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China's Role in Malaysia's Export Recovery in Covid Times

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Abstract

International trade plays an important role in Malaysia's economy and growth performance. The emergence of the coronavirus disease in 2019 (Covid-19) and declared a pandemic at the beginning of 2020 has led to an unprecedented economic crisis in Malaysia, as in most other countries. As the number of Covid cases increased after the first case was discovered in January 2020, the government implemented different degrees of Movement Control Orders (MCO) from 18th March till the current day at the point of writing this paper. The lockdown in Malaysia as well as many other countries led to supply and demand shocks, which has in turn affected the country's cross border trade. Exports dropped continuously in the first five months of 2020 before recovering. The purpose of this article is to identify the key trade partners that contributed towards Malaysia's export recovery in 2020, especially the role of China given the fact that it is Malaysia's largest trading partner since 2010. Specifically, it examines how economic recovery in the major trade partners are correlated with Malaysia's export recovery as well as the causal relationship underpinning the export recovery in 2020. The study shows that trade recovery in the midst of the COVID-19 pandemic goes beyond domestic policy and production measures. Economic recovery in partner countries played a role too.

Keywords: *trade, empirical study of trade, international economic order and integration*

1. Introduction

International trade has always played an important role in Malaysia's economy. International trade as a percentage of the country's gross domestic product (GDP) peaked at 220 per cent in 2000 before falling to 127 per cent in 2019 (World Bank undated). Trade has also contributed to the country's economic growth. Makun (2017), for example, found that trade openness had a positive impact on output growth from 1980 to 2013, together with human capital and sound economic policies. Other earlier studies have focused more on the contribution of exports to growth. Ahmad and Rashid (1999) and Sulaiman and Saad (2009), for example, found a positive and significant impact for exports on growth. However, the dependence on trade for growth also implies that Malaysia's economy is vulnerable to external shocks as well as demonstrated in the case of the Asian Financial Crisis (AFC) in 1998, the Global Financial Crisis (GFC) in 2008, and the recent trade war/dispute between US and China (Tham, Kam and Tee, 2019).

The emergence of the coronavirus disease in 2019 (Covid-19) and declared a pandemic at the beginning of 2020 has led to an unprecedented economic crisis in Malaysia, as in most other countries. As the number of Covid cases increased after the first case was discovered in January 2020, the government implemented different degrees of Movement Control Orders (MCO) from 18th March till the current day at the point of writing this paper.[1] The lockdown in Malaysia as well as many other countries led to supply and demand shocks, which has in turn affected the country's cross border trade. Exports dropped continuously in the first five months of 2020 before recovering.

The purpose of this article is to identify the key trade partners that contributed towards Malaysia's export recovery in 2020, especially the role of China given the fact that it is Malaysia's largest trading partner since 2010. Specifically, it examines how economic recovery in the major trade partners are correlated with Malaysia's export recovery as well as the causal relationship underpinning the export recovery in 2020. The study first examines the extent of trade between Malaysia and its major trade partners by analyzing the composition and the nature (domestic or re-exports) of exports. A panel causality test is conducted to examine the pattern of major trade partners' economic recovery and Malaysia's export recovery.

This study shows that trade recovery in the midst of the COVID-19 pandemic goes beyond domestic policy and production measures. Economic recovery in partner countries played a role too. Identifying the key trade partners contributing to Malaysia's export recovery also means further efforts to facilitate and maintain trade with these countries are important. It also implies the need to diversify export markets to mitigate the aforementioned external shocks and safeguard against the future uncertainties during and beyond COVID times.

2. Literature Review

The role of the partner country in improving trade flows has been highlighted in two longstanding literature on trade models, namely the *Gravity model* by Tinbergen (1962) and Anderson (1979), and the classic *export demand model* by Khan (1974), Goldstein and Khan (1978). The former argued that trade is positively determined by the economic mass of the trading partner(s) but adversely affected by the distance between them. Economic mass of trading partners represent the market size and depth of the partner country. The latter also explained the impact of partner country "buying power" (or income) on exports, factoring in relative prices (or exchange rates) in a standard supply-demand function. Both literature therefore suggests that the economic performance of partner country is important in generating demand and creating market potential for trade. Trade creation during a crisis such as COVID-19 is especially important not only due to the need to facilitate the movement of medical devices or vaccines (OECD, 2021), but also the need to restore, revitalize and rebuild the economy (UNCTAD, 2020).

There is not much literature, however, on the impact of the Covid-19 pandemic on Malaysia's trade. The World Bank's Economic Monitor on Malaysia in 2020 focused on enhancing the social protection system for surviving the storm (World Bank, June 2020a) and the agricultural sector and food security (World Bank, December 2020b).

There is more in the literature on Malaysia-China trade. Chan and Hooi (2012) examined the role of the exchange rate in Malaysia-China trade and found that China has a complementary role in this trade, thereby implying that China's currency strategy does not negatively affect Malaysia's exports.

Devadason however focused on Malaysia-China trade. In the case of the network trade with China (Devadason, 2009), she found the network trade between the two countries appeared to have improved the quality of Malaysia's exports to China. In a later study on framing the bilateral trade relations within the context of a Regional Comprehensive Economic Partnership agreement (RCEP), Devadason (2015) found that the relative advantage of Malaysia in trade with China within an ASEAN context are most likely to be altered in an expanded grouping such as the RCEP.

Four other studies also explored Malaysia-China trade. Tham and Kam (2015) examined the bilateral trade relations within the context of the existing trade route and the potential for changes with the emergence of new trade route under the Belt and Road Initiative (BRI). Likewise, Yeoh et al. (2018) investigated Malaysia-China trade, investment and economic cooperation within the ASEAN and Maritime Silk Road context. Both studies indicate possible changes in the bilateral trade relations within the context of the BRI. Tham and Kam (2019) studied a specific BRI initiative in Malaysia, namely the Digital Free Trade Zone (DFTZ), and its potential for small and medium enterprises (SMEs) to expand their exports to China, within the existing bilateral trade relations. Finally, Hong et al. (2019) showed that diplomatic relations can boost Malaysia's exports to China.

Since past studies show an important and robust trade relation between Malaysia and China, it is important to assess whether these trade links have been able to facilitate Malaysia's export recovery.

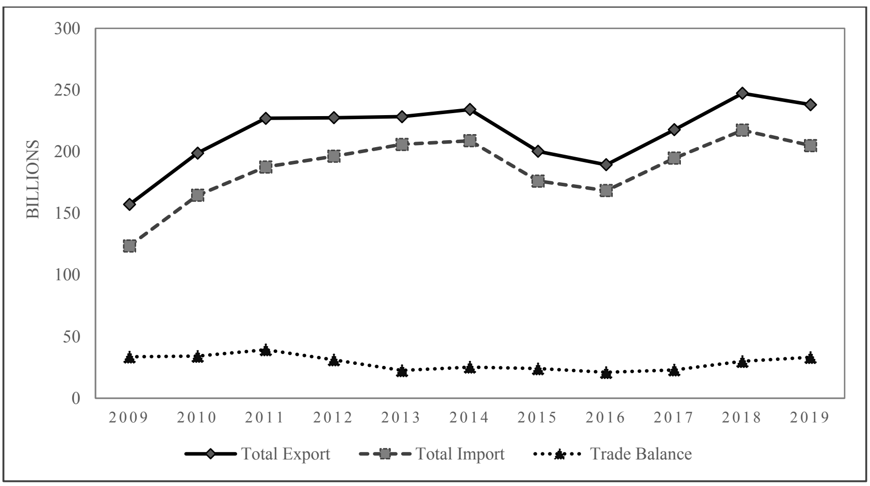
3. Overview of Malaysia's Total Trade Trends pre-2019 and During COVID Times

Malaysia's exports and imports have been on the rise from 2009 to 2014. Figure 1 shows that both trade flows declined from 2015 to 2016, before increasing in 2018 and dipping again in 2019. The figure suggests that even before the COVID-19 pandemic, trade is moderating in Malaysia. The country thus ushered into 2020 with a declining trend in trade.

