

# Agenda

Advancing economics in business

## Where is the market? Air cargo and the first principles of market definition

In prosecuting a price-fixing agreement among airlines (one of several such cases around the world), the New Zealand Commerce Commission faced a jurisdictional challenge centred around whether there is a market for inbound air cargo services ‘in New Zealand’. Dr Gunnar Niels, Oxera Director, explains why, after a trial involving five economic experts in a ‘hot tub’ debating the geographic aspects of market definition, the High Court ruled in favour of the Commission

On August 24th 2011, the High Court of New Zealand issued a judgment in relation to the New Zealand Commerce Commission’s prosecution of several airlines for illegal price-fixing of air cargo services.<sup>1</sup> Such price-fixing agreements (mostly relating to fuel and security surcharges) have been investigated in jurisdictions around the world, including the USA, Canada, the EU, South Korea, South Africa and Australia.

Unlike the EU and its Member States, New Zealand has a prosecutorial system, which means that the Commerce Commission must bring cases before the court. In this case, a two-stage trial process was agreed. The first stage—which culminated in the High Court judgment—focused on whether there is a market ‘in New Zealand’ for inbound air cargo services. The Commerce Act 1986 in essence requires there to be a market in New Zealand for the Commission to have jurisdiction. This boiled down to a question of market definition. The second stage of the process is ongoing.

### From O to D

Most air cargo is transported in the belly-hold of passenger planes. The airlines agreed with the Commission that, for cargo services from an origin (O) airport in



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New Zealand to an overseas destination (D) airport, there is a market ‘in New Zealand’. However, they argued that, for services to New Zealand, the market is not located in New Zealand, but rather at the O airport (eg, London Heathrow, Hong Kong or Sydney). Most air cargo services are arranged through freight forwarders at the airport of origin, and negotiated between these freight forwarders and the airlines at that airport. The airlines’ experts argued that the market is located at the O airport because that is where supply and demand meet, and prices are formed.

### Why the High Court of New Zealand judgment has broad relevance

- Example of an air cargo cartel: the case is one of several competition investigations worldwide into the fixing by airlines of fuel and surcharges for air cargo services.
- Importance of market definition: at a time when competition authorities increasingly skip market definition and assess competitive effects directly (especially in merger inquiries), this case centred almost entirely around the delineation of the relevant market.
- Guidance on market definition: the case revisited some of the first principles of market definition, including the product and geographic dimensions of the market, and supply-side substitution, and highlighted shortcomings in existing guidelines in the USA and elsewhere.
- Expert evidence in court: five economic experts took part in a ‘hot tub’ process in the courtroom, presenting their evidence, being cross-examined by counsel, answering questions from the Court, and commenting on each other’s analyses. The judgment discusses the economic evidence in great detail.

The Court considered this view to be too narrow because the demand of freight forwarders at the O airport is a derived demand from importers in New Zealand. In particular:

To limit the market to the geographic market available to freight forwarders at origin is unduly restrictive and ignores certain practical realities. It ignores the reality that those who ultimately dictate the terms of the transaction, who are often importers in New Zealand, ultimately pay for the services, and have their own options should they be subjected to unacceptable competitive practices by the airlines, which they can exercise to the detriment of the airlines. (para 183)

The economic arguments on derived demand ultimately persuaded the Court to conclude that there is a market in New Zealand, hence finding in favour of the Commerce Commission. I describe these arguments below. First, however, I discuss another set of economic principles that were put forward in the case—how to determine the product and geographic dimensions of the relevant market where transport services are concerned.<sup>2</sup>

### Product or geographic dimension?

A relevant market has several dimensions, the main ones being the product and the geography. Others include: by customer (different groups of customers may have different abilities to switch); by distribution channel (a beer bottle can be in a different market depending on whether it is sold in a bar or a supermarket); by time of sale or consumption (the same flight can be in different markets for peak and off-peak times); and by vertical layer of the supply chain. These other dimensions are often treated as part of the product dimension of the relevant market.

In transport markets there is the curiosity that, by definition, the product itself has a geographic aspect to it. In most cases, it would be a matter of semantics whether something is categorised under the heading 'product dimension' or 'geographic dimension'. In the case at hand, however, it was important to be explicit about the distinction between the product and geographic dimensions, and how the two relate to each other.

A principled approach to market definition would start with the product being offered: here, a transport service from O to D. The product offered by the airlines is air cargo services from, for example, Sydney (the O airport) to Auckland (the D airport). This therefore represents the product dimension of the market. Each OD service that is relevant to the investigation forms a starting (focal) point for a market definition exercise.

There are therefore multiple relevant markets in this case (in principle, one for every inbound OD route serviced by the defendant airlines), and for each market the same principles apply.

