ERIA Discussion Paper Series

No. 386

Is the COVID-19 Pandemic Recasting Global Value Chains in East Asia?*

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July 2021

Abstract: *This paper assesses how the current COVID-19 pandemic is shaping global value chains in East Asia after the formidable disruptions inflicted by the health crisis. Some have expressed the view that global value chains would readjust and production processes would move home, i.e. reshoring, facilitated by the recent movement of protectionism measures in the post-pandemic world. We evaluate such concerns and examine the role of policy with a focus on non-tariff measures in East Asia.*

Keywords: COVID-19, pandemic, global value chains (GVCs), Non-tariff measures (NTMs), East Asian countries

JEL Classification: F14; F15

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This research was conducted as a part of the Economic Research Institute for ASEAN and East Asia (ERIA) project, 'COVID-19 and Regional Economic Integration'. The opinions expressed in this paper are the sole responsibility of the authors and do not reflect the views of ERIA. We would like to thank ERIA for support and Joko Purwanto for his guidance in revising this paper.

1. Introduction

Global value chains (GVCs), the cross-border splitting of the production process within vertically integrated manufacturing industries, have been a key facet of economic globalisation over the past decades. This cross-border spatial diversification of production activities has been particularly strong in East Asia. However, the system of GVCs has abruptly faced a test of its resiliency with the COVID-19 pandemic and the disruption to supply chains. In the past, natural disasters, such as the floods in Thailand and the Tohoku earthquake and tsunami in 2011 in Japan, have posed significant threats, but COVID-19 has created unprecedented disruptions to GVCs by any scalable measure due to the national lockdowns of economies.

Two key predictions have been put forward. One argues that this pandemic will speed up automation to lessen direct human contact and maintain social distancing on factory floors. The other envisages that COVID-19 will further facilitate the geographical diversification of GVCs, with relocation from China to other locations in Asia (Anukoonwattaka and Lobo, 2019; Kimura et al. 2020; Urata, 2020). On top of these predictions, there have been worrying signs of the return of protectionism, in particular the growing unilateral protectionist measures that were created during the former Trump regime in the United States (Antràs, 2020). It is still too early to assess the impacts of the newly formed Biden administration and its ramifications for GVC development in East Asia. However, some argue that if the trade tensions remain persistent in the region, GVCs will be readjusted towards becoming more regionally oriented. This means that these adjustments will come with decreased GVC efficiency, which will eventually result in consumers having to bear higher costs.

Amid this ongoing speculation on what GVCs will look like after the COVID-19 pandemic in East Asia, this paper first examines the impacts of COVID-19 and the associated demand disruptions on GVC trade flows in the short- and long-run perspectives based on the available evidence. Since detailed and timely data are not readily available, we make inferences from the trade patterns of Japan, a pillar of GVCs in East Asia, using monthly trade data published by the Japanese government, and we evaluate the extent of the damage caused by COVID-19 on a monthly basis

in 2020. The second part of the analysis focuses on the policy issue, in particular non-tariff measures (NTMs), which have been on the rise even before the current pandemic.

The remainder of the paper is structured as follow. The next section provides a brief overview and background to the development of GVCs in East Asia. Section 3 examines the short- and longer-term effects of COVID-19 on trade flows using the monthly trade data from Japan. Section 4 takes up trade policy and focuses on non-tariff measures as an alternative source of trade protection. Section 5 concludes.

2. Background

GVCs broadly describe the process of breaking up the vertically integrated production process into finer stages, and the relocation of each stage to the most suitable locality across borders. In terms of coverage, GVCs cover the intra-firm transactions of parts and components, and intermediate inputs between the parent firms of multinational enterprises (MNEs) and their foreign affiliates, together with international arm's-length subcontracting transactions (inter-firm trade with unaffiliated suppliers) in these items.

Several factors have contributed to the recent surge in GVCs. First, the communication revolution (such as broadband Internet) led to significant cost reductions by making it easier to coordinate a separated production process across international borders, called service link costs by Jones and Kierzkowski (2000). Second, the continuous decline in transportation costs, especially through air freight costs and improved containerisation methods, has made it cheaper and faster to move parts and components from one location to another (Antràs, 2020). Third, product-specific technology advancement has increased the separability of the production process into finer degrees and segments, depending on the factor intensity used (the technical divisibility of the production process) (Jones, 2000). Fourth, multilateral trade liberalisation has added to the rapid growth of fragmentation trade across national borders. Yi (2003) makes the point that even a small tariff reduction has a so-called 'magnification effect' on fragmentation trade. This is simply because unlike finished products, components and unfinished products can cross international borders multiple times before reaching the final

stage of the production process. Any marginal reduction in the protection scheme can significantly lower trade costs.

It is crucial to realise that the major driving force in the evolution of GVCs is still centred around the operations of MNEs from industrial economies. Their operations are already widespread across East Asian countries, creating good connections in the cross-border exchange of trade in GVCs and related services. However, it is not often realised that the operational decisions of MNEs are usually governed by a combination of trade and foreign direct investment (FDI) factors with the policy supporting them. At this point, there is still considerable scope for East Asian countries to strengthen foreign investment-cum-trade policies. In particular, further removal of NTMs amongst East Asian economies can be another booster for trade in GVCs. At the same time, further liberalisation should be undertaken in investment-cum-trade policy to further broaden the prospect of inward FDI with the objective of GVC participation.

To this end, an improvement in the level of physical infrastructure (e.g. local distribution networks) is one of the crucial elements involved in building the productive capacity of a nation with regard to participating in GVCs. Building better infrastructure is closely linked to service link costs (Jones and Kierzkowski, 2000). When MNEs select new production sites, countries with better infrastructure tend to be the preferred locations for certain types of production. In some cases, MNEs may indeed select a location with better connectivity to other countries in GVCs, even though other value-added aspects, such as labour costs, remain uncompetitive.

The quality of the legal and institutional arrangements of countries is also inextricably related to service link costs, especially in the case of technology-intensive parts and components. Institutional quality is relevant to the process of GVCs as it involves establishing complex contracts between parties engaged in specific long-term investment relationships, compared to spot-market transactions and arms-length trade. In this sphere, strengthening rulemaking in intellectual property (IP) protection is a priority. This goes a long way to improving the business climate, further contributing to national competitiveness. Naturally, a poor institution can be a limiting factor in the further expansion of GVCs.

A case study conducted by Athukorala (2017) on Penang, Malaysia, provides an enlightening point of reference to highlight the success of these proactive government initiatives. The Penang export hub has consolidated its position within global production networks over the past 4 decades, starting with its success in hosting major United States (US) semiconductor firms in the early 1970s. Penang has since emerged as a hub in GVC linkages, not only in the semiconductor industry but also in medical devices, light-emitting diodes (LEDs), and photovoltaic design and development. Following the initial FDI stage, the Government of Malaysia has offered well-designed FDI promotion strategies, including free-trade zones, infrastructure development, skills development and vocational training, and human capital investment. These policy sets have matched well with Penang's innate comparative advantages, geography, and its legacy from the colonial era. Inter alia, the key strategy was to foster linkages with domestic supplier networks in upstream industries. Indeed, this has helped MNE operations bolster their production, yielding positive spillovers, and has led to the emergence of supplier networks.

