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Competition Policy Issues in Cargo Services

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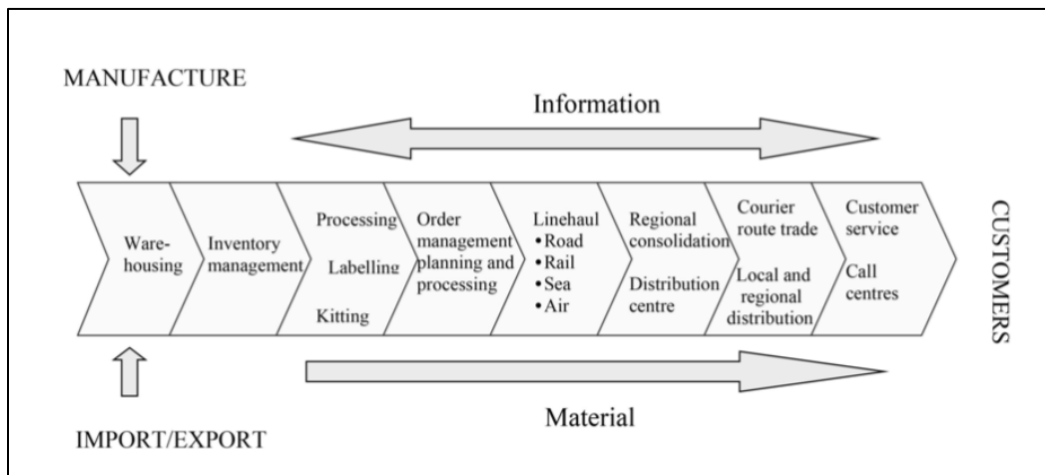
INTRODUCTION

This study focuses on cargo services, a critical segment of the logistics and supply chain¹. As defined by the Philippine Competition Commission (PCC) for this study, the cargo services sector comprises *freight forwarding, storage and warehousing, and customs brokerage*. Cargo services are nested in logistics services, consisting of handling, transport, and storage of intermediate and final goods and distribution from one destination to another for commercial purposes.

Logistics services include multimodal logistics and transport services and different services such as freight forwarding, storage and warehousing, customs brokerage, and distribution. Logistics can be briefly defined as “the integration of transport, warehousing, freight forwarding, and information services”². Logistics is that part of the supply chain system that spans the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, border regulatory procedures, and security³ (**Figure 1**).

From a mere classic transport function to a strategic, cross-functional, and global discipline (Grant et al., 2006), logistics services have developed into a sophisticated integrated system of different activities intended to move intermediate and final goods to their end-users. In the case of intermediate goods, these are inputs required in the manufacturing process. For final goods, these are intended for consumption by consumers.

Figure 1. Integrated logistics services



Source: UNESCAP Transport and Communications Bulletin No 70 (2001)

¹ According to the Philippine Competition Commission, the World Bank is undertaking a study of the logistics sector and other services apart from cargo services. This study focuses on the cargo services sector per the directive of the Philippine Competition Commission.

² <https://pids.gov.ph/pids-in-the-news/2406>

³ <http://boi.gov.ph/dti-addresses-issues-on-transportation-and-logistics-services/>

Lin (2006) describes logistics as the integration of information, transportation, inventory, warehouse, material handling, security, and packaging. Its overriding importance comes from making the intermediate or final good or service available to the demanding unit at the right time, with the right quantity, in the right quality, with the right cost, and at the right place (Lin 2006). This requires efficient coordination and synchronization of different sub-services in the logistics value chain, and this has created considerable challenges to logistics firms.

The Department of Trade and Industry (DTI) stresses the importance of an efficient logistics sector: “a more efficient transport and logistics system can better serve the international market, raise the country’s competitiveness, and enable local industries to take full advantage of a healthy economy.” Logistics services facilitate the flow of goods and services from origin to the recipient. If inefficient, they create a tremendous impact on the cost, timeliness, and security of shipment of intermediate or final goods to end-users. Its performance impacts significantly on the input costs of traded and non-traded goods, which influences the competitiveness of different economic sectors⁴.

According to the World Bank, the Philippines currently has the highest logistics cost among the member-states of the Association of Southeast Asian Nations (ASEAN) – even trailing behind Vietnam, which is considered one of ASEAN’s transitional economies (**Table 1**).

The Philippines is outperformed by countries in the region such as Thailand, Vietnam, Malaysia, and even Indonesia. The country scores lowest in customs, infrastructure, and logistics quality and competence.

Although it faces many constraints, the Philippine logistics market has grown – fueled by its strong economic growth in the past decade, rising disposable incomes, a growing outsourcing sector, and globalization. A recent estimate puts logistics services’ contribution at approximately 11% of GDP in the year 2015, recorded transaction volume worth US\$ 31,033.6 million in 2015, which grew from US\$ 20,757.5 million in 2010, with rising trade and commerce driving growth in the logistics market in the coming years⁵.

The resurgent manufacturing and industrial sectors such as the automotive industry, electronic products, apparel and accessories, chemicals, and pharmaceuticals has increased demand for logistics services. The logistics market is projected to grow at a compound average growth rate of 7% during 2015-2020 while strong FDI inflows in the automotive, capital goods, electronics, retail goods, telecom, have created immense opportunities for third party logistics (3PL) providers in the country⁶. The total revenue generated by the 3PL providers in the

⁴ *The restriction on the flow of goods and services and mobility of workers arising from the lockdown of key urban areas in Luzon, especially Metro Manila due to Covid19 shows how vulnerable the real sector is to a disruption of supply chain and logistics services in the economy.*

⁵ Ken Research (2020) “Philippine Logistics Market Outlook to 2020”

⁶ *Ibid.*

Table 1. Logistics indicators of selected Asian countries, 2018

Country	Code	Overall Score	Customs	Infrastructure	International shipments	Logistics quality and competence	Tracking and tracing	Timeliness
Japan	JPN	4.0	4.0	4.2	3.6	4.1	4.0	4.3
Singapore	SGP	4.0	3.9	4.1	3.6	4.1	4.1	4.3
Hong Kong SAR, China	HKG	3.9	3.8	4.0	3.8	3.9	3.9	4.1
Korea, Rep.	KOR	3.6	3.4	3.7	3.3	3.6	3.8	3.9
China	CHN	3.6	3.3	3.8	3.5	3.6	3.6	3.8
Taiwan, China	TWN	3.6	3.5	3.7	3.5	3.6	3.7	3.7
Thailand	THA	3.4	3.1	3.1	3.5	3.4	3.5	3.8
Vietnam	VNM	3.3	3.0	3.0	3.2	3.4	3.4	3.7
Malaysia	MYS	3.2	2.9	3.1	3.3	3.3	3.1	3.5
India	IND	3.2	3.0	2.9	3.2	3.1	3.3	3.5
Indonesia	IDN	3.2	2.7	2.9	3.2	3.1	3.3	3.7
Philippines	PHL	2.9	2.5	2.7	3.3	2.8	3.1	3.0
Brunei Darussalam	BRN	2.7	2.6	2.5	2.5	2.7	2.7	3.2
Lao PDR	LAO	2.7	2.6	2.4	2.7	2.6	2.9	2.8
Cambodia	KHM	2.6	2.4	2.1	2.8	2.4	2.5	3.2
Myanmar	MMR	2.3	2.2	2.0	2.2	2.3	2.2	2.9

Source: World Bank, 2018 LPI Global Ranking

Philippines is projected to reach USD 4,160.5 million by 2020, growing from USD 2,325.4 million in 2015⁷.

The total trade of goods (export and imports) grew on average at 4.4 percent in 2001-2005, while the transport and storage industry grew only on average at 2.0 percent. The transport and storage industry is bolstered by the healthy growth of the air transport sector, which grew, on average, at an annual rate of 8.8 percent. The industry grew slowly but bounced back to grow at a much faster rate of about 8.5 percent annually in 2011-2016. During this period, storage and services incidental to transport rose at a rapid rate of 12.2 percent. The total trade was also robust during this period growing at around 7.0 percent annually (**Table 2**).

Table 2. Growth rate of transport and storage sector and trade

	2001-2005	2006-2010	2011-2016
Transport and Storage	2.0	1.39	8.52
a. Land	0.9	0.32	7.01
b. Water	- 0.2	- 1.23	7.01
c. Air	8.8	5.87	9.39
d. Storage & services incidental to transport	4.9	3.78	12.25
All trade	4.4	3.91	7.03
Export of goods	3.1	4.98	5.44
Import of goods	5.8	2.91	8.63

Source: Computed by the authors from the Philippine Statistical Yearbook 2017

Objective and organization of the study

The study seeks to identify the competition policy issues in cargo services, an essential sub-sector of logistics services. This is because competitive markets work for greater efficiency in the production and distribution of goods and services from a competition policy perspective.

The study is organized into five sections. The Introduction provides a brief overview of the logistics services industry and cargo services to provide context to the study.

Section 2 presents a descriptive analysis of the freight forwarding, storage and warehousing, and customs brokerage services, the situation of the industry, and market structure.

Section 3 discusses the laws and regulations governing the cargo services sector and teases out competition issues arising from the sector's regulations. It is recognized that government

⁷ *Ibid.* It is noted that the projected growth was estimated prior to the coming of the Covid19 pandemic that has wreaked havoc on the global economy, particularly on trade-dependent local and regional economies. The estimated growth in business and revenue has to be revisited in view of the unexpected emergence of the pandemic and its costly social and economic impacts.

policies and regulations influence market structure and the economic environment in which firms operate.

Section 4 is an empirical analysis of the cargo services sector using the standard framework of “Structure-Conduct-Performance” (SCP) that has been used in many industrial organization studies (Ferguson and Ferguson, 1994). The SCP paradigm is a useful framework for investigating whether the cargo services industry leans toward concentration and skewed market share by individual players, leading to potential abuse of a dominant position. The assumption in the SCP framework is that market structure determines firms’ conduct, which in turn, determines its market performance. Llanto and Rodolfo (2020) used the same framework in a scoping exercise on the state of competition in the air transport industry.

The last section concludes by presenting a summary analysis of the findings in sections 2, 3, and 4 and offers some recommendations on competition and competition-related issues.

Methodology

We used a mixed-methods approach to studying the cargo services sector. First, a descriptive analysis was used to have a contextual background for understanding the sector’s present situation. The descriptive analysis drew from available data and interviews of various industry associations, e.g., Cold Chain Association of the Philippines (CCAP), who consented to the interview. Other industry associations did not respond to requests for interviews. We originally planned to conduct interviews with three small and medium enterprises (SMEs) to use as illustrative cases of the impact of cargo services operation on SMEs at the demand side. However, the COVID-19 pandemic prevented this from happening. With the PCC staff’s assistance, we sent requests for an online survey, which the selected SMEs, unfortunately, failed to accomplish.

Second, we then examined this sub-sector’s market structure based on available industry data from the Philippine Statistics Authority (PSA) and other official sources, e.g., Fair Trade Enforcement Bureau of the DTI (DTI-FTEB) and publications of the private sector. In computing the 4-firm concentration ratio and the Herfindahl-Hirschman Index (HHI), we used data from the 2010 and 2015 Annual Survey of Philippine Business and Industry (ASPBI) conducted by the PSA.

Third, in the empirical estimation part, we used available data from the PSA to investigate the possible cartel-like or cartel-leaning behavior of firms in the sector. The process involved the conduct of analytical tests to detect cartel-like or cartel-leaning behavior. A structural screening exercise was employed to determine whether conditions in the cargo services industry are conducive to the formation and stability of a cartel or whether dominant firms or groups of

firms can potentially abuse their market power.

As an issues paper, the present has provided a good description of the cargo services industry study, notwithstanding data limitations. The rigorous evaluation of market structure and condition has identified potential competition issues and has provided essential policy recommendations. Future researchers with more granular data, e.g., firm-level data on prices and quantities, can dig deeper to have a much clearer picture of the industry. It has also demonstrated the usefulness of a cartel screening exercise, which can better understand the market structure, conduct and performance of firms. This is a potential tool that can be used by economists at the PCC in future cartel identification and screening exercises.

An exercise such as this is useful because an industry that is picked up by a screen may warrant a closer look by the PCC to determine possible collusive or non-competitive behavior. Harrington (2006), who has done extensive studies on cartel formation, explains screening as a “process whereby industries are identified for which the existence of a cartel is likely.”

Scope and limitations

It is worthy to note that the study is mainly an issues paper and does not intend to provide a comprehensive nor in-depth analysis of cargo services⁸ due to time, data and budget constraints. We used the 2016 data from the 2016 ASPBI conducted by the PSA to present a cargo services sector profile. Because the ASPBI is a survey that uses a representative sample, the inferences made based on information given by the reporting sample firms are valid for the industry⁹.

In estimating our empirical model of cartel screening, we used a 2014 firm-level data available to us. A PCC official commented that more recent survey data, e.g., 2017, could probably be used to estimate the model. With the Commission’s assistance, we tried to secure more recent firm-level data from the PSA but to no avail. However, given the industry’s relative stability, we assumed that the 2014 data would not be significantly different from the 2016 data. Hence, we retained the estimation done with the 2014 data.

⁸ A participant in a webinar organized on July 24, 2020 the Philippine Competition Commission asked whether our study that has acknowledged data problems should be published or made available to the public domain. We replied that as far as we know the sector under study has not yet been subjected to an empirical analysis and thus, the present study is a contribution to understanding this sector. Many of the reports on the logistics sector in the Philippines have been descriptive and lacked rigor. Whether this study should be published or not is an internal decision to be made by Philippine Competition Commission.

⁹ Another participant in the webinar questioned the representativeness of the reported data on a sub-industry, e.g., storage and warehouses. The authors acknowledged the question and replied that the empirical exercise was done on the assumption that the Philippine Statistical Authority’s ASPBI drew sample respondents that represented the industry or sub-industry where they operate.

