CHAPTER 3

Economic Effects of Free Trade Agreements

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CHAPTER 3

ECONOMIC EFFECTS OF FREE TRADE AGREEMENTS

A. International Trading Architecture

To properly account for the role of ATIGA on intra-ASEAN trade, we need to place it in the context of international trading architectures, each of which offer firms with different tariff rates and thus influence their choice related to exporting destination, sourcing strategy, and utilisation of preference. ATIGA is one of approximately 500 Free Trade Agreements (FTA) or Regional Trade Agreements (RTA) that have currently been reported to the World Trade Organization. Although RTAs go against the WTO's most-favoured nation (MFN) treatment principle, they are allowed if they observe conditions and requirements stipulated under Article XXIV of the General Agreement on Tariffs and Trade(GATT), to ensure complementarity. Their growing popularity since the 1990s is perceived as a response to a combination of failure of multilateral trade negotiations to deepen commitments, and reduced confidence in globalisation, to alleviate poverty.

Due to an 'open regionalism' approach to international trade taken by the AMS, ATIGA is situated within a very complex international trading architecture. All AMS are now members of the WTO, with Viet Nam and Lao PDR being the most recent to join (in 2007 and 2013 respectively). In addition to ATIGA, ASEAN collectively has signed trade agreements with six regional trade partners (Australia–New Zealand, China, Hong Kong, India, Japan, and the Republic of Korea). The Regional Comprehensive Economic Partnership (RCEP), which was signed in November 2020 and awaiting ratification by the signatory states, was built-upon these existing ASEAN Plus 1 FTAs to broaden and deepen parties' engagement to enhance trade and investment activities that will contribute to further economic integration of the region.

Table 3-1. AMS' FTA/RTAs with non-regional partners

AMS	FTA/RTA (In Force)	FTA/RTA (Status other than "In Force")
Brunei Darussalam	Brunei Darussalam – Japan; Trans-Pacific Strategic Economic Partnership	
Cambodia		Cambodia – China; Cambodia – Republic of Korea
Indonesia	Indonesia – Chile CEPA; Indonesia – Pakistan PTA; Indonesia – Japan EPA; Indonesia – Australia CEPA; Indonesia Palestine Trade Facilitation for Certain Products.	Indonesia – EFTA CEPA; Indonesia – EU CEPA; Indonesia – Mozambique PTA; Indonesia – Korea CEPA; Indonesia – Turkey CEPA; Indonesia – Pakistan TIGA; Indonesia – Bangladesh PTA; Indonesia – Tunisia PTA; Indonesia – Iran PTA; Indonesia – Mauritius PTA; Indonesia – Morocco PTA.
Lao PDR	Asia Pacific Trade Agreement (APTA); Asia Pacific Trade Agreement (APTA) - Accession of China	
Malaysia	Turkey – Malaysia; Malaysia – Australia; Chile – Malaysia; India – Malaysia; New Zealand – Malaysia; Pakistan – Malaysia; Japan – Malaysia	EU – Malaysia
Myanmar	N.A.	
Philippines	EFTA – Philippines; Japan – Philippines; Protocol on Trade Negotiations (PTN)	Philippines – EU; Philippines – Korea
Singapore	EU – Singapore; Turkey – Singapore; Singapore – Taiwan (Agreement between Singapore and the Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu on Economic Partnership (ASTEP)); Gulf Cooperation Council (GCC) – Singapore; Costa Rica – Singapore; Peru – Singapore; China – Singapore; Panama – Singapore; Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); Trans-Pacific Strategic Economic Partnership; Republic of Korea – Singapore; Jordan – Singapore; India – Singapore; United States – Singapore; Singapore – Australia; EFTA – Singapore; Japan – Singapore; New Zealand – Singapore; Sri Lanka – Singapore; United Kingdom – Singapore	Ukraine – Singapore; Canada – Singapore
Thailand	Chile – Thailand; Japan – Thailand; Thailand – New Zealand; Thailand – Australia; Thailand – India (Early Harvest Scheme); Thailand – Peru (Early Harvest Scheme)	EU – Thailand
Viet Nam	Eurasian Economic Union (EAEU) – Viet Nam; Republic of Korea – Viet Nam; Chile – Viet Nam; Japan – Viet Nam, Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); EU – Viet Nam, United Kingdom – Viet Nam Free Trade Agreement; Global System of Trade Preferences amongst Developing Countries (GSTP)	EFTA – Viet Nam

Note: Status refers to the classification provided in the WTO RTA database, except for Cambodia-China and Cambodia-Korea which were not recorded in WTO RTA database as of March 2021. Status other than "In Force" means those FTAs/RTAs which may be under negotiations, concluded, or signed.Source: Authors' compilation from WTO database.

Source: Authors' compilation from WTO database.

In addition, individual AMS have signed as many as 62 bilateral trade agreements with non-regional partners. Likewise, many AMS are also involved in so-called mega RTAs such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). Table 3-1 shows the list of bilateral and multilateral FTAs involving AMS with non-ASEAN countries recently signed or already in force. The many intra-regional trade agreements that AMS are engaged in makes it challenging to isolate the effect of ATIGA.

B. Trade diversion and trade creation

Theoretically, preferential trade agreements (PTAs)[1] such as ATIGA can lead to trade creation (PTA members expand trade) and trade diversion (PTA members trade with each other at the expense of non-PTA countries). Trade creation takes place when the removal of trade barriers allows greater specialisation according to comparative advantage, lowering prices so that trade can expand. So firms in one AMS could profitably export goods to another AMS due to the lowering of tariffs by ATIGA. Trade diversion occurs when demand shifts from a lower cost producer outside the PTA to one inside the PTA because of the preferential tariff. In other words, due to ATIGA firms within ASEAN gain a cost advantage due to lower tariffs as compared to firms outside ASEAN, and thus start trading in goods that were previously imported from outside ASEAN.

