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## Trade Shocks and Philippine Rice Imports Amidst SARS-CoV-2

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### Abstract

In the midst of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) global pandemic, rice exporter Viet Nam is mulling suspension of their rice exports. Should the Philippines, as one of the world's biggest rice importers, worry about its rice stock? If one will consider the dynamics of rice trade in the region, the country should not fear as much about supply yet. A more significant concern in the foreseeable future; however, will be the resulting increase of prices in the global market as demand picks up. In the extreme case that Viet Nam halts its exports for the rest of the year and the Philippines imports an additional 0.3 MMT as proposed by the Department of Agriculture, the market shocks may contribute to an estimated 48 percent increase in the price of milled rice this year. The Philippines has to consider further diversifying its import sources by tapping other rice exporters in the region in order to emerge with a stronger trade position after this pandemic.

Keywords: export restriction, trade diversification, rice trade, food security, SARS-CoV-2  
JEL Codes: F13, F15, Q17

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SARS-CoV-2 containment measures in the past weeks have forced governments across the world to impose quarantines, lockdowns, and border controls. These measures have disrupted merchandise and services trade movements effectively creating trade barriers. The Food and Agriculture Organization of the United Nations (UN-FAO) expects the pandemic to pose disruptions on food supply chains by April or May<sup>2</sup>. Kazakhstan has gotten ahead in banning its exports of wheat flour and vegetables including carrots, onions, and potatoes. Russia was also threatening to follow suit with its wheat exports<sup>3</sup>. Reduced supply of food will encourage panic buying among importing countries. Export restrictions coupled with global panic buying will only result to upward drift in commodity prices.

On 26 March, Thursday, Agriculture Secretary William Dar warned of a possible decrease in the country's imported rice supply as SARS-CoV-2 (commonly referred to as COVID-19) containment measures may hamper rice trade flows. In a statement, Secretary Dar said "Again, we wish to emphasize that the threat of hunger is as real as the threat of COVID-19<sup>4</sup>." The Secretary's statements are likely in response to the Viet Nam's customs department order of a temporary suspension of exports last 25 March, Wednesday. Viet Nam, in the league with the world's top rice exporters such as India, Thailand, and Pakistan, is considering converting their shipment as domestic stockpiles amid increased global demand. Viet Nam's Prime Minister Nguyen Xuan Phuc has instructed a working group comprised of ministries of trade, finance and agriculture to review their country's rice supplies and to come up with a report by 28 March, Saturday<sup>5</sup>.

