade externalities. Such policies are thus subject to debate and interpretation on whether they should be defined as NTMs.

This chapter provides a detailed overall picture of China's current NTM status based on the most recent NTM data from publicly available information. Despite the growing importance of NTMs in regulating trade, the exact impact of NTMs on trade flows needs to be assessed by economic analysis. As a major trading nation, China could face a sizeable impact from such measures. Easy and systematic access to NTM information is essential for traders and policymakers. Thus, a comprehensive and internationally comparable database of NTMs is important. Under the initiative of the United Nations Conference on Trade and Development (UNCTAD) and the Economic Research Institute for ASEAN and East Asia, the authors have identified and collected all enforced NTMs in China, drawing on information from official legal sources and using the UNCTAD International Classification of NTMs and methodological guidelines. The NTM collection process involved reviewing all government agencies to obtain comprehensive, complete, and comparable data, using a standardised methodological approach to ensure transparency with respect to the use of NTMs. This chapter thus provides a comprehensive overview of the diverse types of NTMs in China based on national laws and regulations. It highlights China's legal architecture, the main institutions that issue legal documents on NTMs, the different types of NTMs applied to various sectors, and the evolution of the composition of NTMs. Our analysis contributes the following to the understanding of the most up-to-date status of NTMs. First, for the first time, we have generated comprehensive data on current NTMs at the regulation–product–trade partner level, which can be employed to conduct rigorous quantitative analysis.

Second, we find that the NTM-issuing agencies are highly concentrated, with the top two domestic government agencies accounting for 78% of all NTMs. By contrast, only 4% of NTMs are issued by the General Administration of Customs, which is the main ministry-level administrative agency responsible for managing the import and export of goods and services. Third, the influence of NTMs varies significantly across types and sectors. TBT measures, especially product quality and performance requirements, are the dominant NTM and widely applied to a broad range of products and trade partners. However, the second-most important are sanitary and phytosanitary (SPS) measures, which focus mostly on a narrower range of sectors such as agriculture and footwear products and fewer trade partners. Finally, whilst the role of NTMs in trade policy has been rising, especially after China's WTO entry, a compositional shift of NTMs has occurred away from quantity and price restrictions targeting a narrower range of product lines, towards technical and standard measures applied to almost all sectors. At the same time, SPS measures have surged recently.

Section 2 describes the data collection process and NTM-issuing institutions. Section 3 provides a full analysis of the distribution of NTMs across types, product categories, and trade partners, using inventory-based measures. Section 4 discusses the evolution of NTMs since China's WTO entry. Section 5 presents conclusions and recommends policy.

2. Data Collection

During the last decade, NTM data quality has significantly improved and become more available as international institutions and domestic agencies are more wary of the trade cost implications of NTMs, driving them to increase transparency, collect more detailed information, and provide more accurate data.[1]

Table 4.1. Data Comprehensiveness in China

No	Comprehensiveness	Number
1	Total NTM-related regulations	2,517
2	Total NTMs reported to the World Trade Organization	*
3	Total number of coded NTMs	7,365
4	Total affected products (national tariff lines)	13,130 (100%)
5	Total issuing institutions	27

Note: * By June 2020, there were 1,353 notifications to the World Trade Organization for sanitary and phytosanitary measures and 1,605 notifications for technical barriers to trade, which are accounted for by the number of notifications rather than on a regulation basis.
Source: Authors.

China has no single centralised source that makes laws and regulations related to NTMs available to the public. Most trade-related regulations are published only by their issuing and implementing ministries, departments, or agencies. UNCTAD's Guidelines to Collect Data on Official Non-Tariff Measures state that only legal documents that are official and mandatory, currently applied, detailed and specific, and potentially affecting trade are collected (UNCTAD, 2014).[2] Thus, all

[1] The initial data collection effort was assisted by Xiaomin Cui, Shuai Guo, and Mengying Yu. We thank Zhaohui Niu for her excellent work on the data analysis.
[2] The appendix describes in detail the legal system related to NTM-issuing institutions.

implementation regulations addressing higher-level laws on trade-related issues have been gathered. Indeed, most regulations concerning the implementation of NTMs are administrative or department rules enacted and implemented by ministries and government bodies under the auspices of the State Council. Occasionally, in the absence of specific implementation guidelines in the form of administrative regulations or laws, NTMs are collected directly from the higher-level sources. There are 27 regulatory agencies responsible for issuing and enforcing NTM-related regulations. With the creation of the State Administration for Market Regulation (SAMR) in 2018, about 90% of NTMs are issued by the top two agencies, which are responsible for issuing regulations to ensure food safety, human and animal health, product quality and safety, and environmental protection.

SAC and SAMR administer regulations related to SPS and TBT measures. NTMs collected from SAC account for 48.69% of all NTMs, and those collected from SAMR for 31.26%. SAC is the national standards body and is authorised by the State Council to issue mandatory standards. The agency plays a key role in drafting and amending national standardisation laws and regulations. Two main legal documents govern standardisation: Standardization Law of the People's Republic of China (2017) and Regulation for the Implementation of the Standardization Law of the People's Republic of China. SAC is responsible for issuing mandatory standards for agriculture, food products, and industrial products. Most of the identified NTMs from SAC are related to quality and performance, testing, inspection, or certification requirements of machinery, electronics, medical devices, and agricultural products.

SAC is the national representative of the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), and other international and regional standards organisations. China follows good international practices such as ISO and IEC standards in preparing its own national standards. Of the 1,448 mandatory standards identified as related to NTMs, 555 (about 38%) are directly adopted from ISO, IEC, and standards set out by other international organisations. China is increasingly streamlining its national standards with international best practices and seeking international cooperation in the standardisation process. Under its new Standardization Law, China intends to provide more opportunities to foster trade and economic and social development by reducing restrictions.

The top SPS measure–issuing agency, SAMR, consolidates all market regulation functions shared by the General Administration of Quality Supervision, the Inspection and Quarantine (AQSIQ), the China Food and Drug Administration, and the State Administration of Industry and Commerce. SAMR is responsible for drafting laws and regulations on quality supervision, inspection, and quarantine. SAMR is also in charge of implementing and announcing rules relating to national quality, metrology, commodity inspection, entry–exit health quarantine, entry–exit animal and plant quarantine, import–export food safety, certification and accreditation, standardisation, and administrative law enforcement. There are 445 applied NTM-related regulations registered with SAMR, including 2,297 identified NTMs, of which only about 31% apply unilaterally to all countries. The remaining 69% apply bilaterally or to a group of countries. About 63% that are applied bilaterally or to a group of countries were implemented after 2010, showing that China is increasingly moving from unilateral relationships with other countries (i.e., applying the same measure to all countries) towards bilateral relationships.

Table 4.2. Non-tariff Measures, by Issuing Institution, in China

No.	Issuing Institution	NTMs (number)	NTMs (% of total number)
1	Standardization Administration of the People's Republic of China	3,585	48.69
2	State Administration for Market Regulation	2,297	31.26
3	Ministry of Commerce	343	4.67
4	Ministry of Agriculture and Rural Affairs	341	4.66
5	General Administration of Customs	274	3.74
6	Ministry of Ecology and Environment	127	1.73
7	Ministry of Industry and Information Technology	71	0.96
8	State Forestry and Grassland Administration	62	0.85
9	Legislative Affairs Office	59	0.81
10	National Health Commission	49	0.67
11	China Tobacco	22	0.30
12	Ministry of Culture and Tourism	20	0.27
13	The Standing Committee of the National People's Congress	16	0.21
14	Ministry of Natural Resources	13	0.18
15	Ministry of Finance	12	0.16
16	National Radio and Television Administration	11	0.15
17	National Development and Reform Commission	9	0.12
18	Ministry of Science and Technology	8	0.11
19	State Taxation Administration	8	0.11
20	People's Bank of China	7	0.10
21	Ministry of Foreign Affairs	6	0.08
22	State Administration for Science, Technology and Industry for National Defence	4	0.05
23	State Administration of Work Safety	3	0.04
24	National Administration for the Protection of State Secrets	2	0.03
25	State Cryptography Administration	2	0.03
26	State Bureau of Cultural Relics	1	0.01
27	Ministry of Transport	1	0.01
Total		**7,365**	**100**

Source: Authors, based on the new NTM database.

A significant number of NTM-related regulations are issued jointly by more than one institution (typically two to five). Of the 2,517 collected regulations, 2,159 (about 85.7%) are jointly issued by two or more ministries, departments, or institutions.[3]

[3] Article 72 of the Legislation Law of China stipulates that when certain matters involve the power and function of more than two departments under the State Council, the departments shall refer to the State Council when making administrative rules or regulations, or to the relevant ministries or departments in the case of joint efforts. When differences between administrative rules exist with respect to the same matter and the applicable provision cannot be decided, the State Council shall make a ruling (Legislation Law of the People's Republic of China, 2015).

3. An Analysis of Non-tariff Measures, by Sector, Type, and Country

This section provides a full descriptive analysis of the distribution of NTMs across products, types, and country groups, employing two commonly used inventory-based measures to characterise the importance and influence of NTMs. The raw data record NTMs at the country–product level and we thus take advantage of the data's granularity and contribute to the literature by distinguishing between multilateral and bilateral NTMs.

3.1 Which Types of NTMs Matter Most?

Table 4.3 lists the main types and categories of NTMs according to international classifications (UNCTAD, 2013), where categories A and B are 'technical measures', and category P is 'export measures', with the rest classified as 'non-technical measures'. First, TBT measures stand out as the most significant NTM type that influences trade, accounting for nearly 60% of all NTMs. Of TBT measures, 81.7% originated from mandatory product standards and the remaining 19.3% from regulations concerning other TBT areas such as environmental protection, national security, and protection of human and animal health. The most applied measure is the product quality and performance requirement (B7), which accounts for 18.15% of all NTMs.[4] Second, SPS measures affect 22.5% of all traded products, covering 36% of imports but only about 8% of country–product pairs (columns 3 and 4). This is not surprising since China might be issuing a large number of SPS-related regulations, which, however, focus only on a narrow range of countries and products that account for a small share of China's total trade.[5] Third, quantity control measures account for less than 1% of the total number of NTMs but cover more than half of all traded products (column 3). Before China's WTO entry, quantity control measures were the dominant non-tariff barriers to China's imports. After WTO accession, however, China abolished most import quotas and licensing restrictions. The procedure for obtaining quotas was normalised and standardised and could be implemented through open bidding. Hence, the importance of quantity control measures has decreased dramatically in the last 2 decades and now play only a minor role in China's overall NTM system.

[4] The official enquiry point for WTO's Technical Barriers to Trade Agreement is SAC, which collects all TBT notifications from other member countries from the WTO website and forwards comments to the WTO secretariat. As of the end of 2016, China had submitted 1,174 regular notifications and 44 revisions to WTO (WTO, 2018).

[5] By June 2020, there were 1,353 notifications to WTO for SPS measures and 1,605 notifications for TBTs, which are accounted by the notification, not on single or unique regulation basis. The WTO National Notification Authority for the Sanitary and Phyto-Sanitary Agreement is based in the Ministry of Commerce, and an official enquiry point was established in AQSIQ to coordinate notifications, enquiries, and comments domestically.

Table 4.3. Non-tariff Measures, by Type, in China

Code	NTMs by Type (chapter)	NTMs (number)	NTMs (% of total)
A	Sanitary and phytosanitary measures	1,659	22.53
B	Technical barriers to trade	4,380	59.47
C	Pre-shipment inspection and other formalities	116	1.58
D	Contingent trade protective measures	0	0
E	Non-automatic licensing, quotas, prohibitions, and quantity control measures other than sanitary and phytosanitary measures or technical barriers to trade reasons	66	0.89
F	Price control measures including additional taxes and charges	55	0.74
G	Finance measures	6	0.08
H	Measures affecting competition	27	0.37
I	Trade-related investment measures	4	0.05
J	Distribution restrictions	0	0
K	Restriction on post-sales services	0	0
L	Subsidies (excluding export subsidies under P7)	0	0
M	Government procurement restrictions	0	0
N	Intellectual property	0	0
O	Rules of origin	0	0
P	Export-related measures	1,052	14.29
	Total coded NTMs	**7,365**	**100**

Source: Authors, based on the new NTM database.

3.2 Non-tariff Measure Intensity: Multilateral versus Bilateral Measures

The intensity of affected imports subject to NTMs deserves special attention. Table 4.4 summarises the percentage of products at the Harmonized System (HS) 10-digit product line level subject to (i) 0–15 NTMs, (ii) 16–25 NTMs, and (iii) 26 or more NTMs within a certain product group. NTMs are calculated at the most disaggregated level possible (i.e., codes A851, B84, E315, etc.) rather than at the aggregated chapter level (e.g. chapters A, B, and C). The more NTMs applied, the greater the intensity of the product line affected. Columns 1–3 list the results for multilateral NTMs that were applied to all trade partners (multilateral NTMs), whilst columns 4–6 show the shares of NTMs that affect only specific countries (bilateral NTMs). First, in terms of multilateral NTMs, all product lines under the animal, vegetable, foodstuff, and machinery product groups are subject to more than 26 different types of NTMs. This shows that the products are highly regulated and subject to a range of SPS and TBT measures related to food safety and product quality and performance, which are applied without discrimination to all countries. Textiles, stone/glass, and metals have fewer applied NTMs. About 69.1% of textiles, 71.0% of stone/glass, and 72.7% of metals are affected by 0–15 NTMs, and most applied measures are TBTs.

A comparison of the product groups subject to bilateral and multilateral NTMs shows that the four product groups (animal products, vegetable products, foodstuffs, and machinery) subject to 26 or more multilateral NTMs are affected by fewer bilateral NTMs. Bilateral NTMs affect 77.5% of animal products, 58% of vegetable products, 22.1% of foodstuffs, and 0% of machinery. All product lines under mineral products and transportation products are subject to only 0–15 bilateral NTMs, and plastics/rubber, stone/glass, metals, and machinery to a maximum of 25. Animal products, vegetable products, and hides and skins are still the top product groups, subject to 26 or more distinct NTMs.

Table 4.4. Non-tariff Measure Intensity, Product Lines Subject to Multiple and Bilateral Non-tariff Measures in China

HS Codes	Product Groups	Multilateral			Bilateral		
		0–15 NTMs	16–25 NTMs	26 or more NTMs	0–15 NTMs	16–25 NTMs	26 or more NTMs
		(1)	(2)	(3)	(4)	(5)	(6)
01-05	Animal products	0.0%	0.0%	100.0%	1.9%	20.6%	77.5%
06-15	Vegetable products	0.0%	0.0%	100.0%	0.5%	41.5%	58.0%
16-24	Foodstuffs	0.0%	0.0%	100.0%	60.0%	17.9%	22.1%
25-27	Mineral products	51.2%	20.1%	28.7%	100.0%	0.0%	0.0%
28-38	Chemicals	30.9%	18.7%	50.3%	94.1%	4.7%	1.2%
39-40	Plastics/ rubber	51.7%	25.1%	23.2%	99.7%	0.3%	0.0%
41-43	Hides and skins	5.1%	1.1%	93.8%	4.5%	7.3%	88.1%
44-49	Wood products	22.6%	7.8%	69.6%	37.5%	33.2%	29.3%
50-63	Textiles	69.1%	14.4%	16.5%	84.2%	11.0%	4.8%
64-67	Footwear	37.4%	8.1%	54.5%	40.4%	15.2%	44.4%
68-71	Stone/glass	71.0.%	15.2%	13.7%	98.8%	1.2%	0.0%
72-83	Metals	72.7%	18.4%	8.9%	99.4%	0.6%	0.0%
84-85	Machinery	0.0%	0.0%	100.0%	98.7%	1.3%	0.0%
86-89	Transportation	19.3%	32.8%	47.9%	100.0%	0.0%	0.0%
90-99	Miscellaneous	24.3%	7.8%	67.8%	85.9%	12.6%	1.5%

HS = Harmonized System.
Source: Authors.