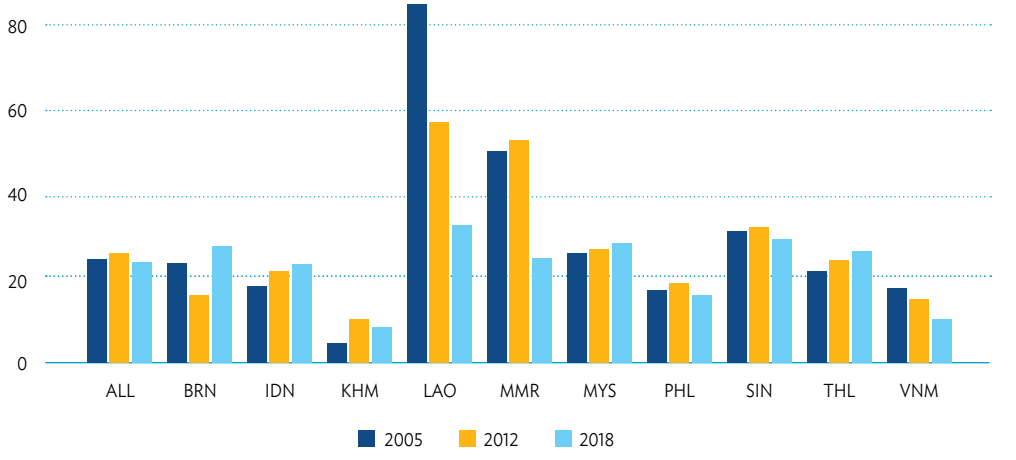
Studies of the trade diversion and trade creation impact of PTAs have been yielding inconclusive results. While most economists had shown that PTAs are effective in promoting trade between their member states, PTAs' effect on the trade diversion has been producing mixed result. An example of the success of an FTA in creating trade within its members is the establishment of European Union (EU) that has maintained intra-EU exports and imports above 60% as a proportion of their trade with the world from 2001–2019 and the establishment of the North America Free Trade Agreement (NAFTA) that has helped the region to maintain intra-NAFTA trade at around 50% of their total trade. While the basic data on trade creation is easier to find, the trade diversion effect is not as straightforward as both the EU and NAFTA countries are increasing their trade with Asian countries within the same period without having any formal FTAs.

In the case of ASEAN, there is strong growth in trade between AMS. Imports from within ASEAN has seen double digit annual average growth in Cambodia, Lao PDR, Myanmar, and the Philippines between 2012 and 2018 in nominal terms, while Viet Nam's imports grew by 5% per year on average. Likewise, export volumes to ASEAN increased by 8% per year from Cambodia, 10% from Lao PDR, and over 4% from Viet Nam. Other AMS have seen slow or even declining imports and exports with other AMS. Even then, their trade with Cambodia, Lao PDR, Myanmar, and Viet Nam have been rising quite fast. In fact, CLMV's share in intra-ASEAN exports increased from 7% to 9% between 2012 and 2018, while their share in intra-ASEAN imports expanded from 10% to 16% over the same period. The emergence of these four countries has been one of the most important features of ASEAN's recent growth experience.

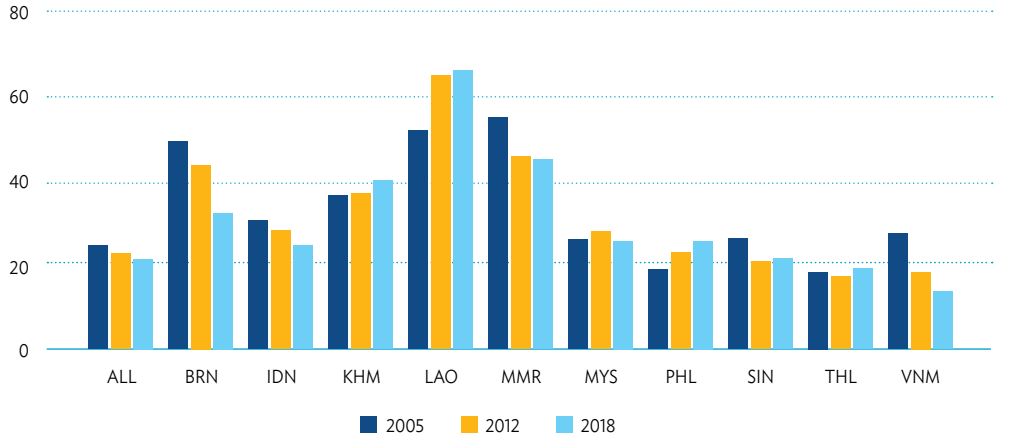
[1] Various descriptors of trade agreements between two or more countries include Free trade agreement (FTA), regional trade agreements (RTA), and preferential trade agreements (PTA). These terms are used interchangeably in this report.

However, the overall share of ASEAN in imports have not changed significantly in the past 13 years since 2005 and consistently stayed just above 20%. FIGURE 3-1 displays ASEAN's share in AMS imports and exports for the years 2005, 2012, and 2018. Amongst individual AMS, Brunei, Indonesia, and Viet Nam have seen significant decline whereas Cambodia, Lao PDR, and the Philippines have seen an increase in the ASEAN share of their imports. In 2018, the highest share was for Cambodia, Lao PDR, and Myanmar at above 40%; the rest of the AMS had shares between 20% and 30% except Viet Nam with a share below 20%. On the export side, there was actually a dramatic decline in ASEAN share of exports for Cambodia, Lao PDR, Myanmar, and Viet Nam between 2005 and 2018. A lot of factors go into the determination of ASEAN's share, including AMS' trade with non-ASEAN partners. Increasing openness of AMS on a multilateral basis and increased sophistication of their product demand due to economic growth means that trade with external partners is likely to grow faster than trade within ASEAN.