The example of Penang as an export hub illustrates that even a small island can have the potential to play a major role in the development of GVCs in East Asia. Going forward, GVCs will continue to shape East Asia's regional and global trade and investment. The state of GVCs in the East Asia region has not only been maturing but has also developed in tandem with expansion to other parts of the region. In this sense, it is important to stay focused on the development path to becoming global rather than placing policy weight on the regional economies. At the same time, the benefits of participating in GVCs would become greater if local industrialisation were developed by offering an attractive FDI ecosystem. However, the need still looms for improvement in policy (e.g. non-tariff measures), institutional logistics and infrastructure, and human capital.

3. Effects of COVID-19 on Global Value Chain Trade Flows

3.1. Short-term effects

There are several explicit ways of measuring GVCs trade flows, mainly using international input–output tables or detailed trade classifications (summarised in Yamashita [2010]). However, the main problem with these measurements is that they are not readily available with short-time frequency, such as on a monthly basis. As we have witnessed, the situations inflicted by COVID-19 change almost daily. To capture the impacts, we explore the monthly trade flow data of Trade Statistics of Japan, Ministry of Finance.[1] This data source provides trade data at a monthly frequency for both exports and imports from/to Japan and its trading partners for up to October 2020.[2] This covers some periods of the national and partial lockdowns imposed following the spread of the COVID-19 pandemic following the first lockdown measures in China's Hubei province in January 2020.

Table 1 shows the change in trade volume with Japan's main trading partners, including the US. Table 2 offers a comparison of the levels with the same month in 2019. Relative to its level in each month in 2019, trade (both exports and imports) was depressed across the board. However, there are stark differences across countries. For instance, Japan's exports to China were depressed compared to their levels in 2019, but only by less than 9%, and they made a quick recovery with an increase in July 2020. The latest figures for October 2020 show a 10% increase in October 2019. On the other hand, Japan's exports to the US were significantly depressed, with a decline of more than 50% from their level 2019 in May and June 2019.

Japan's imports in the months of 2020 indicate a different pattern (Table 3). In February 2020, Japan's imports to China reached a 47% decline compared to their level in 2019. There was a sign of recovery in April 2020, but afterwards, they continued to decline. For other countries, Japan's imports show no clear sign of the recovery compared to their levels in 2019.

[1] https://www.customs.go.jp/toukei/info/tsdl.htm
[2] https://www.customs.go.jp/toukei/info/index_e.htm

Table 1. Change in Volume of Japan's Total Exports, November 2019–October 2020 (November 2019=100)

	Nov 19	Dec 19	Jan 20	Feb 20	Mar 20	Apr 20	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20
Food and Live Animals	100	110.4	63.1	79.9	87.3	86.9	82.6	91.2	91.4	91.4	96.2	108.9
Beverages and Tobacco	100	106.1	95.5	108.2	108.7	112.4	84.8	112.9	120.5	109.3	126.7	143.8
Crude Materials	100	109.5	96.0	115.2	116.8	99.0	75.3	89.9	94.3	93.0	103.1	121.6
Mineral Fuels	100	103.8	112.6	96.4	95.1	61.3	32.7	42.2	33.4	34.7	43.2	33.5
Animal and Vegetable Oil, Fat	100	108.6	71.6	89.5	99.9	103.0	68.4	75.8	79.2	88.5	119.6	145.9
Chemicals	100	105.9	89.1	101.3	104.8	103.8	86.1	88.8	92.3	92.6	100.3	112.0
Manufactured Goods	100	102.3	86.3	101.9	108.5	90.5	75.4	79.6	82.0	84.9	89.7	96.8
Machinery, Transport Equipment	100	103.6	84.6	99.8	100.3	76.2	59.4	73.5	82.9	80.6	95.4	104.3
Miscellaneous Articles	100	100.4	76.4	91.0	91.5	87.3	68.3	78.9	83.6	82.0	90.4	98.7
Commodities Not Classified	100	96.4	83.9	93.1	81.4	74.4	71.2	74.7	93.2	81.0	102.9	101.3
Total	100	103.1	85.1	99.1	99.7	81.6	65.6	76.2	84.2	82.0	94.9	102.9

Source: Trade Statistics, Ministry of Finance, Government of Japan (https://www.customs.go.jp/toukei/info/tsdl_e).

Table 2. Change in Volume of Japan's Total Exports by Country Destination in 2020 Compared to the Same Month in 2019

(% change)

Partner Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Republic of Korea	-12.2	0.9	-10.4	-10.6	-18.0	-15.1	-14.2	-13.8	-1.1	9.0
China	-6.4	-0.4	-8.7	-4.0	-1.9	-0.2	8.2	5.1	14.0	10.2
Viet Nam	11.8	22.9	10.2	0.2	-13.8	-14.7	-2.8	-6.6	-5.2	10.6
Thailand	-5.0	-2.6	-15.4	-16.4	-32.9	-45.6	-35.9	-31.3	-18.7	6.7
Singapore	-4.0	13.0	-33.7	-17.8	0.2	-27.7	-13.1	-26.1	-13.8	-4.0
Malaysia	-0.4	12.4	2.4	-28.1	-27.1	-27.5	-24.0	-0.9	-2.6	5.4
Brunei Darussalam	-29.6	2.5	-13.7	-70.0	-2.9	-40.4	82.0	0.0	-21.7	-32.8
Philippines	-0.2	2.4	-15.4	-43.8	-42.6	-30.2	-26.5	-14.9	-20.2	-10.8
Indonesia	-13.8	-12.9	-2.7	-35.0	-42.2	-56.0	-60.1	-55.8	-46.9	-41.9
Cambodia	12.8	9.2	-1.8	-8.4	-55.3	-18.1	-11.8	-15.4	-20.2	7.0
Lao PDR	143.0	55.6	20.9	118.3	32.0	1.1	135.2	19.3	71.3	24.4
Myanmar	53.7	10.3	-1.2	5.1	-17.0	-17.1	-31.7	17.5	-14.7	-45.9
Australia	2.9	-9.8	-5.7	-45.4	-59.1	-41.8	-27.1	-20.9	-11.8	20.9
New Zealand	-7.4	-0.5	-22.9	-51.6	-49.7	-46.7	-46.9	-39.8	-7.5	-1.4
United States	-7.7	-2.6	-16.5	-37.8	-50.6	-46.6	-19.5	-21.3	0.6	2.5

Source: Trade Statistics, Ministry of Finance, Government of Japan (https://www.customs.go.jp/toukei/info/tsdl_e.htm).

Table 3. Change in Volume of Japan's Total Imports by Country Destination in 2020 Compared to the Same Month in 2019

(% change)

Partner Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Republic of Korea	-4.5	1.4	-5.1	-8.8	-27.0	-15.7	-21.3	-18.2	-8.3	-19.5
China	-5.7	-47.1	-4.4	11.8	-2.0	0.8	-9.7	-7.0	-11.8	-3.6
Viet Nam	12.3	-6.1	18.4	3.6	-21.3	-12.4	-17.5	-7.3	-14.1	-4.4
Thailand	2.7	-11.4	-4.9	0.5	-14.8	-16.7	-24.7	-18.1	-14.6	-2.9
Singapore	9.6	-8.9	6.9	14.8	34.9	15.9	12.6	7.0	-1.5	13.0
Malaysia	4.7	-8.1	-1.3	-38.7	-34.5	3.6	-14.9	-12.6	-25.5	-9.5
Brunei Darussalam	-0.1	-18.2	-2.0	-32.4	-61.3	1.8	-56.4	-49.0	5.1	-47.4
Philippines	-6.2	-5.0	-9.7	-36.5	-43.6	-17.6	-13.3	-16.8	-5.1	-6.5
Indonesia	-12.9	-13.8	-6.5	-7.0	-21.0	-27.4	-26.8	-23.1	-16.9	-20.4
Cambodia	4.8	0.6	4.4	2.3	-33.1	5.6	-18.9	-18.3	-8.9	-17.8
Lao PDR	18.6	6.9	-1.2	-17.2	-51.1	-6.4	-16.7	-16.2	-32.7	-9.8
Myanmar	20.9	14.7	11.0	16.6	-38.5	-15.1	-16.1	-8.9	-12.9	-25.9
Australia	-17.4	-17.4	-15.4	-8.8	-27.6	-22.1	-30.3	-43.4	-35.1	-26.3
New Zealand	-10.5	-5.8	12.6	-14.8	-9.2	-2.3	-20.2	-12.2	-4.2	-17.2
United States	-12.2	-5.9	1.1	1.5	-27.4	-12.6	-25.4	-21.9	-10.7	-15.6

Source: Trade Statistics, Ministry of Finance, Government of Japan (https://www.customs.go.jp/toukei/info/tsdl_e.htm).

