

WORLD AIR CARGO - COMPETITION, COLLUSION AND COMPETITIVE CONCERNS

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I. Introduction

Air Cargo tends to be at the forefront of increased liberalization of air services. According to *Boeing Commercial Airplanes* 'Air cargo remains crucial to globalization.' [1] It is expected to expand at a 5.8% annual rate over the next two decades, tripling through 2027. Even with the current slowdown, Boeing is bullish on the future. It believes that "Over the long-term, global economic growth will drive demand for new, high-value products as well as seasonal perishables that peoples have become accustomed to enjoying." [2] Since the 1990s, air carriers have been faced with increased competition from the major overnight delivery integrators. To add to this, international air cargo transportation began to be deregulated and air carriers or those specified in the bilateral agreements had to compete between themselves something that they were previously unaccustomed to do. To make matters worse, the global airline industry was incurring substantial losses. It is therefore not surprising that the airlines continued as they previously set rates - through agreement.

In early 2006, competition authorities across the globe launched investigations into possible price collusion of fuel surcharges and other costs by a number of large airlines - the focus of this paper. First, I begin by reviewing the world air cargo market, the market by region, the growth in world cargo and the parties involved in air cargo transport in Section II. Then, I shall briefly describe competition in the air cargo industry in Section III. In Section IV, the results of the investigations into the collusion by world air carriers over fuel surcharges are described. In section V, competitive issues facing the industry are mentioned. In the final section, a few concluding remarks are made.

II. The World Air Cargo Market

a) The World Air Cargo Market

The world air cargo transport market is a \$(US)50 billion industry. It transports 35% of the value of goods traded internationally but only 1% to 2% of the cargo based on weight. The ten largest air carriers involved in the transportation of air cargo are shown in table 1.

Other large carriers are: British Airways, EVA Air, JAL Group, Air China, Asiana Airlines, American Airlines, Northwest Airlines, United Airlines, LAN Airlines, Malaysia Airlines, China Eastern, Qantas, Thai

Airways International, Kalitta Air, and China Southern.

Table 1 - The Ten Largest Air Cargo Carriers in the World (2007)

1. FedEx	15,985	United States
2. Air France KLM	11,365	Europe
3. UPS Airlines	9,930	United States
4. Korean Airways	9,678	Korea
5. Lufthansa	8,451	Germany
6. Singapore Airlines	8,029	Singapore
7. Cathay Pacific	7,340	Hong Kong, China
8. China Airlines	6,299	China
9. Cargolux	5,512	Brussels
10. Atlas Air	5,387	United States

FTK=Freight ton kilometer (one ton of cargo carried one kilometer). Source: *Air Transport World*

b) The World Air Cargo Market by Region

The world air cargo market is divided into five regions: Africa/Middle

Table 2 - Largest Air Cargo Carriers by Region (2007)

Africa/Mid. East	Asia Pacific	Europe	S. America/Carib	N. America
Qatar Airways	Korean Air	Air France/KLM	LAN Airlines	Fedex
Saudi Arabia Airlines	Singapore	Lufthansa	Varig Log	UPS Airlines
S. African Airways	Cathay Pacific	Cargolux	LanChile Cargo	Atlas Air
EL Al	China Airlines	BA	Aeromexico	AA
Gulf Air	EVA Air	Alitalia	Avianca	NWA
Total of 5: 4,998	36,130	31,926	4,318	37,428

Source: *Air Transport World*

east; Asia/Pacific; Europe; Latin/Caribbean; and North America. The major carriers in each of these regions are shown in table 2. The ten top international air cargo airports in 2009 were: HK, Incheon, Dubai, Frankfurt, Singapore, Tokyo, Shanghai, Miami, Amsterdam and London.

c) Growth in the World Air Cargo Market

The system-wide global commercial aviation revenue and cargo statistics

Table 3 - Revenue and Growth of Air Cargo

	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009F
Revenue		40	39	38	40	47	48	52	54	57	60
%			(2.5)	(2.56)	5.26	17.5	2.1	7.69	3.8	5.6	5.3
Freight	22.2	30.4	28.8	31.4	33.5	36.7	37.6	39.8	41.6	42.4	43.4
tkp%		9.1	(6)	8.7	3.9	7.9	0.4	3.9	4	1.8	2.5

Source: *Financial Forecast, IATA*, September 2008.