Table 3-1. ASEAN share in trade of AMS



(a) Exports



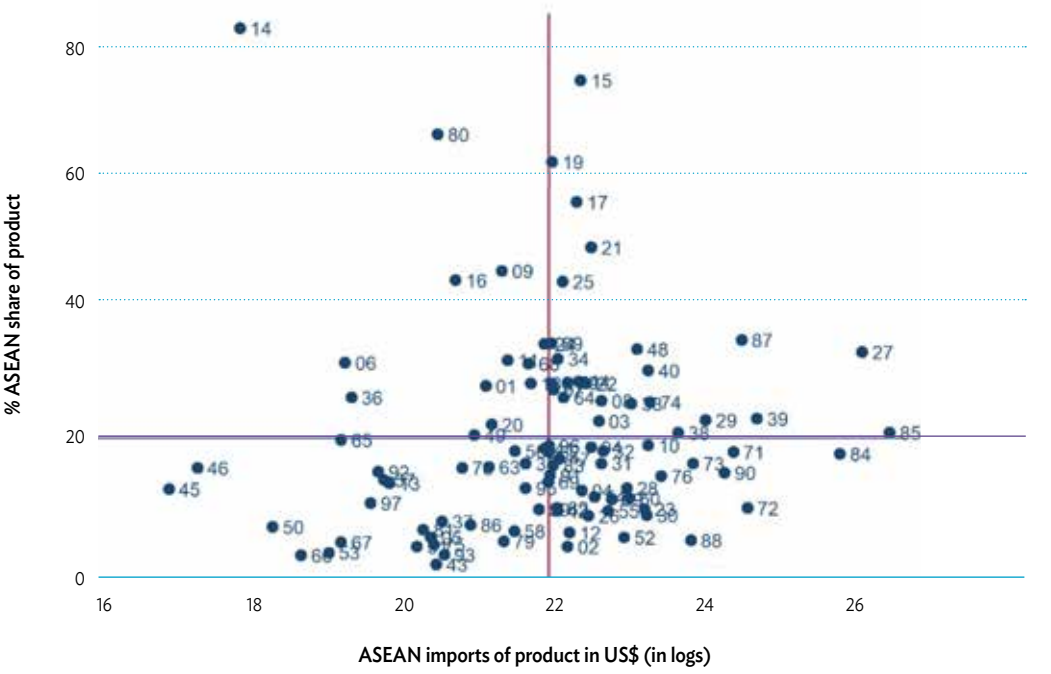
(b) Imports

Source: Authors' compilation from ASEANStats data.

Trade creation and diversion mostly occurs through the tariff advantage conferred by the FTA to its members, called the margin of preference (MOP). But in presence of multiple FTAs, the actual MOP of ATIGA may be quite low for many product lines. To complicate matters further, not only are AMS involved in multiple RTAs, many RTAs involving AMS overlap, such that firms based in AMS have a choice between using MFN, ATIGA or one of the Plus One FTAs when importing from another AMS. Hayakawa et al. (2018) noted that as many as seven RTA regimes are available for Thai importers looking to trade within ASEAN. Firms can thus optimise based on their individual circumstances (especially fulfilling the requirements of the rules of origin) and may use regimes other than ATIGA for trading. Therefore, the determinant of trade flows of AMS reverts to the 'fundamental' cost advantage conferred by productivity, competitiveness, efficient logistics, behind-the-border costs, etc. This is not to say that ATIGA is not beneficial, but that it is one of the many factors that determine intra-ASEAN trade.

Another reason for the low overall ASEAN share is AMS' comparative advantage in primary products which tend to have lower trade volumes relative to imports from non-ASEAN sources. This is illustrated in FIGURE 3-2 which shows the position of each HS 2-digit product along two dimensions – the product's total imports on the horizontal axis (expressed in logarithm scale) and the ASEAN share of the product, which is the total imports of the product that come from within ASEAN, on the vertical axis. We find that products with the highest ASEAN share (those clustered towards the top of the graph) tend to have mid-level import volumes (the red vertical line represents average trade volume across products). In fact, the product with the highest ASEAN share (HS Chapter 14) had one of the lowest import volumes in 2018.

