

## On Potential Competition Concerns in the Rice Sector

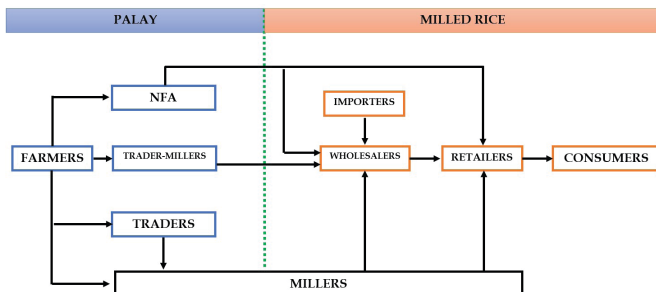
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As the staple food of over 100 million Filipinos, rice is one of the most important commodities in the Philippines. It is the most widely grown crop in the country, accounting for more than a third of total harvested area and providing livelihood to more than 2.4 million palay farmers and thousands of businesses. As such, the economic importance of the rice sector cannot be overstated. This paper<sup>2</sup> presents an overview of the market conditions in this sector and identifies potential competition concerns therein. With the passage of the Rice Trade Liberalization Act, the law could suppress some of the competition concerns identified.

### Rice Supply Chain

An important first step in understanding the rice sector is to track where rice comes from and what channels it goes through before reaching the households. The movement of rice from farms to households can be separated into two segments based on players and products: (1) dry palay from farmers to traders and (2) milled rice from importers, traders, and wholesalers to retailers (Figure 1).

Figure 1. Supply Chain of the Philippine Rice Sector



Source: Mataia (2018)<sup>3</sup> and interviews with key stakeholders.

Farmers sell their palay to traders, millers, trader-millers, or the National Food Authority (NFA). Local millers or foreign sources through importers supply milled rice to wholesalers, and retailers sell to consumers. NFA regular- and well-milled rice are currently sold at Php 27 and Php 32, respectively, and distributed through accredited retailers. Rice sold in Metro Manila is commonly from the Bocaue cluster of rice mills, composed of around 100 rice mills in the Intercity Industrial Estate and Golden City in Bocaue, Bulacan.<sup>4</sup>

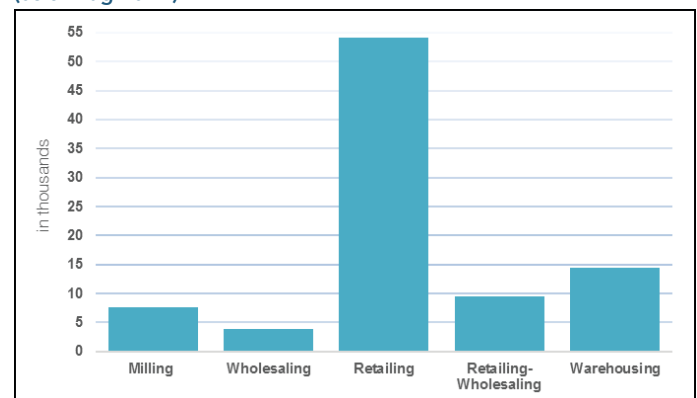
### Number of players, by function

The number of players in a sector provides a clue on the level of market competition. Conceptually, perfectly

competitive markets are characterized by, among others, having a large number of players where no single entity is large enough to influence prices. As the number of players in the market increases, the harder it is to form anticompetitive agreements such as price fixing or supply restriction, which ultimately harm consumers. Having a higher number of players also makes it difficult for anticompetitive agreements to stabilize since potential cartel members have to face higher transaction costs to monitor each other and coordinate among themselves.<sup>5</sup>

Data from the NFA show that there are numerous accredited business entities at every level of the supply chain. More than 7,600 licensed firms are engaged in the milling business and more than 67,000 firms in the rice wholesaling and retailing business as of August 2017 (Figure 2). Around 67,300 entities are engaged in wholesaling and retailing (more than 54,000 for retailing alone).

Figure 2. Number of accredited grains business players (as of Aug 2017)



Source: Briones (2019) and NFA data on number accredited grains business players (2017)

The large number of market players is not surprising given the archipelagic nature of the country. However, this sheer number of players at the national level does not necessarily imply that the market is without competition concerns since potential anticompetitive conduct may occur in smaller,

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<sup>2</sup> This paper heavily draws from Roelhano M. Briones, "Competition in the Rice Industry: An Issues Paper," Philippine Competition Commission Issues Paper (2019).