4. Evolution of China's Non-tariff Measures

How have China's NTMs evolved, especially after the country's WTO entry and substantial tariff reductions? Table 4.5a shows NTMs by year of announcement, by effectivity in 2016, and by affected product line and trade in 2016.[6] Column 2 shows the number of NTMs announced or newly added in a year, and column 3 their shares in the total number of NTMs. The bulk of NTMs were added after the global financial crisis of 2008, with about 58% of NTMs announced in 2009–2016, and only 36% were started before the crisis, in 2000–2008. Column 4 lists the number of HS six-digit product lines affected, column 5 their share of total product lines, and column 6 total import value in 2016.[7] Many measures introduced in 2000–2008 had a sizeable impact on product lines and import values in 2016. In 2005, 2006, and 2008, new NTMs affected 40%–44% of product lines each year; measures introduced in 2005 and 2008 affected about 64% of total import value in 2016. After the financial crisis, 2011, 2013, and 2014 saw spikes in shares of affected product lines and import values of 85%–99%, indicating that the measures were widely applied to almost all products and trade partners. We conclude that (i) although a relatively small number of NTMs were introduced before the financial crisis, they affected a large share of the product lines and import values as recently as 2016; and (ii) recent NTMs cover a wider range of products and trade partners than the ones introduced before the financial crisis.

Table 4.5a. Non-tariff Measures, by Year Started and Affected Product Lines and Imports since 2000 in China

Year	New NTMs Added (number)	Share in Total NTMs	Products Affected (number)	Share of Product Lines Affected	Share of Imports Affected
(1)	(2)	(3)	(4)	(5)	(6)
2000	96	1.3%	1,100	21.1%	3.0%
2001	158	2.2%	1,376	26.5%	13.1%
2002	162	2.2%	1,724	33.1%	26.5%
2003	201	2.8%	824	15.8%	8.9%
2004	454	6.3%	1,127	21.7%	16.9%
2005	467	6.4%	2,098	40.3%	63.9%
2006	465	6.4%	2,148	41.3%	20.9%
2007	311	4.3%	1,381	26.5%	17.1%
2008	267	3.7%	2,304	44.3%	64.3%
2009	719	9.9%	1,188	22.8%	30.6%
2010	506	7.0%	1,124	21.6%	10.4%
2011	495	6.8%	5,174	99.5%	20.7%
2012	403	5.6%	368	7.1%	5.3%
2013	379	5.2%	4,406	84.7%	2.6%
2014	468	6.5%	4,635	89.1%	21.9%

[6] Our data include only those NTMs effective in 2016. If an NTM policy was announced in 2001, for example, but aborted in 2010, it was not included in our data and analysis.
[7] The sum of the shares in columns 5 and 6 far exceeds 100% as most product lines could be affected by multiple NTMs announced in different years.

Year	New NTMs Added (number)	Share in Total NTMs	Products Affected (number)	Share of Product Lines Affected	Share of Imports Affected
(1)	(2)	(3)	(4)	(5)	(6)
2015	685	9.4%	1,411	27.1%	44.6%
2016	549	7.6%	2,607	50.1%	71.2%

Notes: This table breaks down the NTMs effective in 2016 by the year they were announced. Column 2 shows the number of NTMs announced in the year in column 1. Column 4 shows the number of HS six-digit product categories affected by the NTMs as a share of imports in 2016. Column 5 = column 4/total number of affected import product lines in 2016 (5,202). Column 6 presents the share of imports affected by NTMs in the corresponding year in total value of imports in 2016.
Source: Authors.

Table 4.5b further breaks down the evolution of NTMs into different types and their affected product lines and imports in 2000–2006 (period I), 2007–2011 (period II), and 2012–2016 (period III). Several important patterns are worth noting. First, the influence of quantity control and price control declined significantly over time. The share of imports affected by quantity control decreased substantially from 62.3% in period I to 13.4% in period III, and the corresponding shares of product lines dropped from 31.7% to 8.7%. Similarly, price control measures announced in period I affected 20.4% of product lines and 13.1% of imports, but the shares declined to 1.4% and 2.3% in period III. Second, the importance of TBTs rose dramatically over time. TBT measures announced in 2000–2006 affected 22.1% of total imports in 2016, but the share increased dramatically to 74.4% in 2007–2011 and to 81.3% in 2012–2016. The product scope influenced by TBTs rose sharply from 34.3% in period I to 97.3% in period II and declined to 60.3% in period III. The pattern indicates a clear compositional shift of NTMs away from quantity and price restrictions targeting a narrow range of product lines, towards technical and standard measures widely applied to most products over the last 2 decades. Finally, the use of SPS measures surged in period III. In 2000–2011, the import share of announced SPS measures was about 7%–8% but increased dramatically to 32.1% in 2012–2016. The corresponding shares of product lines grew from about 21%–24% in periods I and II to 33.1% in period III.

Table 4.5b. Non-tariff Measures, by Year Started, Type, and Affected Product Lines and Imports since 2000 in China

Period		NTM Added		Products Affected		Trade Affected	
		NTM (number)	Share	Product Lines (number)	Share	Value (US$ billion)	Share
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I	Total	2,203	30.4%	3,865	73.6%	1,274	80.9%
2000–2006	SPS (A)	480	6.6%	1,257	23.9%	134	8.5%
	TBT (B)	926	12.8%	1,804	34.3%	348	22.1%
	Pre-shipment (C)	40	0.6%	597	11.4%	253	16.1%
	Quota licensing (E)	107	1.5%	1,663	31.7%	981	62.3%
	Price control (F)	12	0.2%	1,074	20.4%	207	13.1%
	Monopolistic (H)	6	0.1%	57	1.1%	146	9.3%
	Export measures (P)	420	5.8%	2,785	53.0%	508	32.3%
	Other	12	0.2%	336	6.4%	71	4.5%
II	Total	2,298	31.7%	5,200	99.0%	1,302	82.7%
2007–2011	SPS (A)	310	4.3%	1,125	21.4%	123	7.8%
	TBT (B)	1,604	22.1%	5,112	97.3%	1,171	74.4%
	Pre-shipment (C)	20	0.3%	168	3.2%	41	2.6%
	Quota licensing (E)	75	1.0%	860	16.4%	313	19.9%
	Price control (F)	21	0.3%	121	2.3%	141	8.9%
	Monopolistic (H)	6	0.1%	44	0.8%	12	0.8%
	Export measures (P)	253	3.5%	2,126	40.5%	668	42.4%
	Other	9	0.1%	2	0.0%	3	0.2%

Period		NTM Added		Products Affected		Trade Affected	
		NTM (number)	Share	Product Lines (number)	Share	Value (US$ billion)	Share
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
III	Total	2,484	34.2%	5,190	98.8%	1,331	84.5%
2012–2016	SPS (A)	765	10.5%	1,740	33.1%	506	32.1%
	TBT (B)	1,292	17.8%	3,166	60.3%	1,280	81.3%
	Pre-shipment (C)	48	0.7%	303	5.8%	501	31.8%
	Quota licensing (E)	89	1.2%	458	8.7%	211	13.4%
	Price control (F)	17	0.2%	71	1.4%	37	2.3%
	Monopolistic (H)	7	0.1%	5	0.1%	64	4.1%
	Export measures (P)	259	3.6%	5,021	95.6%	599	38.0%
	Other	7	0.1%	5	0.1%	137	8.7%

SPS = sanitary and phytosanitary, TBT = technical barrier to trade.
Note: The table breaks down the NTMs effective in 2016 by the period they were announced. Columns 3 and 4 show the number of NTMs started in periods as shown in column 1, by NTM type and share in the total number of NTMs effective in 2016. Column 5 shows the number of HS six-digit product categories affected by the NTMs in column 3, and column 6 = column 5/total number of affected imported product lines in year 2016 (5,202). Columns 7 and 8 present the value of imports affected and their shares.
Source: Authors.

5. Conclusions

Understanding the status of China's non-tariff barriers to trade is crucial for anticipating post–COVID-19 world trade. This study employs up-to-date data to fully analyse China's NTMs and their evolution since the country's WTO entry. Several findings emerge. First, the top two government agencies account for nearly 80% of the total number of NTMs issued, while the share of GAC is below 5%. This implies that most of the identified NTMs may not have been designed to regulate imported products by foreign firms but are a consequence of consumers' preference for safer and higher-quality products as a result of higher income per capita. Second, it is important to distinguish between multilateral (product level) versus bilateral (product–country level) measures when considering the types of NTMs and their effects across sectors. Machinery and electrical equipment and motor vehicles are 100% affected by NTMs in terms of traded products or value at the bilateral level. Since the two sectors account for more than a third of China's total imports, reducing NTMs on the products could potentially lead to significant gains in China's total imports. Third, TBTs are the most influential NTM and widely applied to a broad range of products and trade partners, while SPS measures are applied to a narrower range of sectors (such as agriculture products and footwear) and fewer trade partners. Finally, since China's WTO entry, a clear compositional shift has occurred away from quantity and price controls applied to narrow range of product lines, towards technical measures, accompanied by a recent surge of SPS measures.

References

Bao, X. (2014), 'How Do Technical Barriers to Trade Affect China's Imports?' *Review of Development Economics*, 18(2), pp.286–99.

Bao, X. and L. D. Qiu (2010), 'Do Technical Barriers to Trade Promote or Restrict Trade? Evidence from China', *Asia-Pacific Journal of Accounting & Economics*, 17, pp.253–78.

Bao, X. and L.D. Qiu (2012), 'How Do Technical Barriers to Trade Influence Trade?' *Review of International Economics*, 20(4), pp.691–706.

De Melo, J. and A. Nicita (2018), 'Non-tariff Measures: Economic Assessment and Policy Options for Development', in J. de Melo A. Nicita (eds.), *Non-tariff Measures: Economic Assessment and Policy Options for Development*. Geneva: United Nations Conference on Trade and Development (UNCTAD), pp.1–13.

Fan, H.C., Y. Li, and S. Yeaple (2018), 'On the Relationship Between Quality and Productivity: Evidence from China's Accession to the WTO', *Journal of International Economics*, 110(1), pp.28–49.

National People's Congress of the People's Republic of China (2015), Legislation Law of the People's Republic of China (2015 amendment) (Chinese). Available at: http://www.npc.gov.cn/ (Accessed 6 December 2018).

Niu, Z. (2018), 'The Rising Importance of Non-tariff Measures in China's Trade Policy', in J. de Melo and A. Nicita (eds.), *Non-tariff Measures: Economic Assessment and Policy Options for Development*. Geneva: UNCTAD, pp.393–420.

Tan, L., L. Qiu, and Y. Xue (2016), 'Understanding China's Foreign Trade Policy: A Literature Review', *Frontiers of Economics in China*, 11(3), pp.410–38.

UNCTAD (2014), *Guidelines to Collect Data on Official Non-tariff Measures: September 2014.* Geneva.

WTO (2018), Technical Barriers to Trade Information Management System. Available at: https://eping.wto.org/ (Accessed 6 December 2018).

Yu, M. (2015), 'Processing Trade, Tariff Reductions and Firm Productivity: Evidence from Chinese Firms', *Economic Journal*, 125(585), pp.943–88.

Yu, M. (余淼杰) (2010), 'Trade Liberalization and Productivity: Evidence from Chinese Firms' (中国的贸易自由化与制造业企业生产率), *Economic Research Journal* (经济研究), 12, pp.97–110.

Yu, Z. (2020), 'The "New Normal" of China's Foreign Trade and the Role of Korea'. Mimeo.

Appendix: An Overview of China's Non-tariff Measure Legal System

China's legal system is primarily based on a civil law model. Its distinctive legislative structure does not involve checks and balances whereby the legislative, administrative, and court branches operate independently to restrain one another. China's President and the Premier of the State Council are drawn from the National People's Congress (NPC). The President, following the decision of the NPC, issues law and ratifies treaties and international agreements concluded with foreign states. The Premier does not have the power to approve or reject laws issued by the NPC.

Legislation has four levels. The first, the Constitution, is the highest and can be amended only by the NPC. The current version of the Constitution was adopted in 1982 and revised in 1988, 1993, 1999, 2004, and 2018.

The second level consists of laws. The NPC is responsible for enacting and amending fundamental laws such as those concerning criminal offences, civil affairs, and state organs. The NPC Standing Committee enacts and amends all other laws not enacted by the NPC.

The third level consists of administrative regulations formulated by the State Council. These must be in accordance with the Constitution and other laws. The State Council is the highest organ of state administration and is officially responsible for implementing policies formulated and passed by the NPC.

The fourth level consists of administrative or department rules. The ministries and commissions of the State Council, the People's Bank of China, the State Audit Administration, and other organs endowed with administrative functions directly under the State Council may formulate administrative rules. They are part of the central legislative process and enforce the laws or administrative regulations of the State Council. The State Council has the right to withdraw or amend the rules if they are deemed unsuitable.

China's unified and multilevel legislative system is hierarchical. The Constitution has the highest legal of validity and no central or local laws or regulations may violate it. Administrative regulations and rules must not contradict laws passed by the NPC, and local regulations or rules must not go against national laws or administrative regulations. The NPC has the power to withdraw or abolish administrative regulations, rules, and local regulations if they contravene the national law.

In practice, a single law is implemented through one or more administrative regulations and administrative rules.

Chapter 5
Non-tariff Measures in India

Rael Sarmeen and Asha Sundaram

1. Introduction

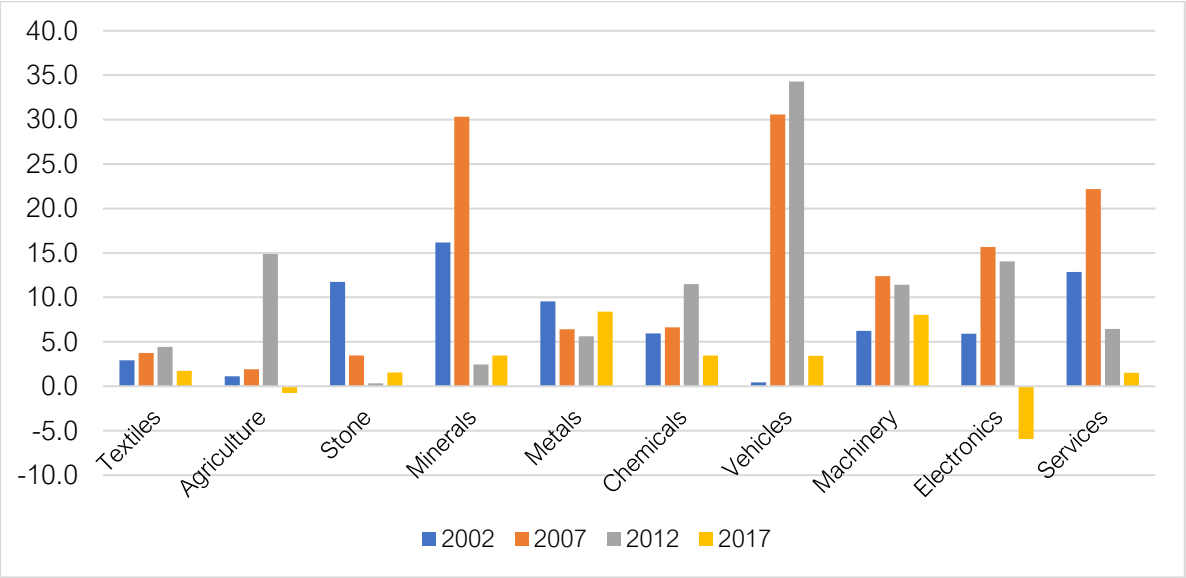
India's 1991 economic reforms were followed by increased growth and international trade. Whilst the average annual growth rate was 6.1% in 1988–2005, it shot up to above 9% in 2005–2008 (Panagariya and Sundaram, 2013). Trade liberalisation measures undertaken as part of the reform package included a substantial reduction in import tariffs and non-tariff barriers across sectors. The average tariff fell from more than 80% in 1990 to 39% by 1996 and non-tariff barrier coverage was reduced from 87% in 1987 to 45% of total tariff lines in 1994 (Topalova and Khandelwal, 2011). Tariffs continued to decline steadily and the average applied tariff rate in 2017 was a mere 5.78%.

