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Malaysia, Taiwan and CPTPP: Economic Impact Assessment



Introduction

Malaysia and Taiwan have a deep economic relationship – encompassing trade, investment, industrial collaboration and people to people ties. However, a number of trade barriers remain in place due to the absence of a Free Trade Agreement (FTA) between the two countries.

Malaysia has signed the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) but at the time of writing, the Malaysian Government has made no final decision on whether to ratify and implement the agreement. Taiwan is not currently a member of CPTPP but has formally expressed its interest to join. In the event that both Malaysia and Taiwan become full members of CPTPP, then trade barriers between the two countries will fall. In this report, we consider the impact this would have on the Malaysian economy in terms of trade, investment and industrial collaboration.



This report draws on analysis undertaken by the IDEAS research team, focus group discussions (FGDs) held with industry representatives and econometric modelling undertaken jointly with



researchers at the European Centre for International Political Economy (ECIPE).

This report consists of five Parts:

- **Part 1** assesses the existing economic relationship between Malaysia and Taiwan;
- **Part 2** assesses the provisions within the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), in the context of the existing trade barriers between Malaysia and Taiwan;
- **Part 3** assesses the impact of Taiwan joining CPTPP by analysing the trade structure between Malaysia and Taiwan and how this could be impacted by membership of CPTPP;
- **Part 4** estimates the aggregate impact of Taiwan joining CPTPP using CGE methodology; and
- **Part 5** provides a deep-dive assessment of the impact of Taiwan joining CPTPP on Malaysia's efforts to embrace the Fourth Industrial Revolution.

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Executive Summary

Malaysia and Taiwan enjoy a strong economic relationship. However, the lack of any preferential trading agreement means that a number of barriers to trade and investment persist, including tariff and non-tariff barriers. The Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) is an ambitious regional preferential trade agreement which includes Malaysia and 10 other Members across Asia Pacific and Latin America, specifically: Australia, Brunei Darussalam, Canada, Chile, Japan, Mexico, New Zealand, Peru, Singapore and Vietnam. Taiwan's inclusion as a Member of CPTPP would substantially liberalise trade between Taiwan and CPTPP Members, including Malaysia. Among CPTPP Members, Taiwan would become one of, if not the most, attractive for trade liberalisation from Malaysia's perspective given the developed nature of the relationship and the ongoing existence of conventional trade barriers, such as tariffs. Thus, if Taiwan joined CPTPP, this would significantly add to the economic benefits of the agreement from Malaysia's perspective.

Malaysia and Taiwan not only share a trade and investment relationship but deep underlying

industrial collaboration, which has helped Malaysia's economic development. There is evidence to suggest that this industrial collaboration could be further improved if trade were liberalised and this would boost Malaysia's industrial development, particularly in key sectors for the Fourth Industrial Revolution (4IR), including electronics, machinery and chemicals. Taiwan's membership of CPTPP would liberalise trade in these industries, incentivising further investment of Taiwanese firms in Malaysia as a result of access to lower cost inputs. This increased investment would support and encourage Malaysia's own efforts to upgrade and innovate in line with its 4IR adoption strategy.

Reflecting these dynamics, we estimate that membership of CPTPP would boost Malaysia's GDP by 1% of GDP, with positive impacts for trade and employment. We estimate that Taiwan's membership would further extend all of these benefits and with net positive increases to output, trade and employment.



We estimate that ratification of CPTPP would increase Malaysia's exports by over RM16 billion and imports by over RM28 billion, as tariff and other trade barriers reduce.



Taiwan's membership of CPTPP would further increase exports and imports by nearly RM3 billion and over RM4 billion respectively, as the costs of trade reduce – tariffs on Taiwanese imports would reduce by RM1.5 billion each year.



This expansion in trade would be net positive for the Malaysia economy. We estimate that ratification of CPTPP would boost Malaysia's GDP by over RM14 billion and create 140,000 jobs.



Taiwan's membership of CPTPP would further increase Malaysia's GDP by over RM2 billion and create 20,000 additional jobs.



Taiwan's membership would be beneficial for manufacturing sectors, where Malaysia and Taiwan are already strong partners, and trade liberalisation would be positive for 4IR Focus Sectors, in particular electronics.

Addendum: CPTPP and Covid

The assessment in this report was undertaken prior to the Covid-19 pandemic. This addendum situates the findings of this Report in the context of the economic impact of the pandemic and measures to control the spread of the virus. Ratification of CPTPP and the future membership of Taiwan in CPTPP can help to alleviate the current crisis in a number of ways: i) supporting the economic recovery; ii) enhancing Malaysia's competitiveness in global and regional value chains; and iii) accelerating digitalisation and transition to 4IR.

Supporting the economic recovery

Malaysia experienced a sharp decline in GDP in Q2 2020. Malaysia's economy contracted by 17.1% in Q2 2020, following the unprecedented restrictions to shut down the economy and stop the spread of the virus through the Movement Control Order (MCO). This is the largest contraction in Malaysia's economy since 1998. As a result of the scale of the contraction, Bank Negara Malaysia (BNM) revised its growth forecast for 2020 to -3.5 to -5.5% from -2 to 0.5% previously (Ministry of Finance, 2020).

The contraction in the economy has also increased unemployment. Unemployment rose to 5.3% in May, following the introduction of the MCO. The rate fell to 4.9% in June, as the economy began to reopen but the scale of business closures and hence the number of persons likely to remain unemployed is not yet clear (DOSM, 2020).

The outlook for the global economy raises concerns over Malaysia's recovery. Malaysia's own economic contraction is mirrored by sharp falls in output around the world, including among Malaysia's major export markets. As a small, open,

trade-oriented economy, Malaysia is exposed to conditions in the wider global economy, which are likely to remain challenging. The United Nations Conference on Trade and Development (UNCTAD) estimates that foreign direct investment (FDI) flows to developing Asia will fall by up to 45% in 2020 alone (UNCTAD, 2020).

Fiscal space to stimulate the economy. In response to the unprecedented economic crisis the government has mobilised significant new fiscal resources. As a result, the fiscal deficit is expected to increase to 6% (The Star, 2020). The collapse in the price of oil and the narrow tax base in Malaysia mean that fiscal consolidation will not be simple, meanwhile the ongoing economic disruption will lead to further calls for government to stimulate economic growth.

Ratification of CPTPP is one of few levers available to stimulate growth with no fiscal impact. In this Report, we estimate that ratification of CPTPP would increase Malaysia's GDP by over 1% and increase employment by 0.88%. Although these gains may appear modest in relation to the scale of the economic crisis facing Malaysia, they can be achieved without any additional government spending, at a time when fiscal resources are coming under increasing pressure.

Taiwan's membership of CPTPP would further increase the extent to which CPTPP ratification could aid Malaysia's recovery. We estimate that Taiwan's membership would further boost these economic gains, leading to a further expansion of GDP of over RM 2 billion and the creation of 20,000 new jobs – at a time when economic growth and employment are at a premium.

Value chain diversification

Covid-19 has been a shock to global and regional value chains. The closure of factories in certain parts of the world has resulted in shortages of intermediate parts, along with suspensions of logistics systems, transport networks and in-person work from lockdown measures. The interconnectedness of supply chains has meant that these losses have cumulative effects on industries worldwide, resulting in a collapse in global production. Many firms, particularly those reliant on manufacturing supply chains, have incurred significant losses, some of which could be permanent.

Multi-national firms are considering how to improve resilience in their supply chains. In response to the disruption caused by the pandemic, many multi-national companies are actively exploring options to restructure their supply chains to improve resilience against future shocks. Many Multi-National Corporations (MNCs) have been considering options to reduce supply chain dependence on China in particular. Over the past decade, China has become the epicentre of Global Value Chains (GVCs), with Chinese factories assuming key production processes in industries including electricals, automotive, textiles and pharmaceuticals. As such, the initial outbreak of the virus in China disrupted many supply chains. This has drawn attention to the systemic risk within the current configuration of GVCs, with many MNCs taking a more decisive stance on reducing reliance on the Chinese supply chain ecosystem.

This is accelerating a pre-existing trend to diversify supply chains. This is not the first wave of relocations away from China. Previous stages were sparked by rising Chinese manufacturing wages and costs, followed by the US-China trade war. However, rather than being driven by cost-efficiency, this wave of relocations is motivated by the revelation of underlying systemic issues impacting the resilience

of the value chain ecosystem. The effect of these relocations could be much larger, particularly for recipient countries, as many firms are seeking to complement their core China operations by establishing an alternative manufacturing hub – adopting the so-called China Plus One strategy.

Malaysia is an attractive proposition for MNCs looking to reorganise their supply chains but faces tough competition. Malaysia has succeeded in terms of both Regional Value Chain (RVC) and GVC participation. As such, Malaysia appears to be an attractive relocation destination, enabling MNCs to maintain strong links with both intra- and extra-ASEAN supply chain partners. However, in terms of GVC participation, Vietnam in particular has closed the gap with Malaysia, following a concerted strategy to improve the competitiveness of the Vietnamese economy, including through ratification of CPTPP.

CPTPP membership enhances Malaysia's attractiveness as a hub for value chain activities. Ratification of CPTPP would increase Malaysia's ability to attract value chain activities, as a result of lower tariffs, reduced non-tariff measures and improved customs facilitation and improve Malaysia's competitive position *vis-a-vis* other partners in the region.

Taiwan's membership of CPTPP would further enhance Malaysia's position to act as a hub for high value activities in global and regional value chains. This Report demonstrates that Taiwan is already an important partner for Malaysia in high technology industries. Specifically, the majority of imports from Taiwan comprise of intermediate and capital goods in high technology sectors. Therefore, further enhancing the trading relationship with Taiwan provides more efficient access to inputs in these industries, increasing the attractiveness of Malaysia as a destination for Taiwanese firms and other firms in these industries.

Digitalisation and 4IR

Covid-19 has highlighted the importance of digital technology. The pandemic has necessitated a broad-based lockdown of economic activity, in Malaysia and many other economies around the world. Restrictions on movement and social distancing have increased the premium on the use and availability of digital technology in production, consumption and education.

The “new normal” will place a greater importance on 4IR technologies. The disruption from the pandemic will continue until a vaccine is available and that could result in a period of extended disruption. Beyond even the current pandemic, the lessons of Covid-19 will necessitate a “new normal” to ensure that a range of activities – including both production and consumption – are more resilient to future shocks of this nature. This “new normal” will place a greater premium on digitalisation and the ability of economies to incorporate the technologies of the Fourth Industrial Revolution (4IR).

Regional labour mobility is likely to be restricted for the foreseeable future, placing further emphasis on capital upgrading. In Malaysia, the manufacturing industry has continued to utilise a large share of low-skilled foreign workers. This has raised concerns over the slow rate of capital

upgrading in Malaysia’s industries, and manufacturing in particular. These concerns will be compounded by restrictions on labour mobility emerging from the pandemic and the “new normal”. The Perikatan Nasional (PN) government has also clearly signalled that firms in Malaysia will be put under pressure to reduce the use of foreign workers.

Taiwan is a strong partner to support Malaysia’s industrial upgrading and 4IR transition. Taiwan is a global leader in 4IR technologies. Moreover, Taiwan is a strong partner for Malaysia in 4IR Focus Sectors - compared to current CPTPP Members, Taiwan is the largest single contributor of intermediate and capital goods in 4IR Focus Sectors. Across the different sectors, Taiwan is the highest contributor in electronics and the third highest for both chemicals and machinery.

Taiwan and Malaysia’s mutual membership can help to facilitate Malaysia’s 4IR transition. If Malaysia ratifies CPTPP and Taiwan joins the agreement, trade within 4IR Focus Sectors will become more efficient, as firms in Malaysia have access to lower cost inputs from Taiwan and improved access to Taiwan’s export markets. This is reflected in the Report findings, which estimates that Malaysian manufacturing output would increase following Taiwan’s membership of CPTPP.

Part I: Malaysia-Taiwan Economic Relationship

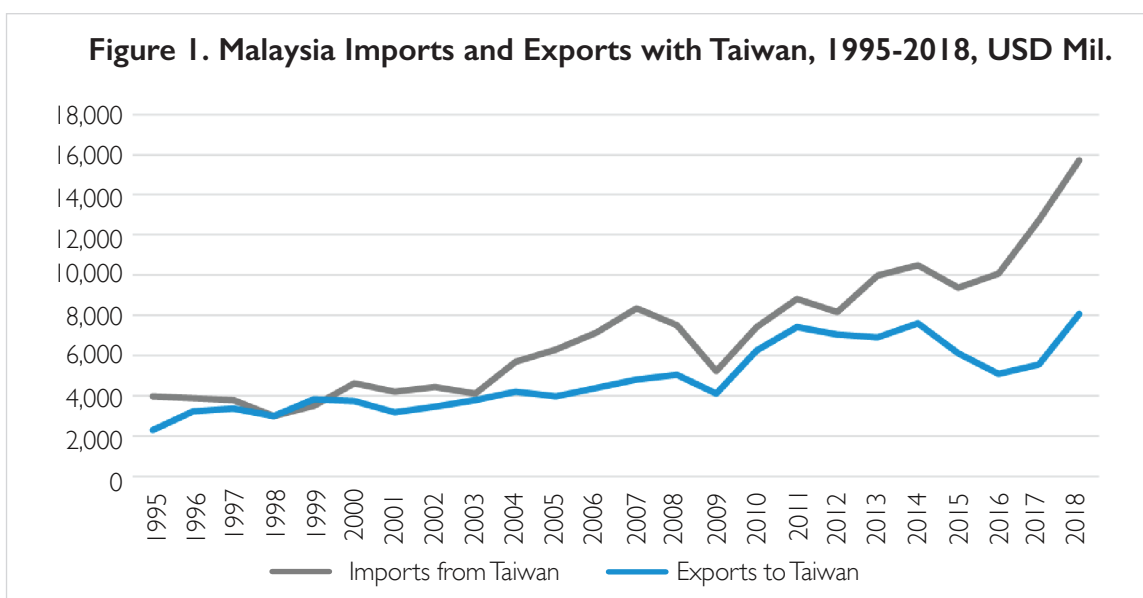
In this section, we consider the current economic relationship between Malaysia and Taiwan, including trade, investment and people-to-people ties.

Trade

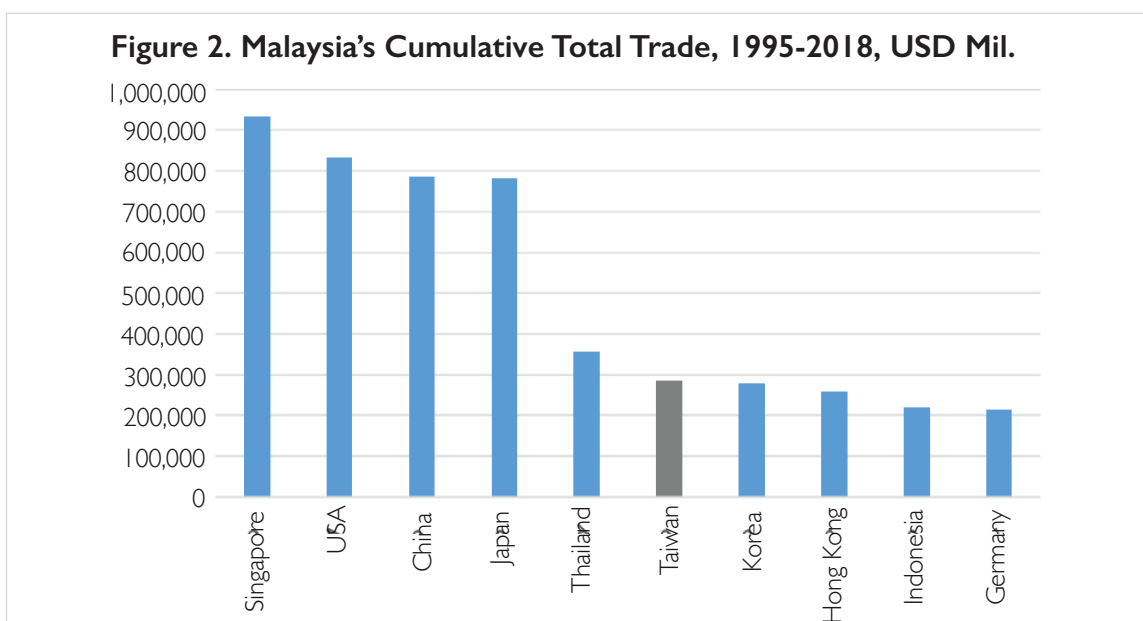
Malaysia and Taiwan have a strong trading relationship. Over the period from 1995 to 2018, Malaysia’s cumulative imports from Taiwan totalled over USD 168 billion and cumulative exports totalled

over USD 116 billion (Figure 1). Both exports and imports have grown steadily over the period, with a notable uptick in growth since 2016.

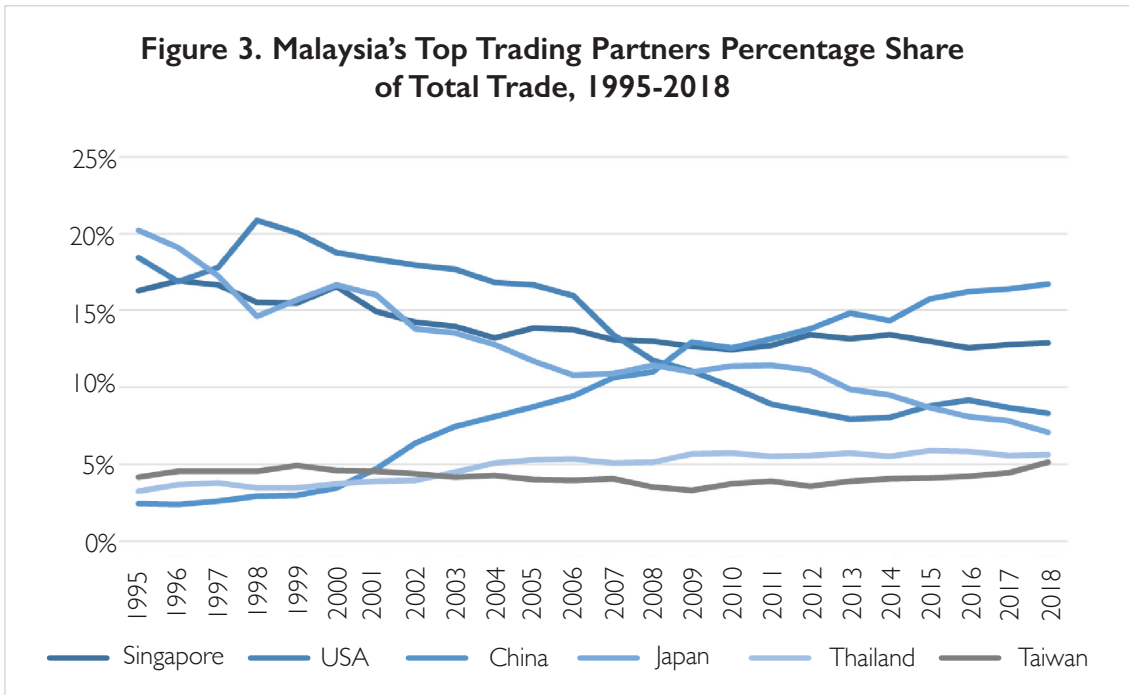
As a result of this significant trading relationship, **Taiwan is consistently among Malaysia’s top ten trading partners** (Figure 2). Over the 1995 to 2018 period, Taiwan was Malaysia’s sixth largest trading partner, with cumulative total trade of over USD 285 billion.



Source: UNCTAD database



Source: UNCTAD database

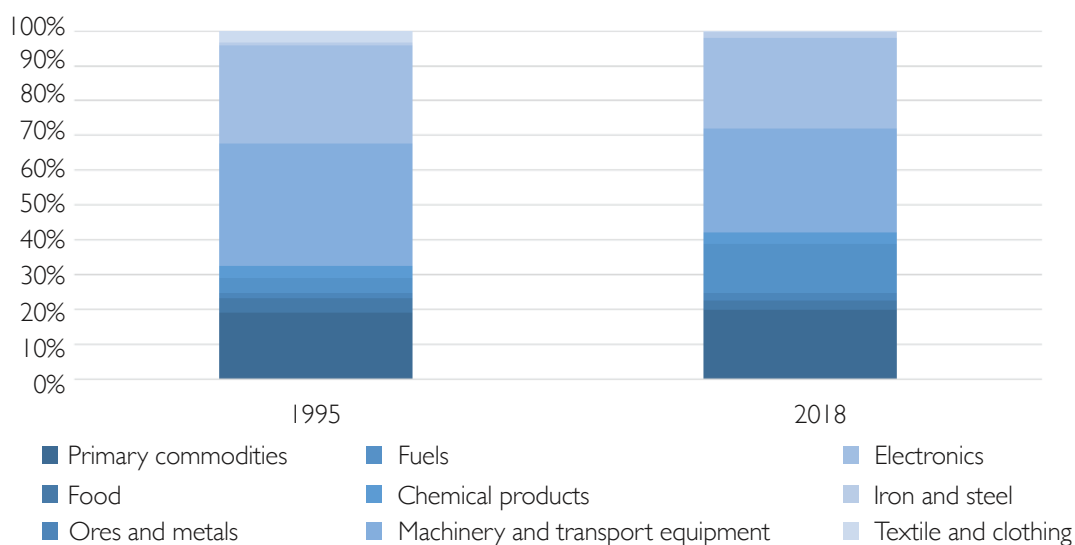


Source: IDEAS calculations, UNCTAD database

Over the period, **Taiwan's share of Malaysia's total trade has remained relatively stable**, varying between 3.3% and 5.1%. In contrast, Malaysia's largest trading partners at the beginning of the period (Singapore, Japan and the United States) have seen their relative shares of Malaysia's total trade decline (Figure 3). This suggests the underlying strength of a relationship, which has adapted as Malaysia's economy has developed.

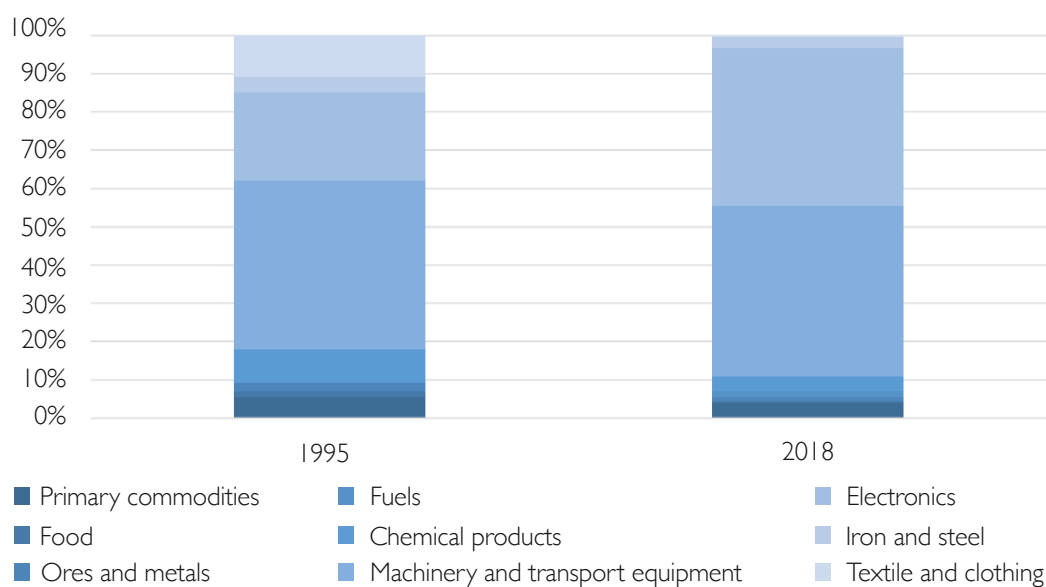
In both directions, trade is dominated by machinery and electrical products. Metals, rubber products and chemicals also comprise a significant proportion of both imports to and exports from Taiwan (Figure 4 and Figure 5). Between 1995 and 2018, Malaysia has exported a greater percentage of fuels to Taiwan (Figure 4). In terms of imports from Taiwan, machinery and electronics have grown as a share of overall imports (Figure 5).

