Tariff and Non-tariff

Measures in Trade

Khazanah Research Institute

Tariff and Non-tariff Measures in Trade

Tariff and Non-tariff Measures of Trade

International trade: An introduction

International trade is embedded in nearly every economy in the world. Benefits from international trade are numerous—these include consumers' ability buy a variety of products and producers' ability to sell their products competitively to bigger markets. Generally, economists have arrived at a consensus that trade liberalisation has paved the way for countries to develop and prosper, which is especially true for small and open economies such as Malaysia[1]. David Ricardo explained that gains from trade stem from specialisation in production by countries—because countries specialise according to their comparative advantage, countries can achieve efficient allocation of resources, which improves overall welfare of trading nations[2]. Endogenous growth theory argues that gains are not merely through the exchange of physical goods, rather it is the knowledge spill-over involved in producing new goods that may improve incomes[3]. Regardless of the channels through which trade affects economic growth, countless studies have reported the positive relationship between the two.

However, trade protectionism—the phenomenon which hinders international trade flows—has been on the rise in current times. Roberto Azevedo, the Director-General of the World Trade Organization (WTO) mentioned that "mounting trade tensions, an increase in trade-restrictive measures and continuing economic uncertainty" resulted in a slowdown in global trade and economic activity in 2018[4]. Most are familiar with the recent and ongoing United States (US)-China trade war[5]. The debate is no longer on free trade but 'fair' trade; an argument used by some countries to justify their stance on protecting their industries. Indeed, international trade creates winners and losers and, in some instances, rising protectionism could be an attempt to either continue protecting the wins among the winners or to minimise losses among the losers.

What exactly is trade protectionism?

Trade protectionism occurs when governments impose measures or policies with the intention to **protect their domestic industries from foreign competition**. This can take many forms, but one of the more popular tools have been the use of tariffs. A tariff is a **tax imposed on goods**

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[1] Balassa (1978), Frankel and Romer (1999)
[2] Krugman et al. (2012)
[3] Bidlingmaier (2007)
[4] WTO (2019)
[5] Khazanah Research Institute (2018)

imported into a country and is one of the many potential barriers to trade. Due to tariffs, the price of foreign goods increases relative to domestic goods. If the imported goods are final goods, consumers will be less likely to purchase them compared to domestic substitutes as the price is more expensive. Meanwhile, local producers who use imported goods as intermediate inputs are discouraged to purchase them, given the effect they might have on the final cost and price. Consequently, the quantity imported will be lower.

The effects of import tariffs have been widely studied in the literature and the general finding is that they hinder trade and growth[6]. However, its negative consequences are widespread: bilateral tariff hikes would not only affect the two economies, but also other nations that are in involved in the production network due to the rise of global value chains (GVCs). As a simplified example, if Malaysia exports integrated circuits as intermediate goods to China, which later exports electronic devices such as computers to the US market, then US tariff hikes would not only decrease demand for China's final goods, it subsequently affects demand for Malaysia's intermediary goods exports too.

However, despite current tariff wars between the US and several countries, global tariffs have actually declined steadily as illustrated in Figure 1. We observe that for both simple tariff rates and weighted tariff rates (by share of imports), there is a clear downward trend from the beginning of 1990s until 2017—from 15.0% to 5.2% and 6.8% to 2.6%, respectively. In 2017, countries with the highest average tariff rates were mostly developing or least-developed economies, such as Brazil, Sudan and Togo[7].

Relevant to Malaysia, Figure 2 illustrates the bilateral average tariffs (simple mean) imposed by the country's top trading partners. Generally, Malaysia enjoys low or zero tariffs with these countries. This could be the result of their shared free trade agreements (FTAs), where countries agree to reduce tariffs and remove other barriers to enhance trading activities. However, average tariffs are still high for exports to countries like India and South Korea, despite the bilateral and regional FTAs signed with these countries[8].

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[6] Osang and Pereira (1996), Kutlina-Dimitrova and Lakatos (2017)
[7] World Bank (n.d.-b)
[8] MITI (n.d.)