Revenue in \$billions. Freight in million tonnes. Tkp=Total tonne-km performed. F=Forecast.

are shown in table 3. It reveals that revenue increased from \$40 billion to \$60 billion or 50% from 2000-2009. Cargo growth in terms of tonnes increased from 30.4 to 43.4m tonnes or 42.8% over the same period.

Table 4 indicates the traffic volume growth rates by region for 2006-2009. It reveals a slowing growth rate in response to the financial crisis. A recovery to more normal growth rates is not expected until 2010. One

Table 4 - Annual Average Growth Rates By Region - Traffic Volumes (tkp)

	N. America	Europe	Asia Pacific	Middle East	L. America	Africa	Global
2006	3.6	4.9	7.6	11.8	-3.4	7.0	5.3
2007	2.9	4.7	6.8	15.1	5.7	5.9	5.3
2008	0.1	3.2	3.3	10.8	5.6	-1.4	2.8
2009F	-0.6	2.9	3.9	7.9	4.2	2.9	2.9

Source: *Financial Forecast, IATA*, September 2008.

reason provided ‘is that the increase in inflation has prevented central banks, outside the US, from cutting interest rates to offset the spreading impact of the credit crunch and the squeeze on disposable incomes from higher food and energy prices.’ This is forecasted notwithstanding, the reduction in planned airline capacity and decline in oil prices.

d) Changing Composition of Cargo, Markets and Carriers

Cargo: Besides cost, value-to-weight, the bulkiness of the product, size of shipment and perishability play a role in the use of air transportation. Initially, high-value-products such as perishable, emergency, and security products dominated the composition of air cargo. Today, many more goods are shipped moving down the value-to-weight ladder. Products such as microelectronics, pharmaceuticals, aerospace components, medical devices and high value-to-weight products account for 3/4 of inter. cargo.

Markets: The market share of the regions over the period 2002-8 in table 5 indicates an increase in the shares of the underdeveloped and developing regions.

Table 5 -Market Share (%) By Region - Traffic Volumes (million) (mt)

	N. America	Europe	Asia Pacific	Middle East	L. America	Africa	Total
2002	40.88	20.17	29.37	4.2	3.8	1.5	64.4
2008	32.3	21.54	34.74	4.7	4.7	2	77.9

Source: *Airports Council International, Press Releases*.

Carriers: A change towards **larger** freighters and new and more **efficient** planes is expected in the future. According to Boeing, the shift is from standard body (45 tonnes) to larger bodied aircraft (80 tonnes) as shown in the table 6. This transformation has been occurring over the last few years and is expected to continue Boeing predicts that more than 75% of the changes will come from modification of the passenger fleet to freighter. The reason for this trend is a reduction of cost by 15% to 20% per ton. Besides the above, there has been a shift to ocean transportation.

Table 6 - Freighters in Service

	Standard	Medium	Larger	Total
2007	760	690	500	1,950
2027	1361.5	1167	1,361.5	3,890

Source: Current Market Outlook 2008-2027, p. 5.

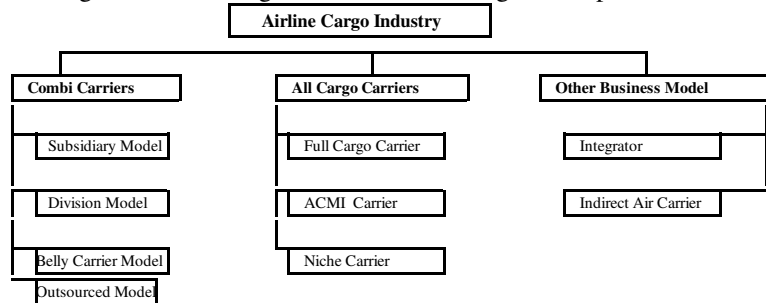
e) Parties in the Transport of Air Cargo

The key parties in the transportation of air cargo are: the airlines; the shippers/ consignees; the forwarders; the brokers/consolidators; the integrators; the logistic service suppliers; and the custom authority.[3] Their service is briefly described. The service provided by the airlines are of two types: scheduled (either combination planes or full freighters) and charter. The shipper sends the cargo and the consignee receives it. The forwarder performs several functions for the shipper, the most important is consolidation. The broker and consolidator buys space from airlines and resells the space to shippers and small forwarders, the latter offers more service than the former. The integrator provides end to end or door-to-door service. The logistic service supplier calculates optimal logistic routes for their clients. Finally, the custom authority's primary task is to examine, tax and control the movement of cargo.

