

## **Domestic Air Cargo Industry in Australia**

### **Occasional Paper**

The discussion of domestic aviation issues in Australia has historically focused on the passenger market. This reflects the dominance of passenger transport in the operations of the domestic airlines and the relatively small proportion of domestic cargo that is carried by air. Despite this emphasis on passenger operations, the Commonwealth Government has implemented regulations specifically directed at air cargo and the major airlines have evolved separate strategies for cargo traffic in recent years. Cargo is now an important element of Australia's domestic aviation industry and is a significant source of income for several carriers. This Paper presents the findings of a BTE study of the domestic air cargo industry in Australia.

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**Occasional Paper 87**

# **Domestic Air Cargo Industry in Australia**

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## FOREWORD

This Paper presents the findings of a BTE study of the domestic air cargo industry in Australia. It was prepared in the Financial Assessment Branch by Mr R. K. Starr. A preliminary version of the Paper was passed to the Independent Review of Economic Regulation of Domestic Aviation which, amongst other things, was required to consider the implications of the regulatory framework for the air freight sector.

A number of organisations contacted during the course of the study provided extensive information on the development and operation of the industry. I would particularly like to thank the officials from the airlines, freight forwarders and Commonwealth departments for their assistance.

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## CHAPTER 1 INTRODUCTION

The discussion of domestic aviation issues in Australia has historically focused on the passenger market. This reflects the dominance of passenger transport in the operations of the domestic airlines and the relatively small proportion of domestic cargo that is carried by air. Despite this emphasis on passenger operations, the Commonwealth Government has implemented regulations specifically directed at air cargo and the major airlines have evolved separate strategies for cargo traffic in recent years.

Cargo is now an important element of Australia's domestic aviation industry and is a significant source of income for several carriers. For example, it accounted for \$66 million or 8 per cent of the revenue earned by Australian Airlines in 1985-86 (Australian Airlines 1986, 8).<sup>1</sup>

Air transport is a major component of the express freight and courier markets and is an important element of domestic distribution activities. There are also links with airline passenger services and road transport operations.

Domestic air cargo was subject to detailed regulation by the Commonwealth Government until the early 1980s when most direct controls were removed. Subsequent developments in this sector may therefore provide some information on responses to regulatory change in the Australian environment. They may also assist in the identification of the impact on air cargo operations of future changes in the regulation of airline passenger services.

- 
1. The Australian National Airlines Commission operated as Trans Australia Airlines (TAA) until August 1986 when it was renamed Australian Airlines. The present trading name is used in this Paper where the current situation or events after the name change are involved. In all other references the earlier name is used.

## **OUTLINE OF THE PAPER**

This Paper describes the development of Australia's domestic air cargo industry, its current structure and operations and potential future developments.

The two basic components of the air cargo market are freight and mail. The Paper concentrates on freight as it accounts for almost 90 per cent of domestic air cargo traffic but there is also some discussion of mail. Although attention is focused on scheduled airline operations due to the availability of data, related activities such as freight forwarding and charter operations are also discussed.

The characteristics of air cargo, the commodities involved and the size of the domestic air cargo market are described in Chapter 2. There is also a discussion of traffic patterns and competing modes.

The evolution of the regulatory framework and the development of the industry up to 1978 are considered in Chapter 3 while later events are discussed in Chapter 4. Legislative provisions are outlined and there is a discussion of the impact of the two airline policy on the air cargo industry. Changes in airline operating strategies and equipment are also described.

Chapter 5 covers the current structure of the domestic air cargo industry. The impact of freight forwarders and their links with carriers are highlighted. Current operational practices are considered in Chapter 6 in terms of aircraft configuration, operating costs, freighter aircraft, service networks and capacity utilisation.

Rating practices are covered in Chapter 7. The structure of freight rates, including the availability of discounts, is described and there is a discussion of trends in rates in recent years.

Chapter 8 outlines potential future developments in terms of market size and industry structure. A summary of the main points in the Paper is presented in Chapter 9.

## CHAPTER 2 THE AIR CARGO MARKET

The domestic air cargo market can be considered in terms of the characteristics of air cargo, market size, traffic patterns and competing services.

### CHARACTERISTICS OF AIR CARGO

Cargo moved by air generally has a number of characteristics which distinguish it from the broader domestic cargo market. It tends to require fast transit times and high quality of service although there is wide variation in the requirements of individual shipments. Commodities moved by air often have high unit values. However, there are also cases such as spare parts where a relatively inexpensive item has a high value in use, such as the minimisation of idle time for expensive equipment.

Table 2.1 provides information on the major types of commodities shipped by air on domestic routes in Australia and the reasons for using air transport. The major traffics include newspapers, business documents, cinema films, perishables and spare parts. Detailed information on the commodity composition of Australia's domestic air freight is not available.

Some of the commodities which are moved by air initially appear to be better suited to other modes such as road transport. However, freight rate discounts resulting from factors such as the need for backloading may make air transport an attractive option.

### Freight

Delivery schedules offered by major carriers indicate that the domestic air freight market can be divided into four major categories. The areas are same-day express, overnight express, next-day and off-peak.

Same-day express services provide delivery on the day of lodgment. Some of this traffic is carried on aircraft which are primarily

TABLE 2.1 CHARACTERISTICS OF DOMESTIC AIR CARGO

Shipment type	Sensitivity		Types of goods	Factors favouring air transport
	Price	Time		
Urgent shipments	Low	High	Urgent small goods and packages Business documents Computer tapes Medical equipment Newspapers Vital spare parts Air mail	Fastest delivery Reliability Lower damage rates
Intermediate and perishable shipments	Moderate	Moderate	Cinema films Cut flowers Livestock Foodstuffs Personal effects Pharmaceuticals	Speed of delivery Reliability Lower damage rates Controlled environment
Regular shipments	High	Low	Records White goods Automotive parts Clothing Computers Tools	Reduced packaging costs More flexibility in planning and distribution Reduced stock levels and opportunity cost of capital tied up during transport Lower damage and pilferage rates

Source Derived from BTE (1980, 24).

involved in the movement of passengers. However, a large part of the market is served by freight forwarders using small freighter aircraft. The freight carried is mainly business documentation, with the movement of bank papers between country centres and capital cities being one of the major traffics.

Overnight express cargo is probably the largest category in terms of revenue. This traffic mainly involves door-to-door overnight transport with lodgment by 5 pm on a working day and guaranteed delivery by 9 am on the following morning. It is generally carried on services where the aircraft do not uplift passengers.

The third category of air cargo also requires fast delivery but the transit time is longer. Cargo is lodged by 5 pm on a working day with delivery during the late morning or afternoon of the following day. This traffic may be carried on overnight freighter services where capacity is available but in many cases it is moved on passenger services.

Off-peak cargo is the fourth broad category of air cargo. This traffic is carried when space is available on aircraft and delivery may be up to several days after lodgment.

### **Mail**

Mail carried on domestic air services can be divided into two categories. Air mail accounts for the majority of traffic and covers articles which require a high quality of service and rapid delivery. Surface mail by air is mail that would normally be carried by surface transport. It travels by air when capacity is available on aircraft in order to speed up delivery. In this Paper, the term air mail covers all mail carried by air.

Mail has a number of characteristics which affect the transport task. Transport arrangements are constrained by the processing system which requires the mail to arrive in the destination city by 3 am if it is to be delivered on that day. The volume of traffic on individual routes is highly volatile and hence it is often difficult for the airlines to provide adequate capacity while maintaining satisfactory loadings of cargo.

### **MARKET SIZE**

Air transport has traditionally accounted for a small proportion of total cargo movements in Australia on a weight basis. The available data indicate that scheduled air transport services carry around 0.01 per cent of Australian domestic freight in terms of tonnes consigned

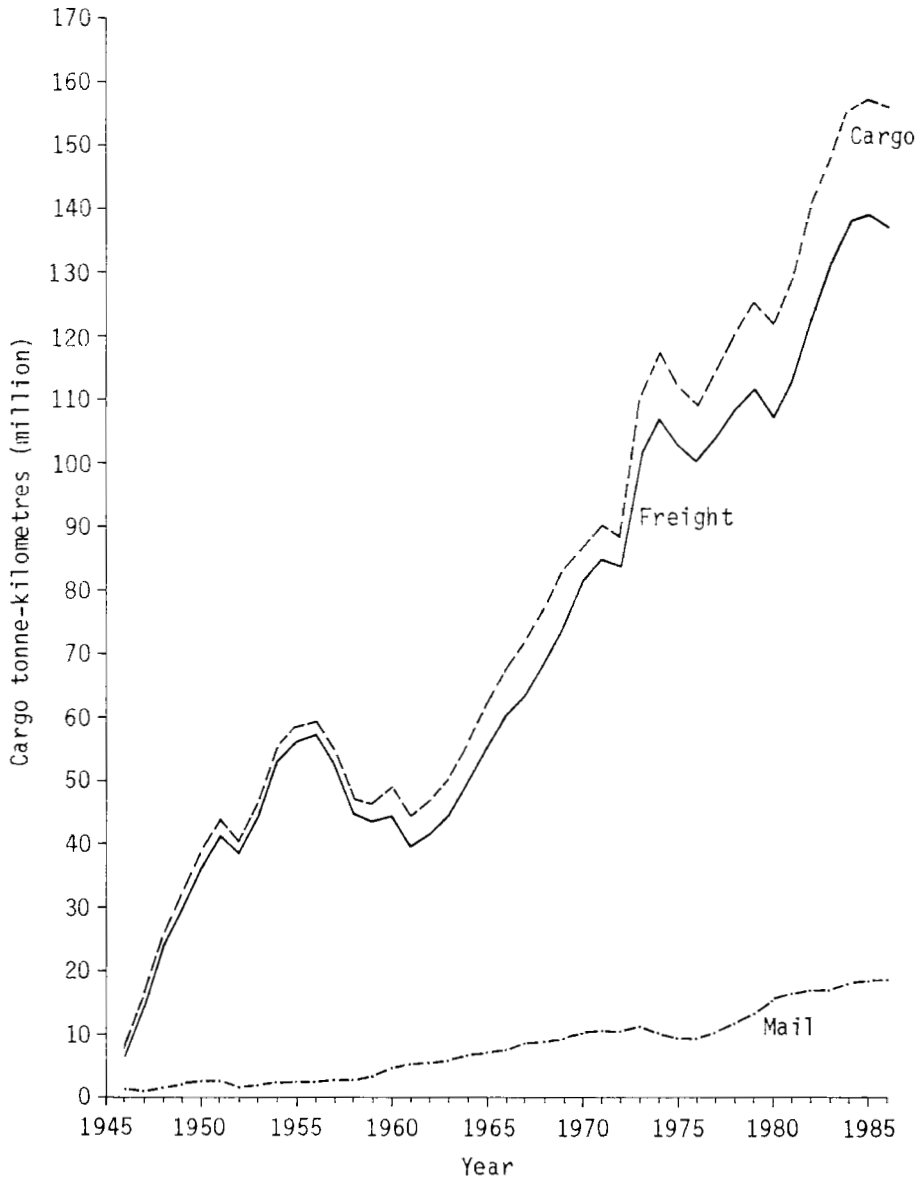
and 0.06 per cent on a tonne-kilometre basis (BTE 1984, 9-10).<sup>1</sup> Air freight represents approximately 0.3 per cent of interstate freight movements in terms of tonnes consigned (Australian Bureau of Statistics 1986, 3). However, the share would be significantly higher on a value basis due to the high average unit value associated with air freight (BTE 1980, 22-23).<sup>2</sup> Air transport is also very important in certain commodity markets.

The air cargo market has expanded significantly in the post-war period. The growth has been driven by a variety of factors including increased population, higher income levels, growth of time-sensitive industries such as finance and advertising, moves to central warehousing, computerisation and adoption of the just-in-time principle in manufacturing. Work undertaken by the BTE suggests that under current conditions a 10 per cent rise in real income (as measured by Gross Domestic Product) would result in a 14 per cent increase in air freight traffic (BTE 1986, 41).