Figure 1: Global simple and weighted tariff rate, 1990 – 2017
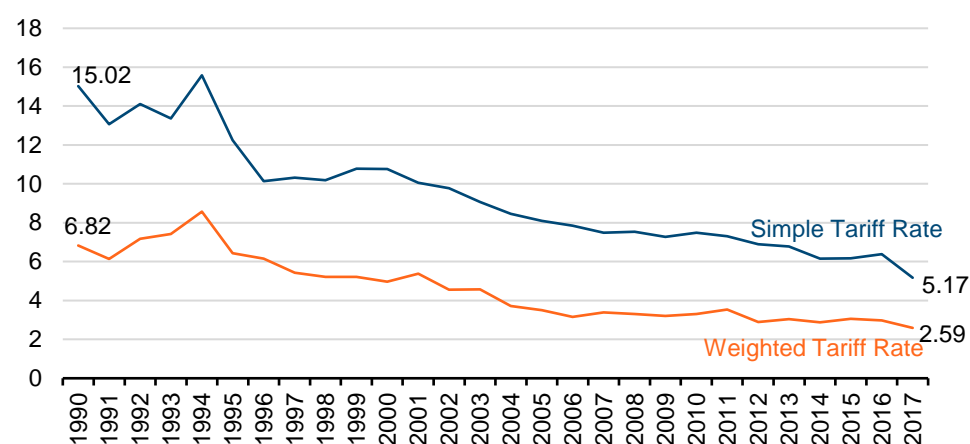
Source: World Bank (n.d.-a)

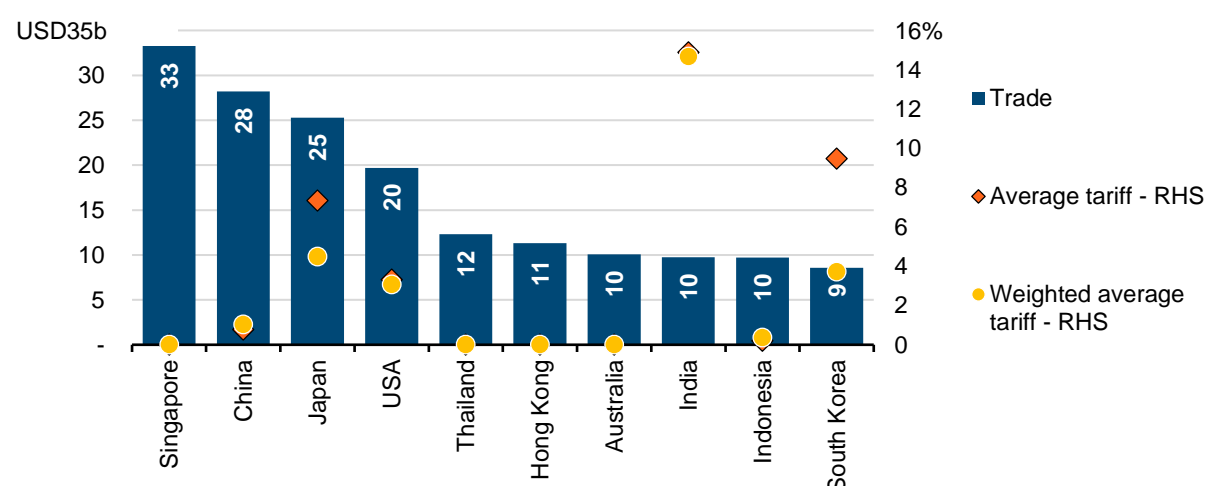**Figure 2: Top 10 export destinations (by trade value, 2014), average (simple and weighted, 2013/2014) tariff rates with Malaysia**

Source: Comtrade (n.d.) and UNCTAD (n.d.-b)

Note: 2014 is the latest available year for bilateral tariff between Malaysia and Singapore, China, Japan, USA, Thailand and Hong Kong, Australia and South Korea. 2013 is the latest available year for bilateral tariff between Malaysia and India and Indonesia. 2014 trade value is used instead of recent trade value (2017) to match with availability of bilateral trade data. Average tariff is the simple mean across the average tariff of product categories at two HS-level; weighted average tariff is the same measure but weighted by partner country's import share of product.

Tariff and Non-tariff Measures in Trade | 24 October 2019

Tariff rates have been falling. So what?

While the average global tariff rates have dropped, the use of **non-tariff measures** (NTMs) however have been on the rise. NTMs are broadly defined as country-specific regulations, or policies, other than ordinary tariffs, that can affect the quantity, or price, or both, of goods traded[9]. In this article, we aim to shed some light on the incidence of NTMs in international trade.