3.2. Medium- and long-term effects

The cases of COVID-19 and the health risks are still ongoing, and the situation continues to evolve even in 2021. At any rate, the above quick observations suggest that trade recovery does not seem to be a highly persistent shock. Without suitable data at hand, it is a challenging job to predict the course of trade affected by the COVID-19 crisis. However, the recent experience from the global financial crisis in 2008 may offer us some pointers for future development. In particular, a sudden drop in trade in 2008 due to the global financial crisis was met by a sharp recovery afterwards. What explains such a sharp recovery?

One notable feature of the trade relationship in GVCs is their dependency on relationship stickiness (Antràs, 2021). Because of the built-in relationship investments, GVC trade tends to be more deep-rooted with high resilience to shocks.

There are largely two organisational types of GVC networks (Sturgeon, 2003). The first is the modular production network, which is driven by contract manufacturers who provide traditional and standardised manufacturing functions, product (re)design, component processing and purchasing, inventory management, and routine tests, as well as aftersales services and repairs. It is also facilitated by highly standardised inter-firm linkages requiring less frequent and intense interactions. These functions of contract manufacturers are highly modular, being accessed and shared by a wide array of 'lead firms'. The use of contract manufacturers may bring cost and flexibility advantages to 'lead firms'. The provision of standardised goods and services to a wide pool of lead firms creates ease of entry for contract manufacturers and results in flexible networks where neither lead firm nor contract manufacturer is locked into a specific relationship beyond the current contractual arrangement.

The second type is the relational production network based on relationship-specific investments (Antràs, 2020). In this organisational exchange, product and process specifications remain relatively tacit and are involved with intensive information flows between firms and suppliers, which lead to greater asset specificity and relation-specific investments. This form of GVC network relies heavily on technology-intensive components (sound displays, memory chips, microprocessors, power and mechanical components, or advanced design and

development) supplied from related main suppliers and sourcing simpler and non-strategic components from unaffiliated suppliers, usually for previous-generation models. This procurement arrangement essentially blocks outside vendors from becoming involved with this international production network.

The advantages of the relational production network are the steady technological upgrading in the supplier base, close coordination of just-in-time deliveries, and tight quality controls (Sturgeon, 2003). In particular, it can adapt to volatile markets well, as suppliers can respond quickly to changing market conditions by allowing for the replacement of workers and suppliers at short notice. The disadvantage is that it can build up excessively relation-specific investments and bilateral dependency between firms and suppliers. In Japan, firms traditionally rely on long-term subcontracting, known as vertical *Keiretsu*. This vertical structure is associated with a relational investment between some large downstream firms (e.g. Toyota and Nissan in the automobile industry, Hitachi and Toshiba in the electronics industry) and a substantial number of small and medium-scale component manufacturers and assemblers (*Shitauke* in Japanese). This means more than just the standard hierarchical upstream–downstream vertical linkage involving an intensive interaction, dedicated investment efforts in R&D, reciprocal stock holdings, information flows, and the sharing of employees, managers, and directors, and even technology, across corporate groups (Asanuma, 1989). Given the close links with domestic component suppliers, Japanese manufacturing firms seem to find it difficult to switch to unaffiliated firms for the provision of necessary parts and components.

In sum, the preliminary analysis suggests that the effects of the COVID-19 pandemic in the short and medium terms do not seem to drive GVC trade downwards in the longer term.

4. Trade Policy

The East Asia region has seen deeper regional integration and growing intraregional trade linkages, and these have become the key driving force for countries, even small ones, to develop specialisation for tapping into networks. The policy side has, in general, created favourable conditions for trade-related GVCs to further expand. Whilst tariffs, in general, have declined because of unilateral trade liberalisation, to a large extent, trade policy now focuses on NTMs. We thus follow the recent development of NTMs as a focus of trade policy and assess what trade policy on GVCs looks like in the post-COVID-19 period.

4.1. Non-tariff measures

The term NTMs refers to a variety of trade-related (and potentially trade-related) measures other than tariffs, which are divided into two broad categories: import measures and export measures. Import measures are further subdivided into technical measures and non-technical measures. According to the standardised classification of NTMs (UNCTAD, 2018), technical measures comprise sanitary and phytosanitary (SPS) measures, technical barriers to trade (TBT), and pre-shipment inspection (SPI), whilst non-technical measures include contingent trade-protective measures, i.e. antidumping, countervailing and safeguards measures, and other non-technical measures, such as non-automatic licencing, quotas, prohibitions, and quantity-control measures; price control measures, including additional taxes and charges; finance measures; measures affecting competition; and trade-related investment measures. On the other hand, there is only one category for export measures, that is, the requirements imposed by the exporting country on its own exports, such as export taxes or subsidies, export quotas, and export prohibitions.

Table 4 provides a snapshot of the NTMs applied by Japan by sector and the types of measures. A few comments are worth noting on the NTM data used.

First of all, the total number of NTMs the Government of Japan has put in place, when measured at the 1-digit HS level, amounts to 3,319, of which over 70% are technical measures, mostly TBT and SPS. According to Nabeshima and Obashi (2020), who present detailed information on Japan's NTMs in an internationally comparable format, the number of coded NTMs totals 1,278, so that multiple NTMs

are typically applied to the same sector. Second, as expected from the prevalence of TBT and SPS, the frequency of NTMs is relatively high for certain sectors: agricultural products and foodstuffs, chemicals, plastic and rubber materials, and machinery and electrical equipment. These NTMs are primarily intended to protect human, animal, and plant lives as well as the environment. They may increase the overall costs of traded products but are not necessarily discriminatory when applied even-handedly to both imported and domestic products. Unlike tariffs, however, NTMs are less transparent and more difficult to monitor on their likely impact on international trade. Third, the NTM data at hand has made it clear that the coverage of NTMs notified to the World Trade Organization (WTO) remains very limited. The case of Japan, as reported by Nabeshima and Obashi (2020), indicates that only 36% of NTM-related regulations are covered by the WTO. Therefore, the regional trade architecture, such as the Regional Comprehensive Economic Partnership (RCEP), through technical consultations (Article 2.18) and sectoral work programmes (Article 2.21), can provide an important platform to address the specific concerns of small farmers, manufacturers, and traders over existing NTM-related regulations.