<sup>3</sup> Mataia, A., "Rice Value Chain Analysis in the Philippines," Philippine Rice Research Institute (2018)

<sup>4</sup> Briones (2019), op. cit.

<sup>5</sup> Jaspers, J., "Managing Cartels: How Cartel Participants Create Stability in the Absence of Law," European Journal of Criminal Policy and Research. Vol. 23, Issue 3 (2017), pp. 319-335.

subnational (e.g., provincial) levels. Further, the number of players alone does not shed light on the strength and level of competition in the rice sector.

As such, another important step in assessing the strength and level of competition in the sector is to define its relevant market – a market in which a particular good or service is sold and is defined as a combination of two components—product and geographic.<sup>6</sup> A relevant product market comprises all goods and services that are regarded as substitutable by the consumer by reason of the product's characteristics, price, or intended use. A relevant geographic market comprises the area where the entity or entities concerned are operating in the supply and demand of the product and where the conditions of competition are homogenous and distinguishable from other areas.<sup>7</sup>

In the case of the rice sector, having a well-defined relevant market focuses the analysis of competition conditions on a particular point of the supply chain and a more specific, and possibly narrower, geographical location. Anticompetitive conduct such as price fixing or supply restriction found within a relevant market can be analyzed in greater detail.

For the purposes of competition analysis, another important step is to determine if there is a dominant player or group of players in narrower geographic markets (i.e., provincial and sub-provincial) and the extent to which they influence market outcomes. Based on an earlier study<sup>8</sup> that used aggregate data, although the sizes of firms engaged in rice milling, wholesaling, and wholesaling-retailing significantly vary, these subsectors tend to be highly concentrated. Information on concentration ratios at each level of the supply chain in smaller geographic areas is necessary to complement national-level data.

Disaggregated data are needed in order to assess the strength and level of competition in smaller geographic markets; however, these are difficult to obtain. The definition of a relevant market requires subnational data not only on the number of firms but also on prices, flow and stock of goods, capitalization, demand, and network mapping. A more thorough competition assessment, including relevant market definition, can be made once these data are available.

## Does imported rice compete with local rice?

While competition conditions in the domestic rice sector are unfavorable and need further assessment, imported rice by accredited entities may serve as a source of competitive pressure. When foreign supply freely enters the market, domestic and border prices tend to equalize<sup>9</sup> since the entry of cheaper rice from efficient rice-producing countries compels local players to make production less costly and distribution more efficient to be able to compete.

However, in the case of the Philippines, rice importation is restricted. The NFA, a government agency mandated to ensure food security and stability of rice supply and prices, has jurisdiction over the volume of imports and accreditation of importers. Based on data from the Philippine Statistics Authority (PSA), imports account for an average of only 10 percent of the rice supply in the country from 1990 to 2016.

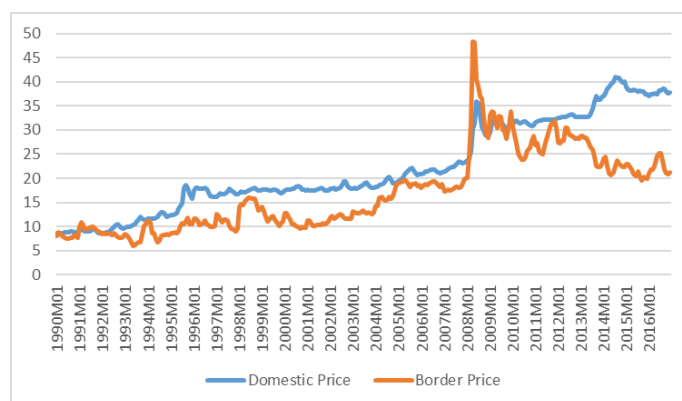
The quantity of imported rice that enters the country has been limited due to the Minimum Access Volume (MAV) commitment of the Philippines to the World Trade Organization (WTO). Under this commitment, the NFA allows the private sector to import a predetermined volume of rice.

This effectively restricts the free entry of sizable imports. In addition, the government has been pursuing a rice self-sufficiency policy, which aims to boost local production and limit reliance on importation.