Figure 2.1 illustrates the trends in the amount of freight and mail traffic carried on domestic airline services between 1946 and 1986. Air freight increased from 6.7 million tonne-kilometres to 137.3 million tonne-kilometres over this period while mail traffic rose from 1.3 million tonne-kilometres to 18.6 million tonne-kilometres. The overall airline cargo market has generally followed the trend in air freight traffic as a result of the dominance of the latter sector in cargo movements.

Several broad stages in the development of the air freight market are apparent in Figure 2.1. From 1946 to 1956 air freight tonne-kilometres increased at an average compound rate of 24 per cent per annum due to strong growth in the Australian economy (Department of Transport 1979b, 279). Between 1956 and 1961 the market declined by 7 per cent per annum as a result of factors such as the rapid

- 
1. Department of Transport and Communications data on tonnes of cargo carried on domestic scheduled air services overestimate the tonnes of traffic consigned because a particular item is counted each time it passes through a major airport or is transferred to an aircraft with a different flight number. The level of double-counting is not known with any accuracy but one carrier interviewed during the study estimated that it was around 25 per cent.
  2. Australia's international air freight market provides an indication of the potential variation in market shares based on weight and value. In 1984-85 air freight accounted for less than 0.1 per cent of Australia's overseas trade on the basis of gross weight but around 14 per cent in value terms.



Sources Department of Transport (1979b).  
Department of Aviation (1984c, 1987a).

Figure 2.1 Australian domestic airline cargo traffic,  
1946 to 1986



development of interstate trucking, the increasing influence of freight forwarders and improved rail and shipping services. From 1961 to 1974 there was a return to steady growth with an average increase of 8 per cent per annum. In the following six years the level of traffic was erratic, with the result that there was little growth in the market between 1974 and 1980. The upward trend resumed after 1980 with an average compound growth rate of 4 per cent per annum, although there was a slight decline in traffic in 1986.

The level of air mail traffic has generally been less variable than air freight. There was moderate growth in air mail between 1946 and 1959, a large increase in 1960 and generally steady growth averaging almost 7 per cent per annum between 1960 and 1973. This was followed by a 17 per cent decline in traffic between 1973 and 1976 due to factors such as industrial action affecting the domestic airlines and increases in postage rates (Department of Transport 1979b, 254).<sup>3</sup> The market subsequently resumed its upward trend with average annual growth of around 7 per cent between 1976 and 1986.

There have been significant differences in the patterns of growth of air cargo and passenger traffic in the post-war period. The levels of airline passenger traffic between 1946 and 1986 are illustrated in Figure 2.2. Passenger traffic grew more rapidly than air cargo between 1956 and 1980 and there were also significant differences in the patterns of growth after 1980. The level of passenger-kilometres reached a historical peak in 1981, declined by 6 per cent over the following two years and then recovered strongly. In contrast, airline cargo traffic grew steadily between 1980 and 1985 before declining slightly in 1986.

The air cargo market is also seasonal as a result of variations in factors such as the level of retail sales. Traffic normally falls in the March quarter (Department of Aviation 1987c, 17).

### **TRAFFIC PATTERNS**

The domestic air cargo market is characterised by large imbalances in traffic. Several routes account for a substantial proportion of the air cargo moved in Australia and backloading is limited in many cases.

Table 2.2 contains data on movements of freight and mail on domestic scheduled airline services by major routes over the five years to

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3. The exclusion of air mail to Papua New Guinea from the domestic figures also contributed to the decline.

1984-85. The importance of east coast movements and services between Tasmania and the mainland is apparent. Recorded movements along the Brisbane-Sydney-Melbourne corridor accounted for 38 per cent of overall traffic in 1984-85. Traffic between Tasmania and the two major east coast airports accounted for a further 20 per cent of cargo carried by the airlines in that year.

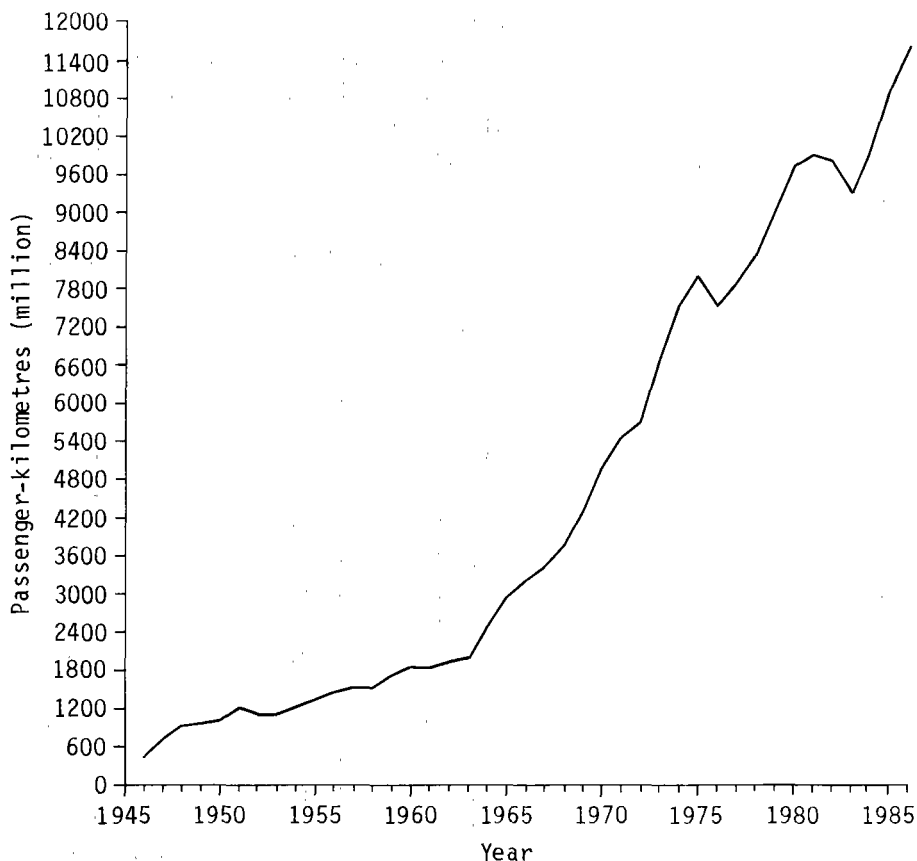
TABLE 2.2 AUSTRALIAN DOMESTIC AIRLINE CARGO TRAFFIC BY MAJOR ROUTES,  
1980-81 TO 1984-85<sup>a</sup>  
(tonnes)

Routes	Year				
	1980-81	1981-82	1982-83	1983-84	1984-85
Melbourne-Sydney	29 334	33 061	33 705	34 784	37 575
Melbourne-Launceston	19 399	18 465	26 905	28 807	29 127
Sydney-Brisbane	18 372	19 778	19 560	20 885	22 086
Melbourne-Adelaide	9 892	9 000	7 514	8 972	10 437
Melbourne-Perth	5 495	5 997	8 530	11 797	10 391
Sydney-Adelaide	5 987	5 597	5 170	5 205	6 027
Melbourne-Hobart	8 016	9 692	6 031	8 223	4 906
Melbourne-Brisbane	2 832	3 633	3 905	4 182	4 375
Brisbane-Townsville	3 556	4 079	4 266	4 647	4 299
Adelaide-Perth	4 537	3 363	2 553	2 530	2 904
Sydney-Canberra	2 623	2 436	2 208	2 225	2 177
Sydney-Perth	765	1 821	2 349	2 103	2 036
Cairns-Townsville	1 162	1 221	1 145	1 831	1 918
Brisbane-Cairns	1 832	2 282	1 853	2 035	1 404
Melbourne-Canberra	1 473	1 411	1 339	1 474	1 667
Other	26 984	31 255	31 587	27 751	28 308
Total <sup>b</sup>	142 259	153 091	158 620	167 451	169 637

a. Includes movements of freight and mail in both directions. Based on uplifts and discharges on domestic scheduled airline services within a particular flight number. Includes movements between airports which are not directly connected. Regardless of whether an actual change of flight number is involved, all flights are considered to change flight number when passing through Adelaide, Brisbane, Cairns, Canberra, Darwin, Gove, Hobart, Melbourne, Perth or Sydney. Data therefore do not indicate ultimate origins and destinations. Figures exclude commuter and charter operators.

b. Top 98 city pairs.

Sources Department of Aviation (1983a, 1984a, 1985c, 1987b).  
Department of Transport (1982).



Sources Department of Transport (1979b).

Department of Aviation (1984c, 1987a).

**Figure 2.2 Australian domestic airline passenger traffic, 1946 to 1986**

Table 2.2 also indicates significant variations in traffic growth rates on various corridors. The most rapid increases were recorded on routes between the east coast and Perth, with traffic on the Sydney-Perth and Melbourne-Perth corridors growing by 166 per cent and 89 per cent respectively. This probably reflected the expansion of direct services on the Perth-east coast routes which replaced movements through Adelaide. There were traffic declines on four routes as a result of local influences.

Table 2.3 shows the imbalances in traffic on the major corridors in 1984-85. The figures record cargo weight and may underestimate traffic imbalances as volume rather than weight is the determinant of capacity on many routes. In addition, the overall figures do not reveal movements at particular times of the day or year. Industry

sources indicate that the major traffic imbalances are on the routes to Perth, Tasmania, Darwin and northern Queensland.

These imbalances are reflected in capacity shortages on some forward legs. For example, 10 per cent of the mail consigned from the eastern States to Western Australia during 1984-85 either was not uplifted on the intended flight or was offloaded en route due to aircraft capacity restrictions (Australian Postal Commission 1985, 3). The opportunities for the development of pure air cargo services in Australia have been significantly affected by the imbalances in domestic air cargo flows.

TABLE 2.3 DIRECTIONAL IMBALANCES IN AUSTRALIAN DOMESTIC AIRLINE CARGO TRAFFIC ON MAJOR ROUTES, 1984-85<sup>a</sup>

Route	Cargo (tonnes)		Ratio of outbound to inbound traffic
	From first point	To first point	
Melbourne-Sydney	21 729	15 846	1.4
Melbourne-Launceston	16 142	12 985	1.2
Sydney-Brisbane	14 612	7 474	2.0
Melbourne-Perth	5 754	4 637	1.2
Melbourne-Adelaide	7 116	3 321	2.1
Melbourne-Hobart	3 003	1 903	1.6
Sydney-Adelaide	4 051	1 976	2.1
Brisbane-Townsville	2 564	1 735	1.5
Melbourne-Brisbane	3 253	1 122	2.9
Adelaide-Perth	1 878	1 026	1.8
Sydney-Canberra	1 357	820	1.7
Sydney-Perth	1 150	886	1.3
Brisbane-Cairns	799	605	1.3
Townsville-Cairns	1 157	761	1.5
Melbourne-Canberra	1 117	550	2.0

a. Movement of freight and mail traffic on domestic scheduled airline services between two airports not necessarily directly connected but within the same flight number series. Data do not indicate ultimate origins and destinations. Figures exclude commuter and charter operators.

Source Department of Aviation (1987b, 6-10).

Information on the major airports used for the movement of domestic air cargo in 1984-85 is presented in Table 2.4. This further illustrates the importance of east coast and Tasmanian operations and the significant directional imbalances in traffic. Melbourne, Sydney and Brisbane together handled 62 per cent of domestic airline cargo in 1984-85 and the two Tasmanian airports accounted for an additional 13 per cent.

### COMPETING SERVICES

The major competitor in the markets serviced by air transport is express road services. In recent years road transport operators have attracted a substantial proportion of overnight freight from air transport services on routes between adjacent cities. This has particularly affected the Melbourne-Sydney and Melbourne-Adelaide routes. Factors in the growth of competition from road transport operators include improvements to the national highway system and limited increases in road freight rates. It appears that the traffic transferred to road transport has generally comprised lower rated items.

