Fair Trading Commission

Delineation of relevant markets affected by Kingston Wharves Ltd's termination of stevedoring companies' right of access to its port facilities.

1. Defining the relevant market

1.1 The first step in any antitrust investigation is to define the relevant market. This is important as it determines the market shares of relevant players that, in turn, heavily influence the assessment of market power. As emphasized by the European Commission:

> "market definition is a tool whose purpose is to identify in a systematic way the competitive constraints that the undertakings involved face. The objective of defining a market … is to identify those competitors of the undertakings involved that are capable of constraining their behaviour and of preventing them from behaving independently of any effective competitive pressure. It is from this perspective, that market shares may provide meaningful information for the purposes of assessing dominance ..."[1]

1.2 In cases of this kind, there are two, related markets involved: the market for the supply of access to whatever is in question, and the market for the goods or service for the production of which access is needed. A simple example is a car ferry which needs access to harbour at each end of its proposed route. The market for supplying harbour services to car ferry companies is quite distinct from the market for car ferry services themselves, in which the buyers are owners and drivers of lorries and cars. The market for which access is needed is usually (but not necessarily) a "downstream" market, and it is convenient to refer to it as such.

Each relevant market will have two dimensions - the relevant goods (i.e., the product market); and the geographic extent of the market (the geographic market).

The product market

1.3 The relevant product market defines the product boundaries within which competition meaningfully exists, and includes only those products that are

[1] Notice on the Definition of Relevant Market for the Purposes of Community Competition Law [1998] 4 C.M.L.R. 177; [1997] O.J. C372/5 (E.C. Commission) (97/C 372/03), Para. 2.

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"reasonably interchangeable" by consumers for the same purpose. The US Supreme Court has explained what it means to be "reasonably interchangeable:"

> "For every product, substitutes exist. But a relevant market cannot meaningfully encompass that infinite range. The circle must be drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn; in technical terms, products whose 'cross-elasticities of demand' are small." [2]

1.4 The boundaries of the market are, therefore, determined by taking the products relevant to the investigation and looking at the closest substitute products, those products which consumers would switch to if prices of the relevant products rose. These substitute products are included in the market if substitution by consumers and suppliers would prevent prices of the products relevant to the investigation from rising above competitive levels. The alternative products do not need to be perfect substitutes, but alternatives that would fill a role similar to that filled by the goods in question, and to which consumers would switch in the event of a price increase. Essentially any similar goods that would prevent price-setting above competitive levels should be included in the definition of the relevant product market.

1.5 In addition to this substitution by customers (so-called "demand substitution"), prices can also be constrained by the potential behavior of suppliers producing other products ("supply substitution"). Businesses that are not currently supplying a particular product might switch some of their existing facilities to supplying that product (or close substitutes) if prices rose significantly. There can also be importation of close substitutes. An example of supply substitution may be found in the paper industry. Although low quality paper is often not considered to be a substitute for high quality paper, from a consumer's point of view, the different grades of paper are almost perfect substitutes from the producer's point of view. This is because the production methods are identical across all grades of paper where only the input (pulp) has to be changed in order to change the output from low to high quality paper. In this example, even though there is no demand substitutability, a rise in the price of high quality paper is likely to see paper manufacturers switching from low quality paper towards producing more high quality material. In other words, a similar product should be included in the same relevant market as the product in question as long as either demand or supply substitution applies.

1.6 One common way of defining the market is to apply the conceptual framework of a hypothetical monopolist. This framework assumes an undertaking that was the only supplier of the products (or group of products) to be at the center of the

[2] Times-Picayune Publishing Co. v. United States, 345 U.S. 594, 612

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investigation and asks the question if it could maximize its profits by consistently charging higher prices than it would if it faced competition.[3]

Based on the concept of the hypothetical monopolist, a test that is commonly applied is the so-called "SSNIP test", where SSNIP stands for "small but significant non-transitory increase in price" which is normally interpreted as a 5 – 10% price increase.[4] Further, as a rule of thumb, the Office of Fair Trading (OFT) in the UK interprets "non-transitory" to mean more than one year. In other words, if substitution took longer than one year, the products would not be included in the same market.