According to the Global Trade Alert, the majority of trade barriers in place in 2018 were NTMs[10]. As seen in Figure 3, 88.4% of all trade measures notified by governments internationally were NTMs, primarily in the form of subsidies and export-related measures (such as export taxes, export subsidies and export prohibition). NTMs also cover measures related to imports (such as import quotas and customs procedures) and domestic measures (such as standards related to health, safety, labour, environment and internal taxes).

Figure 3: Trade measures notified by governments, 2018
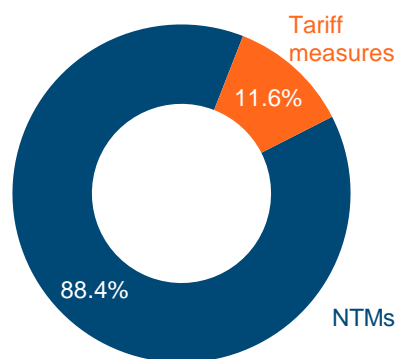
Source: Global Trade Alert (n.d.)

NTMs are supported by domestic laws and regulations and typically do not discriminate between international and domestic goods[11]. For example, all food products in Malaysia must abide by the Food Act 1983, alongside specific regulations relevant to a particular food item. Both domestic producers and exporter must abide by these regulations to ensure the health and safety of consumers in Malaysia are protected.

However, given a specific food item, its regulations are expected to be slightly different between different countries. For instance, some countries could be stricter and others more lenient compared to Malaysia; some more specific while others broader compared to Malaysia; some are more enforced, and others are less enforced than Malaysia; and different countries have different

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[9] UNCTAD and World Bank (2018), UNCTAD (2018)
[10] Global Trade Alert (n.d.)
[11] UNCTAD and World Bank (2018)

Tariff and Non-tariff Measures in Trade | 24 October 2019

focus and interpretation of what it means to 'protect the health and safety' of their citizens. NTMs in fact cover all sorts of items traded internationally (not just food), and given this fact, alongside its heterogenous nature, make this trade policy measure exceptionally complex.

The effects of NTMs on the quantity imported and exported vary across countries and measures. In the example earlier, regulations and quality assurance might improve consumer confidence and demand for a product, resulting in larger imports of the food item. However, fulfilling the requirements of these regulations might be too costly for some exporters, such that they have to price the good very highly (resulting in lower consumer demand), or unable to produce as much (resulting in lower quantities exported) or exit from the market altogether (resulting in zero export).

How do we quantify NTMs?

Despite its complexity, researchers still attempt to measure and quantify NTMs to understand its incidence and potential effects. Several datasets and indicators were created with this aim. For example, the United Nations (UN) Economic and Social Commission for Asia and the Pacific (ESCAP) and the World Bank collaborated to create the Trade Cost database, which estimated the bilateral cost of trading goods between 1995 and 2015, considering determinants such as distance and tariffs[12]. Figure 4 illustrates the ad-valorem bilateral trade cost between Malaysia and some of our top trade partners. The cost of trade[13] between Malaysia and China has declined, from an additional **92%** to the value of goods traded in 1995 to **61%** in 2013. Meanwhile, the cost of trade with the US has risen from an additional **59%** in 1995 to **81%** in 2015 (Figure 4). Aside from this dataset, other databases measure the development of trade protectionist policies by utilising the WTO's notification requirement, such as the Technical Barriers to Trade-Information Management System[14].

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[12] ESCAP and World Bank (2018). Data can be accessed via https://www.unescap.org/resources/escap-world-bank-trade-cost-database

[13] Cost is interpreted as an ad-valorem cost., i.e. an additional value as a percentage to the final value of goods traded.

[14] Data can be accessed via http://tbtims.wto.org/

Figure 4: Ad-valorem equivalent trade costs estimates between Malaysia and selected partner countries, selected years
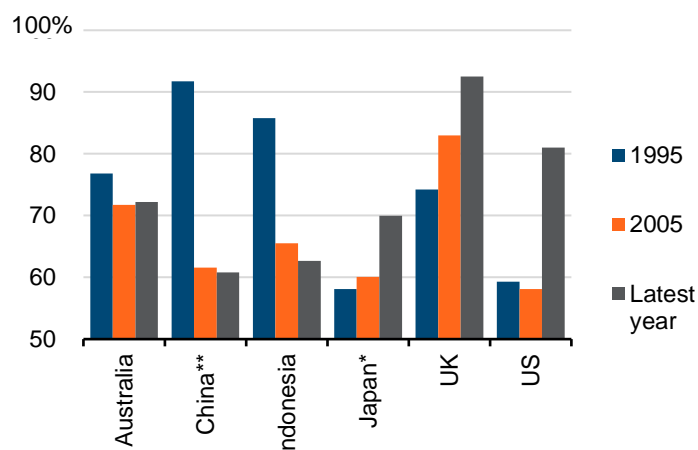
Source: ESCAP and World Bank (2018). Data is in ad-valorem equivalent, i.e. as percentage from the final values of goods traded between two countries.