Table 4: NTMs Applied by Japan by Sector and Type of Measure

HS Code	Panel A - All Countries								
Section	**TBT**	**SPS**	**INSP**	**CTPM**	**QC**	**PC**	**OTH**	**EXP**	**Total**
I	77	119	11	0	26	6	2	40	281
II	65	143	9	0	25	10	3	38	293
III	37	16	3	0	10	5	1	17	89
IV	81	77	7	0	23	11	3	24	226
V	85	16	13	0	15	12	2	17	160
VI	248	37	16	0	52	20	1	150	524
VII	72	107	8	0	9	5	1	12	214
VIII	20	6	1	0	7	2	1	18	55
IX	28	92	3	0	10	5	1	13	152
X	28	97	4	0	9	7	1	18	164
XI	18	3	1	0	6	1	1	10	40
XII	20	1	0	0	5	1	1	5	33
XIII	26	40	3	0	6	2	1	11	89
XIV	15	0	3	0	8	2	1	16	45
XV	94	93	4	0	11	5	1	14	222
XVI	234	0	5	0	13	11	1	22	286
XVII	72	4	1	0	6	5	1	12	101
XVIII	90	0	4	0	12	8	1	27	142
XIX	22	0	3	0	11	1	1	8	46
XX	73	4	4	0	16	8	1	23	129
XXI	13	0	0	0	5	0	1	9	28
Total	1418	855	103	0	285	127	27	504	3319

CTPM = contingent trade protective measures, EXP = export-related measures, INSP = pre-shipment inspections, OTH = other measures relating to imports, PC = price control measures, QC = quantity control measures, SPS = sanitary and phytosanitary, TBT = technical barriers to trade.
Note: See Appendix Table A1 for HS Sections at the 1-digit level.
Source: Compiled from UNCTAD TRAINS Database. https://trains.unctad.org (accessed 7 December 2002).

Similarly, Table 5 presents a snapshot of the NTMs applied by Association of Southeast Asian Nations (ASEAN) Member States by sector and the type of measure. This table has been compiled by aggregating national NTMs collected and codified for each ASEAN country under the ERIA-UNCTAD database. As in the case of Japan, ASEAN NTMs show a high frequency of technical measures, notably TBT and SPS, as these categories of measures account for 60% of all coded NTMs. Another feature of ASEAN NTMs is the relative importance of export-related measures, which amount to nearly one-quarter of all NTMs. This implies that many ASEAN countries are regulating exports of commodities and raw materials for various reasons. Finally, three ASEAN countries, i.e. Philippines, Thailand, and Viet Nam, have put in place contingent trade protective measures covering all sectors.

The above NTM information based on the ERIA-UNCTAD database, however, does not reflect the most recent regulatory changes introduced in the region. To see the new interventions applied annually, we refer to the NTM database collected and codified by the Global Trade Alert (GTA) (Evenett and Frits, 2019). The coverage of the GTA database is wider than the ERIA-UNCTAD database, as the former includes, amongst others, subsidies and state aid, foreign investment policy, and labour force migration policy. On the other hand, information on TBT and SPS measures are not included there.

Table 5: NTMs Applied by Japan by Sector and Type of Measure

HS Section	TBT	SPS	INSP	CTPM	QC	PC	OTH	EXP	Total
I	282	1,075	39	3	109	87	13	461	2,069
II	463	1,283	162	3	150	200	24	591	2,876
III	190	455	15	3	52	46	10	252	1,023
IV	776	1,144	37	3	146	112	20	421	2,659
V	395	179	30	3	127	62	26	263	1,085
VI	946	436	57	3	345	115	28	563	2,493
VII	324	38	16	3	116	36	17	135	685
VIII	38	47	5	3	36	23	9	93	254
IX	82	90	14	3	45	30	14	194	472
X	77	18	13	3	54	27	13	62	267
XI	84	112	15	3	60	31	10	151	466
XII	74	33	3	3	36	22	9	82	262
XIII	200	14	14	3	70	26	15	97	439
XIV	65	36	10	3	63	28	10	149	364
XV	349	30	9	4	94	29	16	137	668
XVI	641	17	19	3	185	62	19	142	1,088
XVII	258	2	13	3	100	49	12	71	508
XVIII	197	15	5	3	98	42	11	158	529
XIX	60	31	5	3	63	28	10	110	310
XX	218	41	9	3	86	40	14	141	552
XXI	23	15	2	3	32	19	8	95	197
Total	5,742	5,111	492	64	2,067	1,114	308	4,368	19,266

CTPM = contingent trade protective measures, EXP = export-related measures, INSP = pre-shipment inspections, OTH = other measures relating to imports, PC = price control measures, QC = quantity control measures, SPS = sanitary and phytosanitary, TBT = technical barriers to trade.
Note: See Appendix Table A1 for HS Sections at the 1-digit level.
Source: Compiled from UNCTAD TRAINS Database. https://trains.unctad.org (accessed 7 December 2002).

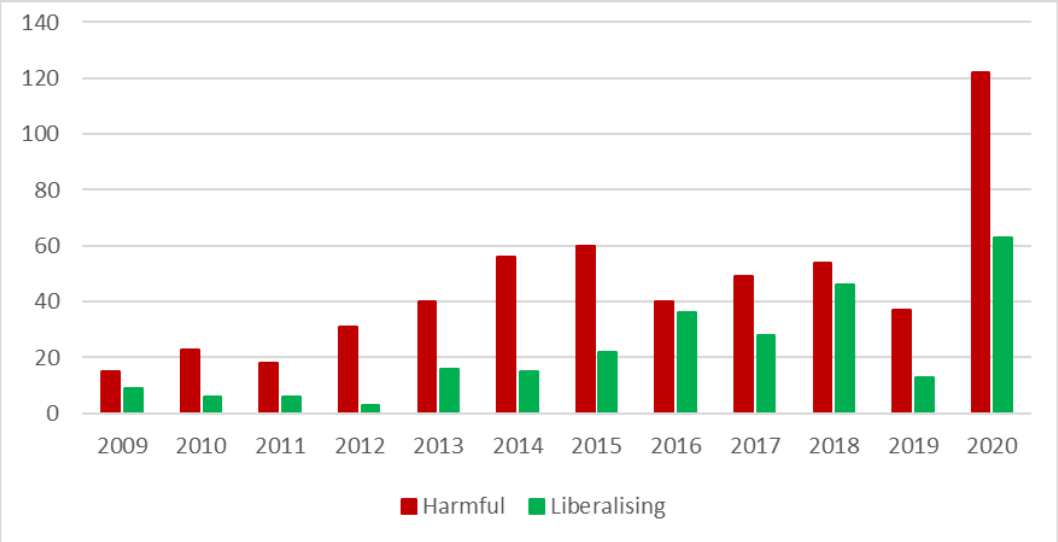
Figures 1 and 2 present the yearly trend in new interventions applied by ASEAN and non-ASEAN RCEP signatories, respectively, from 2009 – the initial year of data collection – up to 2020. There are two sets of new interventions, liberalising ('green' bars) and harmful interventions ('red' bars). Unlike the ERIA-UNCTAD database, the GTA database has recorded the direction of the change for each intervention using the 'GTA evaluations' by signalling one of three traffic

colours: ‘red’ (almost certainly discriminating against foreign commercial interests), ‘amber’ (likely involving discrimination against foreign commercial interests), and ‘green’ (liberalising on a non-discriminatory basis). Note that harmful interventions in Figures 1 and 2 include both ‘red’ and ‘amber’ measures.