The question posed is, can the hypothetical monopolist effect an SSNIP? If consumers will switch to substitutes such that the hypothetical monopolist *cannot* effect an SSNIP, then these substitutes will be added to the market definition. The test is repeated and wider circles of substitutes added to the market definition until the hypothetical monopolist can effect an SSNIP. This implies that there is limited substitutability between goods included in the market definition and those excluded. At this point, the boundaries of the relevant market are drawn. Both demand and supply substitution are taken into account when applying this test.

The geographic market

1.7 The geographic market is the "area of effective competition" in which the seller operates and to which the purchaser can practicably turn for supplies. Therefore, the geographic market will sometimes be the area supplied by the parties whose conduct is being examined. However, consideration should also be given to whether customers could easily obtain similar products from suppliers in other areas on reasonable terms. If so, those other areas may form part of the geographic market.

1.8 The geographic market is determined by transport cost and overlap of sub-sections of supply region. Relatively high transport costs can segregate markets and would sometimes explain why trade between two regions is economically infeasible (at least at current prices)[5]. In other words, high transport costs between two regions would tend to place them in two separate markets.

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[3] The SSNIP concept is applied by the EU Competition Commission, the Office of Fair Trading in the UK as well as the Department of Justice and the Federal Trade Commission in the US.

[4] Competition agencies that apply the SSNIP test include the Office of Fair Trading (OFT) in the UK (see OFT (1999), *The Competition Act 1998: Market Definition*); the Department of Justice and the Federal Trade Commission in the US (see DOJ and FTC (1992, amended 1997) *Horizontal Merger Guidelines*); The Canadian Competition Bureau (see Competition Bureau (1997), *Merger Enforcement Guidelines*); and the European Commission (see European Commission (1997), *Notice on the Definition of Relevant Market for the Purposes of Competition Law*).

[5] See Bishop, S. and Walker, M (1999), *The Economics of EC Competition Law*, Sweet and Maxwell: London

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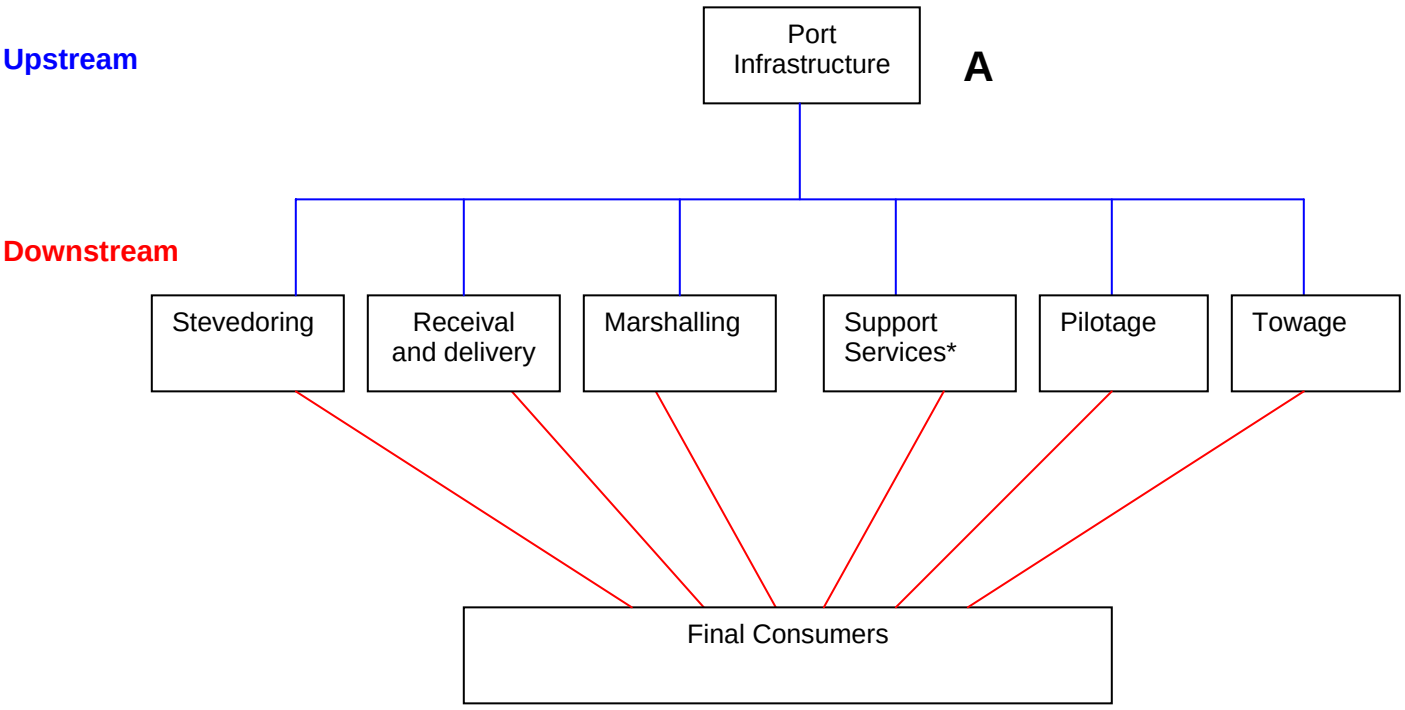
The relevant markets