Figure 4. Malaysia's Exports to Taiwan, percentage share by Product Group, 1995 and 2018



Source: IDEAS calculations using UNCTAD database

Figure 5. Malaysia's Imports from Taiwan, percentage share by Product Group, 1995 and 2018



Source: IDEAS calculations using UNCTAD database

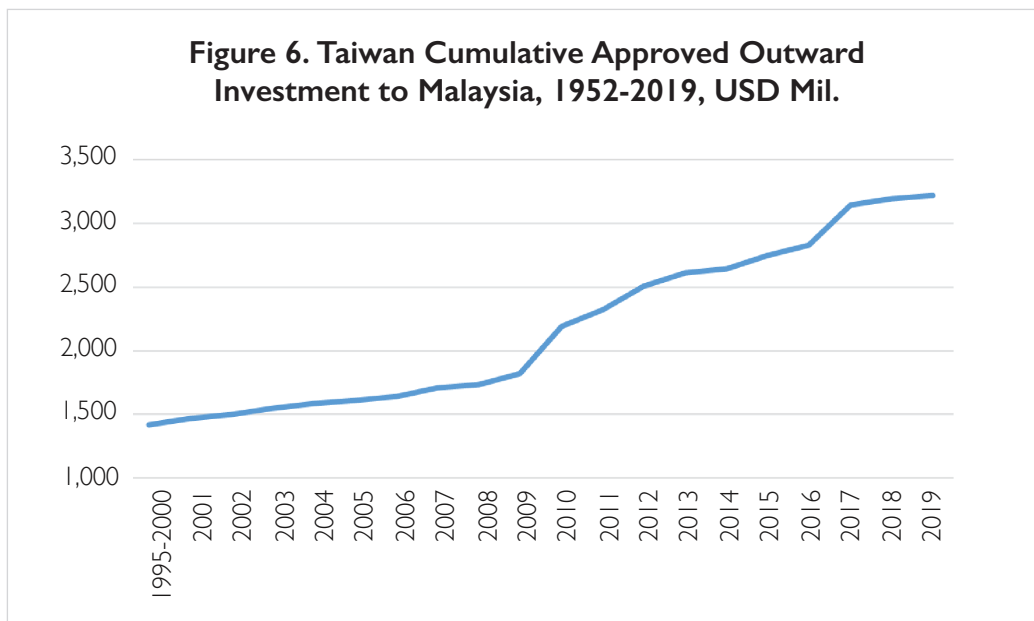
Investment

Taiwan is also a significant investor in Malaysia, with over 1,700 Taiwanese enterprises currently operating in Malaysia. Indeed, to a large extent the trade relationship is underpinned by a strong industrial collaboration enabled by Taiwanese investment in Malaysia. As we examine further in Part 3, much of the trade between Taiwan and Malaysia is comprised of input into industrial processing.

Since the 1980s, Southeast Asia has been a popular region for Taiwanese outgoing investment not only because of its geographic proximity to Taiwan but also because of its abundance of natural resources, labour, and industrial land¹. In the 1980s, these economic characteristics complemented Taiwan's capital, managerial skills, and technical expertise which developed along with Taiwan's rapid economic growth in the second half of the twentieth century². As such, Taiwan's investment coincided with and supported the industrialisation taking place in Malaysia during the 1980s and 1990s. This is reflected in the consistent flow of new investments into Malaysia from Taiwan (Figure 6). There was an increase in the rate of new investments after 2009,

and investments continue to grow.

Taiwan's investment in Malaysia has focused mainly on manufacturing, electronic, biotechnology and high-technology related sectors. Recent examples of this include Taiwanese electronic firm Hotayi Electronics Sdn Bhd reinvesting USD250 million into a new facility in Penang and Eternal Materials Co Ltd investment of USD70 million to manufacturing facilities at Tanjung Langsat Industrial Complex, Johor. At least 18 Taiwanese-owned companies are listed on Bursa Malaysia, with a combined market capitalisation of RM6.84 billion, including Uchi Technologies Bhd, CSC Steel Holdings Bhd, White Horse Bhd, YSP Southeast Asia Holding Bhd and Superlon Holdings Bhd. The 18 companies generated a net profit of more than MYR420 mil., on revenue of RM3.56 bil. in 2016.³ This investment – across multiple industries – is geographically distributed (Figure 7). The largest Taiwanese firms which have invested in Malaysia include firms in electronics, steel, software, furnishings, and ceramics. Investments are located in multiple states – across Penang, Selangor, Negeri Sembilan, Melacca and Johor (Figure 7).



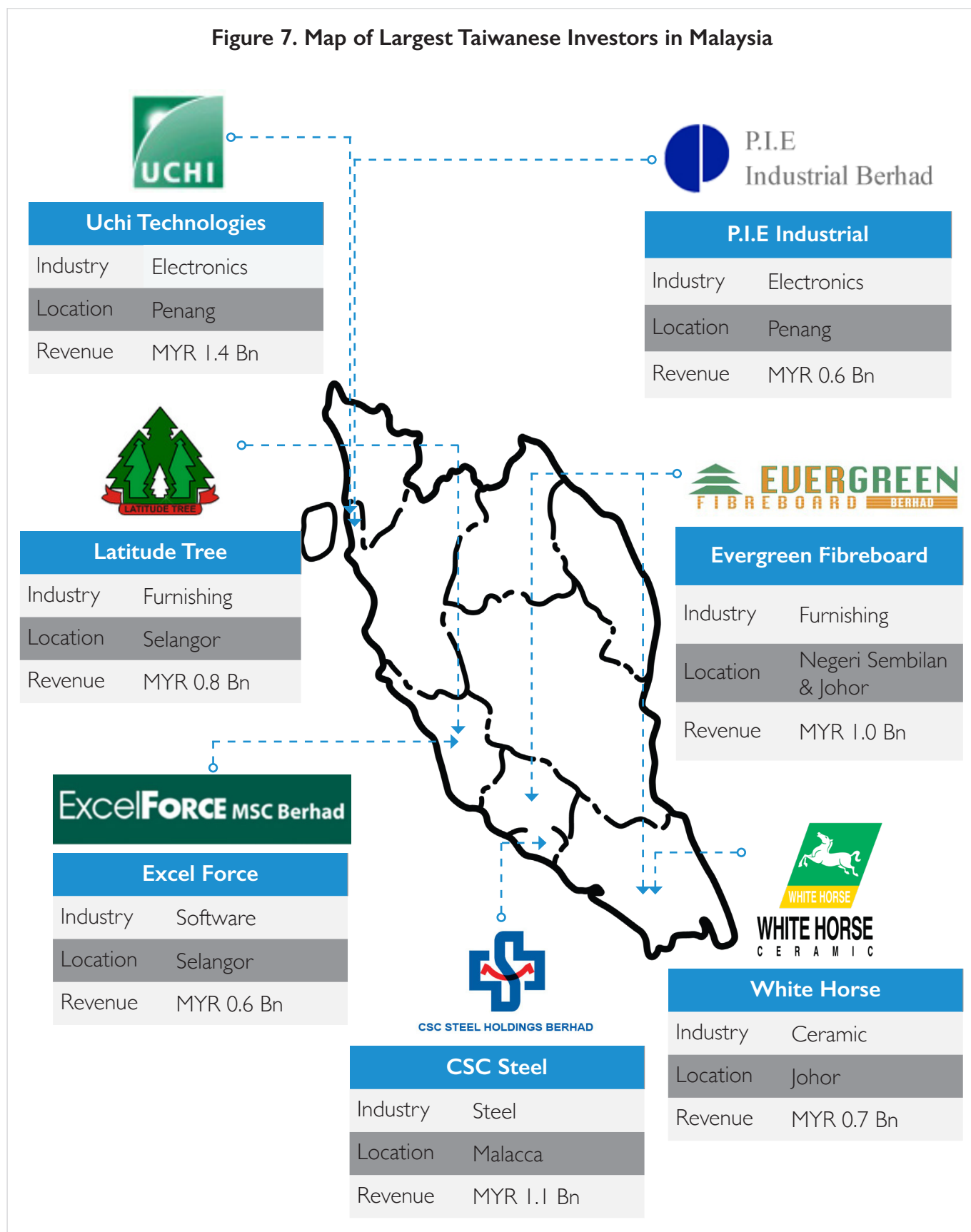
Source: Taiwan Investment Commission, 2019

¹ Jing, 2016

² Ibid

³ The Edge, 2018

Figure 7. Map of Largest Taiwanese Investors in Malaysia



Source: The Edge (2018)

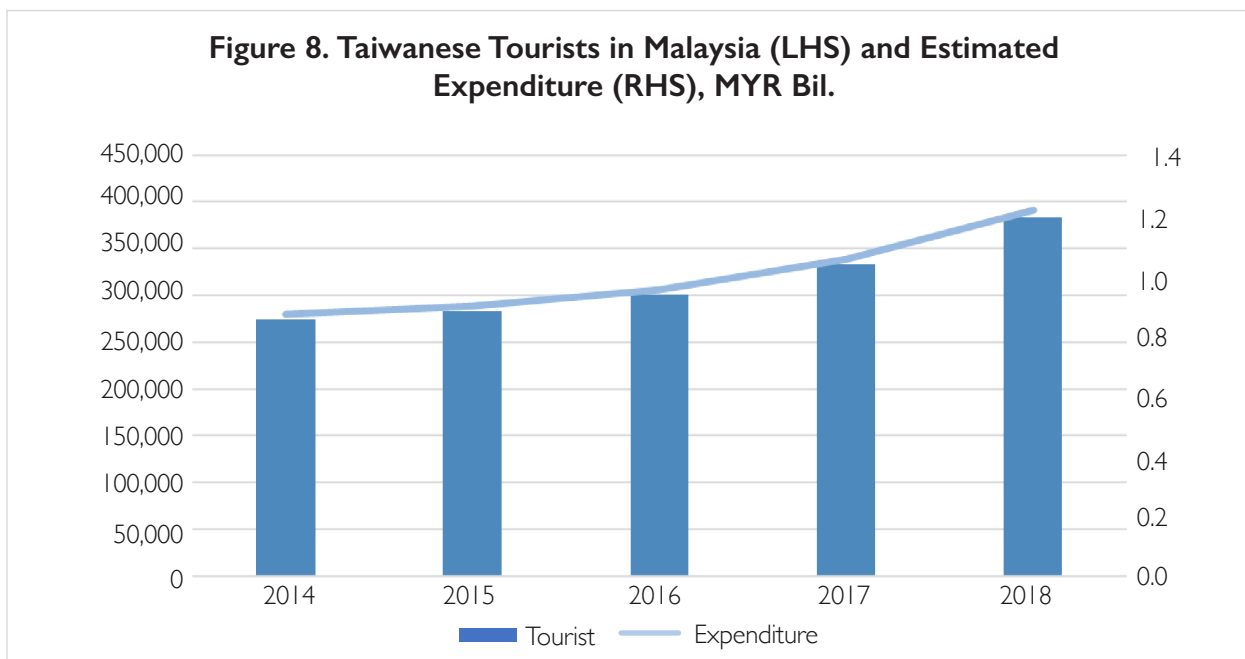
People-to-people ties

Aside from a strong trade and investment relationship, Malaysia and Taiwan also enjoy strong cultural relations and people-to-people ties, which is evident in the exchanges of tourists and students.

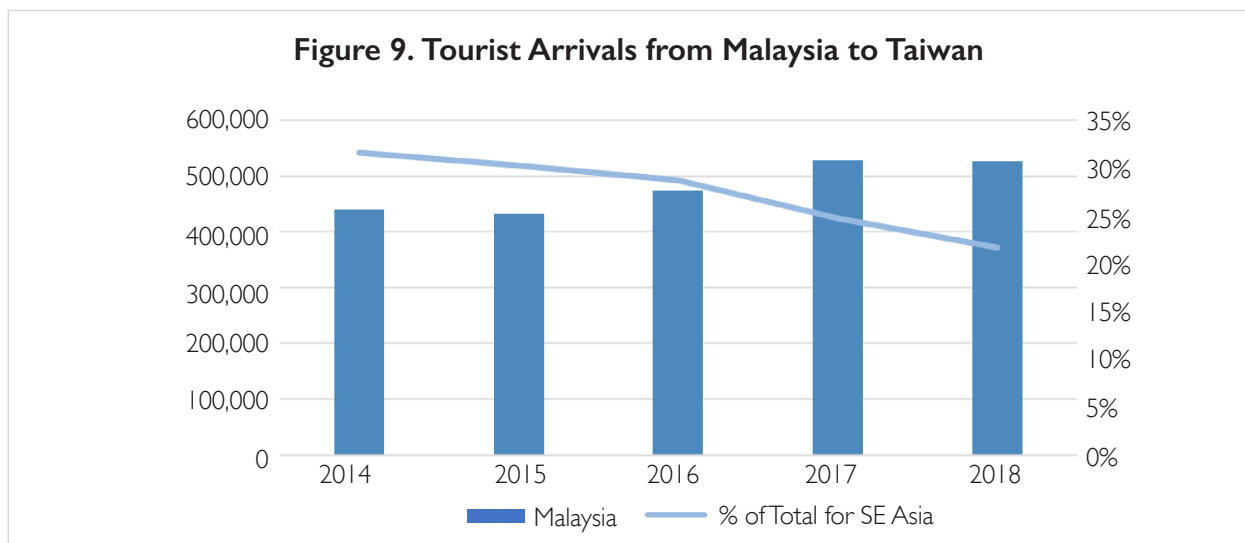
Significant numbers of Taiwanese tourists visit Malaysia each year, reaching a total of 380,000 in 2018. Tourists also contribute significantly to the economy, through purchasing goods and services

in Malaysia. For example, we estimate that in 2018 Taiwanese tourists contributed over MYR1.2 billion in receipts in Malaysia.

Significant numbers of Malaysian tourists visit Taiwan each year, reaching a total of 525,000 in 2018. Tourism from Malaysia is consistently the highest from South East Asia. Tourism has been boosted by the increased number of flights, with flights between Malaysia and Taiwan increasing from 68 per week in 2015 to 130 per week in 2017⁴.



Source: IDEAS calculations, Department of Statistics Malaysia, 2018



Source: Tourism Bureau, MOTC, 2014-18

⁴ Ngeow, 2019

Taiwan is a popular destination for Malaysian students and academics. In 2018 there were 16,717 Malaysian students pursuing tertiary education in Taiwan, which was more than twice as many as were studying in China⁵. Under the New Southbound Policy (NSP), Taiwan's Education Ministry has also increased the quota of full government-sponsored scholarships to Malaysian students. The quota of Taiwan Fellowships, which is an academic exchange program for social science and humanities research, for Malaysian academics also increased. When these students return to

Malaysia, they bring with them skills developed at Taiwan's universities.

Institutional Framework

Malaysia and Taiwan have been able to achieve this high level of economic relationship despite the absence of a preferential trading arrangement. Taiwan is one of the few countries among Malaysia's top trading partners not to benefit from a formal Free Trade Agreement (FTA) (Table I).

Table I. Malaysia Preferential Trading Arrangements with Top Trading Partners

Trading Partner	Preferential Trading Arrangements
Singapore	ASEAN Member
United States of America	No FTA
China	ASEAN FTA
Japan	ASEAN FTA
Thailand	ASEAN Member
Taiwan	No FTA
Korea	ASEAN FTA
Hong Kong	ASEAN FTA
Indonesia	ASEAN Member
Germany	No FTA

Source: Ministry of International Trade and Industry (MITI)

Box I. Taiwan's New Southbound Policy (NSP)

On September 5, 2016, Taiwan's president Tsai Ing-wen launched the New Southbound Policy (NSP) to aid in promoting regional exchange and collaboration. The initiative focuses on expanding existing relationships with the ten members of the Association of Southeast Asian Nations, countries in South Asia, Australia, and New Zealand.

To encourage Taiwanese entrepreneurs to look southward, the New Southbound Policy adopts two specific measures: expanding business opportunities and enhancing access to capital.

In order to expand business opportunities, the government plans to create platforms that combine Taiwanese firms and local production capacity in order to seize market opportunities in Southeast Asia (Tso and Jung, 2018).

The New Southbound Policy emphasizes a people-centred development agenda. Specifically, there are five flagship programmes under the New Southbound Policy, focusing on innovative industries, medical cooperation and supply chains, talent cultivation, regional agriculture, and policy forums and youth exchange platforms (Hsiao and Yang, 2018).

⁵ ICEF Monitor, 2019

However, despite the absence of a preferential trading arrangement, Taiwan has pursued policies to deepen its economic engagement with Malaysia, and South East Asia more widely. Most recently, Taiwan has increased its emphasis on its southern neighbours, including Malaysia, through its New Southbound Policy (NSP) (see Box 1), a main anchor of Taiwan’s foreign policy. As a result, since 2016, there has been an acceleration of economic exchanges, intensification of people-to-people ties, and increased sub-national level interactions.

The Malaysia-Taiwan Economic Cooperation Committee (See Box 2) is a platform to take

forward the economic relationship between Malaysia and Taiwan. This is complemented by a range of other formal and informal arrangements that exist to promote economic relations at the official level. For example, in September 2018, seven Memoranda of Understanding were signed between Taiwanese and Malaysian firms across various fields during the Malaysia-Taiwan Industrial Collaboration Summit⁶, indicating that close economic ties seem set to continue. Thus, in the absence of formal preferential trade agreement, Malaysia and Taiwan have nonetheless developed a close economic relationship, supported by a range of other institutional mechanisms.

Box 2: Malaysia-Taiwan Economic Cooperation Committee (MTECC)

In 2016, the Ministry of International Trade and Industry (MITI) and the Ministry of Economic Affairs of Taiwan set up a Malaysia-Taiwan Economic Cooperation Committee (MTECC) as the inter-governmental body that promotes mutual trade, investment, and small and medium enterprises (SMEs) development. This economic exchange committee also involves other semi-official agencies such as the Malaysia External Trade Development Corporation (MATRADE) and Malaysia Investment Development Authorities (MIDA).

Since its establishment, the Malaysia-Taiwan Economic Cooperation Committee (MTECC) has worked closely with different agencies to advance Malaysia-Taiwan economic exchanges by conducting meetings and conferences through their working groups. The 2nd SME

Development Working Group Meeting of Malaysia-Taiwan Cooperation Committee (MTECC) was successfully held in May 2018 in Kuala Lumpur. Malaysia and Taiwan agreed to jointly promote in-depth cooperation with SME incubators and accelerators. They also agreed to enhance cooperation between the two countries by expanding capacity building support and strengthening the implementation of the SME Policy Exchange Programme.

In 2018, the Trade Working Group focused on collaboration through the MTECC platform to encourage Taiwanese companies to tap into Malaysia’s biotechnology, e-commerce and Halal Industry. Furthermore, both sides agreed that the Working Group on Investment should identify high value-added opportunities in high technology investment areas such as the electrical and electronics, medical device/equipment, pharmaceuticals, chemicals, and green industries.

⁶ MIDA, 2018

Part I: Key Points

- Malaysia and Taiwan have a strong trading relationship. Over the 1995 to 2018 period, Taiwan was Malaysia's sixth largest trading partner, with cumulative total trade of over USD285 billion.
- Whereas the share of Malaysia's total trade with other major partners such as the USA and Japan has declined in recent years, Taiwan's share has remained stable.

Taiwan is also a significant investor in Malaysia focusing mainly on manufacturing, electronic, biotechnology and high-technology related

sectors. This strong investment relationship provides a platform for industrial collaboration which underpins the strong trading relationship.

- Malaysia and Taiwan also share strong people-to-people ties with large exchanges of tourists and students in both directions.
- Despite the lack of a preferential trading arrangement, Taiwan and Malaysia have many formal and informal arrangements to pursue dialogue and drive the relationship forward – this has been strengthened under Taiwan's New Southbound Policy (NSP) and the formation of the Malaysia-Taiwan Economic Cooperation Committee (MTECC).

Part 2. The impact of CPTPP provisions on trade between Malaysia and Taiwan

In this section we consider the provisions of the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) in the context of the relationship between Malaysia and Taiwan. As noted in the previous section, the absence of a preferential trading arrangement means that there remain several trade restrictions in place. To provide qualitative context to this report, we met with several representatives from companies operating in both Malaysia and Taiwan, in order to understand what were the most significant barriers preventing further expansion in the Malaysia-Taiwan economic relationship, these issues are summarised in Table 2 and explored in this section.

Provisions of CPTPP

In order to assess the impact of CPTPP, including in the areas highlighted in Table 2, we need to consider

the provisions of the agreement itself and what impact these provisions would have on the trading relationship between Malaysia and Taiwan.

Tariffs

Given the absence of a preferential trading agreement between Malaysia and Taiwan, **imports from Taiwan are still subject to Most Favoured Nation (MFN)⁷ tariffs.** Malaysia joined the World Trade Organisation WTO in 1995 and maintains relatively high bound tariff rates for agricultural and non- agricultural products, but the applied MFN rates are relatively low. The trade weighted average MFN tariff in 2017 was 8.6% for agricultural products and 3.4% for non-agricultural products (WTO, 2020). MFN rates for different product groups are summarised in Table 3.

Table 2. Most Commonly Raised Issues by Businesses involved in Malaysia-Taiwan Trade (1 being most commonly raised)

Rank	Issue
1	Tariffs and duties
2	Regulations and standards
3	Foreign equity restrictions
4	Movement of people
5	“Unwritten rules” for preferences

Source: IDEAS Focus Group Discussions with Industry in Kuala Lumpur and Taipei

⁷ MFN tariffs are what WTO members promise to impose on imports from other members of the WTO, unless that member is part of a preferential trade agreement (such as a free trade area or customs union).

