Defining the Role of Competition in the Airport Industry: A Critical Assessment

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Abstract: Defining the relevant market is a preliminary step in every assessment of the degree of Significant Market Power (SMP). A firm with total market power can raise prices without losing any customers to competitors. SMP exists when prices exceed marginal cost and long run average cost, so the firm makes economic profits. The contribution of this paper is two-fold. On the one hand, a critical assessment of the role of competition in an industry/sector is performed. To this end, we discuss the most recent quantitative and qualitative techniques in market delineation. On the other hand, we try to shed some light on the competitive constraints in the Cypriot airport industry where little prior knowledge is evident. Although the airport industry is a crucial economic sector and has oligopolistic, to some extent even monopolistic structure, there is no standard and universal approach established by the National Competition Authorities (NCAs) for exact categorization of market delineation. This paper tries to perform a thorough market power assessment in order to analyse all the competitive constraints faced by an airport operator, regardless of whether they arise from within or outside the relevant market(s).

Keywords: Competition, Relevant market, Significant market power, Airport industry.

1. INTRODUCTION

According to the European Commission (Commission), a relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer by reason of the products' characteristics, their prices and their intended use.[1] In order to delineate a relevant market, special attention must be paid on customer behaviour and in particular demand-side substitution. If the substitution between two products/services is sufficiently strong, this indicates towards the definition of a common market for the two products/services. In contrast, weak demand-side substitution gives indication that the definition of separate markets is appropriate.

A relevant geographic market comprises the area in which the firms concerned are involved in the supply of products or services and in which the conditions of competition are sufficiently homogeneous. This area can be distinguished from neighbouring areas because the conditions of competition are appreciably different. In addition, it is important to recognise, as airports serve a number of different users, that there may be different relevant geographic markets for different groups of users.

The assessment of competitive constraints for geographic market definition entails an analysis of the ability of airlines to switch away from an airport as well as the potential for passengers to switch between airports, whether independently or by following a particular airline. With respect to this, the Commission's notice on market definition states the following: "*Firms are subject to three main sources or competitive constraints: demand substitutability, supply substitutability and potential competition. From an economic point of view, for the definition of the relevant market, demand substitution constitutes the most immediate and effective disciplinary force on the suppliers of a given product, in particular in relation to their pricing decisions. A firm or a group of firms cannot have a significant impact on the prevailing conditions of sale, such as prices, if its customers are in a position to switch easily to available substitute products or to suppliers located elsewhere. Basically, the exercise of market definition consists in identifying the effective alternative sources of supply for the customers of the undertakings involved, in terms both of products/services and of geographic location of suppliers*"[2].

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[1]See European Commission (1997), "Commission's Notice on the definition of relevant market for the purposes of Community competition law", Official Journal C 372, 9.12.1997, pp. 5-13.

[2]Ibid, par. 13.

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As noted in the aforementioned notice, supply side substitution is a key component of the market definition analysis. The Commission summarises supply side substitution in the following way: "*Supply-side substitutability may also be taken into account when [defining markets], in those situations in which its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy. This means that suppliers are able to switch production to the relevant products and market them in the short-term without incurring significant permanent changes in relative prices. When these conditions are met, the additional production that is put on the market will have a disciplinary effect on the behaviour of the companies involved. Such an impact in terms of effectiveness and immediacy is equivalent to the demand substitution effect*"[3].

Based on the above, the correct definition of the relevant market is a cornerstone in an accurate competition analysis. A too narrowly defined relevant market can lead to unnecessary competition concerns, while, on the other hand, a too widely defined market may disguise real competition problems (OFT, 1999).

The rest of this paper is organised as follows. Section 2 presents the theoretical underpinnings of the literature concerning the techniques in relevant market definition. Section 3 delineates the relevant product and geographic markets appeared in Cypriot airport industry. Section 4 describes the market structure and the power exercised by the airlines in the industry highlighting the significance and contribution of the present study, while Section 5 concludes the paper.

2. RELEVANT MARKET DEFINITION

2.1. Quantitative Tools in Market Delineation

The importance of economic analysis in the application of competition rules, especially in antitrust policy, has been increasing over the last turbulent years (Fotis, 2012; Fotis and Polemis, 2011). Economic tools such as the implication of the Hypothetical Monopoly Test or the Critical Loss Analysis may help competition agencies to delineate the boundaries of the relevant markets quickly, and guide them towards better decision making when faced with the increasing complexity of markets. NCAs employ numerous techniques, from very basic to sophisticated ones. Today it is widely accepted that the use of economics in relevant market orientation has improved the decisions of competition authorities (Fotis and Polemis, 2011).

This interest in economic evidence reflects the increasing use of economics and economic analysis in merger control as evidenced firstly in the United States (US) with the Merger Guidelines of 1984 and 1992. The use of economic analysis in market delineation is evident in a plethora of competition cases by the European Commission (Amelio and Donath, 2009).

Hypothetical Monopoly Test (SSNIP)

To assess the notion of the relevant market, NCAs often use a concept known as the Hypothetical Monopolist Test or SSNIP test.[4] According to the latter, the question to be answered is whether the parties' customers would switch to readily available substitutes or to suppliers located elsewhere in response to a hypothetical small (in the region of 5-10%) permanent relative price increase in the products and areas being considered. If substitution is enough to make the price increase unprofitable because of the resulting loss of sales, additional substitutes and areas should be included in the relevant market (Fotis, 2014). This iterative process continues until the set of products and geographic areas included in the analysis is such that a small permanent increase in relative prices is established to be profitable.

One potential problem when applying the SSNIP test to delineate the relevant market(s) in the abuse of dominant position cases is the so-called "*cellophane fallacy*". In the U.S. vs DuPont case it was crucial to determine whether cellophane ("*plastic wrap*") represented a market. At that time DuPont sold 75% of all cellophane paper but only 20% of all "flexible packaging material," a potential alternative market definition. The U.S. Supreme Court ruled in favor of DuPont accepting the appropriate market definition as "flexible packaging material" and clearing the company of attempting to monopolize that market. The reason was that at the prevailing price levels, the court found substantial evidence of demand substitution between cellophane and other packaging materials, such as greaseproof paper. This case has given rise to the term "*cellophane fallacy*." However, if markets are already monopolized, and the demand elasticity is below unity, it is profitable to raise prices and a monopolist would

[3]Ibid, par. 20.

[4]The latter stands for Small Significant Non-transitory Increase in Prices.

already have done so. This provides a substantive difficulty when defining markets in cartel, monopolization, and sector inquiries using evidence on observed levels of substitution.

Critical Loss Analysis

A Critical Loss Analysis (CLA) examines the profitability of a potential price increase. If a firm increases its prices, then there are two opposite effects on its profits: a) higher prices cause some consumers to switch to substitutes or reduce their purchases, so the firm loses the profits it previously made on these sales and b) the firm earns a higher profit margin on the sales it retains, so it earns higher profits on these sales. A price increase is profitable if the lost profits from (a) are smaller than the additional profits from (b). Critical loss analysis involves comparing these two opposite effects. The level of lost sales at which a price increase leaves profits unchanged (because the two effects are equal) is known as the "*critical loss*". A critical loss can be estimated with margin data. Thus, for an X per cent price increase and gross margin of M, the critical loss (L) will be given by the following formula:

$$L = \frac{X}{X + M}. \quad (1)$$

The intuition behind the formula is that with a high gross margin, fewer sales need to be lost in order to make a price increase unprofitable. Following Harris & Simons (1989), the critical loss for a percent price increase is the percentage reduction in quantity required for the price increase to leave profits unchanged. If the reduction in unit sales is greater than the critical loss, then the price increase will reduce profits. If the reduction in unit sales is less than the critical loss, the price increase will increase profits.