Figure 3-2. Correlation between import share of product and ASEAN share

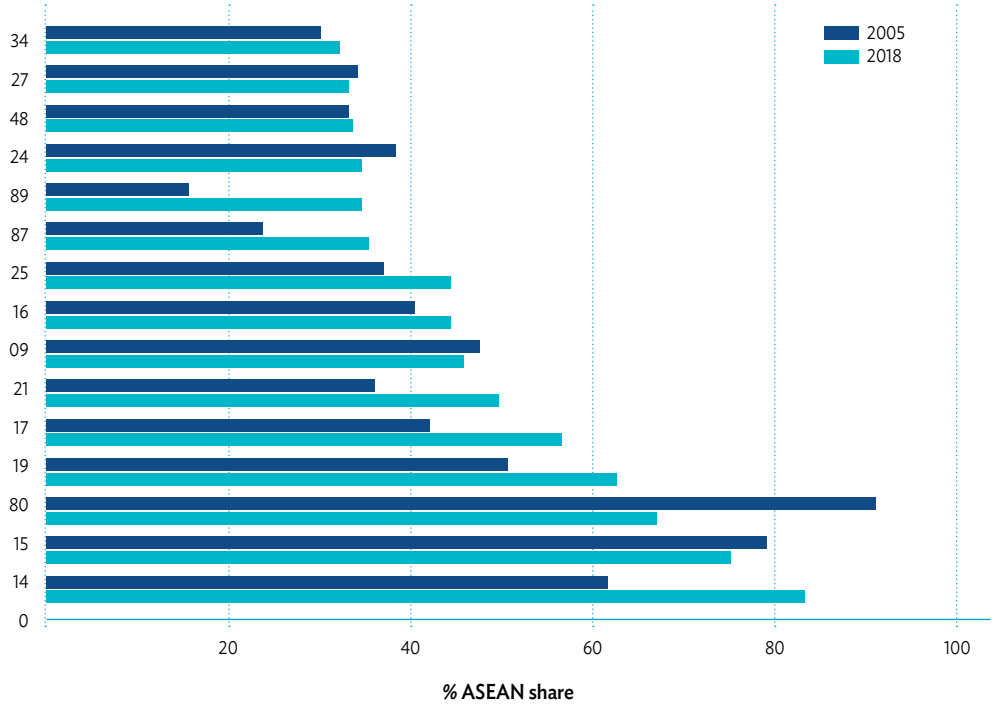


Note: Data is for 2018.

Source: Authors' calculation from ASEANStats data.

When viewed at a more disaggregated level, it is clear that the strength of intra-ASEAN trade has been in processed agriculture for a long time. FIGURE 3-3 depicts the top fifteen HS 2-digit chapters by ASEAN share in 2018, aggregated across all AMS' imports, and examines their 2005 and 2018 ASEAN shares. Seven of the ten chapters are processed agriculture products, and many of these products have seen an increase in ASEAN share since 2005. The non-agricultural products that appear on this list are Chapter 80 (tins and articles thereof); Chapter 87 (vehicles); and Chapter 89 (ships). In fact, the ASEAN share in vehicles trade increased from 23% in 2005 to just under 37% in 2018, which is a strong indication of the important role of international production linkages in ASEAN's economic integration. Thus, the aggregate ASEAN share is not a good metric for assessing intra-ASEAN integration. We need a more nuanced analysis of trade patterns at a more disaggregated level to fully understand the success of the ASEAN integration agenda through ATIGA and other initiatives.

Figure 3-3. HS chapters with highest ASEAN share in imports in 2018



Note: The HS chapters are: 09 Coffee, tea, mate and spices; 14 Vegetable plaiting materials; vegetable products not elsewhere specified or included; 15 Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes; 16 – Meat, fish or crustaceans, molluscs or other aquatic invertebrates; preparations thereof; 17 – Sugars and sugar confectionery; 19 – Preparations of cereals, flour, starch or milk; pastrycooks' products; 21 – Miscellaneous edible preparations; 24 – Tobacco and manufactured tobacco substitutes; 25 – Salt; sulphur; earths, stone; plastering materials, lime and cement; 27 – Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes; 34 – Soap, organic surface-active agents; washing, lubricating, polishing or scouring preparations; artificial or prepared waxes, candles and similar articles, modelling pastes, dental waxes and dental preparations with a basis of plaster; 48 – Paper and paperboard; articles of paper pulp, of paper or paperboard; 80 – Tin; articles thereof; 87 – Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof; 89 – Ships, boats and floating structures.

Source: Authors' calculation from ASEANStats data.

C. Method of analysis

Policymakers and academics alike are interested in better understanding the impact of an FTA, and a number of analyses have been conducted, including those of CEPT and ATIGA. Three major methodologies are utilised for such analysis, each with their strengths and weaknesses. These include computable general equilibrium (CGE) models, the gravity model, and analyses of data on FTA utilisation. CGE is a simulation analysis of how various scenarios, including tariff reductions due to FTA implementation, change economic outcomes. CGE models can estimate both direct and indirect impacts of an FTA on various aspects of the economy, including trade volumes and economic welfare. In a CGE model, implementation of an FTA is typically measured by tariff reduction/elimination (Plummer, Cheong, and Hamanaka, 2010; Okabe and Urata, 2013; Menon, 2013, 2014). If most of the impact of ATIGA on trade flows is indirect and operates

through changes in extra-regional rather than intra-regional flows, then a CGE model that capture such interdependencies would be appropriate.

While CGE uses simulation approach, gravity model applies statistical model to real world trade data to investigate the impact of FTA membership. In a gravity approach, trade flow between two FTA members is compared with other pairs of countries in the same sector/product category to determine whether membership of FTA stimulates trade. An indicator variable is added to the basic model specification to capture the effects of an FTA on trade flows (Plummer, Cheong, and Hamanaka, 2010; Trotignon, 2010). However, there is great variation in specification, estimation method, data, and other aspects, and care should be taken to ensure that these issues address the particular question being investigated.

Finally, analysis of FTA utilisation can reveal to which extent the tariff provision of a FTA is being used by traders. FTA utilisation is calculated as the percentage of an FTA partner's imports from other FTA partners that was imported under the FTA regime. Although FTA utilisation analyses may not be particularly relevant when tariff lines have a MOP of zero, there are still some heavily traded products where MOPs are quite high. For these products, understanding issues affecting FTA utilisation may complement other approaches, and provide a better overall picture of the impact of ATIGA on these products or sectors.

CGE Model

What do existing studies say about the impact of ATIGA? Previous analyses of AFTA/ATIGA using the CGE approach has shown a small impact of the agreement. One of the earliest studies to use CGE modelling to analyse the impacts of ASEAN trade integration was DeRosa (1995). The model accounted for the elimination of both tariff and non-tariff barriers in Indonesia, Malaysia, the Philippines, Singapore, Thailand, and their major trading partners. DeRosa's analysis revealed that AFTA would only result in small improvements in economic welfare in the five ASEAN countries. Moreover, although there would be a small gain in intra-ASEAN trade, the gains from an alternative policy of unconditional MFN liberalisation would be more than three times larger.