It is clear from Figure 1 that the year 2020 marked a spike of new interventions because of the pandemic, as it involves wide-ranging sectors, such as iron and steel, automobiles, machinery, agro-food, and made-up textiles (including personal protection equipment). On the other hand, Figure 2 shows that there has been a surge in harmful interventions over the past 3 years, reflecting the heightened trade disputes across the Pacific.

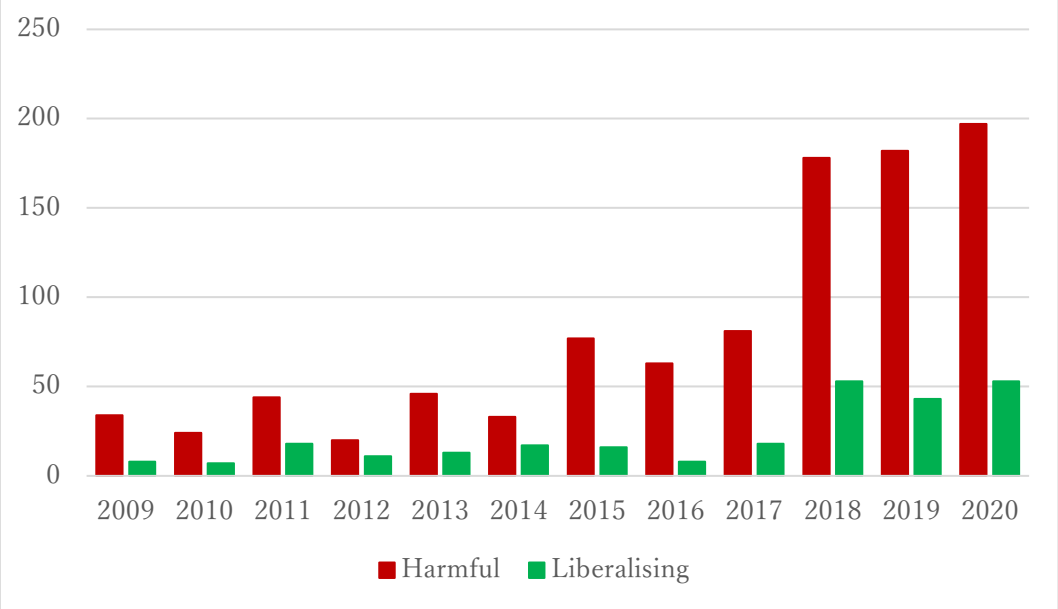
We expect that trade interventions in the form of NTMs will likely continue after the pandemic because more stringent SPS measures have been put in place as part of COVID-19 safety regulations in various places. This practice is expected to become the ‘new normal’ even after the pandemic has subsided. It should also be noted that such measures have been on the rise in contrast to a perpetual fall of tariffs in the world trading system. Technical measures have the potential to affect trade, although the direction of the net effect may not be obvious. International experiences show that poorly designed and implemented NTMs could restrict trade, distort prices, and erode national competitiveness. A World Bank study estimates that the equivalent tariff rate that SPS measures of Viet Nam are imposing on imported goods is 16.6% compared to the average level of 8.3% for ASEAN countries (World Bank, 2018).

Figure 1: Number of New Interventions Applied by ASEAN



Source: Compiled from the Global Trade Alert Database. https://www.globaltradealert.org/ (accessed 19 December 2020).

Figure 2: Number of New Interventions Applied by Non-ASEAN RCEP Signatories



Source: Compiled from the Global Trade Alert Database (accessed 22 December 2020).

4.2. Non-tariff measures in World Trade Organization dispute settlement cases

To supplement the above discussions on NTMs, we review WTO dispute settlement cases involving ASEAN Member States to look for some clues on which NTMs may be more trade-distorting. Such analysis is called for, because the existing ERIA-UNCTAD inventory of NTMs is considered 'neutral' in the sense that it does not judge the legitimacy of measures, in other words, whether not they are discriminatory against foreign trade partners.

There are altogether 60 cases found in the WTO Dispute Settlement (DS) database, which constitute a unique chronological list of trade disputes involving ASEAN Member States (Appendix Table A2). Most disputed cases listed there are related to the use of certain NTMs, in some cases more than one.

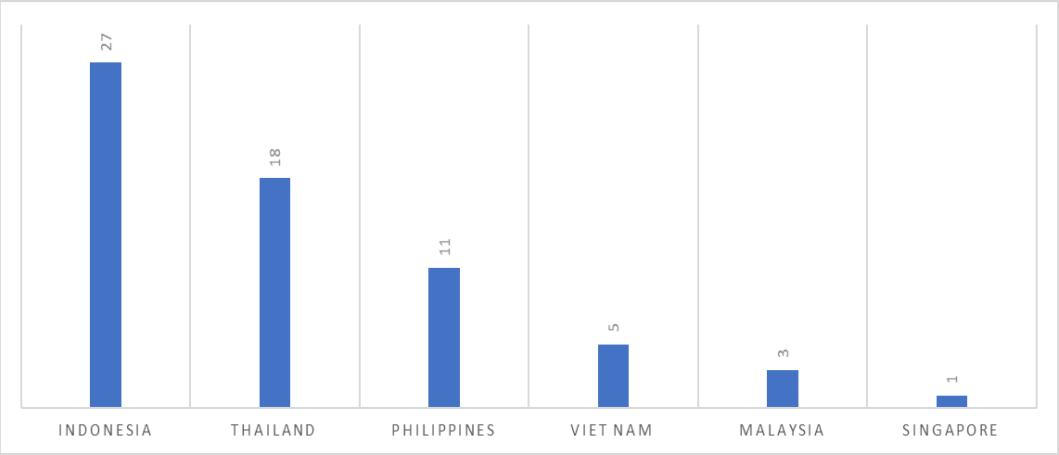
As seen in Figure 3, Indonesia, Thailand, the Philippines, and more recently Viet Nam have been involved in the WTO DS procedures, either as complainants or as respondents. Figure 4 confirms the relative importance of antidumping and countervailing measures and certain non-technical measures, such as non-automatic import licencing and quantitative restrictions, as a source of disputes involving ASEAN Member States. In terms of products at issue, the agricultural, fishery, and food sectors stand out in the ASEAN dispute cases (Figure 5). This tendency is somewhat expected since these sectors are ranked high on the export profiles of several ASEAN countries and subject both to national SPS laws and regulations and to non-automatic import licencing in importing countries. Amongst manufactured products, certain paper products and biofuels are often involved in ASEAN dispute cases.

Two specific issues are worth mentioning here. One concerns Indonesia's import licencing regime raised under several dispute settlement procedures (DS 455, 465, 466, 477, 478, 484, and 506), which involved multiple non-tariff measures to regulate imports of certain agricultural and food products. It was found that these measures contravened several WTO rules, including the General Agreement on Tariffs and Trade (GATT) 1994 (Article XI: general elimination of quantitative restrictions), the Agreement on Agriculture (Article 4.2: elimination of measures that should have been converted into ordinary customs duties), the Agreement on

SPS Measures, and the Agreement on Import Licensing Procedures. Indonesia sought to justify them as general exceptions under Article XX of the GATT 1994, arguing that the measures were necessary to protect halal as a public moral and ensure food safety and security. Such experiences have prompted Indonesia to reform its import licencing regime. Nonetheless, non-automatic import licencing procedures are not so transparent that they need to be monitored regularly through peer reviews at both regional and multilateral fora.