III. Competition in the Air Cargo Industry

The structural nature of competition is shown in the following diagram which depicts the above description of the parties and competitors. It reveals some of the complexity of classifying competitors in this industry though in simplistic terms it is believed to be between two important players: the Airlines and the Integrator (i.e., providers of expedited air services). Given the nearly equal market share of the two, it is believed that the two are vigorous competitors, with the latter expected to gain. A number of articles suggest that airlines are losing to the integrated express market in the competitive struggle. R. Doganis (2002) suggests two major reasons: standards (eg. track and trace, high-technology warehouse, time guaranteed) and distribution network. He believes that the airlines will only be able to survive the threat from integrated express carriers if they create a global distribution network, eg. cargo airlines combining networks.[4] M. Shields (1998) suggests a number of actions for airlines to catch up to the standards of integrated express such as knowledge of their customers and competition.[5] M. Kadar and J. Larew (2003) list 8 factors why airlines have been falling behind: overcapacity driven by an unrelated market; preference for incremental business rather than quality; directional imbalance; lack of effective and sophisticated revenue management system; lack of differentiation;

fragmentation; cost structure; and growing modal competition.[6]
 Zandag's thesis investigates whether the integrated express market is



Source: Competing For Air Cargo, W-J. Zandag, University of Amsterdam, 2006.

gaining at the expense of the airline. He states "...it may well be concluded that these companies [integrated express] have a more favourable market position than airlines have. ...By not migrating their business scope, airlines have lost the opportunity to get involved in the more rewarding market for third party logistics."[7]

In sum, the above studies suggest that the airlines and the integrator or express competitors have in the past been keen competitors, with the airlines losing ground. Whether one can conclude that the two are in the same relevant market today could possibly raise an issue. The demand for the services of the two are different, the former largely from intermediaries and forwarders and the latter from end customers. In addition, the supply of services of the former is largely a by-product of its core business, transport of passengers. An argument could be made that the two only compete in certain market segments. As Zandag thesis states, one may wonder whether comparing an airline with an integrator is comparing apples to oranges.

IV. Collusion by World Air Carriers Over Fuel Surcharges

The origins of this illegal global cartel activity are alleged to have begun in 1999/2000 under the auspices of the IATA. IATA sought anti-trust immunity but was refused, however, certain airlines continued to impose the surcharge from 2000. The investigations were known on Feb. 15, 2006.

a. United States of America US's section 1 of the *Sherman Act* outlaws price fixing. It includes raising, lowering, controlling or stabilizing prices. Three elements are needed to establish a violation of it: (1) contract, combination, or conspiracy among two or more independent actors; (2) unreasonable restraint of trade; and (3) substantially affects on