Lastly, it is worth mentioning that, the "*could approach*" or the "*EU approach*" of Critical Loss analysis uses the mathematical formulas presented by Harris and Simons (1989), Katz and Shapiro (2003), O' Brien and Wickelgren (2003), Daljord, Sørgard and Thomassen (2008) and Daljord and Sørgard (2011).[5] The rationale for this is that the formulas of the said approach are identical either we assume linear or iso-elastic demand functions. Noteworthy, the profit-maximizing approach has also been used for market definition purposes.

[5]For further analysis see Motta (2004).

Price Correlation Analysis

Price correlation analysis is often used to determine whether two products/services or two geographic areas are in the same economic market (Stigler and Sherwin, 1985). In other words, price correlation analysis considers whether the prices of two alleged competitive products or areas have moved together over time. It is also often used to measure the degree of interdependence between prices and market shares or the concentration of sellers (Fotis, 2014). In the following figure, the average gasoline prices for a specific period are depicted in two geographic regions (Panel A and Panel B). As it is evident in Panel A the gasoline prices in the two regions show a significant variation rejecting the hypothesis that the two regions belong to the same geographic market. In contrast, the opposite conclusion is evident in Panel B.

A potential problem when using evidence of price correlations to define relevant markets is that a high correlation may be a result of factors other than substitution. For instance, it may reflect the existence of a common factor that drives the price of both products/services, such as a common cost factor (energy costs, labour costs or raw material costs, etc.) or a common demand factor (average incomes). These common factors might lead to high correlations when no significant substitution actually exists. In this case, correlation coefficients obscure information concerning the degree of substitution between different sales channels. As a consequence, the calculation of the correlation coefficient with prices in first - or even better in logged - first differences can be used instead, in order to control for this problem. This technique means that the resulting correlation coefficients are not affected by the common upward trend with which prices appear to move. Furthermore, it allows for a more rigorous analysis as it eliminates the effect of a common trend which would otherwise lead to spurious correlation (Davis and Garces, 2010).

Cointegration Analysis

Two non-stationary series are said to be cointegrated if a linear combination (known as the cointegrating relationship) of the series is stationary. Cointegration tests establish the existence of a cointegrating relationship, and affirmative proof from these tests can be taken as evidence for the existence of a single market. However, Forni (2004) argues that it is prudent to test whether the cointegrating relationship actually takes a one-to-one relationship indicating a perfectly integrated market (Forni, 2004). Finding a

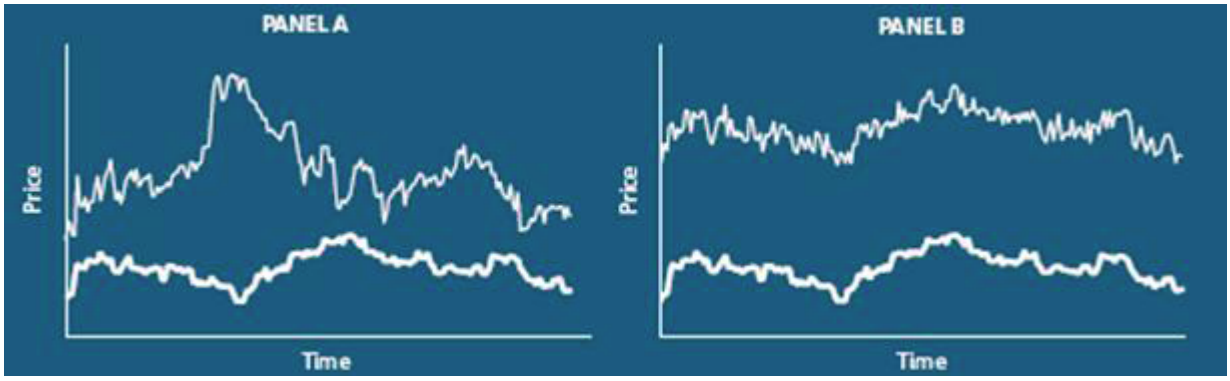

Figure 1: Average gasoline prices in Asia and Europe.

one-to-one relationship between prices in two regions clearly constitutes strong evidence that the two regions form a single market, but is not a necessary condition for market singularity. A more general cointegrating relationship also indicates market singularity, as prices are still related – even though prices only partially converge and are more difficult to interpret. Nevertheless, a test for a co-integrating relationship has practical use in competition policy settings as such a test can be performed without a formal cointegration analysis. This follows because of the equivalence between a test for a cointegrating relationship and a test of whether the log price ratio for the two regions is stationary.

Based on the above we argue that the need for the use of price tests has been stressed most forcefully by Forni (2004). Nevertheless, price co-movement tests have been criticized too though to some extent the more recent criticisms may be due to inadequate understanding of the latest improvements in econometric theory and techniques (Bishop and Walker, 2002).

2.2. Qualitative Assessment of Market Definition

It is worth emphasizing that to a large extend market definition relies on qualitative assessment. Indeed, qualitative evaluation is universally the starting point of any market definition exercise (Davis and Garces, 2010). In this case, if such qualitative assessments were not possible, it would be necessary to do a huge amount of work in every investigation to check out every possibility – something which in infeasible in practice given the limited resources of competition authorities. In practice, we can narrow down the set of possibilities to those which are plausible and also substantive. Very minor products, for example, may just not make a great difference to a competition evaluation. In this respect, it is safer to start with the product characteristics and the intended use(s) of the product. Doing so allows the investigator to define a broad and yet plausible set of possible demand substitutes. The products which are substitutes in use are sometimes known as the set of "*functional*" substitutes. For our purposes the concept of market definition is designed primarily to describe the set of products which constrain a firm's pricing decisions. Thus, in order to be included in a market, it is not enough for products to be functional substitutes; they need to be sufficiently substitutable from a demand-side and/or supply-side perspective to actually constrain each other's price.

To illustrate, consider the evidence provided to the Commission in its investigation of the proposed merger between Ryanair and Aer Lingus. Ryanair argued that the London airports were not demand substitutes, at least for time sensitive passengers. Consider Table **1** below, which documents the time needed by various transport modes to reach London airport from the centre of the city, which brings some data to bear on the question of whether these airports are "*too different*" to be considered functional substitutes for customers who want to travel from London to Dublin. In contrast, Ryanair argued that they were indeed substitutes, while the Commission noted, among other things, that the U.K. Civil Aviation Authority (CAA) considers that a "*two-hour surface access time*" is the relevant benchmark for airport catchment areas for leisure passengers. The Commission concluded that scheduled point-to-point passenger air transport services between Dublin and London Heathrow, Gatwick, Stansted, Luton, and City airports belong to the same market. Note that although the Commission has quantified an important set of characteristics of the potentially substitute products in a way that help to understand the extent of substitutability, ultimately it had to make a judgment about whether these products

Table 1: Characteristics of London Airports

Airports	Distance to center of city (km)	Private car (min)	Public transport		Airport denomination or Ryanair website; bus service to city promoted on Ryanair website
			Bus (min)	Rail (min)	
Stansted	59	85	75	45	London (Stansted); Ryanair bus service
Heathrow	28	65	65	55	Not served by Ryanair
Gatwick	46	85	90	60	London (Gatwick)
Luton	54	44	60	25	London (Luton); Ryanair bus service
London City	14	20	_	22	Not served by Ryanair

Source: Adapted from Davis and Garces (2010), p. 168.

are similar enough to be considered in the same relevant market on the basis of this and other pieces of evidence.