The post-liberalisation period saw the proportion of exports (imports) to gross domestic product (GDP) rise dramatically from 8.5% (8.5%) in 1991 to 24.5% (31.3%) in 2012. However, after 2012, the proportion of exports (imports) to GDP declined and was at 18.8% (22%) in 2017. The decline in trade as a proportion of GDP coincided with a decelerating economy, with the growth rate in the 5 years preceding 2018 averaging 7.5% and the growth in GDP per capita averaging 6.2% (World Bank). The decline mirrored trends in emerging economies in East Asia.

India has emerged as a dominant exporter of information and communication technology (ICT) services, the country's top export and accounting for 27% of exports in 2017. Other services exports included tourism (6%) and transport (4%). Prominent goods exports included diamonds, gold, and jewellery, accounting for about 8%; petroleum (7%); pharmaceuticals (2%); rice (1.4%); and automobiles (1.3%). Primary imports spanned ICT (12%), travel (4%), and transport (4%) amongst services, and petroleum (13%), diamonds and gold (12%), and coal (3%) amongst goods (The Growth Lab at Harvard University).

Figure 5.1. shows that India's global share in exports grew in 2002–2017 but growth fell after 2012, in line with the decrease in the trade–GDP ratio. Growth peaked in 2002–2007 for minerals and services and in 2007–2012 for agriculture and chemicals, declining thereafter. Vehicles, machinery, and electronics saw growth take off in 2002–2007, remain steady in 2007–2012, but fall post 2012.

Figure 5.1. India's Share in World Exports: Annualised Growth in the Previous 5 Years



Source: The Growth Lab at Harvard University, http://www.atlas.cid.harvard.edu (Accessed 10–29 June 2020).

Whilst primary export destinations were the United States (US), United Arab Emirates (UAE), and Hong Kong in 2017, India exported significantly to Singapore (3.9% of exports) and Viet Nam (2.7%), both of which feature in India's top 10 export destinations. Shares of exports to other Southeast Asian countries in 2017 included Thailand (1.2%), Malaysia (1.9%), and Indonesia (1.3%), compared with 4.3% to China. The top three import sources were the US, UAE, and China. Indonesia is amongst India's top 10 import sources. Exports to Thailand accounted for 1.5% of the total, to Malaysia 2%, and to Indonesia 3.5%.

In the wake of the India–ASEAN Free Trade Agreement in 2009, average annual growth in total trade between India and the Association of Southeast Asian Nations (ASEAN) increased from 11% in 2007–2009 to 23% in 2010–2012 (EXIM Bank, 2018). However, recent years have seen a decrease in trade engagement. Total trade increased from US$74 billion in 2013 to US$97 billion in 2018, but the average annual growth rate in total trade was well below 23% in 2010–2012 (Table 5.1).

Table 5.1. India's Bilateral Trade with the Association of Southeast Asian Nations (US$ billion)

India's trade with ASEAN	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019
Export	33.13	31.81	25.15	30.96	34.2	37.47
Growth (%)	0.38	-3.99	-20.8	23.09	10.46	9.56
Import	41.28	44.71	39.91	40.61	47.13	59.32
Growth (%)	-3.71	8.33	-10.9	0.88	16.04	25.86
Total	74.41	76.53	65.06	71.57	81.33	96.79
Growth (%)	-1.92	2.85	-14.99	10.01	13.64	19.01

ASEAN = Association of Southeast Asian Nations.
Source: Government of India, Ministry of Commerce and Industry, https://commerce.gov.in/InnerContent.aspx?Id=74 (Accessed 10 June 2020).

Recognising the need for deeper trade ties and economic cooperation with ASEAN to boost growth, India actively engaged in Regional Comprehensive Economic Partnership (RCEP) negotiations with ASEAN members and their partners (Australia, China, Japan, the Republic of Korea, and New Zealand) in 2012–2017 to better slot into global supply chains and aid job growth and development. The 19th round of the RCEP Trade Negotiating Committee meetings was held on 17–28 July 2017 in Hyderabad, India.

In 2019, however, India announced its decision to pull out of RCEP, citing concerns that the agreement did not address the country's issues. The decision was consistent with other protection measures put in place in the 3 years before 2020, including rising import tariffs and the 'Make in India' campaign, which emphasised developing domestic manufacturing capacity. Whilst some of the measures were in retaliation to tariffs levied by the US on India's imports, the general tone of trade policy in recent years has been one of import substitution, a reversal from the spirit of the 1991 economic reforms.

2. Non-tariff Measures in India

Whilst import tariffs are one form of trade protection, non-tariff barriers aim to restrict trade by imposing trade costs on firms. Non-tariff measures (NTMs) can be harder to measure than tariffs, given their variety and complexity, especially in India, which is an institutionally complex environment. India has 17 ministries and institutions – for agriculture and farmers' welfare; chemicals and fertilisers; environment, forests, and climate change; home affairs; petroleum and natural gas; power; ayurveda, yoga and naturopathy, unani, siddha, and homeopathy (ayush); health and family welfare; commerce and industry; consumer affairs, food, and public distribution; finance; textiles; fisheries, animal husbandry, and dairying; steel; atomic energy; disaster management; and standards – from which the study collected, classified, and studied NTMs.

The value of regulatory mapping is equivalent to the value attached to transparency and information dissemination. The first step in such an analysis is to identify the entire set of enforceable regulations with respect to all the ministries and institutions. India lacks a single-window repository for all its laws, orders, rules, regulations, acts, and so on. The collection of

NTM data provides a centralised, coherent mapping of regulations that affect trade, as the regulations, laws, orders, and acts included in this report are those issued at the national (Union government) level. The study is the first such exercise and offers valuable information for exporting and importing organisations and for government officials in charge of developing regulations and designing trade policies.

3. Legal Framework

India has a complex legal framework. The government is quasi-federal, and the Constitution divides powers between the Union and state governments. The Seventh Schedule of the Constitution lists the subjects on which the Union and state governments may make regulations or laws. It provides for the sharing of legislative powers on the subjects listed in the Concurrent List of the Seventh Schedule, with residuary powers belonging to the Union government. It is important to understand the legislative domains of each government, as well as the areas or sectors where they do or may overlap. A state or group of states may have regulations containing NTMs that are inapplicable in other states or even nationally. But the Union government may pass a regulation containing NTMs, leaving implementation to the discretion of state governments. Given that the implementation of some regulations is not uniform, a single-window repository is not feasible.

Most laws and regulations, however, are tabled, discussed, and passed by the Union government, especially those that are nationally relevant, such as laws related to the environment, narcotics, and tax systems. The technical and detailed aspects of the implementation of laws are usually relegated to the ministries. State governments largely consider Union laws as the standard and include changes to fit local and regional considerations.

India applies a number of NTMs in its laws, rules, orders, regulations, and acts. The NTMs are spread across several types of legal documents issued by government institutions and agencies. Most can be accessed online from the ministries' official websites.

Table 5.2 shows that there is a total of 479 regulations containing 4,618 NTMs from the 17 ministries and institutions covered by the study and reviewed. Except for one regulation issued by the Ministry of Home Affairs, all the regulations, rules, and acts are in English or in both English and Hindi. Most of the coded NTMs were found in rules and regulations, with some found in acts.

Table 5.2. Non-tariff Measures in India

	Comprehensiveness	Total
1	Total number of NTM-related regulations	479
2	Total number of NTMs reported to the WTO	
3	Total number of coded NTMs	4,618
4	Total number of affected products (national tariff lines)	11,483
5	Total number of issuing institutions	38 agencies (17 at the ministry level)

WTO = World Trade Organization.
Source: Authors, based on United Nations Conference on Trade and Development, Trade Analysis Information System. https://trainsonline.unctad.org/home

4. Approach to Ensure Legal Comprehensiveness of NTMs in India

To collect and classify NTMs and ensure legal comprehensiveness and clarity on NTM-related laws, a collective, comprehensive, accurate, updated, and accessible database of the laws must be readily available. This requirement is especially relevant in India, where some laws are more than 100 years old. They have been amended over the decades but no database records all the changes on a single platform. Whilst most of the laws are available in print and/or digitally, an easily accessed online database is preferable. The database will be processed by the United Nations Conference on Trade and Development together with other countries' databases and made available online via a link to legal texts on a single public site.

The data used for this NTM collection and classification exercise are publicly available on the independent websites of the identified ministries and their departments and agencies. The websites list laws, orders, rules, legislations, and regulations, and all those containing NTMs are coded. When an overlap occurs because a cross-sectoral law is commonly implemented by more than one agency of a ministry or different ministries, the regulation is coded only once.

5. NTMs Issuing Institutions

Seventeen regulatory agencies are responsible for issuing and enforcing NTM-related regulations (Table 5.3). The ministries of agriculture and farmers' welfare and of health and family welfare are the top two, together issuing more than 60% of measures. The two ministries predominantly issue sanitary and phytosanitary (SPS) measures (type A), which account for half (50.04%) of the most frequently applied NTMs. The Bureau of Indian Standards is responsible for providing safe and reliable quality goods and minimising health hazards through standardisation, certification, and testing. The bureau is under the Ministry of Consumer Affairs, Food and Public Distribution and has issued more than 10% of all measures.

Table 5.3. Non-tariff Measures, by Issuing Institution, in India

No.	Issuing Institution	NTMs (number)	NTMs (% of total)
1	Ministry of Agriculture and Farmers' Welfare	1,254	27.15
2	Ministry of Chemicals and Fertilizers	35	0.75
3	Ministry of Environment, Forests and Climate Change	132	2.85
4	Ministry of Home Affairs	42	0.90
5	Ministry of Petroleum and Natural Gas	64	1.38
6	Ministry of Power	40	0.86
7	Ministry of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy	12	0.25
8	Ministry of Health and Family Welfare	1,686	36.50
9	Ministry of Commerce and Industry	565	12.23
10	Ministry of Consumer Affairs, Food and Public Distribution	134	2.90
11	Ministry of Finance	56	1.21
12	Ministry of Textiles	35	0.75
13	Ministry of Fisheries, Animal Husbandry and Dairying	20	0.43

No.	Issuing Institution	NTMs (number)	NTMs (% of total)
14	Ministry of Steel	1	0.02
15	Department of Atomic Energy	18	0.38
16	National Disaster Management Authority	4	0.08
17	Bureau of Indian Standards	520	11.26
	Total	**4,618**	**100**

Source: Authors, based on United Nations Conference on Trade and Development, Trade Analysis Information System. https://trainsonline.unctad.org/home

6. Classification of Non-tariff Measures, by Type

The most common NTMs are SPS measures, technical barriers to trade (TBTs), and export-related measures, accounting for about 96.78% of all NTM measures, with SPS measures alone accounting for about half of the total (Table 5.4). Some NTM types are not used at all in policy requirements (codes J, K, L, M, and O), while TBT measures (type B) dominate regulations across the 17 ministries. TBTs (type B) are the second most frequently applied NTMs (36.24%) but, unlike SPS measures, they were issued by all ministries and institutions included in this report. The Ministry of Health and Family Welfare had the highest number of TBT measures (36.49%), followed by the Bureau of Indian Standards (28.07%). The third most frequently applied NTMs – export-related measures (type P) – were prevalent in the regulations of the Ministry of Commerce and Industry (67.42%). The share of export-related measures of other ministries and institutions is minimal.

Table 5.4. Non-tariff Measures, by Type, Imposed in India

Code	Type (chapter)	NTMs (number)	NTMs (% of total)
A	Sanitary and phytosanitary measures	2,311	50.04
B	Technical barriers to trade	1,674	36.24
C	Pre-shipment inspection and other formalities	47	1.01
D	Contingent trade-protective measures	13	0.28
E	Non-automatic licensing, quotas, prohibitions, and quantity control measures other than for sanitary and phytosanitary measures or technical barriers to trade reasons	22	0.47
F	Price control measures, including additional taxes and charges	43	0.93
G	Finance measures	3	0.06
H	Measures affecting competition	18	0.38
I	Trade-related investment measures	1	0.02
J	Distribution restrictions	0	0
K	Restriction on post-sales services	0	0
L	Subsidies (excluding export subsidies under P7)	0	0
M	Government procurement restrictions	0	0
N	Intellectual property	1	0.02
O	Rules of origin	0	0
P	Export-related measures	485	10.50
	Total coded NTMs	**4,618**	**100**

Source: Authors, based on United Nations Conference on Trade and Development, Trade Analysis Information System. https://trainsonline.unctad.org/home

7. Non-tariff Measure Classification, by Affected Products

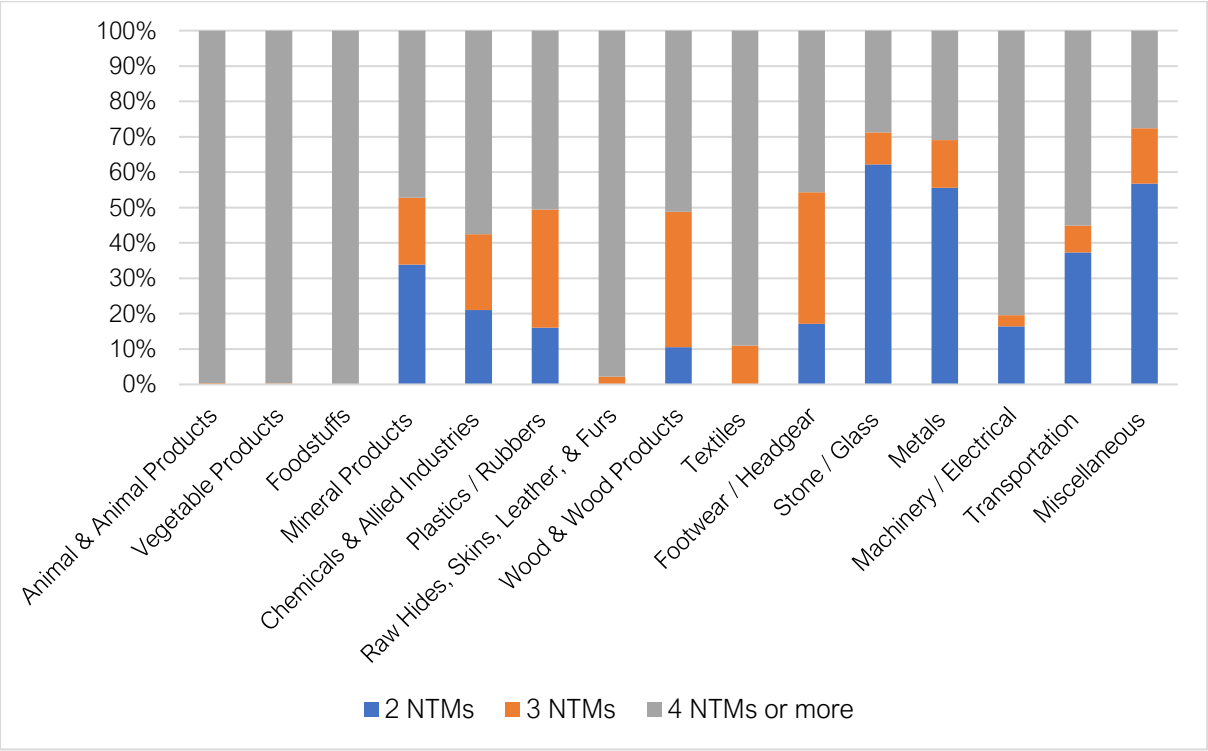
The number of NTMs applied to each product group is shown in Table 5.5 and Figure 5.2.