interstate or foreign trade. Fixing an element of the final price, establishing surcharges, etc. all fall within the per se ban. A violation of this provision carries a max. fine of \$100m for corporations or twice the gain or twice the loss if either of these amounts exceeds the maximum. Charges were filed in the US District Court for the District of Columbia: on August 1, 2007 against British Airways and Korean Air Lines; on Nov. 27, 2007 against Qantas Airways; and on June 26, 2008 against Air France-KLM, Cathay Pacific, SAS and Martinair Holland. The first relates to charges covering both cargo and passenger air flights. The essence of the cargo charges were that the airlines engaged in a conspiracy to eliminate competition by fixing the rates for shipments of cargo to and from the United States and elsewhere. In some situations, the fuel surcharge increased 20 times. The period to which these charges for each of the airlines differed, but are within Jan 2000-July 2006. Initially, the investigation covered airlines and resulted in fines to corporations of \$1.3997 billion. British Airways and Korean Air lines were fined \$300m each, Qantas was fined \$61m, Air France-KLM was fined \$350m, Cathay Pacific was fined \$60m, SAS was fined \$52m and Martinair was fined \$42m. In Jan. 2009, LAN Cargo SA and Aerolinhas Brasileiras agreed to pay \$109m and El Al agreed to pay \$14.7m. An executive was also fined \$20,000 with penalties. In April 2009, Cargolux, Nippon Cargo Airlines and Asiana Airlines pleaded guilty and agreed to pay \$119m; \$45m and \$50m. respectively. On April 29, 2009, another executive agreed to a fine of \$20,000 together with other penalties. On April 30, 2010 American Airlines agreed to pay \$5m and provide evidence to shipper attorneys to settle a civil complaint that the airline took part in a conspiracy to fix cargo prices. American Airlines admits of no wrong doing. On July 30, 2010, the U.S. DOJ announced that Delta Air Lines will pay a \$38m. fine to settle charges that the cargo business it bought from Northwest Airlines took part in a global conspiracy to fix air freight prices. Polar Air Cargo was fined \$17.4m. in Sept. 2010 and China Airlines agreed to pay \$40m. on Sept. 27, 2010. On Nov. 30, 2010 Singapore Airlines was fined \$48m.[8]

Later, the case was expanded to include air forwarders and on Sept. 30, 2010, the U.S. DOJ said 6 international forwarders agreed to pay a total of \$50.3m in criminal fines after pleading guilty to air cargo price fixing. The largest penalty hit BAX Global, which will pay \$19.7m to settle charges the company conspired with other forwarders to set fees and surcharges on air cargo shipments. Others fined were Panalpina

(\$11.9m), Kuehne + Nagel (\$9.9m), EGL (\$4.5m), Schenker (\$3.5m) and Geologistics (\$687,960). This brings the fines to the carriers and forwarders to date to \$1.7987b.

b. European Commission: Article 81(1) of the EC Treaty (formerly 85 of the EE Com.) prohibits as incompatible with the common market all agreements between undertakings which may affect trade between Member States which have as their object or effect the prevention, restriction or distortion of competition within the common market. Since price competition is the most common form of competition, price-fixing is an infringement. It includes agreements on common selling prices, amount of a price increase or on the amount of rebates. Other forms are agreement on: recommended or target prices; element of the price, etc.

On Feb. 15, 2006, the European Commission took preliminary steps in a world wide air cargo investigation by searching offices of British Airways, Air France/KLM, Lufthansa, Cargolux, Cathay Pacific and Japan Airlines. Nearly a year and a half later, on December 21, 2007, the Commission charged twenty-five airlines - by sending statement of objections. The airlines had two months to respond and could appeal the decision. The companies may face fines up to 10 percent of the annual sales of these airlines. Nearly 35 months later, on Nov. 9, 2010, the Commission imposed a fine of €799.445m (\$1.109b) on 11 of the 25 carriers named in the original statement of objections. On Feb.13, 2010, the Com. charged logistics companies- DHL, Panalpina, Kuehne & Nagel, UPS and DSV-Logistics- for collusion on surcharges.[9]

c. Australia: Australia's Section 45A(1) of the *Trade Practices Act* prohibits price fixing. It imposes a per se prohibition upon price fixing. Price includes a charge of any description and includes discounts, allowances, rebates and credits. It also covers formulae by which prices are calculated and ingredients of a price such as sales tax or an agent's commission. There are five principle elements of this section. In brief these are the necessity of a: contract, arrangement or understanding; whose purpose, effect or likely effect is fixing, controlling or maintaining; a price, discount, allowance, rebate or credit; regarding goods or services; that are supplied or acquired by the parties in competition with each other that lessens competition substantially.