According to the European Commission notice for the definition of the relevant markets, qualitative factors that affect the demand substitution should also be taken into account and analyzed.[6] These factors include inter alia switching costs, natural characteristic of the products, intended use and differences in price. However, it should be noted that these factors should be strictly examined within the framework of substitution effects, and not merely as factors that can define per se the relevant market. As Katsoulacos *et al.* (2014) pointed out, "[..] *price differences can be high as a result of different costs but this does not mean that an increase of 5−10% in the relative price of a product will not lead to a higher percentage demand switch to another product*." In other words, absolute price discrepancy does not provide credible information of how demand will be affected by a price increase. As it will be further analyzed bellow, we argue that some airport services cannot be considered as substitutable from the consumers' point of view with regard to the need that these services do not cover together with the time and motive of consumption.

3. RELEVANT MARKET ASSESSMENT

Hermes Ltd (Hermes), assumed management and control of Larnaca International Airport (LCA) and Pafos International Airport (PFO) on 12 May 2006, under a 25 year BOT (Build-Operate-Transfer) concession agreement with the Republic of Cyprus. Hermes offers, inter alia, passenger and cargo transportation as well as web check-in, facilities to car rental companies in order to operate within the airports, and passenger assistance. Hermes is a company registered in Cyprus, consisting of a mix of Cypriot and international partners.

The market definition takes into consideration that the demand for airport infrastructure services is derived from the demand for transportation services. As it will be further analysed, the markets for the provision of airport infrastructure or aeronautical services are upstream markets, while the markets for transportation services of passengers and cargo are downstream. This approach is in line with the European case law.

We must stress that we did not perform any quantitative analysis (i.e., SSNIP test, Critical Loss Analysis, cointegration analysis, etc.) in assessing the relevant markets in this paper, due to severe data constraints. Therefore, we focus solely on the qualitative analysis combined with the insights drawn from National and European case law. As it will be further described, there are three relevant product markets where Hermes operates (either directly (i.e., participation in tenders for the concession agreements, provision of airport infrastructure) or indirectly with sub-contracts (i.e., provision of ground handling services) or not (downstream market). The following figure depicts the three relevant product markets and its sub segments.

3.1. Access to Upstream Market

In its past decisions, the Commission has established that the authorization/granting of a specific activity of operational rights regulated by the State,

[6]See Commission Notice on the definition of relevant market for the purposes of Community Competition Law (97/C 372/03), 09.12.97 available in http://europa.eu/legislation_summaries/competition/firms/l26073_en.htm.

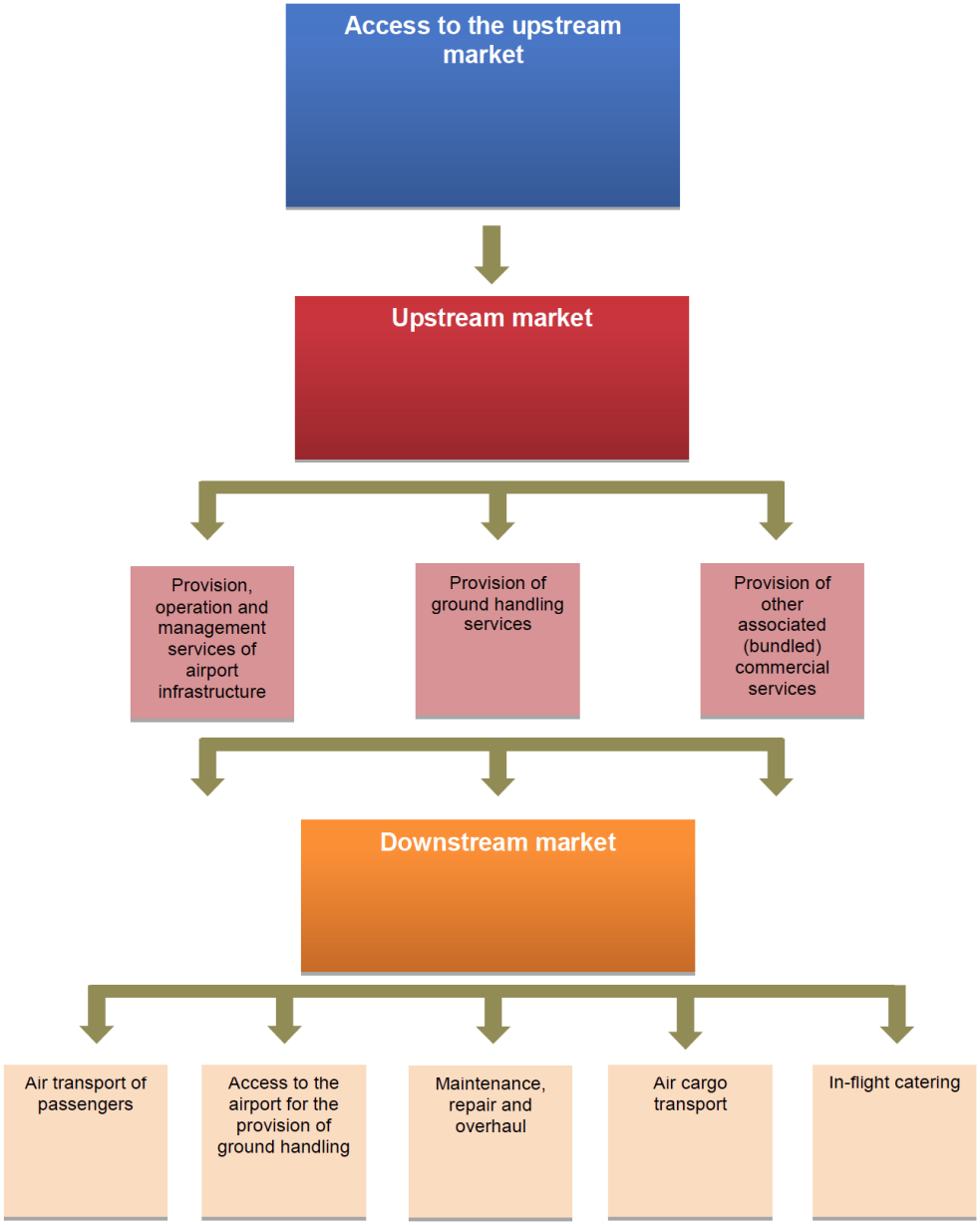

Figure 2: Relevant product market delineation in the Cypriot airport industry.

known as '*concession agreements*', constitutes a distinct product market which differs from the exploitation and operation of the activity itself[7]. More specifically, the Commission acknowledges that the management and operation activities of an airport, by means of concession agreements, comprise a distinct relevant product market. The latter, is characterized as an economic activity wherein the supply of services is represented by the State (i.e., government or public bodies) and the demand is generated by private companies or joint ventures with interest in the acquisition of airport operating and management rights.

The geographic dimension mostly includes but is not limited to the European Economic Area (EEA) and may have even a global perspective. This is attributed to the fact that the tendering procedures for the concession agreements between the government and

[7]See Cases IV/M.567 − Lyonnaise des Eaux/Northumbrian Water, par. 11, COMP/M.4087 − EiffHERMESe/Macquarie/APRR, par. 9-11, COMP/M.6862 − Vinci /Aeroportos de Portugal, par 11 and COMP/M. 7537 Ardian France / F2i SGR / F2i AEROPORTI, par 24. The Hellenic Competition Commission has also followed a similar approach in a recently cleared (April 2016) merger by Fraport AG of 14 Greek regional airports through Concession Agreements (Decision 626/2016). The relevant markets concerned by the concentration, were defined as follows: a) The market for the granting of airport management and operation concessions through tenders, b) The management and operation of airport infrastructures (including the provision of airport infrastructure services, the provision of ground-handling services, and the provision of associated commercial services), and the provision of airport IT software (upstream market).

third parties regarding the management of the airports infrastructure are open to anyone who might be interested either in Cyprus or abroad. This is in line with the European case law.[8]

Considering the above remarks, we conclude that Hermes is active in this relevant product market (i.e., participation in tenders for the concession agreements regarding the exploitation of the operational rights and management services in the airports). However, the company does not hold a dominant position since the nature of competition in this market has (at least) a pan European orientation (EU-wide).