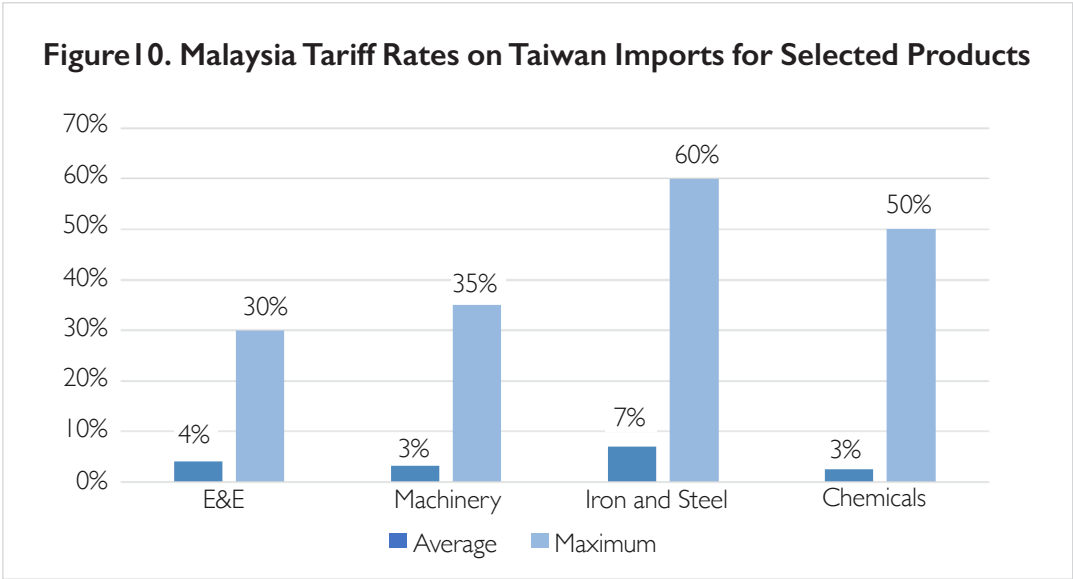
Table 3. Summary of Malaysia's MFN Tariff Structure

Product groups	Average	Duty-free in %	Max
Animal products	3.2	89.4	50
Dairy products	3.7	82.5	50
Fruit, vegetables, plants	2.6	74.0	90
Coffee, tea	5.6	44.4	15
Cereals & preparations	5.5	68.9	50
Oilseeds, fats & oils	1.9	65.2	20
Sugars and confectionery	2.4	82.4	15
Beverages & tobacco	80.0	27.7	>1000
Cotton	0.0	100.0	0
Other agricultural products	0.6	92.8	25
Fish & fish products	0.7	91.7	20
Minerals & metals	7.1	50.3	60
Petroleum	0.6	87.8	5
Chemicals	2.5	84.7	50
Wood, paper, etc.	9.7	47.4	40
Textiles	8.8	31.3	30
Clothing	0.2	99.0	20
Leather, footwear, etc.	10.3	54.9	40
Non-electrical machinery	3.2	75.9	35
Electrical machinery	3.9	73.1	30
Transport equipment	12.0	39.1	50
Manufactures, n.e.s.	4.5	70.2	50

Source: WTO, Malaysia Tariff Profile

Although tariffs on industrial products have generally been lowered, these can still present a significant additional cost for importers. Across the main product markets for Taiwanese imports, average tariffs range from 3% (for chemicals) to 7% (for iron and

steel imports). The maximum tariff applied within a given product group ranges from 30% (for certain E&E products) to 60% (for certain iron and steel products).



Source: International Trade Centre, Market Access Map

Under CPTPP, **Malaysia has committed to reduce all tariffs to 0%**, with a range of exceptions and transitional periods (see Box 3). Overall, the reduction of tariffs would have a substantial impact on the cost competitiveness of Taiwanese imports.

From the export perspective, Malaysian exports to Taiwan also face significant tariff

barriers. Taiwan joined the WTO in 2002 and the average MFN applied tariff rate in 2018 was 16.9% for agricultural products and 4.9% for non-agricultural products in 2018. Tariffs are generally lower in the product groups seeing the highest volume of trade, but these rates nonetheless represent a substantial additional cost of doing business.

Box 3. Malaysia’s Tariff Commitments in CPTPP

- Tariffs reduced to 0%
- 16-year transitional period on alcohol, including beer wine and spirits
- 16-year transitional period on tobacco products
- 10-year transition on many rubber and metal products
- 10-year transition on cars
- 10-year transitional period for agricultural products, including rice products
- 5 to 7-year transition period for some chemical, plastic and paper products
- Quotas for poultry, pork meat, milk and eggs
- Clear methodology for Rules of Origin

Table 4. Summary of Taiwan's MFN Tariff Structure

Product groups	Average	Duty-free in %	Max
Animal products	16.2	3.2	45
Dairy products	17.6	0	76
Fruit, vegetables, plants	21.7	9.9	425
Coffee, tea	8.5	41.7	32
Cereals & preparations	30.8	11.0	377
Oilseeds, fats & oils	16.2	55.7	338
Sugars and confectionery	15.5	5.9	28
Beverages & tobacco	15.9	17.3	40
Cotton	0.0	100.0	0
Other agricultural products	3.6	61.5	500
Fish & fish products	19.2	3.6	113
Minerals & metals	2.7	56.6	13
Petroleum	2.1	44.9	5
Chemicals	2.9	25.4	20
Wood, paper, etc.	0.4	94.5	13
Textiles	7.3	3.2	13
Clothing	11.7	0	12
Leather, footwear, etc.	5.1	14.1	10
Non-electrical machinery	3.1	25.7	18
Electrical machinery	3.6	28.5	15
Transport equipment	8.1	26.2	30
Manufactures, n.e.s.	3.0	35.0	10

Source: WTO, *Separate Customs Territory of Taiwan, Penghu, Kinmen, and Matsu Tariff Profile*

Taiwan has a record of ambitious tariff liberalisation in trade agreements. Given that Taiwan has not formally entered negotiations to join CPTPP or signalled the details of its negotiating position it is difficult to predict exactly what liberalisation of tariffs Taiwan would commit to. As an indicator, we can consider the two preferential trading agreements which Taiwan has concluded with other CPTPP Members, specifically: Singapore and New Zealand. In 2013 the governments of Singapore and Taiwan signed an agreement (referred to as ASTEP), which includes the removal of tariffs over time on 100%

of Singapore's current exports to Taiwan, including the immediate removal of tariffs imposed on electronics, chemicals, mineral fuels, pharmaceuticals and machinery parts⁸. Also, in 2013, Taiwan signed a preferential trading agreement with New Zealand (referred to as ANZTEC), which also includes the removal over time of tariffs on 100% of New Zealand's current exports to Taiwan⁹. On the basis of these precedents, we can expect that Taiwan's participation would result in the liberalisation of all (or at least the majority) of tariffs on Malaysia's exports.

⁸ *International Enterprise Singapore, 2014*

⁹ *New Zealand Commerce and Industry Office, Taipei*

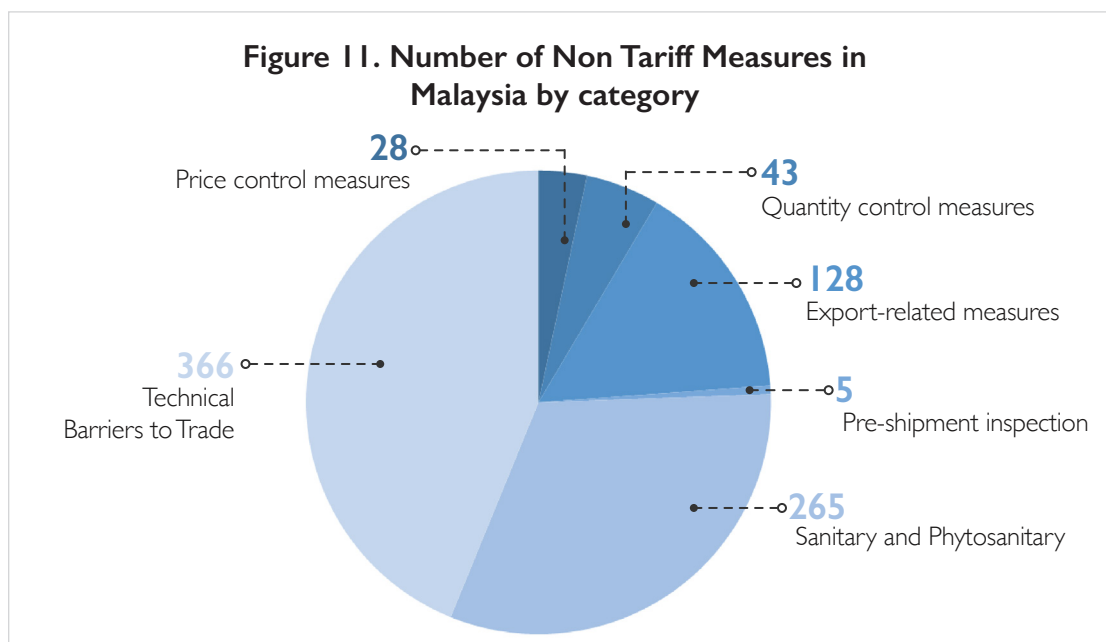
Non-Tariff Measures

Malaysia has a range of NTMs in place, including hundreds that apply to imports from Taiwan (Figure 11). NTMs cover a range of different procedures and requirements imposed on imports by Malaysian authorities, including the requirements for specific licenses or restrictions on the terms of sale. Whilst many serve legitimate objectives, others result in unnecessarily increasing the cost of trade.

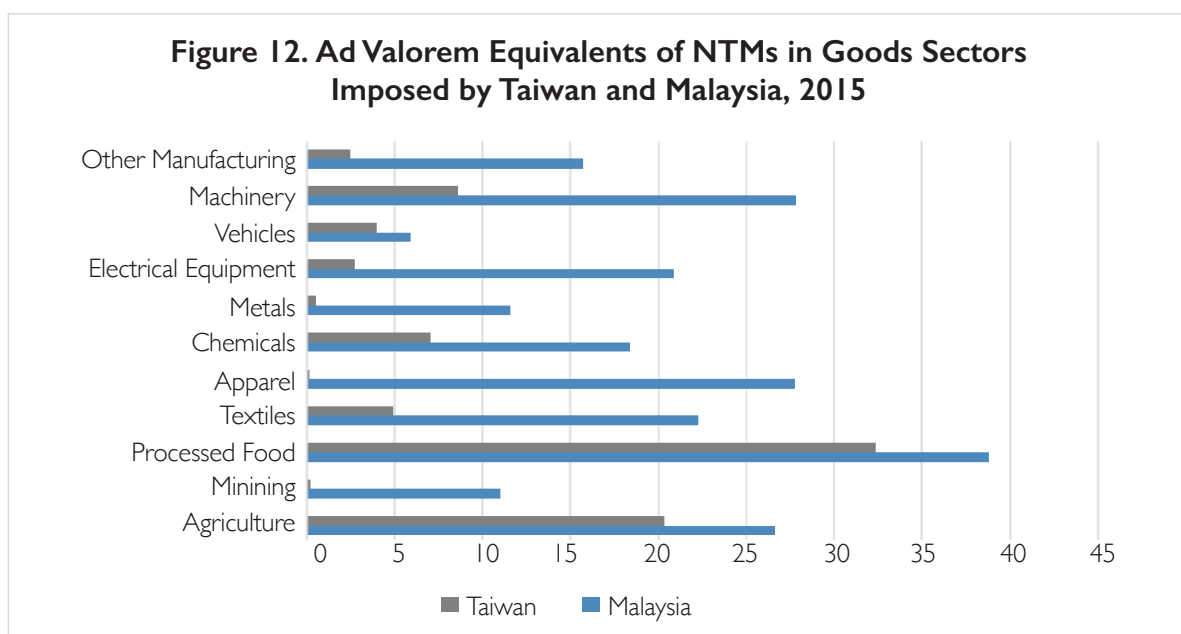
Under CPTPP, Malaysia is committed to a range of actions intended to reduce the impact of NTMs. Regarding health and safety requirements, Malaysia is committed to pursue the “minimum necessary” approach to certification and “take account” of WTO Sanitary and Phytosanitary (SPS) Committee guidance. Malaysia must also apply “equivalence” to SPS measures of other parties. This means that Malaysia cannot simply reject the health and safety standards of other countries if they are substantively the same as Malaysia’s own standards. Under CPTPP, Malaysia is required to provide prior notification of any proposed SPS measures likely to impact trade. A joint committee to enforce the terms of the agreement will also be established to ensure these commitments are adhered to.

Regarding other NTMs, Malaysia is required to adopt international standards. For example, with respect to ICT products, Malaysia is expected to implement the APEC Mutual Recognition Arrangement for Conformity Assessment of Telecoms Equipment. Malaysia must also accord equal treatment to conformity assessment bodies of other CPTPP Members. Furthermore, Malaysia must accept the supplier’s declaration of conformity, excluding medical devices. These measures are intended to significantly reduce the cost and complexity of trade between CPTPP members.

From the export perspective, Taiwan also maintains a number of NTMs which apply to exports from Malaysia. By comparing the ad valorem equivalents (AVE) of these NTMs across different products we can compare the general level of protection applied by Taiwan vis a vis Malaysia. The AVEs in Figure 12 are taken from Petri and Plummer (2016) and reflect the additional costs as a result of NTMs in percentage terms for importing goods to both Taiwan in Malaysia.



Source: UNCTAD TRAINS NTMs database



Source: Petri and Plummer, 2016

Table 5. Malaysia's Customs Facilitations Indicators in World Bank Ease of Doing Business Report, 2019

Indicator	Malaysia	Taiwan	East Asia Avg.	Best in East Asia
Time to Export	38 hours	22 hours	113 hours	2 hours
Cost to Export	USD248	USD419	USD491	USD0
Time to Import	43 hours	51 hours	126 hours	1 hour
Cost to Import	USD273	USD405	USD524	USD0

Source: World Bank, Ease of Doing Business Indicators

Membership of CPTPP would reduce these barriers to Malaysia's exports. Figure 12 would suggest that NTMs in Taiwan are not as costly as those imposed by Malaysia. The most protected sectors are agriculture and processed food, which includes several measures to protect Taiwan's rice market. Nonetheless, these measures do impose additional costs on imports from Malaysia. These costs would be reduced as a result of Taiwan's membership of CPTPP and subsequent adoption of commitments to simplify and harmonise requirements.

Customs Facilitation

CPTPP also introduces a range of provisions to

improve customs facilitation among Members. Malaysia has a reasonably efficient customs administration (Table 5.), but improvements could still be made to improve the efficiency for businesses importing and exporting across Malaysia's borders.

Under CPTPP, Malaysia is committed to adopt best practices and international standards in a range of areas designed to reduce the cost and time requirements for customs compliance, including: customs administration, advance rulings, requests for information, review and appeal, automation, express shipments, penalties, and notice of changes in procedures.

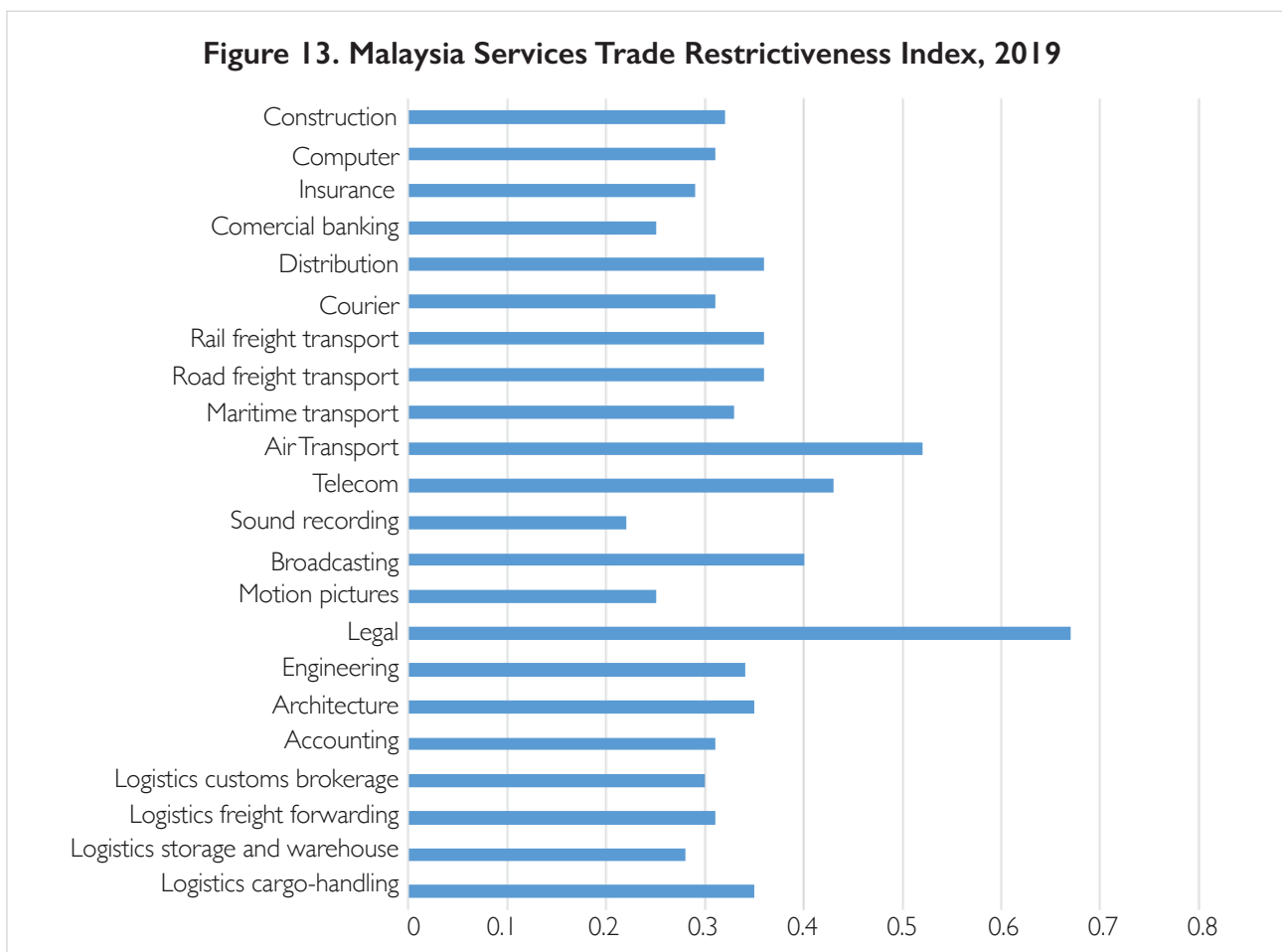
Taiwan’s customs administration could also improve, lowering barriers for Malaysia exports. Taiwan’s customs administration is also relatively efficient, performing better than the average for the region (Table 5). However, there is further scope for efficiencies which could be improved if Taiwan became a member of CPTPP and made similar commitments to improving customs administration.

Services and Investment Restrictions

Beyond trade in goods, CPTPP also includes provisions to reduce frictions in cross-border

trade in services and direct investments between member economies. Malaysia continues to apply a number of cross-border services and investment restrictions, including foreign equity caps and nationality requirements for board members and senior staff in certain sectors¹⁰.

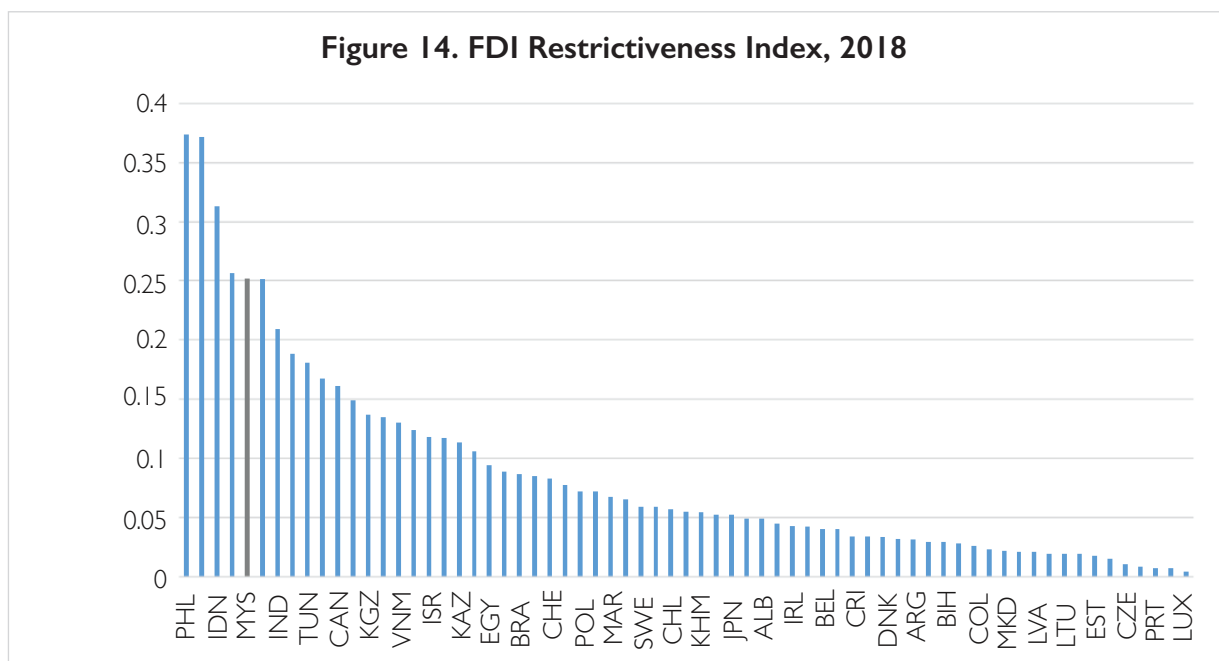
Regarding services, Malaysia’s restrictions can be measured using the OECD’s Services Trade Restrictiveness Index (STRI), which assesses the restrictiveness of regulations in each sector. A higher value indicates a higher degree of restriction (Figure 13).



Source: OECD Services Trade Restrictiveness Index (STRI)

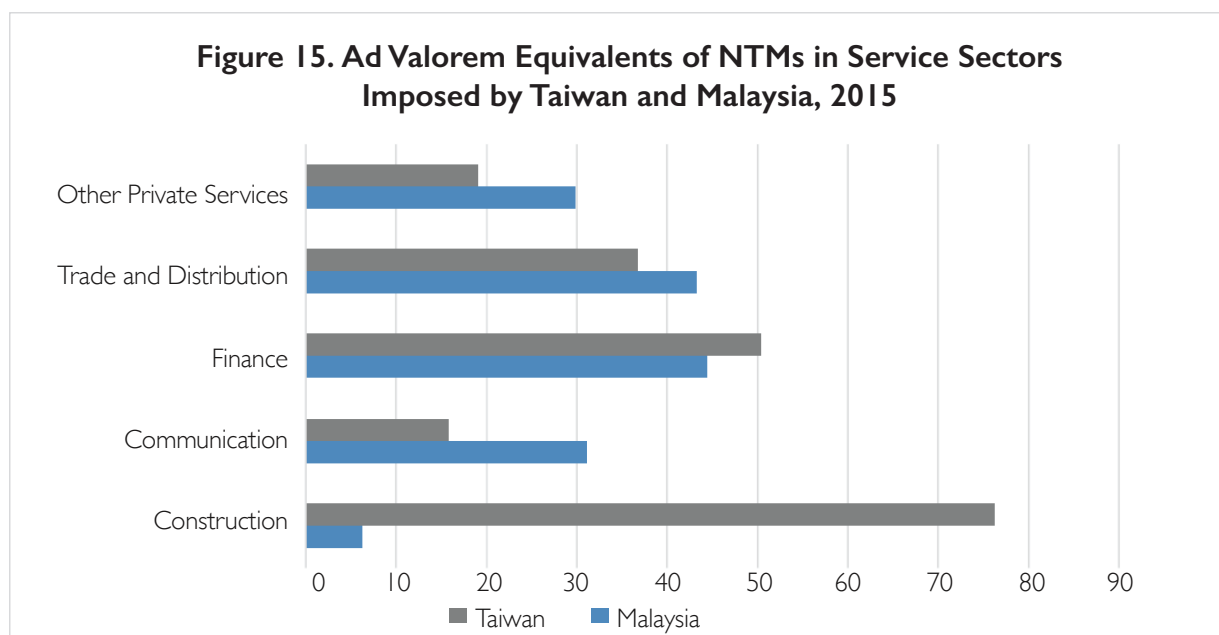
¹⁰ Todd, 2019

Figure 14. FDI Restrictiveness Index, 2018



Source: OECD FDI Restrictiveness Index

Figure 15. Ad Valorem Equivalents of NTMs in Service Sectors Imposed by Taiwan and Malaysia, 2015



Source: Petri and Plummer, 2016

Regarding Foreign Direct Investment (FDI), Malaysia's restrictions also remain high, as measured by the OECD's FDI Restrictiveness Index (Figure 14).