The study's main limitation was the unavailability of relevant data for conducting the empirical screening, especially behavioral tests. For instance, the sources on price data and segregated data on the integrated firms' revenues and market shares per cargo service sub-sector operations on air or sea freight forwarding, storage and warehousing, customs brokerage, and other firm-level data are scarce. To better understand the transport and logistics sector, the PSA, DTI-FTEB, the Civil Aeronautics Board (CAB), and various industry associations like the Supply Chain Management Association of the Philippines (SCMAP)¹⁰ should jointly develop an effective data collection and reporting system.

Arranging interviews with key industry players for data and information on the sector was somewhat laborious. It took a few months to get appointments and conduct interviews with some industry associations with the assistance of the PCC's economists. Those interviews immensely helped in understanding key points and activities of the cargo services sector. However, the SCMAP and the Chamber of Customs Brokers seemed hesitant and unreachable despite repeated official requests for an interview.

The following industry associations generously consented to be interviewed:

1. Cold Chain Association of the Philippines (CCAP) at Seda Hotel, Quezon City;
2. Association of OFF-DOCK-CFS Operators of the Philippines (ACOP) at Casino Español, Kalaw, Manila;
3. Container Depot Alliance of the Philippines (CDAP), PCC Office at 25/F Corporate Center I, Vertis North;
4. Philippine Multi-modal Transport and Logistics Association (PMTLAI) at 2/F Rm. 225 Building B, Sky Freight Building, Ninoy Aquino Avenue, Barangay Sto. Niño, Paranaque City; and
5. Customs Bonded Warehouse Operators Confederation, Inc. (CBWOCI) at Diamond Hotel, Manila.

¹⁰ *Its representative to the webinar asked why port cargo handlers and port operators for both international and domestic operations were not included in the cargo services composition. She thought that it is highly probable that there is also competition and regulatory issue in these sectors.*

INDUSTRY SITUATION AND EVOLVING MARKET STRUCTURE

Cargo services (composed of freight forwarding, storage and warehousing, and customs brokerage)¹¹ perform a critical function in domestic and foreign trade and commerce. They provide essential connectivity and flow of goods and services from one set (producers, importers, traders) to another group of economic agents (manufacturers, distributors) in manufacturing. Likewise, they facilitate the movement or flow of final consumption goods and services to consumers (final destination) from points of origin such as distributors, importers, and traders.

Cargo services perform a critical function across the value chain of economic sectors (agriculture, industry, and manufacturing and services). Like other components of the logistics services, e.g., transport, they significantly impact costs, efficiency and competitiveness in those economic sectors.

Philippine cargo services

The three sub-sectors of freight forwarding, storage and warehousing, and customs brokerage together with cargo handling (Class Code 5224) have been classified as “core.” The broader logistics services sector, defined as *“the process of planning, implementing, managing and controlling the flow and storage of goods, services and related, and information from the point of origin to the point of consumption (or from procurement to delivery).”*¹²

The sub-sectors in this study are classified under Warehousing and Support Services to Transportation (PSIC 52). The warehousing and storage services are classified under Group Code 521 and Class Code 5210. The support services to transportation that include freight forwarding and customs brokerage belong to Group Code 522 and Class Code 5229 (Other transportation support activities). Please see **Table 3**.

¹¹ A participant in the webinar observed that port cargo handlers and port operators for both international and domestic operations were not included in the cargo services composition. Another participant asked why international shipping lines and their local agents were not included. We noted that port cargo handlers, port operators, international shipping lines and their local agents were not included by the Philippine Competition Commission in the scope of the study. Perhaps the World Bank study includes these entities.

¹² OECD's Services Trade Restrictiveness Index Study (OECD, 2015).

Table 3. Cargo services under other transportation support activities

Class Description	Class Code
<p>Warehousing and Storage</p> <ul style="list-style-type: none"> • Operation of storage and warehouse facilities for all kind of goods • Operation of grain silos, general merchandise warehouses, refrigerated warehouses, storage tanks, etc. <p>This class also includes storage of goods in foreign trade zones and blast freezing.</p>	5210
<p>Other Transportation Support Activities</p> <ul style="list-style-type: none"> • Forwarding of freight • Arranging or organizing of transport operations by rail, road, sea or air • Organization of group or individual consignments (including pickup and delivery of goods and grouping of consignments) • Logistics activities, i.e. planning, designing and supporting operations of transportation, warehousing and distribution • Issue and procurement of transport documents and waybills • Activities of customs agents • Activities of sea-freight forwarders and air-cargo agents • Brokerage for ship and aircraft space <p>Goods-handling operations, e.g. temporary crafting for the sole purpose of protecting the goods during transit, uncrating, sampling, weighing of goods</p>	5229

Source: *Philippine Statistics Authority*

The 2016 ASPBI recorded a total of 2,860 establishments in the formal sector of the economy that are engaged in transportation and storage activities¹³. The ASPBI revealed various information on these establishments (**Table 4**). Among various industries, freight forwarding services had the highest number of establishments with 600 or 21.0 percent of the total establishments for the sector. Freight truck operation followed closely with 580 establishments or 20.3 percent. Customs brokerage (ship and aircraft) ranked third with 251 establishments or 8.8 percent (Please see Annex A for a historical profile of cargo services).

¹³ This is the most recent survey of PSA made available to us.

Table 4. Profile of cargo services establishments, 2016¹⁴

		Number of Establishments	Employment	Total Income (in '000 Pesos)	Employment per Establishment	Value Added (in '000 Pesos)
H	Transportation and Storage					
H52101	General bonded warehouses except grain warehouse	23	658	5,654,498	29	1,674,301
H52102	Grain warehouses	8	136	605,626	17	399,877
H52103	Customs bonded warehouses	7	227	420,795	32	145,502
H52104	Cold storage	24	1,737	2,630,913	72	1,320,545
H52109	Storage and warehousing, n.e.c.	81	7,754	13,322,428	96	7,566,204
H52291	Freight forwarding services	600	18,707	49,279,890	31	12,602,454
H52292	Customs brokerage (ship and aircraft)	251	5,334	4,931,632	21	2,055,688
H52293	Logistics services	150	11,131	39,721,316	74	8,097,317
H52299	Activities of other transport agencies, n.e.c.	21	470	569,067	22	318,374

Source: Philippine Statistics Authority

Collectively, the cargo services sub-sector accounts for the following in relation to the transportation and storage activities sector:

- 40.7% of total transportation and storage establishments,
- 24.1% of employment,
- 20.5% of the total income, and
- 17.0% of value-added

For every peso expense incurred, the cargo services sub-sector generated 1.14 pesos of income. An average of 40 persons are employed per establishment compared to the entire transportation and storage sector's record of 67 employees per establishment.

¹⁴ The transportation and storage includes freight truck operations, airline and shipping lines that are outside the scope of the study. Table 4 only shows the cargo services industries as part of the entire transportation and storage sector.

The freight forwarding and customs and brokerage combined accounted for 73% of the total establishments in the cargo services sub-sector.

Freight forwarders

In the old and traditional way of transporting goods, each cargo services sub-sector acted as separate services. They used to be segmented and operated independently. Initially, the freight forwarder acted as a 'pushing papers agent' only. However, this freight forwarding has evolved in response to technology, transportation, and market demand developments. In the past, freight forwarders offered all or a limited range of services depending on their size, number of personnel, and number of branches (Llanto et al., 2012).

For freight forwarding, a study found the ease of entry to and exit from the market (Llanto et al., 2012). The issue is not high regulation nor monopoly but structural barriers, which seem to be not very difficult hurdles to operate in this sector as indicated by the number of establishments in **Table 4**. Those barriers are as follows:

1. Need for substantial (capital) resources;
2. Availability of specialized skills, which may not be easily obtained except through professional training, and previous exposure to and familiarity with the different components of the business (e.g., dealing with requirements of ports and customs); and
3. A network of contacts with different users of logistics services to ensure continuing demand for services. Access to new technologies and innovations may be added as important factors affecting entry to and exit from the market.

In recent years, many freight forwarding companies have advanced their role in logistics services by acting as non-vessel owning common carrier (NVOCC) and or multi-transport operator (MTO) in response to the need of shippers to deal with only one service provider for efficiency reasons. This indicates some movement toward vertical integration.

MTOs can be classified into two: non-vessel operating multi-transport operator (NVMTO) and vessel operating multi-transport operator (VMTO). By assuming greater responsibility and offering transport services, the freight forwarder has helped the shipper reduce costs and increase supply reliability. When goods are damaged during transshipment, the shipper will claim compensation only with the freight forwarder under one contract instead of dealing with more than one provider (and contracts) across the supply and logistics chain.

Table 5 shows how these three operators differ in terms of shipper's scope of responsibility (UNESCAP 2011). The MTO issues only one transport document for the entire cargo journey, often a door-to-door transport service. It bears the liability for the whole of the transport according to the contract with the shipper. It is liable not only for the entire (multimodal)

transport but also for other sub-contractors, including customs and brokerage firms.

The NVOCC traditionally deals with unimodal transport (ocean shipping) and acts like an ocean carrier. Often the bill of lading issued by an NVOCC is similar to that issued by an ocean carrier. The MTO, on the other hand, often deals with multimodal transport and issues a multimodal transport bill of lading. However, as noted by United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), this classification should not be treated stringently. In reality, an NVOCC can deal with multimodal transport, while an MTO can also deal with unimodal transport.

Table 5. Classification of operators

Operator	Description	Other Characteristics
Freight Forwarder	Freight forwarder means the person or company, acting as an agent, concluding a contract with a customer on freight forwarding services relating to the carriage, consolidation, storage, handling, packing or distribution of the goods as well as ancillary and advisory services in connection therewith. ¹⁵	In the initial stages of forwarding, freight forwarders provide clearing and forwarding services as an agent of the shipper. At the intermediate level, they make available services such as cargo consolidation, road haulage, and customs clearance (Llanto et al, 2012).
NVOCC	A NVOCC arranges transport of goods as a carrier and issues own bills of lading or equivalent document but does not own or operate a major means of transport. ¹⁶	Has more responsibility over shipper's cargo than a simple freight forwarder.
MTO	Multimodal transport operator means any person who on his behalf or through another person acting on his behalf concludes a multimodal transport contract and who acts as a principal, not as an agent or on behalf of the consignor or of the carriers participating in the multimodal transport operations, and who assumes responsibility for the performance of the contract. ¹⁷	Includes both non-vessel operating multi-transport operator (NVMTO) and vessel operating multi-transport operator (VMTO). NVMTO: MTO is similar to NVOCC in the sense that they act as principals but neither of them has their own major means of transport. VMTO: The MTO has its own transport means such as vessel and conduct multimodal transport

¹⁵ Source: FIATA. *FIATA Model Rules for Freight Forwarding Services*, paragraphs 2.1-2.2.

¹⁶ Summarized by the secretariat from UNCTAD *Multimodal Transport Handbook 1997*, definitions in the *Regulations on International Maritime Transport of China 2001*, *Revised Rules on Freight Forwarding of the Philippines 2005*, *US Shipping Act 1984* and *Glossary of Shipping Terms* by the US Maritime Administration, and explanations in dictionaries.

¹⁷ Article 1, *United Nations Convention on International Multimodal Transport of Goods*, 1980.

Based on the CAB data and the DTI- FTEB, there are 490 accredited airfreight forwarders and 728 accredited sea-freight forwarders, respectively.¹⁸ The CAB regulates airfreight forwarders while DTI-FTEB regulates sea-freight forwarders. A review of the list reveals that most of these forwarders operate both air and sea cargo services and domestic and international markets. As of 2017, the 728 companies licensed under DTI-FTEB are classified according to the scope of their operations as follows:

- 371 NVOCC and international freight forwarding activities;
- 120 NVOCC, international and domestic freight forwarding activities;
- 60 domestic freight forwarding only;
- 140 international freight forwarding only; and
- 37 domestic and international freight operations.

It is noted that the traditional boundaries and distinctions of the markets of the cargo services sub-sector have become less defined due to the globalization of supply chains. The Philippines is already home to the Top 25 Global Freight Forwarding Companies offering various integrated logistics services to their global customers participating in the growing internationalization of production chains (**Table 6**).

For example, based on January - June 2019 data from the CAB, Nippon Express Philippines Corporation (Nippon) which operates as NVOCC and international freight forwarder (based on its license from the DTI-FTEB) is ranked as the top airfreight forwarder in terms of volume (30 million kilograms) and market share (16%)¹⁹. It offers a wide array of services, i.e., including transportation, warehousing and distribution, logistics solutions, and supply chain management solutions for industries such as manufacturing, retail and distribution, arts, and aviation. In retail and fashion, Nippon, like other global freight forwarding firms, offers seamless overseas procurement, delivery, and cross-trade cargo transport connecting suppliers with brick-and-mortar stores both in Japan and internationally.

Table 6. Top 25 global freight forwarders list ranked by 2017 logistics gross revenue/turnover and freight forwarding volumes

Rank	Provider	Gross Revenue (US\$M)	Ocean (TEUs) in million	Air (in million metric tons)	Headquarters
1	DHL	27,598	3.259	2.248	Germany
2	Kuehne + Nagel	22,574	4.355	1.570	Switzerland
3	DB Schenker	18,560	2.169	1.300	Germany
4	SinoTrans Ltd	9,530	3.360	.533	China
5	DSV	11,374	1.389	.635	Denmark

¹⁸ The CAB and the DTI-FTEB accredit the airfreight and sea-freight forwarders, and forwarders, respectively. Each of these agencies maintains its own database of accredited companies.

¹⁹ Based on January - June 2019 data from the CAB.