1.9 There are several activities that ports are involved in:

- Infrastructure provision (the provision of the physical infrastructure necessary for port operations);
- Stevedoring (the loading and unloading of cargoes from ship to the wharf);
- Receiving, delivery and unloading (the receiving, assembly and storage of export cargoes in warehouses or holding yards, and the unpacking of imported containers;
- Towage;
- Pilotage; and
- Support services.

1.10 Each of these activities represents different functional levels in an interlocking chain of activities required to run a port (see diagram below). The strong complementarities which exist between activities mean that they can be supplied as a bundle, but this is not always the case and it does not mean that each element of the bundle ceases to exist in a separate product market. The willingness of customers to purchase unbundled products and the existence of single product suppliers are key indicators of whether separate product markets exist.



*** eg. Container cleaning**

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1.11 Given the existence of single product suppliers of port services in Jamaica this analysis will take the view that each port activity is a separate functional level in the vertical supply chain. Also, given the gravamen of the complaint before us the analysis will focus on the infrastructure provision and stevedoring aspects of port activities.

Relevant Market -#1

Product market - #1

1.12 The infrastructure element of port operations consists of:

- Channels, breakwater, navigation aids.
- Berths, quays, jetties, mooring, and terminals.
- Equipment (e.g. cranes).
- Superstructure, (fixed assets built upon the core port infrastructure such as: sheds, fuel and water facilities).

1.13 We can also identify three key groups of port infrastructure customers:

- Shipping operators;
- Exporters; and
- Importers.

1.14 Each of the above customer groups has differing levels of engagement with the port infrastructure owner and differing infrastructure requirements. For instance, an importer tends to deal with shipping companies rather than the ports whereas large exporters will deal with ports more directly.

1.15 The question therefore is, should the relevant market be defined to include only Kingston Wharves Limited (KWL), or should it include, all ports, or all types of cargo freight infrastructure (air and sea). It has been suggested that airports may be a substitute for ports. Additionally, in its response to a questionnaire administered by the Staff, KWL indicated that it considered all ports to be a substitute for KWL. As discussed above the outcome depends on the demand and supply substitutability between the different cargo freight infrastructures.