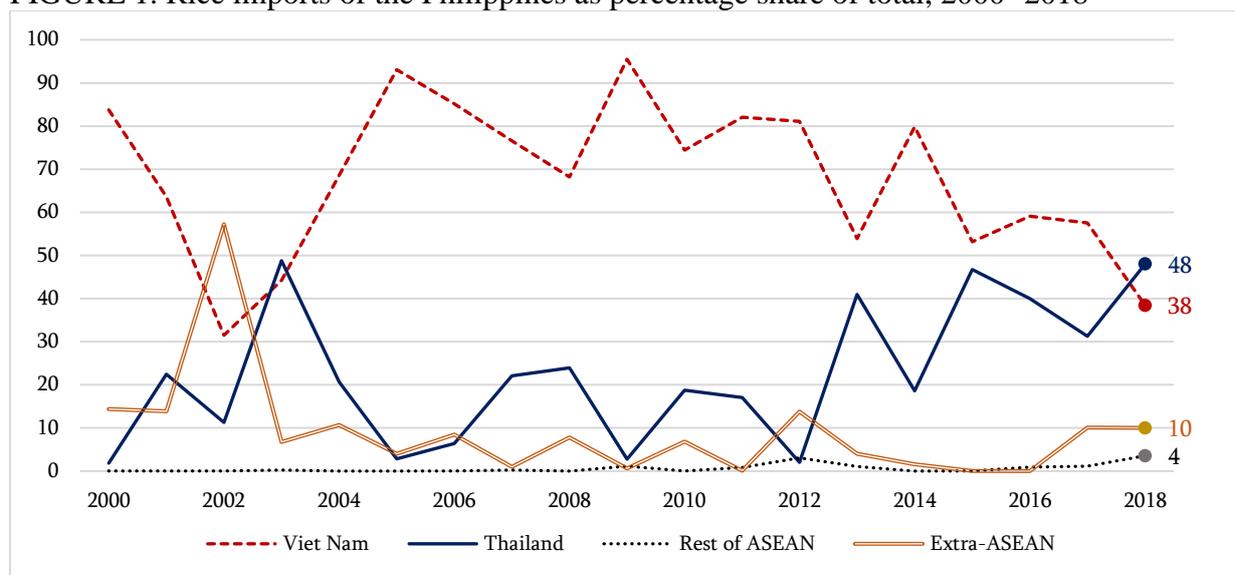
Secretary Dar assured the public that the country's total rice inventory of 2.661 MMT-inclusive of commercial, household and government stocks- can cover the country for 75 days<sup>6</sup>. The Department of Agriculture also proposed a 0.3 MMT rice importation as a stockpiling measure, and was subsequently approved following the 27 March Inter-Agency Task Force (IATF) for the Management of Emerging Infectious Diseases bulletin issued by Cabinet Secretary Karlo Nograles. The proposed strategic rice importation will be undertaken "through

Government-to-Government arrangements with ASEAN trading partners and/or from all sources, including India and Pakistan at the ASEAN-level tariff<sup>7</sup>.”

Second only to China, the Philippines is one of Viet Nam’s top rice export destinations. In 2018, Viet Nam exported around 27 percent of its rice exports to China, 17 percent to the Philippines, and followed by other Association of Southeast Asian Nations (ASEAN) neighbors Indonesia and Malaysia with 13 and 8 percent respectively. In the past two decades, the Philippines has been importing substantial quantities of rice from Viet Nam, comprising to as much as 95 percent of the country’s total imports in 2009 (Figure 1). On the other hand, the Philippines has also observed an increase in imported rice volume from Thailand in the past five years. In 2018, Thailand overtook Viet Nam as Philippines’ top source of imported rice. Nevertheless, combined imports from these two countries alone comprise about 90 percent of total Philippine rice imports.

Contributory to the strong rice trade of the Philippines with Thailand and Viet Nam is their membership to the ASEAN Trade in Goods Agreement (ATIGA). ATIGA is an enhancement of the 1992 Common Effective Preferential Tariff Scheme for the ASEAN Free Trade Area, and whose aim is to realize a free flow of goods in the Southeast Asia region by reducing trade barriers (such as tariffs) and fostering deeper economic linkages among Member States<sup>8</sup>.

FIGURE 1. Rice imports of the Philippines as percentage share of total, 2000- 2018



Note: Author’s calculations using imported quantity units (in kilograms) of semi-milled or wholly milled rice (Harmonized System, HS 100630). Milled rice comprises more than 90 percent of the country’s total rice imports. Source: UN Comtrade Database, <https://comtrade.un.org/data/>, date accessed 27 March 2020.

Given the significant share of Viet Nam exports to the Philippine rice supply, and given the global heightened alert on food security arising from the SARS-CoV-2 pandemic, should the Philippines worry once Viet Nam pushes its export break? If one will consider the current dynamics of rice trade in the region, the Philippines is fortunate to be located in a relatively rice-rich region, and be trade allies with major rice producers apart from Viet Nam. Cambodia, for example, is another ASEAN Member State (AMS) belonging to the world’s top ten exporters (Table 1). Its biggest markets are China and the European Union (EU), but country has also been exporting milled rice in the Middle East and are currently on plans to export the same product to Kuwait<sup>9</sup>. According to their Ministry of Agriculture, Forestry and Fisheries,

Cambodia’s rice exports grew by more than 21 percent in the first two months of 2020, despite concerns arising from the SARS-CoV-2 pandemic<sup>10</sup>.