From an export perspective, Taiwan also has a number of barriers in place to cross border services trade and investment. Taiwan has enacted several measures to restrict incoming

investment in certain sectors and to reduce cross-border trade in services¹¹. Considering the ad valorem equivalents of Taiwan's NTMs in services we can see a closer alignment of protection between Taiwan and Malaysia than was observed for goods, with notably high protection in the Taiwanese construction sector.

¹¹: Please refer to US Trade Representative 2020 National Trade Estimate on Foreign Trade Barriers for detailed examples on trade barriers imposed by Taiwan.

Membership of CPTPP would address service barriers in both countries to a limited extent.

Under CPTPP, Malaysia has committed to reduce these restrictions, with a number of reservations (see Table 4 for detailed examples). These commitments could result in a substantial reduction in the costs of services trade, although it is important to note that the exceptions are significant, and the nature of the commitments makes enforcement more challenging. From an export perspective if Taiwan were to become a member of CPTPP and adopt similar

commitments then this could result in an increase in opportunity for Malaysia’s service providers in Taiwan. The scope of liberalisation would depend on Taiwan’s negotiating position, but it is possible that construction services could remain protected (Malaysia has exceptions for construction) and that the greatest benefits would be in communications where the provisions of CPTPP have more bite. Provisions on investment would provide broad protections to investors in both Taiwan and Malaysia.

Table 6. Summary of Malaysia’s CPTPP Commitments and Exemptions on Cross-Border Services and Investment

Area	Malaysia’s CPTPP Commitments	Malaysia’s CPTPP Exemptions
Cross-border Services	<ul style="list-style-type: none"> • No less favourable treatment than national or other foreign service providers • No restrictions on number or volume of service operations or output or persons employed • No local residence requirements for cross-border services • Encourage mutual recognition of qualifications in professional services, including through Professional Services Working Group • Air transport services excluded 	<ul style="list-style-type: none"> • Foreign equity restrictions in automotive manufacturing (49%) and batik fabric (30%) • Equity restrictions apply in transport and distribution services and retail • Construction restricted to local entities (locally incorporated, local management etc.) • All refined petroleum products must be exported • Local content requirements for palm oil plantations • Restrictions on fishing • Foreigners cannot provide certain services such as property valuation services, patent services, tourist guide • State-level controls over land and real estate • PETRONAS maintains control over petroleum • Govt. exempted from national MFN treatment over the divestment and privatisation of govt. services and SOEs • Broad powers to pursue Bumiputera development
Investment	<ul style="list-style-type: none"> • No less favourable treatment than national or other foreign investors and minimum protections for investments • No expropriations or performance requirements (e.g. local content use, technology transfer) • No requirements on senior management nationality • Investor State Settlement Dispute (ISDS) 	

Source: IDEAS summary of CPTPP text

The movement of people for business purposes between Malaysia and Taiwan would be expanded as a result of CPTPP. The movement of people is also an important component of cross-border trade in services, and CPTPP includes

provisions to improve movement of people for legitimate business purposes. From the perspective of business visitors, this would represent a significant improvement on the status quo (Table 7) for visitors from Malaysia to Taiwan and vice versa.

Table 7. Impact of CPTPP Provisions on Movement of People

Country	Outside CPTPP	Inside CPTPP
Taiwanese Visitors in Malaysia	<ul style="list-style-type: none"> • Visa Free Travel - up to 30 days without a visa 	<ul style="list-style-type: none"> • Visa Free Travel - up to 30 days without a visa • Business visitors – up to 90 days • Intra-Corporate transfers – up to 10 years • Independent Professional – up to 12 months
Malaysian Visitors in Taiwan	<ul style="list-style-type: none"> • Visa Free Travel - up to 30 days without a visa 	<ul style="list-style-type: none"> • Visa Free Travel - up to 30 days without a visa • Business visitors – up to 90 days • Intra-Corporate transfers – up to 10 years • Independent Professional – up to 12 months

Source: IDEAS summary of CPTPP text

Other CPTPP provisions

CPTPP also includes a range of other provisions

designed to facilitate higher levels of trade and investment between Members. The most significant provisions are summarised in the table below.

Table 8. Highlights of CPTPP Provisions for Malaysia

Area	Provisions
State Owned Enterprises	Non-discrimination by SOEs in commercial activities
	Prohibition on non-commercial assistance by or for SOEs
	Public listing of all SOEs
	Committee on SOEs to enforce provisions
	Exceptions for economic emergencies and non-commercial financing broad exceptions and transition periods for entities linked to Bumiputera agenda, PETRONAS, FELDA and Development Finance Initiatives (DFIs)
	Broad exceptions and transition periods for entities linked to Bumiputera agenda, PETRONAS, FELDA and Development Finance Initiatives (DFIs)
Government Procurement	Non-discrimination against foreign bidders
	Restricting use of direct negotiation
	Increased transparency
	Maintain MOP in most circumstances; reduced MOP from non-CPTPP countries
	Exemptions for rural development and affordable housing
	State and local authority procurements exempted
	Transitional thresholds for discrimination (5 years)
	Gradual reduction in offset requirements (13 years)
Intellectual Property	National treatment / non-discrimination
	Transparency when setting new rules
	Clear framework for copyright, geographical indications and patents
	TPP clauses on pharmaceuticals and Internet Service Providers (ISPs) suspended
E-commerce	Ensuring free flow of data for legitimate business purposes
	Non-discrimination of digital products
	Online consumer protection laws
	Governments cannot request source code
	Prohibition of data localization requirements

Source: Author's assessment based on CPTPP text

Overall impact of CPTPP Provisions on Malaysia-Taiwan trade

CPTPP is recognised as a part of a new generation of trading agreements that extend into wider areas of cross-border economic exchange. **That being said, it is likely to be the more “traditional” aspects of the agreement that will have the greatest impact on Malaysia and Taiwan, given the current absence of any form of preferential trading arrangement** (summarised in Figure 16). Tariffs was the issue most consistently raised by businesses both in Taiwan and Malaysia as the factor increasing the cost of trade and therefore it is the reduction of nearly all tariffs that is likely to have the greatest positive impact. Measures to tackle NTMs and the streamlining of customs facilitation will also be positively received. The removal of

barriers to cross-border trade in services may be less relevant to those companies with currently established operations in Malaysia and Taiwan, but it might open up opportunities for new firms to enter the Malaysian and Taiwanese markets. Provisions relating to competition, SOEs and procurement will be welcomed but are likely to be limited in their direct impact on Taiwanese businesses, given the low presence of firms in the affected sectors and the broad nature of Malaysia’s exceptions. The scope of Taiwan’s commitments will depend on the negotiating position adopted by the Taiwanese Government, but based on previous agreements and the general profile of commitments by CPTPP Members we can anticipate full (or nearly full) tariff liberalisation and more modest liberalisations of services and other CPTPP areas.

Figure 16. Summary of CPTPP provisions’ impact on trading relationship between Malaysia and Taiwan

Tariffs- reduced to 0, with transitional periods on sensitive products

NTMs – harmonisation of NTMs and adoption of best practice

Investment – no less favourable treatment, removal of equity caps

People – 90 day business visits, intra-corporate transfers

Level playing field – reforms for procurement, SOEs and competition

Part 2: Key Points

- Due to the absence of a preferential trading arrangement, many barriers remain in the trading relationship between Malaysia and Taiwan.
- The most significant barrier continues to be tariffs and as a result the reduction of tariffs mandated under CPTPP is likely to constitute the largest benefit from Taiwan's membership.
- Provisions to reduce and harmonise Non-Tariff Measures and Customs Facilitation will also reduce the cost of trade in sectors important to Taiwan-Malaysia trade, which remains concentrated in goods, such as manufacturing.
- Provisions to liberalise cross-border trade in services and investment will be welcomed but are likely to have less immediate impact on businesses with established business relations with Malaysia. These provisions may open up new opportunities for Taiwanese firms to enter the Malaysian market and vice versa.

Part 3. The economic impact of Taiwan's membership of CPTPP

The CPTPP provisions described above would reduce the cost of trade between Malaysia and Taiwan, which is expected to lead to an expansion in the trading relationship. In this section we consider the economic impact of Taiwan joining CPTPP on the Malaysian economy, by analysing the structure of trade between Malaysia and Taiwan in more detail, and in comparison to the trade structure between Malaysia and the current members of CPTPP. The analysis presented here broadly follows on the methodology for the analysis of the Taiwan-ASEAN trade structure undertaken by Hoan et al (2019). This analysis applies the following framework to assess the Malaysia-Taiwan trade relationship:

- **Trade Complementarity** – used to assess the degree of compatibility between two countries in terms of trade. In general, trade liberalisation will have a more positive effect between two countries with high level of trade complementarity;
- **Export diversification** – used to assess the diversity of products in the trade between two countries. In general, trade liberalisation will increase export diversity as more products can compete;
- **Trade in Value Added** – used to assess the contribution of one country to another's value added, and therefore the value of that trading relationship, rather than just the volume;
- **Stages of production** – used to assess the use of products traded between two countries, for example whether trade is primarily comprised of inputs for production or final products for consumption. This analysis can help to determine

the degree of industrial linkage between two countries, and therefore whether liberalisation of trade will impact industrial collaboration; and

- **Technological content** – used to assess the technological sophistication of products traded between two countries.

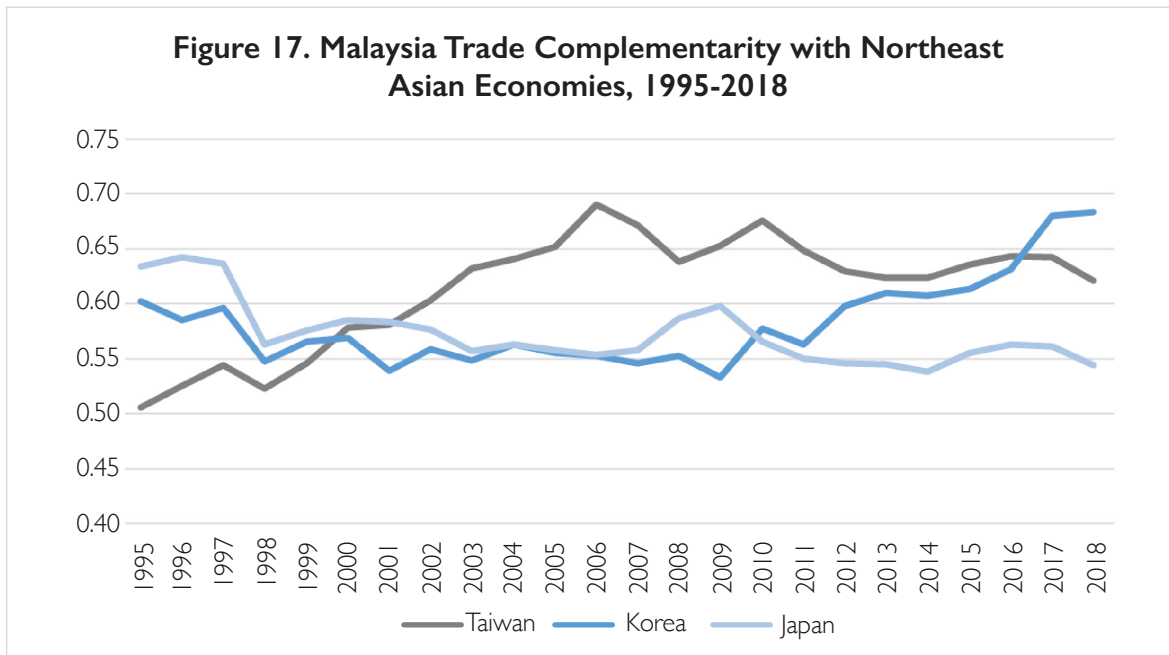
Trade Complementarity

The concept of trade complementarity is used to assess the degree to which the products exported by one country match the products imported by another. A high degree of trade complementarity describes the situation when the exports of one country are highly correlated with the imports of another. When the trade structure between two countries is mainly complementary, then there is a high potential for trade expansion between them; by contrast, if the trade pattern is more competitive then there is less prospect for trade growth¹². Assessment of trade complementarity is often used to prioritise with which countries preferential trading agreements should be negotiated.

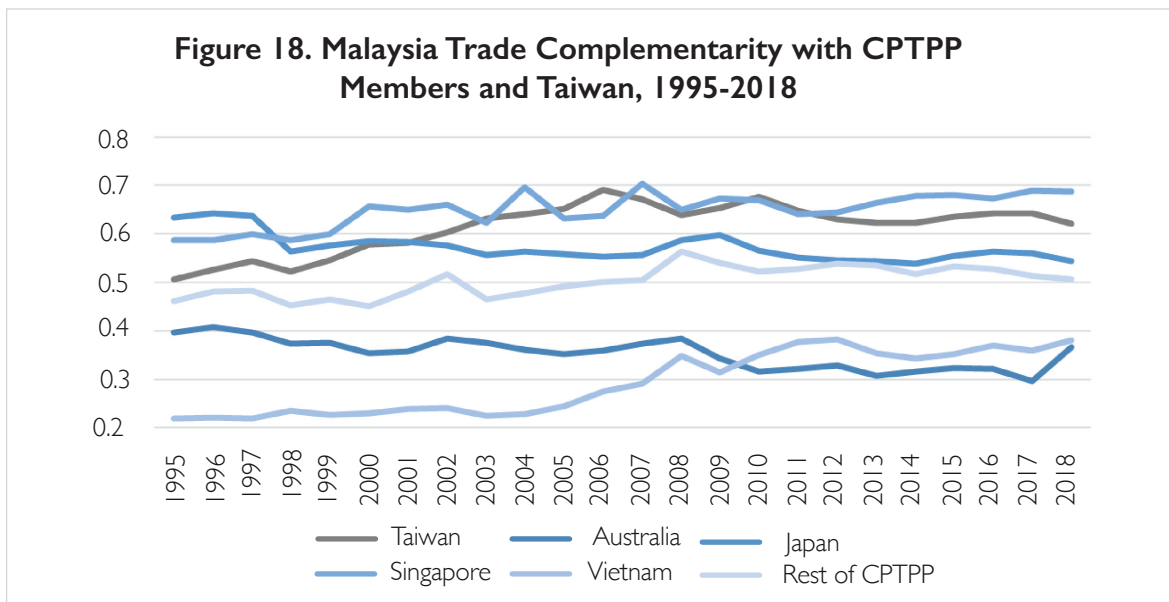
Malaysia and Taiwan have a high degree of trade complementarity, which has increased in recent years. Comparing the Trade Complementarity Index (TCI)¹³ between Malaysia and the Northeast Asian economies of Taiwan, Japan and Korea, we can see that Taiwan's TCI has improved since 1995, i.e. the economies of Malaysia and Taiwan have become more complementary (Figure 17). Japan's TCI has slightly declined over the same period and Korea's TCI is broadly stable. All three economies maintain a high degree of trade complementarity with Malaysia.

¹². Reis and Farole, 2012

¹³. Please refer Appendix I for the methodology of calculating the Trade Complementarity Index (TCI)



Source: IDEAS calculations using UNCTAD database



Source: IDEAS calculations using UNCTAD database

Taiwan has a more complimentary trade relationship with Malaysia than all other members of CPTPP except Singapore.

Comparing the TCI for Taiwan with the TCI for other CPTPP Members, it is clear that Taiwan is more complementary with Malaysia than any other members of CPTPP, with the sole exception of Singapore (Figure 18¹⁴). Both Vietnam and Australia have a relatively low TCI with Malaysia, though for Vietnam we see it is on an upward trend.

The high level of trade complementarity between Malaysia and Taiwan presents a strong case for trade liberalisation via CPTPP membership.

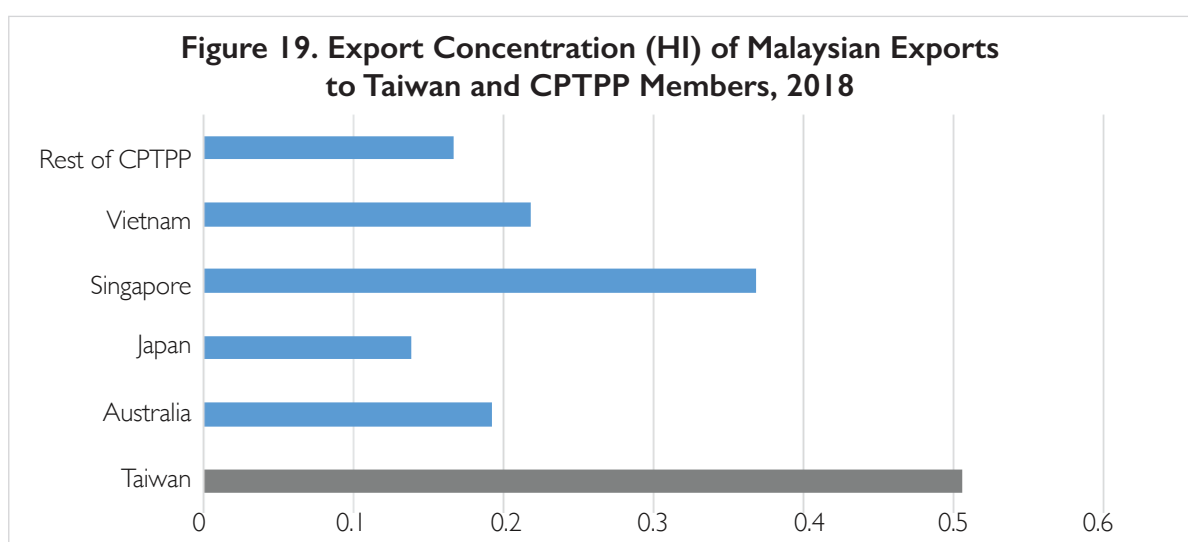
Based on the trade complementarity of Malaysia and Taiwan in comparison to other CPTPP Members, we can conclude that there is scope for trade expansion between Malaysia and Taiwan, and therefore that Taiwan's inclusion in CPTPP would be positive from Malaysia's perspective.

¹⁴. "Rest of CPTPP" refers to combined TCI of Brunei, Canada, Chile, Mexico, New Zealand and Peru

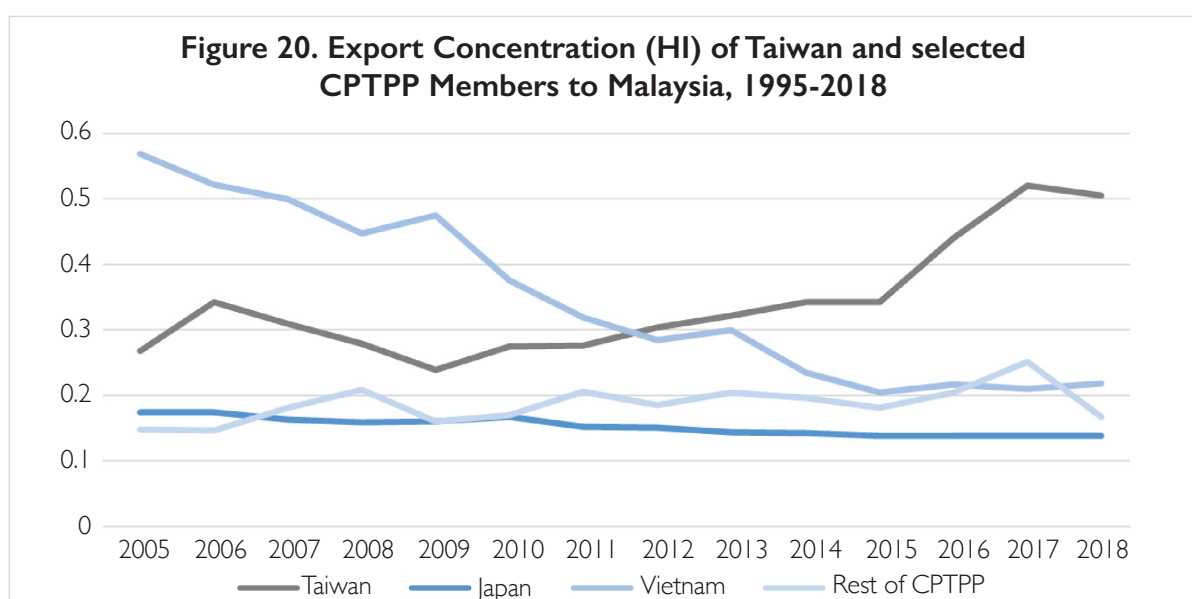
Export Diversification

Assessing the export diversification in the trading relationship between Malaysia and Taiwan can help us to understand the degree to which trade is concentrated on a few products. We can employ the Herfindahl Index (HI), an index used for the measurement of export concentration to demonstrate the inverse – export diversification¹⁵. The HI takes a value between 0 and 1, with a value closer to 1 representing a high level of concentration and correspondingly a low level of diversification.¹⁶

Taiwan's exports to Malaysia are highly specialised. Taiwan has a more concentrated export profile than any current CPTPP Member (Figure 19). This reflects the fact that Taiwan's exports to Malaysia are concentrated among a relatively small number of products (i.e. electronics). On the one hand this might reflect a high degree industrial linkage, leading to specialisation in particular product lines. It may also reflect that other Taiwanese products struggle to compete in Malaysia's markets due to the maintenance of some trade barriers.