More recent studies have used CGE models to estimate the impacts of the ASEAN Economic Community (AEC), and ASEAN's integration with its '+1' partners (Francois and Wignaraja, 2008; Kawai and Wignaraja, 2011; Lee and Plummer, 2011; Estrada et al., 2011). Two common findings of these studies are that the aggregate welfare benefits of ASEAN's FTAs would be significantly larger (i) if they involve more trading partners and (ii) if tariff reductions are complemented by measures to reduce non-tariff barriers

and other trade costs, as well as increased competition and improved infrastructure (for a fuller review of the CGE literature on ASEAN FTAs, see Estrada et al., 2011).

While CGE models can assess the net welfare effect of FTAs, it is subject to several limitations which make them primarily useful only for ex-ante analysis (Plummer, Cheong, and Hamanaka, 2010; Kohpaiboon and Jongwanich, 2015). More robust analytical results can be obtained from studies using ex-post methodologies that rely on real-word data. Given that the ATIGA have been in effect for some time, this study focuses primarily on ex-post analysis using gravity model and exploration of trade data, including FTA utilisation.

Gravity estimation

The gravity model is a workhorse model for empirical analysis of international trade and uses data on actual trade flows between trade partners. The unit of analysis is bilateral trade partners, and an indicator variable denotes whether the trade partners were members of an FTA. The gravity model can be used to estimate what would have happened in a counterfactual scenario where there had been no FTA. However, the estimated effect of an FTA is largely dependent on data quality and specification of the gravity model related to omitted variables or measurement error (Plummer, Cheong, and Hamanaka, 2010). Notwithstanding the limitations, the gravity model remains the most appropriate tool to analyse the impact of ATIGA on intra-ASEAN trade.

Wang and Winters (1992) and DeRosa (2008) used this approach to investigate the impact of membership in several regional FTAs. Their results reveal that not only did AFTA have a positive and significant impact on intra-ASEAN trade flows, it was also one of the most effective regional groupings amongst those covered in the studies. In studies using a single regional dummy variable, the resulting coefficient would only estimate the FTA's effect on total trade flows, but not indicate whether this effect is due to pure trade creation, trade diversion, or both. To separate these effects, the model specification would need to include additional dummies to test trade between AFTA and non-AFTA members (Plummer, Cheong, and Hamanaka, 2010; Trotignon, 2010). A number of recent studies have extended the specification to include three dummy variables that simultaneously test the effects of FTAs on intra-bloc trade, extra-bloc exports and extra-bloc imports, following Trotignon (2010). Per Trotignon's typology, an FTA remains a building block for wider trade liberalisation if it creates more trade than it diverts (Guilhot, 2010).

Elliot and Ikemoto (2003) used a modified gravity equation to examine intra- and extra-ASEAN trade before and after the signing of AFTA, from 1982 to 1999. Their findings

revealed that both types of trade flows were not significantly affected in the years immediately following the signing of AFTA. In the long term, AFTA actually increased both intra- and extra-ASEAN trade, given ASEAN's continued openness to external partners.

Guilhot (2010) used a panel-data gravity model with three dummy variables over the period 1985–2007 to assess the impact on intra-regional and extra-regional trade of AFTA and ASEAN's FTAs with China and the Republic of Korea. The results indicate that AFTA stimulated trade amongst member countries, but that its impact on trade with the rest of the world varies according the type of trade flow: it is positive in the case of exports and negative in the case of imports. However, the absolute values of the coefficients show that the creation of exports to the rest of the world outweigh the diversion of extra-regional imports. Therefore, the overall impact of the AFTA on multilateral trade is still positive. Similar results were obtained by Wong, Liew, and Arip (2017) in a study investigating the effects of AFTA on the bilateral manufacturing trade between ASEAN-10 and 39 of their trading partners. Their results suggest that AFTA has generated pure trade creation effects in terms of exports, while its trade creation effects in imports outweighs it import diversion effects.

Gravity models that use an FTA dummy to study the impact of FTAs tend to suffer from a couple of limitations. First, the effect of the FTA is assumed to take place as soon as the agreement is signed. In reality, however, AFTA's liberalisation follows a phased and gradual approach, with liberalisation commitments pushed back in the case of sensitive products. There are also significant differences in liberalisation schedules across countries (Kohpaiboon and Jongwanich, 2015; Okabe and Urata 2013). The second and even bigger limitation is that they fail to fully capture the impacts of tariff preferences, with the exception of a handful of studies.

Manchin and Pelkmans-Balaoing (2007, 2008), included fifteen variables in their regression to capture the importance of preference margins on trade flows in ASEAN. Their results reveal that the preference margin only seem to matter when it reaches at least 25 percentage points. The authors reckon that at lower margins, the costs of requesting the preferences and the complying with the rules of origin (ROO) outweigh the benefits obtained from preferential treatment. However, their analysis also reveals that the significance of preferences seems to weaken at very high differential margins. The authors suggest that this could be due either to the presence of non-tariff measures, or the tendency of ASEAN members to offer high preferences on products that have little relevance to ASEAN trade.

By contrast, a more recent analysis by Okabe and Urata (2013) using preferential margins found that AFTA has had positive and significant trade creation across a wide range of

products. Out of 53 products, positive and significant coefficients were found in 39 products in the case of imports, and 35 products in the case of exports. Their analysis also revealed that the elasticity of tariff reduction on imports tends to be much larger than that on exports, likely due to differences in the time it takes for supply and demand to adjust to price changes. Although their results show that AFTA has been successful in promoting intra-ASEAN trade, the authors emphasise that further expansion may be achieved by increasing the use of AFTA and by pursuing efforts to reduce non-tariff barriers and harmonise or mutually recognise product standards.