In a period of one decade, Malaysia has an average trade surplus around USD35.5 billion. But, exports declined more than imports resulting in a trade deficit on April 2020, Malaysia's first since 1997. However, recovery came in subsequent months with exports improving faster than imports, thus rendering a sharp increase in trade surplus (Figure 2). A steady recovery in exports and imports started in June 2020 in part due to the gradual lifting of restrictions due to COVID-19 pandemic in Malaysia and the global markets (Matrade, 2020).

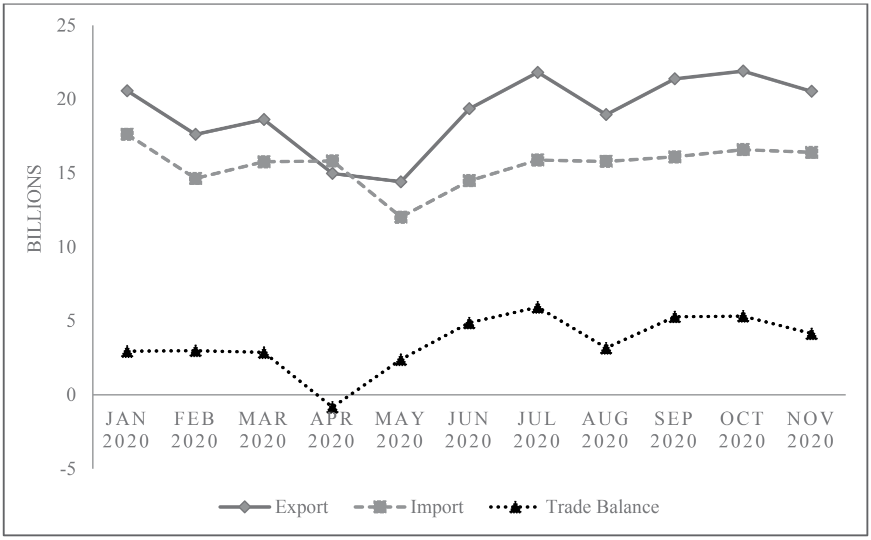
Re-exports, defined as goods that are taken out of the country in the same form as they were imported without any transformation, have been increasing in tandem with the increase in domestic exports since 2015, based on available data (Figure 3). A short decline of both occurred in 2019 (consistent with Figure 1). While the value of domestic exports are much

Figure 1 Malaysia Trade 2009–2019 (USD)



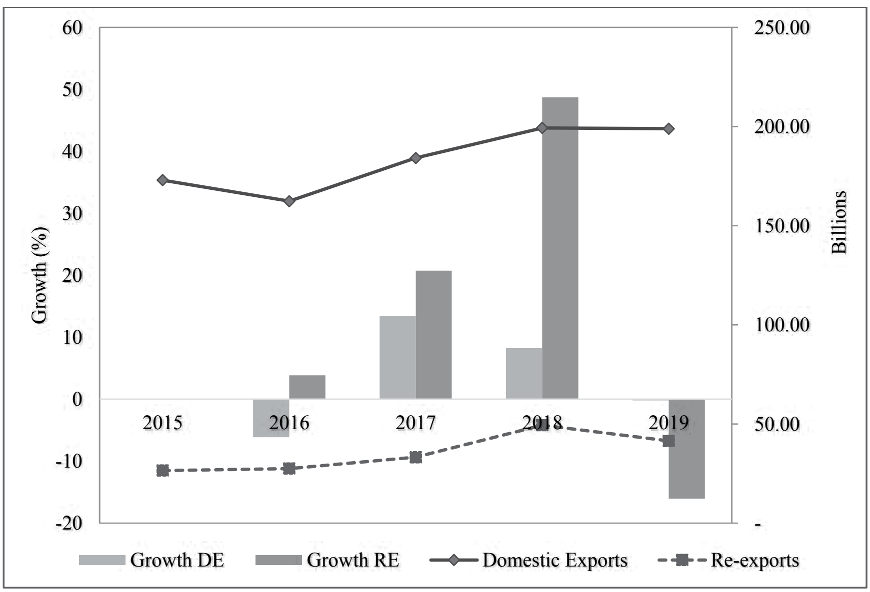
Source: UNComtrade.

Figure 2 Malaysia Monthly Trade 2020 (USD)



Source: Department of Statistics Malaysia (DOSM) (converted into USD).

Figure 3 Malaysia Domestic Export (DE) and Re-export (RE) 2015–2019 (USD and %)

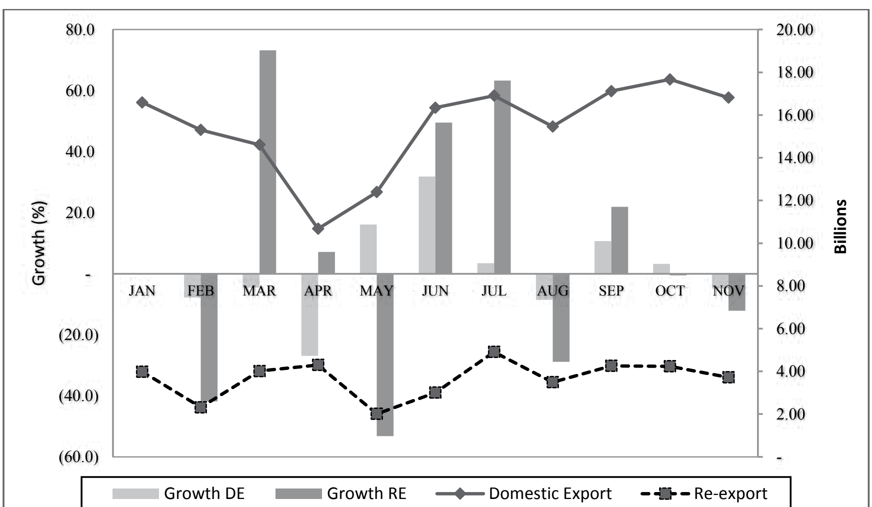


Source: Department of Statistics Malaysia (DOSM) (converted into USD).

higher compared to re-exports, the rate of increase or growth in re-exports are much higher than domestic exports from 2016 to 2018. Re-exports growth increased by more than 50 per cent from 2017 to 2018. Domestic exports on the other hand, experienced a smaller growth rate in comparison. Re-exports increased 5 times more than the increase of domestic exports. In 2020 (Figure 4), monthly data shows a decline in domestic exports, while re-exports is increasing, thereby implying that Malaysia's exports between January to April 2020 are driven by re-exporting activities. Domestic exports made a strong recovery after April and has been trending upwards in general until November 2020. Re-exports fell in May but also trended upward in subsequent months. It should be noted that the growth of re-exports are generally higher than domestic exports in Malaysia since 2015, based on available data. The increasing importance of re-exports can be attributed in part to the use of incentives to attract regional distribution hubs to Malaysia (Tham, Kam and Tee, 2019).