The low level of imports relative to consumption may explain the limited ability of imported rice to compete with local rice. Figure 3 compares the domestic price with the border price, which is the world price adjusted upward by 10 percent to account for costs attributable to importation. Data show that the national domestic price is typically higher than the world price, except for a few months in 1991, 2009, and 2010. Although the two price series appear to move together and be highly correlated, this is not sufficient to establish integration between domestic and world prices. That is, while they do move together, one price may not necessarily affect the other.

One way to determine the extent of competition between imported and local rice is by comparing domestic and border prices using a formal cointegration test. When two markets are cointegrated (i.e., the border and domestic prices move in the same direction with the gap accounting for transaction costs), imported rice poses a sufficient competitive constraint on local rice.

Figure 3. Monthly Domestic and Border Price, 1990 - 2016



Source: Basic data from PSA CountryStat for domestic price and World Bank for border price.

Using a formal cointegration test, Briones (2019) showed that the presence of imported rice in the Philippines is unable to sufficiently compete with and bring down the price of domestic rice. This implies that Filipinos could have purchased cheaper rice had the country allowed more rice importation. The inability of imported rice to compete with local rice implies that the government's rice self-sufficiency policy and the NFA's import monopoly have been effective barriers to imported rice entry, and thus are key competition concerns in the rice sector. (Importation as a competition concern is discussed in a separate Policy Note.<sup>10</sup>)

However, recent policy developments in the rice sector especially the passage of RA 11203 or the Rice Trade Liberalization Act which provides for the elimination of non-tariff trade barriers such as quantitative import restriction may critically intensify competition between local and imported rice. The law offers a promising solution for Filipinos to enjoy cheaper rice prices by relatively freeing importation through less restrictive tariffication. The law also limits the function of the NFA to maintenance and management of buffer stocks only and repealed its role as the sole rice import licensing authority. The freer entry of imported rice will result to an increase in supply which could exert competitive pressure in the domestic market. The benefits of the law to consumers and farmers have yet to be realized from its full implementation.

<sup>6</sup> Section 24 of the PCA requires the definition of both product and geographic markets. However, for purposes of this policy note we only consider the latter since determining the substitutability of rice with other staples requires a closer look at the price and consumption data.

<sup>7</sup> Section 4(k) of the PCA.

<sup>8</sup> Cabling, J., "Market Structure, Conduct, and Performance of the Rice Milling and Trading Industries in the Philippines," Unpublished M.S. Thesis. Los Baños Philippines: University of the Philippines Los Baños. (2002)

<sup>9</sup> After taking into account shipping costs, custom duties, and other transaction costs associated with imported rice.

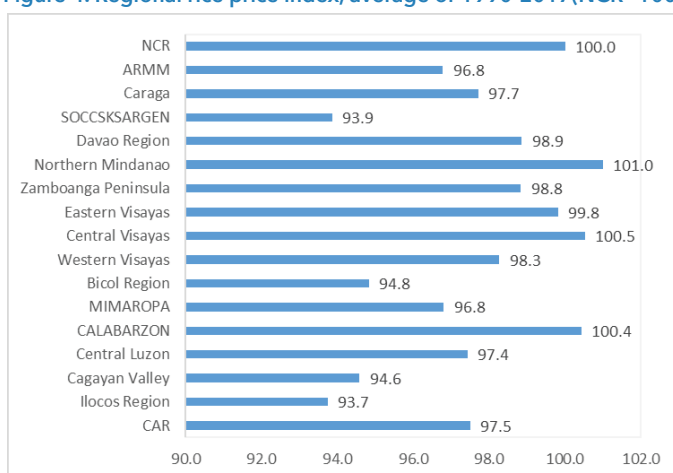
<sup>10</sup> Dela Cruz, K. and M. Reganon, NFA's Policy on Rice Importation: The Key Barrier to Competition, Philippine Competition Commission Policy Note 2019-01 (2019).

## Are regional markets integrated?

The same cointegration exercise can be used to analyze the degree of interrelatedness of regional rice markets in the Philippines. When two regional markets are cointegrated (i.e., the retail prices of rice in those regions move in the same direction with the gap accounting for transaction costs), surplus rice from one region can freely flow to the other region and augment its rice shortage causing prices in both regions to eventually equalize.