Table 5.5. Non-tariff Measure Classification, by Affected Product Group, in India

HS Code	Product Group	Two NTMs	Share of Product Group (%)	Three NTMs	Share of Product Group (%)	Four NTMs or More	Share of Product Group (%)
01–05	Animals and animal products	0	0	2	0.43	459	99.56
06–15	Vegetable products	0	0	2	0.27	720	99.72
16–24	Foodstuffs	0	0	0	0	426	100
25–27	Mineral products	109	33.85	61	18.94	152	47.20
28–38	Chemicals and allied industries	471	21.06	479	21.42	1,286	57.51
39–40	Plastics/rubbers	94	16.06	195	33.33	296	50.59
41–43	Raw hides, skins, leather, and furs	0	0	3	2.23	131	97.76
44–49	Wood and wood products	49	10.49	179	38.32	239	51.17
50–63	Textiles	0	0	206	11.01	1,664	88.98
64–67	Footwear/headgear	18	17.14	39	37.14	48	45.71
68–71	Stone/glass	220	62.14	32	9.03	102	28.81
72–83	Metals	702	55.58	170	13.46	391	30.95
84–85	Machinery/electrical	270	16.38	53	3.21	1,325	80.40
86–89	Transportation	98	37.26	20	7.60	145	55.13
90–99	Miscellaneous	356	56.77	98	15.62	173	27.59
	Total	**2,387**		**1,539**		**7,557**	

HS = Harmonised System.
Note: Since each product is affected by at least two NTMs (technical barriers to trade and export measures), we have calculated for two, three, and four or more NTMs instead of one, two, and three or more NTMs.
Source: Authors, based on United Nations Conference on Trade and Development, Trade Analysis Information System. https://trainsonline.unctad.org/home

Figure 5.2. Non-tariff Measure Classification, by Affected Product Group, in India

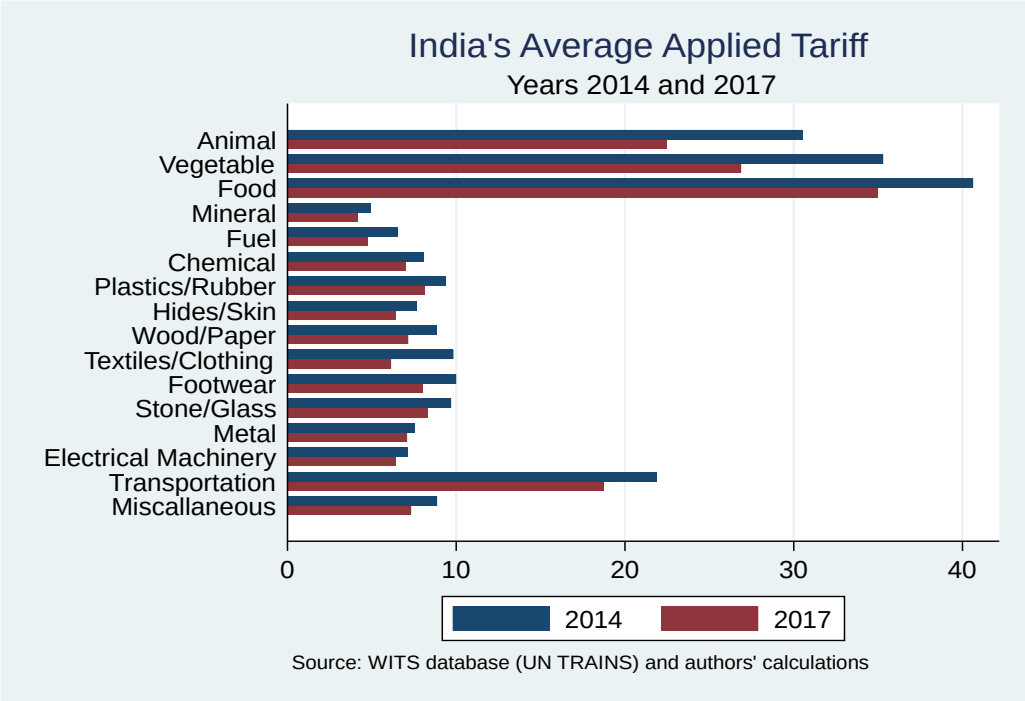


Source: Authors, based on raw data from the 2018 Economic Research Institute for ASEAN and East Asia and United Nations Conference on Trade and Development NTM database.

8. Non-tariff Measures and Import Tariffs

This section compares import NTMs with import tariffs. The analysis in previous sections reveals that NTMs are most prevalent in food, vegetable and animal products, textiles and leather, and electrical machinery. Figure 5.3 compares the average applied tariff on imports from the rest of the world across product groups. It presents a contrary story: import tariffs fell in 2014–2017 for agricultural products and for industrial sectors such as electrical machinery, transportation, and metals. It appears that a decrease in import tariffs is associated with a corresponding increase in NTMs, particularly for primary (agricultural) products and textiles.

Figure 5.3. Average Applied Tariff across Product Groups in India



Source: World Bank, WITS (https://wits.worldbank.org/); United Nations Conference on Trade and Development, TRAINS (https://trainsonline.unctad.org/home)

9. Main Findings

Our main findings are as follows:

(i) A total of 479 regulations across 17 ministries and institutions contained NTMs. The regulations included 4,618 NTMs affecting 11,483 tariff lines based on Harmonised System (HS) codes (all products in India).

(ii) The Ministry of Health and Family Welfare issued the highest number of NTMs (1,686) or about 36.5% of the total.

(iii) SPS measures were the most frequently applied NTM or about 50% of total NTMs and affecting a total of 2,887 products.

(iv) TBTs (36.24% of total NTMs) and export-related measures (10.5%), together affecting 11,483 products were the second and third most frequently applied NTMs.

(v) The ministries of agriculture and farmers' welfare and of health and family welfare are the major issuers of NTMs, accounting for 63.6% of the total. The agriculture ministry issued 1,155 SPS measures and the health ministry 1,057. Agricultural products and pharmaceuticals are major items in the trade basket; therefore, regulations emphasise SPS (type A) and TBT measures (type B) for the two product groups to ensure quality control and standardisation.

(vi) Of all the product groups, foodstuff (100%) is the most frequently affected by NTMs, followed by vegetable products (99.72%) and animals and animal products (99.56%). Table 5.5 shows that, overall, product groups were largely affected by four or more NTMs.

(vii) Whilst tariffs were brought down in 2014–2017 across agricultural products and industrial product groups such as transportation and electrical machinery, there was no equivalent decrease in NTMs in these sectors.

10. Policy Recommendations

This chapter examines and records regulations (and corresponding NTMs) up to 31 December 2016 for the 17 ministries and institutions. Since HS codes version was updated from 2012 to 2017 for export and import policy, future studies should include all updates.

Whilst India made progress in reducing import tariffs across agricultural and industrial products, the same cannot be said for NTMs. They remain high for food, vegetable and animal products, textiles, and agricultural products, and for industrial products such as machinery and electrical.

Given that India has a large and young workforce, job creation and economic growth are key policy priorities. Successful economies in the region, including China, achieved these objectives by slotting into global value chains, opening to multinational investment, and encouraging exports. India has struggled in this area, as the performance of labour-intensive manufacturing has remained sluggish (Hasan, Mehta, and Sundaram, 2021). NTMs impose a cost on firms engaging in international markets. Hence, the firms' presence in sectors such as electrical machinery, where the potential for backward and forward linkages, technology, and knowledge spillover is high, can be detrimental to exploiting potential opportunities in the global value chain.

As of 2018, 66% of the population was rural and depended on agriculture. Agricultural productivity remains poor, and the sector stands to benefit substantially from lower NTMs that facilitate access to export markets and inputs from abroad. India's position as a large emerging economy implies that regional partners would gain from market access and access to India's pool of skilled workers, whilst India could exploit access to markets, inputs, technology, and capital from its trade partners in the region. Achieving this goal requires commitment to pursue integration efforts with the region, starting by streamlining NTMs.

Several considerations apply to streamlining NTMs. The quasi-federal government has a bias towards the centre, as seen by the demarcation of subjects for legislation in the Seventh Schedule of the Constitution. The Union list includes 100 subjects, the state list 61, and the concurrent list 52. The Constitution gives primacy to the Union government on concurrent list items: in case of a conflict, central law overrides state law. The Union government also possesses residuary powers.

A state or group of states may have regulations containing NTMs that are not applicable in other states or even nationally. The Union government may pass a regulation containing NTMs but may leave its implementation to the discretion of state governments.

Because regulations are not implemented uniformly across the country, the NTM regime is institutionally complex. Complexity can result in a lack of transparency, which can increase the cost of doing business for importing and exporting firms. A single-window repository can make the regime more transparent and lower the cost of compliance for firms. The current effort to compile an NTM database is a step in this direction. To make the database more robust and

comprehensive, state regulations should be included in further studies. The Union government could also consider developing its national portal for NTMs and other related studies as a single-window repository (at Union and state levels) for all concerned trade laws, regulations, orders, and so on to facilitate information access, dissemination, and transparency.

Although the NTM database is relatively comprehensive, it requires regular updates to capture the impacts on international trade, value chains, and business models. The reason is laws are often amended, as seen by the quinquennium update of foreign policy and continuous review by the ministries of commerce and industry and of finance, to ensure that India's trade practices and policy are fair, inclusive, profitable, and feasible. Therefore, this report and the gathered database can serve as the foundation for all further NTM classification, coding, and research.

A large number of regulations often make it difficult to detect potential areas for improvement. The database can allow targeted ministries and departments to study the impact of specific measures, laws, regulations, orders, and so on, and consider how to improve business models and trade practices. Continuous updates and studies such as this chapter can directly support legislative bodies and ministries in revising the database, thereby keeping it updated and official.

Finally, a comparative analysis of NTMs and tariffs reveals that whilst tariffs declined in 2014–2017, this was not true of NTMs. NTMs boost demand for domestic firms by ensuring standardisation and quality control, but an onerous NTM regime can impose compliance costs. Such costs can present significant barriers to trade for small and medium-sized enterprises that employ most of the population in emerging economies. An agenda of trade liberalisation cannot be pursued effectively if NTMs replace tariffs as measures of trade protection. A detailed analysis of NTMs and their impacts on trade via the demand and cost channels is imperative to ensure that India's trade liberalisation strategy spurs growth, creates jobs, and raises living standards. The aim of the database is to facilitate research in this area.

References

Economic Research Institute for ASEAN and East Asia (ERIA) and United Nations Conference on Trade and Development (UNCTAD) (2016), *Non-Tariff Measures in ASEAN: February 2017*. Jakarta: ERIA; Geneva: UNCTAD.

EXIM Bank (2018), 'Strengthening ASEAN-India Partnership: Trends and Future Prospects', *EXIM Bank Research Report*, January.

Hasan, R., A. Mehta, and A. Sundaram (2021), 'The Effects of Labor Regulation on Firms and Exports: Evidence from Indian Apparel Manufacturing', *Journal of Comparative Economics*.

Panagariya, A. and A. Sundaram (2013), 'External Liberalization by India and China: Recent Experience and Future Challenges', *Indian Growth and Development Review*, 6(1), pp.8–34.

The Growth Lab at Harvard University, *The Atlas of Economic Complexity*. Available at: http://www.atlas.cid.harvard.edu (Accessed 10–29 June 2020).

Topalova, P. and A. Khandelwal (2011), 'Trade Liberalization and Firm Productivity: The Case of India', *The Review of Economics and Statistics*, 93(3), pp.995–1009.

United Nations Conference on Trade and Development (UNCTAD) (2013), *Classification of Non-Tariff Measures*, February 2012 Version. Geneva.

UNCTAD, *Trade Analysis Information System*. Available at: https://trainsonline.unctad.org/home

World Bank, *GDP Growth (Annual %) – India*. Available at: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=IN (Accessed 10 June 2020).

Chapter 6
Non-tariff Measures in Japan

Kaoru Nabeshima and Ayako Obashi

1. Introduction

This chapter does not intend to demonstrate the stringency of Japan's non-tariff regulations on international trade; technical measures and other behind-the-border trade-related measures may either increase or decrease trade.[1] Instead, this chapter aims to demonstrate how our data-gathering and coding efforts can help us understand the landscape of NTMs in Japan and determine their features.

We relied on the online database of laws and regulations maintained by the Ministry of Internal Affairs and Communications, as a part of the government's e-Gov initiative. As of 1 February 2016, the legal system consisted of the Constitution, 1,960 laws, 2,112 cabinet orders, and 4,048 cabinet office and ministerial ordinances (including rules). A cabinet order collectively establishes the provisions necessary for enforcing a specific law. A cabinet office and ministerial ordinance is a decree promulgated by the Cabinet Office and a particular ministry specifying the details of the enforcement provisions. Further detailed provisions are enacted in public notices. Typically, a specific law is accompanied by one cabinet order, one ministerial ordinance, and multiple public notices, but there could be multiple cabinet orders and ministerial ordinances to enforce the law.

All laws, cabinet orders, and ministerial ordinances in force are included in the law database, which is regularly updated to reflect changes as soon as they are reported in the Official Gazette. Although the database was originally in Japanese, English translations (although sometimes outdated) are available for some laws and regulations.[2] For public notices, there is no centralised source of information, and we must refer to webpages maintained by the ministries and other government bodies. Although regulatory authorities often publish instructions, notifications, and announcements of procedural issues relating to enforcement, we check them as needed for supplementary information but do not address them all.

In the law database, laws and regulations are classified by category or sector (Table 6.1). Out of 50 categories, we selected 32 (potentially trade related), 21 of which we identified as trade related

[1] When individual countries employ different technical regulations or standards, these can be barriers to trade. However, employing technical regulations in an internationally harmonised manner or through a mutual recognition agreement enhances trade and can be seen as a mild form of policy convergence or harmonisation.

[2] The Japanese Law Translation Database System (https://www.japaneselawtranslation.go.jp/) states that 'only the original Japanese texts of the laws and regulations have legal effect, and the translations are to be used solely as reference'.

(closely trade related). We gathered information on NTMs by looking at 2,887 laws and regulations in the identified 21 sectors available from the law database, as well as associated public notices obtained from the webpages of government bodies.

Table 6.1. Categories of Laws and Regulations in Japan

Closely Trade Related	Potentially Trade Related	Not Trade Related
Agriculture	Construction and housing	Administrative organs
Air transport	Education	Administrative procedures
Business	General rules on tax	Civil proceedings
Commerce	Land	Civil service
Culture	Land development	Constitution
Environment	Logistics	Diet
Fire fighting	National assets	Disaster management
Fishery	National defence	Finance and insurance
Foreign exchange and trade	Postal service	Foreign affairs
Forestry	Statistics	Judiciary
General rules on industry	Tourism	Local administration
Health		Local budget
Labour		National bonds
Land transport		Penal proceedings
Manufacturing		River management
Mining		Social insurance
National tax		Social welfare
Police		Urban planning
Road		
Sea transport		
Telecommunication		

Source: Authors.