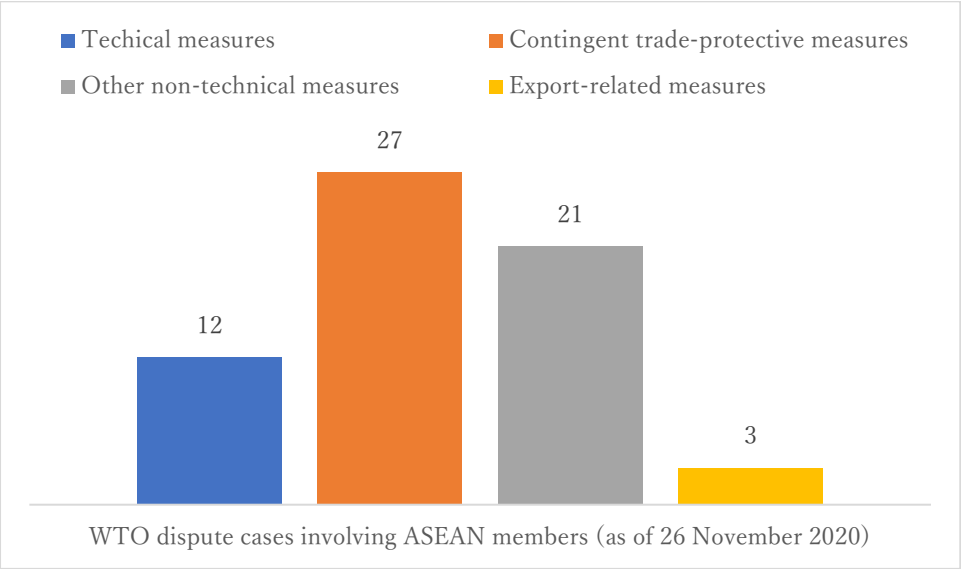
Another issue involves antidumping and countervailing measures, as seen in Appendix Table A2 (DS 122, 312, 324, 343, 374, 383, 404, 442, 470, 480, 491, 529, and 536). Such cases will likely continue to raise concerns over their potential negative effects on merchandise trade flows in East Asia. In this respect, a novel feature of the RCEP as stated in the agreement's Chapter 7 (trade remedies) may play a key role, as the so-called 'zeroing' practice in antidumping investigations is to be prohibited (Article 7.13). This means that there will be no offsets for negative margins in the determination of dumping, which is not included in the ASEAN Trade in Goods Agreement (ATIGA) nor in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The RCEP makes a step forward in clarifying the murkiness of the current WTO agreement on antidumping, i.e. the Agreement on Implementation of Article VI of the GATT 1994.

Figure 3: Number of World Trade Organization Dispute Settlement Cases Involving ASEAN



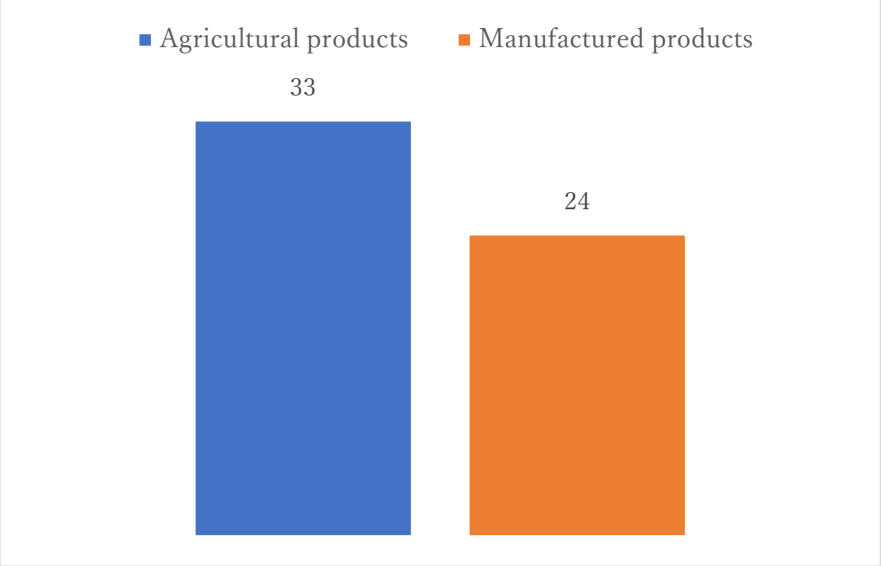
Source: Appendix Table A2.

Figure 4: Number of Non-tariff Measures by Type of Measure in ASEAN Dispute Cases



Note: Five tariff cases are excluded, whilst some cases involve more than one non-tariff measure.
Source: Appendix Table A2.

Figure 5: Number of Non-tariff Measures by Product in ASEAN Dispute Cases



Note: Three cases are excluded since they are not directly related to products.
Source: Appendix Table A2.

5. Conclusion

As in the case of the post-2008 recovery, China has been leading the global recovery since the second quarter of 2020, when the COVID-19 epidemic was more or less contained there (Fukasaku, 2020). This has contributed to lifting East Asia's merchandise trade to some extent. On the other hand, the recoveries of the United States and several European countries have been weak, given the continued severity of their epidemic cases. Under such uneven and staggered prospects, which are likely to persist until the pandemic is brought under control, the slower pace of globalisation, as measured by the trade–GDP ratio, will become a part of the 'new normal.' As a consequence, some concerns have been expressed for the return of protectionism, putting a brake on the sustained expansion of GVCs in East Asia.

This paper examined such concerns focusing on trade patterns to check the magnitude of the disruptions and discussed the medium- and longer-term prospects. The above discussions on NTMs suggest that the future of East Asia's value chain trade depends critically on what ASEAN Member States, Japan, and other signatories will do in implementing the RCEP Agreement in the coming years. For example, RCEP signatories have agreed as part of the built-in agenda to initiate a work programme on sector-specific NTM issues, as stated in Article 2.21. The sectors to be included in such a work programme should be selected so as to reduce the trade costs raised by existing NTMs and facilitate trade flows within – and beyond – East Asia. As clearly stated in the Preamble, the success of the RCEP will be eventually judged by the extent to which each member can mutually benefit from participation in regional and global supply chains. To be sure, since the signing of the ATIGA in 2009, ASEAN Member States have paid attention to certain national NTMs as potential barriers to trade, as intra-regional import duties keep falling. Chapter 4 of the ATIGA sets out the group's policy direction on NTMs, such as ensuring the transparency and notification of NTMs, developing the ASEAN NTM database, incorporating Article XI of GATT 1994, and identifying and eliminating non-tariff barriers through relevant coordinating committees and working bodies (Ing et al., 2019).

Building upon the relevant agreements in the WTO, as well as the existing ASEAN Plus One free trade agreements (FTAs), the RCEP seeks to provide 'a single rule book to help facilitate the development and expansion of regional supply chains among Parties.' Moreover, the RCEP is the first FTA involving China, Japan, and the Republic of Korea. This means that the tariff liberalisation schedules agreed this time will not only improve market access for goods exported from these countries but also raise the opportunity for ASEAN Member States to further participate in GVCs. To realise such gains, we argue that it would be imperative to make existing NTMs more transparent and seek regulatory coherence within the region through harmonisation and mutual recognition. In addition, the stall in multilateral trade negotiations has increased incentives to seek preferential market access through FTAs. Hence, whilst the recovery phases and afterwards regional cooperation and harmony in policy and further cooperation to increase transparency are warranted, the development of GVCs in the region is also critically dependent on the linkages to the extra-regions.