On Oct. 28, 2008, the Australian Competition and Consumer Commission (ACCC) instituted proceedings in the Federal Court in Sydney, Australia, alleging that British Airways reached an understanding with Lufthansa

Cargo with regard to the imposition of fuel surcharges on international air cargo services between 2002 and early 2006. Separate action was also taken against Qantas Airways Limited. Qantas' chief executive said that the surcharge was imposed by Qantas and other airlines pursuant to a recommendation by IATA. IATA sought anti-trust immunity but was refused, however, the industry continued to impose the surcharge. On Dec. 11, 2008, British Airways admitted it had arrived at an illegal understanding with Lufthansa and was ordered to pay \$5m in penalties by the Federal Court and \$200, 000 towards the ACCC's cost. Qantas agreed it would pay a \$20m fine to settle its liability.

The ACCC indicated that certain other airlines are being investigated and on Dec. 22, 2008 it instituted proceedings in the Federal Court against Singapore Airlines Cargo Pte. Ltd. On Feb. 10, 2009, the ACCC instituted proceedings in the Federal Court in Sydney against: Air France; KLM; Martinair; and Cargolux. The penalties imposed by the Court are \$5m each for the latter two and \$3m each for the first two. Total fines imposed to-date are \$41m, excluding ACCC's cost.[10] Since then, the ACCC has instituted proceedings against 9 airlines. This brings the total number of airlines involved in this cartel to 15.

d. New Zealand: New Zealand's *Commerce Act* prohibits contracts, arrangements or understandings between competitors which have the effect of substantially lessening competition and in particular understandings between competitors which have the effect of fixing, maintaining or controlling prices.

During 2000 and 2006, the airlines imposed fuel surcharges. Further, the allegations also involve a series of regional price fixing agreements. Furthermore, the Commission alleges that a number of airlines conspired to price fix through the imposition of a security surcharge immediately following the 9/11 terrorist attacks.

On December 15, 2008, New Zealand's Commerce Commission initiated proceeding in the High Court of Auckland against 13 airlines and airline staff for extensive and long-term cartel activity in the air cargo market. The 13 airlines are: Air NZ, British Airways, Cargolux International, Cathay Pacific, Emirates, Garuda International, Japan Airlines, Korean Airlines, Malaysian Airline Systems, Qantas, Singapore Airlines, Thai Airlines and United Airlines. The investigation could eventually spread to 60 airlines. "The Commission alleges that airlines throughout the world colluded to raise the price of freighting cargo by imposing fuel

surcharges for more than seven years. This affected the price of cargo both into and out of New Zealand.[11] On Feb. 3, 2010, a High Court judge found the airline's rights had been breached under the Bill of Rights Act and quashed the orders by the Commission. The Commission is appealing the order to the Court of Appeal and Air NZ has subsequently filed its objection to the commission's appeal.

e. Canada: In Canada, sections 45(1) to 45(8) of the *Competition Act* (formerly sections 32(1) to 32(7) of the *Combines Investigation Act*) prohibits price fixing agreements. For an offence to be committed under this provision, two basic elements must be satisfied. First, the Crown must prove beyond a reasonable doubt that the accused intended to enter into the combination, conspiracy, agreement or arrangement (i.e., CCAA). Secondly, the Crown must show that the CCAA if carried into effect would prevent or lessen competition unduly.

On February 15, 2006, certain airlines received a letter from the Competition Bureau of Canada stating that they had begun an investigation into air carriers engaged in the provision of international air cargo services to and from Canada. Nearly three years later, Air France-KLM admitted to a price-fixing conspiracy between 2002 and 2006 on some air cargo routes affecting Canada. The Competition Bureau said that Air France, KLM and Martinair have been fined a total of \$10m for communicating with competitors about the amount and timing of fuel surcharges on air cargo exported from Canada, resulting in about \$31.5m in surcharges. The individual fines on each were Air France \$4m, KLM \$5m and Martinair \$1m. Reduced fines were imposed for co-operating in the investigation. On July 7, 2009, Qantas Airways pleaded guilty and was fined C\$155,000 (US\$133,300). On Oct. 30, 2009, BA pleaded guilty and was fined \$4.5m bringing the total fines to \$14.6m.