We gathered information on NTMs that were official, mandatory, and imposed as of April 2015 by the government, and that potentially affect, positively or adversely, imports or exports of the targeted products. In keeping with UNCTAD (2014) data collection guidelines, we call legal documents that are sufficiently specific to identify NTMs and affected products and countries' 'regulations.' All NTMs contained within each regulation were translated into a database format by linking the contents of the detected NTMs to the predefined NTM classification codes, and descriptions of the affected products to the Harmonised Commodity Description and Coding System (HS) product classification codes.

To detect independent 'measures' of different types contained within each regulation, we used the M3 version of UNCTAD's NTM classification (UNCTAD, 2013), in which NTMs are categorised by type into 16 chapters (A–P), each further disaggregated into groups in most chapters and into subgroups in certain chapters. The scope of our data-gathering efforts under UNCTAD's initiative has so far been limited to NTMs categorised under chapters A–I (except D), and P (export-related measures). Chapters A–C, E–I, and P have 227 NTM classification codes in total, including all possible codes at any aggregation level.

We coded the products affected by each 'measure' based on the 2012 (H4) version of the HS classification codes and, at a more disaggregated level, on the 2015 version of national tariff lines

(NTLs) for imports. The H4 version has 5,206 product HS six-digit codes. Based on the 2015 NTLs, there are 9,323 product nine-digit codes, including the special 'misc.' code.

2. Non-tariff Measures in Japan

Our NTM data-gathering efforts are summarised in Table 6.2. We identified 331 regulations, most of which are either cabinet orders, ministerial ordinances, or public notices, containing 1,278 NTMs in total.

Table 6.2. Comprehensiveness of Collected Non-tariff Measure Data in Japan

	Comprehensiveness	Number
1	Total number of NTM-related regulations	331
2	Total number of coded NTMs reported to the World Trade Organization[a]	383
3	Total number of coded NTMs	1,278
4	Total number of affected products[b]	
	(i) Total number of affected products	9,323[c]
	(ii) Affected products as a share of total products	100%[c]
5	Total number of issuing institutions	12

NTM = non-tariff measure.
Notes: Affected products are counted based on the H4 version of the Harmonised Commodity Description and Coding System (HS) six-digit codes and on the 2015 version of nine-digit national tariff lines (NTLs). Even if a product is affected by more than one measure, the same coded product is counted as one product. The number of issuing institutions is counted at the ministry level.
[a] Out of 119 NTM-related regulations reported to the World Trade Organization.
[b] Based on nine-digit NTLs. The corresponding figure based on HS six-digit codes is 5,206 (100%).
[c] Includes three measures involving the Democratic People's Republic of Korea (hereafter North Korea). They affect all products imported from or exported to North Korea and are contained in the Foreign Exchange and Foreign Trade Act as a part of economic sanctions against North Korea. If we exclude the three measures, the number of affected products is slightly reduced to 8,779 (94.2%) at the NTL nine-digit level and to 4,894 (94.0%) at the HS six-digit level.
Source: Authors.

To check if the identified regulations and measures had been previously reported to WTO, we used the Trade Analysis Information System (TRAINS)–Historical Non-tariff Measures data for the latest year, 2009, obtained through the World Bank's World Integrated Trade Solution (WITS). We assumed that the measures included in the TRAINS–Historical Non-tariff Measures data set had been reported to WTO. Comparing our data set with the TRAINS–Historical Non-tariff Measures data set, we detected overlapping entries based on the HS six-digit codes and the most disaggregated measure classification codes.[3] Our data comparison indicated that only 36% of

[3] We used the conversion table from the H4 and H3 versions of the HS classification and the correlation table between the M2 and M3 versions of the NTM classification because our data collection is based on the H4 and M3 versions whilst the TRAINS–Historical Non-tariff Measures data are reported based on the H3 and M2 versions. The conversion and correlation tables are available at the Trade Statistics Branch of

the identified regulations and 30% of the measures had been reported to WTO. Thus, our data-gathering efforts have shed considerable light on NTMs in Japan.

Table 6.2 shows that all products imported or exported are subject to NTMs because of three measures involving the Democratic People's Republic of Korea (hereafter, North Korea). They affect all products imported from or exported to North Korea and are contained in the Foreign Exchange and Foreign Trade Act. If we exclude the three measures, the number of affected products is slightly reduced to 8,779 (94.2%) at the NTL nine-digit level and to 4,894 (94.0%) at the HS six-digit level.

Table 6.3 categorises the NTMs by type or purpose. As expected, most of the measures are in chapter A (sanitary and phytosanitary [SPS] measures, 21%) and B (technical barriers to trade [TBTs], 57%). The proportions increase to 24% for SPS measures and 67% for TBTs if we exclude export-related measures from the calculation.

Table 6.3. Non-tariff Measures, by Type, Imposed in Japan

Code	NTMs by Type (chapter)	NTMs (number)	NTMs (% of total)
A	Sanitary and phytosanitary measures	264	20.65
B	Technical barriers to trade	722	56.49
C	Pre-shipment inspection and other formalities	32	2.50
D	Contingent trade protective measures	0	0
E	Non-automatic licensing, quotas, prohibitions, and quantity control measures other than sanitary and phytosanitary measures or technical barriers to trade reasons	16	1.25
F	Price control measures, including additional taxes and charges	45	3.53
G	Finance measures	2	0.15
H	Measures affecting competition	3	0.24
I	Trade-related investment measures	0	0
J	Distribution restrictions	0	0
K	Restriction on post-sales services	0	0
L	Subsidies (excluding export subsidies under P7)	0	0
M	Government procurement restrictions	0	0
N	Intellectual property	0	0
O	Rules of origin	0	0
P	Export-related measures	194	15.19
	Total coded NTMs	**1,278**	**100**

NTM = non-tariff measure.
Notes: The scope of our data gathering was limited to chapters A–C, E–I, and P, and we identified no measures categorised under chapter I. Affected products are counted based on the 2015 version of nine-digit national tariff lines (NTLs). Even if a product was affected by more than one measure, the same coded product was counted as one product within a certain NTM chapter.
Source: Authors.

the United Nations Statistics Division and WITS Reference Data. According to the M2–M3 correlation table on the WITS webpage, the M2 codes A700, B500, and F290 have no direct counterpart M3 codes. Amongst the three M2 codes, Japan's measures are classified under F290 only. All Japan measures coded F290 are stipulated by the same legal source, Law Concerning Wildlife Protection and Hunting, based on which we interpret F290 of M2 as corresponding to F69 of M3.

As expected, product coverage is the broadest for TBTs (84%) but is also broad for export-related measures (73%), even after ignoring economic sanctions against North Korea. The latter finding is due to the all-in-one nature of chapter P and because some measures are implemented against exported products to restrict military and weapons usage. Of the nine-digit NTLs, 43% are subject to NTMs categorised under chapter C and 35% under chapter F. Pre-shipment inspection and other formalities affect imports of fuels, medical devices, medicines, and chemicals for monitoring purposes, and animals for quarantine purposes (e.g., specific ports of entry). Price control measures, including additional taxes and charges, are often implemented in combination with inspection, testing, certification, or labelling requirements, in addition to excise taxes.

Table 6.4 shows the regulations containing NTMs issued by 12 institutions or ministries. It lists the top 10 ministries issuing NTM-related regulations by number of coded measures. The remaining institutions or ministries are classified as 'other institutions'. We calculated the percentage of coded measures issued by a certain ministry as a fraction of the substantial number of affected products (1,278). Reflecting our earlier observation that the bulk of NTMs are implemented for SPS and TBT reasons, the ministries of health, labour, and welfare; economy, trade, and industry; and agriculture, forestry, and fisheries are responsible for most coded measures.

Table 6.4. Non-tariff Measures, by Issuing Institution, in Japan

No.	Issuing Institution	NTMs (number)	NTMs (% of total number)
1	Ministry of Health, Labour, and Welfare	586	45.9
2	Ministry of Economy, Trade and Industry	341	26.7
3	Ministry of Agriculture, Forestry and Fisheries	250	19.6
4	Ministry of Land, Infrastructure, Transport and Tourism	102	8.0
5	Ministry of the Environment	81	6.3
6	Ministry of Finance	29	2.3
7	Nuclear Regulation Authority	19	1.5
8	Cabinet Office	11	0.9
9	Ministry of Education, Culture, Sports, Science and Technology	10	0.8
10	Ministry of Internal Affairs and Communications	10	0.8
11	Other institutions	4	0.3
	Total	**1,278**	**100**

NTM = non-tariff measure.
Note: Some NTMs are issued by multiple ministries, which accounts for the gap between the gross and substantial total number of coded measures.
Source: Authors, based on the new NTM database.

Next, we present an overview of the frequency of NTMs per affected product. The number of affected products reported in Tables 6.2 and 6.3 suggests that many products at the NTL nine-digit level are subject to multiple NTMs of different types. To confirm this, we looked at the pattern of per-product frequency of NTMs across product groups (Figure 6.1, Table 6.5). Since three of the coded measures affect all nine-digit NTLs, we created bar charts indicating the proportion of nine-digit NTLs that are subject to three, four, and five or more coded measures.

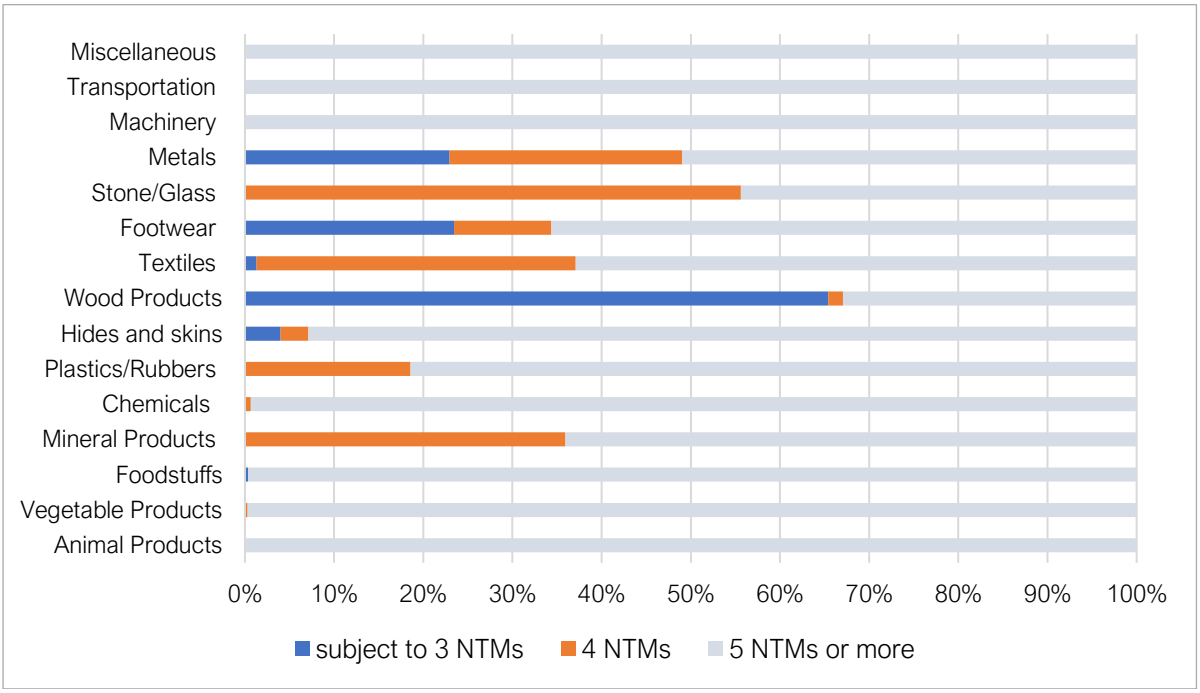
Table 6.5. Multiple Non-tariff Measures Applied to Each Product Group in Japan

(number)

Product Groups	3 NTMs	4 NTMs	5 NTMs or More
Animal and animal products	0	0	770
Vegetable products	0	2	706
Foodstuffs	3	0	815
Mineral products	0	92	164
Chemicals and allied industries	0	7	1070
Plastics/rubbers	0	55	241
Raw hides, skins, leather, and furs	9	7	209
Wood and wood products	282	7	142
Textiles	26	706	1242
Footwear/headgear	30	14	84
Stone/glass	0	134	107
Metals	194	221	431
Machinery/electrical	0	0	918
Transportation	0	0	145
Miscellaneous	0	0	490
Total	**544**	**1245**	**7534**

NTM = non-tariff measure.
Source: Authors.

Figure 6.1. Multiple of Non-tariff Measures Applied to Each Product Group in Japan
(share within group)



HS = Harmonised System, NTM = non-tariff measure.
Note: Animal products include HS01–05, vegetable products HS06-15, foodstuffs HS16–24, mineral products HS25–27, chemicals HS28–38, hides and skins HS39–40, wood products HS44–49, textiles HS50–63, footwear HS64–67, stone/glass HS68–71, metals HS72–83, machinery HS84–85, transportation HS86–89, and miscellaneous HS90–99.
Source: Authors.

Of products at the NTL nine-digit level, 6% are subject to three measures, which were implemented as a part of economic sanctions against North Korea. The remaining 94% are subject to a measure or more (other than those related to economic sanctions against North Korea). Of the products, 81% are subject to five or more NTMs, corresponding to two or more measures in addition to those related to economic sanctions against North Korea. All nine-digit NTLs classified under either animal products, machinery, or transportation are subject to five or more NTMs. Almost all nine-digit NTLs are subject to five or more NTMs in vegetable products, foodstuffs, and chemicals.

Table 6.6 summarises the statistics for the number of coded measures per product at the NTL nine-digit level by product group. On average, one product at the NTL nine-digit level is subject to 18 different NTMs (including when the code is repeated). The number of NTMs per product follows a right-skewed distribution. As an extreme case, one specific chemical product is subject to 176 NTMs of various kinds. Chemical, machinery, and transportation products appear to be highly regulated with multiple NTMs since many can be imported or exported for military and weapons use.[4] Animals and agricultural and food products are also subject to a combination of many NTMs, mostly for SPS and TBT reasons.

[4] Care is needed in interpreting the coverage of regulations for these products, especially chemical products, which can be used in multiple sectors (e.g., food, cosmetics, and pharmaceuticals, which are heavily regulated in most countries) and for multiple purposes (e.g., military). The regulations may be

Table 6.6. Coded Measures per National Tariff Line, by Product Group, in Japan
(number)

Product Group	Coded Measures per National Tariff Line (number)					
	Mean	Min.	p25	Median	p75	Max.
Animal products	25.9	8	17	24	30	61
Vegetable products	24.8	4	15	18	37	106
Foodstuffs	21.5	3	12	15	23	77
Mineral products	22.5	4	4	14	43	61
Chemicals	41.5	4	19	46	55	176
Plastics/rubbers	13.8	4	8	12	16	100
Hides and skins	16.8	3	15	17	19	29
Wood products	7.3	3	3	3	7	98
Textiles	5.9	3	4	5	6	21
Footwear	10.5	3	4	15	15	16
Stone/glass	5.9	4	4	4	5	38
Metals	6.7	3	4	5	8	99
Machinery	23.1	12	22	23	26	56
Transportation	17.2	12	13	15	20	35
Miscellaneous	21.8	7	12	16	24	73
Total	**18.3**	**3**	**5**	**14**	**23**	**176**

HS = Harmonised System, max = maximum, min. = minimum, p25 = percentile 25, p75 = percentile 75.
Note: Note: Animal products include HS01–05, vegetable products HS06-15, foodstuffs HS16–24, mineral products HS25–27, chemicals HS28–38, hides and skins HS39–40, wood products HS44–49, textiles HS50–63, footwear HS64–67, stone/glass HS68–71, metals HS72–83, machinery HS84–85, transportation HS86–89, and miscellaneous HS90–99.
Source: Authors.