The competition from road transport has been less effective on services between non-adjacent cities and on longer routes such as Adelaide-Perth where the transit time advantages of air transport are still significant. In addition, the speed of air transport has enabled it to retain late lodgment express traffic on routes between adjacent cities.

There has also been significant growth of combined road and air services. In these operations, the freight is moved by road on one sector of the journey and by aircraft on the other sector.

The development of competing road services has been encouraged by the activities of freight forwarders. These organisations consolidate cargo from various shippers and use the mode that most efficiently meets the delivery schedules required by their customers. It is reportedly common on some routes for freight accepted by forwarders for air movement to be sent by road (*Australian Flying* 1986, 47; *Transport and Distribution Letter* 1986a, 5). One observer has claimed that each night up to 40 tonnes of freight lodged for air express delivery on the Sydney-Melbourne and Melbourne-Adelaide routes is in fact moved by fast road vehicles (*Age* 1986, 3). Several organisations contacted during the study also stated that the use of road vehicles to transport cargo lodged as air freight is a common practice. Such activities would reflect the ability of road transport operators to

TABLE 2.4 AUSTRALIAN DOMESTIC AIRLINE CARGO TRAFFIC BY MAJOR AIRPORT,  
1984-85<sup>a</sup>  
(tonnes)

<i>Airport</i>	<i>Cargo</i>		<i>Total</i>
	<i>Inbound</i>	<i>Outbound</i>	
Melbourne	40 540	58 447	98 987
Sydney	34 088	40 280	74 368
Launceston	20 954	17 366	38 320
Brisbane	21 367	15 050	36 417
Adelaide	12 846	8 948	21 794
Perth	9 759	9 318	19 077
Townsville	3 659	3 181	6 840
Hobart	3 691	2 369	6 060
Cairns	2 090	2 081	4 171
Canberra	2 502	1 403	3 905
Darwin	1 842	1 153	2 995
Alice Springs	1 578	978	2 556
Other	14 721	9 063	23 784
Total	169 637	169 637	339 274

a. Covers freight and mail revenue traffic uplifted and discharged at main Australian airports by domestic airlines on scheduled services within Australia and between Australia and Norfolk Island. Figures exclude commuter and charter operators.

Source Department of Aviation (1987b, 1-5).

meet the delivery requirements of the overnight express market on selected routes under normal conditions.

Sea transport is the only alternative to air movement on services across Bass Strait. The substantial transit time advantages of air transport on this route have resulted in the development of a large air cargo operation which includes items that are normally moved by road on mainland routes. As noted earlier, services across Bass Strait account for a significant proportion of domestic air freight movements.

## CHAPTER 3 REGULATION AND INDUSTRY DEVELOPMENT TO 1978

The domestic air cargo industry has been significantly affected by direct Commonwealth Government regulation of air freight and air mail as well as by controls over airline passenger services. The latter activities have impacted on the cargo market as a large proportion of domestic air cargo is carried in the lower deck areas of passenger aircraft.

The movement of air cargo has also been affected by State government licensing of air services on intrastate routes. Economic regulation is undertaken by all States except South Australia and Victoria. The major criteria applied to proposals for new freight services in the States with economic regulation are the effects on the viability of existing airline passenger and freight services and the impact on alternative forms of transport (Gawan-Taylor 1984a, 5; Review of New South Wales Air Services 1986).

This chapter outlines the evolution of Commonwealth Government regulation and the development of the domestic air cargo industry up to 1978. The major events over this period are summarised in Table 3.1.<sup>1</sup> Developments between 1979 and 1987 are discussed in Chapter 4.

### THE TWO AIRLINE POLICY

Commonwealth Government regulation of the domestic air cargo industry has historically distinguished between freight and mail. This partly reflects the different shipper arrangements in the two sectors, with freight being shipped by a variety of individuals and organisations whereas a Commonwealth authority is the sole shipper of mail.

#### Freight

Detailed economic regulation of Australia's domestic aviation industry

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1. For a detailed discussion of the evolution of the regulatory system see Poulton (1981), Department of Aviation (1985a) and BTE (1985).

commenced with the *Civil Aviation Agreement Act 1952* which came into force on 18 November of that year. This legislation provided the foundation for the two airline policy under which access to major routes was restricted to TAA and Ansett.<sup>2</sup> It was primarily directed at the passenger market but there were also provisions affecting cargo. Amongst other things, the Act required TAA and Australian National Airways (ANA) to keep under review air routes, timetables, freight rates and other related matters with a view to avoiding unnecessary overlapping of services and wasteful competition (Department of Transport 1979a, 37).<sup>3</sup> The Commonwealth Government was also required to take all steps necessary to ensure that its freight traffic was freely available to both airlines and that the holder of a Government warrant had a free option as to the service he would use.

The Airlines Agreement was subsequently changed with the passage of the *Civil Aviation Agreement Act 1957*. This legislation clearly stated the objective of maintaining a two airline competitive system on the trunk routes and strengthened the original rationalisation procedures (Department of Transport 1979a, 37).

Further legislation affecting the air cargo sector was enacted over the following 15 years. The *Airlines Equipment Act 1958* facilitated the purchase of new equipment by the two trunk airlines and introduced detailed provisions for the rationalisation of aircraft fleets. The latter provisions were designed to ensure that neither airline had excess capacity or a qualitative advantage in aircraft (Department of Aviation 1985a, 10).

The *Airlines Agreements Act 1961* consolidated all of the arrangements and principles developed in the earlier legislation (Department of Aviation 1985a, 14-15). The Act also extended the rationalisation machinery until 1977 and set out with greater precision the matters which the airlines agreed to keep under review. These matters included timetables, aircraft types and capacity, freighter load factors and proposed variations in the levels of freight rates.

- 
2. In the discussion of trunk airline services in this Paper, the term Ansett refers to Ansett Airlines of Australia (and its predecessors) which is an operational division of Ansett Transport Industries (Operations) Pty Ltd. Several other operational divisions of the latter company undertake regional airline services and are identified in the Paper by their trading names. Ansett Transport Industries (Operations) Pty Ltd is a subsidiary of Ansett Transport Industries Ltd which is one of the parties to the 1981 Airlines Agreement.
  3. ANA was subsequently taken over by Ansett Transport Industries in 1957.



TABLE 3.1 MAJOR EVENTS IN DEVELOPMENT OF COMMONWEALTH GOVERNMENT  
REGULATION AFFECTING THE DOMESTIC AIR CARGO INDUSTRY, 1952  
TO 1978

<i>Year</i>	<i>Development</i>	<i>Effect on cargo sector</i>
1952	<i>Civil Aviation Agreement Act 1952</i>	Required trunk airlines to keep under review matters such as routes, timetables and freight rates in order to avoid wasteful competition
1957	<i>Civil Aviation Agreement Act 1957</i>	Stated the objective of a two airline competitive system and strengthened the rationalisation procedures
1958	<i>Airlines Equipment Act 1958</i>	Introduced detailed rationalisation procedures and facilitated purchase of new aircraft
1961	<i>Airlines Agreements Act 1961</i>	Defined more precisely the matters the trunk airlines agreed to keep under review including freight rates and freighter load factors
1972	<i>Airlines Agreements Act 1972</i>	Required trunk airlines to stimulate air freight Provided for operation of specialist freight services by other carriers on trunk routes
1977	Approval for importation of freighters by two companies	Enabled IPEC to operate large freighters to Tasmania
1978	Domestic Air Transport Policy Review	Recommended removal of freight from two airline policy and ending of equal sharing provisions for mail

Source Prepared by BTE.

The *Airlines Agreements Act 1972* was a response to growing criticism of certain aspects of the two airline policy. It more explicitly recognised the public interest obligations which the trunk airlines undertook to fulfil in return for the retention of the policy (Department of Aviation 1985a, 35). Amongst other things, the Act

required the two trunk airlines to stimulate air freight and promote its development on a sound and economic basis. It also provided for the introduction of other operators on non-trunk routes as well as the operation of specialist freight and passenger services which, in the Minister's opinion, were not adequately provided by either TAA or Ansett (Department of Aviation 1985a, 22). Several new services were subsequently introduced under the specialist services provision. In addition, the *Airlines Agreements Act 1972* provided specific legislative backing for curfews on the operation of turbo-jet aircraft at Sydney, Brisbane and Adelaide airports.

Under the terms of the two airline policy, controls over freight rates were exercised by the Minister for Transport (Poulton 1981, 108). Air Navigation Regulation 106 empowered the Minister to approve freight rates subject to any variation as he directed. He could also reject a tariff and direct the adoption of a tariff that he considered fair and reasonable for the service provided.

By early 1979 the trunk airlines offered a variety of discounts off scheduled rates to shippers (*Australian Transport* 1979b, 6). There were discounts of up to 15 per cent for large shipments while airport-to-airport consignments attracted an additional discount of 5 per cent. Rates for off-peak carriage, based on lodgment of cargo at the airport prior to midday, were up to 50 per cent below the basic freight rate. Backloading rates were available to regular shippers from all ports except Melbourne and Sydney.

### **Mail**

Under the terms of the *Civil Aviation Agreement Act 1952* and subsequent legislation, air mail carried on the trunk routes was reserved for the two major airlines. They were entitled to equal shares of the traffic at the same rate, with the level of charges being negotiated between TAA and the postal authority (Department of Transport 1979a, 96).

On the remaining routes there was generally no direct competition between operators and rates were determined on an offer and acceptance basis in negotiations between the carriers and the postal authority. These routes were serviced by charter operators, commuter airlines, regional carriers and the trunk airlines.

Payments for the carriage of mail initially included an element of subsidy by the Commonwealth Government (Poulton 1981, 162-165). However, in 1957 the Government decided to set the rates on a strictly commercial basis and provide a specific subsidy for developmental and

essential rural services. After negotiations with the airlines, the rate for the carriage of air mail was reduced by 20 per cent from 1 November 1959. The rate was adjusted again in 1968, 1970, 1973 and 1976. A system of quarterly reviews based on movements in general freight rates was then adopted.

#### DEVELOPMENT OF TRUNK AIRLINE OPERATIONS

The two airline policy provided the framework for the development of the domestic air cargo industry in the post-war period. The growth of scheduled services was initially based on the operations of Ansett and TAA which served both the passenger and cargo markets.

The trunk airlines relied heavily on mixed-configuration aircraft for the movement of cargo but both carriers acquired freighter aircraft early in the post-war period.<sup>4</sup> ANA introduced three Bristol Freighters in the early 1950s and brought a substantial freight operation to Ansett when it was taken over by that company. TAA also acquired Bristol Freighters but air cargo was a smaller part of its overall operations.

By 1960 Ansett carried 64 per cent of the cargo moved by the trunk airlines (*Aircraft* 1982, 16). Three Ansett DC4 aircraft were converted to the Carvair freighter version between 1965 and 1968 while a fourth DC4 was retained for use as a pure cargo aircraft in its original form (Department of Transport 1979a, 33; Department of Civil Aviation 1968, 9). In marked contrast, TAA withdrew its last Bristol Freighter from service in 1969 and then operated without specialist freighter aircraft for an extended period (Department of Civil Aviation 1969, 3).

There was some upgrading of the trunk airlines' cargo operations during 1966-67 when TAA and Ansett introduced 'Quick Change' versions of the Fokker F27 (Department of Civil Aviation 1967, 3). The internal configuration of these aircraft permitted rapid conversion between the carriage of passengers and cargo on the main deck, and they could therefore be used as pure freighters on night services. The introduction of pallets at this time also substantially reduced aircraft turnaround times.

By 1971 the two airlines had a total of 12 F27QC aircraft in operation. In line with its greater involvement in the air cargo

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4. Mixed-configuration aircraft primarily carry passengers but also have significant cargo capacity.

market, Ansett also operated two B727 aircraft in the 'Quick Change' configuration as well as the three Carvairs and one DC4 (Department of Civil Aviation 1971, 3). In 1972 Ansett's Carvair and DC4 freighters were replaced by Lockheed Electra aircraft which were transferred from Ansett's passenger fleet and converted to a pure cargo configuration.