Product market - #1: demand substitution

1.16 Demand substitutability in this case has to be examined from the point of view of each customer group mentioned above. A number of physical and market factors, will dictate the feasibility of substitution between cargo freight infrastructure in Jamaica. These include the need for specialised facilities and land transportation cost and links. Each is discussed below.

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(i) Airport vs Port

1.17 From the perspective of the shipping lines there is little scope for technical substitution for port infrastructure. Ships have to dock at ports and use infrastructure specific to the activity of moving cargo between land and sea-based transportation.

1.18 With respect to the importer or exporter, whether there is a technical and economic substitute for ports will depend on the type of product being shipped and its destination and origin. The cases in which air freight is an economic alternative to sea-based transport tends to be for high value goods such as clothing and footwear, and other goods for which timing of delivery is particularly important, e.g., flowers and other perishables. In the case of low value, high volume goods such as bulk (liquid and dry), break-bulk and project cargo airports are unlikely to be an economic substitute, because of the high cost of air transportation.

(ii) All Types of Port Facilities

1.19 Different types of vessels need different types of port facilities. The issue of whether all types of port facilities can serve as a substitute for the KWL facilities depends on the facilities required by the vessels that moor and load/offload at KWL. The facilities required are determined by cargo type because vessels are configured according to the type of cargo that they will carry. While some vessels have opportunities to substitute between the type of port facilities they use, especially those carrying containerized cargoes, the level of substitution is limited or non-existent for some types of vessels, due to specific infrastructure requirements. A particular type of cargo can therefore become captive at a port because specialized handling facilities are available only at that port.

1.20 There are several types of vessels that moor at KWL and do not carry fully-containerized cargo. These are:

- Conventional general cargo (multipurpose) vessel;
- Trailer carriers – Ro/Ro (roll on/roll off);
- Pure car carriers;
- Barges;
- Tankers; and
- Bulkers

1.21 Each of the above vessels will require specialized infrastructure because of the type of non-containerised cargo it carries. The types of cargo carried by each category of ship and the facilities requirements are examined below.

Conventional general cargo (multipurpose) vessels

1.22 These vessels are usually fitted with their own cranes/derrick. They generally carry cargo such as: lumber, steel, news print, project cargo, machinery, motor

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vehicles, tin plates, banana, citrus and fertilizer. Containers are sometimes carried, but there are usually no cell guides.

1.23 Deep-water berths are needed for docking these vessels and either ship or shore cranes may be used to load/offload cargo. Ships are usually fitted with their own cranes, however, the use of shore cranes is generally preferred particularly if it is carrying containerized cargo.

1.24 Forklifts are generally used to move breakbulk cargo to and from storage areas on the terminal, with container handling equipment used during container operations. Mobile units, such as buses and trucks may require the use of special slings/nets in the loading/offloading process.

Trailer Carriers (Ro/Ro)

1.25 These vessels are gearless with a stern ramp operation. They carry cargo that has been stuffed into containers, which in turn are generally permanently affixed to a chassis (i.e. trailers). The trailers may be refrigerated for carrying climate sensitive cargo, known as “reefers” or they may be “dry vans” for carrying other commodities.

1.26 Trailer carriers are like floating parking garages in that the trailers can be driven off and on. These vessels carry fewer pieces of equipment when compared to cellular vessels, as chassis are also transported. Ro/Ro vessels are considered an expensive mode of transportation, but the cost of loading and off loading is less than for cellular vessels.

1.27 The operators of some Ro/Ro vessels may transport containers on the weather deck in the Lo/Lo configuration. In addition, mobile units such as flatbeds, cars, pickups and trucks are loaded wherever space is available.

1.28 Deep-water berths are needed to dock these vessels. A ramp is necessary for the loading/unloading of these vessels. “Stevedoring tractors” capable of moving heavy trailers are used in both the loading/offloading process. New purpose-built stevedoring tractors are generally expensive both to purchase and to maintain. To plan and manage the loading/unloading process information technology solutions are generally called for. Shore cranes will be used when these vessels carry containers or breakbulk cargo on the weather deck in the Lo/Lo configuration.