f. Other Countries: Japan Fair Trade Commission [JFTC] raided 13 distribution service firms and an industry body (which accounts for 75 percent of the Japanese international market) in February 2009 on suspicion that they have formed a price cartel in international air cargo services.[12] They dissolved the cartel after investigations in the US and EU began in 2007.[13] In mid-March, the JFTC ordered 12 international freight forwarders to pay a total of about 9 billion yen (about US\$94.7 million) in administrative fines for forming a cartel to raise international air cargo charges. Seven companies (Nippon Express, Kintetsu World Express, Hankyu Hanshin Express Holdings, Hanshin Air Cargo, Yamato Global Logistics Japan, MOL Logistics (Japan), and United Aircargo

Consolidators) accepted the JFTC's cease-and-desist and fine orders. Five companies (Yusen Air & Sea Service Co., "K" Line Logistics, Nishi-Nippon Railroad, Vantec, and Nissin) filed complaints to the charges. In response, the JFTC said it will initiate quasi-judicial hearings to review its earlier antitrust decisions against 5 international freight forwarders.

South Korea's Fair Trade Commission on May 27, 2010 fined 19 airlines, a total of about \$98m for their role in the air cargo cartel. Korean Air Lines Co. Ltd., Deutsche Lufthansa AG and Air France-KLM SA were among the airlines fines. The largest fines were imposed on Korean Air (\$39.8m) and Asiana Airlines (another Korean carrier) (\$16.9m).

g. *Jurisprudence/Theory?*

Jurisprudence: - Collusion on sub-components of a price / elements of the final price / surcharges are considered to be illegal in most countries. A brief para on the jurisprudence in a few of the jurisdictions is provided.

USA: In the USA, horizontal agreements to fix an element of the final price or other terms and conditions of sale fall within the per se ban. It includes agreements to adhere to specified price formulas, agreements to establish uniform markups, surcharges, or price differential besides bid-rigging arrangements.[14] For example, in *Catalano, Inc. v. Target Sales, Inc.*, the US Supreme Court stated "An agreement to terminate the practice of giving credit is thus tantamount to an agreement to eliminate discounts, and thus falls squarely within the traditional per se rule against price fixing." Similarly in *Premier Elec. Const. Co. v. National Elec. Contractors Ass'n, Inc.* where firms outside the Association objected to the Union's effort to divert 1% of each employers payroll to the National Electrical Industry Fund the court stated "The agreement alleged in this case affected 100% of an economically significant market; it was a naked agreement on price; enforcement mechanisms were in place; ... There is no escape from the conclusion of the Fourth Circuit the agreement is unlawful per se."

Europe: In *Ferry operators currency surcharges*, the European Com. condemned an agreement between several ferry operators concerning the amount and the introduction date of a surcharge on freight shipments following the devaluation of the pound. Similarly, in *VOTOB*, the Commission objected to a uniform 'environmental charge'. In brief, agreement on an element of the price is considered as a form of price-fixing and since price competition is the essential form of competition, it is the most obvious infringement to competition law i.e., EEC Treaty.[15]

Australia: In *Australian Competition and Consumer Commission v Qantas Airways Limited [2008] FCA 1976 (11 December 2008)*, Justice J. Lindgren stated "The Fuel Surcharge Understanding necessarily affected the prices extracted from persons, including persons in Australia, in respect of the international transport of cargo by air", the

purpose and effect of which substantially lessened competition in the worldwide market for air. He also accepted the Commission's statement that fuel surcharges were only one component in prices charged for international carriage of cargo though other components might be reduced together with the view that the Commission did not contend that there was an agreement relating to total rates or base rates. Thus in Australia, fixing or controlling or maintaining a component or element or part of a price could result in a violation of s. 45 of its *Trade Practices Act* if the other elements of this section are met.

Theory: The rationale for collusion is that firms have an incentive to coordinate their production and pricing activities to increase their collective and individual profits by restricting market output and raising market price. This is because a firm's profit goes up when it forms a cartel even though competitive firms may be "maximizing their profit".[16] As each firm in the competitive situation ignores the increase in profits to other firms from a reduction of its own output, which it believes to be insignificant since it cannot affect price. In contrast, a cartel is able to capture the benefits of a reduction of output by its members.