Notwithstanding the persistent struggles to further enhance the efficiency and quality of their rice production, Lao PDR and Myanmar have likewise taken strides to capture a larger share of the global rice market and have already ventured to China, Africa, and EU. Myanmar Rice Federation reportedly targets to export 2.5 million tons by the time their fiscal year ends September 2020<sup>11</sup>. The Thai Rice Exporters Association predicts a lowered rice export target in 2020 citing drought, foreign currency fluctuations, and stronger competition from India, Vietnam, China and Myanmar as factors<sup>12</sup>.

The Philippines should consider tapping these markets as alternative sources of imported rice, not only as immediate substitute for should Viet Nam refuse to export, but also as a stable diversified source in the future. As part of the ATIGA, exports from these Member States enjoy the same lowered tariff rates as that of Thailand and Viet Nam (Table 1). Malaysia, another net importer of rice in the region, while assuring its public that food supply was sufficient, is also considering to "purchase rice from other countries including Pakistan, India, Myanmar and Thailand<sup>13</sup>."

TABLE 1. Top rice exporters to the Philippines (PHL) and the World, 2017-2108

	2019 Tariff (in percent)	2018 World Export rank		2018 PHL Import rank	
		2018	2017	2018	2017
India	50	1	1	3	5
Thailand	35	2	2	1	2
Pakistan	50	3	4	5	3
Viet Nam	35	4	3	2	1
Ecuador	50	5	11	-	-
Cambodia	35	9	9	-	-
Myanmar	35	19	28	4	4
Lao PDR	35	27	33	-	-

Note: Author’s calculations using imported quantity units (in kilograms) of semi-milled or wholly milled rice (Harmonized System, HS 100630). Milled rice comprises more than 90 percent of the country’s total rice imports; Tariff rates are from the Philippine Tariff Finder of the Tariff Commission. Sources: UN Comtrade Database, <https://comtrade.un.org/data/>, date accessed 27 March 2020; Tariff rates sourced from the Philippine Tariff Finder, <http://finder.tariffcommission.gov.ph/>, date accessed 27 March 2020.

More than quantity of supply, what appears to be a greater concern in foreseeable future is the price. Increased global demand will typically increase the price in the global market. As of 14 March, Myanmar’s export of 5 percent white rice sells at USD400 per ton which is around 15 percent increase from the previous USD330-340 range<sup>14</sup>. As of 19 March, Thailand’s benchmark 5 percent broken rice prices were at its highest since August 2013 at USD480-505 per ton compared to USD470-495 the previous week<sup>15</sup>. On the other hand, February benchmark rates for Viet Nam 5 percent broken rice increased to USD380<sup>16</sup>, and has further climbed to USD410 per ton after a month, the highest since November 2018<sup>17</sup>. While prices have slightly decreased in Thailand and Viet Nam due to a drop in foreign tourists<sup>18</sup> and a momentary halt to Chinese exports<sup>19</sup>, respectively, but market concerns resulting from the ongoing SARS-CoV-2 pandemic in Viet Nam and the drought in Thailand are the main factor for the current drive up in prices in these countries<sup>20</sup>.

To illustrate the magnitude and effect of these trade shocks on rice prices, the basic model of commodities following Timmer (2009) was adapted:

$$D_t = f(a_t, P_t, sr_d, P_{t-n}, lr_d) = a_t P_t^{sr_d} P_{t-n}^{lr_d}$$

$$S_t = g(b_t, P_t, sr_s, P_{t-n}, lr_s) = b_t P_t^{sr_s} P_{t-n}^{lr_s}$$

Where  $D_t$  is the commodity demand at time t;  $S_t$  is the commodity supply at time t;  $a_t$  and  $b$  are time-dependent shifters of demand and supply, respectively;  $P_t$  and  $P_{t-n}$  are the equilibrium market prices at time t and at a previous time period t-n, respectively; and  $sr_d$ ,  $sr_s$ ,  $lr_d$  and  $lr_s$  are short-run and long-run supply and demand elasticities. Solving for the percentage change in price,  $p_t$ :

$$p_t = \frac{b_t - a_t}{sr_d - sr_s} + p_{t-n} \left( \frac{lr_d - lr_s}{sr_d - sr_s} \right)$$