Throughout the 1970s the two airlines continued to hold different views on the appropriate role of air cargo in their operations. Ansett placed greater emphasis on cargo and carried 54 per cent of the cargo moved by the trunk airlines in 1977. It earned 11.4 per cent of its revenue from air freight and mail in that year while the comparable figure for TAA was only 8.5 per cent.<sup>5</sup> These proportions were much lower than the corresponding figures of 19.3 per cent and 15.1 per cent in 1965 due to the faster growth of passenger revenue (Department of Transport 1979a, 104-106).

The two trunk airlines also held different views on the appropriate aircraft for cargo operations in Australia. In 1977 TAA carried 12.5 per cent of its cargo in freighter aircraft while the comparable figure for Ansett was 37.9 per cent. At this stage, TAA relied on DC9s with freight loaded in bags on the seats and F27QC aircraft for specialised freight operations whereas Ansett operated the four Lockheed Electra freighters as well as the 'Quick Change' F27s and B727s (Department of Transport 1979a, 103-105).

#### **ENTRY OF OTHER OPERATORS**

The Commonwealth Government was generally opposed to the establishment of competing specialist air freight carriers for much of the post-war period. This apparently reflected a belief that such operators would be uneconomic or dilute the air freight revenue received by the two trunk carriers. However, specialist operators later achieved a significant position in the industry as the restrictions on competing carriers were relaxed.

#### **Activities of freight forwarders**

The organisations interested in the operation of air cargo services included the freight forwarders. The expansion of forwarding activities was a major feature of Australian transport in the post-war

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5. The Ansett figure underestimates the relative importance of freight in the company's airline operations as the total revenue figure covers Ansett Transport Industries Ltd as a whole. Freight reportedly accounted for 17 per cent of Ansett's total airline revenue in 1975-76.

period. Forwarders introduced the concept of a single invoice under which they assumed responsibility for door-to-door movement as part of a total package of transport services. They also consolidated small consignments into larger loads which attracted lower carriage rates. Part of the reduction was passed onto shippers in the form of lower freight rates.

Forwarders initially developed in the road transport sector but they quickly achieved major positions in rail and sea transport. By the 1960s companies such as Thomas Nationwide Transport Ltd (TNT), Alltrans Pty Ltd, Mayne Nickless Ltd, Ansett Freight Express and Interstate Parcel Express Co Ltd (IPEC) handled a substantial proportion of the traffic carried by these modes.

Development of forwarder activities in the air cargo sector was much slower as the trunk airlines initially preferred to rely on their own direct selling efforts to obtain freight business. Forwarders claimed that the airlines treated freight as a second class commodity, with freight not being loaded if passenger traffic limited the space available and not being unloaded if turnaround times for passenger operations would be adversely affected. Attempts by forwarders to operate their own aircraft were initially blocked by the Commonwealth Government but the restrictions were gradually eased.

### **IPEC Air**

A major development occurred in February 1963 when IPEC Air Pty Ltd commenced regular air freight operations using a chartered DC3 aircraft operated by Brain and Brown. This followed the provision of freight forwarding services through sub-contractors by Ansett and TAA. The airlines had then become IPEC's direct competitors in the freight forwarding sector as well as the only carriers of its air freight (IPEC 1985, 1).

In March 1964 IPEC applied for licences to import five DC4 freighter aircraft and operate all-freight services between Sydney, Melbourne, Brisbane, Adelaide, Perth and Launceston. The applications were refused by the Director-General of Civil Aviation in December 1964 on the grounds that further facilities for the operation of freight services on trunk routes were not justified on economic grounds (Poulton 1981, 45). IPEC challenged this refusal in 1965. The High Court subsequently ruled in favour of IPEC on the question of the issue of a charter licence to operate freighter aircraft but against it on the permit to import aircraft.

There was some relaxation of Commonwealth Government controls on

specialist freight carriers in 1977 although it is not clear whether this was a deliberate change in aviation policy (Poulton 1981, 194). In February 1977 the Minister for Transport agreed to the importation of two Carvair aircraft by Air Express Ltd and two Argosy freighters by IPEC under the specialist services provision of the *Airlines Agreements Act 1972* (Department of Transport 1977, 32). However, the right of the Secretary of the Department of Transport to issue the necessary import permits for these aircraft was challenged in the High court by Ansett Transport Industries (Operations) Pty Ltd. The Court upheld the Secretary's right to issue the permits in December 1977 and IPEC and Air Express were subsequently issued with import permits.

The companies initially acquired aircraft from other Australian operators. Air Express bought two DC4 aircraft from Qantas with the support of the Tasmanian Government which provided a \$500 000 loan guarantee. The aircraft were converted to freighters and entered service in October 1977 when they joined the company's two Bristol Freighters on the Melbourne-Launceston route (Poulton 1981, 194). However, Air Express subsequently encountered financial difficulties and went into receivership in September 1979.

IPEC was more successful. It had purchased an out-of-hours Australian-registered Argosy 101 from Brain and Brown in 1976 and, after refurbishment to make it airworthy, this aircraft entered service with IPEC on the Bass Strait route in February 1978 (IPEC 1985, 1). Two Argosy 222 aircraft were subsequently imported and introduced into the Bass Strait trade in October 1978 and March 1979 (Department of Transport 1979c, 39). The original Argosy 101 was then placed in reserve and later sold in line with undertakings given to the Government when the company imported the Argosy 222 aircraft.

### **Other developments**

By 1978 TAA and Ansett were still the only operators generally permitted to carry air cargo on scheduled services on trunk routes. The only exception was the route between Tasmania and the mainland where a number of smaller charter carriers such as Brain and Brown, Air Express, Forrestair, Fleet Air and IPEC operated specialist freighters (Department of Transport 1979a, 103, 115-116). However, these companies operated older aircraft such as DC3s, DC4s and Bristol Freighters which were often unsuitable and uneconomic. All operators except IPEC were subsequently taken over or ceased operations due to financial difficulties. IPEC's operations were confined to services across Bass Strait under a written agreement with the Minister for Transport and attempts to extend Argosy services north to Sydney in 1979 were unsuccessful (IPEC 1985, 1).

Other forwarders continued to expand their activities in the air freight market. By the end of the 1970s 16 operators were providing about 30 per cent of TAA's air freight (Newman 1980, 22). Links between TAA and the Mayne Nickless group were also established during this period, with the two organisations jointly developing Jetspress as a consolidator of domestic air freight (Rimmer 1977, 199). Ansett was reportedly less enthusiastic about dealing with forwarders but it nevertheless strengthened its relations with them.

TNT also moved to increase its involvement in the domestic air freight industry. In May 1978 its subsidiary Comet Overnight Transport Pty Ltd established a joint operation with East-West Airlines Ltd under which an overnight, door-to-door service covering over 1000 Comet collection depots in New South Wales was established (*Freight and Container Transportation* 1978, 22). Ten months later an air freight system in Queensland was set up in association with Bush Pilots Airways Ltd. This operation used Emerald as a hub with spokes radiating to Brisbane, Cairns, Rockhampton, Mackay and Cloncurry (*Australian Transport* 1979a, 27).

#### DOMESTIC AIR TRANSPORT POLICY REVIEW

Although the two airline policy was designed to promote competition and protect consumers, there was some public criticism of the standard of passenger and freight services. Difficulties with freight operations identified by critics included delays, high charges for express freight, a perceived lack of interest by the trunk airlines in providing adequate freight services and an inability to meet demands for air freight services due to passenger-oriented timetables and equipment (Department of Transport 1979a, 109; Department of Aviation 1985a, 20).

On 3 July 1977 the Minister for Transport announced a review of the principles and administration of Australia's domestic air transport policy. The review was to be undertaken by a special study group of Departmental officers assisted by academics and consultants.

The Committee's report, which was released in July 1978, concentrated on the passenger market. It concluded that the two airline policy had provided various benefits but that the trunk airlines had reached a stage where they could withstand greater competition from other operators on some parts of their operations (Department of Aviation 1985a, 51). There were also a number of findings and recommendations with respect to air cargo.

The Committee recognised that the air freight industry was

characterised by a heavy dependence on passenger aircraft, with passenger demand rather than freight being the primary consideration (Department of Transport 1979a, 116-118). It concluded that the development of a complete air freight service in Australia had been restricted by the two airline policy and that regulation had slowed the growth of the air freight market. It also considered that the possible benefits of specialised freight operators supplying a different but complementary service to that provided by the trunk airlines far outweighed the small risk of over-capacity and instability in the airline industry. The Committee therefore recommended the removal of air freight from the terms of the two airline policy. However, it considered that it would be desirable for the Government to continue to approve freight rates in order to prevent predatory pricing practices.

The Committee concluded that there were good reasons for discontinuing the equal sharing arrangements and the provision for payment at the same rate for air mail (Department of Transport 1979a, 99-102). It therefore advised that quantities and rates should be determined by negotiations between each airline and the Australian Postal Commission. The Committee also recommended consideration of amendments to the Postal Services Act to include a provision for the Commission to enforce the carriage of mail on Australian aircraft. There was a further recommendation that the Commission be allowed to award contracts for the carriage of domestic 'opportunity mail by air' to other Australian airlines and operators, including Qantas, on routes where TAA and Ansett could not offer sufficient capacity at reasonable rates.<sup>6</sup>

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6. 'Opportunity mail by air' is now called surface mail by air.



## CHAPTER 4 REGULATORY CHANGE AND DEVELOPMENTS AFTER 1978

Policy changes after the Domestic Air Transport Policy Review resulted in a significant relaxation of direct controls over the domestic air cargo industry. The major events between 1979 and 1987 are summarised in Table 4.1.

### INITIAL DEVELOPMENTS

Prior to the enactment of new legislation to give effect to the renegotiated Airlines Agreement, several developments affected the structure and operation of the domestic air cargo industry.

#### Charter operators

In early 1979 the Department of Transport authorised a number of general aviation operators to carry time-sensitive freight on behalf of individual freight forwarders on a regular basis over airline routes under closed charter arrangements (Department of Transport 1980, 37). These operations were approved after it was recognised that existing services were not adequately catering for some small items, such as business documentation, which required urgent delivery and could support premium rates. Following the withdrawal of Ansett's nightly Electra service on the Brisbane-Mackay-Townsville-Cairns route in May 1979, the Department of Transport issued approvals to a number of charter operators to fly nightly services for time-sensitive freight over this route (Department of Transport 1979c, 39).

The relaxation of restrictions was quickly followed by the expansion of freight forwarders' involvement in the carriage of overnight express air freight. The major operators were Wards Air Cargo, TNT Courier System and IPEC.

Wards Air Cargo started a service between Melbourne and Sydney in January 1979 using a chartered Learjet supported by the company's national ground transport network. Traffic included business documentation, films and computer tapes. The air operation expanded rapidly and by April 1979 Wards had four chartered Learjets providing

TABLE 4.1 MAJOR EVENTS IN DEVELOPMENT OF COMMONWEALTH GOVERNMENT REGULATION AFFECTING THE DOMESTIC AIR CARGO INDUSTRY, 1979 TO 1987

<i>Year</i>	<i>Development</i>	<i>Effect on cargo sector</i>
1979	General aviation charter operators given access to airline routes	Allowed small aircraft to carry time-sensitive freight on behalf of individual freight forwarders on a regular basis under closed charter arrangements
1981	<i>Airlines Agreement Act 1981</i>	Removed cargo from ambit of two airline policy but required prospective operators to establish that there was a demand for their proposed services
	<i>Airlines Equipment Amendment Act 1981</i>	Allowed pure air freight operators to have access to large turbo-jet aircraft subject to certain undertakings as to their use and disposal
1983	New air service licences created	Designed to accommodate pure freight operations
1987	Independent Review of Economic Regulation of Domestic Aviation	Identified possible future arrangements for domestic aviation including implications for air freight.
	Announcement by Minister for Aviation	Indicated Commonwealth Government's intention to give notice to terminate Airlines Agreement

*Source* Prepared by BTE.

two-way services on the Sydney-Melbourne, Sydney-Brisbane and Melbourne-Adelaide-Perth routes (*Freight and Container Transportation* 1979b, 5). Light aircraft provided additional overnight services on the Brisbane-Townsville-Cairns, Brisbane-Mackay-Mount Isa and Sydney-Charleville-Mount Isa-Darwin routes. The company also made extensive use of scheduled services provided by the trunk and regional airlines which carried 70 per cent of its cargo. In mid-1979 Wards acquired two purpose-designed Learjet freighters which had a maximum payload of 1.8 tonnes compared with a capacity of 1.1 tonnes on the chartered passenger Learjets.