Despite the use of actual tariff data in the aforementioned studies, they still rely on normal intra-regional trade flows and assume full utilisation of preferences, in the absence of extensive data on actual preference utilisation rates (Menon, 2013 and 2014; Manchin and Pelkmans-Balaoing, 2007 and 2008). If actual preference rates were used, the impact of AFTA on intra-ASEAN trade flows are likely to be more muted. Despite the growing evidence on low preference utilisation rates, very few studies have actually factored in more realistic preference rate estimates into model specifications.

FTA utilisation

A direct and apparently obvious way to understand the impact of FTA is to examine its utilisation. In the trading process, qualified traders can avail themselves of preferential tariff rates during customs clearance, which results in FTA utilisation. To a certain extent, analysing FTA utilisation would overcome the so-called 'attribution problem' i.e. being reasonably confident that a given trade would not have taken place had preferential tariffs not been provided by the trade agreement. This is exactly the question we are trying to answer in assessing the trade impact of ATIGA. Unfortunately, analysing FTA utilisation does not fully overcome the attribution problem. This is because there is no definitive way of determining that such trade would not have occurred anyway. This is because we cannot observe what would have happened if there had been no trade agreement in place (the 'counterfactual' scenario). Nevertheless, utilisation rates can provide a strong basis to suggest that an FTA is promoting trade, especially if they are accompanied by increases in intra-regional trade shares over time.

Therefore, the next question that we need to address relates to the factors that affect a firm's decision to use an FTA. The main factor affecting FTA utilisation is arguably the margin of preference (MOP) – the difference between the preferential rate for FTA members and the applied MFN rate. The MOP is only half the story, however, as it needs to be compared with the costs of compliance. These include all the costs associated with utilising the FTA, ranging from preparation of documentation to complying with the rules

of origin (ROO). Previous studies have found that other factors such as importer's border efficiency and size of demand also explains FTA utilisation. Studies also found that FTA is used mostly in the case of large transaction volumes, which confers a large absolute advantage even with a small MOP (Hayakawa et al., 2018). Thus, the use of FTAs is likely to be concentrated in few products. To a large extent, the question of whether FTAs lead to increased trade will depend on the relative costs and benefits of compliance.

The higher the MOP for a particular product or tariff line, the greater the likelihood that the FTA will result in a change in trade patterns and volumes, shifting sources of supply from outside the region to countries within the FTA. The MOP has to be sufficiently high to make it profitable to switch sources, based on the difference in landed, duty-paid prices of imports from within and outside the FTA bloc. The higher the MOP, the higher the likelihood of trade diversion. In a 2009 JETRO survey of Japanese firms in ASEAN, the majority of firms indicated that a preference margin of at least 3% will be necessary to utilise an FTA, with a substantial number of firms indicating that a 10% margin will be necessary. So, if the MOP is high enough to justify a switch in import sources, then any excess beyond this threshold will increase the benefit to exporters of utilising the FTA, holding costs of doing so constant. In the next sections, we discuss the MOP of ATIGA tariffs vis-à-vis MFN tariffs in detail.

We turn next to discussing the issue cost of compliance. Some researchers have attempted to quantify the cost of compliance and express it in terms of equivalent tariff rates. A review of the literature on the costs of FTA utilisation by Hayakawa, Laksanapanyakul, and Urata (2015) showed that the tariff equivalent costs of using FTAs are estimated to range from 3%–4.5%. Kohpaiboon (2010) estimated the cost of complying with ROO as equivalent to a tariff in the range of 2% to 10%. Cadot and Ing (2016), on the other hand, estimated that these ROO impose costs equivalent to a tariff of around 3.4% on all goods, and the equivalent of a trade-weighted average tariff of 2.09%. They also found that restrictiveness differs from sector to sector, and tends to be highest in sectors like fats, leather products, textile and apparel, footwear, and automobiles.

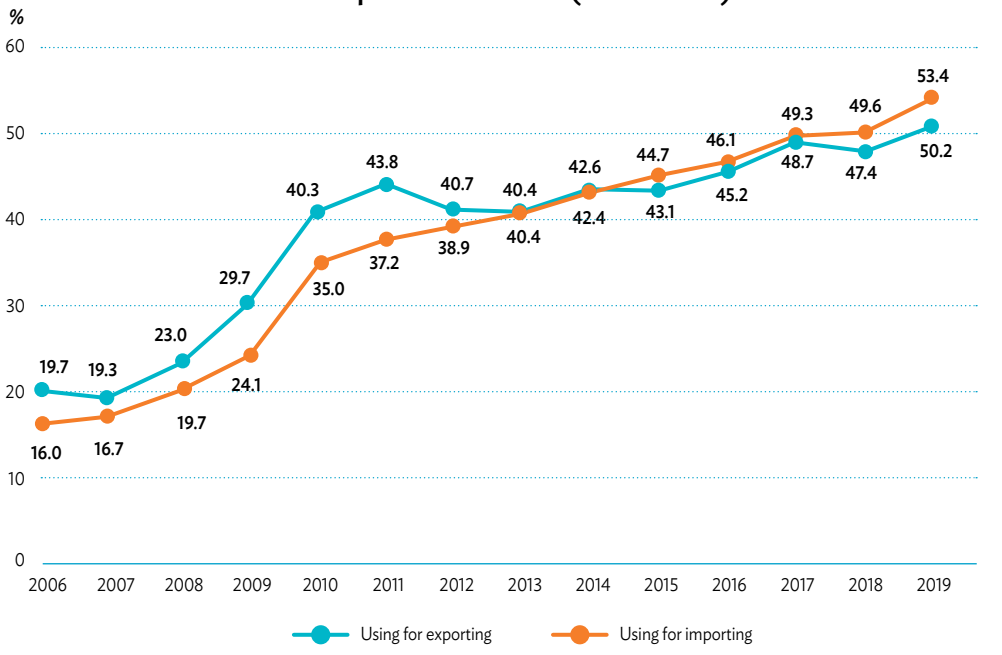
In short, the costs of compliance are certainly non-negligible and can be quite significant depending on the sector. Thus, even with positive MOP, FTA utilisation may be low in presence of these costs. This suggests that a lot more work needs to be done to have a more trade facilitative ROO and simplify documentation requirements to reduce compliance costs. Apart from the complexity of ROOs, surveys reveal other factors such as the lack of information and limited internal expertise also impede their use by raising costs (Hayakawa et al., 2015; Kawai and Wignaraja, 2011; Kohpaiboon and Jongwanich, 2015).