Pure Car Carriers

1.29 These are purpose built vessels and are truly floating multi-story parking garages. Generally only motor vehicles are carried and the vessels are specially constructed to carry the greatest number of vehicles under the safest conditions. Deep-water berths are needed to dock these vessels and equipment is not normally required for loading/unloading operations.

Barges

1.30 These are like floating warehouses. They are usually not self propelled and are towed by an ocean-going tug. Barges usually carry general cargo such as

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newsprint rolls, linerboard rolls, tissue rolls, poles pipe, plywood and lumber. These vessels may also carry containers and are often used for heavy lift (turbines, generator, etc) cargo.

1.31 Barges generally do not require deep water. Shore cranes may be required to load/unload open barges. Forklifts are used aboard barges to bring the cargo to an accessible point at shipside. Forklifts are also used to move the cargo away from the vessel or vice versa. Covered storage facilities will be required for sensitive cargo.

Tankers

1.32 These are built to hold liquid bulk cargo. They carry tallow, edible oils, alcohol and chemicals and chemical related products. Tankers unload directly into tanker trucks. Space is therefore required shore-side in order for the trucks to be accessible.

Bulkers and Self-discharge bulkers

1.33 The bulkers are fitted with 25-40 ton cranes and have no deck separators. The self-discharge bulkers are fitted with boom dischargers. Both types of bulkers carry grain, fertilizer and animal feed. In addition, the bulker also carries salt, steel and cement while the self-discharge bulker also carries sulphur.

1.34 Offloading and loading a bulker requires wire and pallet slings, forklifts, hopper, a crane with bucket, bobcats and trucks. Self-discharge bulkers unload directly into "dumper trucks". Space is therefore required at shore-side to work these vessels.

Non-fully containerized vs containerized facilities

1.35 All vessels that dock at KWL can be moored, using the same facilities (berths etc.) used by a fully containerized vessel. These vessels however, cannot be worked at a dedicated container terminal. A dedicated container terminal is precisely configured to allow fast, continuous and simultaneous loading and unloading of multiple container vessels. This type of configuration does not allow for the unloading of cargo which requires mobile cranes or storage space on the terminal. Breakbulk cargo such as poles, pipes, barbed wire, lumber, plywood, steel, tin plates, etc. therefore can not be unloaded at a container terminal. Further, the gantry cranes used at most container terminals have a ton capacity of 40 metric tonnes. This precludes the unloading of heavy lift cargo such as turbines, generators and transformers at these terminals.

1.36 The argument that all cargo can be containerized may be raised. Containerized cargo is more easily handled than breakbulk or bulk cargo. This is the reason for its popularity among shipping lines. It is not important however, that certain commodities may travel by either bulk/breakbulk or containerized mode. The essential question is whether the choice of the mode is based on the characteristics of the mode. Thus the fact that some steel may travel by bulk and others by container does not show that the two modes are substitutable since it does not take

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in the diverse nature (and value) of steel products nor the delivery requirements of the customer. According to Greg Stangel[6], Vice President of Marketing and Systems at Intermarine, container shipping is an 80/20 concept. Eighty percent of all cargo types may be able to travel in a containerized mode but 20 % cannot be handled in containers. This is due to the fact that the cost of putting general cargo into containers is much higher and there are certain kinds of cargo, which because of irregular shapes and sizes, cannot be handled in containers**.**

1.37 Further, the portion of trade that is accommodated on container ships is so accommodated for reasons other than size, shape and weight. One reason is that of scheduling. In the name of efficiency operators of container vessels will follow a very structured and regimented schedule. That is they are usually logistically locked into a vessel rotation. For the same reason, that is, efficiency, a breakbulk operator that carries cargo types such as project cargo will not attempt to follow that pre-set scheduled pattern. Project cargo tends to flow in irregular chunks and often to isolated destinations. The breakbulk operator follows a more customer-intimate model in which each voyage is tailored to the specific needs of the cargoes at hand. In a very real sense the breakbulk operator is matching his ships to the customer's needs.