TNT Courier System also introduced chartered aircraft on overnight express services although it continued to rely heavily on the trunk airlines (*Freight and Container Transportation* 1979f, 4). By late 1979 two Learjets provided overnight return services on the Melbourne-Perth and Melbourne-Sydney-Brisbane-Townsville-Cairns routes while two Westwinds served Sydney-Melbourne and Melbourne-Adelaide-Alice Springs-Darwin. Four smaller aircraft operated to coastal and central Queensland and south-west Western Australia.

In May 1979 IPEC was issued with a charter licence to operate overnight freight services between Brisbane, Sydney, Melbourne (Essendon), Perth and Adelaide using DC3 aircraft (Department of Transport 1979c, 39). The company commenced a Melbourne-Sydney-Melbourne overnight service using a DC3 in July 1979. Other aircraft chartered by the company provided connections to Brisbane and Adelaide while IPEC's Argosy aircraft operated to Tasmania (*Freight and Container Transportation* 1979d, 5). The DC3 freighter was withdrawn from service in late 1979 as a result of high fuel costs, limited payload and expensive cargo handling procedures. However, IPEC continued to act as a forwarder for mainland air freight by chartering TAA and Ansett aircraft and by using a number of smaller operators (Department of Transport 1980, 37).

The services operated by the freight forwarders were generally complementary to those offered by the trunk airlines as they filled time or service gaps in the airlines' schedules. A TAA official noted that IPEC had increased the size of the air cargo market to Tasmania because of its ability to cater to segments which were not served by the trunk airlines (*Freight and Container Transportation* 1979c, 5). However, there were also areas of competition. For example, in November 1979 Ansett and TAA launched door-to-door express air freight services in direct competition with the services provided by Wards and TNT Courier System (*Freight and Container Transportation* 1979e, 15).

### **Takeover of Ansett Transport Industries**

In late 1979 TNT and News Limited acquired joint control of Ansett Transport Industries Ltd (ATI). TNT had initially acquired a 23.3 per cent interest in the company in 1972 but a subsequent takeover offer at that time had failed after an amendment to the Victorian Companies Act.

Although air freight forwarding was not a central consideration in the takeover, the ownership change was followed by a significant restructuring of Ansett's air cargo operations including greater emphasis on forwarding activities. In February 1980 the former

general manager of TNT Courier System was appointed general manager of Ansett's air cargo operation with responsibility to TNT's chief general manager (*Freight and Container Transportation* 1980, 23). TNT, which had traditionally used both Ansett and TAA for the movement of its air cargo, concentrated its business with Ansett. These developments encouraged a closer relationship between TAA and Mayne Nickless.

## LEGISLATIVE AMENDMENTS

A package of legislation to give effect to the renegotiated Airlines Agreement was passed by Parliament in June 1981 and came into effect in early 1982. It was primarily directed at continuing the regulation of domestic airline passenger services while promoting increased competition and reducing community dissatisfaction with various aspects of the two airline policy (Department of Aviation 1985a, 36-37). However, there were also changes in the provisions affecting freight and mail.

### Freight provisions

The *Airlines Agreement Act 1981* removed freight from the ambit of the two airline policy and the *Airlines Equipment Amendment Act 1981* excluded freight from the capacity determination process. These changes eliminated controls over freight rates and removed many of the restrictions on trunk route freight operations.

The amended legislation also made provision for pure air freight operators to have access to large turbo-jet aircraft suitable for their operations. However, certain obligations as to the use and disposal of the aircraft were also imposed on the operators. They were required to undertake not to uplift passengers on their designated turbo-jet cargo aircraft and, when the aircraft were to be sold, they had to either sell them overseas or obtain an undertaking from the Australian buyer to comply with the obligations (Department of Aviation 1985a, 42).

As a result of these changes, any operator other than an international airline (including Qantas) was able to provide pure cargo services under a cargo airline licence if it satisfied certain operational requirements and demonstrated that the aircraft would not be used to carry passengers (Independent Review of Economic Regulation of Domestic Aviation 1987, 74). The domestic air cargo industry was therefore partially deregulated but significant direct and indirect regulation still remained.

### Remaining freight regulation

The mixed-configuration aircraft which carried the majority of cargo were still subject to regulation in terms of the passenger market. In addition, prospective entrants were required to establish that there was a demand for their proposed services and to provide the undertakings as to the use and disposal of the aircraft (Department of Aviation 1985a, 37). It was also claimed that, despite the regulatory changes, the procedures for importing aircraft and obtaining licences continued to create significant barriers to entry (*Daily Commercial News* 1986, 3).

The impact on freight services of continued Commonwealth regulation of the interstate passenger market was subsequently highlighted by TAA in its submission to the Independent Review of Economic Regulation of Domestic Aviation (TAA 1985b, 56-57). TAA stated that several regulatory provisions prevented it from operating freighter services combined with marginal passenger services on certain trunk routes at night using the A300 aircraft. Constraints in the areas of capacity determinations and the requirement to seek agreement on load factors meant that operation of the proposed services would necessitate the withdrawal of passenger capacity from other parts of the network. In addition, TAA was concerned that the Independent Air Fares Committee would not necessarily approve a special fare to attract passengers at unpopular times. It also considered that the curfews based on engine types rather than noise levels would prevent the proposed service from being offered.

Earlier Airlines Agreements had made no reference to the role of Qantas or other international airlines in the carriage of domestic air cargo on scheduled services over trunk routes. The Government's policy had been that Qantas could only carry domestic cargo as a sub-contractor to Ansett or TAA (Department of Transport 1979a, 115). Clause 15 of the Schedule to the *Airlines Agreement Act 1981* specified the role of Qantas as the provision of international air services and not domestic regular public air services (Independent Review of Economic Regulation of Domestic Aviation 1987, 103, 153, 254). However, there was provision for the carriage of international traffic over domestic sectors as part of Qantas' international services. Commonwealth authorities interpreted this clause as excluding Qantas from participation in the domestic freight market unless it had the concurrence of the parties to the Airlines Agreement. This interpretation was challenged by Qantas which argued that its exclusion from the domestic air cargo market was inconsistent with the liberalisation of policy towards this sector. Foreign carriers were

also specifically excluded from the carriage of domestic traffic under the 1981 Act.

State governments with licensing requirements generally did not relax their controls after the changes in Commonwealth policy. In New South Wales there was initially no liberalisation of the restrictions on the movement of non-bank cargo by small freighter aircraft engaged in the transport of bank documentation. An application by Security Express in 1984 to extend the coverage of its licence from bank documentation to other goods, using the same network of flights, was generally unsuccessful. However, a review of New South Wales air services in 1986 supported an underlying policy of full deregulation of cargo operations (Review of New South Wales Air Services 1986).

### **Mail provisions**

The *Airlines Agreement Act 1981* included specific amendments to the provisions covering air mail. The equal sharing and common rate provisions were abolished and quantities and rates on the 'competitive' routes were made the subject of commercial arrangements between the Australian Postal Commission and the two trunk carriers. In practice the equal sharing arrangements were continued, with direct negotiation and a formula approach being used at different times to determine the rates.

### **CHANGES IN AIR CARGO OPERATIONS**

The relaxation of regulation was accompanied by significant changes in the cargo operations of the two trunk airlines and other operators. However, it appears that many of these changes reflected market developments rather than a response to the modifications to the regulatory framework.

### **Wide-body aircraft**

TAA and Ansett introduced A300 and B767 wide-body aircraft in 1981 and 1983 respectively in response to forecast growth in the passenger market. The new equipment also substantially increased the lower deck cargo capacity available on scheduled passenger services on some trunk routes.

The increased capacity provided by the A300 and B767 facilitated greater use of containers on domestic services. For example, almost one-third of all cargo carried by TAA during 1982-83 was packed in LD3 containers (TAA 1983, 14).<sup>1</sup> This provided benefits such as reductions

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1. The LD3 is a standard international unit load device which is specifically designed for the lower deck areas of wide-body aircraft. It has an internal volume of 158 cubic feet.

in handling and packaging costs, fewer breakages, reduced weather damage and greater security. The ability of the A300 to carry LD3 containers also permitted a direct interchange facility between domestic and international flights.

Although the introduction of wide-body aircraft increased the cargo capacity and range of services provided by the trunk airlines, the primary role of the aircraft as passenger carriers limited the extent to which the potential benefits were achieved in practice. Changes in scheduling to accommodate the requirements of the passenger market meant that the availability of wide-body capacity suitable for containerised cargo was unreliable. This adversely affected the volume of cargo carried by the wide-body aircraft.

#### **Other trunk airline aircraft**

There were also changes in the narrow-body fleets operated by the trunk airlines. Ansett sent one of its B727-200 aircraft to the United States for conversion to a pure freighter in September 1983 (McDonald 1984, 60-61). The introduction of this aircraft onto services between Melbourne and Tasmania in January 1984 permitted the sale of the three remaining Lockheed Electra prop-jet freighters to overseas interests. The B727-200 could carry more cargo than an Electra and had lower operating costs.

The phasing out of F27QC aircraft by TAA significantly affected its freight operations, as the 'Quick Change' aircraft had provided a significant proportion of TAA's freight capacity. An agreement was therefore reached with IPEC whereby from October 1982 that company undertook to provide five-sixths of the capacity on its Argosy aircraft for TAA's freighter services to the curfew affected ports of Adelaide, Sydney and Brisbane. IPEC also undertook to provide space on its services between Melbourne and Launceston (TAA 1983, 14). The period of the agreement was five years.

In April 1984 TAA leased a B727-77C freighter aircraft from Air Nauru for an initial period of two years (Department of Aviation 1984d, 22-23). Ansett shared the capacity on this aircraft on services between the east coast and Perth under a commercial arrangement until October 1985 when it introduced its own B727-200 freighter onto this route. The lease on the Air Nauru aircraft was subsequently extended.

#### **Trunk airline strategies**

Ansett's air cargo activities were separated from the group's Cargo Division in 1980 when Ansett Air Freight (AAF) was established as a separate corporate entity to take responsibility for air cargo (Giles

1984, 2-3). A specialised air cargo product line including new services such as on-board couriers, satchels and same-day services was developed. These services, which prior to 1980 had often been left to the forwarding industry, required the enlargement of the existing ground transportation fleet.

In October 1982 TAA's cargo operations were re-organised with a separate management structure that was given responsibility for formulating and implementing policies necessary to achieve profit targets (TAA 1983, 14). Freight space on aircraft was to be sold to the cargo division at a price determined by management and accepted by the Commonwealth Government. TAA subsequently decided to concentrate on retailing container rates to bulk shippers while at the same time selling net rates to the forwarding industry (Giles 1984, 5).

The major changes in cargo strategies by the trunk airlines were directed at the air freight sector. Developments in the carriage of air mail were less dramatic. Although the equal sharing provisions for air mail were abolished in 1981, the principle of the sharing arrangements was maintained by informal agreement between the three parties (Australian Postal Commission 1985, 2).