What do we know about utilisation of ASEAN FTAs by firms? Using either firm-level surveys or shipment level customs data, a number of studies shows that preference rate utilisation by ASEAN countries used to be generally low by international standards, with a large divergence across trading partners. Baldwin (2007) cited data from the late 1990s which revealed low utilisation of AFTA preferences, with less than 3% of intra-ASEAN trade benefiting from the same. Kawai and Wignaraja's survey of preference usage by firms across a selected number of ASEAN countries and East Asian trading partners revealed that FTA preference utilisation ranges from a low of 17% in Singapore to a high of 45% in China. Analysis by Kohpaiboon (2010) covering Thailand's exports showed utilisation rates ranging from 22.7% to 62.5%. Low preference utilisation rates have been attributed to a number of factors, including low margins of preferences, high administrative costs, complex RoO, and insufficient information about preferences (Yi, 2015; Hayakawa et al., 2013; Kawai and Wignaraja, 2011; Athukorala and Kohpaiboon, 2011).

Research by Kohpaiboon and Jongwanich (2015) on the use of FTAs in Thailand found that certificate of origin records have significantly increased; however, their value remains less than one-third of total trade. The analysis also reveals that goods traded under preferential rates are highly concentrated in a few products, namely vehicles and auto parts, electrical appliances, petrochemical products, and processed foods. Consistent with Manchin and Pelkmans-Balaoing (2007, 2008), the authors found that products traded under preferential rates tend to have high MOPs, suggesting the presence of significant utilisation costs to firms. Moreover, they found that firms availing of preferences are generally large in size, a result that is also reported in Hayakawa et al. (2013) and Kawai and Wignaraja (2011).

For more recent analysis, one of the most consistent sources of FTA utilisation data is the survey done by JETRO of Japanese affiliates in ASEAN. The share of firms that reported utilising at least one FTA/EPA for imports and exports are reproduced in FIGURE 3-4. The figure shows that the trend rose steadily between 2011 and 2019. For example, while 35% of Japanese affiliates were utilising FTA for importing in 2010, 53% of the firms were doing so in 2019. However, not all Japanese companies in ASEAN may be utilising ATIGA, especially when they source their inputs from outside the ASEAN region.

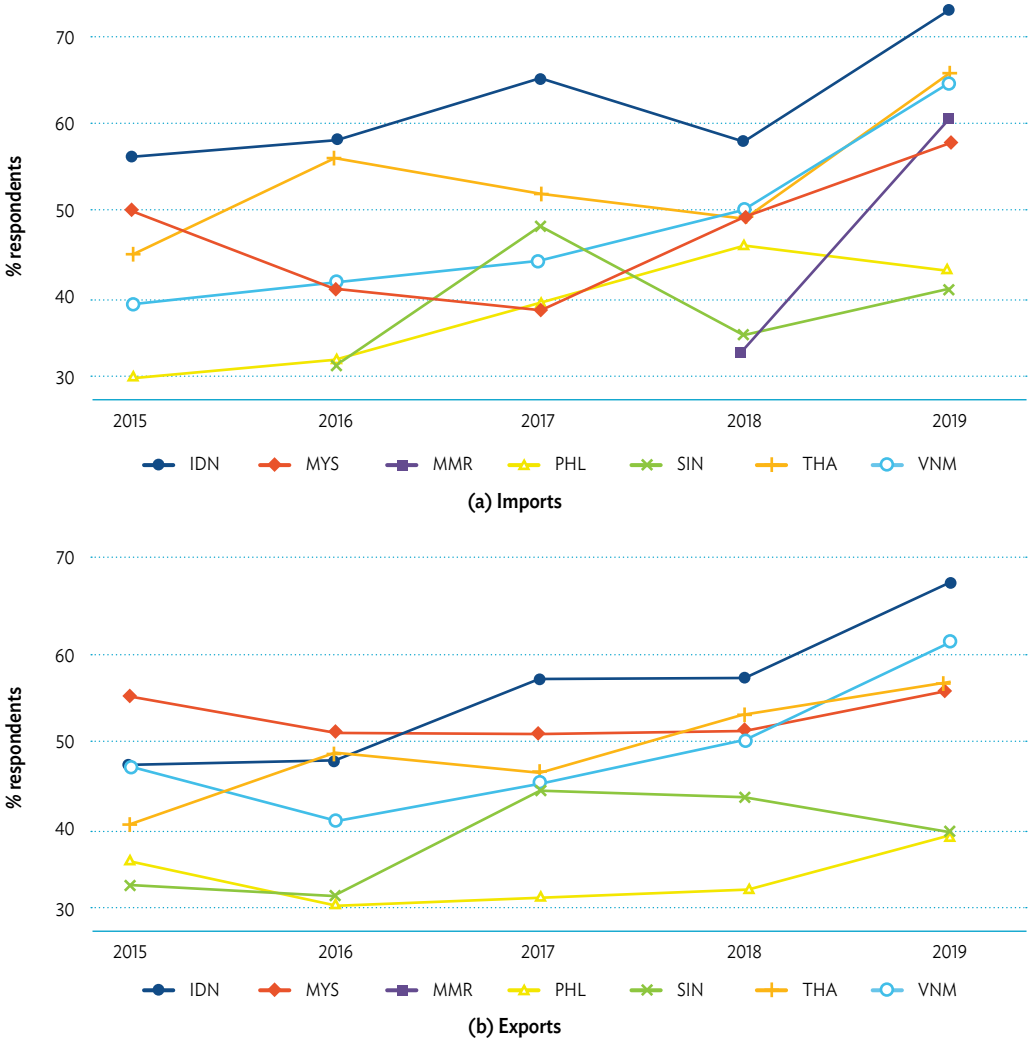
Figure 3-4. Trends in FTA/EPA utilisation by Japanese-affiliated companies in ASEAN (2006–2019).