1.38 While the share of cargo movement in containers will therefore continue to expand there will always be cargoes best suited to vessels with specialized handling systems. **[Put in statistics of cargo that seems to be uncontainerisable**]

1.39 Taking into account the factors discussed above, it appears that not all types of port facilities are interchangeable. For non-containerized cargoes there is no substitute for the specialized bulk/breakbulk port facilities such as those at KWL.

Product market - #1: supply substitution

1.40 There are many factors that affect the ease of entry to port infrastructure provision. Some, including the substantial investments required in specialized cargo handling facilities are inherent in the nature of the activity.

1.41 The capital outlay required for entry into the provision of port infrastructure is extensive. Additionally, the fixed nature of the facilities which represents a sunk cost which cannot be readily recovered on an early exit from the business acts as a barrier to entry. While there may be a market for used cranes and forklifts and all other equipment which can be transported to other ports, infrastructure such as reinforced aprons and specialized storage facilities are immobile and have limited alternative uses. High capital requirements and the sunk cost nature of some of the necessary facilities combine to act as a deterrent to entry into "the market for" port terminal operations.

1.42 According to the Shipping Services (Stevedoring) Limited (SSSL) submission, refurbishing the container terminal Kingston Container Terminal (KCT) such that

[6] See Intermarine News – http://www.intermarineusa.com

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it can handle non-containerized cargo requires additional land space to construct General cargo berths and storage area for warehousing long dwell time cargo such as steel, lumber and motor vehicles. Such refurbishment will also require investment in equipment such as slewing cranes, trucks, 12- ton forklifts and clamp forklifts. The estimated cost for the refurbishment was placed at US$20M. In its submission the SSSL also estimated that the cost of building an infrastructure similar to that of KWL outside of the Port of Kingston would be approximately US$175M.

1.43 In addition to the investment required, the supply substitution options are also largely dependent on the existence of a suitable site for port expansion or creation as well as sufficient cargo volumes to justify the capacity expansion. Limitations imposed by terrain, urban encroachments, lack of sufficient land, etc. may stymie port expansion and creation possibilities. The importance of these limitations was reinforced when the Port Authority of Jamaica listed the need to conform with the rules and regulations of the National Environment Planning Agency as the major impediment to establishing a new port or new facilities at existing ports.

1.44 Alternative expansion possibilities may also be relatively costly, requiring substantial cargo volumes for cost recovery. Of the approximately 10.2 million metric tonnes of cargo that passed through Kingston Harbour in 2001, only 2.5% of this amount represented non-containerized cargo. It is therefore unlikely that this will prove attractive enough for someone to invest in the port facilities for this type of cargo. This is reinforced by the fact that the KWL facilities are currently under-utilised on Tuesdays, Wednesdays, Fridays, Saturdays and Sundays.

1.45 Regarding supply-side substitutability it appears that there are few firms if any that could easily shift into the provision of alternate non-containerized cargo port facilities. The high fixed costs of entry (relative to the expected demand for the service), and the current low utilization of KWL's infrastructure limit this substitutability.

Geographic Market - #1

1.46 In Jamaica, ports can be classified as public or sufferance (private) ports. A sufferance port is given a specific Licence by the Minister of Finance on the recommendation of the Customs Department and the Port Authority. The licence is personal to the owner of the facility and sets out specifically the types of cargo the facility can handle. These cargoes are generally related to the industrial activities of the owner or some nearby factory. Cargo other than that specified in the sufferance licence or for a party other than that which is specified in said licence would not be able to offload/load at these private wharves. The Staff therefore contends that the sufferance ports could not serve as a substitute for public ports and the examination of geographic substitutes must therefore focus on public port facilities.