Rank	Provider	Gross Revenue (US\$M)	Ocean (TEUs) in million	Air (in million metric tons)	Headquarters
6	Expeditors	6,921	1.070	.986	USA
7	Panalpina	5,621	1.520	.996	Switzerland
8	Nippon Express	16,720	.600	.836	Japan
9	UPS Supply Chain Solutions	7,981	.600	.935	USA
10	Bollere Logistics	5,012	.864	.640	France
11	CEVA Logistics	6,994	.729	.480	Netherlands
12	Helmman World Wide Logistics	3,305	.897	.654	Germany
13	GEODIS Global Solutions	6,255	.690	.330	France
14	KWE	4,752	.664	.580	Japan
15	C.H. Robinson	14,869	.698	.175	
16	Dachser Intelligent Logistics	6,911	.522	.335	Germany
17	Kerry Logistics	3,951	1.053	.314	Hong Kong
18	Yusen Logistics	3,914	.775	.368	Japan
19	Agility	3,500	.740	.415	Kuwait
20	Hitachi Transport	5,935	.500	.280	Japan
21	DAMCO	2,700	.664	.206	Netherlands
22	TOLL	4,660	.434	.091	Australia
23	XPO Logistics	9,506	.131	.072	USA
24	CJ Logistics	4,454	.311	.057	Korea
25	NNR Global Logistics	1,735	.144	.321	Japan

Source: Armstrong and Associates <https://www.3plogistics.com/3pl-market-info-resources/3pl-market-information/aas-top-25-global-freight-forwarders-list/>

*Revenues and volumes are company reported or Armstrong & Associates, Inc. estimates. Revenues have been converted to US\$ using the average annual exchange rate in order to make non-currency related growth comparisons. Freight forwarders are ranked using a combined overall average based on their individual rankings for gross revenue, ocean TEUs and air metric tons.

**Includes LCL shipments.

The presence of international companies in the industry provides insights on the Philippines' participation in global commodity value chains (Please see Annex B). This is the case of the top Philippine export industries, e.g., semiconductors, garments. Other Philippine industries also participate in global value chains, such as pharmaceuticals, aviation, tourism, and fashion. These value chains are functionally integrated networks of production, trade, and service activities. The goods move from raw material transformation to manufacturing and delivering the finished product to the intended markets. Thus, these freight forwarders that have moved

up the value chain and transformed into MTOs and logistics providers support the major requirements of order, delivery, quality, and cost on the part of the customers.

Various factors, including globalization, changes in customer preferences, end-user demand and expectation, the impact of technology and e-commerce, and the regulatory environment have driven the evolution and transformation of the traditionally segmented cargo services sub-sectors. Manufacturing companies have adopted outsourcing as an option for their logistics requirements to concentrate on their core competence of producing goods. Based on the World Bank Logistics Performance Index (DTI-WB LPI), three things matter the most to manufacturing industries as customers of logistics service companies: *reliability, cost, and time*. These three are an overall reflection of specific attributes such as *efficiency, quality assurance, predictability, and transparency*. These attributes can be delivered by reducing turnaround times, ensuring high-quality handling of temperature-sensitive goods to prevent loss of value, among others.

Contrary to outsourcing trends by multinational companies, the SMEs still conduct logistics services in-house based on the DTI-WB LPI study in 2016. The most in-house activities include: warehouse and inventory management, logistics IT system, and value-added services. The lack of trust is the primary reason behind the still relatively low share of outsourcing. Nonetheless, the DTI-WB LPI study (focused on SMEs)²⁰ identified the three factors of reliability, timeliness, and cost as the most critical dimensions for efficient logistics performance. According to the DTI-WB LPI study, the cost is essential but high logistics cost is a by-product of low logistics reliability. If reliability is not improved, then cost issues will continue to hound manufacturing firms.

For logistics service providers, the most critical attributes that enable them to offer the composite value of reliability, cost, and timeliness to their customers are (i) *infrastructure*, (ii) *procedures*, (iii) *market structure*, (iv) *regulation*, and (v) *others such as human resources, whenever applicable*. Logistics service providers in the Philippines are subject to constraints that affect their capability to provide services efficiently and effectively based on the DTI-WB LPI study²¹. Survey data showed that delays in customs processes are considered the most problematic. When combined with the delays in customs administration, inspection delays represent almost a quarter of the most common problems faced by local logistics service providers. Apart from delays in processes, port congestion and weather disturbances also

²⁰ A total of 159 usable questionnaires were collected from major cities in the Philippines, namely: Manila, Clark, Batangas, Cebu, Iloilo, Davao, Tagaytay, Cagayan De Oro, and General Santos. The DTI supported and collected the data through a workshop format in key locations across the country in collaboration with the main related professional organizations in the country. Majority of respondents were small and medium size enterprises (SMEs). The top three respondents are in the food industry (42 percent), construction materials (12 percent), furniture and decors (11 percent) and almost all of them are SMEs. There are recommendations to further enhance the next DTI-WB LPI study on 2019.

²¹ There is a need to increase the coverage and sample to include large companies and not just SMEs.

affect the surveyed providers' performance. Man-made delays can be addressed basically by the Bureau of Customs (BOC) and other inspecting government agencies. Other reasons for delays such as natural calamities, say bad weather is beyond the control of the logistics service providers, e.g., freight forwarders.

A review of the more prominent players' profiles and business services in the freight forwarding industry revealed that they operate and maintain their warehouses for their customers. This is part of their overall logistics chain solutions for their customers to reduce logistics costs. They have invested in e-commerce platforms and technological solutions (including blockchains) to track and record the goods for their customers for greater visibility and reliability. The use of GPS allows the identification and routing of vehicles and, therefore, a better utilization of freight forwarders' or MTOs' assets.

Storage and warehousing

A warehouse is commonly used for storing or buffering products (raw materials, goods-in-process, finished products) at and between points of origin and points of consumption (De Koster 2007). Warehouses are used to support products under the four cycles of receiving, storing, picking, and shipping (Dawe 1995). A warehouse is a facility designed to store goods for more extended periods. Goods stored in a warehouse and are held in inventory until sold. The supply of manufacturers and wholesalers drives a warehouse. Based on the interview with the CDAP and the ACOP, local storage and warehousing firms provide other services in addition to the traditional services mentioned above, such as container repair and cleaning, off-dock services in container yards.

Based on the PSA data, there are four major categories of storage and warehouse establishments in the Philippines, namely: (i) general bonded warehouses (except grain warehouse), (ii) grain warehouses, (iii) customs bonded warehouses, and (iv) cold storage. The higher concentration of firms lies in the general bonded warehouses and cold storage. There are only seven customs bonded warehouses accounted for by the PSA in ASPBI (2016).

On the other hand, the BOC regulate eight types of customs bonded warehouses²², namely:

1. Miscellaneous manufacturing bonded warehouse;
2. Garments textile manufacturing bonded warehouse;
3. Customs common bonded warehouse;
4. Private bonded warehouse;
5. Public bonded warehouse;
6. Industry-specific customs bonded warehouse;

²² We do not have data on these various categories of customs bonded warehouses. The ASPBI report them in one category as customs bonded warehouses.

7. Multinational regional bonded warehouse; and
8. Airline customs bonded warehouse.

Another storage facility that is growing in importance is the cold chain storage in view of the country's archipelagic nature where agricultural and fisheries goods originate from various island economies or from far-flung places in the archipelago and are transported to major urban (consuming) centers. The CCAP reported that approximately 1.6 million metric tons (MT) of various food product categories that need cold chain support are imported meat and meat preparations, fish and fish preparations, dairy, and fruits and vegetables. However, the combined capacities of cold chain facilities in the country have reached only 400,000 MT. The most significant cold chain facility is in Mindanao for general warehousing, but this is exclusively for bananas and tuna. The next big facility is in the greater Manila area, followed by CALABARZON. To fill the gap in cold chain facilities, the Board of Investments has included cold chain storage in the Investments Priorities Plan.

A scoping of the global suppliers for cold chain storage reveals that the biggest cold chain companies are based in the US, Europe, and Australia. These include Americold Logistics, Swire Cold Storage (with presence in Sri Lanka), AGRO Merchants, Emergent (with presence in Vietnam). However, some Asian cold chain companies are emerging from Singapore, Japan, China, and Thailand. For example, Nichirei of Japan has partnered with Siam Cement group to penetrate the Thailand market. Other Japanese cold chain companies include Yokohama Reito that has a presence in Thailand and Yamato in Malaysia that concentrates heavily on parcel delivery of frozen goods. In the Philippines, Igloo Supply Chain has partnered with YCH Group Pte Ltd of Singapore.

The growing demand for cold chain storage facilities is driven by the following factors:

- (a) *Shifts in preferences of consumers for frozen and chilled processed food over products from wet markets.* Consumers are becoming more conscious of food safety that is affected by food handling and storage.
- (b) *Global healthcare agenda requiring proper storage of pharmaceutical products to reduce response time and delays especially during disaster or crises situations.* The Philippines is located in a disaster-prone area of the world, which will require various pharmaceutical products for distribution to calamity victims right after a disaster or natural calamity has struck.
- (c) *Growth in international trade with major trading partners such as the US, China, and ASEAN and the signing of trade and/or cooperation agreements by the Philippines. e.g., with ASEAN, European Union.* The lifting of trade barriers because of these trade agreements has resulted in a greater trade volume and demand for frozen and chilled processed food over products.

- (d) *The technological developments increasing the appetite of Philippine and foreign companies to invest in these facilities.* Innovations and new technologies to keep foods chilled or frozen motivate new investments in facilities to keep up with competitors and rising demand.
- (e) *Growth of global halal food market requiring the establishment of cold chain facilities by those who want to tap this market.* Population growth and rising incomes in Islamic countries have opened new export opportunities for food companies worldwide.

Customs brokerage

Customs brokers play a role in mediating transactions between importers and the BOC. Republic Act No. 9280, otherwise known as the Customs Brokers Act of 2004, as amended by Republic Act No. 9853, describes the scope of the practice of customs broker. To wit:

SEC. 6. Scope of the Practice of Customs Brokers. – Customs Broker Profession involves services consisting of consultation, preparation of customs requisite document for imports and exports, declaration of customs duties and taxes, preparation signing, filing, lodging and processing of import and export entries; representing importers and exporters before any government agency and private entities in cases related to valuation and classification of imported articles and rendering of other professional services in matters relating to customs and tariff laws its procedures and practices.

A customs brokers and shall be considered in the practices of the profession if the nature and character of his/her employment in private enterprises requires professional knowledge in the field of customs and tariff administration. He/She is also deemed in the practice of custom Broker profession if he/she teaches customs and tariff administration subjects in any university, college or school duly recognized by the government.

The customs brokerage industry has professionalized customs brokerage services through Republic Act No. 9280²³. The practice of customs brokers or brokerage include natural persons or professional partnerships of customs brokers and has been expanded to corporations. Custom brokerage service requires a 4-year college degree program under regulation by the Commission on Higher Education (CHED) and passing a licensure examination administered by the Professional Regulatory Commission (PRC).

²³ Prior to the enactment of Republic Act No. 9280 customs brokerage services are provided by the traditional customs brokers. Republic Act No. 9280 professionalized the practice of providing customs brokerage services. As stated above, the practitioner is required to accomplish a 4-year college education and acquire a license from the Philippine Regulatory Commission.

Based on the 2016 PSA data, there were 251 establishments engaged in customs brokerage services for ship and aircraft. As of December 2017, there are more than 10,600 PRC-registered customs brokers and about 7,000 practicing customs brokers nationwide more particularly in Metro Manila, Cebu, Davao, Batangas, CDO and Northern Central Luzon.²⁴

Infrastructure challenges

An analysis of the cargo services sector will not be complete without mentioning, even in passing, the infrastructure challenges that players face in delivering services. Both connectivity and accessibility influence the ability of the firms in the cargo services subsector to compete. Stakeholders recognize that the Philippine logistics sector cannot create or offer value to industries due to significant infrastructure issues, mainly affecting the carriage and mobility of goods. For instance, the Global Cold Chain Alliance noted that high energy costs serve as the major constraint for generating significant investments in cold chain facilities in the Philippines. Likewise, it suggests that automation in government agencies must be pushed to the greatest extent possible to boost efficiency and eliminate corruption²⁵.

There are gaps identified by logistics firms that have to be addressed to reduce their overall logistics costs. These include storage facilities, product testing facilities, and skilled human resources for specific services such as trucking services. It is important to reiterate here the need to support the policy reforms and recommendations to address the infrastructure bottlenecks at the airports, seaports, and roads/highways that have been identified and advocated by the DTI based on the DTI National Logistics Masterplan of 2015.

LAWS AND REGULATIONS IN THE CARGO SERVICES SECTOR

A review of the laws, regulations, jurisprudence, and advisory opinions impacting (1) freight forwarders, (2) storage and warehousing services, and (3) customs brokerage services reveals that foreign ownership limitations imposed by the Constitution act as the main barrier to competition. Additionally, a complex regulatory structure with several regulatory agencies and governing bodies regulating the cargo services industry and a number of licenses and permits from national government agencies and local governments required to operate pose as entry

²⁴ Data from the Association of Customs Brokerage Firms/Professionals during the November 23, 2018 pre-conference on Logistics. A participant from the Bureau of Customs in the webinar presentation on July 24, 2020 gave the following information: "as of November 2019, the number of customs brokers in our (Bureau of Customs) roster is currently at 13,000 and only more or less 3,000 have been accredited by BOC."

²⁵ In the case of the Philippines, while it was not part of the list of Top 20 markets for the United States cold chain companies, it was able to receive assistance from the United States Department of Agriculture through USAID in setting up cold chain facilities in CARAGA in 2014.

barriers. The complex regulatory structure has limited several players in the industry, initially to first movers and later to those that can raise the resources to deal with regulatory constraints.

Freight forwarders

The laws and regulations affecting freight forwarders are as follows:

Republic Act No. 10668: “An Act Allowing Foreign Vessels To Transport And Co-load Foreign Cargoes For Domestic Transshipment And For Other Purposes”

Cabotage is defined as the carriage or transportation of passengers or cargo between two points within a country via sea, air, or land transport by a vessel or vehicle registered in another country.²⁶ Before the amendment of the cabotage law²⁷, only domestic shipping lines can serve domestic routes.

Republic Act No. 10668 entitled “An Act Allowing Foreign Vessels To Transport And Co-load Foreign Cargoes For Domestic Transshipment And For Other Purposes,” aims “to assist importers and exporters in enhancing their competitiveness in light of intensifying international trade, and to lower the cost of shipping export cargoes from Philippine ports to international ports and import cargoes from international ports for the benefit of the consumers.”