3.2. Upstream Market

Hermes is mainly active at the airport operation, management and the provision of associated services either directly or indirectly (i.e., through contracts with other firms). We underscore that in all of its previous decisions the Commission has delineated the provision, operation and management (POM) of "*aeronautical*" infrastructure as an upstream market. This type of infrastructure is vital for the existence of effective competition in the industry (essential facility). The latter refers to the infrastructure which is necessary for reaching customers and/or enabling competitors to carry on their business. The central concept of the "essential facilities doctrine" is that a dominant firm's refusal to provide access to something it owns or controls, to which the access for other firms is essential in order for them to provide products or services to customers, may be held as abusive and therefore also prohibited. This means that a dominant undertaking may have a duty to share its facilities – which in many times has developed during many years – with competitors.

The upstream market can be further sub-divided in the following three segments:

a) **The provision, operation and management (POM) of airport infrastructure services** (i.e., development, maintenance, use and provision of the runway facilities, parking, taxiways and other airport structure, etc.)

b) **The provision of ground-handling services** (i.e., ramp-handling, baggage handling, aircraft maintenance, fuel and oil handling, ground administration and supervision, flight operations, crew administration, etc.) and

c) **The provision of other associated (bundled) commercial services** (i.e., food and beverages, sale of advertising space, parking, airport IT software, filming and photography, etc.).

Provision of Airport Infrastructure Services

The core of the activities of the two Cypriot airports (LCA and PFO), in terms of revenue, is the provision of infrastructure to airlines. Moreover, the airports also provide to third parties which offer ground handling services at the airport access to the infrastructure. Hermes is not active in the provision of ground handling services itself, and it does not create revenue with the provision of access to the airport (with the exemption of concession fees for refueling). We highlight the fact that both types of activities differ substantially in terms of revenue creation, the nature of customers and the way these markets function in practice. The market definition takes these factors into account. The task of the economic analysis with regard to market definition is to provide evidence which would give useful information about the boundaries of the relevant product and geographic market related to the provision of all infrastructure services which Hermes offers to third parties.

There are several reasons for defining separate markets concerning the provision of infrastructure to airlines: a) the airport charges different prices for the services (passenger on origin & destination flights (O&D), passenger transfer on transfer flights, cargo, local & instruction flights), and the airlines cannot easily switch between offering these types of services. As an example, cargo transportation works differently as compared to passenger transportation, which results in substantial switching costs for airlines wishing to change the type of service they offer, b) the related downstream markets differ, which enables an airport to treat these types of customers differently, c) the analysis of the catchment areas indicates that these markets differ with respect to their geographic boundaries, and d) supply-side substitution is not strong enough to render missing demand-side substitution obsolete.

The ability of the airports to address different types of customers in a different way through their pricing schemes serves as a first indicator that LCA and PFO airports are active in a number of separate markets. Figure **3** depicts the passengers' variability per airport

[8]See Case M.7537 − Ardian France/F2i SGR/F2i AEROPORTI, par. 26 and Case M.6862 − Vinci/Aeroportos de Portugal, par 13.

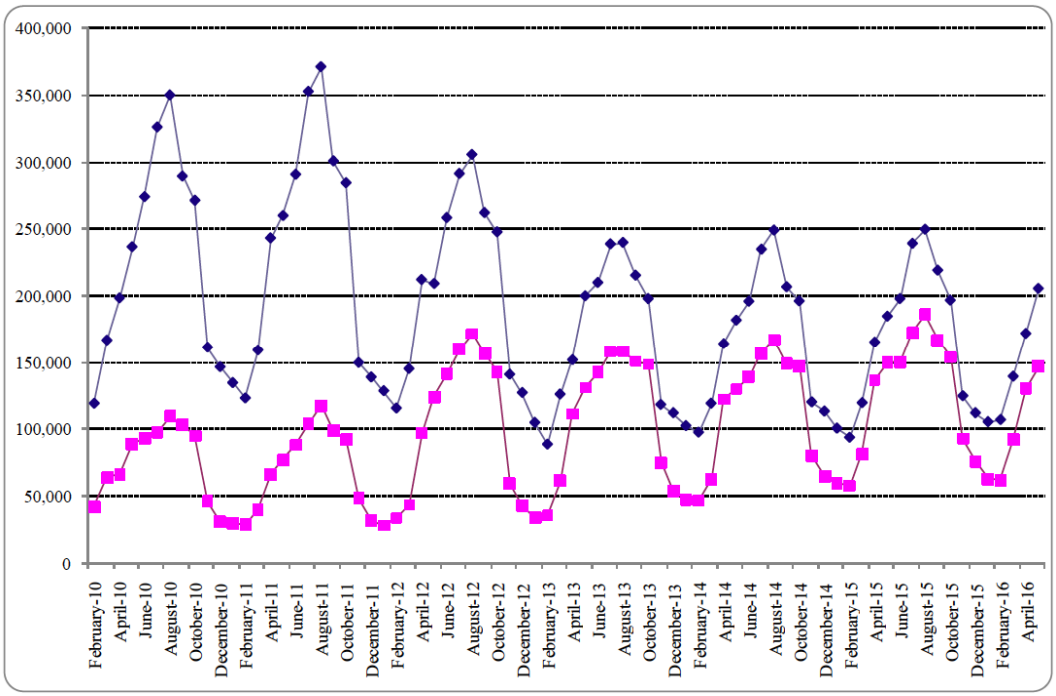

Figure 3: Total number of passengers per airport (LCA and PFO).

Source: Department of Civil Aviation.

within the last six years (January 2010 to May 2016). As it is evident, there is a strong cyclical pattern revealing the existence of seasonal effects.

As stated above, geographically, these markets are defined through their respective catchment areas. However, the exact definition could be left open, as a too rigid geographic market definition might mislead the assessment of market power. In general, it can be affirmed that for the assessment of market power on the spatial competition dimension, the analysis of the catchment area is considered to be a sufficient approach. A catchment area is a geographical range around an airport in which the probability of its selection by potential passengers living inside the area is significantly higher than by those living in the outside regions. As pointed out by Starkie (2002) competition even in a limited geographical area within the catchment area is sufficient for a full transmission of price changes to the broader market. If airports have an overlap of their catchment areas, they have to compete with each other in prices and services for potential passengers living within that overlap area. It is worth mentioning that the two airports (LCA and PFO) nearly serve common destination routes, which is an indication for potential demand-side substitutability

The common principle of SSNIP test in the airport industry is rarely possible to apply due to the complexity of the data. Perhaps the only standardized test through critical loss analysis was applied by the UK Civil Aviation Authority in its assessments concerning the market power of Heathrow airport. The calculation was based on a critical loss estimation ranging from 0,3 to 0,5. However, several drawbacks were noted by the CAA, (i.e., the calculation was not derived by applying a price increase but rather on the basis of airline characteristics) that is considered to be descriptive.