More recently, the UN's Conference on Trade and Development (UNCTAD) developed a new database to record all NTMs imposed by countries. To collect data for the database, researchers go through a country's legislations and regulations to identify various forms of NTMs and categorise them. The dataset covers information from 109 countries (90% of global trade), over 50,000 measures for products at harmonised standard (HS) six-digit level[15]. NTMs are further classified as technical, non-technical and export measures:

Figure 5: International classification of non-tariff measures

Technical measures	A	Sanitary and phytosanitary measures
	B	Technical barriers to trade
Non-technical measures	C	Pre-shipment inspection and other formalities
	D	Contingent trade protective measures
	E	Non-automatic licensing and quantity control measures
	F	Price control measures, additional taxes and charges
	G	Finance measures
	H	Measures affecting competition
	I	Trade-related investment measures
	J	Distribution restrictions
	K	Restriction on post-sales services
	L	Subsidies
	M	Government procurement restrictions
	N	Intellectual property
	O	Rules of origin
Export Measures	P	Export-related measures

Source: Adapted from UNCTAD (2018)

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[15] UNCTAD and World Bank (2018)

Tariff and Non-tariff Measures in Trade | 24 October 2019

From this dataset, the extent and nature of NTMs could be understood through three **incidence measures**[16]:

- **Coverage ratio**, which is the percentage of **trade** (value) subjected to NTMs;

- **Frequency index**, which is the percentage of **products** to which NTM applies; and

- **Prevalence score**, which is the number of NTMs applied to products.

Incidence of NTMs

There are several stylised facts on the incidence of NTMs globally, as noted by UNCTAD and World Bank (2018). First, developed countries had more regulations on imports while least developed countries (LDCs) had more regulations on exports. NTMs were also prevalent among agro-food products across all regions. The most used NTM are technical barriers to trade (TBT) measures, followed by sanitary and phytosanitary (SPS) measures. Additionally, developed countries tend to use more NTMs, which contrasts developing countries' more frequent use of tariff measures. There seems to be an important policy substitution whereby countries with lower tariffs tend to use higher NTMs[17]. These stylised facts indicate the increasingly important role and need to study the incidence and consequences of NTMs.

Figure 6 shows the values of these indicators for selected countries. For Malaysia, an estimated 34% of the number of products imported into the country (FI) equivalent to 53% of the value of products imported (CR) are subjected to NTMs. The average number of NTMs among all products imported is 1.5 (PS). In comparison, some of the country's major trading partners appear to be more comprehensive in their use of NTMs when importing, which may consequently affect our export to the country. For instance, 90% of products imported into China and 94% of the value of import is subjected to NTMs, with prevalence score of 7. However, not all of our trading partners have as high incidence of NTMs. Singapore and Thailand, for example, have lower estimates for all three indicators compared to Malaysia (Singapore: FI = 21%, CR = 13%, PS = 1.3; Thailand: FI = 21%, CR = 29%, PS = 1.2).

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[16] Another measure used but not discussed and illustrated in this article is regulatory intensity. We exclude this indicator because as of August 2019, only three measures are reported on the UNCTAD [website](#).
[17] UNCTAD and World Bank (2018)