3. Policy Recommendations

Whilst the online availability of all laws greatly assisted our efforts to gather NTMs, dissemination of the information could be improved significantly. The government could upgrade its regulatory regime in four areas. First, identifying all relevant documents for each law is difficult. The online resource contains laws, cabinet orders, and ministerial ordinances, but the implicit linkages amongst them made it difficult to find the relevant orders and ordinances. Often a law merely states, 'the detail is specified in the order' or 'the detail is specified in the ordinances' without identifying what they are. Whilst identifying them at the legislative stage may be difficult, they could be added at the dissemination stage. This is an important issue since a law can have multiple orders and ordinances. For some regulations, we needed to look deeper into public notices and other documents for further details. Although the ministries provide the information in an easy-to-access format for an important law, finding the resources for a non-major law proved difficult, especially for some ministries. Since details of the regulations are sometimes specified in public notices, they could also be listed in the law database.

The second area where we encountered difficulties was cross-references to other laws. In some instances, the law refers to multiple other laws, making it difficult to read the law. Third, the lack

applied under certain conditions, especially if the products have a dual purpose.

of English translations of the laws, orders, ordinances, and other relevant documents makes it difficult for non–Japanese-speaking people to understand them. Whilst English translations of some regulations are available, they were produced some time ago and have not been updated even if the laws have been revised. Fourth, the government should attempt to streamline certain regulations. Some products are subject to several regulations, some of which overlap. Some old laws are still in force, although they are not relevant in modern times.

All these issues relate to the accessibility of information and transparency of the regulatory regime. Whilst the government has begun to move in the right direction by making the information available online, it could greatly improve access to information by offering additional information (relevant documents for each law).

References

United Nations Conference on Trade and Development (UNCTAD) (2010), *Non-tariff Measures: Evidence from Selected Developing Countries and Future Research Agenda*. Geneva.

UNCTAD (2013), *Classification of Non-tariff Measures*, February 2012. Geneva.

UNCTAD (2014), *Guidelines to Collect Data on Official Non-tariff Measures: September 2014*. Geneva.

Chapter 7
Non-tariff Measures in Korea

Korea Institute for International Economic Policy

1. Introduction

The World Trade Organization has followed the introduction of trade-restrictive measures since 2008, which increased from 464 in 2010 to 2,127 in 2016 (World Trade Organization, 2016). This trend differs from that of customs tariff rates, which have been declining through the years. Whilst NTMs serve to protect the environment or human health and foster trade by aligning standards across countries; at the same time, they can represent a challenge for exporters as market access depends on compliance with domestic regulations. Econometric assessments have found NTMs to be more restrictive than tariffs (UNCTAD, 2012).

Despite their importance, analyses of NTMs are limited because NTMs are not easily distinguishable or quantifiable as they are embedded in legal documents. Measures need to be extracted from regulations based on consistent and concrete criteria.

This chapter shows how data are collected and sheds light on the status of NTMs in the Republic of Korea (henceforth, Korea). The data include NTMs as of 30 November 2016, including all measures issued by the central government collected from the National Law Information Center managed by the Ministry of Government Legislation. There are 1,930 NTMs,[1] most of which are sanitary and phytosanitary (SPS) measures or technical barriers to trade (TBTs). Accordingly, the Ministry of Agriculture, Food and Rural Affairs is responsible for the issuance of about 38% of all NTMs. Lastly, almost all product categories are subject to more than one NTM. It is important to note that not all NTMs are barriers to trade. The main objective of NTMs is to serve the public interest, especially with respect to safety issues. In this chapter we describe the data collection process, starting with a discussion of the legal system, before providing an overview of NTMs.

[1] Independently if each affects a large or a small list of products.

2. Legal System

The legal system consists of five layers.[2] The Constitution represents the highest form of law. Although the constitution does not stipulate specific NTMs, acts that realise constitutional notions either limit the rights and freedom of people or clarify their duties. These acts are called 'documents.' Implementation details are often left for subordinate implementation regulations.

Our efforts to identify NTMs begin in the next level of legislation: NTMs are extracted from legal texts that offer sufficient detail (usually subordinate implementation regulations), as opposed to general laws. Next, we look at presidential decrees and ordinances of the prime minister and ministries used for administration purposes. Following the UNCTAD Guidelines, they are called 'regulations' because they include detailed NTMs. Last, administrative rules elaborate on administrative agencies' roles and their duties. Although the rules do not restrict peoples' rights or freedoms per se, the work of the agencies can act as an NTM.

Not all legislation includes NTMs; that is to say, not all relate to requirements that would affect imported or exported products. We collected information from acts (second level) through to administrative legislation (fourth level) after identifying their main source. Acts are usually 'documents' that include the 'regulations', which, in turn, have NTMs embedded in them. More details are in Table 7.1.

Table 7.1. Definitions within Korea's Legal System

Category	Definition	Korean Legislation	Note
Source	Includes information such as legislations, ordinances, or else proclaimed and enforced	National Law Information Center	Accessible from the National Law Information Center website
Document	Official document or higher law of document that includes NTMs	Act	Higher law used when no act exists
Regulation	Law or administrative rule that includes NTMs	Act, enforcement decree, enforcement rule, notification, guidelines, standards	The act itself can be a regulation.
NTM	All policy instruments other than customs tariffs that economically affect the flow of goods	Each article and contents of legislation or administrative rule	

Source: Kim et al. (2016).

3. Data Construction

According to the National Law Information Center, the law can be categorised into 44 sectors. Twenty-five sectors related to trade were selected to construct the NTM data (Table 7.2). The

[2] The first level is the Constitution, the second acts, the third presidential decrees, the fourth ordinances of the prime minister and ministries, and the fifth administrative rules (National Law Information Center).

25 sectors consist of 2,408 acts, enforcement decrees, and rules. By mapping them, we were able to investigate 480 laws, including their subsidiary administrative rules.

Table 7.2. Categories of Law in the Republic of Korea

	Categories NOT Related to Non-tariff Measures		Categories Related to Non-tariff Measures
1	Constitution	13	Military affairs
2	National assembly	18	Science and technology
3	Election and political party	20	Internal tax
4	Administration in general	21	Tariff
5	Public official	22	Tobacco and ginseng
6	Court	24	Agriculture
7	Judicial affairs	25	Livestock
8	Civil affairs	26	Forest
9	Crimes and criminal procedure	27	Fishery
10	Local government	28	Commerce, trade, and industry
11	Police affairs	29	Industrial standards and measures
12	Civil defence and firefighting	30	Industrial property right
14	Conscription affairs	31	Energy utilisation and mining
15	Patriots and veterans	32	Electricity and gas
16	Education and academy	33	National land development and city
17	Culture and public relations	34	Housing, building and road
19	Finance and economy in general	35	Water resources, land and construction
23	Currency, state bond and banking	36	Health and medical affairs
44	Foreign affairs	37	Pharmaceutical affairs
		38	Social welfare
		39	Environment
		40	Labour
		41	Land transportation, aviation, and tourism
		42	Marine transportation
		43	Information and telecommunication

Source: Kim et al. (2016).

4. Non-tariff Measures in the Republic of Korea

Table 7.3 shows the comprehensiveness of our data. Twenty-nine institutions issued 427 regulations, which included 1,930 coded measures. In total, 11,483 products were affected by NTMs. As there are 12,244 national tariff lines (NTLs), 93.7% of products are subject to NTMs. The percentage is called the frequency index. Since other countries exhibit similar percentages, the quantity of products subject to NTMs is not of particular concern (UNCTAD; Economic Research Institute for ASEAN and East Asia, 2016). NTMs are not necessarily barriers to trade. They protect domestic consumers from harmful materials and ban illegal production practices. What would be beneficial is to distinguish the necessary measures from the unnecessary measures, which could be the subject of a future study.

Table 7.3. NTM Data Comprehensiveness in Korea

	Comprehensiveness	Number
1	Total NTM-related regulations	427
2	Total NTMs reported to the World Trade Organization	1,507
3	Total number of coded NTMs	1,930
4	Total affected products (national tariff lines)	11,483 (93.8%)
5	Total issuing institutions	29

Source: Authors.

Ten main regulatory agencies are responsible for issuing and enforcing NTM-related regulations in Korea. Aligned with the fact that most measures are SPS measures and TBTs, the top agency responsible for issuing measures is the Ministry of Agriculture, Food and Rural Affairs (37.9%). The Ministry of Trade, Industry and Energy comes second and is responsible for issuing 11.7% of mostly trade related NTMs.

Table 7.4. Non-tariff Measures by Institutions, by Issuing Institution, in Korea

No.	Issuing Institution	NTMs (number)	NTMs (% of total number)
1	Ministry of Agriculture, Food and Rural Affairs	732	37.94
2	Ministry of Trade, Industry and Energy	225	11.66
3	Ministry of Food and Drug Safety	206	10.67
4	Ministry of Environment	204	10.57
5	Ministry of Land, Infrastructure and Transport	94	4.87
6	Ministry of Oceans and Fisheries	82	4.25
7	Animal and Plant Quarantine Agency	71	3.67
8	National Fishery Products Quality Management Service	65	3.37
9	Nuclear Safety and Security Commission	46	2.38
10	Ministry of Health and Welfare	40	2.08
11	Other institutions	165	8.54
	Total	**1,930**	**100**

Source: Authors.

Most NTMs for imports are concentrated in SPS measures (A), which account for 36.6% of total NTMs, and TBTs (B), for 41.9%. Although the two are similar in number, TBTs are mostly imposed on the world (93%), while SPS measures are imposed on a limited number of countries (74.7%). For export-related measures (P), 66% are technical measures (P69), followed by price control measures (F) that include border fees or taxes, pre-shipment inspection, and other formalities (C) such as monitoring and surveillance requirements and other automatic licensing measures (C4). The only finance measure (G) identified is the refundable deposits for sensitive product categories (G14).

Although the numbers of SPS and TBT measures are almost the same, the number of tariff lines impacted by the two measures is very different. TBTs apply to a much wider range of products while SPS measures mainly affect agriculture and food related products. Almost all tariff lines (91.1%) are subject to TBTs while only 30% are subject to SPS measures and 37.5% to other formalities.

Table 7.5. Non-tariff Measures, by Type, Imposed in Korea

Code	NTMs by Type (chapter)	NTMs (total number)	NTMs (% of total number)
A	Sanitary and phytosanitary measures	707	36.6
B	Technical barriers to trade	809	41.9
C	Pre-shipment inspection and other formalities	27	1.4
D	Contingent trade-protective measures	0	0
E	Non-automatic licensing, quotas, prohibitions, and quantity control measures other than for sanitary and phytosanitary measures or technical barrier to trade reasons	8	0.4
F	Price control measures, including additional taxes and charges	71	3.7
G	Finance measures	1	0.1
H	Measures affecting competition	0	0
I	Trade-related investment measures	0	0
J	Distribution restrictions	0	0
K	Restrictions on post-sale services	0	0
L	Subsidies (excluding export subsidies under P7)	0	0
M	Government procurement restrictions	0	0
N	Intellectual property	0	0
O	Rules of origin	0	0
P	Export-related measures	307	15.9
Total coded NTMs		**1,930**	**100**

Source: Authors, based on the new NTM database.

Table 7.6 shows the types of NTMs used in more detail. Code B7 (product quality or performance requirement) is the most used type, followed by B31 (labelling requirements), A83 (certification requirements), B82 (testing requirements), and A42 (hygienic practices during production). These are the codes most mentioned in the regulations (column 3, Table 7.5). The last column in the table shows the prevalence of this regulations. Some of them affect many products at a time. From this perspective, based on NTLs, code B851 (origin of materials and parts) is the most used NTM. It affects 73.8% of NTLs, despite only 13 NTMs using this code, because the Foreign Trade Act requires a large portion of products to reveal their origin.

Table 7.6. Most Commonly Applied Non-tariff Measures in Korea

NTM Code	NTM Description	NTM (number)	NTL (% of affected products)
B7	Product quality or performance requirement	154	46.2
B31	Labelling requirements	135	70.3
A83	Certification requirement	89	6.6
B82	Testing requirement	84	44.2
A42	Hygienic practices during production	70	16.3
A64	Storage and transport conditions	53	25.7
A86	Quarantine requirement	53	12.0
A62	Animal raising or catching processes	47	3.2
B859	Traceability requirements, not elsewhere specified	44	51.3
B14	Authorisation requirement for technical barrier to trade reasons	40	56.0

NTL = non-tariff line, NTM = non-tariff measure.
Note: Export measures are not considered here. Data were collected using the M3 classification version. The B1 codes from M3 are converted into chapter E when using M4.
Source: Authors.

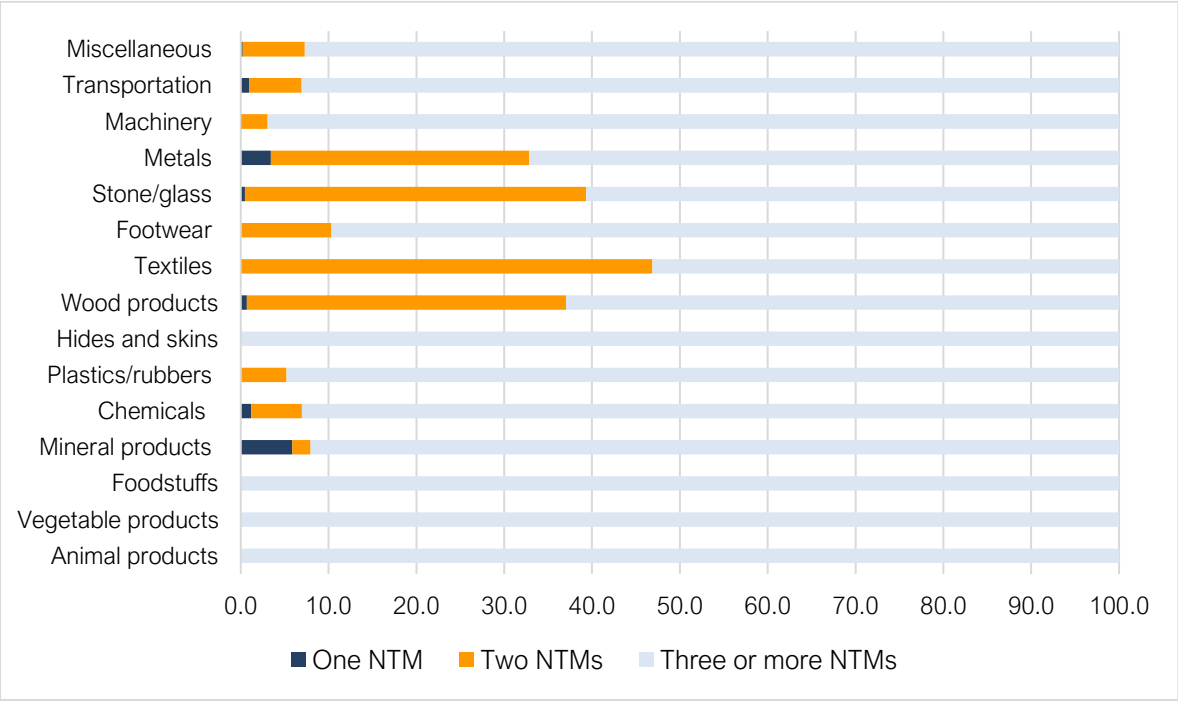
Products can be subject to multiple NTMs. For instance, the products most subject to them are chemicals (18.4%) and machinery (17.3%), with most subject to more than three. The figure shows the frequency of multiple NTMs for each product category. Most of the product categories are subject to three or more NTMs. Animal products, vegetable products, foodstuffs, and hides and skins are all subject to more than three NTMs.