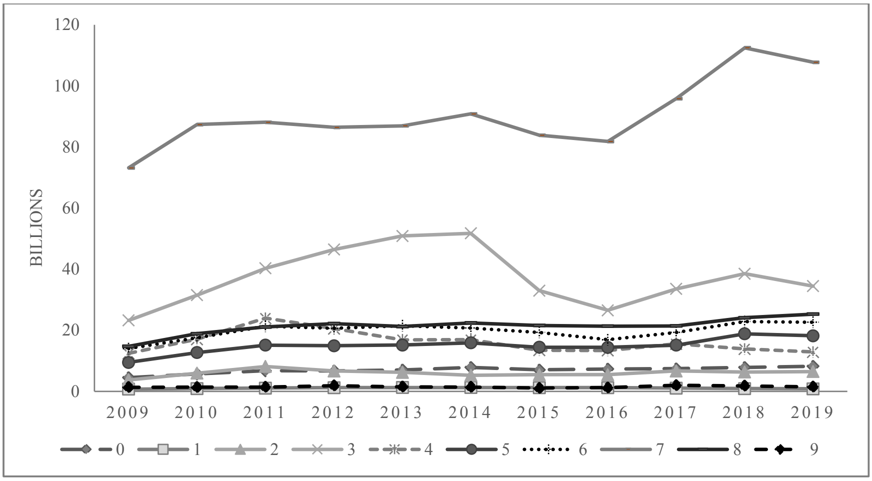
Since 2009, Malaysia's exports has been concentrated on *machinery and transport equipment* (SITC 7) (Figure 5). Other key exports include *mineral fuels, lubricants and related materials* (SITC 3), *miscellaneous manufactured articles* (SITC 8) and *manufactured goods* (SITC 6). Exports of machinery and transport equipment increased significantly since 2016 and peaked at USD112 billion before experiencing a short decline in 2019. In 2020 (Figure 6), machinery and transport equipment experienced a short decline from January to May. It recovered sharply in subsequent months (up to July 2020)

Figure 4 Malaysia Monthly Domestic Export and Re-export 2020 (USD)



Source: Department of Statistics Malaysia (DOSM) (converted into USD).

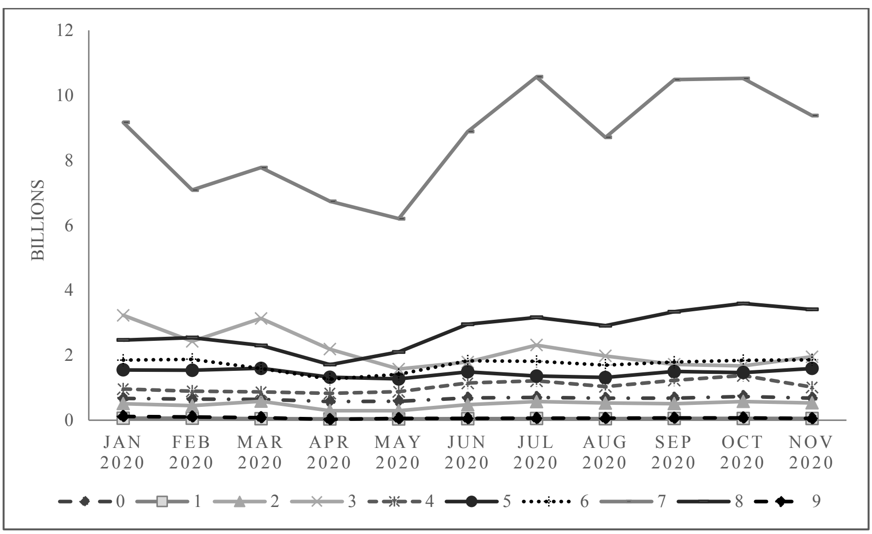
Figure 5: Malaysia Total Export 2009–2019 by SITC (USD)



Note: SITC: 0 – Food and live animals, 1 – Beverages and tobacco, 2 – Crude materials, inedible, except fuels, 3 – Mineral fuels, lubricants and related materials, 4 – Animal and vegetable oils, fats and waxes, 5 – Chemicals and related products, n.e.s., 6 – Manufactured goods, 7 – Machinery and transport equipment, 8 – Miscellaneous manufactured articles, 9 – Commodities and transactions, n.e.s.

Source: UNComtrade.

Figure 6 Malaysia Total Monthly Export (2020) by SITC (USD)



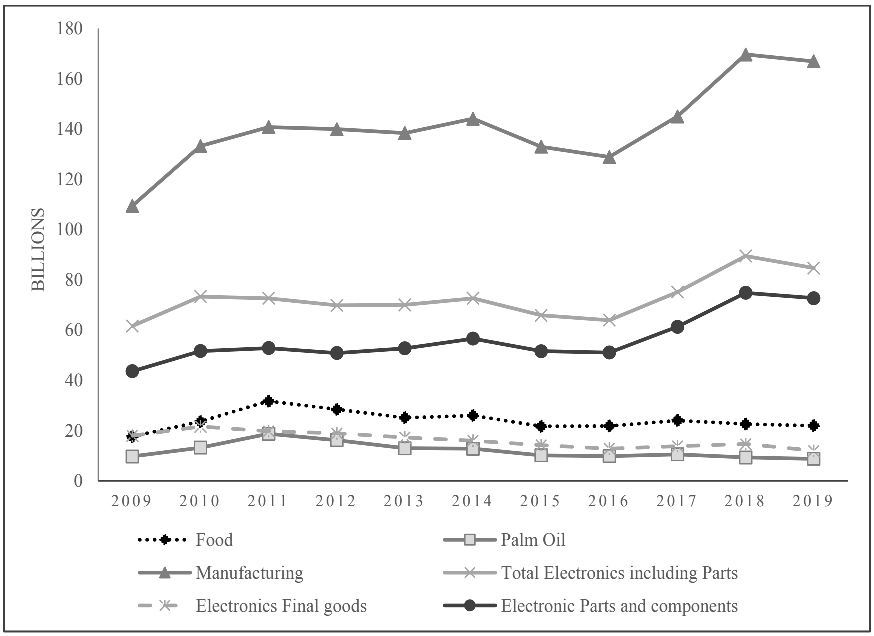
Note: SITC: see note in Figure 5 above.

Source: Department of Statistics Malaysia (DOSM) (converted into USD).

before slowing down in November. Monthly exports of mineral fuels, etc. has declined since March 2020. Miscellaneous manufactured articles increased significantly post-April 2020 to become the second largest export goods up to November 2020, the latest data available at time of writing.