It may be argued that the current situation appears to be described as a duopoly or oligopoly on most individual routes rather than a competitive situation as described above. However, the same rationale applies that by colluding, firms can increase their price under profit maximization, i.e., a monopoly price is higher than a duopoly or oligopoly price. [This was described and shown diagrammatically in my paper on Parcel Tanker] But it may be pointed out that this does not apply to sub-components of the pricing structure, as is the case in the above air cargo surcharge case.

Table 7- Competitive vs Collusive Situation on Sub-components (\$)

	a	b	c	Total Price
A. Competitive Situation				
1	5	10	9	24
2	6	8	8	22
3	6	9	7	22
B. Collusive Situation				
1	5	12	9	26
2	6	12	8	26
3	6	12	7	25

This is not true, it can be shown that even when competitors collude over sub-components of a price, the final price is higher. We shall show this with a simple numerical example in table 7. Suppose there are three competitors (1, 2, 3) and their price consists of three components (a, b, c).

The initial competitive situation is described as A and the collusive situation is described as B (i.e., the competitors collude on component b). The collusion on component 'b' has resulted in a higher price (\$12) for this component or service. As a result, the total price of all the three competitors are higher in the post collusive period as shown above than in the competitive situation, and the average price of all is higher in the collusive situation than the average price of all in the competitive situation. The more significant the 'b' component the greater the effect. It may be pointed out that the three competitors have not colluded on the final price and are free to vary total price but this is immaterial to the argument. Collusion on a subcomponent results in a higher price. In sum, regardless of the market structure, economic theory indicates that firms have an incentive to coordinate their production and pricing activities to increase their collective and individual profits. By reducing output and raising prices consumer welfare is reduced. As stated by the NZ's Commerce Commission Chair "Cartels are insidious. They are difficult to detect and extremely difficult to investigate because of their secretive and international nature. It results in consumers and businesses paying higher prices and having less choice than if competitors were competing honestly." [17] ACCC Chairman Graeme Samuel said "Cartels - ...have a significant effect on consumers, ...They are an unseen fraud on the community that must be uncovered and punished." [18] It is not surprising that such collusive activities are outlawed in most parts of the world.

V. Competitive Issues Facing the Industry

Given the importance of this global industry, some of the problems facing the industry players in their competitive struggle will be briefly described. *The need for a new low cost air cargo model* - Times have changed and the traditional scheduled air carrier by-product model needs to be replaced. Using the principles of a low cost carrier model (simplifying processes; using new technology aggressively; sharing gains; and encouraging a culture of change) as a guiding star, models to lower costs have been suggested which incorporate: use of the Internet; use of the e-Airwaybill; use of document imaging; use of RFID and EPC code technology; and use of new technology. The carrier should not attempt to be 'everything to everybody' but focus on cargo where margins are good. *Market Access and Traffic Rights: Further Liberalization* - Restrictions on market access continue to limit the growth of world air cargo markets. Air cargo and express transportation facilitate the movement of goods between all markets and are considered economic development tools. The International Air Cargo Association (TIACA) calls for unfettered market

access and for bilateral agreements to permit movement of air cargo in any international market between two points anywhere in the world. As a first step, it calls for a separation of cargo and passenger rights and the grant of reciprocal rights to the former on a reciprocal basis, to all signatories. This does not preclude cabotage, however, it should be excluded if it presents an obstacle to negotiations. It also envisions an acceptable supervisory body to ensure transparent and equitable operation. The ultimate goal is to permit a multi-lateral group of countries permitting 5-7th freedom rights for air cargo.

Market Efficiency and Performance - Elimination of Delays: The average air transit time for cargo is 8 hours but delivery of consignments on the average takes 6 days. Delays represent a hindrance to the growth of this market. A number of factors that affect efficiency and performance of the airlines in their competitive struggle are: customs, security, environment and quality of service. These are briefly described.