1.47 In principle, shippers generally have opportunities to substitute between ports and use ground transportation where necessary. The nature of the cargo being exported/imported, in particular the unit value of the cargo, is a key determinant

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of the possibilities for geographic substitution. If a cargo has a low unit value (and corresponding low absolute profit margins per unit) this will limit the distance over which these products can be economically transported.

1.48 The choice of port for shipping bulk and some break-bulk cargo will depend on the geographical location of import consumption and export production. It will depend on the location of the Port relative to the source or destination of cargo, the cost and availability of the required land transportation.

1.49 The volume of imports far outweighs the volume of exports at the country's public ports. The majority of importers are located in the Kingston, St. Andrew and St. Catherine region. This gives rise to the fact that 95% of all domestic cargo passes through the Port of Kingston. Jamaica currently does not have a rail system. This means that any goods that enter the Port of Montego Bay (the only public cargo port outside of Kingston) and are destined for these parishes will have to travel by road. The high costs to move these bulk products by road may quickly erode the potential gains of moving the cargo to a competitor port. [**PUT IN TRANSPORT COSTS]**

1.50 The geographic substitution possibilities between ports are also limited for cargo that are carried in tankers, bulkers and other cargoes that require the use of specific loading/offloading infrastructure. With respect to the Port of Montego Bay, the only types of cargo that can be efficiently handled are Ro/Ro, mobiles, steel and liquid bulk. There are no crane facilities, as the port cannot withstand the weight of the loading/unloading equipment shoreside on the port. Non-Ro/Ro ships can use the port only if they have their own cranes onboard. Further, even in the situation where vessels have cranes onboard, the port of Montego Bay does not have the facilities in terms of terminal space required for loading/unloading certain cargo types.

1.51 Given the above, the Staff holds the view that the geographic market can be confined to the Port of Kingston.

The relevant market definition- #1: a summary

1.52 In sum, the market for which the supply of access is required is defined as the provision of public port facilities for non-containerized cargo in the Port of Kingston.

Relevant market- #2

Product market -#2

1.53 For this case, the other service market under examination is the market for the provision of stevedoring services. It is clear that the provision of port infrastructure for non-fully containerized vessels can be separated from the provision of stevedoring services since they are complements rather than substitutes.

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1.54 This view is supported by the fact that the port customers, (shipping lines) do not pay a lump sum for the whole of the services received but are charged two separate charges (mooring fees and stevedoring charges)

Product market - #2: demand substitution

1.55 Along the product dimension stevedoring includes various activities. It encompasses the task of moving cargo between dockside and the ship, and vice versa; and ensuring that the stowage of cargo is efficient. The services concerned require as a general rule, a distinct technical and operational know-how and respond to the demands of the different types of vessels.

1.56 On the demand side, no alternative port activity can be said to substitute for the physical loading and unloading of cargo between dockside and the ship. The extent of demand side substitutability will therefore be limited to the available choice of competing stevedoring firms at the location of the port infrastructure. In the case of KWL there is a port-affliated as well as several independent stevedoring operations.

Product market - #2: supply substitution

1.57 On the supply side, stevedoring is a labour intensive activity with reasonably limited costs of entry, especially where equipment (cranes, etc.) are owned by the ship or where access is available for rent from equipment companies through multi-user. Taking the above facts into account it appears that the stevedoring market is one in which there are low entry barriers.

Geographic Market - #2

1.58 The key question here is to what extent can stevedoring services be thought of as substitutes? Since stevedoring is one of a number of complementary activities carried out at particular ports, it is unlikely that a small but significant price increase in the stevedoring charges would result in the substitution between ports. Further, if the users of the port are captive to that particular port the substitution is even less likely.

1.59 We therefore conclude that substitution among stevedores is confined to or near to the particular port infrastructure, in this case KWL.

The relevant market definition- #2: a summary

1.60 In sum, the Staff holds the view that stevedoring is a distinct product market which is geographically confined to or near to KWL port infrastructure.

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