It is worth mentioning that slot constraint and coordination may influence the market power of airports. To achieve an optimized use of airport capacity and to avoid congestion on the premises of the two Cypriot airports, a slot allocation mechanism is in force in tandem with the IATA Worldwide Slot Guidelines and the best practices of the European Airport Coordinators' Association. Cyprus' airports are designated as Schedules Facilitated (Level 2) and therefore the government has appointed a schedules facilitator for the purpose of facilitating the flights of air carriers operating or intending to operate to / from Cyprus' airports. The funding of the schedules facilitation service is shared between the Cyprus-registered/based air carriers, the airport's operator and the state. Air carriers are required to submit their schedules or schedule changes using the standard format and within the set time frame, according to the procedures laid down by IATA manuals, Standard

Schedules Information Manual (SSIM) and Worldwide Slot Guidelines, as well as the provisions of the relevant EU Regulations[9]. However, as argued in the literature (see for example Pels and Verhoef, 2004), the slot-allocation mechanism at most EU airports is not based on economic principles. This means that the airlines may pay less than the marginal social cost and thus congestion costs are not paid and entry is deterred. An important implication of Pels and Verhoef (2004) links the explicit consideration of market power distortions with the effects on optimal congestion tolls. Moreover, they claim that airports are not needed to cooperate optimally to maximize joint welfare, but instead may engage in a form of tax competition in the pursuit of maximizing local rather than global welfare.

The Provision of Ground-Handling Services

The second sub-market that comprises the upstream market which has been clearly disentangled by the European Commission in its past decisions is the provision of ground-handling and all other related services such as ramp-handling, passenger handling, fuel and oil handling, aircraft maintenance, crew administration and ground administration and supervision (Starkie, 2002). A separate market for each different ground handling service would result in too narrow market definitions, because these services are usually offered in bundles. We therefore suggest the commonly used clustering into the five groups stated above, which follows from the practical combination of these services. Catering and refueling are separate markets, because these services require different facilities. Some of the other ground handling services are complementary, resulting in the three other clusters which are not substitutable (i.e., freight and mail handling, passenger handling and aircraft handling).

Regarding the geographical dimension of this sub-market, the Commission, in its previous decisions, has decided that this market is limited to specific airports.[10] However, the exact geographic market definition of these markets could be left open since, in geographic terms, these markets are not necessarily restricted to the ground of an airport, as the provision of some of these services may also be linked to the use of offices and rental space close to the airport. This is more likely to hold for some specific services (i.e., catering) compared to others (i.e., refueling). As a consequence, the geographic markets of the above relevant product markets are defined relatively broadly and may also include nearby locations beyond an airport's ground. In order to properly define the boundaries of the relevant geographic market a thorough economic analysis is needed along the lines of the aforementioned quantitative techniques (SSNIP test, Critical Loss Analysis, Cointegration and price correlation analysis). Moreover, the quantitative techniques can also be used in order to assess the degree of Hermes market power.

The Provision of other Associated (Bundled) Commercial Services

The third distinct relevant product market is the provision either directly or indirectly (i.e., via sub-contracts) of other associated (bundled) commercial activities including inter alia food services, sale of advertising space, parking, filming and photography, etc.). This is in line with the existing European case law.[11]

Regarding the relevant geographic market, the Commission, in its previous decisions, has decided that this market is restricted to a specific range among the distance (catchment area) of each airport.

Hermes is active in this relevant product market in an indirect way since it provides a wide range of commercial activities to other companies. These activities range from the provision of parking services to selling advertising space in the two airports (LCA and PFO). This gives Hermes the opportunity to hold a dominant position in this market since it constitutes the only provider of this bundle of services based on its BOT concession agreement with the Republic of Cyprus.

3.3. Downstream Market

Hermes has gained control over LCA and PFO, under a 25 year BOT concession agreement with the Republic of Cyprus. The concession agreement includes a plan to develop both airports through construction of a new passenger terminal building at each site and other associated infrastructure, including aprons and runway extensions. The construction contract is the biggest ever undertaken in the Republic,

[9]For further details see http://www.mcw.gov.cy/mcw/dca/dca.nsf/DMLairports_en/DMLairports_en?OpenDocument

[10]See Case M.6862 – VINCI/AEROPORTOS DE PORTUGAL, par. 19; Case M.7008 – AENA INTERNACIONAL/AXA PE/LLHERMESL, par. 12; and Case M.4164 –FERROVIAL/QUEBEC/GIC/BAA, par. 23.

[11]See Case M.6862 – VINCI/AEROPORTOS DE PORTUGAL; Case M.7008 – AENA INTERNACIONAL/ AXA PE /LLHERMESL; and Case M.4164 – FERROVIAL/QUEBEC/GIC/BAA.

with the BOT project being the first privatization of its kind in Cyprus.

The relevant downstream product market consists of activities for the access to the infrastructure for companies offering ground handling and other services. This relevant market and all its sub-segments are strongly linked with the (three) distinct upstream markets as shown below. The downstream relevant market consists of five distinct separate markets as follows:

a) Air transport of passengers

b) Access to the airport to offer ground handling

c) Maintenance, repair and overhaul

d) Freight transport

e) In-flight catering

Air Transport of Passengers

Point of Origin/Point of Destination City-Pairs

In the past, the Commission has defined the relevant market for scheduled passenger transport services on the basis of the point of origin and point of destination city-pair ("O&D") approach. Such market definition reflects the demand-side perspective whereby customers consider all possible alternatives of travelling from a city of origin to a city of destination, which they do not consider substitutable to a different city-pair. According to this approach, every O&D combination should be considered to be a separate market from the customers' point of view. [12]

Charter Flights vs. Scheduled Services

Charter air transport services, as opposed to scheduled services, are usually defined as air transport services that take place outside normal schedules, normally by a hiring arrangement with a particular customer (for example, a tour operator). Indeed, traditionally charter airlines did not sell tickets directly to passengers, but to tour operators who chartered the flight to include it in holiday packages.[13] In this context the flight (transport) is part of a "*package holiday"*, the price of which includes flights, accommodation and other services. However, in recent years, charter airlines sometimes sell "*dry seats"* to end customers in addition to the sales of seats to tour operators to be included in the "*package holidays"*.[14]

In past cases concerning the airline sector, the Commission has not considered charter flights as part of the same product market as scheduled flights.[15] In the present case which concerns Hermes, charter flights are relevant for all international markets. This is due to the fact that Cyprus is a typical European holiday destination and there are charter flights from most European cities to Larnaca and Pafos and at various times of the year, particularly in the summer season.

However, concerning the seats included in the "*package holiday*", we argue that these seats cannot be considered as substitutable for seats on scheduled flights as most passengers purchase seats only and not package holidays. By definition, a package holiday obliges passengers to acquire a number of complementary products such as hotel stay, transportation at destination, meals etc. in which only a reduced subset of passengers may have an interest. As a result a SSNIP of 5% or 10% in the price of scheduled flights is unlikely to lead a sufficient number of passengers to purchase a package holiday, at least to an extent such that to render the SSNIP unprofitable for a hypothetical monopolist controlling all scheduled flights.

Furthermore, it should be noted that charter airlines active in most international routes do not operate throughout the year and therefore, as concerns these destinations, substitutability between scheduled operations and "*dry seats*" on the charter flights would in any case be limited to summer season. For the purpose of this report, the question of whether charter airlines are to be included in the same relevant market as scheduled services can be left open. Indeed, the relevance of charter flights for the purposes of our report which concerns Herms is limited to certain international routes.