Figure 1 below provides a stylised illustration of the product dimension. Within this dimension, one market definition question is whether air cargo services from Sydney to Auckland face a competitive constraint from, for example, sea cargo services from Sydney to Auckland. (The answer will be 'no' for many products, but the point explains the conceptual approach to market definition.)

Having determined the product dimension of the market, the approach turns to the geographic dimension. This concerns the geographic extent of the O end of the service and that of the D end. If the focal product for which the market is being defined is air cargo services from London Heathrow to Auckland, the geographic market analysis asks which other airports compete with London Heathrow and Auckland as O or D airports.

At the O end, the question is whether London Heathrow faces a competitive constraint from, say, London Gatwick, London Stansted or Birmingham International. At the D end, the answer may well be that Auckland does not face a significant competitive constraint from other airports (with the possible exception of Christchurch). However, the relevant point here is that market definition requires an assessment of the geographic dimension of the product market at *both* ends of the service.

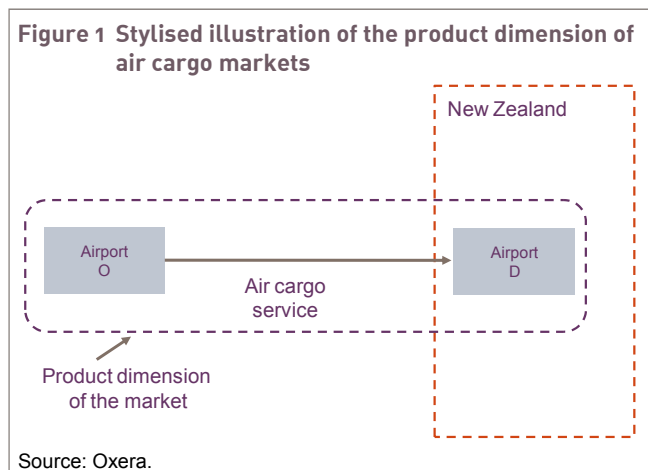
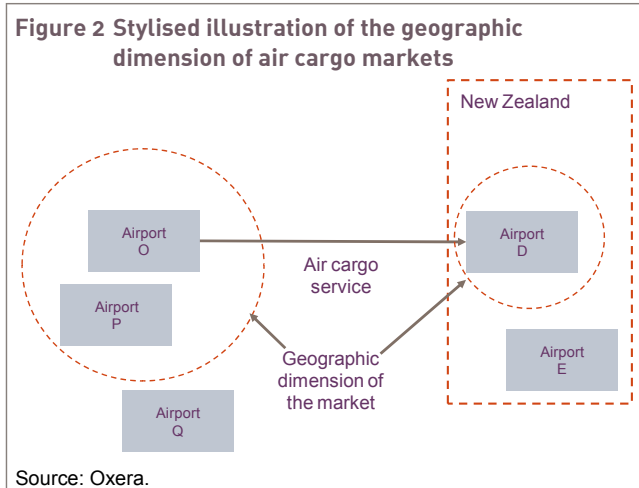


Figure 2 below provides a stylised illustration. The product that forms the starting point for the analysis is the air cargo service from O to D. The geographic market around Airport O contains Airport P (a close substitute) but not Airport Q (a more remote airport). The geographic market around Airport D contains no other airports (Airport E is too remote to provide a



significant competitive constraint). Services between Airports P and D are included in the market for the focal OD service. In this way, the relevant market (with its product and geographic dimensions) has been identified.

The approach described above implies that all the inbound OD flights represent relevant markets that are, in part, 'in New Zealand', given that the D airport of this product is in New Zealand (see Figure 1).

Limiting the market to the O end of the service is not in line with the hypothetical monopolist test (which asks whether it is profitable for a monopolist to impose a small but significant increase in price, or SSNIP—if yes, the focal product is a relevant market). If a hypothetical monopolist on the London Heathrow–Auckland service imposed a SSNIP, shippers would consider the London Gatwick–Auckland service as an alternative option at the O end. Faced with a SSNIP on the Heathrow–Auckland route, shippers would equally consider alternative D airports as a substitute for Auckland. Any such substitution would also make the SSNIP less profitable for the hypothetical Heathrow–Auckland monopolist. While Auckland may, in practice, turn out to have fewer close substitutes than Heathrow (which has several other large airports nearby), the relevant point here is that such an analysis of the geographic scope of the market must logically be made at both ends of the route.

The airline experts agreed that the SSNIP test applies as described above, but they considered it to be a test for the product dimension of the market, not the geographic dimension. I considered that to be inconsistent. Having defined what they refer to as the product market, the SSNIP analysis that the airline experts then apply to identify the geographic market is exactly the same as that for the product market, except that they apply it to the O end of the market only. As explained above, this is an artificial way of excluding the destination points of air cargo services from any

consideration of whether there is a market 'in New Zealand'.