Before Republic Act No. 10668, **Republic Act No. 1937**, otherwise known as the **Tariff and Customs Code of the Philippines**, as amended, and **Republic Act No. 9295**, otherwise known as the **Domestic Shipping Development Act of 2004**, restricted the privilege of engaging in domestic coastwise trade to Philippine vessels. Consequently, foreign vessels were prohibited from plying domestic routes carrying passengers and cargo, except under exceptional circumstances. Upon entering foreign goods into Philippine ports, domestic shippers had to take them to their final point of destination, entailing additional costs that were ultimately passed on to consumers.

Relevant sections of the Tariff and Customs Code of the Philippines are as follows:

Sec. 810. Privileges Conferred by Certificate of Philippine Registry. – A certificate of Philippine registry confers upon the vessel the right to engage, consistently with law, in the Philippine coastwise trade and entitles it to the protection of the authorities and the flag of the Philippines in all ports and on the high seas, and at the same time secures to it the same privileges and subjects it to the same disabilities as, under the laws of the Philippines, pertain to foreign-built vessels transferred abroad to citizens of the Philippines.

²⁶ Yee, Gerald, and Nazirah K. Din. “Twin Measures - The Philippines Competition Act and Amendments to the Cabotage Laws.” *Lexology*, 1 Oct. 2015. www.lexology.com/library/detail.aspx?g=484111d8-4d57-41f8-bfcf-fe91cc75f507.

²⁷ Section 1009 of PD No. 1464 or the Tariff and Customs Code of 1978

Sec. 902. *Vessels Eligible for Coastwise Trade.* – The right to engage in the Philippine coastwise trade is **limited to vessels carrying a certificate of Philippine registry.**

Sec. 903. *License for Coastwise Trade.* – All vessels engaging in the coastwise trade must be duly licensed annually.

The restriction on foreign vessels resulted in the dominance of the local shipping industry by only a few local players. This lack of competition has contributed to high shipping costs resulting in higher consumer prices and slow modernization of the shipping sector. Llanto and Navarro (2012) pointed out that the concentration of the shipping industry in the hands of a few players has effectively prevented the modernization of the domestic shipping industry, which requires among others, meeting the international standards of quality and safety for ocean-going vessels.

Republic Act No. 10668 and a twin measure, Republic Act No. 10667 otherwise known as the Philippine Competition Act signed on 21 July 2015, paved the way for competition in the maritime cargo shipping industry by expanding the activities of foreign vessels to include sea carriage of the following:

Section 4. *Carriage of a Foreign Cargo by a Foreign Vessel.* – A foreign vessel:

(a) Arriving from a foreign port, shall be allowed to carry a foreign cargo to its Philippine port of final destination, after being cleared at its port of entry;

(b) Arriving from a foreign port, shall be allowed to carry a foreign cargo by another foreign vessel calling at the same port of entry to the Philippine port of final destination of such foreign cargo;

(c) Departing from a Philippine port of origin through another Philippine port to its foreign port of final destination, shall be allowed to carry a foreign cargo intended for export; and

(d) Departing from a Philippine port of origin, shall be allowed to carry a foreign cargo by another foreign vessel through a domestic transshipment port and transferred at such domestic transshipment port to its foreign port of final destination.

For purposes of this Act, an empty foreign container van going to or coming from any Philippine port, or going to or coming from a foreign port, and being transhipped between two (2) Philippine ports shall be allowed.

Notably, the Foreign Ships Co-Loading Act has allowed foreign ships to call in multiple

domestic ports provided that their cargoes are intended for import or export and duly cleared by the customs commissioner and that the port calls reduce logistic costs for producers. Before the amendments to the cabotage law, it was cheaper to send products from other countries to the Philippines than to ship goods within the country.

Joint Department Administrative Order No. 001-2016: Implementing Rules and Regulations of the Foreign Ships Co-Loading Act

The Implementing Rules and Regulations (IRR) of the Foreign Ships Co-Loading Act embodied in Joint Department Administrative Order No. 001-2016 was approved and signed by the Secretaries of Finance, Trade and Industry, Transport and Communication, and Justice. The IRR, published on 16 May 2016 and effective 15 days after, exclusively covers foreign cargo vessels carrying foreign containers or foreign cargoes, whether containerized, bulk, or breakbulk.

For co-loading of import cargoes, the shipments must be covered by the necessary import entry for consumption, warehousing, or transshipment, which should be filed at the assessment office in the port of discharge.

When filing the electronic inward foreign manifest (e-IFM) and electronic consolidated cargo manifest (e-CCM) of co-loaded foreign cargo, the port of final destination must be indicated as the port of discharge in the e-IFM and e-CCM.

Export cargoes need to be covered by an export declaration and other necessary documents, to be filed immediately at the first port of loading.

Arrastre operators should be furnished a copy of the e-IFM, e-CCM, and export declarations. In turn, it must periodically submit to the Bureau of Customs (BOC) an inventory record.

They are also required to provide adequate space in (their) yard for the temporary storage of foreign cargoes subject to co-loading. As for empty foreign containers, the BOC will issue a special permit to load for domestic movement (SPL-DM) if the empty container is transferred from one Philippine port to another, and release a special permit to load for immediate exportation (SPD-IE) if the foreign empty container is loaded by a foreign vessel for immediate exportation.

Role of the Customs Commissioner

Section 5 of the IRR of the Foreign Ships Co-loading Act states that the Customs Commissioner, "upon such reasonable conditions as may be imposed," may authorize the conveyance of foreign cargo brought from abroad by a foreign vessel. The customs chief may also allow a

foreign vessel to take cargo intended for export at any Philippine port of entry and convey the same upon such foreign vessel to a foreign port. Moreover, the Customs Commissioner can authorize the transshipment of such foreign cargo intended for import or export through another Philippine port of entry by another foreign vessel to the cargo's port of final destination.

However, such authority should be implemented "provided, that such acts shall not diminish or impair any existing and valid government contract covering the handling of import and export cargo; provided further, that the Commissioner of Customs shall have the authority to impose penalties to foreign ship operators found to have violated any provision of this order and to take measures to address illegal activities, including smuggling" (IRR of the Foreign Ships Co-loading Act).

The Customs Commissioner issues customs orders on the implementation of the IRR, including on the issue of overstaying cargoes, "after due consultations with other implementing agencies, to ensure effective implementation of the objectives of Republic Act 10668."

The other government agencies involved in co-loading—Finance, Transport, Trade and Industry, and Justice—will continue to exercise their respective mandates and may issue rules and regulations in relation to the law consistent with the objectives of R.A. 10668.

Section 9 of the IRR points out that Commonwealth Act No. 65, otherwise known as the Carriage of Goods by Sea Act, concerning the carrier's liability for the loss of or damage to goods carried shall govern carriage under the Foreign Co-Loading Act.

Section 10 clarifies that foreign vessels carrying goods in accordance with R.A. 10668 shall not be considered common carriers under Republic Act No. 386, shall not be considered as offering public service, and shall not be covered by R.A. 9295, or the Domestic Shipping Development Act of 2004.

To ensure that no domestic cargoes are carried by foreign ships, foreign ship operators must submit their cargo manifest to the port authorities. "No foreign vessel shall be allowed to carry any domestic cargo or domestic container van, whether loaded or empty, even if such container van may contain foreign cargo," the IRR stipulates.²⁸

Customs commissioner: conclusion

Notable are the powers granted to the Customs Commissioner and the broad discretion to allow or disallow foreign shipments, which may work to restrict competition if exercised indiscriminately.

²⁸ <https://www.portcalls.com/implementing-rules-ph-coloadng-act/>

Tax treatment of international and domestic shippers

While competition is the ultimate goal of cabotage liberalization, the disparity in international and domestic shippers' regimes may hinder competition in the industry.

Foreign shipping lines doing business in the Philippines are subject to tax equivalent of three percent (3%) of their quarterly gross receipts on transport of cargo from the Philippines to another country. International carrier doing business in the Philippines may also avail of a preferential rate or exemption based on applicable tax treaty or international agreement. In comparison, domestic shippers are subject to 30% regular corporate income tax (RCIT) on net taxable worldwide income or 2% minimum corporate income tax (MCIT)²⁹ on gross income, whichever is higher.

The National Tax Research Center (NTRC) explained that the apparent discrepancy lies in the fact that the 2.5% GPBT was determined by assuming a 90% ratio of deductions to an international carrier's Philippine gross income, and the application of the previous (1977) RCIT of 25% on the assumed 10% net income. The tax treatment difference favors international carriers as the 2.5% GPBT approximated the then 25% RCIT. If the same logic will be applied to the present 30% RCIT, then the GPBT rate should be 3% and not 2.5%. In any case, an international shipper may avail of a reduced rate under a tax treaty on income derived from outbound cargo transport.

In addition to the GPBT, international shippers are governed by the following tax policies:

- 3% Common Carriers Tax (CCT) based on gross receipts from outbound transport of cargoes
- Exemption from 12% value-added tax (VAT) on outbound cargo carriage
- Exemption from 2% MCIT

On the other hand, while entitled to specific fiscal incentives under special laws, domestic shippers are subject to the 12% VAT based on gross receipts from domestic operations, on top of the 30% RCIT or 2% MCIT.

Tax treatment: conclusion

The discrepancies between domestic and international carriers' may be a barrier to effective competition in the industry. International carriers are subject to the GPBT and the CCT, which have been considered as being discriminatory and inconsistent with the rulings of the World Trade Organization (WTO) and the resolutions of the International Civil Aviation Organizations

²⁹ MCIT is applied beginning only on the 4th taxable year immediately following the year in which the corporation commenced its business operations and not automatically applied unlike RCIT.

(ICAO). Meanwhile, domestic carriers are subject to income tax and VAT, from which international carriers enjoy an exemption. Domestic and international carriers' tax treatment has to be revisited to find out if they are a barrier to competition between domestic and international carriers.

Freight forwarders as public utilities

In the Philippines, freight forwarders are considered as operators of public utilities. In **JG Summit Holdings, Inc. vs. Court of Appeals et. al.**,³⁰ the Supreme Court defined a public utility as follows:

"A 'public utility' is 'a business or service engaged in regularly supplying the public with some commodity or service of public consequence such as electricity, gas, water, transportation, telephone or telegraph service.' To constitute a public utility, the facility must maintain the residents' life and occupation. However, the fact that a business offers services or goods that promote the public good and serve the public's interest does not automatically make it a public utility. Public use is not synonymous with public interest. As its name indicates, the term 'public utility' implies public use and service to the public. The principal determinative characteristic of a public utility is that of service to, or readiness to serve, an indefinite public or portion of the public with a legal right to demand and receive its services or commodities. Stated otherwise, the owner or person in control of a public utility must have devoted it to such use that the public generally or that part of the public which has been served and has accepted the service, has the right to demand that use or service so long as it is continued, with reasonable efficiency and under proper charges. Unlike a private enterprise, which independently determines whom it will serve, a 'public utility holds out generally and may not refuse legitimate demand for service.'"

Section 11 of Article XII of the 1987 Philippine Constitution restricts foreign ownership of corporations or associations operating a public utility. It states:

SECTION 11. No franchise, certificate, or any other form of authorization for the operation of a public utility shall be granted except to citizens of the Philippines or to corporations or associations organized under the laws of the Philippines at least sixty per centum of whose capital is owned by such citizens, nor shall such franchise, certificate, or authorization be exclusive in character or for a longer period than fifty years. Neither shall any such franchise or right be granted except under the condition that it shall be subject to amendment, alteration, or repeal by the Congress when the common good so requires. The State shall encourage equity

³⁰ G.R. No. 124293, 24 September 2003.

participation in public utilities by the general public. The participation of foreign investors in the governing body of any public utility enterprise shall be limited to their proportionate share in its capital, and all the executive and managing officers of such corporation or association must be citizens of the Philippines and the operation of a public utility shall be granted only to citizens of the Philippines or to corporations organized under the laws of the Philippines, at least 60 per centum of whose capital is owned by Filipino citizens.

The FedEx Case: International Air Freight Forwarders as Public Utilities³¹

In May 2011, The Civil Aeronautics Board (CAB) granted FedEx, one of the largest freight forwarding companies globally, a permit to operate in the country from 2 May 2011 to 1 May 2016. The CAB decision was backed by an opinion issued by the Department of Justice (DOJ) in 2004 stating that “international air freight forwarders are not covered by the nationality requirement under the 1987 Constitution, hence, may be issued a certificate of public convenience subject to the CAB’s pertinent rules and regulations set forth under Republic Act No. 776 and other existing laws.”

In a resolution dated June 6, 2013, the Court of Appeals nullified and voided Civil Aeronautics Board (CAB) Resolution No. 26, or the permit issued to Federal Express Pacific, Inc. (FedEx Pacific) to operate as an international freight forwarding service for violating the constitutional limitation on foreign ownership.

The CA stated that freight forwarding is considered a public utility and subject to the constitutional requirement of 60% Filipino ownership. The CA cited the case of Royal Cargo Corp³², which had been allowed by the CAB to operate as an air freight forwarder because the company was 70% owned by Filipinos and its president, while a foreigner was married to a Filipino. When Royal Cargo sought renewal of its permit, it reported a new president, a German national. This prompted the CAB in 1990 to approve the renewal on condition that the position of president was transferred in 30 days or the permit would be cancelled. Royal Cargo appealed the decision but this was denied by the CAB, which stated that it was the board’s policy “to grant a permit to engage in international air freight forwarding only to citizens of the Philippines as defined in RA 776.”

SEC-OGC Opinion No. 16-08: International Sea Freight Forwarding / Sub-Contracting

An international freight forwarder may provide trucking services to its clients without violating the nationality requirement under the 10th Regular Foreign Investment Negative List and the Constitution. In this Opinion rendered by the Securities and Exchange Commission (SEC), an international sea freight forwarder with more than 40% foreign equity was requested by its

³¹ <https://business.inquirer.net/133641/fedex-cant-operate-in-ph-appellate-court-rules>

³² G.R. Nos. 103055-56 - January 26, 2004 - Royal Cargo Corporation, Petitioner, V. Civil Aeronautics Board, Respondent.

client to render trucking services. To align itself with existing rules on foreign equity, the company decided to sub-contract the proposed services to a local trucking company but filed a request for a confirmatory ruling with the SEC.