Customs - To expedite the flow of cargo through customs, TIACA indicates that it is critical that custom authorities: 1. Allow for advance electronic presentation of data. IATA indicates that paper processing is costing the industry in terms of efficiency and market share and that E-freight is the answer to shippers' need for lower costs, improved reliability and more speed. Electronic messaging is the backbone of e-freight, however, lack of format standardization in the form of completeness and accuracy affects the quality and speed of customs clearance. 2. Agree to evaluate that data by means of risk assessment within one hour of receipt of all necessary information of the air carrier or its agent. 3. Clear all low risk airfreight within that one-hour window. TIACA lists four proposals how to accomplish (through consultation and working with various groups) the above 3 suggestions: promotion of perform. standards; implementation of effective airfreight standards; introduction of improved processes, agreed milestones and timelines; and recommendation of Best Class Industry Standards.

Security - To improve airport and air cargo security, IATA proposes its 'Secure Freight' programme (to deal with problems such as lack of optimization of screening technology, lack of States living to their obligations, and lack of standards - alignment or recognition) which consists of three components: 1. Have an industry with one voice. 2. Develop Internationally recognized security accreditation standards with a security audit. 3. Create a global registry of secure supply chain operators. TIACA indicates that it will support new initiatives that are

effective, workable, affordable and create a minimum of disruption of the flow of air cargo that has to set its core advantage of speed in flight with consistent rapid reliable delivery. To set a way forward, it provides a list of six security policies.

Environment - To address social costs of air cargo transportation that affect the environment. IATA suggests a four pillar strategy. 1. Invest in new technology. 2. Fly planes more effectively. 3. Build and use efficient infrastructure. 4. Use effective and economic measures that deliver real and measurable results. TIACA indicates that air transport's contribution to global emissions could be improved still further with the removal or amendment of operational and regulatory constraints which increase mileage flown and impact fuel efficiency.

Quality of Service - To improve quality of service IATA has initiated Cargo 2000. It is a world wide air cargo initiative aimed at implementing a new quality management system. The objective is simple: to implement processes, backed by quality standards, that are measurable to improve the efficiency of air cargo. It re-engineers the supply chain processes reducing it to 19 from 40. As a result: revenue is expected to grow (through increased client retention and increased new business); and operational costs are expected to be reduced (through reduced tracking time, increased quality of warehouse and trucking service, reduced paperless shipment and reduced claims).

Regulations on Live Animals, Perishables and Dangerous Goods - Regulations in these areas have attracted the greatest attention. While international standards set by the World Trade Organization exist such as the *Phytosanitary Measurement Agreement* exist, it still permits countries to set their own standards. This gained prominence after the mad cow and avian flu outbreaks and countries placed restrictions on what could henceforth be exactly imported. Countries and airlines follow different: regulations, containers for shipment, classification of perishable commodities, temperature/humidity requirements, packaging references and incompatibility/ segregation requirements, etc. IATA has developed *Live Animal Regulations, Perishable Cargo Regulations* and *Dangerous Goods Regulations* some of which have been developed in conjunction with ICAO (International Civil Aviation Organization) and other national authorities. They have even developed training programs, etc. Adopting uniform regulations in these areas will help lower the barriers that restrict the development of this industry.

In sum, a number of factors affect the growth of this industry. Getting

consensus among countries is typically a difficult task given diverse standards and producer or country interests. As a start, countries should adopt some if not all of the proposals by the international associations that have an interest in fostering the development and growth of air cargo.

VI. Concluding Remarks

Air Cargo is a \$50b industry accounting for 35% of the value of goods traded internationally. It is an important byproduct of a global market. There are several parties in the transportation of air cargo. The competitive struggle is between the Airlines and Integrators or providers of expedited service, with the latter gaining at the expense of the former. Some writers suggest that the two only compete in certain segments of the market.

In the past, pricing arrangements under the auspices of IATA were granted antitrust immunity. In 1999/2000, IATA sought anti-trust immunity but was refused. However, certain airlines from 2000 continued to impose agreed fuel surcharges, increasing it in some cases by twenty times. This led to investigations on collusion on air cargo rates which competition authorities take a dismal view of. Worldwide fines to the could reach more than \$3b.

Besides these issues, the important factors that affect the growth of this industry are *market access and traffic rights; delays that affect efficiency* (such as customs, security, environment and quality of service); and *regulations on dangerous goods, live animals and perishables*. TIACA and IATA made proposals on how to deal with these factors, but in international affairs accepting a single spokesperson and obtaining unanimous agreement pose major hurdles.

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