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Appendix

Table A1: Classification of Products

HS codes Section	Product description
I	Live animals and products
II	Vegetable products
III	Animal and vegetable fats, oils and waxes
IV	Prepared foodstuff; beverages, spirits, vinegar; tobacco
V	Mineral products
VI	Products of the chemical and allied industries
VII	Resins, plastics and articles; rubber and articles
VIII	Hides, skins and articles; saddlery and travel goods
IX	Wood, cork and articles; basketware
X	Paper, paperboard and articles
XI	Textiles and articles
XII	Footwear, headgear; feathers, artif. flowers, fans
XIII	Articles of stone, plaster; ceramic prod.; glass
XIV	Pearls, precious stones and metals; coin
XV	Base metals and articles
XVI	Machinery and electrical equipment
XVII	Vehicles, aircraft and vessels
XVIII	Instruments, clocks, recorders and reproducers
XIX	Arms and ammunition
XX	Miscellaneous manufactured articles
XXI	Works of art and antiques

Source: UNCTAD (2018), UNCTAD TRAINS: The Global Database on Non-Tariff Measures User Guide (Version 2).

Table A2: Non-tariff Measures in World Trade Organization Dispute Cases Involving ASEAN-10 (as of End–January 2021)

	DS No.	Title	Complainant	Main Agreements Relating to the Dispute[a,b,c]	Timeline of the Dispute[d]	
1	1	Malaysia – Import prohibition of certain chemical products	Singapore	GATT (X, XI, XIII), IL (3)	Panel requested:	16-Mar-95
					Withdrawn:	19-Jul-95
2	17	EC – Duties on imports of rice	Thailand	GATT (I, II, VII)	Consultation requested:	5-Oct-95
3	22	Brazil – CV measures on imports of desiccated coconut and coconut milk	Philippines	GATT (I, II, VI), AA (13)	Panel established:	5-Mar-96
					PR circulated:	17-Oct-96
					ABR circulated:	21-Feb-97
					Adoption:	20-Mar-97
4	35	Hungary – Export subsidies on agricultural products	Thailand (and five others)	AA (3)	Consultation requested:	27-Mar-96
					Mutually agreed solution:	30-Jul-97
5	47	Turkey – Import restrictions on textiles and clothing	Thailand (Hong Kong (DS 29) , India (DS34))	GATT (XI, XIII, XXIV), ATC (2)	Consultation requested:	20-Jun-96
6	54, 55, 59, 64	Indonesia – National car programmes	European Communities, Japan, US	GATT (I, III), TRIMs (2), ASCM (5, 6, 27, 28)	Single panel established:	12-Jun-97
7					PR circulated:	2-Jul-98
8					ABR circulated:	NA
9					Adoption:	23-Jul-98

10	58	US – Shrimp (import prohibition of certain shrimp and shrimp products)	Malaysia, Thailand (and others)	GATT (XI, XX)	Panel established:	25-Feb-97
					PR circulated:	15-May-98
					ABR circulated:	12-Oct-98
					Adoption:	6-Nov-98
11	61	US – Import prohibition of certain shrimp and shrimp products	Philippines	GATT (I, II, III, XI, XIII)	Consultation requested:	25-Oct-96
12	74	Philippines – Tariff-rate quotas on pork and poultry	United States	AA (4), GATT (III, X, XI), IL (1, 3), TRIMs (2, 5)	Consultation requested:	1-Apr-97
					Mutually agreed solution:	12-Mar-98
13	102	Philippines – Tariff-rate quotas on pork and poultry	United States	AA (4), GATT (III, X, XI), IL (1, 3), TRIMs (2, 5)	Consultation requested:	7-Oct-97
					Mutually agreed solution:	12-Mar-98
14	122	Thailand – H-beams (AD measures)	Poland	ADA (2, 3, 5, 17)	Panel established:	19-Nov-99
					PR circulated:	28-Sep-00
					ABR circulated:	12-Mar-01
					Adoption:	5-Apr-01
15	123	Argentina – Safeguard measures on imports of footwear	Indonesia	GATT (XIX), SA (2, 4, 5, 6, 12)	Panel requested:	15-Apr-98
					Withdrawn:	10-May-99
16	181	Colombia – Safeguard measures on imports of plain polyester filaments	Thailand	ATC (2, 6)	Consultation began:	28-Sep-98
					Panel request withdrawn:	27-Oct-99
17	195	Philippines – Motor vehicle development programme (MVDP)	United States	GATT (III, XI), TRIMs (2, 5)	Consultation requested:	23-May-00
					Panel established:	17-Nov-00

18	205	Egypt – Import prohibition of canned tuna with soybean oil	Thailand	GATT (I, XI, XIII), SPS (2, 3, 5)	Consultation requested:	22-Sep-00
19	215	Philippines – AD measures on polypropylene resins	Rep. of Korea	GATT (VI), ADA (2, 3, 5, 6, 7, 9, 12)	Consultation requested:	15-Dec-00
20	217	US – Offset Act (Byrd amendment)	Indonesia, Thailand, and nine others	ADA (5, 18), ASCM (11, 32)	Panel established:	12-Jul-01
					PR circulated:	16-Sep-02
					ABR circulated:	16-Jan-03
					Adoption:	27-Jan-03
21	242	EC – GSP	Thailand	GATT (I)	Consultation requested:	7-Dec-01
22	270	Australia – Certain measures affecting the importation of fresh fruit and vegetables	Philippines	GATT (XI, XIII), SPS (2, 3, 4, 5, 6, 10), IL (1, 3)	Panel established:	29-Aug-03
23	271	Australia – Certain measures affecting the importation of fresh pineapple	Philippines	GATT (XI, XIII), SPS (2, 3, 4, 5, 6, 10)	Consultation requested:	18-Oct-02
24	283	EC – Export subsidies on sugar	Thailand	AA (3, 8, 9.1)	Panel established:	29-Aug-03
					PR circulated:	15-Oct-04
					ABR circulated:	28-Apr-05
					Adoption:	19-May-05
25	286		Thailand	EC schedule, GATT (II)	Panel established:	21-Nov-03

		EC – Chicken cuts (customs classification of frozen boneless chicken cuts)			PR circulated:	30-May-05
					ABR circulated:	12-Sep-05
					Adoption:	27-Sep-05
26	312	Rep. of Korea – Certain paper (AD measures)	Indonesia	ADA (2, 3, 6, 9, 12), and Annex II, GATT (VI)	Panel established:	27-Sep-04
					PR circulated:	28-Oct-05
					ABR circulated:	NA
					Adoption:	28-Nov-05
27	324	US – Provisional AD measures on shrimp	Thailand	ADA (1, 2, 6, 7), GATT (VI)	Consultation requested:	9-Dec-04
28	343	US – Shrimp (AD measures)	Thailand	ADA (18), GATT (VI, XX)	Panel established:	26-Oct-06
					PR circulated:	29-Feb-08
					ABR circulated:	16-Jul-08
					Adoption:	1-Aug-08
29	370	Thailand – Customs valuation of alcoholic beverages and other products	European Communities	GATT (I, II, III, VII, X, XI), CVA (1, 5, 11, 12, 16, 22)	Consultation requested:	25-Jan-08
30	371	Thailand – Cigarettes (customs and fiscal measures on cigarettes)	Philippines	GATT (II, III, VII, X), CVA (1, 5, 11, 12, 16, 22)	Panel established:	17-Nov-08
					PR circulated:	15-Nov-10
					ABR circulated:	17-Jun-11
					Adoption:	15-Jul-11