The SEC cited two **Department of Justice** opinions, namely: a) **Opinion No. 98** dated November 9, 2004, stating that the nationality requirement applies only to domestic air transport and not to international air freight forwarders, and b) **Opinion No. 191** dated August 31, 1982, stating that public utilities which are engaged exclusively in international commerce are beyond the scope of the Philippine Constitution on foreign equity limitation and nationality requirement.

The most significant interpretation that the SEC applied may be found in Administrative Order No. 6 issued by the Philippine Shippers' Bureau in 2005. The policy defined an 'International Freight Forwarder' as a "local entity which performs other forwarding services such as advancing freight payments, providing packing/crating, warehousing, and trucking."

Accordingly, even if the Articles of Incorporation of the corporation does not expressly state trucking, it may still engage in such an undertaking by itself or by a sub-contractor because such activity is imperative in or implied by its business as an international sea freight forwarder.

SEC-OGC Opinion No. 17-14: International Freight Forwarding, Applicability of Anti-Dummy Law

The SEC opined that utility firms such as international freight forwarders engaged exclusively in international commerce are beyond the Constitutional prohibition limiting foreign ownership to 40% of a corporation's capital.

Thus, corporations engaged exclusively in international freight forwarding are considered beyond the purview of the nationality requirement for the operation of public utilities and, therefore, may be owned up to 100% by foreigners.

Consequently, the prohibition on electing a foreign citizen as President per the Anti-Dummy Law, does not apply to corporations engaged in international freight forwarding. They are not considered to be engaged in any nationalized or partly nationalized activity.

Freight forwarders: conclusion

Under existing laws and jurisprudence, freight forwarders maintain their classification as public utilities subject to the 60% nationality requirement. As an effect, it effectively limits competition in the industry to Philippine freight forwarders.

Numerous SEC opinions shed light on the subject of freight forwarders. The SEC illustrates that

freight forwarding, specifically domestic air transport, remains subject to the nationality requirement under the 11th Regular Foreign Investment Negative List and the Constitution.

In contrast, an international freight forwarder engaged exclusively in international commerce is beyond the scope of the Philippine Constitution on foreign equity limitation and the nationality requirement. Additionally, an international freight forwarder may provide trucking services to its client in the Philippines through subcontracting to a local trucking company without being classified as a freight forwarder subject to the nationality requirement. Advancing freight payments, providing packing/crating, warehousing, and trucking are among the activities international freight forwarders may engage in in the Philippines.

The passage of the Foreign Co-Loading Act and its IRRs appear to have introduced competition to the maritime cargo shipping industry. If properly implemented, it will liberalize the sector, open up the competition to foreign players, and ultimately lower costs incurred by foreign shippers who previously had to pay domestic carriers to conduct domestic transshipment of their import and export cargoes.

It will be essential to find out how co-loading is done in practice. According to a staff member of the PCC, based on their stakeholder interviews in 2018 in a merger case, co-loading was barely practiced due to many limitations such as poor port infrastructure, e.g., a provincial port cannot accommodate large ocean-going vessels³³.

Another highlight of the IRR of the Foreign Co-Loading Act is the determination that foreign vessels carrying foreign goods shall not be considered common carriers nor considered as offering a public service, and therefore not subject to the nationality requirement. Parenthetically, to ensure that no domestic goods are carried by foreign vessels, foreign vessel operators must submit their cargo manifest to the port authorities.

Storage and warehousing services

SEC-OGC Opinion No. 18-15: Cold Storage, Cold Logistic and Distribution as Public Utilities

Philippine laws and jurisprudence provide that ice refrigeration plants are considered public utilities if their enterprise is devoted to the public or their services are sold to the public for compensation. The SEC had previously opined that if the enumerated activities in the primary purpose of a corporation are too broad and encompassing making possible the undertaking

³³ This is outside the scope of this study but certainly, it is an issue that should be studied in the future. We acknowledge this good observation from a member of the technical staff of PCC.

of mass media or public utility, then such is deemed nationalized or partially nationalized.

Storage and warehousing service: conclusion

It has been over 100 years since the first public utility law was passed in 1913. Since then the economic landscape has significantly changed. Commonwealth Act No. 146 or the Public Service Act still defines obsolete and outdated modes of transport such as pontines and marine railways, and enterprises such as ice plants, ice refrigeration plants as public utilities even if they are no longer susceptible to monopolistic behavior due to the presence of many alternatives in the market, or require the kind of massive capital outlay commonly associated with present day public utilities.

The long overdue amendment of the Public Service Act will lead to competition in various industries by narrowing down the definition of public utilities and lifting the nationality requirement on modes of transport, technology and enterprises formerly defined as public utilities.

Customs brokerage services

Originally, based on Sec. 29 of Republic Act No. 9280:

SECTION 29. Prohibition Against Corporate Practice. – The practice of customs broker is a professional service, admission to which shall be determined upon the basis of individual and personal qualifications. No firm, company, or association may be registered or licensed as such for the practice of customs broker profession.

Amended, based on Sec. 2 of Republic Act No. 9853:

SECTION 2. Section 29 of Republic Act No. 9280 is hereby amended to read as follows:

"SEC. 29. Admission to Professional Practice. – The practice of customs broker is a professional service, admission to which shall be determined upon the basis of individual and personal qualifications. However, nothing in this Act shall prevent a corporation from being registered for the purpose of engaging in the business of customs brokerage as long as the corporation shall engage or hire the services of at least one (1) customs broker."

"For purposes of this Act, the phrase 'engaging in the business of customs brokerage' shall mean making representations in behalf of importer-clients in the Bureau of Customs (BOC) and other government agencies: Provided, That such corporations engaged in the business of customs brokering shall have a minimum paid-up capital of One million

pesos (Php1,000,000.00) before they are accredited by the BOC."

SEC OGC Opinion 10-35: Customs Brokerage Service

Under the Customs Brokers Act, customs brokerage falls under the practice of professions solely reserved to Filipinos. Thus, a corporation that is 100% foreign-owned cannot be qualified to engage in customs brokerage whether as part of its international freight forwarding services or as a separate business activity.

Customs brokerage services: conclusion

Again, the nationality requirement serves as a hindrance to competition in the provision of customs brokerage services. The definition of customs brokerage as a profession under the Customs Brokers Act limits its practice to Filipino citizens. It may require an amendment of Customs Brokers Act to allow foreign nationals and foreign-owned corporations to provide customs brokerage services³⁴.

Complex regulatory structure³⁵

Our review shows that there is no integrated regulatory framework for multimodal transport. It appears that the regulatory structure is complex, with different modes of transport regulated by various agencies under other laws and regulations. The relevant port authority where the facility is located regulates storage and warehousing firms, but facilities outside the ports are not regulated. The BOC regulates customs bonded warehouses.

The freight forwarding firms are regulated by the DTI-FTEB and by the CAB under the Department of Transportation (DOTr) for air freight forwarding. The CAB is in charge of issuing Letters of Authority to air freight forwarders, general sales agents, and cargo sales agents.

³⁴ A participant in the webinar presentation 2020 took exception that the existing Customs Brokers Act (RA 9280) is a "hindrance to competition in the customs brokerage industry." He argued that:

- RA 9853, which amends Sec. 29 of RA 9280, allows corporations subject to certain requirements (engaging at least 1 customs broker, minimum paid up capital of PhP1million.
- The Customs Brokers Act allows special or temporary permit in the absence or inadequacy of local professionals (however, we have more than 10,000 customs brokers licensed by the Professional Regulations Commission)
- Sec. 15, Art XII, reserves practice of profession to Filipino citizens. (We italicized this item which is precisely our point in this study!)
- Other countries like U.S., Canada, Japan, Korea, Australia limits customs brokerage licensing to its citizens.
- The Philippines submitted its Schedule of Movement of Natural Persons Commitment under the ASEAN Framework Agreement on Services, there is no Mutual Recognition Arrangement yet on customs broker profession (in the absence of licensing standards in other member countries); Certified Public Accountants, engineers, etc. are there subject to the principle of "reciprocity."
- The standards in RKC (Standard 8.1 and 8.2) and WTO Agreement on Trade Facilitation (Sec. 10.6) have been adopted in the new Customs Modernization and Tariff Act (Sec. 106 Declarant Provision)

³⁵ A good reference is Serafica (2014).

In the case of the customs brokers, the Professional Regulatory Board for Customs Brokers (PRBCB) is mandated to supervise, control, and regulate the practice of the customs broker profession. The PRBCB standardizes and regulates the customs administration education and oversees the customs brokers' examination and registration. The Board is under the supervision and administrative control of the Professional Regulatory Commission.

The ASEAN Framework Agreement on Multimodal Transport, signed by then Department of Transportation and Communication in 2005, requires the creation of a national accreditation system for multimodal transport operators that will allow freight forwarders based in the Philippines to operate as multimodal transport operators in other ASEAN member states. Singapore has formed its registry of MTOs. There is an association of multimodal transport operators in the Philippines. However, the integrated policy and regulatory framework have yet to be developed and implemented.

The complex regulatory structure leads to high transaction costs and inefficiencies in operations and service delivery in the cargo services sector. It can be expected that there will be negative externalities to consumers or end-users of these services. The firms have to approach different regulators attached to other agencies, e.g., CAB attached to the DOTr and FTEB, a bureau under DTI, for various permits to operate. The industry trend is toward greater integration of operations and management of those firms, and the existing complex regulatory structure has failed to adjust to new developments and trends in the transport and logistics industry.

It is also important to stress that a flexible foreign exchange rate policy and investor-friendly foreign investment laws, and appropriate regulatory framework form part of a competitive environment and a conducive investment climate in the country³⁶.

A CARTEL SCREENING EXERCISE

Cartel screening

This study uses economic analysis to test whether possible collusion exists in the industry. Harrington (2006) defines screening as the process whereby industries are identified for which the existence of a cartel is likely. An industry picked up by a screen warrants prosecution but rather a more intense investigation that directly contrasts collusion and competition as competing explanations of market behavior. Screening methods, that is, cartel detection methods using economic analysis, may be classified as (a) structural and (b) behavioral.

³⁶ At present, the country's exchange rate policy supports a freely floating exchange rate system whereby the Bangko Sentral ng Pilipinas (BSP) leaves the determination of the exchange rate to market forces. (<http://www.bsp.gov.ph/downloads/Publications/FAQs/exchange.pdf>)

Structural approach

The structural approach identifies the market with traits conducive to cartel formation. Studies have explored and empirically tested the relationship between various market traits and the likelihood of forming a cartel (**Table 7**). Some of these market traits include industries with few firms, homogenous products, and stable demand.

Table 7. Detection of cartels using structural approach

Study	Market Traits	Findings
Levenstein and Suslow (2006)	Product homogeneity Market concentration	Product heterogeneity increases the benefits of collusion but also increases the incentive to deviate from a collusive agreement. Market concentration is a weak determinant of collusion because it may be reflective of firm asymmetry which hinders collusion. Collusion also alters the optimal number of firms in the industry (reverse causality).
Office of Fair Trading (2005)	Number of firms in the market	High number of firms in the market increases the probability of firms having varying costs which hinders collusion.
	Free entry of firms	When not all firms in the industry are members of the cartel, an increase in the number of firms in the industry, which are not part of the cartel threatens cartel stability by decreasing the total market share and profits of the cartel.
Zimmerman and Connor (2005)	Market growth	Economic downturns facilitate collusion because the illegal profit opportunities during downturns sustain collusive agreements.
Symeonidis (2003)	Market concentration Market demand growth	Concave association between cartel occurrence and concentration. There is an inverted U relationship between demand growth and collusion such that moderate growth facilitates collusion while stagnant or rapid growth hinders collusive agreements.
Symeonidis (2002)	Product heterogeneity	Increase in the variety of products reduces the incentives for collusion.
Symeonidis (1999)	Advertising intense and R&D intensive industries	Variable product quality brought about by intensive R&D and differentiation of brand

Study	Market Traits	Findings
		image through intense advertising hinders collusion
Jacquemin and Slade (1989)	Cost and product heterogeneity	When there is product or cost heterogeneity, firms need to negotiate on more factors which complicates the formation of collusive agreements
	Number of firms in the market	Collusion is easier when there is a small number of firms in the industry.
Dixit (1979)	Excess capacity (barrier to entry)	Excess capacity increases the probability that entry is successfully prevented.

Source: Compiled by the authors

Harrington (2006), citing Grouth and Sonderegger (2005), summarizes the traits conducive to the formation of cartels into three:

1. Product homogeneity;
2. Stability of turnover, demand, or market conditions over a sustained period; and
3. Significant changes to market shares or the number of leading players in the industry.

The studies in Table 7 are somehow consistent with these findings. Thus, these can be used as possible characteristics to look for to identify the possibility of collusion.

Benefits of structural methods and limitations

Harrington (2006) criticizes structural methods because of the high chance of false positives - indicators suggesting collusion when there is no cartel.

In terms of estimating an econometric model following the structural approach, one limitation would be data available for several indicators. The structural approach needs to include as many determinants of collusion as possible to control the factors that drive collusion. Some of these determinants and proxy indicators are not available at the firm or industry level for developing economies. As Harrington (2006) mentions, the weakness of the structural approach is driven primarily by the model’s omitted variable bias, which may result in a false positive.

Behavioral approach

In contrast to the structural approach, which aims to look at the likelihood that a cartel will form based on data about an industry, the behavioral approach focuses on the market impact of that approach by looking at the data as evidence that a cartel has formed (**Table 8**). Harrington (2006) provides a list of collusive markers that may help determine whether an industry is worthy of further examination and investigation.

Table 8. Screening markers as identified by Harrington (2006)

Price markers	Quantity markers
<ol style="list-style-type: none">1. A higher list price and reduced variation in prices across customers.2. A series of steady price increases is preceded by steep price declines.3. Price rises and imports decline4. Firms' prices are strongly positively correlated.5. A high degree of uniformity across firms in product price and other dimensions including the prices for ancillary services.6. Low price variance7. Price is subject to regime switches.	<ol style="list-style-type: none">1. Market shares are relatively stable over time2. There is a subset of firms for which each firm's share of total supply for that subset of firms is highly stable over time.3. A firm's market share is negatively correlated over time.