#### **Other operators**

After the relaxation of direct Commonwealth Government regulation, several existing operators expanded their cargo operations and there was some new entry in the domestic air freight market.

In March 1982 IPEC, which was already operating charter services across Bass Strait, was issued with an airline licence for cargo operations between Essendon and Launceston with its Argosy aircraft (Department of Aviation 1982, 16). The licence was extended to include Melbourne-Sydney-Brisbane-Rockhampton-Townsville services in September 1982 and operations to all ports except Rockhampton commenced in the following month (Department of Aviation 1983b, 13). The Melbourne-Adelaide route was added to the licence in October 1982.

IPEC also introduced a DC9-33F freighter aircraft into domestic charter operations from Melbourne to Hobart and Launceston in September 1982. This was the first large turbo-jet aircraft to be used on domestic services by a cargo-only operator. The Argosy aircraft previously used on this route were redeployed on the nightly freight service between eastern State capitals (IPEC 1985, 1). The company also re-acquired the Argosy 101 which it had earlier sold.

In February 1983 new air service licences were created specifically to



accommodate pure freight operations (Minister for Aviation 1984, 7). They included cargo charter licences, cargo airline licences and cargo supplementary airline licences. Cargo charter licences were subsequently issued to two new operators, Bloodstock Air Services and Cargomasters. Cargo airline licences were issued to IPEC and East-West Airlines.

The only new entrant under the modified air freight policy was Bloodstock Air Services which was given approval in principle on 6 September 1982 to import a B727-100F aircraft for pure cargo charter services (Department of Aviation 1983b, 13). The aircraft commenced operations in mid-1983 and was primarily intended to carry livestock on both domestic and international routes. However, it was leased by TAA and operated on regular freight services between Melbourne and Perth for most of the period that it was in Australia (Department of Aviation 1984d, 23). TAA relinquished the lease on the Bloodstock B727 in April 1984. ATI subsequently bought the aircraft and leased it to a freight operator in the US. Bloodstock was wound up in August 1984.

There was a second new entrant after the relaxation of regulation but the operation had been approved under the specialist services provision of the old policy. Cargomasters commenced domestic pure freight charter operations in August 1982 using a Hercules freighter (Minister for Aviation 1984, 8). The aircraft was operated on domestic routes and to the Ok Tedi project in Papua New Guinea until 30 May 1983 when it returned to the US to carry out operations for the company's joint venture partner. At this point, Cargomasters effectively wound up its Australian operations.

East-West's cargo operations were initially restricted by the company's concentration on the passenger market and by the limitations of its aircraft and route network. However, after a period of rapid expansion the company acted to upgrade its cargo operations by establishing a separate air cargo operation in November 1985. The service initially covered 50 ports including all State capital cities. It was proposed to use lower deck areas as well as cabin space on East-West flights with adequate empty seats and to charter space from other operators where necessary. The managing director of East-West Cargo stated that air cargo should ideally provide between 10 and 15 per cent of airline revenue (Shires 1985).

### **Forwarders**

The large forwarder groups continued to develop their air freight operations during this period and TNT and Mayne Nickless evolved as

the major operators in the industry. TNT had obtained a share in an air freight forwarder when it acquired the interest in ATI but otherwise its expansion was achieved by the diversification of its existing forwarding divisions into air freight.

In contrast, Mayne Nickless expanded its air freight activities by acquisition. The Ward Corporation, which was the largest domestic air freight forwarder, was acquired in 1979 and Security Express joined the group in 1980. Country Couriers was acquired in 1982. Mayne Nickless also bought a 50 per cent interest in IPEC in 1983 and in the same year acquired Skyroad Express, a major forwarder established by former employees of Wards.

The removal of most direct Commonwealth controls over domestic air cargo operations in 1982 was reportedly accompanied by substantial new entry in the air freight forwarding industry. However, many of these companies subsequently left the industry as they were unable to achieve the economies of scale which provide significant cost advantages to larger operators.

### **Traffic**

The relaxation of Commonwealth Government regulation was also accompanied by significant changes in the amount of air cargo carried on trunk routes.

### *Freight*

Information on annual changes in the freight tonne-kilometres attributable to Ansett, TAA and IPEC over the 10 years to 1985-86 is presented in Table 4.2. The first column contains the figures published by the Department of Aviation. The data in the second column incorporate an adjustment to offset the impact of traffic transferred from the charter sector to the airline sector in 1982.<sup>2</sup>

There were both increases and falls in airline freight traffic in individual years during the period of detailed regulation and this pattern continued after the regulatory changes. The growth of passenger traffic, which was subject to detailed regulation between 1976-77 and 1985-86, was also both slower and faster than that of

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2. The adjustment for 1981-82 was made by subtracting IPEC's 1981-82 airline traffic from the total airline traffic carried by Ansett, TAA and IPEC in that year. For later years, the annual equivalent of IPEC's airline traffic up to the commencement of the TAA contract was subtracted from total traffic in each year.

TABLE 4.2 CHANGES IN TRUNK AIRLINE TRAFFIC<sup>a</sup> AND GROSS DOMESTIC  
PRODUCT, 1976-77 TO 1985-86  
(per cent)

Year	Freight <sup>b</sup>		Passengers <sup>d</sup>	Real GDP
	Total	Adjusted <sup>c</sup>		
1976-77	0	0	-1	3
1977-78	11	11	12	1
1978-79	4	4	5	5
1979-80	-1	-1	11	2
1980-81	-1	-1	3	3
1981-82	11	9	4	2
1982-83	7	2	-10	-1
1983-84	11	12	3	5
1984-85	-1	-1	6	5
1985-86	5	6	7	4

a. Change in tonne-kilometres on previous year.

b. Ansett, TAA and IPEC.

c. Excludes estimated IPEC charter traffic transferred to airline sector in April 1982.

d. Ansett and TAA.

Source Department of Transport (1978, 1979c, 1982). Department of Aviation (1983a, 1985c, 1986b). Treasury (1987).

freight in particular years during each of the two periods. Changes in the level of economic activity, as measured by Gross Domestic Product (GDP), do not appear to adequately explain the variations in the level of airline freight traffic. Initial analysis of the data therefore does not reveal a consistent relationship between the regulatory framework and growth of airline freight traffic over the 10 years to 1985-86.

The changes in trunk airline cargo traffic following the relaxation of regulation also reflected the impact of several other factors which affected the air freight industry after 1980-81. The introduction of wide-body aircraft from 1981 resulted in a substantial increase in freight capacity which the trunk airlines actively marketed. The high level of real interest rates after 1981 increased the cost of holding inventories and encouraged businesses to reduce transit times and stock levels. This was accompanied by a move to central warehousing and the closure of many regional distribution facilities. There was

also substantial growth in time-sensitive industries such as finance, legal services, advertising and computing. In addition, the takeover of ATI's cargo operations by TNT caused the airline to become more actively involved in air cargo and TAA placed greater emphasis on its cargo operations from the late 1970s. Factors such as declines in transit times and freight rates for road transport adversely affected the amount of freight carried by air.

Initial analysis of the available data therefore does not provide sufficient information to identify the impact of the regulatory changes on the air freight industry's growth performance. It appears that other factors contributed to the changes in airline freight traffic over the period to 1985-86.

#### *Mail*

Information on the amount of mail carried by the trunk airlines is published by the Department of Transport and Communications (Department of Aviation 1986b). Confidential statistics are also prepared by the Australian Postal Commission. These data indicate that the relaxation of regulation was not followed by major changes in the amount of mail carried by the trunk airlines.

### **INDEPENDENT REVIEW**

On 7 March 1985 the Minister for Aviation, the Hon Peter Morris, MHR, announced the establishment of an Independent Review of Economic Regulation of Domestic Aviation (IRERDA). The review was established to assist the Government to determine a framework for domestic aviation arrangements through the 1990s.

The terms of reference called for a review of the existing policy as well as advice on appropriate future arrangements. They also specifically directed that attention be given to a number of matters including the implications of the regulatory framework for the air freight sector. Submissions were received from airline passengers, industry organisations, tourist bodies, State governments and the general public.

The Committee's report was released in January 1987. It identified various possible arrangements for domestic aviation ranging from a continuation of the existing framework to total deregulation.

In June 1987 the Minister for Aviation announced that the Commonwealth Government intended to give notice to terminate the Airlines

Agreement. The Government subsequently indicated that from 1990 it would withdraw from detailed economic regulation of aircraft imports and capacity, air fares and route entry. However, Qantas and other international airlines would still be excluded from carriage of domestic freight or passengers on regular services.

## CHAPTER 5 CURRENT INDUSTRY PARTICIPANTS

Air cargo is carried on domestic routes by a variety of operators. Forwarders also provide door-to-door services incorporating the use of air transport and have a major impact on the traffic shares of individual carriers. The discussion of some areas of the industry is restricted by data limitations but the available information covers the bulk of the traffic in terms of tonnes and tonne-kilometres.

### CARRIERS

The majority of domestic air cargo is carried by Australian, AAF and IPEC.<sup>1</sup> However, there are also significant movements by the regional airlines, TNT Air, the air express divisions of Mayne Nickless and the commuter operators. The available information on the amount of cargo carried on scheduled services by the major airlines and airline groups over the five years to 1985-86 is presented in Tables 5.1 (tonnes) and 5.2 (tonne-kilometres). Comparable data for forwarders and charter operators are not available, although it appears that the published data do include some carriage by charter operators under contract to the airlines.

#### Trunk airlines and IPEC

The proportion of domestic airline cargo carried by the two trunk airlines' aircraft fell from 88 per cent in 1981-82 to 79 per cent in 1985-86 in terms of tonnes and from 90 per cent to 85 per cent on a

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1. As noted earlier, Australian Airlines formerly traded as TAA. It is called Australian in the remaining chapters of this Paper. A distinction is also drawn between Ansett Airlines of Australia (Ansett) and Ansett Air Freight (AAF) as they are separate divisions of Ansett Transport Industries (Operations) Pty Ltd. This procedure is not followed for Australian Airlines and Australian Cargo because in this case the cargo operation is a division of the trunk airline. The term Australian therefore refers to both the trunk airline and its air cargo operations.

TABLE 5.1 AUSTRALIAN DOMESTIC AIR CARGO TRAFFIC BY MAJOR AIRLINES AND AIRLINE GROUPS, 1981-82 TO 1985-86<sup>a</sup>

Airline group and airline	Traffic (tonnes)					Average annual change (per cent)
	1981-82	1982-83	1983-84	1984-85	1985-86 <sup>b</sup>	
Trunk						
Ansett	68 827	67 064	73 887	77 560	81 252	4.2
Australian	68 878	58 919	58 135	58 110	56 469	-4.8
Total	137 705	125 983	132 022	135 670	137 721	0.0
Regional						
Air NSW	1 538	1 390	1 363	1 197	1 379	-2.7
Ansett NT <sup>c</sup>	708	630	576	506	389	-13.9
Airlines of SA	528	454	430	446	342	-10.3
Ansett WA <sup>d</sup>	5 467	4 932	4 918	3 981	3 091	-13.3
Air Queensland <sup>f</sup>	369	438	523	572	480	6.8
East-West	1 681	1 497	1 596	1 588	1 927	3.5
Total	10 291	9 341	9 406	8 290	7 608	-7.3
Commuter	4 142	3 930	3 647	3 642 <sup>b</sup>	3 553	-3.8
IPEC <sup>g</sup>	5 094	23 296	26 023	25 677	26 340	10.6
Total	157 232	162 550	171 098	173 279 <sup>b</sup>	175 222	2.7

a. Covers revenue traffic (freight and mail) carried by operators of domestic scheduled airline services and commuter airlines.

b. Provisional.

c. Formerly Northern Airlines and Airlines of Northern Australia.

d. Formerly MacRobertson Miller Airlines and Airlines of Western Australia.

f. Formerly Bush Pilots Airways. Acquired by Australian in March 1985.

g. Commenced airline operations on 17 March 1982. To avoid distortion, calculation of average annual change over five years is based on equivalent annual figure for 1981-82.