Table 7.7. Multiple Non-tariff Measures Applied to Each Product Group in Korea
(number of tariff lines affected)

HS Code	Product	One NTM	Two NTMs	Three or More NTMs
01-05	Animal products			762
06-15	Vegetable products			798
16-24	Foodstuffs			543
25-27	Mineral products	17	6	266
28-38	Chemicals	27	131	2113
39-40	Plastics/rubbers		19	345
41-43	Hides and skins			242
44-49	Wood products	4	206	357
50-63	Textiles	1	446	507
64-67	Footwear		10	87
68-71	Stone/glass	2	162	253
72-83	Metals	30	257	587
84-85	Machinery	3	60	1991
86-89	Transportation	3	19	295
90-99	Miscellaneous	2	66	866
	Total	89	1382	10012

HS = Harmonised System
Source: Authors.

Figure 7.1. Multiple Non-tariff Measures in Korea
(share within product groups)



Source: Authors.

5. Policy Recommendations

Weakness in the global economy and the rise of protectionism are strong reasons to monitor any NTMs that could hamper international trade. The project is thus a timely effort from the international community to improve transparency regarding behind-the-border measures. Nonetheless, it is important to remember that the project's objective is not to remove all the collected NTMs but to help them serve their purpose while minimising their impacts on trade.

To further reap the fruits of such cooperative work, it is recommended that domestic regulations be analysed in more detail. Domestic regulations are legitimate in the sense that they promote social welfare by emphasising public safety and environment protection. However, measures that do not align with global standards can have unintended consequences. Although measures protecting domestic industries can be helpful in the short term, they increase costs for exporting firms that need to comply with standards in other countries and undermine their competitiveness in the long term.

Internationally, it is important to continue sharing and updating information on NTMs. Further analyses would be made possible by accumulating time series data on NTMs from which we could draw other reliable policy recommendations. Efforts to establish international standards and abolish redundant regulations should not stop. We hope that the current data will contribute to further analyses of NTMs, especially when comparing countries.

Nevertheless, we remain vigilant while interpreting the data as aggregate measures can sometimes be misleading. For example, if one measure is imposed on all products, the percentage of affected products (the frequency ratio) would be 100%. These measures are often

called 'horizontal' measures. If such an NTM were included in the incidence measures (e.g., frequency index), the country could be seen as highly restrictive. Thus, it is always recommended to consider measures in detail. Therefore, the standard process for computing incidence measures does not include horizontal measures. Given potential development gaps between countries' regulating systems, including enforcement challenges, simply comparing incidence measures at the country level can obscure reality.

NTMs are generally considered to have negative effects on international trade. Previous research on NTMs estimated their ad valorem equivalents or calculated their coverage ratios to investigate the level of protectionism. However, as defined by the UNCTAD Multi-Agency Support Team, NTMs include measures that hamper trade (non-tariff barriers) and other measures that do not have a protectionist intent. Food safety standards, hazardous substance residue standards, and safety tests for baby products are NTMs that cannot be seen as protectionist; they can sometimes even promote trade under certain circumstances. These NTMs aim to fulfil public objectives relating to hygiene, security, animal and plant protection, quality improvement, and so on. Thus, to understand NTMs better, their dual side must be acknowledged. We hope that UNCTAD's project will soon allow us to distinguish between necessary and unnecessary NTMs and eventually help us better assess their effects. This can be achieved through analyses such as those under good regulatory practices, which go beyond the statistical analysis presented here.

References

Economic Research Institute for ASEAN and East Asia (ERIA) and United Nations Conference on Trade and Development (UNCTAD) (2016), *Non-tariff Measures in ASEAN*. Jakarta: ERIA.

Kim, J.D., B.Y. Choi, M.H. Cho, and M.C. Chung (2017), 'An Analysis of Korea's Non-tariff Measures: Focusing on Link between NTM and HS', *Policy Reference,* 17-3. Seoul: Korea Institute for International Economic Policy.

Kim J.D., B.Y. Choi, J.H. Eom, and M.C. Chung (2016), 'An Analysis of Korea's Non-tariff Measures: Focused on Data Collection and Classification', *Policy Reference*, 16-11. Seoul: Korea Institute for International Economic Policy.

National Law Information Center. *Korean Legislative System and Procedures*. Available at http://www.law.go.kr/LSW/eng/engAbout.do?menuId=3 (accessed February–March 2018).

UNCTAD, *The Global Database on Non-tariff Measures* Available at https://trains.unctad.org/Default.aspx (accessed January–November 2018).

UNCTAD (2012), *Non-tariff Measures to Trade: Economic and Policy Issues for Developing Countries.* Geneva.

UNCTAD (2016), *Guidelines to Collect Data on Official Non-tariff Measures*. Geneva

World Trade Organization (2016), *World Trade Statistical Review*. Geneva.

Chapter 8
Non-tariff Measures in New Zealand

Mike Webb and Anna Strutt*

1. Introduction

New Zealand's overall regulatory regime is well regarded internationally; for example, New Zealand ranks first in the World Bank's Ease of Doing Business 2018 Index (World Bank, 2018). Non-tariff measures (NTMs), regulations that may affect trade, are a subset of this regulatory regime. A major feature of New Zealand's NTM regime is its relatively stringent sanitary and phytosanitary (SPS) measures, reflecting the fact that New Zealand is a major agricultural producer and an island nation, free from many diseases and pests affecting international animal and plant product trade (Webb, Strutt, and Rae, 2017).

New Zealand has actively participated in the negotiation of free trade agreements (FTAs) containing provisions covering SPS and technical barrier to trade (TBT) issues. Bilateral agreements are in force with China, Australia, Hong Kong, Malaysia, Singapore, Thailand, and the Republic of Korea (henceforth Korea). Regional agreements in force include the Association of Southeast Asian Nations–Australia–New Zealand FTA and the P4 Agreement (with Singapore, Brunei Darussalam, and Chile). New Zealand has concluded the Trans-Pacific Partnership Agreement, Pacific Agreement on Closer Economic Relations (with Pacific Island countries), and an FTA with the Gulf Cooperation Council. New Zealand is involved in negotiations on the Regional Comprehensive Economic Partnership and the Pacific Alliance, as well as bilateral agreements with the European Union and India (New Zealand Foreign Affairs and Trade).

New Zealand is an active member of international standards setting organisations, including Codex Alimentarius (the International 'Food Code') and the World Organisation for Animal Health, as well as a party to various international conventions that are relevant to the establishment of NTMs.[1]

* We are grateful to Peter Bailey (New Zealand Ministry of Foreign Affairs and Trade) for his strong support to this project and other officials from a range of key New Zealand agencies (Ministry of Foreign Affairs and Trade, the Ministry for Primary Industries; Customs New Zealand, the Treasury, Standards New Zealand, New Zealand Trade and Enterprise, and the Ministry of Business, Innovation and Employment).

[1] These include the International Plant Protection Convention, Montreal Protocol and Vienna Convention, Single Convention on Narcotic Drugs, Convention on Psychotropic Substances, Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Chemical Weapons Convention, Basel Convention (on the control of transboundary movements of hazardous wastes and their disposal), Rotterdam Convention (for certain hazardous chemicals and pesticides), and the Stockholm Convention on Persistent Organic Pollutants. See full details of New Zealand's international treaty obligations.(https://www.treaties.mfat.govt.nz/)

2. New Zealand's Legal System

Legislation passed by Parliament, known as acts, is the highest form of law.[2] Acts may contain detailed rules serving as NTMs; for example, the Anti-Personnel Mines Prohibition Act 1998 prohibits the use and import of anti-personnel mines. There are about 2,000 acts in force, 59 of which either contain or authorise NTMs.

In practice, however, most legislation is not passed by Parliament, but rather by other persons or bodies under powers granted or delegated by acts of Parliament.[3] Such legislation is generally known as delegated legislation, all of which must be based on authority conferred by an act of Parliament.

There are various forms of delegated legislation in New Zealand, including orders in council and 'notices' made by ministers. For instance, Section 29 of the Fair Trading Act 1986 empowers the making, by order in council, of regulations setting product safety standards. An example is the Product Safety Standards (Cigarette Lighters) Regulations 1998, which include performance standards and labelling requirements for cigarette lighters. In some cases, delegated legislation is made by the head of a government department and published on its website. For instance, import health standards with rules for the import of primary products are issued by the director-general under the Biosecurity Act 1993 and are available on the website of the Ministry for Primary Industries (https://www.mpi.govt.nz/). Most information on acts and regulations is readily available and New Zealand Customs provides guides for exporters and importers.

Some of New Zealand's international obligations under FTAs and other international treaties are reflected directly in acts. In other cases, international obligations are reflected in delegated legislation or the rules, practices, and procedures of regulatory agencies.

3. Data Collection and Update

NTM data were initially collected by our team from September 2014 to June 2015 and included in the NTM database publicly launched in July 2016.[4] For the current ERIA–UNCTAD project, we updated the data with changes made to measures from September 2014 to May 2016.

3.1. Initial Data Collection Process

To gather comprehensive information on NTMs, we initially used a five-stage process. First, we surveyed the websites of all government agencies considered likely to administer regulations that might affect trade. Second, we used official documents that included an inventory of measures (e.g., Schedules of Prohibited Imports and Exports from Customs New Zealand[5] and a Standards

[2] Further information is available at https://www.parliament.nz/en. All legislation is publicly available from https://www.legislation.govt.nz/ .
[3] Further information is available at https://www.parliament.nz/en
[4] Under the guidance of UNCTAD, consistent with the guidelines and classifications in UNCTAD (2013) and (2014). This project was undertaken with support from the World Bank and the NTM data collection for Trans-Pacific Partnership countries project supported by the National Graduate Institute for Policy Studies.
[5] Available at New Zealand Customs Service. (https://www.customs.govt.nz/)

New Zealand database of all standards referred to in legislation[6]) to identify acts and regulations. We found additional regulations by searching the gazette and legislation websites for regulations issued under the same act and examining the information available on the websites of the regulatory agencies. Third, we met with key agencies to raise awareness of the project, identify possible gaps in recorded information, and follow up on any information that may not be publicly available. We met with the ministries of foreign affairs and trade; business, innovation, and employment; and primary industries; and Standards New Zealand, which all had strong interest in and support for the project.[7] Fourth, we searched all references to the word's 'import' and 'export' in acts and legislative instruments available from the government legislation website (https://www.legislation.govt.nz/) to find any legislation and measures that might otherwise have been missed. Last, we cross-checked the database against data available from Customs New Zealand showing the regulatory agency for each tariff line where 'permits' or other authorisations might be necessary.[8] While the exercise did not identify any new measures, it identified extra tariff lines that had not been assigned to some measures.

3.2. Data Update

In updating the data, we systematically worked through all regulations to look for changes made since the data were originally collected. This was facilitated by the government legislation website, which shows the details and dates of any amendments and whether a regulation has been revoked. The following changes were identified:

(i) The United Nations (Iran – Joint Comprehensive Plan of Action) Regulations 2016 replaced the United Nations Sanctions (Iran) Regulations 2010.
(ii) The Customs Import Prohibition Order 2014 replaced the Customs Import Prohibition Order 2011.
(iii) The Customs Import Prohibition (Trout) Order 2015 replaced the Customs Import Prohibition (Trout) Order 2010.
(iv) The Customs Export Prohibition (Toothfish) Order 2015 replaced the Customs Export Prohibition (Toothfish) Order 2009.
(v) The Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001 were amended, leading to new measures applying to the poison '1080', as recorded in the database.
(vi) The Product Safety Standards (Children's Nightwear and Limited Daywear Having Reduced Fire Hazard) Regulations 2016 replaced the Product Safety Standards (Children's Nightwear and Limited Daywear Having Reduced Fire Hazard) Regulations 2008.

We identified two major sets of changes: (i) changes to the Australia New Zealand Food Standards Code, and (ii) changes associated with the Food Act 2014.

[6] Available at EPDF, Electrical Codes, Standards, Recommended Practices and Regulations. (https://www.standards.govt.nz/)
[7] Including a roundtable discussion on 26 July 2016 held with representatives from key government agencies.
[8] Available at New Zealand Customs Service. (https://www.customs.govt.nz/)

A major set of necessary revisions to the New Zealand data in the 2016 update arose from a complete overhaul of the Australia New Zealand Food Standards Code that took effect from 1 March 2016 (Food Standards Australia New Zealand) (Box). While the structure remained largely the same, a significant number of changes have been made to various components in the database.

The Food Act 2014 came into force on 1 March 2016. It will gradually replace the Food Act 1981 as the principal act governing food safety. There was a transition programme until the Food Act 2014 took full effect on 28 February 2019. We used information from the Ministry for Primary Industries to identify which regulations previously in the database have been replaced by new regulations. Six regulations under the Food Act 1981 have now been repealed: Food (Importer Listing) Standard 2008, Food (Prescribed Foods) Standard 2007, Food (Importer General Requirements) Standard 2008, New Zealand Food (Supplemented Food) Standard 2013, Food (Imported Milk and Milk Products) Standard 2009, and New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 2014. Three new regulations have been included in the database: New Zealand Food (Supplemented Food) Standard 2016, Food Notice: Maximum Residue Levels for Agricultural Compounds, and Food Notice: Importing Food (New Zealand Food Safety).

As part of the update process, we identified acts authorising the making of delegated legislation that can provide new regulations. These are areas where new regulations can be added without passing or amending acts of Parliament (Table 8.1).[9]

Table 8.1. Acts that Provide Scope for New Regulations in New Zealand

Act	Delegated Legislation
Fair Trading Act 1996	Unsafe goods notices, product safety standards, and consumer information standards
United Nations Act 1946	Sanctions (which may be passed as acts)
Gas Act 1992	Notices
Resource Management Act 1991	National environmental standards
Radiocommunications Regulations 2001	Notices
Contraception, Sterilisation, and Abortion Act 1977	Standards
New Zealand Horticulture Export Authority Act 1987	Horticultural prescribed products orders and New Zealand horticulture export authority orders
Hazardous Substances and New Organisms Act 1996	Group standards, regulations, and hazardous substances notices (following the Hazardous Substances and New Organisms Amendment Act 2015)
Biosecurity Act 1993	Import health standards (we included nine new import health standards and revised measures where import health standards were updated).

Source: Authors.

[9] We recommend that future researchers updating New Zealand NTM data look for new regulations under these acts.

In the 2016 update, except for the United Nations (Iran – Joint Comprehensive Plan of Action) Regulations 2016 under the United Nations Sanctions (Iran) Regulations, no new regulations were passed pursuant to any of these acts. We checked the websites of key agencies to find any new types of regulations made under new powers conferred by changes to acts of Parliament. We identified an amendment to the Hazardous Substances and New Organisms Act 1996, which enabled the making of hazardous substances notices, one of which has been enacted.

We searched the government legislation website for any new acts passed containing NTMs. In a relatively mature regulatory system such as New Zealand's, we did not expect to find many (if any) instances of this. Any new regulatory issue that arises will generally either be resolved within the existing regulatory framework (e.g., a new unsafe goods notice), or involve revoking or amending existing legislation, and so will be noted through that mechanism. In this update, we identified the Radiation Safety Act 2016 but did not include new measures under it since it did not enter into force until 2017.

Box 8.1. Joint Food Standards and Australia New Zealand Economic Integration

The current joint food standards regime between Australia and New Zealand stems from the agreement between Australia and New Zealand establishing the System for the Development of Joint Food Standards signed in December 1995. The treaty aimed to harmonise food standards, reduce compliance costs, and remove regulatory barriers to trade. It created the Australia New Zealand Food Authority, which was established in July 1996 and renamed Food Standards Australia New Zealand in 2002. The joint *Australia New Zealand Food Standards Code* (http://www.foodstandards.govt.nz/about/foodlawandtreaties/history/pages/default.aspx) was developed over several years, guided by a ministerial council with representation from Australia and New Zealand. It was agreed in 2000 and phased in over 2 years.