Operationalizing the screening

For this study, conditional on the availability of data on the firm and industry-level characteristics, a simple model following the structural model approach was employed:

$$Y = f(\textit{concentration, variability of demand, entry barriers, product characteristics})$$

Where Y represents the Price-Cost Margin, a measure of firm performance. The set of explanatory variables x includes industry indicators such as concentration, the variability of demand, proxies for entry barriers and product homogeneity. The ASPBI is a rich source of firm-level and industry-level characteristics. Information on prices and importation is not available from publicly available data sources.

Because of the absence of data on prices, this paper utilized the structural approach. A key variable in behavioral analysis is the price variable that is often used in screening exercises to determine the likelihood of the existence or formation of a cartel.

This section discusses the Structure, Conduct, and Performance of the industry using data from the PSA. The investigation towards the end of this section attempts to use a screening

methodology to assess the presence of collusive behavior in the industry. The analysis is greatly constrained by the unavailability of useful data on the industry. Still, it would be a good first approximation in analyzing the sector to detect competition or competition-related issues. The screening methodology presented here may also apply other industry studies.

Structure of the industry

Market structure in the logistics and cargo services industry is a primary indicator of competition. Competition exists in the industry if there are many rival (and not colluding) firms that provide services to the market. On the other hand, the presence of a few industry players may indicate departure from a competitive market structure. Thus, the number of market players is a primary indicator of industry structure. In addition to the number of players, two other commonly used indicators would be the four-firm concentration ratio (4CR) and the HHI.

The 4CR is computed as the market share (whether as share in value-added or share in revenues) of the top four firms. The HHI is computed as the sum of the squared market shares of all suppliers in the market. The inverse of this 'raw' HHI is interpreted as the 'effective' number of competitors. Thus, if there are four firms, all with equal market shares, the HHI is equal to $4 * 0.0625 = .25$. The inverse of this is 4 (that is, equal to $1/.25$), the number of rival firms. The higher the HHI, the higher the concentration ratio and the lower the 'effective' number of rival firms. Usually, the raw HHI (sum of squares) is multiplied by 10,000. In our example, HHI is 2500.

Some countries have identified thresholds that can be used for assessment. The US Department of Justice uses the following (e.g., by the US and the EU on mergers³⁷) to classify the degree of concentration of an industry based on its HHI:

- HHI of below 1000 is considered 'unconcentrated'
- HHI of between 1000 and 1800, as 'moderately concentrated'
- HHI of above 1800, as 'highly concentrated'

Medalla et al. (2018) proposed using more 'lenient' thresholds, given the much smaller market and investments in the case of the Philippines. They suggest the following thresholds:

- HHI of below 1500 is considered 'unconcentrated'
- HHI of between 1500 and 2500, as 'moderately concentrated'
- HHI of above 2500, as 'highly concentrated'

In the case of 4CR, one could use the threshold of 70% for highly concentrated, between 40 to 70 % as moderate, and below 40% as low concentration as done by Aldaba (2008).

Table 9 presents the indicators of industry structure for the industries covered by this study³⁸.

³⁷ See US Department of Justice Horizontal Merger Guidelines (<https://www.justice.gov/atr/horizontal-merger-guidelines-0>)

³⁸ Annex C provides the industry structure indicators for all the 6-digit PSIC industries classified under Business Services.

In terms of the number of players in the market, there seems to be an improvement in the number of firms from 2010 to 2014. Most of the industries have increased the number of market players³⁹.

Table 9. Structure of transport and logistics industries

2009 PSIC Code	Description	2014			2010		
		Concentration Ratio	HHI	N	Concentration Ratio	HHI	N
H49331	Truck-for-hire operation (with driver)	0.93	0.33	17	0.85	0.23	14
H49332	Freight truck operation	0.34	0.05	504	0.32	0.04	424
H49333	Tank truck delivery services	0.90	0.46	17	1.00	0.74	8
H49339	Freight transport operation, by road, n.e.c.	1.00	0.43	4	1.00	1.00	1
H50121	Ocean freight transport	0.79	0.27	22	0.96	0.60	20
H50122	Interisland water freight transport	0.61	0.11	55	0.52	0.10	46
H50123	Towing and pushing services on coastal and trans-oceanic waters	0.85	0.44	12	0.95	0.31	5
H51203	Non-scheduled air freight transport	1.00	1.00	1	1.00	1.00	1
H52101	General bonded warehouses except grain warehouse	0.96	0.43	23	0.99	0.85	9
H52102	Grain warehouses	1.00	1.00	1	-	-	0
H52103	Customs bonded warehouses	1.00	0.64	5	0.87	0.32	13
H52104	Cold storage	0.49	0.09	22	0.63	0.13	57
H52109	Storage and warehousing, n.e.c	0.79	0.26	67	0.92	0.39	35
H52211	Freight terminal facilities for trucking companies	0.99	0.37	6	1.00	0.60	3

Customs bonded warehouses (H52103) and cold storage (H52104) have reduced in the number of market players in their respective industries. Most of the other sectors have seen an increase in the number of market players. Some industries had less than ten market players in 2014. Non-scheduled air freight transport (H51203) and Grain warehouses (H52102) have only one player in their respective industries while Freight transport operation by road, n.e.c. (H49339), Customs bonded warehouses (H52103) and Freight terminal facilities for trucking companies (H52211) have less than ten players in their respective industries.

³⁹ For this study, the 6-digit 2009 PSIC code is used to define an industry. All firms having the same 6-digit PSIC code would belong to that industry.

Medalla et al. (2018) proposed to use lenient thresholds in classifying industries using the HHI. The following thresholds were proposed: HHI of below 1500 is considered 'unconcentrated'; HHI of between 1500 and 2500, as 'moderately concentrated'; HHI of above 2500, as 'highly concentrated'. Using these HHI thresholds, this paper classified the industries relevant to transport and logistics by the level of concentration. The entire industry may be considered highly concentrated as almost all of the identified industries in Table 1 have HHI above 2500 in 2010. The same is true for 2014. Freight truck operation (H49332), Interisland water freight transport (H50122), Cold storage (H52104) are the only industries classified as 'unconcentrated.'

Similarly, thresholds have been identified for interpreting the 4CR (Medalla et al. 2018; Aldaba 2008): Above .70 for 'highly concentrated', between .40 to .70 as 'moderate', and below .40 as 'low concentration'. Most of the industries have 4CR greater than 70%, which indicates a highly concentrated industry. Among the 'unconcentrated' industries identified by the HHI, freight truck operation (H49332) is the only 'unconcentrated' industry as indicated by the 4CR. Interisland freight water transport (H50122) and Cold Storage (H52104) is classified as 'moderately concentrated'.

Conduct of firms

After finding out the presence of high concentration in the logistics industry, we need supplementary indicators to detect anti-competitive behavior. Medalla et al. (2018) identified possible indicators of a firm's competitive behavior or strategies. Some examples of what a firm does to keep or enhance its market share or maximize its profits are the following.

- Advertising, research and development;
- Diversification of products;
- Pricing and volume (which, in the presence of competition, should be close to marginal cost);
- Capacity change: whether to expand or contract;
- Entry/exit, divestment, mergers/acquisition, enter into legal contracts;
- Cost control and hiring schemes; and
- Process and product innovation.

For manufacturing industries, a commonly used indicator (because it is available in the PSA data) that could reveal the firm's anti-competitive conduct is the presence of excess capacity (Medalla and others 2018; Quimba and Dela Cruz 2019). The incumbent firm/s might invest in extra ability to deter entry. It holds excess capacity in reserve and threatens to use it if a new player plans to enter. It launches a price war, thereby rendering entry unprofitable.

This study could not use excess capacity as it does not apply to service industries as indicated on the PSA questionnaire. Other options are those listed in Medalla and others 2018 review. Unfortunately, these are neither collected nor reported in ASPBI. We were constrained to use

a plausible proxy indicator, namely, research and development (R&D)⁴⁰.

Using data from 2014 ASPBI, we look at R&D expenditure as an indicator of firm behavior. The hypothesis is that firms belonging to a competitive industry would have the incentive to invest in R&D to maintain and increase their competitiveness. **Table 10** shows that the logistics industry is not investing in R&D as almost all industries have no firms with R&D expenditure.

Table 10. Firms with research and development expenditure, 2014

Isic6	Description	No. of firms with R&D expenditure	No. of firms	Percent
H49331	Truck-for-hire operation (with driver)	0	17	-
H49332	Freight truck operation	2	504	0.40
H49333	Tank truck delivery services	0	17	-
H49339	Freight transport operation, by road, n.e.c.	0	4	-
H50121	Ocean freight transport	0	22	-
H50122	Interisland water freight transport	0	55	-
H50123	Towing and pushing services on coastal and trans-oceanic waters	0	12	-
H51203	Non-scheduled air freight transport	0	1	-
H52101	General bonded warehouses except grain warehouse	0	23	-
H52102	Grain warehouses	0	1	-
H52103	Customs bonded warehouses	0	5	-
H52104	Cold storage	0	22	-
H52109	Storage and warehousing, n.e.c	0	67	-
H52211	Freight terminal facilities for trucking companies	0	6	-

Performance of the industry

Medalla et al. (2018) proposed the use of the Price-Cost Margin as an indicator of whether the firms are enjoying “monopoly rents” or “abnormal” profits (that is, profits over and above the ‘normal’ return to capital that results from competition). The Price-Cost Margin is supposed to capture how much the market price (P) deviate from marginal costs (MC). In a perfectly competitive market, $P = MC$ and $(P-MC)/P$ reflects market power (how much the monopolist can control price and maximize profits over and above the competitive level).

⁴⁰ A participant in the webinar asked about the appropriateness of using R&D as a proxy indicator. We recognized the limitation of using R&D as a proxy indicator of conduct. We pointed out that the unavailability of data on various indicators of conduct, which are all firm-level data (see Scope and Limitations of this study), led us to consider R&D as a proxy indicator. If the business environment is not competitive, a firm would have no incentive to do R&D, wherein process and product innovations are important. That firms may not be doing R&D on new technologies, finding ways to use such new technologies, or doing product and process innovations to improve operations may indicate the absence of competition.

Medalla et al. (2018) used equation 1 to calculate the PCM of the manufacturing industry.

$$\text{PCM} = (\text{VO} - \text{RM} - \text{wL})/\text{VO} \quad (1)$$

Where PCM is the Price-Cost Margin; VO is the value of output; RM is raw materials used, and wL is wages times labor. For the purpose of this study, we utilized the ASPBI 2010 and 2014 to calculate the value of output (VO) which follows the PSA's formula for Gross output. Raw materials (RM) would include expense items for materials and supplies, fuels, lubricants and greases, expenses for electricity and water and other expenses⁴¹.

The PCM for the transport and logistics industries is presented in **Table 11**⁴².

In 2014, almost all industries enjoyed high price-cost margins (above 10 percent). Ocean freight transport (H50121) and interisland water freight transport (H50122) have negative average PCMs in 2014, but these were still positive in 2010. **Table 11** also shows that some industry firms enjoy PCMs higher than 80 percent while there are firms that have PCMs close to 10 percent. Taking Medalla and others (2018) suggestion of using a social discount rate of about 10 percent as a benchmark, we can say that industries with PCM higher than 10 percent may be flagged as enjoying monopoly profits.

⁴¹ PCM is output minus raw materials +cost of labor. The costs are a sum of expenses such as electricity, water, royalties, environmental protection, etc. However, there are costs, e.g., transaction costs from dealing with government regulations and informal payments not captured in the survey. To a certain extent, the estimated net margins might be overestimated. Still, since there is no way of getting data on those transaction costs, the estimated PCM is a substantial performance indicator.

⁴² Annex D presents the price-cost margin of all the industries in the business services sector in 2010 and 2014

Table 11. Price-Cost Margins of Transport and Logistics Industries

2009 PSIC Code	Description	2014				2010			
		Mean	Sd	Min	Max	Mean	Sd	Min	Max
H49331	Truck-for-hire operation (with driver)	25.3	27.6	-6.8	78.3	20.3	30.1	-18.6	64.9
H49332	Freight truck operation	18.6	14.0	-167.2	64.5	25.4	22.4	-39.9	85.7
H49333	Tank truck delivery services	29.3	18.5	11.1	81.7	30.3	33.1	-5.9	64.5
H49339	Freight transport operation, by road, n.e.c.	21.9	23.5	-5.3	50.9	4.4	0.0	4.4	4.4
H50121	Ocean freight transport	-19.1	127.9	-409.7	58.3	10.8	42.3	-74.9	86.9
H50122	Interisland water freight transport	-241.6	1027.2	4145.2	86.1	17.2	23.2	-60.9	56.2
H50123	Towing and pushing services on coastal and trans-oceanic waters	19.4	14.7	2.6	56.9	22.8	7.9	12.7	32.4
H51203	Non-scheduled air freight transport	21.4	0.0	21.4	21.4	19.0	0.0	19.0	19.0
H52101	General bonded warehouses except grain warehouse	32.3	19.7	0.7	53.9	24.5	10.5	18.3	51.8
H52102	Grain warehouses	45.3	0.0	45.3	45.3	.	.	.	.
H52103	Customs bonded warehouses	13.0	2.0	10.9	15.5	22.6	78.0	226.6	87.9
H52104	Cold storage	24.5	11.5	10.5	49.5	37.4	19.3	-1.6	74.0
H52109	Storage and warehousing, n.e.c	13.4	17.1	-2.1	85.4	31.4	8.4	8.0	45.9
H52211	Freight terminal facilities for trucking companies	28.8	19.6	6.5	54.8	29.7	14.7	17.0	45.8

The correlation of Price-Cost Margins with the following variables: number of firms in the industry, HHI, and the industry value-added growth were checked. The model considered two explanatory variables: the mean PCM in the sector and the median PCM. The regression was conducted for industries with mean and median PCMs greater than zero. The results of the regression are presented in **Table 12**.