One of the airline experts used the example of an air cargo service from Shanghai to Auckland, and considered the geographic market to be the smallest number of airports in and around Shanghai for which a hypothetical monopolist would profitably impose a SSNIP. However, the price that is increased by this hypothetical monopolist is that for the relevant air cargo service from O to D, which the monopolist controls. It is exactly the same monopolist as that described above. One has to apply the SSNIP test to the relevant focal product, which is air cargo services from O to D, not air cargo services offered at O. The logical implication is that, again, the profitability of this price increase depends on competitive constraints around *both* the O and the D airports. Focusing solely on competitive constraints around the O airport gives only half the answer on market definition.<sup>3</sup>

## Derived demand from customers in New Zealand

Freight forwarders at the O airports do not purchase air cargo services for their own use—their demand is derived from that of the importers (often via freight forwarders at the D airports) and exporters. In the most common types of arrangement for air transport ('ex works' and free-on-board arrangements), the importer in New Zealand ultimately pays the air cargo service charges. Transactions where it is the importer in New Zealand that initiates the shipment represent a significant part of some of the major freight forwarders' businesses.

The fact that the demand for air cargo services by freight forwarders at the O airport is a derived demand has consequences for how the principles of the hypothetical monopolist test for market definition are applied.

Assume that there is a hypothetical monopolist on flights between Sydney and Auckland. When setting prices, the monopolist will be guided not only by the reactions of the freight forwarders in Sydney; other commercial considerations come into play, not least the possible reaction of importers in New Zealand. If these importers reduce their total demand in response to the air cargo price increase (eg, some importers decide to make fewer shipments, while others switch to sea transport), this will also have an impact on the profitability of that price increase.

In this regard, it is relevant to note that, according to the facts of the case, the air cargo rates constitute a significant proportion of the price charged by freight forwarders to their customers (sometimes around 60–90%). This would mean that, say, a 10% price

increase by the hypothetical air cargo monopolist on an OD route would translate into a noticeable 6–9% price increase to customers in New Zealand (assuming that the freight forwarders pass the increase on in full). If the importers and freight forwarders in New Zealand then reduce their total demand in response to that increase (eg, some importers make fewer shipments, switch to another route, or switch to sea transport), this will have an impact on the hypothetical monopolist's profits.

The Court accepted this reasoning:

Therefore, we prefer the evidence of the Commission's experts. We are satisfied that a hypothetical monopolist in considering the consequences of a SSNIP would look beyond the port of origin to where the price impact will affect the demand for its air cargo service. That place is where the ultimate person who pays for the goods resides, either the place of the exporter or the place of the importer. (para 180)

## Refinements to existing guidelines

The importance of derived demand in the Court's conclusion on market definition does raise questions about two principles of market definition set out in existing guidelines in the USA and elsewhere. These relate to the effect of the SSNIP on other prices, and to the relevance of the location of customers.

First, the standard definition of the hypothetical monopolist test holds, in that, when the monopolist imposes a SSNIP, the prices of all other goods remain unchanged.<sup>4</sup> The main reason for this is to identify the direct effects of the price increase on the focal product and keep the analysis tractable (other products outside the control of the monopolist could adjust their prices in response to the SSNIP, but this would be complex to analyse).

The Court asked the pertinent question of whether this hypothetical monopolist framework allows for the SSNIP in air cargo to be passed on in downstream prices (ie, the freight forwarder charges), or whether those prices should remain constant. The answer is that the hypothetical monopolist framework allows for sufficient flexibility to ask the right question. Testing the effects of an air cargo SSNIP without changing freight forwarder charges may be an interesting theoretical exercise, but it does not shed much light on the substitution behaviour that occurs in reality, which also depends on the importers to which the SSNIP is passed on. The Court agreed:

In a case alleging price fixing, then, it is important that market definition should be

conducted with an eye to capturing the point at which quantities of goods and services transacted will be affected by a price increase. In particular, if a price fix occurs in a market for a good that is purchased by middlemen who simply turn around and sell it on to consumers, then the anti-competitive effect of the price fix really occurs in the next market downstream, to the extent that the price increase faced by the middlemen is simply passed through to their customers. (para 161)

This is not to say that derived demand should influence market definition in all competition cases. In this particular case, the factual evidence showed that the original demand by the importers in New Zealand has a sufficiently close and significant impact on the derived demand by freight forwarders at the O airports, such that the airlines take this original demand into account (among other factors) when making business decisions and setting terms and conditions of supply. The Court thus set a new relevant standard for market definition across vertical layers of the supply chain:

The point at which a SSNIP ceases to have significant impact will as a matter of practice be discernible. That point will be the boundary of the market. (para 181)

Second, the US Merger Guidelines emphasise that the geographic dimension of the market depends primarily on the location of suppliers (the location of customers is relevant only where customers in certain locations can be discriminated against).<sup>5</sup> The airline experts relied on this to support their conclusion that the market is located at the O airport. I considered this to be too narrow a view, as did the Court.