Source: JETRO Report, p.64 (https://www.jetro.go.jp/ext_images/en/reports/survey/pdf/rp_firms_asia_oceania2019.pdf)

For more recent years, JETRO also collected information on FTA utilisation by affiliates based in individual AMS that import or export within ASEAN. The trend in FTA utilisation by Japanese affiliates for imports from ASEAN between 2015 and 2019 is shown in FIGURE 3-5. If we just focus on Japanese-affiliated countries importing or exporting within ASEAN, the share of companies that utilise FTA is usually above 50%, except for firms based in Singapore and the Philippines. At 70%, firms based in Indonesia are most likely to report FTA use for both imports and exports within ASEAN. The survey also revealed an upward trend in FTA utilisation for trade within ASEAN. A strong upward trend is also observed amongst companies based in Viet Nam, where FTA utilisation for imports increased from below 40% to almost 65%. Likewise, 44% of Japanese-affiliated firms based in Thailand had used an FTA when importing from ASEAN in 2015, but this share had increased to above 66% by 2019. Firms based in Myanmar also reported a sudden jump in FTA use for imports between 2018 and 2019. However, it should be noted that this information is only indicative of actual utilisation rates because we do not know the share of total trade that is conducted under FTAs.

Figure 3-5. Percentage of Japanese-affiliated firms based in AMS that utilise FTA/RTA for trade from within ASEAN.



Source: Authors' illustration from JETRO data.

Another caveat in the above discussion is that it is unclear which FTA is being used. As mentioned above, ASEAN firms have a choice of multiple FTA regimes. Nonetheless, other studies have found a high popularity of ATIGA for intra-ASEAN imports. A survey of manufacturing firms carried out by the Economic Research Institute for ASEAN and East Asia found that 32.5% of manufacturing firms in ASEAN used ATIGA for exports in 2013 (Ing et al., 2015). In another study using transactions level customs data for Thai imports from other AMS in 2014, Hayakawa et al. (2018) reported ATIGA to be by far the most popular regime choice after MFN. Out of 2 million transactions recorded in their data, almost 0.5 million transactions (23%) used ATIGA. In terms of import value,

ATIGA's share is even larger, accounting for B210 billion out of total imports of B676 billion. This gives us some confidence that the rising trend in use of FTA by Japanese affiliates based in ASEAN is most likely due to increased use of ATIGA.

Some studies have tried to include FTA utilisation when estimating the impact of FTA using CGE and gravity models. Amongst CGE-based studies, Menon (2013 and 2014) assumed a more realistic utilisation rate of 25% and then compares impacts under various scenarios. These scenarios consider and contrast both complete (Scenario 1, or S1) and incomplete (25%) utilisation (S2); multilateralisation of preferences by members (S3); an attempt at moving towards a global optimum by linking with a rest-of-the-world (ROW) FTA, but again with complete (S4) and incomplete (S5) utilisation; and finally a global free trade scenario (S6), which could be achieved by all countries pursuing multilateralisation of preferences. His findings showed that actual (incomplete) utilisation rates significantly diminish the benefits from preferential liberalisation, but in a nonlinear way. In general, when members extend their preferential reductions to non-members on a non-discriminatory basis, welfare is enhanced because of three primary effects: (i) the extent of the liberalisation is greater, (ii) the broader liberalisation undoes the welfare-reducing trade diversion resulting from the preferential liberalisation, and (iii) the increase in productivity from more efficient allocation of scarce resources within each member country across its industries.

As for gravity equation-based studies, Jongwattanakul's (2014) study on the impact of Thailand's FTAs included actual tariff margins as well as an estimate of costs associated with RoO. His analysis confirms a difference in the results obtained from using the adjusted tariff margin versus the binary FTA dummy variable, confirming that the latter tends to overestimate the trade-enhancing effects of FTAs. The disaggregation of products into manufacturing and machinery and transport equipment (SITC 7) by Jongwattanakul (2014) also confirmed that products under production networks dominated by parts and components are less likely to utilise preferences due to already minimal tariff margins.

In assessing whether ATIGA has affected trade flows, it is important to go beyond a simple comparison of MOPs and compliance costs, or indeed just an analysis of FTA utilisation rates. We need to look more closely at what is driving these outcomes, and the factors underlying the changes in MOPs in particular. Data shared by the AMS on import values under FTA and import values under MFN, as well as data from the ASEAN Statistics allows us to present the most accurate and up-to-date analysis of FTA utilisation under ATIGA.