Source: IDEAS calculations using UNCTAD database



Source: IDEAS calculations using UNCTAD database

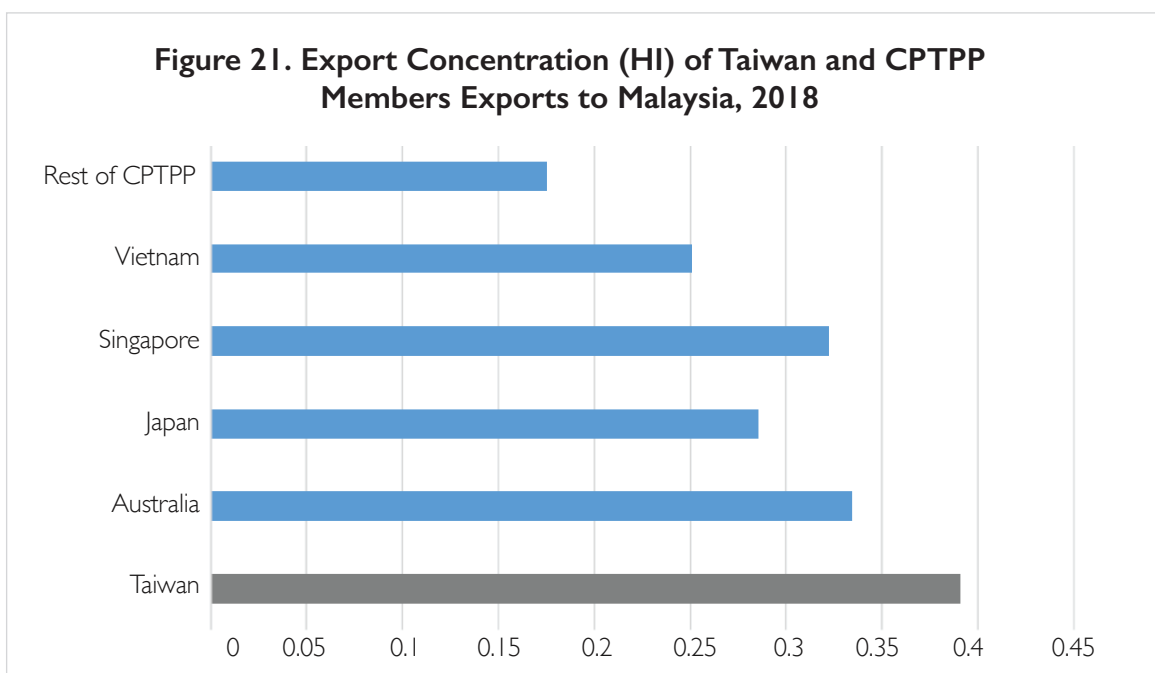
¹⁵ Hoan et al., 2019

¹⁶ Please refer to Appendix I for the methodology for calculating the Herfindahl Index (HI)

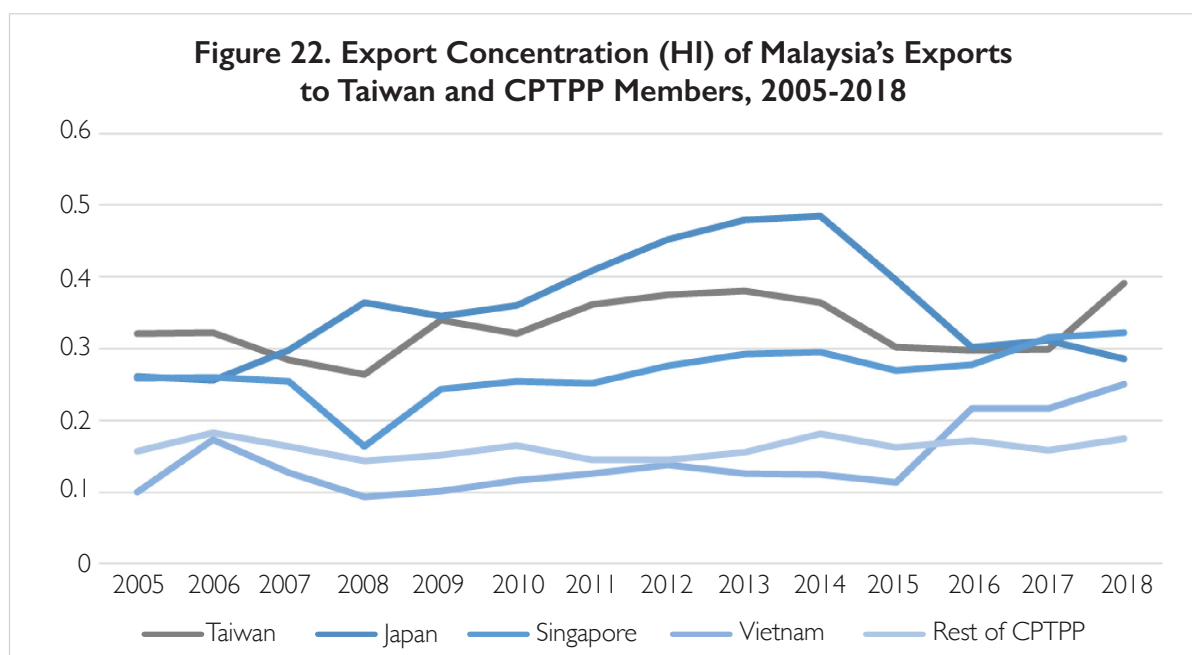
Taiwan’s export concentration has increased over time, whereas other members of CPTPP have increased their export diversity or remained broadly stable. Figure 19 illustrates that Taiwan’s exports to Malaysia have become increasingly concentrated, relative to those from other CPTPP members. In comparison Vietnam’s exports have become increasingly diversified in recent years, possibly explained by the trade liberalisation within ASEAN and Vietnam’s development into a wider variety of product markets. Other members of CPTPP including Japan

have maintained a broadly diverse range of exports to Malaysia over the same period.

Malaysia’ exports to Taiwan are more diverse but are still more concentrated than for other CPTPP members. If we consider export diversification from Malaysia’s perspective, we can see that exports to Taiwan are more concentrated than for other CPTPP members, but the level of concentration is generally much closer among Taiwan and CPTPP members (Figure 21).



Source: IDEAS calculations using UNCTAD database



Source: IDEAS calculations using UNCTAD database

Malaysia's export concentration to Taiwan has remained broadly stable over time. Malaysia's export concentration has varied only a small amount since 2005 (Figure 22). Generally, this pattern is true of Malaysia's exports to other CPTPP members, with the exception of Vietnam, where Malaysia exports have diversified in recent years (Figure 22).

Taiwan's membership of CPTPP may increase export diversity to Malaysia. The high concentration of Taiwanese exports is not inherently a negative issue but does suggest a degree of vulnerability if, for example, specific supply chains are disrupted. If Taiwan joins CPTPP, it may result in Taiwanese exports being able to compete in other product markets and therefore result in a diversification of the trading relationship, in addition to enhancing the existing industrial linkages. This would be positive from Malaysia's perspective as the relationship with Taiwan will be less vulnerable to shocks in the selected product markets in which trade is currently concentrated and would also result in a more diverse range of products becoming available in Malaysia. From Malaysia' export perspective,

exports to Taiwan are less concentrated but could still benefit from diversification as a result of greater trade liberalisation.

Assessing Malaysia's industrial linkages with Taiwan

Assessing the trade complementarity and export diversification provides an overview of the trading structure between Malaysia and Taiwan. But we also want to understand the value to Malaysia of the relationship, in terms of its contribution to the development of Malaysia's industrial base through linkages. Malaysia's industrial linkages can be categorised as either forward or backward linkages, depending on the relative position in the supply chain (see Box 4). Both are important depending on the specialisation of Malaysian firms – if there are strong linkages between Malaysia and Taiwan that could be further strengthened by mutual membership of CPTPP we can conclude that Taiwan's membership of CPTPP would be positive for Malaysia's industrial development.

Box 4. Forward and Backward linkages

In this context, **forward linkages** refer to Malaysian producers providing input to processing in another country, either for domestic consumption in that country or for onward export. For example, if a Malaysian firm produces a semiconductor which is exported to a manufacturer in Korea, to produce a smart phone for export to Europe.

By comparison **backward linkages** refer to Malaysia producers receiving inputs for processing from another country, either for domestic consumption within Malaysia or for onward export. For example, a Malaysian firm imports components from Vietnam to produce machinery which is sold domestically in Malaysia.

Trade in Value Added

Assessing Trade in Value Added (TiVA) is crucial for understanding the dynamics between countries. Crucially, TiVA has a close link with the position of the countries in regional and global production networks, with economies with higher degree of technological sophistication adding higher value to their exports.¹⁷

Taiwan is the 6th largest contributor to value added in Malaysia’s exports. The source of value added across Malaysia’s exports reflects where Malaysia has strong backward linkages, as Malaysia is importing value for processing and onward export.

Overall, Taiwan was the 6th largest contributor to value added in Malaysia’s gross exports in 2015 (latest year for which data is available).

The contribution of value added from Taiwan and other CPTPP members to Malaysia’s gross exports has been either stable or declining. When compared to other CPTPP members, Taiwan was the third largest contributor to Malaysia’s exported value added, behind Japan and Singapore, contributing 1.53% to the share of foreign value added in Malaysia’s exports. However, this share has declined since 2005 (Figure 23). This same pattern can also be seen very notably with Japan.

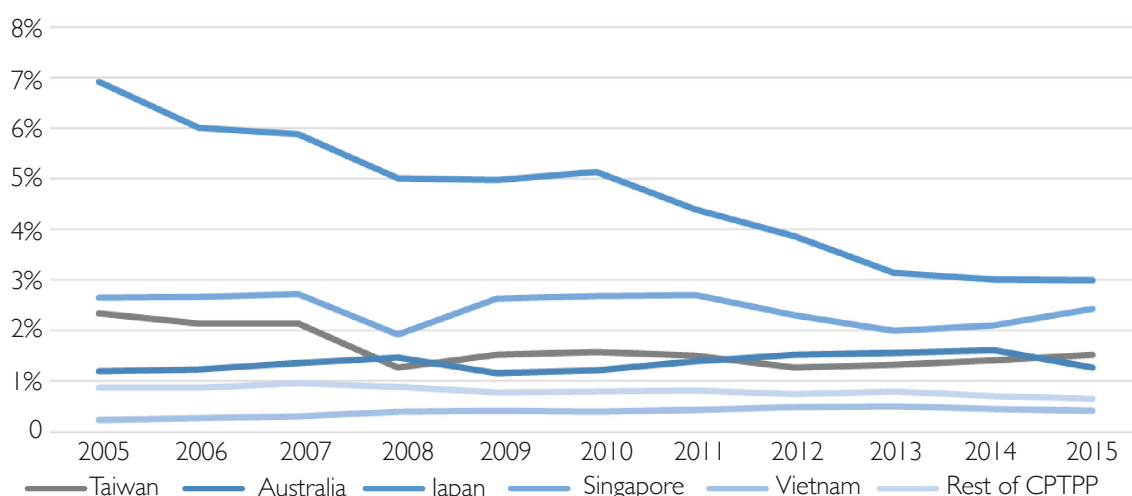
Table 9. Source of Value Added in Malaysia’s Gross Exports in 2015, Rank, Value and Percentage

Partner	Rank	Value Added USD, million	Percentage of Total
China	1	15,728.7	7.67%
United States	2	7,776.7	3.79%
Japan	3	6,139.8	2.99%
Singapore	4	5,001.4	2.44%
Korea	5	3,266.2	1.59%
Taiwan	6	3,119.2	1.52%
Germany	7	2,842.4	1.39%
Australia	8	2,603.4	1.27%
Indonesia	9	2,545.9	1.24%
Thailand	10	2,491.4	1.22%

Source: OECD TiVA database

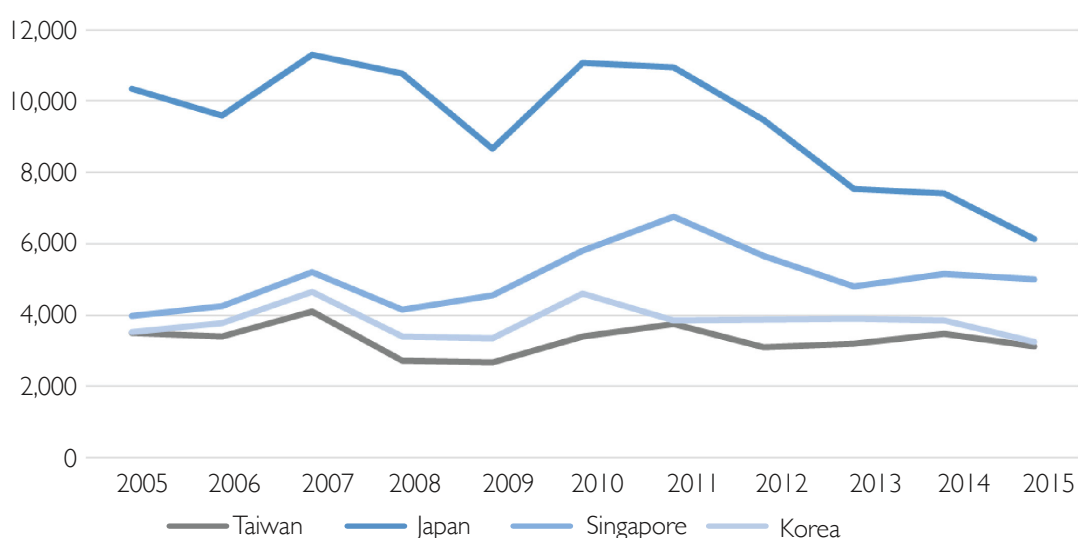
¹⁷. Hoan et al., 2019

Figure 23. Source of Value Added in Malaysia's Exports, 2005-2015, Percentage Share of World



Source: IDEAS calculations using OECD TiVA database

Figure 24. Source of Value Added in Malaysia's Gross Exports, 2005-2015, USD Mil.



Source: IDEAS calculations using OECD TiVA database

Malaysia is increasingly generating value added domestically. The declining share of value added from Taiwan in Malaysia's exports is not inherently a negative indication. It likely reflects a diversification of Malaysia's industrial base and a growing share of value added generated domestically, indeed the share of value added generated domestically in Malaysia has grown from 55.01% in 2005 to over 63.09%¹⁸. This suggests the growing sophistication of Malaysia's industry.

The level of value added from Taiwan has been broadly flat in recent years – alongside the contribution from other Northeast Asian economies. Considering absolute levels of value added sourced from Taiwan, we can see that this has not grown significantly since 2005 (Figure 24). The levels have also remained broadly stable for Korea and Singapore over the period despite enjoying preferential trading arrangements with Malaysia.

¹⁸ OECD TiVA database

Taiwan’s membership could expand the scope to add value to Malaysia’s exports. Despite a strong and consistent contribution of value added to Malaysia’s exports, Taiwan has struggled to expand its contribution over recent years. It may be that the barriers to trade are limiting to the scope to deepen the relationship and increase the contribution of value added. Membership of CPTPP would address these trade barriers and could therefore help to increase the contribution of value added. However, it is important to note that Japan, Korea and Singapore have also not seen growth in their contribution of value added despite having preferential trading arrangements in place with Malaysia.

Taiwan is the 10th largest destination for Malaysia’s value added. Of all the value added by Malaysia to gross exports, an average of 4.14%

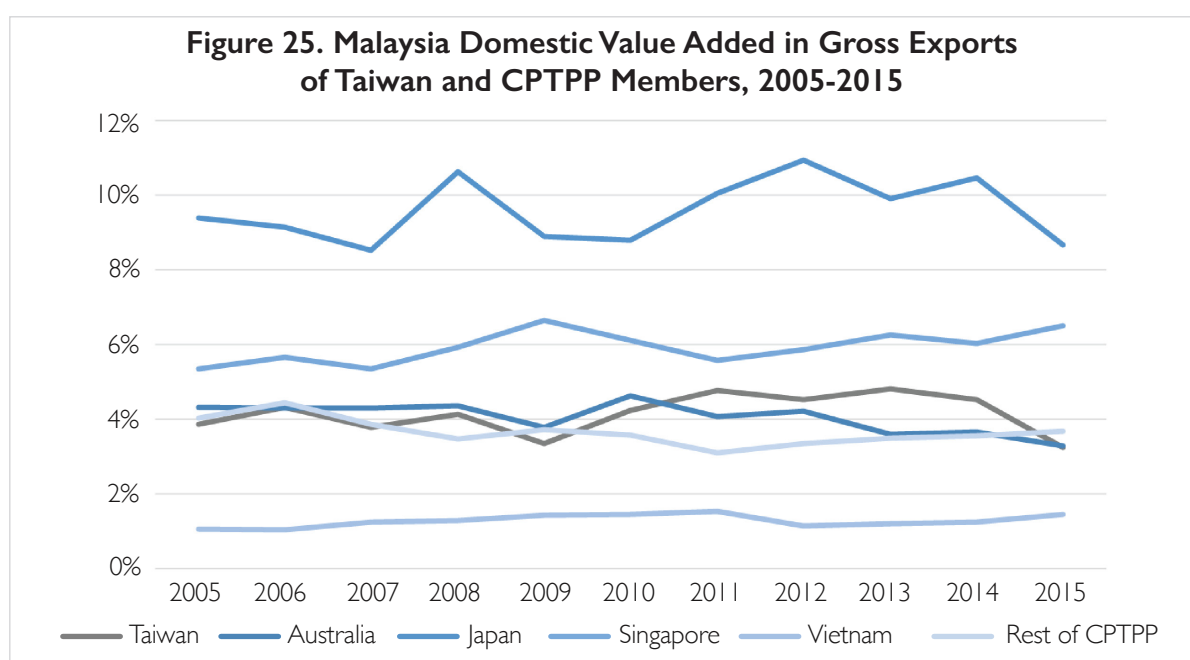
was added to Taiwan’s gross exports between 2005 and 2015. This is an indicator of forward industrial linkages, where Malaysia is adding value to the exports of other countries. In 2015, Taiwan was the tenth largest destination for Malaysia’s value added in gross exports (Table 10).

Compared to other CPTPP members, Taiwan is among the largest destinations of Malaysia’s value added. When compared to other CPTPP countries, Taiwan’s gross exports are among the highest destinations for Malaysia’s value added, behind Japan and Singapore and broadly on a par with Australia and the other CPTPP Members combined, who are all ahead of Vietnam.

Table 10. Malaysia’s Value Added in Gross Exports in 2015, Rank, Value and Percentage

Partner	Rank	Value Added USD, million	Percentage of Total
China	1	29,642.9	22.92%
United States	2	11,589.0	8.96%
Japan	3	11,195.9	8.66%
Singapore	4	8,404.0	6.50%
India	5	7,258.6	5.61%
Indonesia	6	6,409.0	4.95%
Thailand	7	5,763.4	4.56%
Korea	8	4,700.7	3.63%
Australia	9	4,242.1	3.28%
Taiwan	10	4,183.8	3.23%

Source: OECD TiVA database



Source: Author's calculations using OECD TiVA database

Malaysia's contribution of value added to Taiwan's gross exports could be increased through mutual CPTPP members. As with Taiwan's contribution to Malaysia, Malaysia too has struggled to increase its contribution of value added to Taiwan's exports (Figure 25). Again, it may be that trade barriers have contributed to this, and therefore mutual membership of CPTPP could help to enhance Malaysia's contribution. However, the same pattern of low growth in value added is also found with countries with whom Malaysia already has a preferential trading arrangement.

Overall, it is clear that Taiwan and Malaysia are significant partners in TiVA, which suggests an underlying strength in terms of industrial collaboration. However, it would seem that both Taiwan and Malaysia have struggled to expand the scope of valued added in each other's exports. It is possible that the absence of a preferential trading arrangement may partly explain this. Therefore, it is possible that if Taiwan joins CPTPP then TiVA could expand between Malaysia and Taiwan, reflecting a deepening of industrial collaboration.

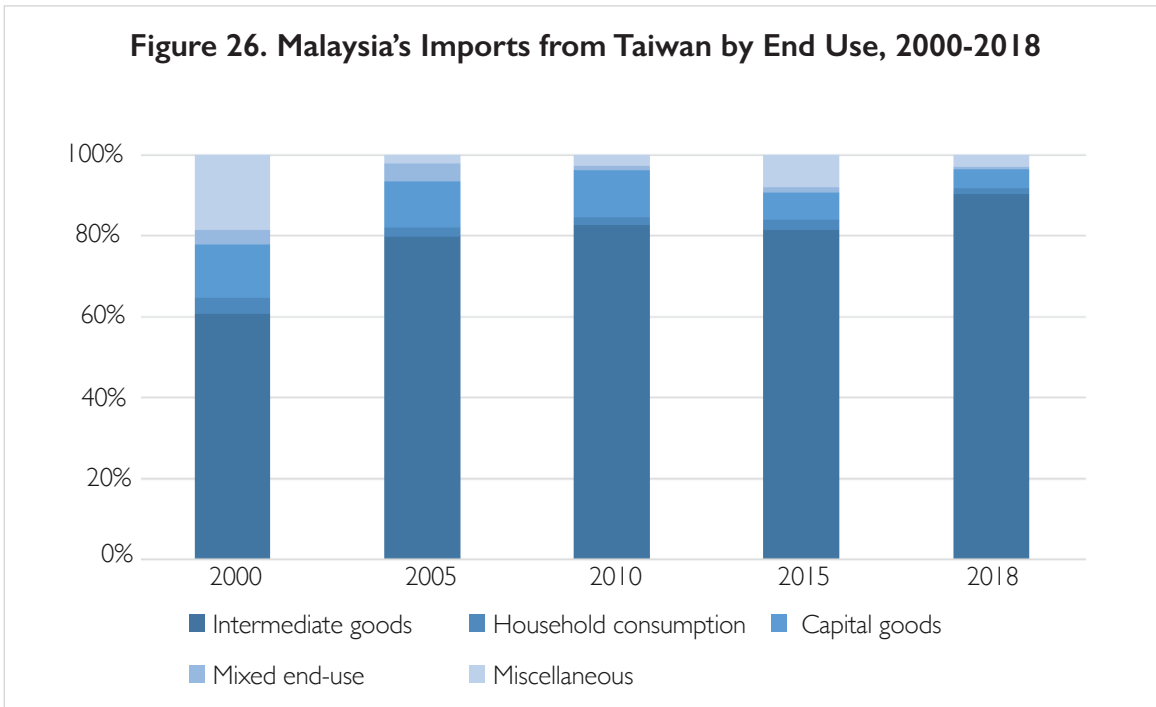
Stages of production

Moving beyond overall levels of trade, we can better understand how Taiwan's membership of CPTPP will impact Malaysia by assessing the stages of production in Malaysia-Taiwan trade. Trade in intermediate goods, especially parts and components, and capital goods, can determine the sophistication of a country's trade basket and its position in global value chains¹⁹.

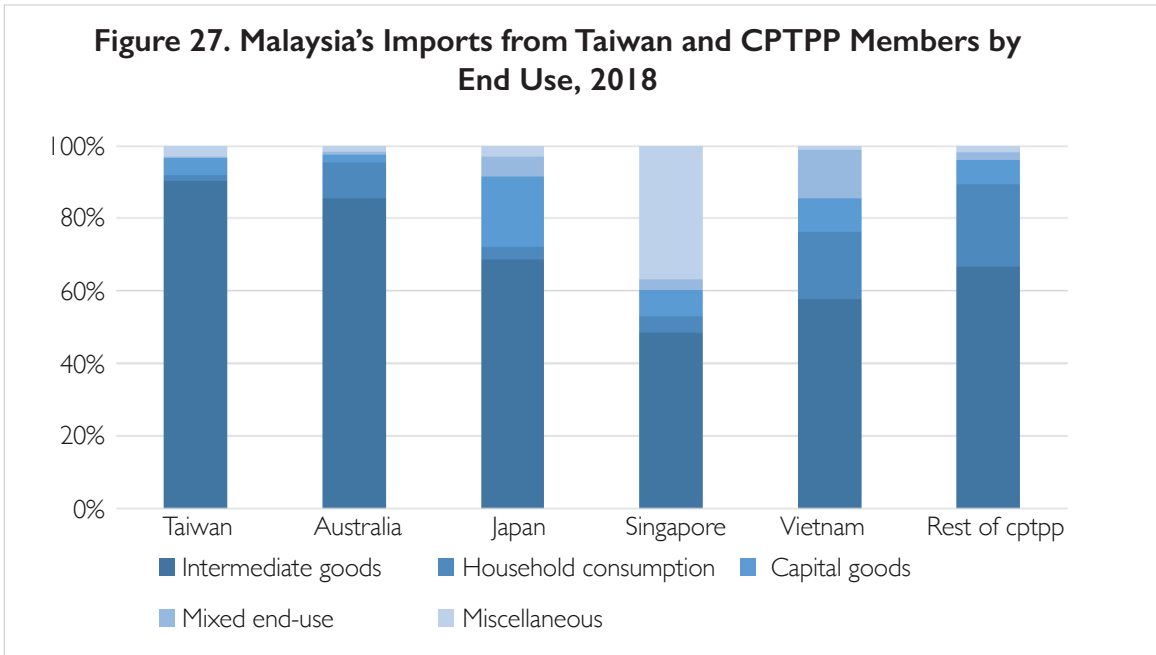
Malaysia's imports from Taiwan are increasingly dominated by intermediate goods, suggesting strong industrial linkages. The import share of intermediate goods has rapidly climbed to over 90% in 2018 compared to 60% in 2000 (Figure 26). This reflects Taiwanese FDI in Malaysia, which leads to the increasing import demand for intermediate goods of Taiwanese companies based in Malaysia from their suppliers in Taiwan. In other words, this illustrates a high level of industrial linkage between Malaysia and Taiwan and a growing role for Malaysia in the value of chain of Taiwan's multinational companies²⁰.