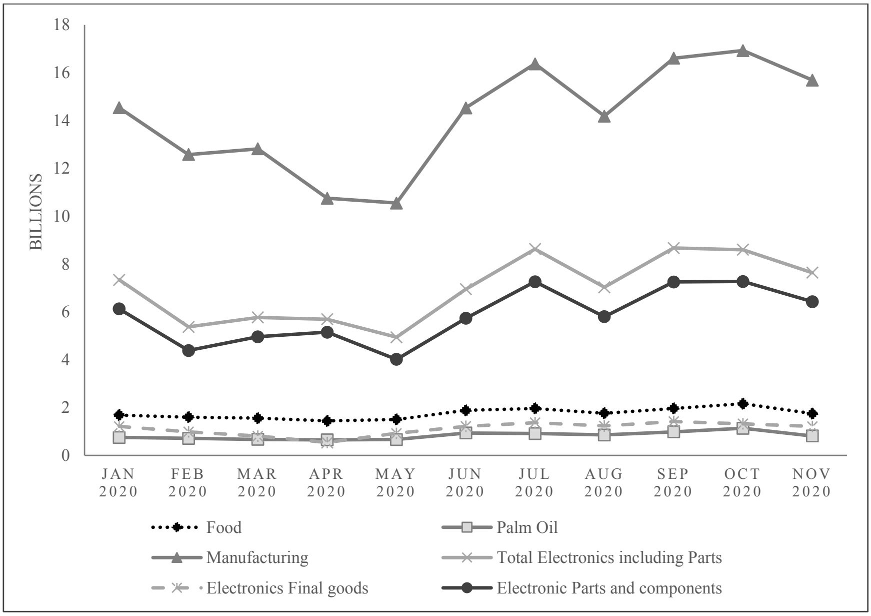
Figure 7 further disaggregates the export products. Malaysia's exports is driven primarily by manufacturing goods (see Appendix 1 for goods classifications). Within manufacturing, electronics goods (final goods and parts and components) contribute the most to the country's total exports. While the former has been on a decline since 2010, exports of electronics parts and components has been on the rise since 2009. This shows that Malaysia's exports are strongly connected in the global value chains, as most of the products exported are electronic parts and components. International demand for Malaysia's food products (which includes palm oil) increased from 2009 to 2011, but this has subsequently declined until 2019. The demand for food products, however, was maintained throughout 2020 (Figure 8) compared to manufacturing and total electronic goods – which declined significantly from January to May before making a recovery in June 2020. The decline is most likely due to global supply chains disruptions due to the COVID pandemic and the halt in demand from destination partners.

Figure 7 Malaysia Key Exports 2009–2019 (USD)



Source: UNComtrade.

Figure 8 Malaysia Monthly Key Exports 2020 (USD)

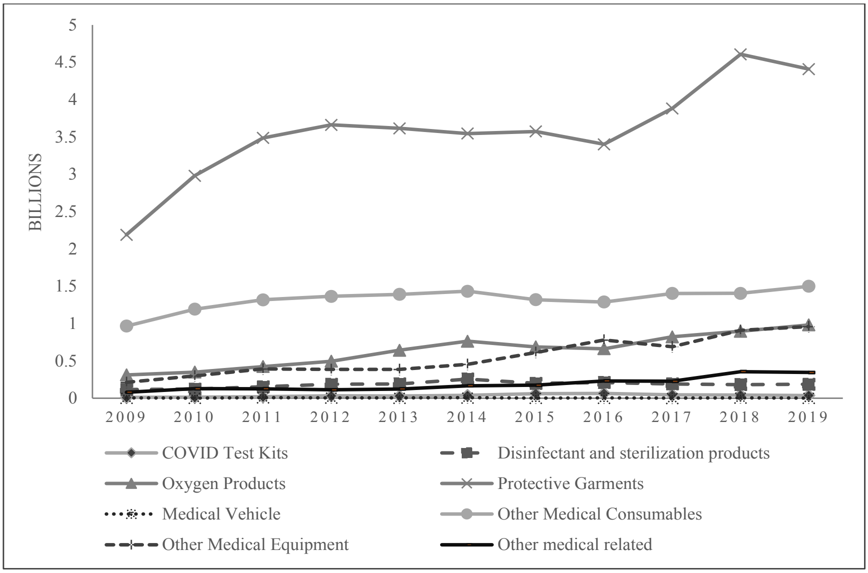


Source: Department of Statistics Malaysia (DOSM) (converted into USD).

The COVID-19 crisis has also brought to attention certain export products that are pertinent and specific to the crisis. This is due to an increase in trade-related measures taken by different countries[2] that may have impeded trade flows of "COVID-19 medical supplies".[3] Figures 9 and 10 show the trade flows of these products from 2009 to 2020. Malaysia, being one of the top global surgical and medical gloves (HS 401511) exporters[4] in 2019 has continued to reap the benefits (Figure 10) from the surge in global demand due to the pandemic, coupled with export restrictions from some countries.[5] Other medical consumables, oxygen products and other medical equipment are also important exports of Malaysian medical supplies. However, they pale in comparison to rubber gloves' monthly exports in 2020.

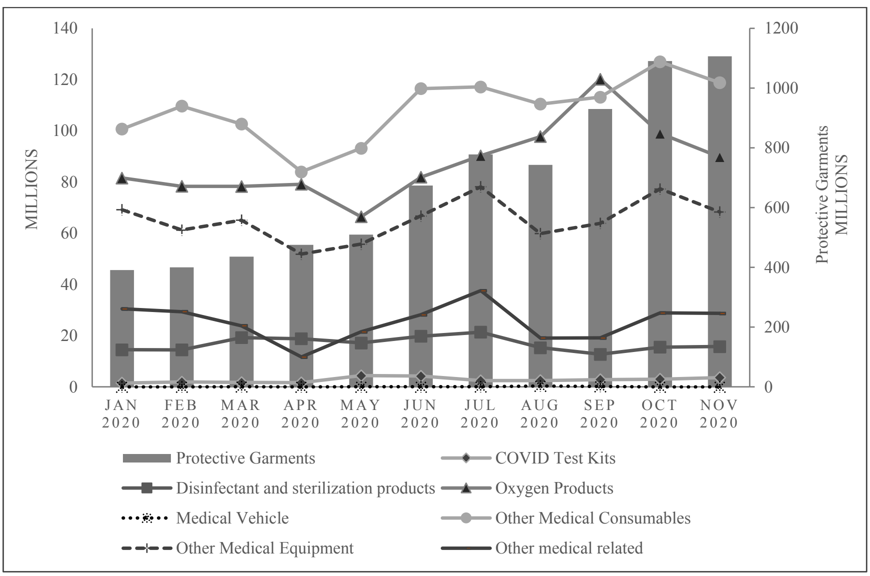
The top-5 monthly trade partners for Malaysia from 2019 to 2020 are China, Japan, United States (USA), Hong Kong and Japan (Figure 11). The top trading partners are interchangeable between China and Singapore from January 2019 to March 2020. However, the share of Malaysia's exports flows dominantly into China from April 2020 before moderating and with Singapore's demand catching up in October 2020. Exports' share to the USA also increased in May, lagging one month behind China's recovery in export demand. While Hong Kong (China), Japan and Thailand are also top

Figure 9 COVID Specific Products (2009–2019)