Briones (2019) performed an analysis of variation using average monthly retail prices of well-milled rice of regional markets from 1990-2017. Figure 4 presents an index of the average retail prices of rice in each region with NCR as the base or reference region. Rice is relatively more expensive in NCR as well as in Northern Mindanao, Central Visayas, and CALABARZON. The cheapest relative price is found in Ilocos Region, SOCCSKSARGEN, and Cagayan Valley. However, the authors note that averages mask tremendous intraregional variation—that is, prices within one region may vary significantly.

Figure 4. Regional rice price index, average of 1990-2017(NCR=100)



Source: Briones (2019) and basic data from PSA CountryStat

Using a formal cointegration test, Briones (2019) found that in the long run, prices are integrated at the regional level; however, prices across regions have not been found to converge yet. Notably, these regional differences may

be explained by the added cost of transferring rice from surplus production regions to receiving regions. Further, rice-producing regions have different production methods and cost functions which eventually translate to regional differences in retail prices.

However, in some instances, traders can also agree to geographically divide or allocate the market among themselves and this agreement can similarly cause variations in local prices.

Market allocation serves as a barrier to the seamless flow of rice between regional markets and, consequently, restricts competition among traders. This implies that while rice can flow across regions, it is poorly understood what exactly determines the regional variation in prices and whether potentially anticompetitive conduct is a cause of concern. There is a need to examine historical rice prices at the provincial and sub-provincial levels as well as the identities of rice traders in these areas to get a more accurate picture of how regional markets are interconnected.

## Is local rice globally competitive?

Rice production in the Philippines is currently not globally competitive. The country's lower land productivity and high labor costs have made its cost of producing palay higher on average than that in other major rice-producing countries such as India, Thailand, and Vietnam.<sup>11</sup> However, these factors cannot fully explain the relatively high domestic rice prices. To account for other factors that increase rice prices, we need to understand the rice supply chain. The additional margin that each player in the chain imposes in every stage can be measured by gross marketing margin (GMM), an indicator of how much profit millers and traders earn.

The gross marketing margin in the rice sector is estimated at Php 9 per kg of milled rice, higher than that in Indonesia, Thailand, and Vietnam (Table 1). This high GMM is said to be explained by factors such as high labor costs, lower capacity of rice mills' hauling trucks, inadequate road networks, expensive packaging, drying, and storage facilities, and high interest rates.<sup>12</sup>

In the Philippines, high marketing margins are caused by the large number of traders spread across multiple layers, and do not necessarily indicate the potential existence of

Table 1. Differential Gross Marketing Margins (GMM) and Costs Per Kg of Milled Rice (in Php)

	Philippines (PH)	Indonesia (IND)	Thailand (TH)	Vietnam (VN)	Differential PH vs IND	Differential PH vs TH	Differential PH vs VN
Gross marketing margin	9.06	5.61	5.27	4.55	3.45	3.79	4.51
Total marketing cost	4.63	4.97	2.73	3.78	-0.33	1.91	0.85
Drying cost	0.26	0.62	0.33	0.52	-0.36	-0.07	-0.26
Transport cost	2.09	2.22	1.08	1.76	-0.12	1.02	0.33
Milling cost	1.38	1.22	0.89	0.93	0.16	0.48	0.44
Storage cost	0.19	0.40	0.20	0.23	-0.21	-0.02	-0.04
Packaging cost	0.45	0.24	0.14	0.22	0.21	0.30	0.22
Cost of working capital	0.27	0.28	0.09	0.11	-0.01	0.18	0.16
Returns above major cost	4.43	0.65	2.54	0.77	3.78	1.89	3.66

Source: Beltran et al. (2016)<sup>13</sup>

<sup>11</sup> Moya, P., F. Bordey, J. Beltran, R. Manalili, C. Launio, A. Mataia, A. Litonjua, and D. Dawe. "Costs of Rice Production". In *Competitiveness of Philippine Rice in Asia*, edited by F. Bordey, P. Moya, J. Beltran, and D. Dawe. Nueva Ecija, Philippines: Philippine Rice Research Institute (2016).