Sources Department of Aviation (1983a, 1984a, 1985b, 1986b, 1987b, pers. comm. 1987).

TABLE 5.2 AUSTRALIAN DOMESTIC AIR CARGO TASK BY MAJOR AIRLINES AND AIRLINE GROUPS, 1981-82 TO 1985-86<sup>a</sup>

Airline group and airline	Task ('000 tonne-kilometres)					Average annual change (per cent)
	1981-82	1982-83	1983-84	1984-85	1985-86 <sup>b</sup>	
Trunk						
Ansett	61 532	62 566	70 922	69 587	77 689	6.0
Australian	61 378	58 786	61 076	62 032	59 638	-0.7
Total	122 910	121 352	131 998	131 619	137 327	2.8
Regional						
Air NSW	688	629	610	515	592	-3.7
Ansett NT <sup>c</sup>	475	444	400	357	278	-12.5
Airlines of SA	133	115	110	113	83	-11.1
Ansett WA <sup>d</sup>	6 716	6 021	6 189	5 064	4 037	-11.9
Air Queensland <sup>f</sup>	308	297	426	413	362	4.1
East-West	832	765	838	951	1 390	13.7
Total	9 152	8 271	8 573	7 413	6 742	-7.4
Commuter	1 609	1 541	1 457	1 475 <sup>b</sup>	1 360	-4.1
IPEC <sup>g</sup>	2 389	12 341	14 871	15 135	15 641	17.3
Total	136 060	143 505	156 899	155 642 <sup>b</sup>	161 070	4.3

a. Covers revenue traffic (freight and mail) carried by operators of domestic scheduled airline services and commuter airlines.

b. Provisional.

c. Formerly Northern Airlines and Airlines of Northern Australia.

d. Formerly MacRobertson Miller Airlines and Airlines of Western Australia.

f. Formerly Bush Pilots Airways. Acquired by TAA in March 1985.

g. Commenced airline operations on 17 March 1982. To avoid distortion, calculation of average annual change over five years is based on equivalent annual figure for 1981-82.

Sources Department of Aviation (1983a, 1984a, 1985b, 1986b, 1987b, pers. comm. 1987).



tonne-kilometre basis. This decline occurred despite an increase in the amount of cargo carried by these aircraft.

The data in Tables 5.1 and 5.2 indicate that the amount of cargo carried by Ansett increased significantly over the period while Australian's traffic fell. These figures probably provide a reasonable indication of the distribution of traffic carried by the two trunk airlines' aircraft. However, a significant proportion of the traffic handled by Australian is now carried in aircraft operated by IPEC. The published figures therefore underestimate the proportion of trunk traffic that is handled by Australian. A market share of more than 50 per cent on trunk routes has been claimed by Australian, although ATI's regional operations give AAF the largest share of the total airline market.

There are significant differences in the structure and scope of the two airlines' cargo operations. Australian is essentially a linehaul operator which also provides door-to-door services by sub-contracting pick-up and delivery functions to other companies. In contrast, AAF provides the complete door-to-door service itself and earns a large proportion of its revenue from this market. It also competes directly with other forwarders. AAF handles the air cargo activities of Ansett and ATI's regional airline divisions.

The third largest carrier of air cargo on scheduled airline services in 1985-86 was IPEC. This company was solely a charter operator until March 1982 when it commenced airline operations. Traffic on its airline services grew rapidly and accounted for 15 per cent of domestic airline cargo movements on a weight basis and 10 per cent in terms of tonne-kilometres in 1985-86. A major factor in this expansion was the negotiation of the contract with Australian.

### **Regional airlines**

The proportion of total cargo carried by the regional airlines declined from 7 per cent in 1981-82 to 4 per cent in 1985-86 in terms of both tonnes and tonne-kilometres.

The overall decline in regional airline cargo reflects several influences including carriers' concentration on passenger traffic, the replacement of many regional airline services by commuter operations, increased competition from road transport operators and the economic situation in rural communities. For example, improvements to the road system in New South Wales have encouraged shippers and freight forwarders to expand the use of road transport services to country centres from Sydney, with consequent effects on air services. Daily

newspapers accounted for more than 50 per cent of regional airlines' freight traffic in New South Wales in the 1960s and 1970s but much of this business was subsequently redistributed to road transport companies as road improvements reduced their transit times (Review of New South Wales Air Services 1986).

Air Queensland and East-West were the only regional airlines that recorded increases in traffic over the five years to 1985-86. In Air Queensland's case, this probably reflected the expansion of its airline operations as it reduced its involvement in the commuter sector. East-West expanded its service network and placed greater emphasis on air cargo during the latter part of the period. A company official has claimed that East-West used competitive freight rates to create new markets, particularly in rural areas (*Daily Commercial News* 1986, 3).

There are strong ownership links between the two trunk airlines and the regional carriers. Ansett, Air NSW, Ansett NT and Ansett WA are all operating divisions of Ansett Transport Industries (Operations) Pty Ltd. TNT and News Corporation have recently moved to acquire East-West. Air Queensland is owned by Australian.

#### **Commuter airlines**

The amount of cargo carried by commuter airlines has generally declined in recent years. Their share of total traffic fell from 2.6 per cent in 1981-82 to 2.0 per cent in 1985-86 in terms of tonnes and from 1.2 per cent to 0.8 per cent on a tonne-kilometre basis. This decline probably reflects the impact of increased competition from road transport operators, the concentration of commuter airlines on the passenger market and the deterioration in economic conditions in many rural areas over this period. The five largest operators accounted for 63 per cent of the cargo carried by commuter airlines in 1983-84 (Department of Aviation 1985b, 28-50).<sup>2</sup>

#### **Charter operators and freight forwarders**

As noted earlier, the data in Tables 5.1 and 5.2 do not provide a comprehensive description of the air cargo industry as they exclude traffic carried by freight forwarders and charter operators. Charters reportedly accounted for around 10 per cent of total tonnes embarked in 1975-76 and 6 per cent in 1981-82 (Gawan-Taylor 1984a, 9). IPEC was the largest carrier in this group up to 1982.

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2. The operators were Air Queensland, Air Tasmania, Avior, Air North and Skywest.

The major forwarders providing scheduled services are TNT Air and the Wards Express and Security Express - Country Couriers divisions of Mayne Nickless. These companies generally fill market niches that are not adequately served by the airlines. They specialise in the high yielding air express market including the carriage of bank documentation.

### **International airlines**

The published data exclude domestic carriage by international airlines. Qantas can provide transport on domestic routes for overseas cargo which is under bond.<sup>3</sup>

Where an international container is landed in Sydney on a Qantas flight but has an ultimate destination elsewhere in Australia, there are several arrangements for domestic transfer. Melbourne traffic is mainly moved on Qantas flights and the majority of Brisbane traffic is also carried by Qantas. There is limited carriage on international services through other ports. The available data indicate that on-carriage of international cargo on domestic sectors by Qantas amounted to 22.7 million tonne-kilometres in 1985-86 (Qantas, pers. comm. 1987). This was equal to 14 per cent of the cargo carried by the domestic airlines in that year.

Where Qantas does not provide domestic on-carriage on its own flights, it attempts to use air transport wherever possible. International cargo transferred direct from Qantas flights to domestic aircraft for domestic on-carriage amounted to 2.1 million tonne-kilometres in 1985-86 (Qantas, pers. comm. 1987). Additional cargo is passed to the domestic airlines by freight forwarders who handle most of Qantas' cargo. However, industry sources indicate that international on-carriage (including forwarders' traffic) passed to the domestic carriers accounts for less than 10 per cent of the trunk airlines' traffic.

Forwarders contacted during the study advised that international consolidation cargo arriving by air in Melbourne or Sydney is mainly moved by road on domestic routes. This reflects the relatively high costs of air transport and the ability of road transport operators to provide overnight delivery on the major routes. Several companies specialise in moving freight by road between forwarders' premises at various ports.

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3. Cargo under bond has not been cleared by the Australian Customs Service.

If cargo is not under bond, Qantas can only undertake carriage on domestic routes with the approval of the domestic airlines. This occurs when Ansett or Australian does not have adequate capacity. It mainly involves horse pallets which do not fit into the lower deck areas of domestic aircraft. Qantas services may also be used when a domestic carrier's freighter aircraft is unserviceable.

## FREIGHT FORWARDERS

Freight forwarders are heavily involved in the operation of domestic air cargo services. They are also a major source of traffic for AAF and Australian, accounting for an estimated 40 per cent of the cargo carried by Australian in 1983 (Wise 1984). Industry sources suggest that the proportion of AAF's cargo provided by other forwarders is between 40 per cent and 50 per cent. Most of the trunk airlines' forwarder traffic is handled by the two major forwarder groups.

TNT operates in the domestic air freight forwarding industry through a number of divisions including TNT Air, Kwika Air and Comet Air as well as its affiliates AAF and Ansett Freight Express. These companies generally use AAF for linehaul services although other carriers are used where AAF services are not available. TNT Air also operates a complementary network of air services.

The forwarding activities of Mayne Nickless encompass Jetspress Air Couriers, Wards Express, Skyroad Express and Security Express - Country Couriers. The affiliate IPEC also provides forwarding services. The Mayne Nickless divisions generally service particular market areas such as high volume commercial customers (Skyroad), small casual users (IPEC and Wards) and consignors requiring personalised service (Jetspress). Mayne Nickless has close links with Australian but uses AAF services where appropriate.

Mayne Nickless and TNT reportedly account for 95 per cent of the domestic air freight forwarding market (Potter Partners 1986, 4). Revenue of the two major groups was estimated at more than \$300 million in 1985-86.

Several other forwarders operate in the domestic air freight market. Brambles is a major forwarder in surface transport but has only a limited involvement in air freight through its Grace Express Division which was acquired in 1983-84. East-West has established a freight forwarding operation which uses other carriers as well as its own services. There are also some other small operators. Emery Air Freight became involved in the domestic market in 1983 as an extension of its international activities but the domestic operations were sold

to Mayne Nickless in mid-1987. Independent forwarders have tended to use Australian for linehaul services on the major routes.

Detailed consideration of the profitability of air freight forwarding is beyond the scope of the present Paper. However, one observer has claimed that margins are good, with Mayne Nickless earning a profit of \$14 million on revenue of \$165 million from its air express operations in 1985-86 (Potter Partners 1986, 1, 4). These activities accounted for 11 per cent of group revenue and 19 per cent of group profit in that year. Industry sources suggest that margins might not accurately reflect the return on capital invested.

## CHAPTER 6 CURRENT OPERATIONAL PRACTICES

Operational aspects of the domestic air cargo industry can be considered in terms of mixed-configuration aircraft, cost structures, freighter aircraft, freighter networks and capacity utilisation.

### MIXED-CONFIGURATION AIRCRAFT

Mixed-configuration aircraft provide a substantial amount of capacity for the movement of air cargo as well as access to a large number of ports. In June 1985 Ansett and Australian operated passenger services to 38 capital cities and major regional centres (Department of Aviation, pers. comm. 1987). Regional airlines provided access to an additional 58 large towns and commuter airlines served a further 158 smaller centres. In many cases, the operations of the various carriers are co-ordinated to provide connecting services between centres which do not have direct links.

As the services on non-trunk routes are generally provided by regional or commuter airlines, on-carriage arrangements have been negotiated between the trunk airlines and the smaller operators. These arrangements are facilitated in some cases by ownership or operational links but there are also agreements between carriers from the different ownership groups.<sup>1</sup> These links enable each of the major operators to provide a national network of services.

Although the mixed-configuration aircraft used on passenger services provide access to a large number of locations, they have several shortcomings from the viewpoint of air cargo operations. The basic problem is that their schedules are determined by the needs of the passenger market, which is a daytime operation, whereas a large proportion of express air freight requires overnight transport.