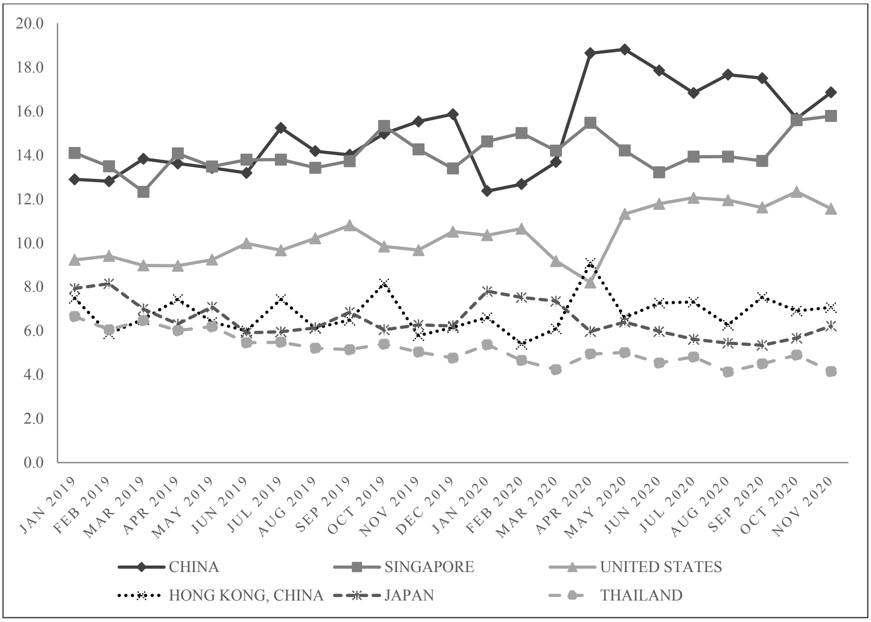
Source: UNComtrade.

Figure 10: Malaysia Monthly COVID Specific Exports 2020 (USD)



Source: Department of Statistics Malaysia (DOSM) (converted into USD).

Figure 11 Share of Malaysia's Monthly Top Export Partners to Total Monthly Exports (%)

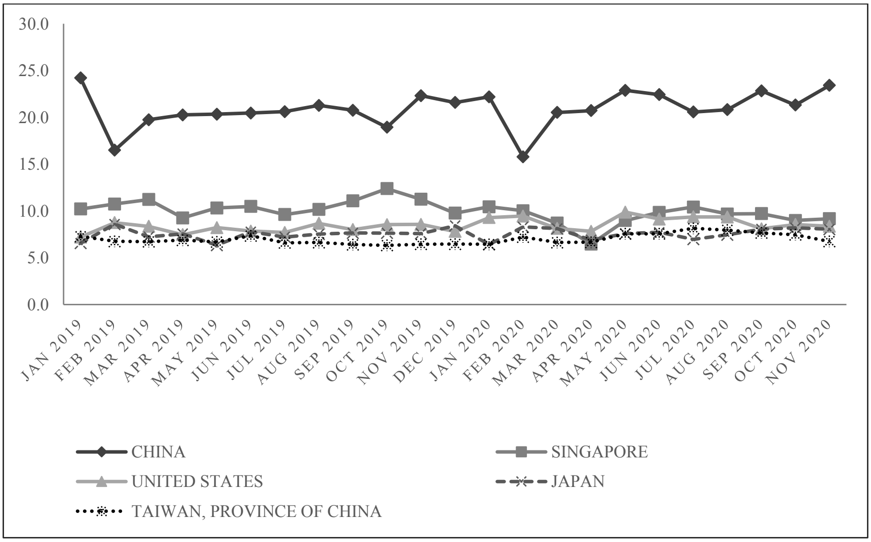


Source: Department of Statistics Malaysia (DOSM) (converted into USD).

destinations for Malaysia's exports, the exports shares of these countries have been fluctuating since January 2019. The export shares to Hong Kong (China) and Thailand have been declining since May 2020 while exports to Japan has recovered since September 2020. Since Malaysia's export recovery started in May 2020 (Figure 2), it is therefore conjectured that the recovery is driven by the recovery in demand from some of these key trading partners.

Since Malaysia is actively involved in the global value chains, most of Malaysia's exports are dependent on imported inputs (Tham et al., 2016; Kam, 2017). Export recovery is therefore also driven by the recovery in imports, especially in intermediate inputs. Figure 12 shows Malaysia's import performance and its top-5 import partners. On average, Malaysia's total imports coming from China is nearly 20 per cent of Malaysia's total monthly imports from 2019 to 2020. Imports from Singapore is the second largest although this has declined sharply from September 2019 to April 2020, but it has increased thereafter. Other key import partners are the USA and Taiwan, Province of China. Imports have been increasing steadily in tandem with matching exports for key partner countries such as China, Singapore and Japan.

Figure 12 Share of Malaysia's Monthly Import to Total Monthly Imports (%) from Partner Countries