Time Sensitive and Non-Time Sensitive Passengers

In previous merger cases concerning the airline industry, the Commission has noticed that a distinction may be drawn between two main groups of passengers: (a) non-price sensitive passengers which

[12]See among others Case No COMP/M.5830 – *Olympic/Aegean Airlines*.
[13]Case No COMP/M.4439 – *Ryanair/Aer Lingus*, OJ C 47, 20.02.2008, p. 9, par. 297.
[14]Case No COMP/M.5830 – *Olympic/Aegean Airlines*.
[15]Case No COMP/M.4439 – *Ryanair/Aer Lingus*, OJ C 47, 20.02.2008 and p. 9, Case No COMP/M.5141 – *KLM/Martinair*, OJ C 51, 04.03.2009, p. 4.

ascribe, inter alia, a relatively high value to flexibility with respect to time and date of departure, and (b) more price sensitive passengers willing to trade off flexibility or premium services for a discounted ticket. Traditionally these two groups of passengers have been labelled as time sensitive and non-time sensitive passengers, respectively.

The time sensitive passengers, who tend to travel for business purposes, are inclined to book close to departure and require significant flexibility with their tickets (e.g. cost-free cancellation and modification of time of departure), tend to pay higher prices for this flexibility and require a higher number of frequencies on a given O&D pair. On the other hand, the non-time sensitive passengers who travel predominantly for leisure purposes or to visit friends and relatives, book a long time in advance and do not require flexibility with their booking. The Commission has itself recently observed that the "*formerly clear distinction between time sensitive and non-time sensitive passengers has become more and more blurred in recent years*"[16], not least because the price sensitivity of business customers has increased over time due to new possibilities to book cheaper flights with low-frills carriers. However, the significance of convenience generally, and time sensitivity in particular, has declined in importance as a factor which influence passengers' purchase decisions. Indeed, and as pointed by the Commission in its recent decisions, business passengers, are increasingly – and, given the current economic environment, very – price sensitive.[17]

In making their purchase decisions, passengers take into consideration a variety of factors, such as price, service, convenience and travel time, rather than making decisions based on "*time sensitivity*" alone. Companies now have service contracts with multiple airlines, thereby maximizing flexibility with regard to travel options. Similarly, companies are increasingly seeking to reduce travel costs by asking employees to book flights in advance and to find the least expensive seats (regardless of the type of service or the identity of the airline providing the service), and by limiting business class travel to senior executives.

As a result of these trends, even though Cypriot air carriers have business class cabins, they no longer consider that there is any basis, to distinguish separate relevant product markets for time sensitive and non-time sensitive passengers. The vast majority of passengers travelling in business class are very price sensitive and in most cases must have regard to the cheapest fare available and will often travel "*behind the curtain*" as a result. Restricted economy class fares thus discipline all fares including business class fares.

Substitutability of Direct and Indirect Flights

The Commission has previously analysed whether indirect flights could be substitutable with direct flights and has concluded that the level of substitutability largely depends on the duration of the flight.[18] The Commission has indicated that, as a general rule, the longer the flight, the higher the likelihood that indirect flights will exert a competitive constraint on direct flights.[19]

With respect to the short-haul routes, the Commission has previously considered that indirect flights generally do not provide a competitive constraint on direct flights, absent exceptional circumstances (such as when the direct flight does not allow for a one-day return trip which is convenient for business travellers in particular).[20]

The Commission has sometimes distinguished between short-haul routes of less than three hours and short-haul routes of more than three hours (the latter being also referred to as mid-haul routes). The Commission has previously decided that for short-haul routes of more than three hours direct flights normally do not allow for a one-day return trip so that indirect flights may be able to compete with direct flights and therefore belong to the same market.[21] In the case of Hermes, many of the international routes operated by air carriers are short-haul routes of more than three hours and the extent of substitutability from indirect flights is analysed under each route below.

With respect to long-haul routes, which are routes covering a distance over 5.000 km, the Commission has previously found that indirect flights constitute a

[16]This trend was also confirmed by the market investigation in the *Ryanair/Aer Lingus* case. See, COMP/M.4439 – *Ryanair/Aer Lingus*, Commission decision of 27 June 2007, par. 316.
[17]COMP/M.4439 – *Ryanair/Aer Lingus*, Commission decision of 27 June 2007.

[18]COMP/M.5364 – *Iberia/Vueling/Clickair*, Commission decision of 9 January 2009; M.5335 – *Lufthansa/SN Holding*, Commission decision of 22 June 2009, par. 36.
[19]COMP/M.5440 – *Lufthansa/Austrian Airlines*, Commission decision of 28 August 2009, par 24.
[20]COMP/M.2041 – *United/US Airways*, Commission decision of 12 January 2001, par. 17; and COMP/M.2672 – *SAS/Spanair,* Commission decision of 5 March 2002, par. 14.
[21]COMP/M.5335 – *Lufthansa/SN Airholdings*, Commission decision of 22 June 2009, par. 37.

competitive alternative to non-stop services under certain conditions, in particular when (a) they are marketed as connecting flights on the O&D pair in the computer reservation systems, (b) they operate on a daily basis and (c) they only result in a limited increase in travelling time (a maximum of 150 minutes).[22] As none of the airliners in both airports in Cyprus (LCA and PFO) operate long-haul routes, this is not analysed further.

In light of the above, we argue that time sensitive passengers and non-time sensitive passengers constitute two distinguishable groups of passengers. For the purposes of this report, time sensitive passengers can be approximated by the type of the ticket purchased (i.e., flexible tickets), by the purpose of travel (i.e., business), by the time of booking (i.e., close to departure), or by a combination of these factors, subject to the availability of reliable data. Nonetheless, it can be left open whether time sensitive and non-time sensitive passengers belong to two separate markets or whether one market encompassing all passengers should be defined, in as much as the competitive assessment remains the same irrespective of the precise market definition.

Intermodal Transport

The Commission has previously considered air transport services when defining the relevant O&D markets, but also other transport alternatives to the extent that they are substitutable to a flight (intermodal competition).[23] This has been considered in cases where alternative modes of transport (i.e., ferries, trains, etc.) on the respective O&D market can be considered comparable in terms of price, quality and travel time and can therefore be considered substitutes by customers. However, this is not present in our case.

Ground Handling

The Commission has considered the relevant market for the provision of ground handling services in several previous cases. Moreover, the Commission has previously considered whether the relevant product market for ground handling could be divided into several distinct segments, either on the basis of the IATA Standard Ground handling Agreement or the Ground handling Directive.[24] For example, the Commission stated that these "*services range from passenger and baggage registration and handling to leading the aircraft on the ground as well cleaning and refuelling aircraft*".[25] However, the Commission has consistently left open the precise scope of the relevant product market for ground handling services.[26]

Maintenance, Repair and Overhaul

The Commission's decisional practice indicates that the Maintenance, Repair and Overhaul (MRO) services may be subdivided into four separate segments: (i) line maintenance (ii) heavy maintenance (iii) engine maintenance and (iv) components maintenance.[27] These segments may be further sub-segmented according to the type of aircraft and equipment. The Commission has also considered whether the segment for heavy maintenance could be further differentiated by type of checks (A, B, C, D).[28]

In terms of the geographic dimension, the Commission has indicated that the market for MRO services is in general worldwide or, at least, EEA-wide. According to the Commission's decisional practice, only line maintenance markets might be regional (e.g. EEA).[29]

Air Cargo Transport

Air cargo is offered and sold by airlines and integrators primarily to air freight forwarders. There are four types of air cargo carriers: (i) cargo airlines (i.e., airlines with dedicated freighter airplanes); (ii) passenger airlines with "belly space" cargo capacity on their passenger flights, such as Aegean and Cyprus Airways[30]; (iii) combination airlines (i.e., airlines with both dedicated freighter airplanes and "*belly space*" cargo capacity, such as British Airways, Air France-

[22]COMP/M.5440 – *Lufthansa/Austrian Airlines*, Commission decision of 28 August 2009, par. 27; COMP/M.2041 – *United/US Airways,* Commission decision of 12 January 2001, par. 15.