Figure 6: Frequency index (FI), coverage ratio (CR) and prevalence score (PS), selected countries
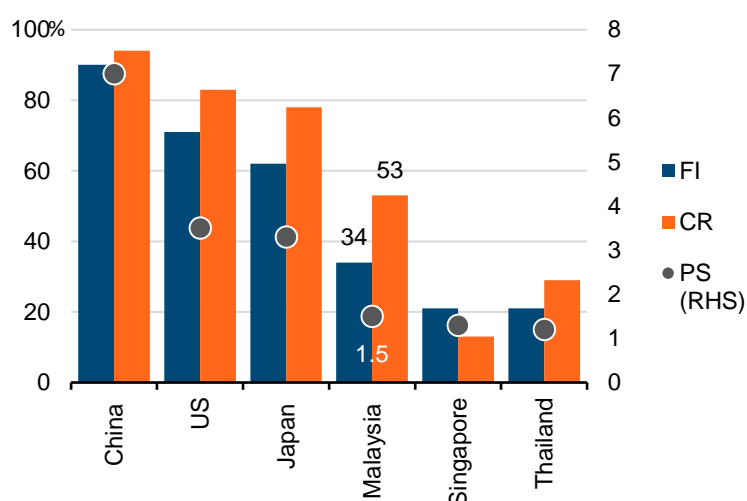
Source: UNCTAD (n.d.-a)

When segregated by types of goods, countries' application of NTMs also differ. 99% of agricultural products imported by Malaysia is subjected to NTMs, but only one quarter of the manufacturing and natural resources imported is subjected to NTMs. Malaysia's average number of NTMs is also higher for agricultural products, compared to other products. As expected, most countries seem to apply more NTMs for agricultural goods too (Figure 7).

Figure 7: FI (left) and PS (right) by type of goods, selected countries
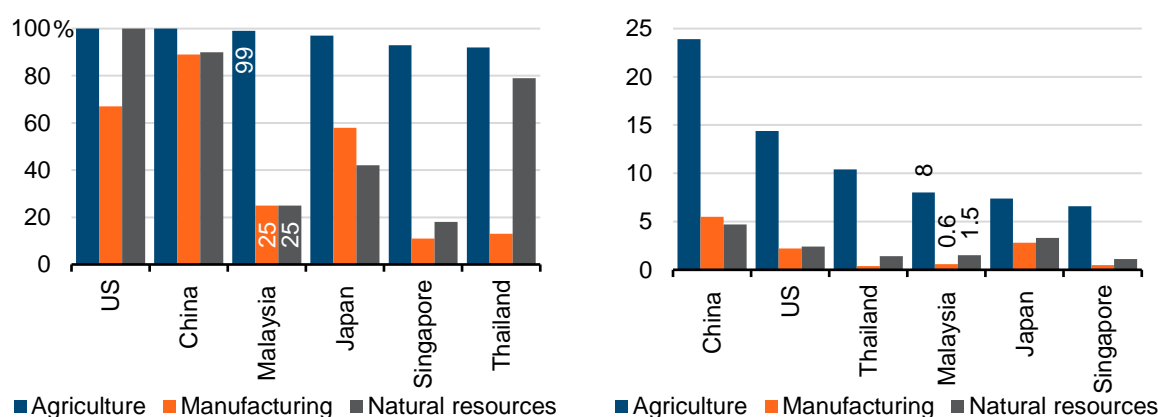
Source: UNCTAD (n.d.-a)

Source: UNCTAD (n.d.-a)

However, we should be cognisant of the limitations of this dataset, as well as the exercise of measuring and quantifying NTMs. Possibly, some regulations were wrongly coded as a specific NTM due to *subjective* interpretation of the regulation by researchers, especially if the regulation is not explicit or direct enough. Other than that, the actual incidence on NTMs might depend on *implementation*, rather than its codification in legislation. For example, a certain regulation is recorded but may not be implemented at all or partially implemented due to limited resources. In

Tariff and Non-tariff Measures in Trade | 24 October 2019

this sense, the database over-estimates the true incidence of NTMs. Perhaps, there are also other NTMs that may not be recorded in the regulation but is a prevalent practice that affects international trade. In this sense, the database under-estimates true incidence of NTMs. Moreover, given its heterogeneity, attempts to group all NTMs together and analyse them by using three incidence indicators could be misleading too. Standards-like measures such as SPS and TBT might affect trade differently, compared to non-standards-like measures. Despite its limitations, this dataset is a much-needed development and first step to further understand the incidence and likely effects of NTMs on international trade.

Concluding Remarks

Although the global use of tariffs has been on a decline for the past decades, the incidence of non-tariff measures has proliferated more recently. Using a recent dataset, this article illustrates the incidence of NTMs for Malaysia and some of the country's top trading partners. Moving forward, a more relevant policy question for Malaysia is to identify the extent of these measures on our trading activities to further understand the nature of our trade relationship with partner countries. Further study is required to analyse the changing nature of trade policies as it could significantly affect Malaysia's economic growth.

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