Where the first term pertains to the short-run response, and the second term for the long-run response. In the short-run, the percentage change in price at time t is thus influenced by percentage changes in demand shifters (such as export restrictions) and supply shifters (such as a surge in import purchases for stockpiling), as well as the short-run elasticities. Following Timmer (2009)<sup>21</sup>, and likewise adapted in the rice trade studies conducted by Headley (2011) and Clarete (2012), the net short-run demand response – or the difference between the short-run demand and supply elasticities – is set at -0.15<sup>22</sup>.

The short-run effects on price of the possible export restriction by Viet Nam and import surge by the Philippines were estimated using the model above. As an extreme case, it is assumed that Viet Nam stops exporting rice for the rest of the year after March 2020. Viet Nam's Ministry of Industry and Trade reported that the country's rice exports has reached 0.929 MMT in the first two months of this year<sup>23</sup>. Furthermore, to ensure its food security while under a state of calamity<sup>24</sup>, it is assumed that the Philippines will import an additional 0.3 MMT on top of its import projection. The counterfactual in this scenario is that Viet Nam did not impose export restrictions, and the Philippines did not necessitate additional importation.

In the extreme scenario that Viet Nam halts its exports for the rest of the year, the total supply shortfall was estimated to be 5.7 MMT, and the export restriction raises world prices by around 47 percent. If Viet Nam resumes exporting before the year ends, the amount of shortfall and the effect on price will be less. On the other hand, the Philippines' lowered rice import projection for 2020 provides for a less than one percent effect on price even if it imports additional 0.3 MMT. The combined price effect of Viet Nam's export restriction and the Philippines' additional import purchase is estimated to be around 48 percent (Table 2). Nevertheless, if more rice exporters implement restrictions and more rice importers join the surge in purchase, then the trade shocks will be greater and the effect on price will be higher.

The prudence of Secretary Dar in monitoring the country's rice supply is very much welcome. With the SARS-CoV-2 pandemic raising alerts on food security, it is only understandable for economies to regulate and stock up their food supplies. The Philippines can take this opportunity to move towards diversifying its rice import sources. While the possible stoppage of Viet Nam rice exports can be a momentary setback to the Philippines, this also cautions us from relying too much on a single exporter. Furthermore, with Viet Nam also a signatory to the mega trade deal Comprehensive and Progressive Agreement for Trans-Pacific Partnership

(CPTPP), it will likely cater to more potential export markets in the future, further diverting trade from the Philippines. It has for example, shipped rice to Japan earlier this year<sup>25</sup>. In the case of the Philippines, the country can maximize the preferential treatment afforded by its membership in ASEAN+1<sup>26</sup> free trade agreements, and as the Regional Comprehensive Economic Partnership (RCEP) nearing completion, to widen its economic base and to secure better trade arrangements.