[23]COMP/M.4439 – *RyanAir/Aer Lingus,* Commission decision of 27 June 2007, par. 292 et seq; COMP/M.3940 – *Lufthansa/Eurowings*, Commission decision of 22 December 2005, par. 11and 51; COMP/M.3770 – *Lufthansa/Swiss,* Commission decision of 4 July 2005, par. 12, 56; COMP/M.3280 – *Air France/KLM*, Commission decision of 11 February 2004, par. 9 and 71.

[24]COMP/M.3382 – *Iberia/Cobra/Instalaciones/Serpista JV*, Commission decision of 5 May 2004, par. 13.

[25]COMP/M.2254 – *Aviapartner/Maersk/Novia*, Commission decision of 11 January 2001, par. 15.

[26]COMP/M.5440 – *Lufthansa/Austrian Airlines*, par. 43/44; COMP/M.5364 – *Iberia/Vueling/Clickair*, par. 297; COMP/M.4164 – *Ferrovial/Quebec/GIC/BAA*, par. 14; COMP/M.3382 – *Iberia/Cobra/Serpista JV*, par. 13; COMP/M.2254 – *Aviapartner/Maersk/Novia*, par. 60; COMP/M.2008 – *AOM/Air Liberte/Air Littoral*; COMP/M.1387 – *Lufthansa/Menzies/Sigma at Manchester*, par. 11; COMP/M.1124 – *Maersk Air/LFV Holding*, par. 17 et seq.; COMP/M.1035 – *Hochtief/Aer Rianta/Dusseldorf Airport*, par. 11; and COMP/M.786 – *Birmingham International Airport*, par. 14 et seq.

[27]COMP/M.5440 – *Lufthansa/Austrian Airlines*, par. 37; COMP/M.5403 – *Lufthansa/BMI*, par. 21; COMP/M.3280 – *Air France/KLM*, par. 39; COMP/JV.19 – *KLM/Alitalia*.

[28]COMP/M.3374 – SR Technics/FLS Aerospace, par. 9.

[29]COMP/JV.19 – *KLM/Alitalia*; COMP/M.3280 – *Air France/KLM*, par. 40.

[30]Cyprus Airways Public Limited entered into voluntary liquidation on 30th January 2015.

KLM and Lufthansa); and (iv) integrators with a dedicated freighter airplane network for both their integrated express delivery services and for general cargo services, such as DHL. All of these air cargo carriers operate in the same relevant product market for air cargo transport.The Commission has previously defined the relevant market for intra-European cargo transport as European-wide, comprising both air and alternative modes of transport, such as road and train transport, as well as, to a limited extent, sea freight.[31]

Where at least either the point of origin or the point of destination is located outside Europe (intercontinental transport), the Commission defines the relevant market based on the local transport infrastructure: where the local infrastructure is adequate to allow for onward connections, the catchment area broadly corresponds to continent; where local infrastructure is not adequate, the catchment area corresponds to the country of origin/destination. Accordingly, with the exception of North America routes (which are all part of one and the same market Europe-North America), the Commission has defined the relevant geographic markets for intercontinental air cargo transport as the route between Europe and the country of destination (and vice-versa), in particular with respect to Asia, Africa and the Middle East.[32]

The Commission has concluded further that air cargo transport markets have to be assessed on a unidirectional basis (i.e., Europe to North America is a different relevant market from North America to Europe), given the differences in demand on each end of the route. In its previous decisions, the Commission has left open the question on whether the market for air cargo transport should be further segmented based on the nature of the cargo.[33] We agree with this argument.

In-Flight Catering

The Commission has previously found that the in-flight catering market comprises all in-flight catering services, including the entire range of meals (economy/business class, hot/cold meals and snacks) for all types of flights (short-haul/long-haul), as well as other ancillary services. In previous cases, the Commission has considered whether the relevant product market for in-flight catering should be further segmented into traditional catering services, but has ultimately left open the precise scope of the relevant product market for this sector.[34]

The relevant geographic market for in-flight catering has been considered to be limited to the relevant airport or airport region.[35] Therefore, in our case, we have two separate markets covering the LCA and PFO respectively.

4. MARKET STRUCTURE AND POWER OF AIRLINES

Air transport is the main mode of transport to and from Cyprus carrying almost the entire passenger traffic. In 2011, apart from Cyprus Airways, 69 foreign airlines operated scheduled flights to and from Cyprus. Charter flights were operated by 12 foreign airlines. Peak air traffic occurs during the summer periods (April - October). The table below shows the passenger and air traffic to and from Cyprus for the last available period (2007 – 2011) at each airport. Transport of cargo through the airports is relatively small and is limited to approximately 38000 metric tons per year mainly at Larnaka airport.

It is expected that in the coming years passenger traffic will show an average annual increase of 2% - 3%. Traffic growth depends on competition in tourism, the international economy as well as other external factors such as the political stability in the region. It is noteworthy that in 2011, 77% of air traffic at Larnaka airport was from European Union countries, while this percentage rose to 85% for Pafos airport. The percentage of charter flights is at 25% for Larnaka airport and 49% for Pafos airport (year 2011). United Kingdom is the primary market for Cyprus in passenger traffic with a rate of 37.26% and is followed by the markets of Greece at 15.71%, Russia at 9.45% and Germany at 5.34%.

Based on the above analysis, it is evident that Hermes has a dominant position in two out of three relevant upstream product markets (i.e., provision of airport infrastructure services and provision of other

[31]COMP/M.5440 – *Lufthansa/Austrian Airlines*, Commission decision of 28 August 2009, par. 29; and COMP/M.3280 – *Air France/KLM*, Commission decision 11 February 2004, par. 36.
[32]COMP/M.5440 – *Lufthansa/Austrian Airlines*, Commission decision of 28 August 2009, paragraph 30; COMP/M.5335 – *Lufthansa/SN Airholding*, Commission decision of 22 June 2009, paragraph 398; COMP/M.5403 – *Lufthansa/BMI*, Commission decision of 15 May 2009, paragraph 18; and COMP/M.5181 – *Delta/Northwest Airlines*, Commission decision of 6 August 2008.
[33]Idem.
[34]COMP/M.5440 – *Lufthansa/Austrian Airlines*, Commission decision of 28 August 2009, paragraph 40; COMP/M.4170 – *Lufthansa Service Holding / Gate Gourmet Switzerland*, Commission decision of 19 June 2006, par. 17.
[35]Idem, par. 42 and 22/23, respectively.

Table 2: Characteristics of Cypriot Airports

Year	Passengers		Air traffic	
	LCA	PFO	LCA	PFO
2007	5.387.724	1.819.182	47.755	14.301
2008	5.482.567	1.764.660	50.483	12.563
2009	5.258.716	1.640.562	46.416	12.676
2010	5.475.905	1.646.937	49.022	12.802
2011	5.636.426	1.786.947	50.329	11.951

Source: Department of Civil Aviation.

commercial bundled activities) since it's the only company which provides these services. However, within a given relevant market, the degree of market power of each incumbent airport operator depends on the ability of its customers (i.e., passengers, cargo shippers, airlines and, to a lesser extent, retailers) to switch between airports as a result of the existence of countervailing buyer power (Borenstein, 1990; Zhang and Zhang, 2006).