¹⁹ Athukorala, 2011; Gaulier et al. 2007; Reis and Farole, 2012

²⁰ Hoan et al., 2019



Source: IDEAS calculations using OECD STAN database and Hoan et al. (2019) for 2000



Source: IDEAS calculations using OECD STAN database

Intermediate goods make up a higher proportion of imports from Taiwan than from any other CPTPP Member. When comparing the end use of imports from Taiwan with those from other members of CPTPP, we can see that

the highest share of intermediate goods is found in the import basket from Taiwan (Figure 27). This implies that trade with Taiwan is more geared to industrial linkages than trade with any of the current members of CPTPP.

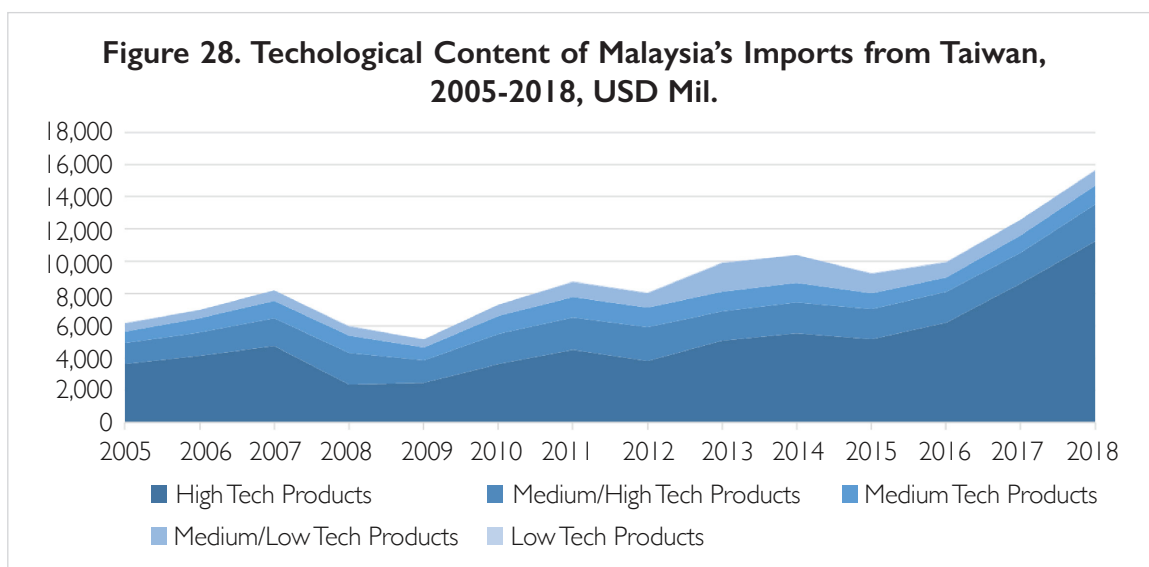
Technological Content

We can also assess the sophistication of the industrial linkages by assessing the degree of technological complexity of goods being imported.

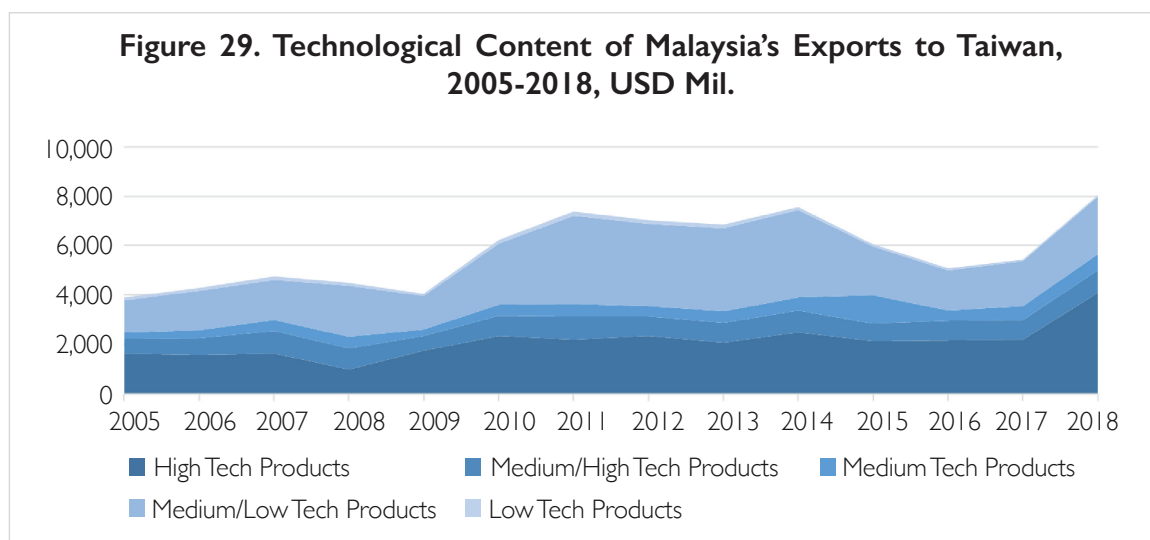
Malaysia’s imports from Taiwan are primarily comprised of high technology products. Between 2005 and 2015 Malaysia’s imports from Taiwan were dominated by high technology products, and the overall share of high technology products has increased to over 70% by 2018 (Figure 28). Combining this with the earlier analysis

suggests that industrial linkages are concentrated in high technology industries, and that this trend is increasing over time.

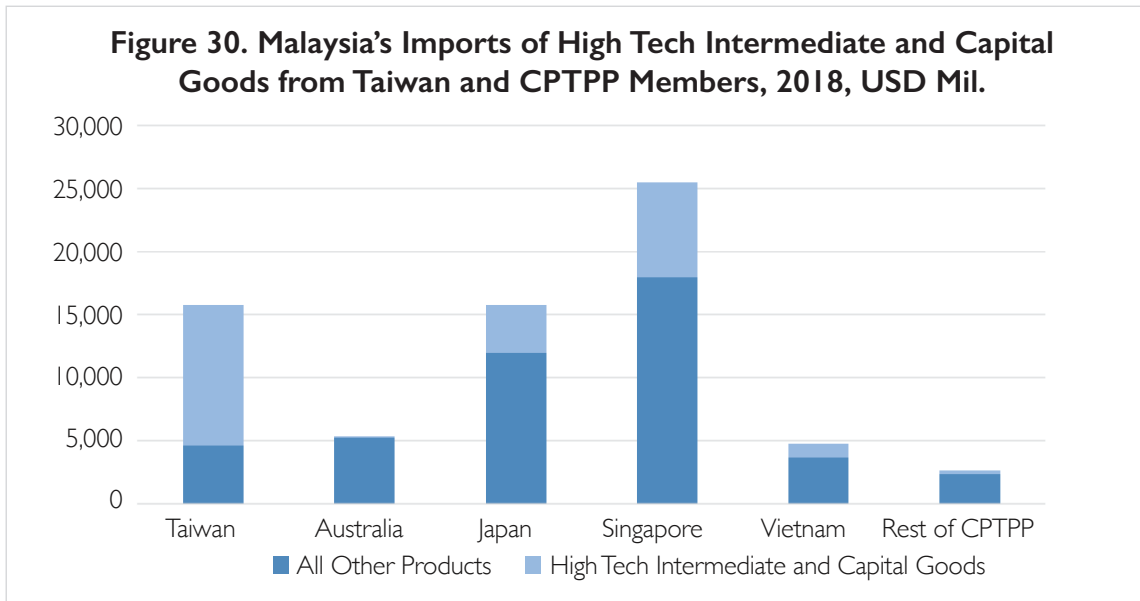
Malaysia’s exports to Taiwan are less concentrated in high technology products, but these still comprise a significant proportion of exports. Considering Malaysia’s exports to Taiwan, we observe that the share of high technology products is not as high, though it has increased from just over 40% in 2005 to over 50% in 2018, suggesting an upgrading of Malaysia’s industry (Figure 29).



Source: IDEAS calculations using OECD STAN database



Source: IDEAS calculations using OECD STAN database



Source: IDEAS calculations using OECD STAN database

Relative to other members of CPTPP, imports from Taiwan are dominated by high technology intermediate and capital goods.

We can also assess the technological content of the intermediate and capital goods being imported from Taiwan and other CPTPP members, to assess how technologically sophisticated the industrial linkages are between Malaysia and Taiwan. High tech intermediate and capital goods are a large proportion of overall imports from Taiwan – a higher proportion than for any current CPTPP members (Figure 30). Moreover, in absolute terms, the highest level of high tech intermediate and capital goods is currently being imported from Taiwan.

Taiwan’s membership of CPTPP could further enhance the strong industrial linkages between Malaysia and Taiwan. It is clear that there are strong industrial linkages between Malaysia and Taiwan – in particular, there are strong backward linkages between Malaysian firms with Taiwanese

producers, with high technology content. Given the trade barriers that continue to exist (identified in Part 2), there is likely to be scope to expand these linkages and also expand and upgrade the technology content for Malaysia’s forward linkages with Taiwan.

Given the strong existing linkages with Taiwanese industry, Taiwan’s inclusion would substantially add to the overall benefits of CPTPP from the perspective of upgrading Malaysian industry. Indeed, the existing linkages may also increase the likelihood of new linkages emerging for other products more easily than for other CPTPP members where fewer linkages currently exist.

Part 5 expands on this analysis to specifically consider how Taiwan’s membership would impact Malaysia’s economy from the perspective of the Fourth Industrial Revolution.

Part 3: Key Points

- Malaysia and Taiwan have a highly complementary trade structure, implying that expansion in trade is likely if trade is liberalised between the two parties through CPTPP.
- Taiwan's exports to Malaysia are concentrated among relatively few products, reflecting specialisation, but also suggesting some vulnerability in the trading relationship. Liberalisation through CPTPP would lead to more Taiwanese products being competitive in Malaysian markets, thus diversifying the number of products traded between the two economies.
- Malaysia and Taiwan are strong partners in terms of value added to each other's exports, but they have struggled to increase the contribution of value added in recent years. This is a pattern common across Malaysia's trading relationships with other CPTPP Members. Liberalisation of trade through CPTPP could enable an expansion in the trade in value added.
- Malaysia and Taiwan share strong industrial linkages – in particular there are strong backward linkages between Malaysia-based firms with Taiwanese producers, with high technology content. Given the trade barriers that continue to exist, there is likely to be scope to expand these linkages and also expand and upgrade the technology content for Malaysia's forward linkages with Taiwan, through liberalisation of trade under CPTPP.

Part 4. Estimating the aggregate impact of Malaysia and Taiwan joining CPTPP

In this section we present estimates of the aggregate economic impact of Malaysia and Taiwan joining CPTPP. We construct the analysis in two stages: i) estimating the impact of Malaysia ratifying and implementing CPTPP; and ii) estimating the impact of Taiwan subsequently joining CPTPP.

Estimate Methodology

The analysis is presented here has been provided by researchers at the European Centre for International Political Economy (ECIPE), based on specifications agreed between IDEAS and ECIPE. A global Computable General Equilibrium model (CGE) has been used to analyse the effects of CPTPP. The model accounts for the interactions among firms, households and governments across

different product markets in a range of different geographic regions. The model is built from the GTAP 10 database and other data. The product markets are defined in Table 11 below.

In order to simulate the impact of CPTPP, the provisions of the trade agreement are mapped onto the model. The liberalisation of tariffs, quotas and NTMs is reflected in reductions in tariff rates and the ad valorem equivalents of NTMs. The provisions to reduce customs barriers are reflected by a general 1% improvement in efficiency at the border. In general, these parameters are adopted from other assessments of the CPTPP (or its predecessor, TPP). However, these studies do not include Taiwan as a potential member; therefore, in the second scenario we assume full liberalisation of tariffs and quotas

Table 11 Product Market Definitions in GTAP

Product Market	Description
Grains and Crops	Includes rice, wheat, other grains, vegetables and fruit, oil seeds, sugar and other crops
Meat and Animal Products	Includes live cattle and other animals, animal meat, raw milk, raw animal materials, such as wool and silk
Extraction	Includes forestry, oil and gas, coal and mining
Processed Food	Includes vegetable oils, milk, food preparations, beverages and tobacco
Textiles and Apparel	Includes textiles, wearing apparel
Light Manufacturing	Includes manufacture of motor vehicles and other transport equipment, fabricated metal products, leather, timber products and paper
Heavy manufacturing	Includes manufacture of petroleum products, chemical and pharmaceutical products, rubber and plastic products, iron and steel, electrical equipment and machinery
Utilities and Construction	Includes electricity supply, gas distribution, water supply, construction
Transport and Communications	Includes wholesale and retail trade, accommodation and food services, transport services, information and communications
Other services	Includes insurance, real estate, business services, education

Source: Global Trade Analysis Project (GTAP)

and, for NTMs, we assume that Taiwan liberalises in line with the most closely aligned CPTPP member²¹. The parameters for the model are summarised in Table 12 below.

Impact of Malaysia ratifying CPTPP

CPTPP is expected to have positive effects on trade and income for participating countries. As barriers reduce, trade is expected to increase leading to a greater specialisation of firms within participating countries. As firms specialise, capital and labour will be reallocated to the most competitive and productive activities in the economy leading to an overall change in the composition of economic output.

We estimate net positive gains for Malaysia from ratifying CPTPP across GDP, trade and employment. GDP is estimated to increase by over 1% once all the provisions of CPTPP have taken effect (Table 13). Exports and imports are projected to increase by 1.45% and 2.95%, respectively. In turn, overall employment is estimated to increase by nearly 0.9%, the equivalent of an additional 140,000 people in work.

The net positive impact on GDP and employment is primarily driven by the increase in trade. The change in import and export levels varies by industry, depending on the scale of liberalisation and the competitiveness of Malaysian firms relative to those in other CPTPP member countries (Figure 31).

Table 12. Parameters for CGE model

Parameter	Comment	Source
Tariffs	The tariffs for the model are taken from those prepared by the International Trade Centre for TPP excluding the change in tariffs for the US. For Taiwan, we assume full liberalisation of tariffs and quotas.	International Trade Centre (2019)
NTMs	The AVE NTMs are taken from those prepared by Petri and Plummer (2016), available from asiapacifictrade.org . Values for Taiwan are constructed by reducing AVE NTMs in line with the closest partner for that industry.	Petri, Plummer (2016)
Customs Facilitation	Based on USITC (2016) a 1% trade increase in efficiency is applied to reflect the CPTPP provisions on customs facilitation.	USITC (2016)

Source: indicated in source column above

Table 13. Estimated Economic Impact of Malaysia Ratifying CPTPP on Malaysia's economy

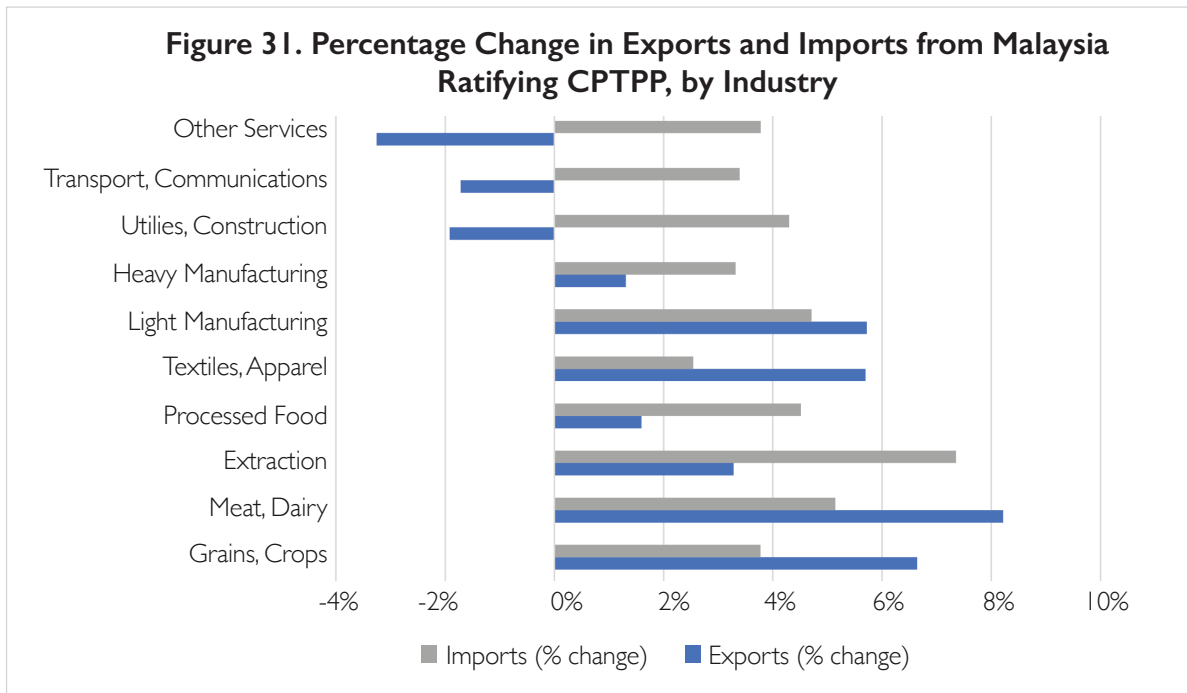
Indicator	Percentage change	Value change
GDP	+1.02%	+USD 3,443 million
Exports	+1.45%	+USD 3,912 million
Imports	+2.95%	+USD 6,752 million
Employment	+0.88%	+140,000 employed persons

Source: IDEAS, ECIPE calculations

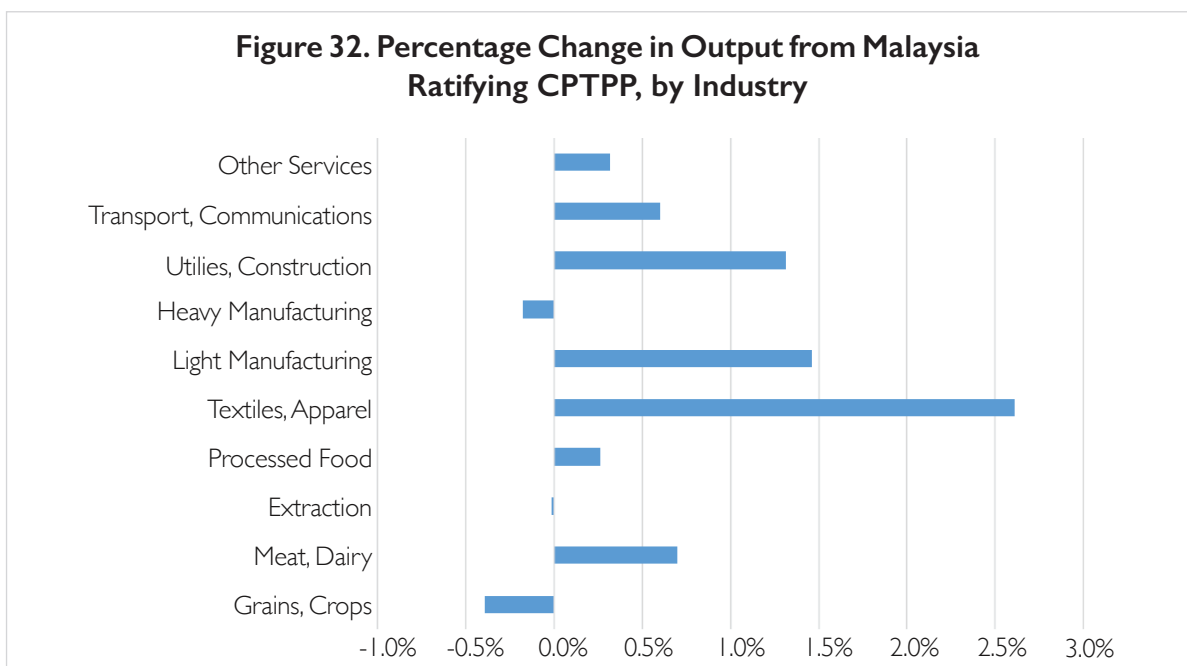
²¹ Illustration: If Taiwan's current trade restrictions are closest to Japan's in a given sector, then we can assume that Taiwan liberalises to the same degree (i.e. the NTM AVE declines at the same rate as result of CPTPP membership).

As we can see from Figure 31, under CPTPP Malaysia would experience a growth in imports across all sectors as its trade barriers reduce. In service sectors, Malaysia's exports would decline, and, in all goods sectors, Malaysia's exports would increase as the barriers in other CPTPP members reduce.

These **changes in export and import levels would translate into a change in overall levels of output**, as more competitive firms are able to expand, and labour and capital are reallocated to their most efficient uses within the economy (Figure 32).



Source: IDEAS, ECIPE calculations



Source: IDEAS, ECIPE calculations

As we can see from the Figure 32, output is expected to increase in all industries, with the exception of heavy manufacturing, extraction and grains and crops. The declines in output in these industries are more than offset by the positive gains in other sectors, leading to a **net positive increase in aggregate output for the Malaysian economy as a whole**. The change in output across industries is driven by the reduction in trade barriers and the subsequent reallocation of capital and labour to the most efficient uses within the Malaysian economy.

Impact of Taiwan joining CPTPP

As discussed in Parts 1 and 2, Malaysia and Taiwan enjoy a deep economic relationship, despite the

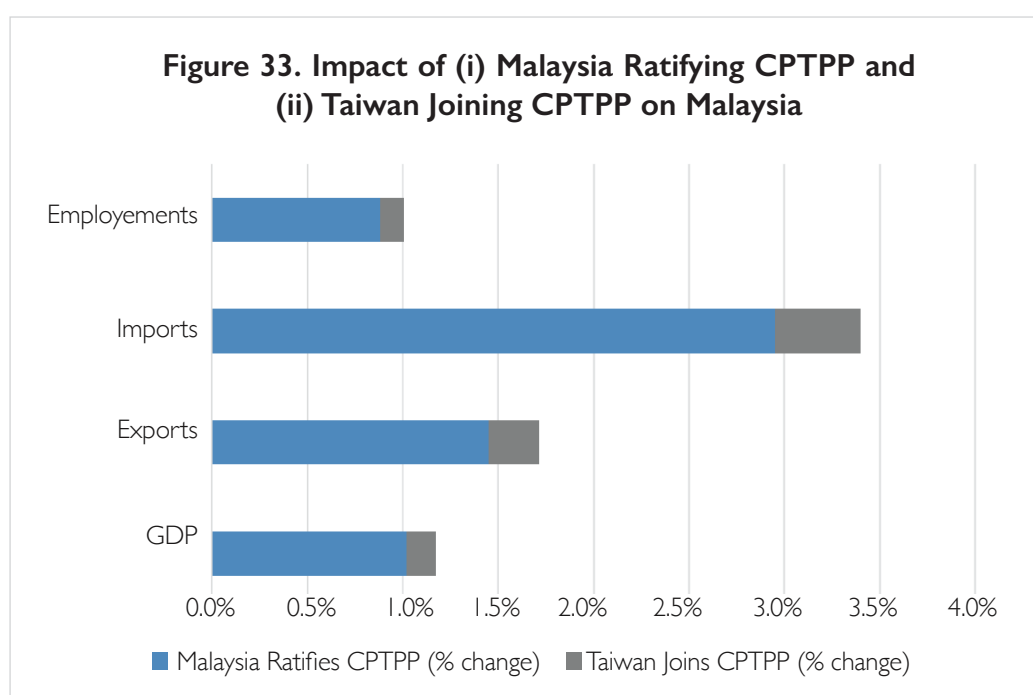
ongoing presence of trade restrictions in the form of tariffs and NTMs. If Taiwan were to join CPTPP, then these trade barriers would fall leading to increased levels of trade and investment between Malaysia and Taiwan.