TABLE 2. Estimated Short-Run Contribution of Export Disruptions and Import Surge to International Rice Prices in 2020 Based on a Counterfactual of Zero Change in 2019

Country	Trade Volume (in MMT)			% Change relative to TY 2019	Expected % change relative to TY 2020	% Impact on price, all else equal <sup>d</sup>
	TY 2019 <sup>a</sup> (A)	TY 2020 (B)	Diff (B-A)			
Total rice trade	84.33	80.43 <sup>a</sup>	(3.9)			
Supply side: Viet Nam	6.58	0.93 <sup>b</sup>	(5.65)	(85.87)	(7.03)	46.84
Demand side: Philippines	2.90	2.80 <sup>c</sup>	(0.10)	(3.45)	(0.12)	0.83
Sum of supply and demand shocks						47.67

Note: **a** Trade year (TY) 2019 and projected TY 2020 milled rice trade data are from the USDA-FAS Global Market Analysis. In 2019, USDA reported world rice exports and imports total 43.273 and 41.054 million metric tons (MMT), respectively. Source: USDA FAS, Global Market Analysis Data Tables, page 20; **b** Viet Nam rice exports in the first two months of 2020 as reported by its Ministry of Industry and Trade. Source: 'Vietnam halts new rice export contracts as it reviews stocks,' Bangkok Post, 23 March 2020; **c** Derived as the sum of USDA's Philippine rice import projection for 2020 (2.5 MMT), and the Department of Agriculture (DA) proposed 0.3 MMT rice import strategic stockpiling measure. Further note that the estimate of the USDA is greater than the 1.5 – 1.6 MMT import target of the Department of Agriculture. Source: Philippines to keep rice imports at 1.6 million MT, PhilStar Global, 07 Mar 2020. <https://www.philstar.com/headlines/2020/03/07/1998768/philippines-keep-rice-imports-16-million-mt>. Last accessed 29 March 2020; **d** To calculate the potential change in rice prices, a net short-run demand elasticity of 0.15 is assumed, as in Timmer (2009).

As evidenced by the 2007 rice crisis experience, export restrictions coupled with global panic buying will only result to upward drift in commodity prices. This can be prevented by strengthening country-wide and region-wide mechanisms that will lessen speculative behavior, avoid unnecessary hoarding and other trade-distorting policies, and guarantee a reliable rice supply in the region. These principles have already been enshrined in the 1979 Agreement on the ASEAN Food Security Reserve<sup>27</sup> which, among others, paved way for the establishment of a food information and early warning system in the region. Under this Agreement, ASEAN Member States will coordinate their national food stock policies to maintain a minimum safe level for the reserve, and to firm up food security in the region. In the event an AMS has suffered an extreme calamity disabling it to meet food requirements through normal trade, the Agreement provided for the establishment of the ASEAN Emergency Rice Reserve committing each AMS to earmark a quantity of rice from its national reserve.

This also brings to fore further enhancement of ASEAN-wide initiatives that will facilitate trade and improve quality infrastructures to ensure a more seamless movement of agricultural products in the region. We are fortunate to be trading allies and even geographic neighbors to several major rice exporters, but much needs to be done to collapse our economic distance between them. The Philippines, being one of the biggest importers of our staple food, can only be at the forefront of this undertaking ■

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<sup>6</sup> Philippines has rice stocks good to last for 75 days —DA chief, GMA News Online. 28 March 2020. <https://www.gmanetwork.com/news/money/economy/731657/philippines-has-rice-stock-good-to-last-for-75-days-da-chief/story/>. Last accessed 29 March 2020.

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<sup>21</sup> Timmer (2010) provided a complete derivation of the model, and an explanation on the net short-run demand response parameter in his paper. C. Peter Timmer, 2009. "a

<sup>22</sup> Headley (2011) and Clarete (2012) used the same method of Timmer (2009) to estimate rice price changes following the rice crisis of 2007. For further reading, see Clarete, D. 2012. Enhancing ASEAN’s Resiliency to Extreme Rice Price Volatility. ADB Sustainable Development Working Paper Series No.23; and Headey, D. 2011. Rethinking the Global Food Crisis: The Role of Trade Shocks. Food Policy 36:136–146.

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<sup>26</sup> ASEAN Member States have collectively signed free trade agreements with China, Japan, Korea, India, and Australia and New Zealand

<sup>27</sup> Agreement on The ASEAN Food Security Reserve Main Text, accessed from ASEAN website,  
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