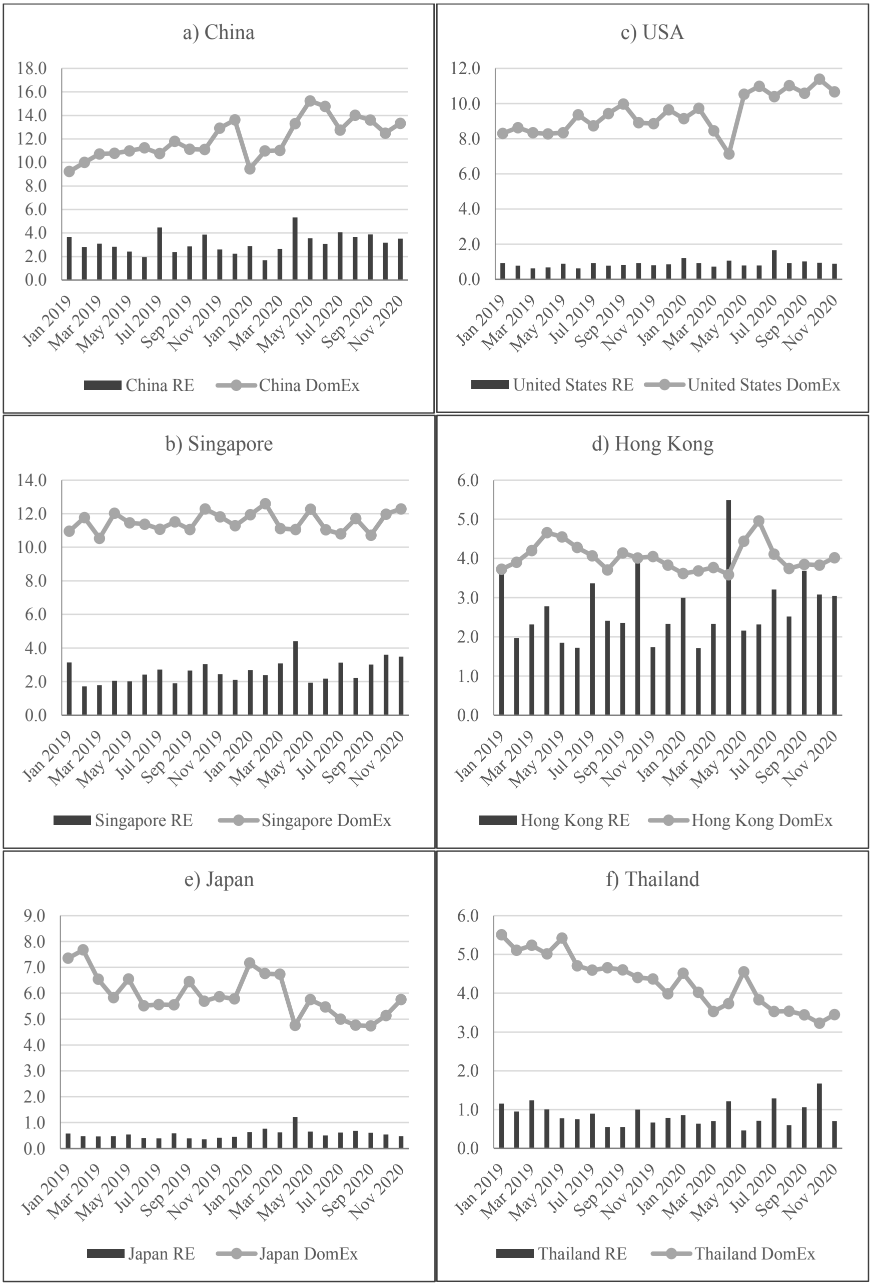


Source: Department of Statistics Malaysia (DOSM) (converted into USD).

Examining the shares of domestic and re-exports to total monthly exports from 2019 to 2020, Figure 13 shows that there are three different groups of countries in terms of Malaysia's top domestic exports destinations. The first, are countries where Malaysia has increasing domestic exports (China and USA); second, are partner countries where Malaysia's domestic exports (Singapore and Hong Kong (China)) has stagnated, and finally are partner countries where Malaysia's domestic exports has been declining (Japan and Thailand).

Figure 13a shows that the share of domestic exports to China has been increasing monthly since 2019. When the COVID pandemic was identified in China in December 2019, domestic exports fell sharply in January 2020. However, Malaysia's subsequent exports recovery to China (from Figure 11) is driven strongly by domestic exports which increased from its lowest at 9.5 per cent in January 2020 to 15 per cent of total gross exports in May 2020. There was a surge in re-exports to China from 1.7 per cent (February 2020) to 5.3 per cent (April 2020). The figure however, fell in May 2020. Both domestic exports and re-exports to China moved in the opposite direction in subsequent months. Similar to China, Malaysia's exports to the USA (Figure 13b) are mostly domestic-exports driven. The share to the USA is also increasing but to a lesser extent compared to China. Unlike China, the share of re-exports to the USA is very small (on average less than 2 per cent), suggesting that the steady increase in exports to the USA is mainly domestic exports driven.

Figure 13 Monthly Domestic and Re-Export (% Total Gross Export) by Top Partners (%)



Note: DomEx: Domestic Export, RE: Re-export. Source: DOSM (converted into USD).

Domestic exports' share to Singapore (Figure 13c) is also high but unlike China and the USA, it is more consistent – hovering around 10 to 12 per cent. The trend in re-exports to Singapore has three peaks: April (4.4 per cent of gross exports), July (3.1 per cent) and October (3.6 per cent). While the share of domestic exports to Hong Kong (Figure 13d) is low in comparison to other top export destinations (below 5 per cent), re-exports activities are the highest for this destination. In April 2020, re-exports share to Hong Kong is larger than the domestic export share, hence solidifying the nature of trade to Hong Kong are mainly entreport or transshipment oriented.

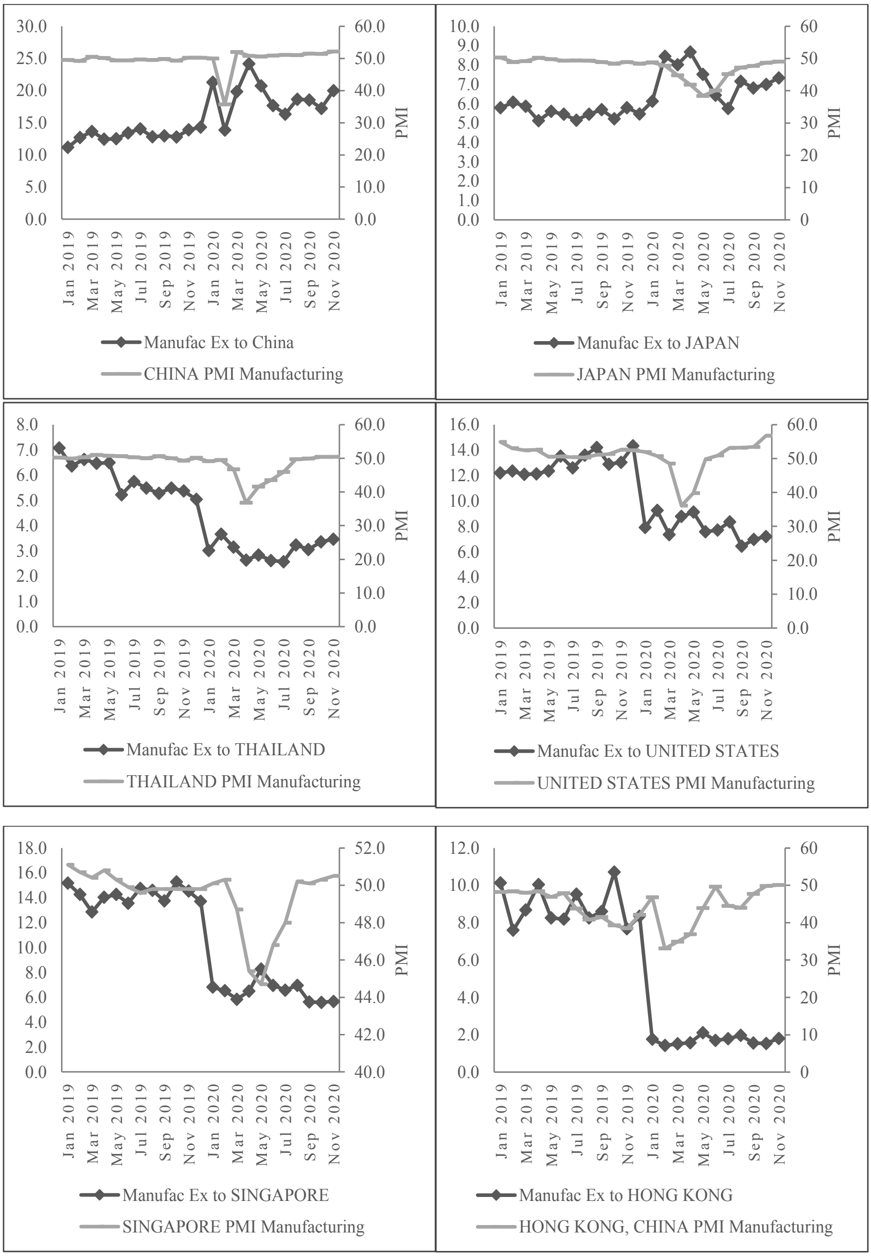
The final group consists of countries where Malaysia has a declining share in domestic exports. Figure 13e and 13f shows that domestic exports to Japan and Thailand are both declining. Japan however, has a short up-tick from September to November while Thailand has an increase in November 2020. The share of re-exports to Japan is smaller than Thailand and has been declining. On the other hand, re-exports to Thailand has been increasing for the past two years.