The locations of both suppliers and customers matter when assessing the geographic dimension of the market (regardless of whether there is price discrimination). Indeed, one of the airline experts gave an example where the assessment of the geographic dimension actually started from the customer location, not the supplier location: the expert set the geographic boundary of the market for building materials from quarries with reference to a 500-mile radius around a city—ie, around the location of customers (the builders). Defining geographic markets based on circles or isochrones around customer locations is common practice and fits within the general framework of market definition.

## In the hot tub

Whether and how courts can interpret complex economic evidence is a big theme in jurisdictions across the world, especially as private (as opposed to public) enforcement of competition law is on the rise.

The air cargo case before the High Court of New Zealand demonstrates how economic evidence can be dealt with effectively.

The Commission and the airlines first went through an extensive process of agreeing on the relevant facts of the case. This resulted in an agreed statement of facts of 131 pages and various appendices. In the words of the Court:

The level of agreement meant that it was not necessary for the parties to call any evidence, save for expert economic evidence. (para 4)

Having produced their reports, the experts gave evidence in court over five days in what is known in New Zealand as the ‘hot tub process’. Alongside the judge sat a lay member of the Court who is also a professor of economics.<sup>6</sup> Each expert was cross-examined by counsel, answered questions from the Court, and commented on the others’ evidence. This allowed for each of the economic arguments

and principles to be explored and weighed with the appropriate level of detail.

In the end, the judgment contains a detailed discussion of the economic principles, and the Court was able to form its own conclusions, demonstrating that economic evidence can be decisive in competition cases, and is not necessarily too complex for courts to handle.

## Gunnar Niels

Gunnar Niels joined Oxera in 1999 from the Mexican Competition Commission. He says: ‘Being cross-examined in court is one of the biggest professional challenges an economist can face. The “hot tub” process in this New Zealand High Court case was quite an experience.’

30 years ago, Gunnar cheered on Paolo Rossi and Italy to win the football World Cup (Holland having failed to qualify).

<sup>1</sup> *Commerce Commission v Air New Zealand Limited and others*, CIV-2008-404-008352, August 24th 2011. The airlines involved were Air New Zealand, Japan Airlines, Emirates, Malaysian Airlines, Korean Airlines, Thai Airways, Singapore Airlines and Cathay Pacific. A number of others had previously admitted liability and settled the case. I acted as expert for the Commission. The other experts were Professor Philip Williams (also for the Commission), Professor Richard Gilbert, Professor Robert Willig and Dr Cento Veljanovski (all for the airlines).

<sup>2</sup> A third set of economic principles discussed at length during the case related to supply-side substitution, although this was ultimately not decisive in the case. The Court (para 139) agreed with my proposition that supply-side substitution was relevant for market definition, thus contradicting the airline experts and the US Merger Guidelines, which state that only demand-side substitution is relevant—see US Department of Justice and the Federal Trade Commission (2010), ‘Horizontal Merger Guidelines’, section 4. The Court (para 196) did not agree with my proposition that the OD and DO legs of a route can be considered part of the same market through supply-side substitution, since scheduled services fly in both directions, and hence any belly-hold capacity flying full in one direction (say, DO) but empty in the other (OD) can be readily used for OD air cargo services.

<sup>3</sup> The Court seemed to accept the airline experts’ view that the appropriate SSNIP test for the geographic dimension of the air cargo service market is a conceptually distinct test from that for the product dimension (para 179). There is therefore some further debate to be had about these first principles of market definition in transport markets. In any event, the Court concluded that, even in applying the SSNIP test for the geographic dimension, there is a market in New Zealand because of the derived demand from importers in New Zealand.

<sup>4</sup> See, for example, US Department of Justice and the Federal Trade Commission (2010), ‘Horizontal Merger Guidelines’, section 4.1.1.

<sup>5</sup> US Department of Justice and the Federal Trade Commission (2010), *op. cit.*, sections 4.2.1 and 4.2.2.

<sup>6</sup> The judge was Asher J. The lay member was Professor Martin Richardson.

If you have any questions regarding the issues raised in this article, please contact the editor, Dr Leonardo Mautino: tel +44 (0) 1865 253 000 or email [l\\_mautino@oxera.com](mailto:l_mautino@oxera.com)

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