Countervailing buyer power can be examined within two frameworks: a) monopsony theory and b) bargaining theory. Monopsony theory assumes that there is a powerful buyer in a downstream market that can withhold demand for an input, pushing down the price it faces, and making its inputs cheaper than if it were competing with other buyers at this level in the value chain.[36] On the other hand, bargaining theory assumes that a downstream company can achieve lower input prices through the threat of purchasing less.

Considering the above, countervailing buyer power appears to impose a strong competitive constraint on airports especially when low cost airliners such as Ryanair and EasyJet are present, as in the case of Hermes. On the one hand, airlines do not only open and close routes but, as part of their wider business model, establish hubs and bases; by doing so, they commit to direct a large level of traffic into a chosen airport. This intensifies airport competition since each airport has to be ready to defend its existing base and hub activities while, at the same time, trying to win additional airline capacity. On the other hand, the enhanced choice available for European leisure travellers has likely intensified competition among airports close to holiday resorts in different countries. For instance, a Greek or a Cypriot airport cannot increase its charges since holidaymakers and airlines can promptly switch their operations in Italy or Spain. It is worth reiterating that the demand for airport infrastructure or services is a derived demand. A similar switching threat characterizes the market for short city breaks. It must be stressed though that the empirical examination of the existence of countervailing buyer power falls outside the scope of this report.

The first study that has tackled some of these issues in a formal theoretical model is Haskel *et al*. (2013) who build a model of upstream airports and downstream airlines with varying countervailing power and pricing structures. The authors suggest, among other results, that an increase in concentration in the airport market raises aeronautical charges and that higher countervailing power of airlines puts pressure on them. In the case of Cyprus, most of the airlines operating in the two airports (LCA and PFO), and especially Ryanair, British Airways, Lufthansa and Easyjet, are able to negotiate their contracts with the airport operator (Hermes) potentially diluting any market power that Hermes exerts in the provision of airport infrastructure services as defined above. It is worth mentioning that low cost carriers with significant market shares in the European airports such as Ryanair have been accused in the past for possible State aid.[37] With regard to Ryanair and other low cost airlines we observe that their switching costs might be lower than other types of airlines (i.e., fill service airlines) as they tend to invest less and have fewer staff based at airports.[38]

[36]Monopsony power is the mirror image of monopoly power.

[37]The European Commission announced on 27 July 2015 that it would take France to court for its failure to recover illegal state aid given to Ryanair and Transavia. Ryanair was ordered to repay €6.4 million of aid it received for its base at Nîmes airport, €2.4 million for Pau-Pyrénées airport and €870,000 for Angoulême, where the company has since ceased its operations. This happened because, through various contractual and marketing arrangements with the airports, the two airlines paid less than the additional costs linked to their presence in the airport.

[38]See, CAA, Airport market power assessment – annex (Feb. 2012), par. 4.14 (available at https://www.caa.co.uk/WorkArea/DownloadAsset.aspx?id=4294972579).

In addition, given the fact that Cyprus is a typical European holiday destination and there are charter flights from most European cities to Larnaca and Pafos and at various times of the year, particularly in the summer season.[39] This finding reveals that the majority of Cyprus passengers are tourists, characterised by a high degree of substitutability (i.e., elastic demand) towards price variations (airlines tickets) since they are prone to switch to alternative holiday destinations. This may lower the switching cost of the carriers that have countervailing buyer power. Evidence on the switching costs and historical customer/airlines actual switching or threats to switch are considered important parts of a systematic market power assessment. The easier it is for airlines to lessen the use of an airport (i.e., route churn, frequency of flights or routes of an airline to difference airports), the less market power an airport is likely to possess.[40] However, we underline the fact that the absence of switching history or patterns may imply that competition between airports has led to a competitive pricing, meaning that airlines only need to use the threat of switching to discipline airports to deliver appropriate price and service level. Moreover, given the fact Cyprus is mainly a holiday destination, there is a significant tourist activity mostly covered by charter flights. This gives the opportunity to airline companies to strongly negotiate with Hermes regarding the level of airport charges placing a significant competitive constraint in the submarket related to the provision of airport infrastructure services.

In addition to the above, a thorough economic analysis is needed concerning the level of airport capacity of the two Cypriot airports as well as the potentially competitive airports (i.e., availability of apron and runaway).[41] This is justified by the fact that if unused airport capacity exists, the exercise of market power becomes less prominent. Moreover, if the potential competitors of the two airports in Cyprus have no extra capacity, then switching of airlines to these competitive airports may not be feasible.[42]

Lastly, we argue that evidence on the reaction of Hermes to the negotiations with airlines could also provide useful information with regard to the strength of its bargaining position vis–à–vis airlines, as well as whether it considers other airports in the same catchment area and/or relevant geographic market.

5. CONCLUSIONS

Market definition exercise usually proceeds along two dimensions: a) a product market definition dimension and b) a geographical market definition dimension. Product and geographic market definition should, in principle, be considered together. However, it is common practice as a practical matter to examine first product market substitution on the demand and supply sides and then to go on to consider geographic market substitution, again on the demand and supply sides. In each case, the market definition process usually begins with a single candidate product, or occasionally with a collection of them. When we define the relevant competition policy market, we are attempting to define the set of products that impose constraints on each other's pricing or other dimension of competition (i.e quality, service, innovation). A firm whose product faces close competing substitutes will have only a limited ability to raise its price above that of close substitutes and competition between firms will ensure that its price is driven down close to its cost. Market definition for competition policy purposes is directly related to the concept of SMP.

Our analysis was strictly based on the qualitative assessment of the airport industry and the relevant case law jurisdiction either at a national or a European perspective. This was dictated by data availability since the absence of price level information (i.e., fees charged by Hermes per main commercial activity, fees charged by other airport operators in Europe, etc.) prevented us from using the appropriate quantitative tools such as the SSNIP test or the Critical Loss Analysis. Our qualitative analysis identified three relevant product markets delineated in this report (access to upstream market, upstream and

[39]This means that the holidaymakers seem not to have a strong preference with regard to their final destination.

[40]A complete assessment requires data on the frequencies of routes at potentially competitive airports.

[41]The assessment of capacity constraints at an airport is an essential part of the analysis of market power. This is due to the fact that the lack of sufficient unexploited capacity can constrain the ability of an airport to attract new business or steal business from other competitive airports. On the other hand, if severe capacity constraint exists, then this can reduce the adverse effects of airlines switching away from an airport, which theoretically can mitigate an airport's incentives to deliver competitive prices and services quality levels. The threat to switch if capacity constraints exist to other competitive airports could be characterized as cheap talk, and thus have no impact on the behavior of an airport.

[42]See, CAA, Airport market power assessment – annex (Feb. 2012), par. 3.4 and 3.5 and Competition Commission (UK), BAA airports market investigation (Mar. 2009), Annex 4.2 (available at http://webarchive.nationalarchives.gov.uk/20140402141250/http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non-inquiry/rep_pub/reports/2009/fulltext/545_4_2.pdf).

downstream market) where Hermes operates either directly or indirectly with sub-contracts. Hermes is active in the relevant product market for the granting of airport management and operation concessions through tenders (access to upstream market). However, it does not hold a dominant position in this relevant product market since the latter is at least EU-wide.

Hermes is mainly active in the provision of airport infrastructure services. These "*aeronautical*" activities comprise the upstream relevant product market which is further divided to the following three sub segments: a) Provision of airport infrastructure services, b) Provision of ground-handling and c) Provision of other associated (bundled) commercial services. The relevant downstream product market consists of activities for the access to the infrastructure for companies offering ground handling and other services. This relevant market and all its sub-segments are strongly linked with the upstream market.

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