4. Correlation Analysis: Malaysia's Export Recovery with Partner Countries' Economic Recovery

Malaysia exports recovery may be attributed by the recovery of its key partners. However, the question is "which partner" contributed to the growth of Malaysian exports? To examine this question, one has to track the growth or performance of the partner's country in 2020. Ideally, the matching of partners' monthly GDP growth data with Malaysia's exports may provide a trend analysis on this issue. However, in the absence of available monthly GDP data across different countries, the Purchasing Managers' Index (PMI) is used as a proxy for economic performance of the country. More specifically, this study uses the manufacturing Purchasing Managers' Index (PMI)[5] as an indicator of the overall health of the partner's economy. Figure 14 traces the pattern of manufacturing PMI of Malaysia's top export partners vis-à-vis Malaysia's export share to that destination. A caveat here is that, the analysis only shows the correlations or the movement of trends in these two indicators. It is by no means implying any causal relationship. We leave the causality analysis in the next section. Results in Figure 14 are separated into two groups: one where both PMI and Malaysia's manufacturing exports move in tandem (China, Japan and Thailand), and the other a diverging pattern (USA, Singapore and Hong Kong (China)).

China's manufacturing performance has been rather stationary since January 2019, moving marginally above and below the score of 50. In January 2020, the sector achieved a score of 50 but it plunged to 35.7 in February due to the COVID crisis. However, it recovered quickly in March, peaking at 52.0 before dropping slightly to 50.6 in May. Hereafter, the PMI

Figure 14 Monthly Manufacture Export Share (%) and PMI of Key Partners (2019-2020)



Source: Department of Statistics Malaysia (DOSM) (converted into USD) and <https://www.investing.com>.

of China has been increasing steadily and peaking at 52.1 in November 2020. Matching China's PMI performance with Malaysia's manufacturing exports to China, the trend moved closely together during the period of market shocks (decline and recovery months between January and April). When China's PMI declined from January to February 2020, Malaysia's exports share to China also declined significantly from 21.3 per cent to 13.9 per cent. When China's PMI improved, so did Malaysian manufacturing exports to China peaking at 24.2 per cent in April 2020 before moderating for a few months and picking up again from July to November 2020.

Similar to China, Malaysia's manufacturing export shares to Thailand and Japan have increased in tandem with Thailand and Japan's improvement in PMI scores. Japan's PMI score started to improve in June 2020 from 38.4 to 49.0 in November 2020. Malaysia's export share to Japan only started increasing in August 2020, moving slowly from 7.2 per cent to 7.3 per cent in November. Malaysia's manufacturing exports to Thailand has been declining since January 2019 while Thailand's PMI remained more or less unchanged until March 2020. Then, the country experienced a sharp decline in PMI from February 2020 to April 2020. It recovered from May to June, and along with Malaysia's manufacturing export share to Thailand which grew from 2.6 per cent to 3.5 per cent.

In examining the trends of the second group, the Malaysian manufacturing export share to the USA fell significantly from December 2019 (14.3 per cent) to January 2020 (7.9 per cent) even before the sharp decline in the USA PMI (between March (48.5) and April (36.1) in 2020). The USA's PMI recovered strongly from May (39.8) to November (56.7) 2020. However, Malaysia's manufacturing export shares to the USA is diverging from the PMI recovery trend. Instead, both trends moved in opposite directions. This diverging pattern is also seen in Singapore and Hong Kong (China). When Singapore's PMI recovered from May (44.7) to November (50.5), Malaysia's exports to Singapore continued to decline from 8.3 per cent to 5.3 per cent (May to November 2020). Similarly, when Hong Kong's PMI recovered from 33.1 to 50.1 (February to November 2020), Malaysia's manufacturing export share to Hong Kong (China) remained stagnant around 1.8 per cent after plunging from 8.3 per cent back in December 2019. These results merely imply that the recovery in manufacturing in USA, Singapore and Hong Kong (China) may not have contributed to Malaysia's exports recovery in 2020.

5. Causality Analysis: Malaysia's Export Recovery with Partner Countries' Economic Recovery

The findings from the previous section shows that the share of Malaysia's manufacturing exports increased along with the recovery of the manufacturing sector of some partner countries. While trend and correlation is established, the issue of causality is still in question. This section examines the causality issue and determines which country's recovery facilitated the recovery of Malaysia manufacturing exports. A panel consisting of 6 top exports destination across monthly data for two years (a total of 144 observations) is analyzed on two key variables: manufacturing export share of Malaysia (MES) and the manufacturing PMI of partner country (PMI). The standard requirement (or pre-requisite) to run a Panel Causality test is to ensure that both variables are stationary. Testing for stationarity is conducted using the Im, Pesaran and Shin (2003) (IPS) test.

The standard Panel unit-root test is specified as follows:

$$\Delta y_{it} = \emptyset_i y_{i,t-1} + z'_{it}\gamma_i + \epsilon_{it} \tag{1}$$

where y are the focal variables (MES and PMI). The null hypothesis is H_0: $\emptyset_i = 0$ for all i against the alternative H_1: $\emptyset_i < 0$.

The IPS test is used because the panel is not strongly balanced. The initial test is for the presence of a unit root of focal variables in levels, and then in their first differences. $\emptyset$ is panel-specific, indexed by i. IPS assumes ϵ_{it} to be independently distributed normal for all i and t, and allows for this term to have heterogeneous variances σ_i^2 across panels. The results in Table 1 show that the test do not reject the null hypothesis of non-stationarity of manufacturing export share (MES) but they reject it with respect to manufacturing PMI of partner country (PMI). We further examine using a one-period differences on manufacturing export share and the IPS test shows a rejection of the null hypothesis. The results therefore conclude that MES is I(1), i.e. with a trend characterized by the presence of a unit root while PMI is I(0).

Table 1 Findings from Panel Unit Root Test (IPS test) and Panel Causality Test

a.	Panel Unit Root Test	IPS test Z-t-tilde-bar (p-value)
1.	Manufacturing export share (MES)	0.1531 (0.5608)
	• Manufacturing export share (first difference)	-2.2949 (0.0109)
2.	PMI Manufacturing of Partner Country (PMI)	-1.7602 (0.0392)**

Note: ** indicates p-value statistically significant up to 95%.