Table 12. Determinants of high PCM in the sector

VARIABLES	(1)	(2)	(3)	(4)
	OLS Mean PCM	OLS Mean PCM	OLS Median PCM	OLS Median PCM
Number of firm	-0.0186** (0.00789)	-0.0191** (0.00735)	-0.0143 (0.00904)	-0.0146** (0.00704)
HHI	0.428 (7.499)		0.0152 (8.835)	
Growth of industry Value added	7.21e-05 (4.29e-05)	7.46e-05 (5.09e-05)	0.000150*** (4.41e-05)	0.000155*** (5.13e-05)
4-firm Concentration ratio		-0.123 (5.014)		-0.425 (5.238)
Constant	23.30*** (6.801)	23.74*** (2.979)	21.55** (8.164)	21.73*** (3.148)
Observations	40	40	42	42
R-squared	0.089	0.089	0.056	0.056

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 12 shows the negative correlation of industry size (number of firms) to high PCMs. As the number of firms in the industry increases, the average (model 1 and Model 2) or the median (model 3 and model 4) decreases. Similarly, the growth of the industry is also a positive determinant of high price-cost margins (model 3 and model 4). This result is only statistically different from zero for the models that used the median PCM as the dependent variable.

HHI shows a positive correlation to PCM, while the 4CR shows a negative correlation. These indicators of industry concentration are not statistically different from zero. One possible explanation for the weak relationship would be the limited number of observations. Because only two years have been used in this analysis, the results cannot be interpreted beyond correlations. Further study needs to be conducted at the firm level and with more years (to observe patterns over a more extended period).

CONCLUSION AND RECOMMENDATIONS

Overall, our empirical analysis shows that the transport and logistics sector is highly concentrated.

There is probably a lack of competition in the transport and logistics industry, particularly in the cargo services sector, which is a critical segment of the industry: innovations and new technologies and the regulatory framework impact firm behavior and market structure. Inadequate and inefficient infrastructure is a significant factor behind poor cargo services performance. These factors tend to give rise to competition issues in the cargo services sector.

Analysis of the PSA data shows that the transport and logistics sector is highly concentrated. This is reflected in the high concentration ratios and HHI index. This is true despite some industries having more than five market players. The situation is a rough indicator of the lack of competition in the industry. However, regression results show that concentration indicators are not statistically significant, although HHI is positive⁴³. This implies the need for a richer data set from an improved data collection system in the future to understand better and establish how the firms are behaving in this industry⁴⁴.

A low level of innovation in the industry suggests a low level of competition. To check whether there is a lack of competition, we investigated firms' behavior through a proxy variable, R&D expenditure. The choice of this proxy is driven by the lack of data on the industry. Still, we affirm that R&D broadly interpreted as including process and product innovations is a good indicator of conduct. Based on our scrutiny of available data, many of the transport and logistics industry firms do not have any R&D expenditure. This may suggest a low level of innovation in the industry, which some studies use as an indicator for a low competition level.

An extensive price-cost margin is a possible indicator of lack of competition. The industry shows a high level of PCM. This may imply a lack of competition in the industry despite the presence of numerous participating firms. Regression results show a negative correlation between PCM and the number of firms in the industry. Using a social discount rate of 10% a PCM greater than 10 percent may indicate monopoly profits as a benchmark.

⁴³ A comment during the webinar was that statistically concentrations ratios (HHI and 4CR) are not significant and that the model has low explanatory power. We replied that these results may be improved by using firm-level data, which unfortunately are not available. We pointed out that a good result is that the estimated model yielded the correct signs for the hypothesized relationship, and this tends to confirm our hypothesis.

⁴⁴ We assume that PSA will improve its data collection system in coordination with the industry associations and the Philippine Competition Commission.

Competition and regulatory issues impact the industry. Our review of the laws and regulations governing the transport and logistics industry surfaced a few regulatory and competition matters.

Freight forwarding and cold chain facilities (a sub-set of storage and warehousing) remain a protected sector because of the Constitutional restriction on foreign equity ownership of public utilities. Amending the Public Service Act, which will eliminate certain services from the list of public utilities, could be a way to narrow down the scope of the foreign equity rule. This is a sound recommendation because, the House of Representatives has passed on third and final reading at the committee level House Bill No. 78, which seeks to amend the 84-year-old Public Service Act⁴⁵. The proposed amendments provide for a clear statutory definition of a public utility. De la Cruz (2020) says that a narrower set of services, including electricity distribution, electricity transmission, and water pipeline distribution or sewerage pipeline system, will be subject to foreign equity ownership restrictions imposed on public utilities.

We also found that the broad discretion to allow or disallow foreign shipments granted by law to the Customs Commissioner may restrict competition if exercised indiscriminately.

The tax treatment of domestic and international carriers has to be revisited to find out if it is a barrier to competition between domestic and international carriers. International carriers are subject to the GPBT and the CCT, which have been considered as being discriminatory and inconsistent with the rulings of the WTO and the resolutions of the International Civil Aviation Organizations (ICAO). Meanwhile, domestic carriers are subject to income tax and VAT, from which international carriers enjoy an exemption.

The Filipino nationality requirement hinders competition in the provision of customs brokerage services. The Customs Brokers Act, as amended, limits the practice of customs brokerage services to Filipino citizens.

Our review shows that there is no integrated regulatory framework for multimodal transport. Instead, there is a complex regulatory structure with different modes of transport regulated by various agencies under different laws and regulations. The complex regulatory structure leads to high transaction costs and inefficiencies in operations and service delivery in the cargo services sector with adverse spillover effects to consumers or end-users.

New technologies and innovations affect the landscape of competition. At present, there is a freight forwarding market composed of many firms. Still those who can acquire and apply new technologies and innovations to their operations will become more efficient service providers in a relatively crowded market. Technological solutions and online platforms have enabled firms to provide greater value-added to the shippers. Simultaneously, they allow

⁴⁵ Jovee de la Cruz, "House approves on final reading bill amending Public Service Act," March 10, 2020 <https://businessmirror.com.ph/2020/03/10/house-approves-on-final-reading-bill-amending-public-service-act/>

certain freight forwarding firms to lock in customers because they can offer the best technological solutions, reliability, and timeliness of delivering goods needed by those shippers.

Innovations and deployment of new technologies will influence to a great extent how freight forwarding firms offer services: they will be more efficient and competitive, but a few more capable ones could also evolve into dominant firms. Some firms with a view of rising demand arising from regional and global growth may decide to integrate the operation and management of these diverse services. The whole cargo services sector and the logistics services passed the stage where different services are provided separately and independently by different firms, such as a transport firm providing only cargo transport services or a warehouse firm providing superior storage services.

The market structure is evolving with vertical integration or mergers and consolidations as a distinct possibility as firms move toward achieving economies of scale and scope. Our analysis indicates that logistics firms may organize themselves as large firms offering integrated services such as freight forwarding, transport, storage and warehousing, and customs brokerage, providing value-added services to importers, producers, manufacturers, wholesalers, and distributors. The needs of the demanding units are such that it will take the most efficient and better-integrated logistics firms to ensure that intermediate or final goods or services are made available on time, in the right quality and quantity, at the right cost, at the right place.

A factor that may be reinforcing the drive to vertical integration is the increasing intermodal nature of transport and freight forwarding. To effectively complete the supply chain, deliver the final or intermediate goods from the port side to the last mile, the end-user (consumers or manufacturing plants) integrating transport, storage, and customs brokerage services will be a logical solution. Vertical integration and mergers, and consolidation of like-minded firms should be on the PCC's radar screen for proper scrutiny in the future because of their potential competition issues⁴⁶.

We hypothesize that access to new technologies, e.g., GPS for real-time tracking of transporters, has influenced competition in the industry. This may be true both in freight forwarding and storage and warehousing, where those with access to new technologies, such as GPS, RFID, have a better chance of getting a larger share of the market. Testing this hypothesis awaits the availability of better data on the industry.

Measurement and estimation hampered by inadequate data. The growing integration of cargo services along the logistics chain is bound to give rise to measurement issues to establish concentration or market dominance in the sector. Klaus (2011) asserted that established

⁴⁶ We owe this point to Commissioner Johannes Bernabe who made clear this aspect of the cargo services industry operations.

practices in defining market boundaries and market positions in the field of logistics services need to be examined, and a framework for the more consistent and quantifiable assessment of market boundaries, market shares, and competition intensities should be developed. It is noted that there are scant indicators available to measure and understand a firm's behavior. It will benefit the PCC to collaborate with the PSA to include firm behavior indicators in the latter's surveys.

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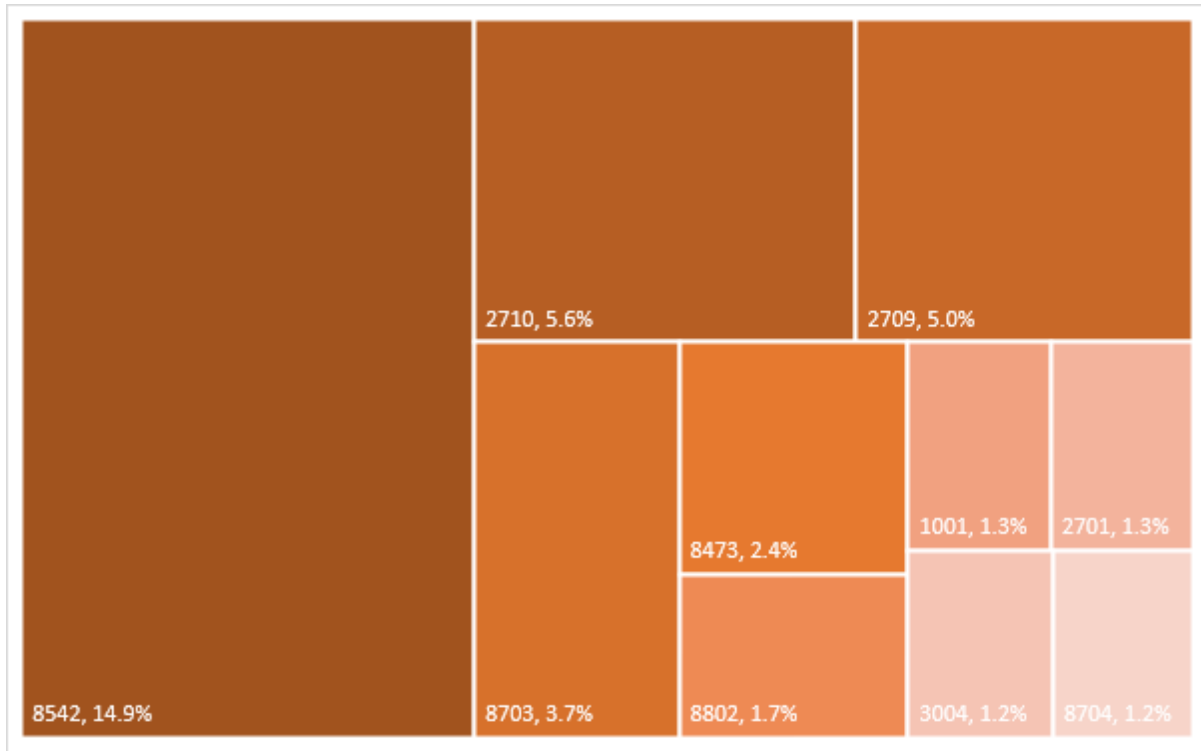
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Annex A. Historical profile of the cargo services establishments

H	Transportation and Storage	Number of Establishments			Employment			Total Income (in Mn Pesos)			Employment per Establishment			Value Added (in Mn Pesos)		
		2010	2013	2016	2010	2013	2016	2010	2013	2016	2010	2013	2016	2010	2013	2016
H52101	General bonded warehouses except grain warehouse	10	19	23	125	774	658	693	3,145	5,654	13	41	29	372	1,950	1,674
H52102	Grain warehouses	4	s	8	20	s	136	8	s	606	5	s	17	4	s	400
H52103	Customs bonded warehouses	13	7	7	328	164	227	666	1,274	421	25	23	32	351	438	146
H52104	Cold storage	100	24	24	2579	1072	1,737	5,964	2,138	2,631	26	45	72	1,918	988	1,321
H52109	Storage and warehousing, n.e.c.	53	59	81	3031	4327	7,754	5,020	6,499	13,322	57	73	96	1,150	1,422	7,566
H52291	Freight forwarding services	617	561	600	14526	17016	18,707	15,928	33,247	49,280	24	30	31	6,585	7,919	12,602
H52292	Customs brokerage (ship and aircraft)	506	231	251	8765	5428	5,334	5,510	5,429	4,932	17	23	21	2,645	2,010	2,056
H52293	Logistics services	62	127	150	6135	8550	11,131	12,570	30,193	39,721	99	67	74	6,943	7,353	8,097
H52299	Activities of other transport agencies, n.e.c.	13	24	21	181	569	470	63	979	569	14	24	22	31	400	318

Annex B. Top 10 Philippine import and export products, 2014-2018 (5-year average)