<sup>12</sup> Beltran, J., F. Bordey, P. Moya, C. Launio, R. Manalili, E. Marciano, M. San Valentin, M. Valencia, and D. Dawe. "Rice Prices and Marketing Margins". In *Competitiveness of Philippine Rice in Asia*, edited by F. Bordey, P. Moya, J. Beltran, and D. Dawe. Nueva Ecija, Philippines: Philippine Rice Research Institute. (2016).

<sup>13</sup> See note 11

anticompetitive agreements.<sup>14</sup> To illustrate, it takes about 18 marketing agents (traders and millers) to process and trade 90,000 tons of dry palay, as compared to only one miller in Thailand. This pushes prices up as every player in the chain would impose a margin from their added value. Further, milling costs in Thailand and Vietnam are significantly lower given economies of scale—when the average cost per unit decreases as the total output increases.

However, the factors affecting total marketing cost explain up to only 50 percent of the difference in gross margins. The remaining factors may be due to a variety of reasons, including, but not limited to, higher returns to management, rent-seeking, collusion, or misdeclaration. This unexplained component behind large margins can be a subject of further study to validate whether or not collusive agreements among traders to restrict supply in the market, fix prices, or geographically allocate the market may have potentially caused margins to remain large.

We emphasize that alleged anticompetitive conduct by wholesalers at small localized markets cannot be detected by a mere examination of marketing margins. An estimation model that isolates the effects of market factors that push up prices (e.g., higher cost of borrowing)<sup>15</sup> would indicate more clearly whether or not such anticompetitive conduct exists. Nonetheless, we find the high net returns in the Philippines to be a potential competition concern and should be a subject of further study due to its direct impact on the prices that consumers pay.

## Do potential competition concerns suggest the existence of a 'cartel'?

The surge in rice prices in the first half of 2018 has revived perennial yet unresolved allegations on the existence of rice cartels in the Philippines. In February 2018, the Committee on Agriculture and Food of both the Senate and the House of Representatives conducted a series of hearings to discuss issues on rice policy—including the alleged cartels.

For purposes of competition assessment, a cartel is a formal or informal organization of entities where parties agree to engage in anticompetitive conduct, which harm consumers through higher prices and poorer quality of goods and services. Agreements to fix prices or manipulate bids are illegal per se under the Philippine Competition Act (PCA). Meanwhile, other agreements, such as limiting supply, are also considered illegal if these lessen competition.

The competition concerns laid out in this Policy Note need further study using disaggregated data and more groundwork interviews to determine whether or not these are attributable to cartels.

## Conclusion

Identifying potential competition concerns in the rice sector is an important first step in making a broader and more thorough assessment of the competition landscape of the sector. Notably, past studies do not agree on a common state and level of competition in the rice sector in the Philippines. While the separate PCC Policy Note on quantitative restriction<sup>16</sup> identifies restrictive importation policy as a cause of high rice prices, the authors cannot ascertain whether the existence of potentially anticompetitive conduct exacerbates this problem. We need to have a thorough analysis of more granular data on production, stock, cost, and price trends to determine whether or not potential competition concerns occur in narrower relevant markets.

Information on volume and stocking behavior of palay and milled rice by traders and millers is also crucial to better understand the supply chain. Furthermore, a detailed network analysis should be simultaneously conducted to determine the nature and behavior of entities behind any irregularities in market outcomes.

Guided by the PCA, the government has a critical role in promoting and protecting competition in the rice sector. The Philippine Competition Commission welcomes the passage of the Rice Trade Liberalization Act as it may facilitate more competition in the rice sector through freer trade regime. Given its original and primary jurisdiction over the implementation of the PCA, the PCC should continue to monitor and study potential competition concerns in the rice sector and use its enforcement power as necessary. Consumers will ultimately benefit from lower prices and better quality of rice when there is fair and healthy competition in the market.

<sup>14</sup> Dawe, D., P. Moya, C. Casiwan, and J. Cabling. "Rice Marketing Systems in Philippines and Thailand: Do Large Numbers of Competitive Traders Ensure Good Performance?" *Food Policy* 33(5) (2008):455-463. The same study also claims that if the high difference in margins is caused by a rice cartel, its presence has an insignificant influence on market price.

<sup>15</sup> The above-mentioned study by Dawe finds that high cost of borrowing explains high marketing margins but is not of particular interest when looking at rice cartels.

<sup>16</sup> Dela Cruz, K. and M. Reganon (2019), *op. cit.*