5.1 Panel Causality Results

The empirical model specification used to analyze the causal relationship between manufacturing export share of Malaysia and the manufacturing PMI of partner country is the following:

$$\Delta lnMES_{it} = \alpha + \sum_{k=1}^{K} \beta_k \Delta lnMES_{it-k} + \sum_{k=1}^{K} \gamma_k lnPMI_{it-k} + \epsilon_{it} \quad (2)$$

where $i = 1,\ldots, N$ refers to partner country, $t = 1,\ldots.,T$ months, and ϵ is the stochastic error term. MES refers to Malaysian export share in manufacturing to i, while PMI refers to i country manufacturing PMI. Using Granger causality tests, both $\Delta lnMES$ and $lnPMI$ must be stationary. In equation (1), PMI granger causes MES when the coefficients γ_k is statistically different from zero. Swapping the variables, the causality can be examined in reverse. Invoking the Dumitrescu-Hurlin (2012) Granger causality test, the coefficients can vary across country but invariant over time (meaning the use of fixed effect estimator). Hence the null hypothesis becomes:

$$H_0: = \gamma_{i1} = \gamma_{i2} = \cdots = \gamma_{ik} = 0 \qquad \forall_i = 1, \ldots\ldots N \quad (3)$$

which implies to the absence of causality for all countries in the dataset. The alternative hypothesis is the presence of causality between PMI and MES for some but not all countries. Dumitrescu and Hurlin (2012) noted that for panels with time series smaller than the cross sections (T > 5+3K) such as in the case of this study, the test uses an approximated standardized statistics, $(\tilde{z})$ which is normally distributed. The opposite direction is also tested between $lnPMI$ and $\Delta lnMES$. If the test also rejects the null hypothesis, one can conclude that PMI and MES have dual causality. If the null is not rejected, it means causality runs from MES to PMI.

Table 2 shows the Granger causality of the focal variables. On the full sample, the p-value of the Z-tilde statistic is significant, allowing the conclusion that manufacturing PMI of top partner countries granger cause Malaysia's manufacturing export shares. This implies the presence of causality between PMI and MES is found for some, but not all partner countries. To identify country-specific causality, a similar test is conducted on individual countries. The results show that the manufacturing PMI of China, Japan and Thailand all contributed to the recovery of Malaysia's export. This is consistent with the movement of both indicators in Figure 14. While the PMI of Japan may have a stronger causal effect (in terms of statistical significance) on Malaysia's exports, Figure 14 shows the largest causal impact in terms of export size (share) is China. This implies the importance of China's manufacturing recovery towards the increase of Malaysia's exports. No causal effect of the manufacturing PMI by the USA, Hong Kong and Singapore is found on Malaysia's exports.

Conclusion

Malaysia, at the time of writing, is experiencing export recovery from the COVID-19 pandemic. Led by both domestic and re-exports, manufactured goods such as E&E and COVID-related products such as protective garments

Table 2 Panel Causality Results

b. Panel Causality test	Dumitrescu & Hurlin (2012) Granger Non-Causality Test Z-bar tilde (p-Value)		Relationship
	A	B	
i) Overall Panel	2.9325 (0.0034)**	-0.5240 (0.6003)	PMI manufacturing granger cause manufacturing export share.
Country Specific			
ii) China	1.9447 (0.0518)*	-0.3542 (0.7232)	China's PMI manufacturing granger cause Malaysia's manufacturing export share.
iii) Singapore	-0.0315 (0.9748)	0.0289 (0.9769)	No causal relation between Singapore's PMI manufacturing and Malaysia's manufacturing export share.
iv) USA	-0.5369 (0.5914)	-0.6176 (0.5369)	No causal relation between USA's PMI manufacturing and Malaysia's manufacturing export share.
v) Hong Kong, China	-0.6099 (0.5419)	0.5013 (0.6161)	No causal relation between HK's PMI manufacturing and Malaysia's manufacturing export share.
vi) Japan	2.2342 (0.0255)**	-0.6452 (0.5188)	Japan's PMI manufacturing granger cause Malaysia's manufacturing export share.
vii) Thailand	1.7090 (0.0874)*	-0.5365 (0.5916)	Thailand's PMI manufacturing granger cause Malaysia's manufacturing export share.

Notes: i) A = H_0: PMI Manufacturing does not Granger-cause manufacturing export share.
H_1: PMI share does Granger-cause manufacturing export for at least one panelvar / country.
B = H_0: Manufacturing export share does not Granger-cause PMI manufacturing.
H_1: Manufacturing export share does Granger-cause PMI manufacturing for at least one panelvar / country.
ii) Based on IPS test, manufacturing export share is lagged one period to remove unit root.
iii) All p-values are in parentheses. *indicates statistically significant up to 90%, **indicates statistically significant up to 95%.

Source: Estimated by Author.

have been increasing in 2020. The recovery is partly due to the gradual lifting of COVID-pandemic restrictions in Malaysia. However, the ease in restriction on the production/supply side is only one part of the story. Another reason for the recovery is the recovery on the demand side (partner countries) – which the findings of this paper suggests, are also important in supporting Malaysia's exports recovery.

Although China is our main trading partner, our findings show that apart from China, economic recovery in Japan and Thailand also have a causal impact on the export recovery in Malaysia. Moving forward, this means that Malaysia should maintain or strengthen its trade relationship with China while diversifying more of its exports beyond China into other countries as for example, to Japan and Thailand, to diversify risks and to capture gains from the economic recovery in these countries. An important caveat here is this does imply that Malaysia should forgo its other trade partners, which are not included in the analysis. The findings merely suggest the need for market diversification in times of crisis. Therefore, on the Malaysian side, policies that enhance trade facilitation and maintain market openness are needed to seize the benefits of economic recovery of its trade partners.

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Notes

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1. See the list of MCO at https://www.flandersinvestmentandtrade.com/export/nieuws/corona-virus-%E2%80%93-situation-malaysia (accessed 14 May 2021) and Ain Umaira Md Shah et al. (2020).
2. The WTO has made an effort to monitor these measures to ensure transparency among its members. https://www.wto.org/english/tratop_e/covid19_e/trade_related_goods_measure_e.htm

3. These COVID-Related products are defined by World Customs Organization (WCO) in http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/nomenclature/covid_19/hs-classification-reference_2_1-24_4_20_en.pdf?la=en
4. https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2019/tradeflow/Exports/partner/WLD/nomen/h5/product/401511
5. https://asean.org/storage/2020/07/ASEAN-Policy-Brief-3_FINAL_.pdf
6. The study focused on the manufacturing Purchasing Managers' Index (PMI) of partners because it measures the activity level of purchasing managers in the manufacturing sector. The study assumes the recovery in Malaysia partners' PMI drive the recovery of Malaysia manufacturing exports (which is the top exporting sector). Data of the index are compiled by IHS Markit for more than 40 economies worldwide through questionnaire responses from a survey panel of senior purchasing executives (or similar) at around 400 companies. An improvement in economic conditions will show a score above 50. A score of below 50 shows a decline in the manufacturing sector while a score of 50 indicates no change from previous performance. The strengths of this indicator lies not only in its availability (in monthly time series) but also the extensiveness in examining the performance of the sector. The purchasing managers will evaluate the manufacturing sector based on the following criteria: Manufacturing output, New orders, New export orders, Backlogs of work, Output prices, Input prices, Suppliers' delivery times, Stocks of finished goods, Quantity of purchases, Stocks of purchases, Employment, Future output (see https://ihsmarkit.com/products/pmi.html for further methodology).

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Appendix 1: Goods Classifications

Goods	SITC Rev. 3
Food	0,1,22,4
Palm oil	4222, 4224
Manufacturing	5, 6, 7, 8, less 667 and 68
Electronics final goods	751, 752, 761, 762, 763, 775
Electronic parts and components	759, 764, 772, 776
Total electronics including parts	Electronics final goods + Electronic parts and components