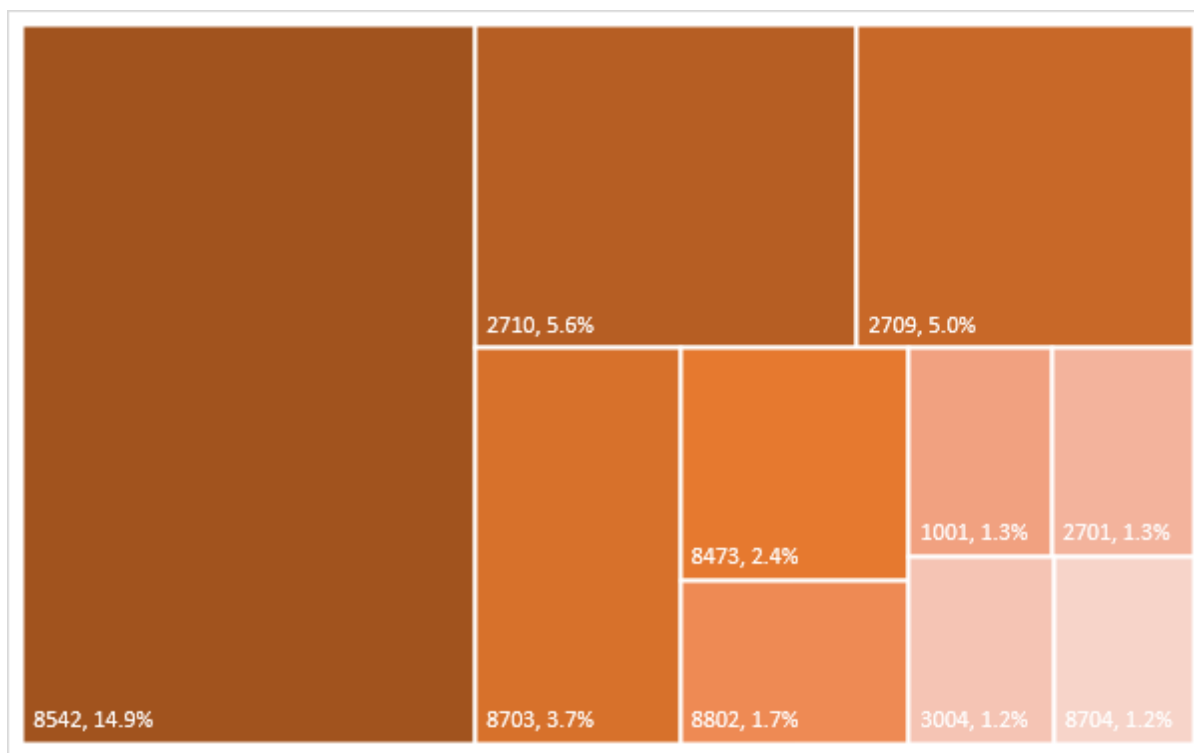
Top 10 Philippine import products, 2014-2018 (5-year average)



Source: Authors' calculation using data from WITS

Product Description: (1001) Wheat and meslin; (2701) Coal; (2709) Petroleum oils and oils obtained from bituminous minerals, crude; (2710) Petroleum oils, oils from bituminous minerals, not crude; (3004) Medicaments; (8473) Machinery; (8542) Electronic integrated circuits and micro assemblies; (8703) Motor cars and other motor vehicles; (8704) Vehicles, for the transport of goods; (8802) Aircraft, not elsewhere specified

Top 10 Philippine export products, 2014-2018 (5-year average)



Source: Authors' calculation using data from WITS

Product Description: (1001) Wheat and meslin; (2701) Coal; (2709) Petroleum oils and oils obtained from bituminous minerals, crude; (2710) Petroleum oils, oils from bituminous minerals, not crude; (3004) Medicaments; (8473) Machinery; (8542) Electronic integrated circuits and microassemblies; (8703) Motor cars and other motor vehicles; (8704) Vehicles, for the transport of goods; (8802) Aircraft, not elsewhere specified

Annex C. Market structure characteristics of Business and Services (PSIC Code H) industries

2009 PSIC Code	Description	2014			2010		
		Con. Ratio	HHI	N	Con. Ratio	HHI	N
H49111	Inter-urban passenger railway transport	1.00	1.00	1	1.00	1.00	1
H49112	Urban and suburban railway transport	1.00	0.51	2	1.00	0.54	2
H49201	Inter-urban bus line operation	0.68	0.16	62	0.58	0.13	73
H49202	Urban and suburban line operation	0.82	0.29	11	0.71	0.20	28
H49203	Local bus line operation	0.78	0.24	130	0.81	0.45	63
H49204	Chartered buses and cars operation (e.g., tourist buses, rent-a-car)	0.56	0.11	37	0.61	0.13	74
H49205	Operation of school buses/shuttle	0.62	0.13	14	0.89	0.24	13
H49209	Other transport via buses, n.e.c.	1.00	0.58	2	1.00	1.00	1
H49323	Public utility cars and taxicabs operations	0.64	0.14	64	0.88	0.63	48
H49324	Chartered cars operation (rent-a-car)	0.53	0.08	65	1.00	0.93	2
H49329	Other land transport operation, n.e.c	0.94	0.30	9			
H49331	Truck-for-hire operation (with driver)	0.93	0.33	17	0.85	0.23	14
H49332	Freight truck operation	0.34	0.05	504	0.32	0.04	424
H49333	Tank truck delivery services	0.90	0.46	17	1.00	0.74	8
H49339	Freight transport operation, by road, n.e.c.	1.00	0.43	4	1.00	1.00	1
H49400	Transport via pipeline	1.00	1.00	1	1.00	1.00	1
H50111	Ocean passenger transport	0.99	0.39	5	1.00	1.00	1
H50112	Interisland water passenger transport	0.77	0.18	65	0.76	0.25	51
H50113	Renting of ship with operator	1.00	0.95	2			
H50121	Ocean freight transport	0.79	0.27	22	0.96	0.60	20
H50122	Interisland water freight transport	0.61	0.11	55	0.52	0.10	46
H50123	Towing and pushing services on coastal and trans-oceanic waters	0.85	0.44	12	0.95	0.31	5
H50210	Inland passenger water transport	0.93	0.25	19	0.98	0.73	33
H50220	Inland freight water transport	1.00	0.86	3	1.00	0.94	4

2009 PSIC Code	Description	2014			2010		
		Con. Ratio	HHI	N	Con. Ratio	HHI	N
H51101	Domestic air passenger transport	1.00	1.00	1	1.00	0.71	3
H51102	International air passenger transport	1.00	0.55	6	1.00	1.00	1
H51103	Non-scheduled air passenger transport	0.96	0.42	18	0.89	0.35	18
H51203	Non-scheduled air freight transport	1.00	1.00	1	1.00	1.00	1
H52101	General bonded warehouses except grain warehouse	0.96	0.43	23	0.99	0.85	9
H52102	Grain warehouses	1.00	1.00	1			
H52103	Customs bonded warehouses	1.00	0.64	5	0.87	0.32	13
H52104	Cold storage	0.49	0.09	22	0.63	0.13	57
H52109	Storage and warehousing, n.e.c	0.79	0.26	67	0.92	0.39	35
H52211	Freight terminal facilities for trucking companies	0.99	0.37	6	1.00	0.60	3
H52212	Operation of parking lots	1.00	0.37	25	0.99	0.32	11
H52213	Operation of toll roads and bridges	0.94	0.26	12	0.96	0.34	8
H52219	Other supporting land transport activities, n.e.c.	0.89	0.27	20	1.00	0.73	20
H52220	Service activities incidental to water transportation	0.96	0.62	43	0.64	0.20	136
H52230	Service activities incidental to air transportation	0.83	0.20	23	1.00	0.49	8
H52241	Containerized cargo handling, auxiliary activity to land transport	0.99	0.93	10	0.99	0.88	9
H52242	Non-containerized cargo handling-auxiliary activity to land transport	1.00	0.97	2	1.00	0.34	6
H52243	Cargo handling, auxiliary activity to water transport	0.73	0.26	109	0.92	0.39	9
H52244	Cargo handling, auxiliary activity to air transport	0.99	0.52	5	1.00	0.53	2
H52291	Freight forwarding services	0.49	0.08	563	0.39	0.06	554
H52292	Customs brokerage (ship and aircraft)	0.64	0.18	235	0.51	0.09	398
H52293	Logistics services	0.69	0.14	134	0.53	0.10	55
H52299	Activities of other transport agencies, n.e.c.	0.91	0.42	25	1.00	0.56	10
H53201	Private postal service	1.00	0.53	6			
H53202	Messenger service	0.84	0.32	96	0.61	0.17	84

Annex D. Price cost margin of Business and Services (PSIC Code H) industries

2009 PSIC Code	Description	2014					2010				
		Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
H49111	Inter-urban passenger railway transport	- 48.4	-	- 48.4	- 48.4	1	0.8	-	0.8	0.8	1
H49112	Urban and suburban railway transport	34.3	29.2	13.6	54.9	2	58.3	10.9	50.6	65.9	2
H49201	Inter-urban bus line operation	19.6	14.4	1.0	69.2	62	18.7	12.2	20.3	47.2	73
H49202	Urban and suburban line operation	24.8	9.7	6.3	36.2	11	27.9	14.2	3.3	59.7	28
H49203	Local bus line operation	21.2	13.9	68.8	58.1	130	20.9	19.0	33.8	58.8	63
H49204	Chartered buses and cars operation (e.g., tourist buses, rent-a-car)	19.9	14.4	9.6	52.4	37	24.4	14.6	1.7	59.9	74
H49205	Operation of school buses/shuttle	17.6	14.8	1.6	49.3	14	28.1	20.9	21.4	59.5	13
H49209	Other transport via buses, n.e.c.	20.4	8.5	14.4	26.4	2	16.3	-	16.3	16.3	1
H49323	Public utility cars and taxicabs operations	39.1	12.7	11.0	66.1	64	1.7	57.0	104.2	63.0	48
H49324	Chartered cars operation (rent-a-car)	20.9	45.9	277.6	60.8	65	40.7	25.7	22.5	58.9	2
H49329	Other land transport operation, n.e.c	38.1	13.1	19.2	51.5	9	.	.	.	.	.
H49331	Truck-for-hire operation (with driver)	25.3	27.6	6.8	78.3	17	20.3	30.1	18.6	64.9	14
H49332	Freight truck operation	18.6	14.0	167.2	64.5	504	25.4	22.4	39.9	85.7	424
H49333	Tank truck delivery services	29.3	18.5	11.1	81.7	17	30.3	33.1	5.9	64.5	8
H49339	Freight transport operation, by road, n.e.c.	21.9	23.5	5.3	50.9	4	4.4	-	4.4	4.4	1
H49400	Transport via pipeline	- 569.3	-	- 569.3	- 569.3	1	29.9	-	29.9	29.9	1

2009 PSIC Code	Description	2014					2010				
		Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
H50111	Ocean passenger transport	15.9	14.5	1.7	38.3	5	40.9	-	40.9	40.9	1
H50112	Interisland water passenger transport	14.5	17.5	10.7	66.8	65	73.9	655.2	4,658.7	79.2	51
H50113	Renting of ship with operator	-	-	-	-	-	-	-	-	-	-
H50121	Ocean freight transport	197.7	334.6	434.3	38.9	2	.	.	.	.	.
H50122	Interisland water freight transport	-	-	-	-	-	-	-	-	-	-
H50123	Towing and pushing services on coastal and trans-oceanic waters	19.1	127.9	409.7	58.3	22	10.8	42.3	74.9	86.9	20
H50210	Inland passenger water transport	241.6	1,027.2	4,145.2	86.1	55	17.2	23.2	60.9	56.2	46
H50220	Inland freight water transport	19.4	14.7	2.6	56.9	12	22.8	7.9	12.7	32.4	5
H51101	Domestic air passenger transport	8.8	29.6	38.8	43.4	19	31.1	8.0	18.9	53.8	33
H51102	International air passenger transport	26.5	15.0	11.0	40.8	3	489.8	-	489.8	489.8	4
H51103	Non-scheduled air passenger transport	-	-	-	-	-	-	-	-	-	-
H51203	Non-scheduled air freight transport	59.7	-	59.7	59.7	1	9.8	45.8	55.4	36.1	3
H52101	General bonded warehouses except grain warehouse	18.9	10.2	5.9	31.1	6	18.9	-	18.9	18.9	1
H52102	Grain warehouses	19.9	33.8	65.7	50.5	18	29.3	20.8	2.7	77.0	18
H52103	Customs bonded warehouses	21.4	-	21.4	21.4	1	19.0	-	19.0	19.0	1
H52211	Freight terminal facilities for trucking	32.3	19.7	0.7	53.9	23	24.5	10.5	18.3	51.8	9
H52104	Cold storage	45.3	-	45.3	45.3	1	.	.	.	.	.
H52109	Storage and warehousing, n.e.c	13.0	2.0	10.9	15.5	5	22.6	78.0	226.6	87.9	13
H52211	Freight terminal facilities for trucking	13.4	17.1	2.1	85.4	67	31.4	8.4	8.0	45.9	35

2009 PSIC Code	Description	2014					2010				
		Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
	companies	28.8	19.6	6.5	54.8	6	29.7	14.7	17.0	45.8	3
H52212	Operation of parking lots	23.3	43.8	-	47.7	25	-	336.2	-	31.5	11
H52213	Operation of toll roads and bridges	39.1	21.8	3.3	82.7	12	45.4	35.2	7.7	94.7	8
H52219	Other supporting land transport activities, n.e.c.	30.9	17.6	4.1	65.6	20	1.9	5.3	5.0	11.1	20
H52220	Service activities incidental to water transportation	31.2	24.3	8.6	84.6	43	0.5	54.8	-	82.7	136
H52230	Service activities incidental to air transportation	41.6	23.1	3.7	69.6	23	34.9	39.5	7.4	74.3	8
H52241	Containerized cargo handling, auxilliary activity to land transport	26.7	15.5	7.2	53.3	10	23.2	27.3	12.3	78.2	9
H52242	Non-containerized cargo handling- auxilliary activity to land transport	27.4	29.0	6.9	47.9	2	1.3	19.0	18.8	30.0	6
H52243	Cargo handling, auxiliary activity to water transport	22.3	16.0	1.3	87.9	109	26.8	15.4	5.5	52.0	9
H52244	Cargo handling, auxiliary activity to air transport	17.8	8.9	10.6	27.5	5	14.7	6.0	10.5	19.0	2
H52291	Freight forwarding services	11.9	22.4	-	52.1	563	10.3	136.9	-	79.7	554
H52292	Customs brokerage (ship and aircraft)	17.6	12.0	-	51.3	235	95.6	483.3	-	66.6	398
H52293	Logistics services	9.8	13.1	-	62.0	134	27.1	27.5	0.4	91.9	55
H52299	Activities of other transport agencies, n.e.c.	12.6	11.0	2.5	36.7	25	2.1	16.9	-	23.0	10
H53201	Private postal service	6.9	3.8	3.3	10.9	6					
H53202	Messenger service	21.3	15.5	-	49.0	96	16.8	33.2	-	81.6	83.5



Ensuring businesses compete and consumers benefit

Contact Us

The Philippine Competition Commission is open Mondays through Fridays, from 8:00 a.m. to 5:00 p.m. Submissions of notifications and complaints are accepted during these hours.

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