31	374	South Africa – AD measures on uncoated woodfree paper	Indonesia	ADA (11)	Consultation requested:	9-May-08
					AD withdrawn:	20-Nov-08
32	383	US – AD measures on polyethylene (PET) bags	Thailand	ADA (2), DSU (19)	Panel established:	20-Mar-09
					PR circulated:	22-Jan-10
					ABR circulated:	NA
					Adoption:	18-Feb-10
33	396, 403	Philippines – Distilled spirits	European Union, United States	GATT (III)	Panel established:	19-Jan-10
					PR circulated:	15-Aug-11
34					ABR circulated:	21-Dec-11
					Adoption:	20-Jan-12
35	404	US – Shrimp (AD measures)	Viet Nam	ADA (2, 6, 9, 11, 17), GATT (VI)	Panel established:	18-May-10
					PR circulated:	11-Jul-11
					ABR circulated:	NA
					Adoption:	2-Sep-11
36	406	US – Clove cigarettes	Indonesia	TBT (2), DSU (11)	Panel established:	20-Jul-10
					PR circulated:	2-Sep-11
					ABR circulated	4-Apr-12
					Adoption:	24-Apr-12
37	429	US – Shrimp II (AD measures)	Viet Nam		Panel established:	27-Feb-13
					PR circulated:	17-Nov-14

				GATT (VI), ADA (1, 6, 9, 11, 18), and Annex II, DSU (4, 6, 7, 11)	ABR circulated:	7-Apr-15
					Adoption:	22-Apr-15
38	442	EU – Fatty alcohols (AD measures)	Indonesia	ADA (1, 2, 3, 4, 6, 9, 18), GATT (VI, X)	Panel established:	25-Jun-13
					PR circulated:	16-Dec-16
					ABR circulated	5-Sep-17
					Adoption:	29-Sep-17
39	455	Indonesia – Imports of horticultural and animal products	United States	GATT (X, XI), AA (4), IL (1, 3)	Panel established:	24-Apr-13
40	465	Indonesia – Imports of horticultural and animal products	United States	GATT (III, X, XI, XIII), AA (4), IL (1, 3), PSI (2)	Consultation requested:	30-Aug-13
41	466	Indonesia – Imports of horticultural and animal products	New Zealand	GATT (III, X, XI, XIII), AA (4), IL (1, 3), PSI (2)	Consultation requested:	30-Aug-13
42	467	Australia – Tobacco plain packaging (TPP)	Indonesia and three others	TBT (2), TRIPS (2, 3, 15, 16, 20, 22, 24), GATT (IX)	Panel established:	26-Mar-14
					PR circulated:	28-Jun-18
					ABR circulated	NA
					Adoption:	27-Aug-18
43	470	Pakistan – AD and CV measures on certain paper products	Indonesia	ADA (1,5,18), ASCM (10,11,18,22, 32), GATT (VI, X, XI)	Panel requested:	12-May-14

44	477, 478	Indonesia – Import licensing regimes (Horticultural and animal products)	New Zealand, United States	GATT (XI, XX), AA (4)	Panel established:	20-May-15
					PR circulated:	22-Dec-16
45					ABR circulated	9-Nov-17
					Adoption:	22-Nov-17
46	480	EU – Biodiesel (AD measures)	Indonesia	ADA (1, 2, 3, 6, 7, 9, 15, 18), GATT (VI)	Panel established:	31-Aug-15
					PR circulated:	25-Jan-18
					ABR circulated	NA
					Adoption:	28-Feb-18
47	481	Indonesia – Exclusion of third parties from the proceedings of DS 406	European Union	DSU (22)	Mutually agreed solution:	6-May-15
48	484	Indonesia – Chicken (general import prohibition)	Brazil	GATT (III, XI, XX), AA (4)	Panel established:	3-Dec-15
					PR circulated:	17-Oct-17
					ABR circulated	NA
					Adoption:	22-Nov-17
49	490, 496	Indonesia – Galvalume iron/steel products (safeguard measures)	Taiwan, Viet Nam	GATT (I, XIX), SA (2, 3, 4, 12)	Panel established:	28-Sep-15
					PR circulated:	18-Aug-17
50					ABR circulated	15-Aug-18
					Adoption:	27-Aug-18
51	491		Indonesia	ADA (3), ASCM (2, 12, 14, 15)	Panel established:	28-Sep-15

		US – Coated paper (AD &CV measures)			PR circulated:	6-Dec-17
					ABR circulated	NA
					Adoption:	22-Jan-18
52	506	Indonesia – Measures affecting imported bovine meat	Brazil	SPS (2, 3, 5, 6, 7, 8), TBT (2, 5), AA (4, 14), IL (1, 3, 5), GATT (I, II, III, VIII, X, XI)	Consultation requested:	4-Apr-16
53	507	Thailand – Subsidies on sugar	Brazil	AA (3, 6, 8, 9, 10), ASCM (3, 5, 6)	Consultation requested:	4-Apr-16
54	529	Australia – AD measures on A4 copy paper	Indonesia	ADA (2, 9), GATT (VI)	Panel established:	27-Apr-18
					PR circulated:	4-Dec-19
					ABR circulated:	NA
					Adoption:	27-Jan-20
55	536	US – AD measures on fish fillets	Viet Nam	ADA (1, 2, 5, 9, 11, 17), GATT (I, VI, X)	Panel composed:	30-Nov-18
56	540	US – Measures affecting pangasius seafood products	Viet Nam	SPS (2, 4, 5), GATT (I, XI)	Consultation requested:	22-Feb-18
57	573	Turkey – Additional duties on imports of air conditioning machines	Thailand	SA (8, 12), GATT (I, II, XIX)	Panel established:	11-Apr-19
					Panel work suspended:	19-Nov-20

58	592	Indonesia – Measures relating to raw materials (export restrictions and import duty exemptions)	European Union	GATT (X, XI), ASCM (3)	Consultation requested:	22-Nov-19
59	593	EU – Certain measures concerning palm oil and oil palm crop-based biofuels	Indonesia	GATT (I, III, X, XI), ASCM (1, 3, 5), TBT (2, 5, 12)	Panel composed:	12-Nov-20
60	600	EU – Certain measures concerning palm oil and oil palm crop-based biofuels	Malaysia	GATT (I, III, X, XI), ASCM (1, 3, 5), TBT (2, 5, 12)	Consultation requested:	19-Jan-21

Notes:
a. AA = Agreement on Agriculture; ADA = Antidumping Agreement; ASCM = Agreement on Subsidies and Countervailing Measures; ATC = Agreement on Textiles and Clothing; GATT = General Agreement on Tariffs and Trade; IL = Import Licensing; PSI = Pre-shipment Inspections; SA = Safeguard Measures; SPS= Sanitary and Phytosanitary Measures; TBT = Technical Barriers to Trade; TRIMs = Trade-related Investment Measures.
b. The numbers in parentheses following the agreements indicate the relevant article numbers.
c. NTM classifications: T = technical measures, i.e. SPS, TBT, and PSI and other formalities; N = non-technical measures; C = contingent trade-protective measures, AD, CV, and safeguard measures; E = export-related measures (see UNCTAD (2018, Figure 1)).
d. PR stands for Panel Report, and ABR for Appellate Body Report.
Source: Compiled from the WTO dispute settlement website (26 November 20l20, updated 31 January 21).

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