We estimate that the positive gains for Malaysia from ratifying CPTPP would be increased if Taiwan also joined CPTPP. If Taiwan joined CPTPP, the boost to Malaysia GDP would increase by an additional 0.15%, or over USD500 million per year (Table 14, Figure 33). Exports and imports are projected to increase further following Taiwan's membership by 0.27% and 0.45% respectively. In turn overall employment is estimated to increase by a further 0.13%, nearly an additional 20,000 people in work.

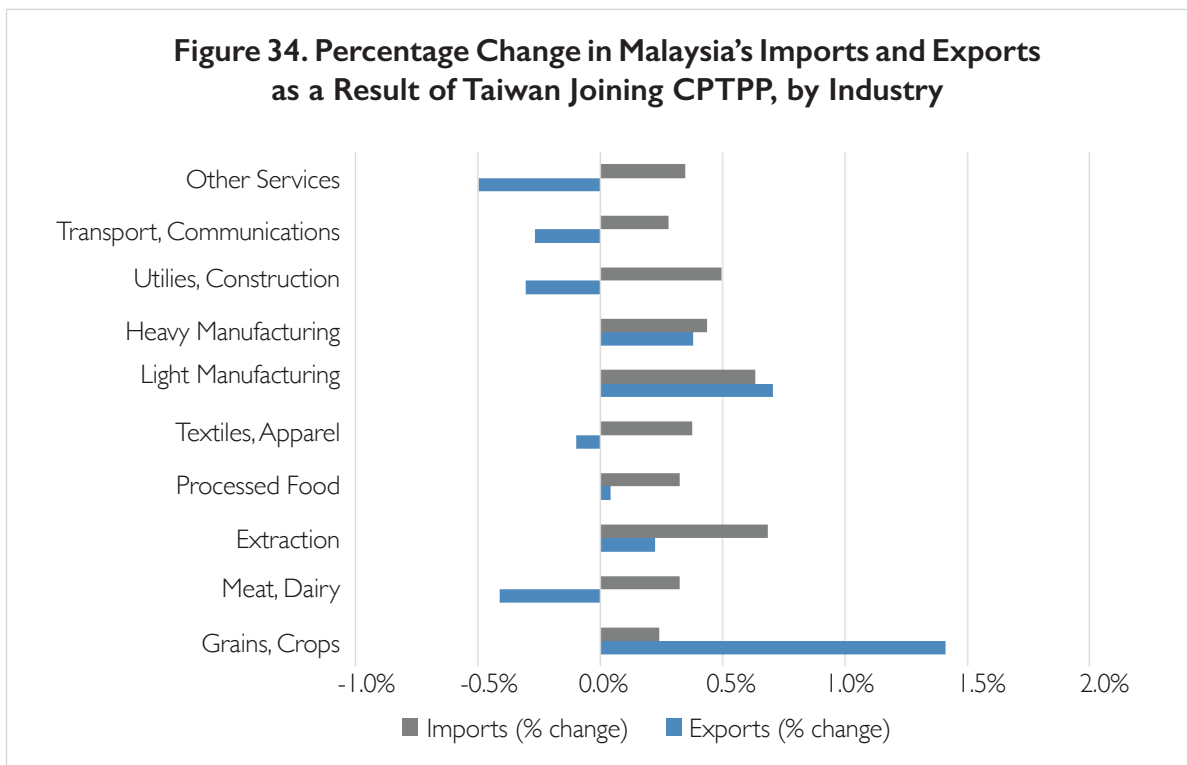
Table 14. Impact of Taiwan Joining CPTPP on Malaysia

Indicator	Percentage change	Value change
GDP	+0.15%	USD 517 million
Exports	+0.27%	USD 716 million
Imports	+0.45%	USD 1,025 million
Employment	+0.13%	20,000 employed persons

Source: IDEAS, ECIPE calculations



Source: IDEAS, ECIPE calculations

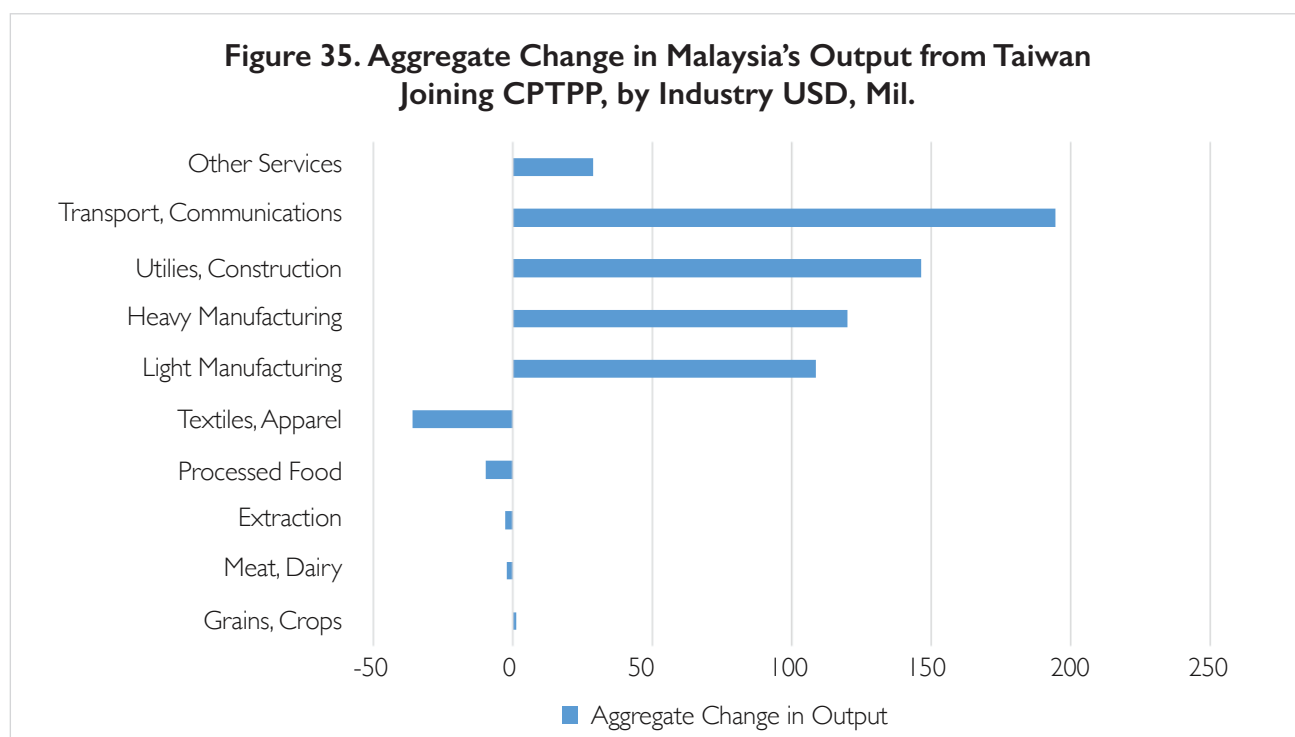


Source: IDEAS, ECIPE calculations

This net positive impact is primarily driven by an increase in trade. The scale of the trade impact varies, partly depending on the degree of complementarity between the economies of Malaysia and Taiwan (Figure 33).

Malaysia’s manufacturing exports would increase if Taiwan joined CPTPP. Malaysia’s exports are estimated to decline across service sectors and in meat, animal products and textiles but increase in all other sectors (Figure 34). Notably, both heavy and light manufacturing exports are estimated to increase as a result of Taiwan’s membership of CPTPP, suggesting the expansion of industrial collaboration postulated in Part 3 – as the costs of inputs from Taiwan falls. Imports are expected to increase across all industries.

Malaysia’s services and manufacturing output would increase if Taiwan joined CPTPP. The composition of change in the aggregate output differs from the first scenario (Figure 35). Malaysia’s service sectors are anticipated to experience a further boost to growth. However, in goods, output in Malaysia’s food and textiles sectors is expected to decline in response to more competitive imports from Taiwan, but this impact is more than offset by the growth in Malaysia’s light and heavy manufacturing sectors, both of which are projected to grow significantly. This reflects the underlying high levels of industrial collaboration in these industries between Malaysia and Taiwan. As the cost of trade falls, this collaboration can deepen, for example as a result of lowering the cost of importing intermediate goods, leading to an overall rise in output.



Source: IDEAS, ECIPE calculations

Overall, we conclude that ratifying CPTPP will be net positive for the Malaysian economy and the benefits would be further boosted if Taiwan were to join. In particular, Taiwan's membership would add to the net benefit in Malaysia's manufacturing industries, as well as contributing to the general shift in Malaysian output towards services.

- In line with the assessment in Part 3, Taiwan's membership of CPTPP would boost Malaysia's manufacturing exports, imports and overall output, reflecting a strengthening of the industrial linkages already in place.

Part 4: Key Points

- Ratifying and implementing CPTPP would boost Malaysia's GDP by an additional 1%, driven by an expansion in trade. This would result in new employment opportunities equivalent to 140,000 additional people in work.
- If Taiwan also joined CPTPP the boost to Malaysia's GDP would increase by a further 0.15%, as a result of more trade. This in turn would boost the employment impact to create an additional 20,000 jobs.

Part 5: Taiwan, CPTPP and Malaysia’s Fourth Industrial Revolution

In this section we consider the impact of Taiwan’s membership of CPTPP on Malaysia’s efforts to embrace the Fourth Industrial Revolution, which has been identified as a strategic policy priority by the Ministry for International Trade and Industry (MITI).

Malaysia’s 4IR Strategy and CPTPP

Malaysia’s industrialization success hinges on open trade. Some 86% of Malaysian manufactured goods are intended for export and half of that is in the electrical and electronics sector. However, at the same time, Malaysia has struggled to increase high value-added content in manufacturing exports which could be caused by a failure to facilitate technological upgrading along value chains and continued reliance on a low-cost production model that is labour intensive. The long-term outcome could be a reduction in the economy’s competitiveness.

As such, Malaysia’s embrace of the Fourth Industrial Revolution as identified under the National Policy on Industry 4.0 (“Industry 4WRD”) provides the opportunity to increase the share of high value-add exports through capital substitution for labour as well as product and process innovation. Given Taiwan’s niche participation in high technology sectors and long-term trade and investment relationships with Malaysia, Taiwan’s inclusion in CPTPP could provide a much-needed boost in expanding production capacity and quality of Malaysia’s manufacturing exporters.

How Provisions in CPTPP relate to 4IR

Trade and investment frameworks are key drivers of 4IR. In order to understand the impact of Taiwan’s membership of CPTPP on Malaysia’s 4IR strategy we need to consider the drivers of 4IR, and how these relate to the provisions within CPTPP. The World Economic Forum (WEF) analysis identifies technology, human capital, global trade

and networks, and institutional frameworks as key drivers of production for 4IR.²² According to WEF, international trade and investment are considered among the main drivers of “the changing geography of production and the choice of globalized production processes composed of articulated tasks dispersed across country.” As a result, changes in cross-border trade costs, arising from tariffs, NTMs and customs will shape this geography. The changing conditions for global trade, including trade policies of individual countries and how these relate to each other will be an important driver of the choice of technologies and production methods globally and locally.

Ratification of CPTPP will strengthen Malaysia’s position in global trade and investment networks. Malaysia is already well-integrated into regional value chains and exhibits a very good trade infrastructure, which is reflected in its strong global ranking of 7th for trade and investment in the WEF’s readiness report. However, Malaysia’s position in global trade flows could be further enhanced through ratification of CPTPP, as demonstrated by the estimated increase in trade described in Part 4. Specifically with respect to 4IR, the provisions of CPTPP should promote more seamless trade in manufacturing sectors due to the reductions of tariffs and NTMs and the customs facilitation measures identified in Part 2. These provisions should serve to further increase the competitiveness and attractiveness of Malaysia as a destination to investors. However, the provisions of CPTPP also go beyond the more conventional trade issues, to strengthen the rules governing digital trade in certain key respects which could be relevant from a 4IR perspective.

CPTPP provisions on digital trade can further strengthen Malaysia’s ability to embrace 4IR. TPP was notable for its attempt to go beyond the traditional focus of trade agreements to include broader provisions on economic cooperation, including in the context of the digital economy.

²² WEF, 2018

Following the withdrawal of the United States, certain provisions within TPP were scaled down, but the digital aspects of TPP remained broadly intact. As a result, CPTPP includes a chapter specifically on

e-commerce which includes a number of provisions relating to digital trade, summarised in the table below.

Table 15. CPTPP Provisions Relating to Digital Trade

Provision	CPTPP language
Free flow of data	Article 14.11 commits its members to ensuring that data can flow easily where it is for the conduct of legitimate business
Non-discrimination	Article 14.4 on non-Discriminatory Treatment of Digital Products prohibits signatory parties from favouring domestic products and their creators and owners or from discriminating between products or producers from home versus abroad
Consumer protection	Article 14.7 requires parties to adopt or maintain consumer protection laws for an online environment.
Protection of source Code	Article 14.17 prohibits signatory countries from asking software companies for access to their source codes – protecting the security and IP of businesses engaged in digital trade.

Source: CPTPP text

The scope of CPTPP’s digital provisions limit their impact on 4IR adoption. The provisions relating to consumer non-discrimination are principally relevant in the context of digital products and services but provide a generally more permissive framework for digital applications which could encourage innovation adoption where foreign provided digital goods and services are available. The two related provisions on data ensure that there is free flow of data across borders and that there should be no requirements for data localisation. Whilst these measures will support the development of digital innovations, it is important to note that there are broad exceptions to these provisions, with significant scope for countries to invoke exemptions for national security to impose restrictions on data.²³

Similar to the provisions on data flow restrictions, CPTPP explicitly prohibits mandatory source code disclosure by governments - CPTPP article 14.17

states that “no party shall require the transfer of source code”. However, this provision only applies to mass-market software that is not used for critical infrastructure. From a 4IR perspective, this limitation to mass-market software disqualifies most AI applications today in the business segment.²⁴ Finally, the provisions on consumer protection are welcome but likely to be limited with respect to their impact on 4IR.

The primary benefit of CPTPP for Malaysia’s 4IR strategy is conventional trade liberalisation.

E-commerce provisions within CPTPP are certainly welcome and would improve the ecosystem for the digital economy in Malaysia. However, from the 4IR perspective, the greater impact from CPTPP will be in terms of conventional trade liberalisation in those sectors where 4IR is taking place. The extent of the benefit from CPTPP will depend largely on the suitability of CPTPP members (including potentially Taiwan) as partners for Malaysia’s 4IR adoption.

²³ Lee-Makiyama, 2018

²⁴ Ibid.

Taiwan's as a 4IR partner for Malaysia

Taiwan is a leader in 4IR. Taiwan is widely considered to be a world leader in 4IR, as a result of a combination of a competitive, export orientated manufacturing base, leading research institutions and pro-active government policy. In Deloitte's Global Manufacturing Competitiveness Index, Taiwan ranked 7th in the world, demonstrating Taiwan's position among the most competitive manufacturing destinations globally.²⁵ Taiwan's manufacturing base has been quick to adapt to the new technologies of 4IR, such as robotics. According to the International Federation of Robotics (IFR), Taiwan is among the top ten globally in terms of robot intensity with 177 robots for every 10,000 employees in the manufacturing sector as compared to a global average of 74²⁶. In other areas too, Taiwanese industry is pioneering new technologies backed by strong research institutions. For example, the Industrial Technology Research Institute in Taiwan has been developing a range of applications for 3D printing for a number of years.²⁷

The Taiwanese government has made 4IR a central policy goal. This strong manufacturing performance and technological innovation has been supported by a focussed government strategy. The "Taiwan Productivity 4.0 Initiative" was announced by Executive Yuan in September 2015 as a response to the fourth industrial revolution and encompasses a wider scope. It promotes the application of "smart" technologies for the upgrade and transformation not only of traditional manufacturing industries such as metal processing, transportation equipment, 3C (computers, communications and consumer electronics), foods, textiles, pharmaceuticals and health, and logistics, but also for the service and agriculture industries.²⁸ The Taiwanese government has subsequently launched the "5+2 Major Innovative Industries Policy" to further upgrade key industries

in the Taiwanese economy. The initial five "pillar industries" were the Internet of Things, Biomedical, Green Energy, Smart Machinery, and defence. This list was subsequently expanded to include high-value agriculture and the circular economy. Through this policy, the Taiwanese Government intends to shift Taiwan's industrial base towards high value-added, service- and solutions-oriented business models.²⁹

Taiwan is a strong partner for Malaysia's 4IR strategy. Taiwan's track record in terms of 4IR positions it as a strong partner for Malaysia's own efforts to capitalise on the opportunities from the technology revolution. Already, through MTECC, Taiwan is assisting Malaysia's 4IR initiative and automated machinery development by jointly promoting the upgrade of digital capabilities by explicitly focusing on providing smart manufacturing solutions to SMEs as well as assisting the transformation of automated manufacturing in Malaysia. Taiwan's membership of CPTPP could further contribute to Malaysia's efforts to 4IR by liberalising trade and stimulating the priority industries in Malaysia's 4IR strategy.

Stimulating 4IR Focus Sectors

Manufacturing sectors are the focus of 4IR in Malaysia. 4IR is primarily centred on technological transformation of production of both goods and services, as a result the development and policy focus is concentrated within the manufacturing sector. Liao et al. (2018) assess the policies to promote 4IR across a range of countries and identifies the most commonly targeted sectors for development as: food manufacturing, textile mills, chemical manufacturing, electronics and transport equipment. Following in this trend MITI identifies a number of "Focus Sectors" in Industry4WRD (Table 16).

²⁵ Deloitte, 2016

²⁶ IFR, 2017

²⁷ The Industrial Technology Research Institute is a technology research and development institution in Taiwan. Founded in 1973, ITRI has played a vital role in transforming Taiwan's industries from labour-intensive into innovation driven. In 2015, for example the ITRI developed Taiwan's first 3-D printer and has gone on to develop other applications such as printing bionic bone implants in 2018

²⁸ Liao et al 2018

²⁹ American Chambers (AmCham), Taipei, 2017

Table 16. 4IR Focus Sectors in Malaysia's Industry 4WRD

Focus Sector	Associated Sub Sectors
Electrical and electronics	<ul style="list-style-type: none"> • Electronic components • Consumer electronics • Industrial electronics • Electrical products
Machinery and equipment	<ul style="list-style-type: none"> • Specialised M&E for specific industries • General industrial M&E, parts and components • Power generating M&E • Machine tools
Chemical	<ul style="list-style-type: none"> • Petroleum products & petrochemicals • Plastic products • Rubber products • Chemical & chemical products • Oleochemicals
Medical Devices	<ul style="list-style-type: none"> • Consumables • Surgical instruments, clinical device & implants • Healthcare equipment
Aerospace	<ul style="list-style-type: none"> • Engineering & design • Aeromanufacturing • System integration • Maintenance, Repair and Operations (MRO)
Other Sectors	<ul style="list-style-type: none"> • Automotive • Transport • Textiles • Pharmaceutical • Metal • Food processing • Services

Source: Industry 4WRD, MITI, 2018

Based on the analysis presented so far in this report, it is clear that Malaysia and Taiwan have a strong relationship in these sectors, which could be

developed further through mutual membership of CPTPP. In this section, we consider these particular sectors in more detail to identify the potential gains.

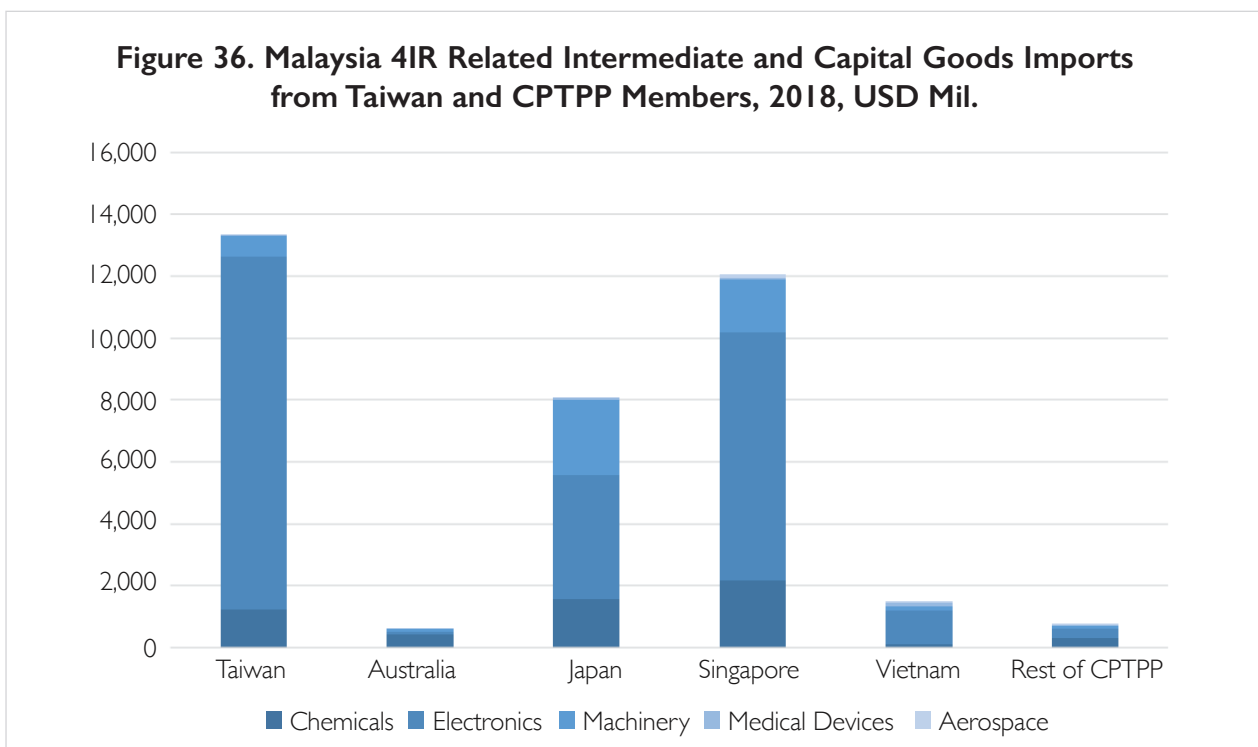
Malaysia's 4IR backward linkages

To develop the 4IR Focus Sectors, Malaysian firms need to develop and expand backward linkages – where Malaysian firms, or investors in Malaysia, import production inputs from another country for processing in Malaysia and subsequent export or domestic consumption. Therefore, the import of intermediate and capital goods in these 4IR focus sectors is an indicator of where the strongest industrial linkages are within these industries.