The Food Standards Code is given effect through domestic Australian and New Zealand legislation, and not all provisions apply to New Zealand (for instance, New Zealand sets its own maximum residue limits). However, under the Trans-Tasman Mutual Recognition Arrangement, food and other products produced or imported into one country that meet that country's standards may be legally sold in the other country. In practice, this means that most food exported to Australia from New Zealand is not assessed for compliance with Australian food standards, and vice versa.

The joint Australia New Zealand Food Standards Code and Trans-Tasman Mutual Recognition Arrangement are part of a wider project of economic integration between Australia and New Zealand. This stems from the Closer Economic Relations Treaty of 1983, which includes the freedom for Australians and New Zealanders to live and work in the other country. A current focus is the Single Economic Market project under which New Zealand and Australia are committed to creating a seamless trans-Tasman economic environment. (https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/nz-australia-closer-economic-relations-cer/).

Source: Authors.

4. Summary of Non-tariff Measures and Main Findings

Tables 8.2–8.4 provide overview statistics in a format consistent with other data collected as part of this project. In total, we collated and coded 3,096 regulations from 59 acts, administered by 14 institutions.

Table 8.2. Comprehensiveness of Collected Non-tariff Measure Data in New Zealand

	Comprehensiveness	Number
1	Total number of coded regulations	530
2	Total number of coded regulations reported to the World Trade Organization (https://i-tip.wto.org/goods/)	754
3	Total number of coded NTMs	3,053
4	Total affected products (Harmonised System lines, national tariff lines)	
	(i) Total number of affected products	7,517
	(ii) Affected products as a share of total products	100%[a]
5	Total number of issuing institutions	14

[a] Coverage is 100% because all products are subject to a goods and services (value added) tax (measure F71) and an import entry transaction fee (measure F61). Any good that infringes copyright is subject to an NTM (measure E315). Excluding these measures, all measures cover 67.7% of all tariff lines.
Source: Authors.

Table 8.3. Non-tariff Measures, by Issuing Institution, in New Zealand

No.	Issuing Institution	NTMs (number)	NTMs (% of total number)
1	Ministry for Primary Industries	1,681	55.07
2	Ministry for the Environment	1,172	38.40
3	Ministry of Business, Innovation and Employment	62	2.03
4	Ministry of Health	34	1.13
5	Ministry of Foreign Affairs and Trade	27	0.90
6	Ministry of Transport	25	0.81
7	Ministry of Justice	16	0.52
8	New Zealand Customs	15	0.48
9	Department of Internal Affairs	6	0.19
10	Department of Conservation	5	0.16
11	Other institutions	9	0.29
	Total	**3,053**	**100**

Source: Authors.

Ten main regulatory agencies are responsible for issuing and enforcing NTM-related regulations. The Biosecurity Act 1993 is the primary legal framework for biosecurity risks and gives key agencies authorities to deal with harmful organisms. Under the act, animal and plant products that may present a biosecurity risk by introducing pests and diseases cannot be imported into New Zealand until a risk analysis assessment consistent with international standards has been completed. This process is triggered by a request from the country interested in exporting the product and involves the development by the Ministry for Primary Industries of an import health standard that mitigates the risk associated with importing that product, pursuant to the act.

As the administrator of the Biosecurity Act 1993, the Ministry for Primary Industries is responsible for issuing more than 50% of all NTMs. About 200 import health standards cover a particular commodity or category of commodities; they may be generic, covering all countries, or country specific (Ministry for Primary Industries). More than a third of the measures in our database stem from the Hazardous Substances and New Organisms Act 1996, which is administered by the Ministry for the Environment to regulate pesticides, dangerous goods, household chemicals, and other dangerous substances.

Close to 100% of measures are import related. The nature of the economy and the fact that New Zealand is an island nation have led to the creation of an NTM regime that focuses heavily on relatively stringent SPS measures.

Table 8.4. Non-tariff Measures, by Type, Imposed in New Zealand

Code	NTMs by Type (chapter)	NTMs (total number)	NTMs (% of total)
A	Sanitary and phytosanitary measures	1,547	50.68
B	Technical barriers to trade	1,404	45.99
C	Pre-shipment inspection and other formalities	29	0.94
D	Contingent trade-protective measures	3	0.10
E	Non-automatic licensing, quotas, prohibitions, and quantity control measures other than for sanitary and phytosanitary measures or technical barrier to trade reasons	2	0.06
F	Price control measures including additional taxes and charges	5	0.16
G	Finance measures	0	0
H	Measures affecting competition	0	0
I	Trade-related investment measures	0	0
J	Distribution restrictions	3	0.10
K	Restriction on post-sales services	0	0
L	Subsidies (excluding export subsidies under P7)	0	0
M	Government procurement restrictions	0	0
N	Intellectual property	0	0
O	Rules of origin	0	0
P	Export-related measures	60	1.97
	Total coded NTMs	**3,053**	**100**

Source: Authors.

Table 8.5 sets out the most common NTMs. We calculated, using data on New Zealand import values from the world in 2016, the percentage of imports in tariff lines covered by the NTMs. We present them as a range because some NTMs have 'partial coverage'; that is, they apply to only some products within a tariff line.[10]

[10] In calculating the 'minimum', we excluded the value of all imports under tariff lines with partial coverage as it is possible that all trade was in parts of the tariff line not subject to the NTM. The 'maximum' assumes that all trade in a tariff line with partial coverage was affected by the NTM.

Table 8.5. Most Common Non-tariff Measures in Chapters A–C in New Zealand
(%)

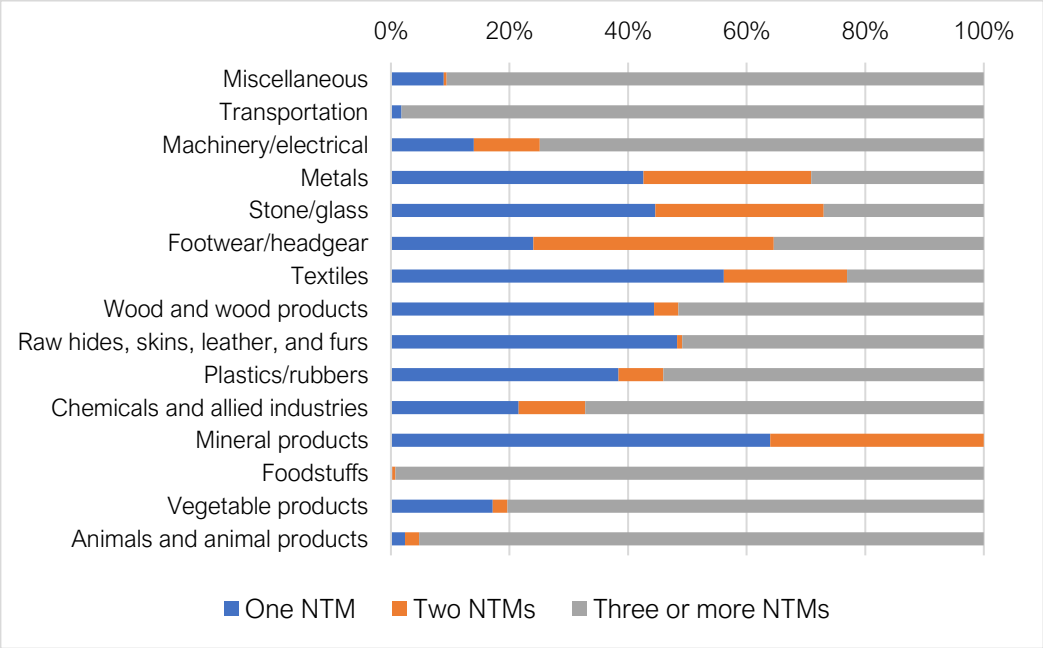
NTM	Description	Tariff Lines Affected	Imports Affected (minimum)	Imports Affected (maximum)
B310	Labelling requirements	42.7	32.7	43.1
B140	Authorisation requirements (for importers)	23.9	31.4	32.3
B700	Performance standards	18.9	32.6	44.7
A690	Other production requirements	18.5	10.5	11.6
A220	Restricted use of substances	17.1	14.0	14.9
B150	Importer registration requirements	16.9	21.8	24.1
B490	Production requirements	16.2	13.7	26.6
A590	Treatment requirements not elsewhere specified	16.0	2.2	30.5
A310	Labelling requirements	15.4	9.3	10.4
A210	Residue tolerance limits	14.9	9.3	9.3

Source: Authors.

Figure 8.1 shows how the incidence of multiple NTMs varies across sectors. We limit our analysis to UNCTAD chapters A, B, and C because, as noted in Table 8.2, all products are subject to a goods and services (value added) tax (measure F71) and import entry transaction fee (measure F61), and any good that infringes copyright is subject to an NTM (measure E315).

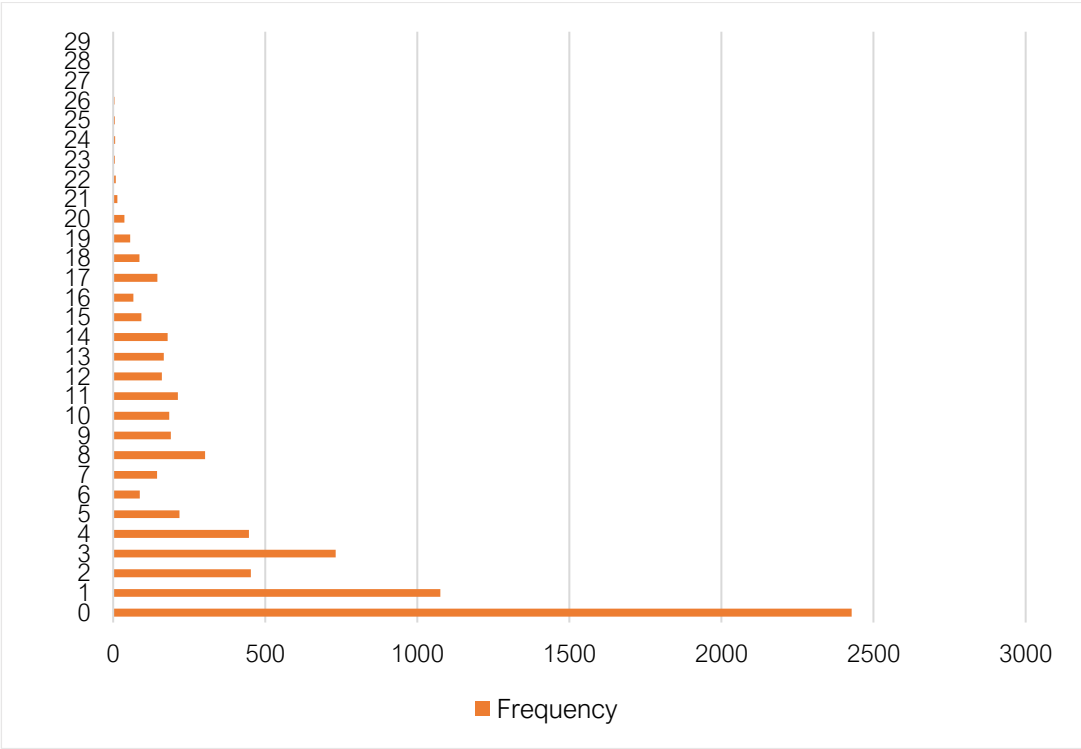
Figure 8.2 illustrates where individual tariff lines are affected by multiple types of NTMs (in chapters A, B, or C of the UNCTAD NTM classification). About one-third of all tariff lines are not subject to any NTM in these chapters. The most regulated products are meat, fresh fruit, and vegetables, which are subject to a range of SPS measures for both biosecurity and food safety as well as some measures classified as TBTs (e.g., labelling requirements). Tariff lines that attract more than 25 types of NTMs are generally miscellaneous categories such as food preparations not elsewhere specified (Harmonised System subheading 2106.90), animal products not elsewhere specified (Harmonised System subheading 0511.99), or tariff lines that contain a range of different products (e.g., tariff line 0804.50.00 covering guavas, mangoes, and mangosteens).

Figure 8.1. Incidence of Non-tariff Measures, by Product, as a Percentage of Total Tariff Line in New Zealand



Source: Authors.

Figure 8.2: Frequency of Multiple Non-tariff Measures in Chapters A, B, and C in New Zealand



Source: Authors.

5. Policy Recommendations

We are confident that we have collected comprehensive and high-quality data,[11] due in part to New Zealand's relatively transparent legislative system, as well as key agencies being willing to provide information, including on NTMs.

We note that regulations associated with NTMs often deal with complex issues and that it will be challenging to reduce or harmonise some NTMs. We also note that New Zealand has already made progress in reducing the effect of regulations on trade, such as harmonised food standards with Australia, and providing treatment options for fresh fruit and vegetables under import health standards and choices of international standards, particularly in the vehicle sector. We suggest that making improvements in the following areas may be particularly useful for policymakers:

(i) Support the Ministry for Primary Industries' efforts to move to a generic import health standard for each product, rather than separate standards for each exporting country.

(ii) Further investigate the complex regime for hazardous substances, with standards depending on the properties of a substance (e.g., if it is corrosive or flammable). It may be useful to explore the extent to which this poses a barrier to exporters and whether the regime can be simplified.

(iii) Further investigate possibilities for harmonising regulations with Australia and other trading partners, for example, building on experience with joint food standards between New Zealand and Australia.

(iv) Although already practiced widely in New Zealand, investigation of the scope to further recognise international standards might be useful in a range of areas.

(v) As proposed by the New Zealand Productivity Commission (2014), all regulations should be available from a single source, such as the government legislation website.

(vi) Continue active involvement in FTA negotiations, particularly regional agreements such as the Regional Comprehensive Economic Partnership, which may provide a basis for further regulatory alignment, including eventual harmonisation or mutual recognition.

Given the potential gains from reducing NTMs, policymakers and officials in New Zealand and other countries must carefully examine areas where non-tariff barriers to trade may be reduced, while still achieving legitimate objectives of the NTMs.

[11] There will, of course, be limitations to the data collected. For example, most NTMs do not indicate the tariff lines covered. Some judgement, therefore, is required in assigning tariff codes, particularly for complex areas such as those under the Hazardous Substances and New Organisms Act 1996. The database is a snapshot in time as in May 2016.

References

Food Standards Australia New Zealand. Food Standards Code. Available at: http://www.foodstandards.govt.nz/code/Pages/default.aspx (Accessed February–November 2018).

Ministry for Primary Industries. *Importing: Import Health Standards*. Available at: https://www.mpi.govt.nz/import/importing-into-nz-how-it-works/import-health-standards/ (Accessed February–November 2018).

New Zealand Food Safety. *Food Act 2014 Requirements.* Available at: https://www.mpi.govt.nz/food-business/food-act-2014/food-act-2014-requirements/ (Accessed February–November 2018).

New Zealand Foreign Affairs and Trade. *Free Trade Agreements* .Available at: https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/nz-australia-closer-economic-relations-cer/ (accessed February–November 2018).

New Zealand Productivity Commission (2014), *Regulatory Institutions and Practices*. Wellington.

United Nations Conference on Trade and Development (UNCTAD) (2013), *Classification of Non-tariff Measures,* February 2012 Version. New York, Geneva.

UNCTAD (2014), G*uidelines to Collect Data on Official Non-tariff Measures,* September 2013 Version. New York, Geneva.

Webb, M., A. Strutt, and A. Rae (2017), 'Impacts of Geographical Restrictions: New Zealand Fruit and Vegetable Imports', *Journal of International Agricultural Trade and Development,* 10(2), pp.203–24.

World Bank (2018), *Ease of Doing Business 2018 Index*. Available at: https://www.worldbank.org/en/programs/business-enabling-environment (accessed 30 March 2018).