Malaysia has stronger backward linkages with Taiwan in 4IR Focus Sectors than any current CPTPP Member. If we compare Taiwan with other CPTPP Members, we can see that Taiwan is the largest single contributor of intermediate and capital goods in 4IR Focus Industries, with a huge contribution in electronics in particular (Figure 36). Across the different sectors, Taiwan is the highest contributor in electronics and the third highest for

both chemicals and machinery.

Taiwan's membership of CPTPP could further expand these linkages. Given that these goods are currently subject to tariffs and other barriers there could be a substantial boost to their cost competitiveness in the event that Taiwan joined CPTPP. Taiwanese firms would be more incentivised to expand their business operations in Malaysia, as a result of access to lower cost inputs imported from suppliers in Taiwan. In addition to the reduction of input costs, other CPTPP provisions, such as freer movement for business visitors, would contribute to a more permissive environment for Taiwanese firms in Malaysia. Under this scenario, Taiwan's industrial linkages with Malaysia could be expanded, boosting Malaysian efforts to embrace 4IR. This is consistent with the estimates in Part 4, which projected import gains leading to output growth across Malaysian manufacturing sectors following Taiwan's membership of CPTPP.



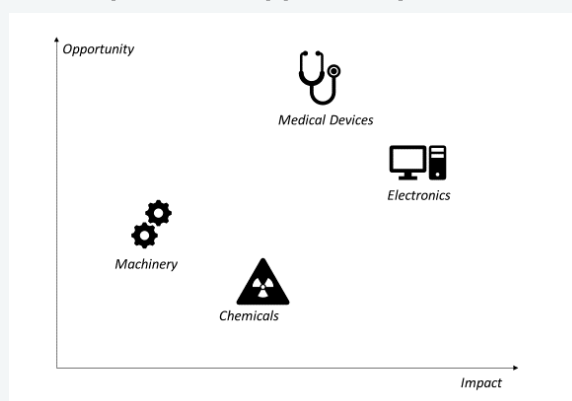
Source: IDEAS calculations using OECD STAN database

Box 5. Taiwan and 4IR – Impact and Opportunity

We can conceptualise the potential benefits for 4IR Focus Sectors from trade liberalisation with Taiwan in terms of both the scale of the impact and the relative opportunity. Figure 37 below tries to demonstrate the potential impact and opportunities from Taiwan's participation

in CPTPP. For the 4IR Sector (excluding aerospace), we define “impact” in terms of the relative trade share with Taiwan, i.e. to what extent imports for that sector are sourced from Taiwan vis a vis Malaysia's other trading partners. We compare this with “Opportunity” which is where there are relatively higher trade barriers (i.e. tariffs) for products from Taiwan vis a vis other countries.

Figure 37. Impact and Opportunity Plot for 4IR Sectors



Source: IDEAS calculations

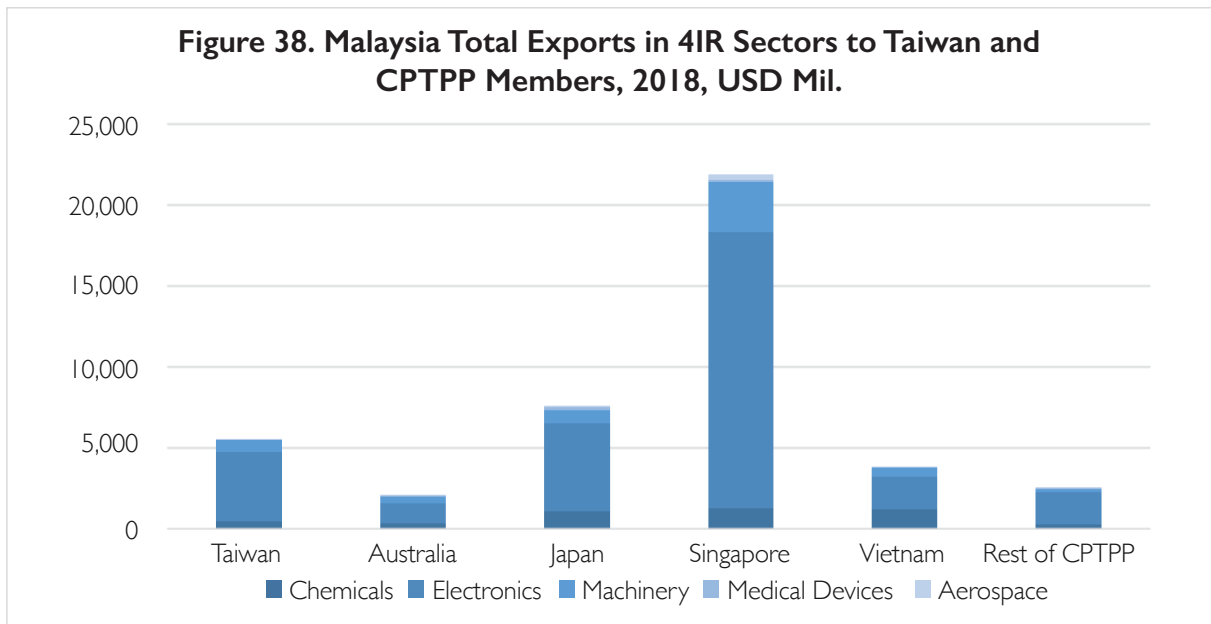
Further liberalisation of trade in electronics is likely to have the greatest impact, given the high volume of imports from Taiwan in that sector. However, medical devices are subject to

relatively higher barriers, so there may be new opportunities in this sector for greater levels of industrial collaboration if Taiwan joins CPTPP.

Malaysia's 4IR forward linkages and export opportunities

In addition to developing 4IR Focus Sectors through liberalising imports of industrial inputs, increasing export opportunities for Malaysian firms within these sectors is also a priority. Export opportunities should encompass both the extent to which Malaysia firms can export final products and the export of inputs for production in other countries, referred to as forward linkages.

Taiwan is an important source for Malaysia's exports in 4IR Focus Sectors. Figure 38 considers Malaysia total exports in 4IR Sectors to Taiwan. As an export destination, Taiwan would rank third if included alongside other CPTPP countries. However, it is important to note that the two larger markets – Singapore and Japan – already enjoy liberalised terms of trade with Malaysia. It is also possible that Singapore registers higher exports as a result of being a transit destination.



Source: OECD STAN database

Table 17. Malaysia’s Intermediate and Capital Goods Exports as a Share of Total Exports in 4IR Sectors to Taiwan and CPTPP Members, 2018, percentage

	Taiwan	Australia	Japan	Singapore	Vietnam	Rest of CPTPP
Chemicals	94.06%	74.98%	93.09%	86.95%	95.83%	80.81%
Electronics	95.80%	40.20%	84.65%	88.32%	72.17%	83.55%
Machinery	99.79%	83.55%	95.57%	96.94%	75.85%	95.19%
Medical Devices	93.52%	75.71%	78.99%	45.37%	93.52%	98.26%
Aerospace	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: IDEAS calculations using OECD STAN database

Malaysia’s exports to Taiwan in 4IR Focus Sectors are overwhelmingly comprised of inputs. Considering the share of exports comprised of intermediate and capital goods, we can see that export to Taiwan is heavily concentrated in inputs, suggesting that Malaysian exports in these sectors is dominated by forward industrial linkages (Table 17).

Malaysia’s Untapped Export Potential

There remains significant untapped potential for Malaysian exporters in these 4IR sectors. The International Trade Centre (ITC) has developed estimates of the untapped export potential for a range of products and markets. ITC identifies the

potential export value for any exporter in a given product and target market based on an economic model that combines the exporter’s supply with the target market’s demand and market access conditions. For existing export products, supply is measured through historical information on export performance. Potential export values can be compared with actual export values to find exporters, products and markets with room for growth.³⁰

Malaysian firms have significant untapped export opportunities – including with Taiwan. According to the ITC Export Potential map, the products with greatest export potential from Malaysia

³⁰ For more detail, please refer to *Export Potential Map*, International Trade Centre

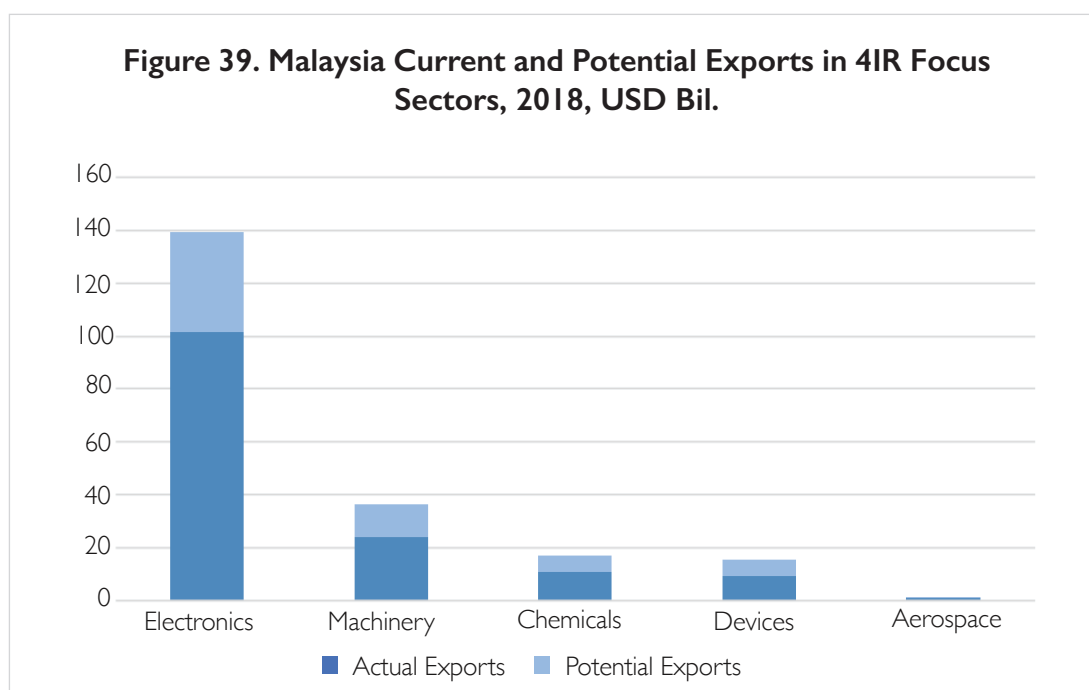
are i) electronics (specifically smart cards, electronic integrated circuits and LED lamps), ii) palm oil, and iii) parts of office machines. Electronics (specifically Smart cards, electronic integrated circuits and LED lamps) shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth USD 26.0 billion.³¹ Taiwan represents the fourth largest potential market for Malaysia exports in these products, with untapped export potential of USD 2.6 billion

Malaysia's untapped export opportunities are particularly strong in 4IR Sectors, notably electronics. There is significant untapped export potential for Malaysian in 4IR Focus Sectors (Figure 39). The vast majority of untapped export opportunities are in electronics products, but there are also untapped opportunities in other 4IR Focus Sectors.

There are significant untapped export

opportunities for 4IR Focus Sectors in CPTPP markets, which increase significantly if Taiwan is included. Across 4IR Focus Sectors there are untapped export opportunities of USD19.88 billion for Malaysian firms in CPTPP markets if Taiwan is included (Figure 40). The largest source of untapped opportunities is in electronics, for which Taiwan is second only to Singapore as market in terms of opportunities (Figure 40.1). There are also substantial export opportunities across other 4IR Focus Sectors, and Taiwan is a substantial destination market.

Taiwan's membership of CPTPP could help Malaysia firms to access these opportunities. Liberalisation of trade between Malaysia and Taiwan, including of 4IR Sectors, could help Malaysian firms to capitalise on these untapped export opportunities. The development of larger export markets will in turn enable firms in the 4IR Focus Sectors to expand and upgrade, in line with the strategy put forward in Industry4WRD.



Source: IDEAS calculations using ITC Export Potential Map

³¹: International Trade Centre, Export Potential Map

Figure 40. Malaysia Total Untapped Export Potential in 4IR Focus Sectors with Taiwan and CPTPP Members

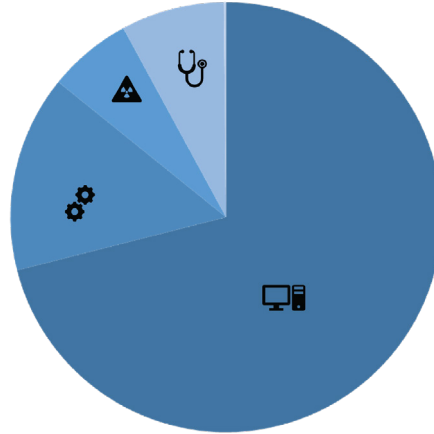


Figure 40.1 Malaysia Untapped Export Potential: Electronics, USD Bil.

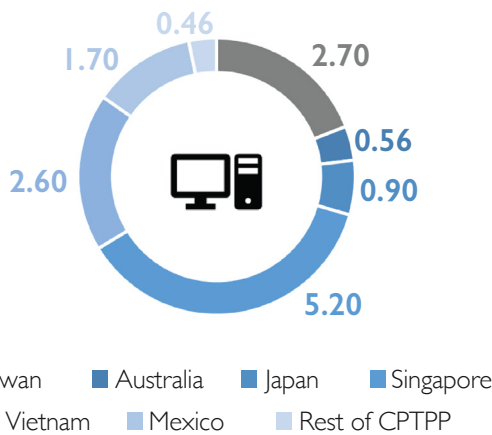


Figure 40.2 Malaysia's Untapped Export Potential: Machinery, USD Bil.

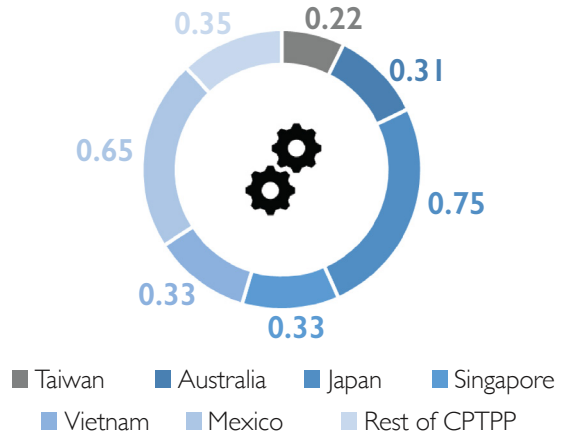


Figure 40.3 Malaysia's Untapped Export Potential: Chemicals, USD Bil.

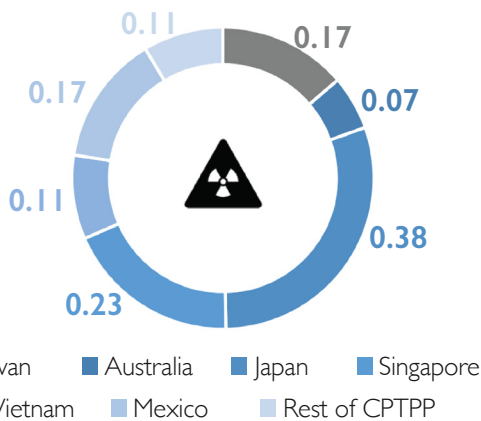
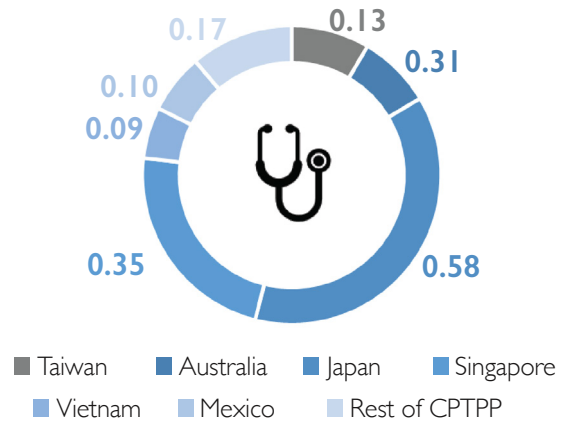


Figure 40.4 Malaysia's Untapped Export Potential: Devices, USD Bil.



Part 5: Key Points

- Trade and investment frameworks are a key driver of the Fourth Industrial Revolution (4IR). Malaysia's open trading system helps to establish its position as a leader in terms of readiness for 4IR – ratification of CPTPP would further strengthen this position.
- The CPTPP's provisions on digital trade could help to improve the ecosystem for digital adoption in Malaysia, in support of a wider 4IR strategy, but it is likely to be trade liberalisation with partners in 4IR Focus Sectors which will have the greatest impact.
- Taiwan is a strong partner for Malaysia's 4IR strategy, due its global leadership in industrial technology and the strong industry linkages between Malaysia and Taiwan in 4IR Sectors.
- These industrial linkages in 4IR Focus Sectors could be enhanced following Taiwan's membership of CPTPP in addition to creating new export opportunities for Malaysia firms. The biggest impact would likely be felt in electronics where there are USD2.6 billion of untapped opportunities for Malaysia firms exporting to Taiwan, but liberalisation for medicals devices could see new opportunities for trade as the barriers are relatively higher.

Conclusions

Malaysia and Taiwan have a strong trading relationship, with Taiwan as Malaysia's sixth largest trading partner over the last few decades. Taiwan is also a significant investor in Malaysia, focused mainly on manufacturing, electronic, biotechnology and high-technology related sectors. This strong investment relationship provides a platform for industrial collaboration which underpins the strong trading relationship. This relationship has developed in the absence of a formal preferential trading agreement. As a result, there exist a number of barriers and restrictions to trade and investment between Malaysia and Taiwan, including tariff and non-tariff barriers.

At the time of writing, Malaysia has not made a final decision on whether to ratify the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP). On the other hand, Taiwan has expressed its interest to join and is currently engaging with CPTPP Members. This report aims to address the question of how Taiwan's inclusion in CPTPP would impact Malaysia's economy, and therefore inform whether Malaysia should support Taiwan's membership.

The analysis in this report draws the following conclusions:



The reduction of tariffs mandated under CPTPP is likely to constitute the largest benefit from liberalising trade between Malaysia and Taiwan. Taiwan is one of Malaysia's few trading partners where there is no preferential trade agreement and therefore tariffs continue to represent a significant additional cost. Provisions to reduce and harmonise Non-Tariff Measures (NTMs) and Customs Facilitation will also reduce the cost of trade in sectors important to Taiwan-Malaysia trade, including in manufacturing sectors. Although it is important to note that reforms in these areas are harder to enforce.



Other provisions aimed at facilitating trade in services and addressing other broader dimensions of trade, such as competition could contribute to a further deepening of the economic relationship in the future, whilst having a relatively lower impact in the immediate term.



Malaysia-Taiwan trade is highly complementary, thus suggesting an expansion in trade if both countries liberalise trade through mutual membership of CPTPP. Malaysia has a higher level of trade complementary with Taiwan than with any other CPTPP member, with the exception of Singapore, suggesting that Taiwan's inclusion would substantially increase the benefits of the agreement from Malaysia's perspective.



Taiwan's exports to Malaysia are relatively concentrated among a small number of products. This reflects a degree of specialisation but could also be a vulnerability in the trading relationship. Malaysia's exports to Taiwan are more diverse, but still more concentrated than Malaysia's exports to any other CPTPP member. Trade liberalisation could diversify trade between Malaysia and Taiwan, as more products become competitive. This will reduce vulnerability in the relationship and provide for a wider variety of products in each market.



Malaysia has strong backward linkages with Taiwan in high technology sectors. Malaysia imports more high technology intermediate and capital goods from Taiwan than from any other CPTPP members, reflecting a high degree of existing industrial collaboration in these industries between Malaysia and Taiwan.



These linkages are very strong in sectors that have been identified as Focus Sectors under the Ministry for International Trade and Industry National Policy for Industry 4.0 (“Industry 4WRD”), specifically electronics. When compared to other CPTPP members, Taiwan is the largest single contributor of intermediate and capital goods in 4IR Focus Industries, with a huge contribution in electronics in particular.



Liberalisation of trade between Malaysia and Taiwan in these sectors – through the lowering of tariffs and other barriers – as a result of mutual CPTPP membership, could facilitate an expansion of these linkages, as Taiwanese firms have more incentive to expand their business operations in Malaysia. This in turn, would support Malaysia’s own efforts to adopt 4IR.



Malaysia also has forward linkages with Taiwan in high technology sectors, including 4IR Focus Industries. Furthermore, Malaysia has significant untapped export opportunities in Taiwan’s market, most notably in the electronics sectors.



Liberalisation of trade between Malaysia and Taiwan would enable Malaysian firms to expand these forward linkages and take advantage of the untapped export opportunities in Taiwan’s markets. Among CPTPP members, the largest source of untapped opportunities is in electronics, for which Taiwan is second only to Singapore as a market in terms of opportunities.



These conclusions are reflected by our estimates of the aggregate economic impact of Malaysia and Taiwan joining CPTPP. We estimate that ratifying and implementing CPTPP would boost Malaysia’s GDP by an additional 1%, driven by an expansion in trade. This would result in new employment opportunities equivalent to 140,000 additional people in work.



If Taiwan also joined CPTPP, the boost to Malaysia’s GDP would increase by a further 0.15%, as a result of more trade. This in turn would boost the employment impact to create an additional 20,000 jobs. Taiwan’s membership of CPTPP would also boost Malaysia’s manufacturing exports, imports and overall output, reflecting a strengthening of the industrial linkages already in place.



Overall, we therefore conclude Taiwan’s membership would add substantially to the benefits of CPTPP from Malaysia’s perspective. In addition to boosting the aggregate economic benefit of CPTPP, Taiwan’s membership would enable a strengthening of industrial linkages, including in priority sectors of the Malaysian economy, including 4IR Focus Industries.



This suggests that the Malaysian government should reconsider its current policy to indefinitely delay ratification and implementation of CPTPP. Furthermore, Malaysia should encourage and support efforts to expand CPTPP membership to include Taiwan.



In the context of the Covid-19 pandemic, ratification of CPTPP and Taiwan’s membership can contribute to Malaysia’s recovery in a number of ways. First, through supporting the economic recovery by stimulating trade and investment, since ratification of CPTPP is one of the few levers available to stimulate growth without creating additional fiscal pressure. Second, by enhancing Malaysia’s competitiveness in regional and global value chains, at a time when many firms are restructuring their supply chains to be more resilient against future shocks. And third, by accelerating digitalisation of industry in Malaysia through transition to 4IR, which will be an essential component of the “new normal” in the wake of the pandemic.

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Appendix I – Methodology Notes

This study adopts the methodology of Hoan et al (2019), to assess export diversification and trade complementarity.

Export Diversification

This study uses the Herfindahl Index (HI) based on the research of Hirschman (1964), which is calculated by the following equation:

$$HI_j = \frac{\sqrt{\sum_{i=1}^n \frac{x_{ij}^2}{X_j^2}} - \sqrt{\frac{1}{n}}}{1 - \sqrt{\frac{1}{n}}}; \text{ with } X_j = \sum_{i=1}^n x_{ij}$$

where x_{ij} is the export value of product i ; n is the number of products considered; and X_j is total exports.

Trade Complementarity

This study uses the trade complementarity index (TCI) based on the research of Michaely (1996), which is calculated by the following equation:

$$TCI_{ij} = 1 - \sum_n \left(\frac{|M_{ni} - X_{nj}|}{2} \right)$$

where M_{ni} is the share of goods n in the total imports of country i and X_{nj} is the share of goods n in the total exports of country j .

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