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1. The IRERDA report noted that 31 of the 36 commuter airlines for which information was available had operational links with trunk or regional airlines. Five of the ten major commuter operators had financial links with one of the trunk or regional operators.

Schedule variations in response to the seasonal nature of passenger traffic may also disrupt express freight services. In addition, many smaller towns either do not have scheduled air services or receive infrequent services. For example, a survey of 52 major New South Wales towns in 1985 found that 19 towns had no air service while operations to several other towns were infrequent (Mayne Nickless 1985, 7-8).<sup>2</sup>

Further limitations are imposed by the characteristics of mixed-configuration aircraft since they often have restricted cargo capacity. As many airlines consider themselves to be primarily passenger carriers, cargo may be off-loaded to make room for passenger baggage. This is an important factor in regional and commuter airline operations where the smaller aircraft used are more susceptible to weight variations. Mixed-configuration aircraft are also unable to carry certain over-size or hazardous cargoes.

### **COST STRUCTURES**

The inability of mixed-configuration aircraft to service the whole air cargo market has led to the operation of freighters on a variety of routes and services. However, opportunities for profitable operation of all-cargo aircraft in Australia have been limited by the available cargo volumes and the imbalances in traffic flows. The marginal cost floor for pricing on mixed-configuration aircraft includes the additional fuel costs incurred in carrying cargo as well as costs of handling, promotion and administration. In most cases in Australia this is less than the fully allocated costs relevant to freighters. All-cargo aircraft therefore need high utilisation and high load factors to be competitive with mixed-configuration aircraft.

As a result of these differences in operating costs, carriers use mixed-configuration aircraft for the carriage of cargo whenever possible. Industry sources suggest that the major airlines' freighter services have historically incurred losses when considered in isolation but that they contribute to the airlines' overall profitability (*Freight and Container Transportation* 1979a, 23; *Australian Transport* 1983, 14). This reflects the desire of many shippers for a total service which means that a major carrier would

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2. The 52 towns included locations in New South Wales with a population of 5000 persons or more that were serviced by an airport in the State. They excluded Newcastle and seven other towns that met the population criterion but which would not normally require scheduled daily air services due to their close proximity to Sydney.

not obtain as much of the profitable daytime traffic if it did not operate freighters at night.

Curfews on the operation of jet aircraft have affected the economics of cargo operations at Sydney, Brisbane and Adelaide airports where they have restricted access by mixed-configuration aircraft and jet freighters at night. Turbo-prop aircraft which satisfy the noise restrictions have therefore been used on night flights. However, this has probably involved some cost penalties as a result of the use of inefficient aircraft for the movement of air cargo and an inability to achieve economies of scale in aircraft operation. For example, it is reported that an A300 carrying freight without passengers can uplift approximately double the payload at the same cost as existing turbo-prop freighter aircraft (Independent Review of Economic Regulation of Domestic Aviation 1987, 254). One industry participant has claimed that the curfew at Sydney airport costs operators \$15 million per annum in lost opportunities alone (*Australian Financial Review* 1986).

## FREIGHTERS

Table 6.1 presents information on the configuration of aircraft used by the trunk and regional airlines to transport domestic air cargo in 1984-85. Around 67 per cent of air cargo moved on domestic scheduled services in that year was carried on mixed-configuration aircraft. The proportion of cargo carried on pure freighter aircraft varied between carriers with Ansett, Australian and IPEC being the major operators of large aircraft in the dedicated cargo configuration.

The airlines' scheduled freighter operations are concentrated on several major routes where there is inadequate capacity on mixed-configuration aircraft and a lack of competitive road transport services. In 1984-85 services from Melbourne to Hobart and Launceston accounted for 38 per cent of airline freighter traffic in terms of tonne-kilometres (Department of Aviation 1987b, 35-45). The next largest operation involved the Melbourne-Perth route where the corresponding figure was 31 per cent. Australian's freighter operations were concentrated on the Melbourne-Perth route while the majority of Ansett's and IPEC's traffic involved services between Melbourne and Launceston.

The large aircraft operated in an all-cargo configuration by AAF, Australian and IPEC include both pure freighters and mixed-configuration aircraft which carry freight without passengers.

AAF's B727-200 freighter has a capacity of 18 tonnes and is crewed and maintained by Ansett. AAF also chartsers aircraft from other operating



TABLE 6.1 DOMESTIC AIRLINE CARGO TRAFFIC BY AIRCRAFT CONFIGURATION AND AIRLINE, 1984-85<sup>a</sup>

<i>Carrier</i>	<i>Mixed configuration<sup>b</sup></i>	<i>Pure cargo<sup>c</sup></i>	<i>Total</i>
Tonnes			
Ansett	54 123	23 436	77 560
Australian	51 561	6 547	58 110
Air NSW	1 197	0	1 197
Ansett NT	506	0	506
Airlines of SA	446	0	446
Ansett WA	3 981	0	3 981
Air Queensland	572	0	572
East-West	1 588	0	1 588
IPEC	0	25 677	25 677
Total	113 974	55 660	169 637
Tonne-kilometres ('000)			
Ansett	55 494	14 093	69 587
Australian	47 968	14 063	62 032
Air NSW	515	0	515
Ansett NT	357	0	357
Airlines of SA	113	0	113
Ansett WA	5 064	0	5 064
Air Queensland	413	0	413
East-West	951	0	951
IPEC	0	15 135	15 135
Total	110 875	43 291	154 166

a. Covers revenue traffic carried by operators of domestic scheduled airline services. Excludes charter and commuter traffic.

b. Services provided for the carriage of both passengers and cargo.

c. Services provided solely for the carriage of freight and mail.

*Note* Figures may not add to totals due to rounding.

*Source* Department of Aviation (1987b, 22-45).

divisions of ATI at rates which are negotiated on an annual basis. Ansett B767s with a capacity of 18 tonnes are used as freighters on some evening services by utilising the lower deck area and leaving the upper deck empty. Fokker F27QC aircraft are operated in the pure cargo configuration which enables them to lift 5 tonnes. The company also uses F28 aircraft operated by Ansett WA.

Australian's B727-77C freighter can carry up to 14 tonnes of freight on transcontinental services. Australian also operates F27QC and DC9 aircraft in an all-cargo configuration. The DC9s have a capacity of 2 tonnes in their lower deck areas but can carry up to 11 tonnes when additional cargo is loaded in bags on the passenger seats.

IPEC's DC9-33F is a customised version of the standard DC9 operated by the trunk airlines. Modifications such as a stronger floor and more powerful engines enable it to carry up to 18 tonnes of cargo. The three Argosies used by IPEC are the only aircraft operated by the domestic airlines that were specifically designed as freighters. The two Argosy 222 aircraft have a maximum payload of 14 tonnes each while the Argosy 101 can carry up to 13 tonnes.

A variety of smaller aircraft are operated as freighters by charter companies, generally under arrangements with the major airlines or freight forwarders. Several forwarders also lease or own small aircraft which are configured to carry cargo. The largest aircraft in this group are the Learjet 35a and the Westwind 1124 which have maximum capacities of 1.8 tonnes and 2.0 tonnes respectively. Other small aircraft operated in the all-cargo configuration include the Bandierante (1.4 tonnes), Citation II (1.4 tonnes), King Air (1.2 tonnes), Navajo (0.8 tonnes), Aerostar (0.6 tonnes), Cessna 210 (0.4 tonnes) and Twin Comanche (0.4 tonnes).

The effective capacity of the smaller aircraft is affected by the density of cargo. These aircraft mainly carry low density items such as documentation and packages but they were all specifically designed for passenger operations rather than cargo. The cabin volume is therefore often filled before the maximum payload is reached.

## FREIGHTER NETWORKS

Details of the freighter networks operated by the domestic airlines and major freight forwarders in late 1986 and early 1987 are presented in Appendix I. The data cover Australian (Table I.1), AAF (Table I.2), TNT Air (Tables I.3 and I.4) and the Wards Express and Security Express - Country Couriers divisions of Mayne Nickless (Table I.5).

Most of the airlines' freighter services are designed to provide overnight delivery but the freight forwarders also have a large number of daytime operations associated with the movement of bank documentation. The forwarders' services are concentrated on days during the business week and weekend services are limited. The networks are regularly adjusted in response to carrier requirements and market conditions.

Australian's freighter services operate in the evening and in the early hours of the morning. They provide connections to 12 ports involving capital cities (except Darwin), Tasmania and major coastal centres in Queensland. Australian operates its leased B727-77C freighter on the Perth route, its F27QC aircraft on the east coast and its DC9s on several routes when other aircraft are not available. It relies heavily on the IPEC aircraft for capacity on the services between east coast capitals and from the mainland to Tasmania. Commuter airlines and charter operators provide the remaining east coast and Tasmanian intrastate services as well as capacity on the route from Brisbane to north Queensland.

AAF's services generally operate during the evening and the early hours of the morning, the major exception being the service from Perth to Melbourne which arrives in the early afternoon. The network of 19 ports includes capital cities (except Darwin and Adelaide), Tasmania and major regional centres in Queensland and Western Australia. AAF operates its B727-200 freighter on services to Tasmania and Perth. Ansett and Air NSW provide large aircraft for east coast services and Ansett WA is the major operator in Western Australia. Charter operators and commuter airlines operate the remaining services.

TNT Air charts aircraft such as the Westwind 1124 to operate its freighter services. It fills the gaps in the major airlines' schedules and services and rarely runs aircraft in parallel with AAF or Australian. TNT Air's network of 87 ports includes all capital cities except Perth and Canberra as well as a large number of regional centres in New South Wales, Queensland, South Australia and the Northern Territory. The services to northern and central Australia, Tasmania, east coast capitals and Queensland ports are operated in the evening or early morning in line with the requirements of the overnight express market. The intrastate services in New South Wales and South Australia operate during the day in the business week as the base cargo is bank documentation which must be picked up and delivered in the morning and afternoon on each working day. TNT Air holds the

combined banks contract for the movement of bank documentation in the Northern Territory, South Australia and most of New South Wales.<sup>3</sup>

Mayne Nickless operates freighter services through its Wards Express and Security Express - Country Couriers divisions. Wards Express is a major freight forwarder and uses Australian, IPEC and AAF services as much as possible. It operates two leased Learjet 35a aircraft on routes between Sydney, Melbourne and the Northern Territory to fill the gaps in the airlines' services. The aircraft carry overnight express freight such as business documentation, computer tapes and spare parts. The Security Express - Country Couriers operation uses chartered aircraft to provide a network of daytime services in Queensland, coastal New South Wales north of Sydney and Victoria. The base cargo for most of these operations is bank documentation and computer tapes under the combined banks contracts and the level of other cargo is determined by the regulatory policies of the relevant State authorities. Overnight services are operated on the Cairns-Brisbane and Sydney-Brisbane routes.

IPEC operates its four large aircraft on two routes linking five cities. As noted earlier, a significant proportion of capacity is leased to Australian. Integration of IPEC's operations with the services provided by Wards Express and Australian increases the number of ports that it serves in its role as a freight forwarder.

Limited freighter operations are also undertaken by some other carriers. For example, the contract for the carriage of bank documentation in southwest Western Australia is reportedly held by a private operator.

There are co-operative arrangements between the various operators of freighter services as no single carrier operates a comprehensive national system. For example, AAF have the only overnight connection to northern Western Australia and hence other operators such as Australian and Wards use this service when they have cargo for that area. Similarly, AAF use TNT's services on the Adelaide-Alice Springs-Darwin and Adelaide-Sydney routes. Australian use Wards' service to Darwin if they have freight requiring delivery by the

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3. The movement of bank documentation between country branches and State head offices is co-ordinated by a Combined Banks Transport Committee in each State. Banks involved are Westpac Banking Corporation Ltd, Australia and New Zealand Banking Group Ltd, The National Commercial Banking Corporation of Australia Ltd and Commonwealth Banking Corporation.

beginning of the working day and TNT Air use Australian for unique services such as the Brisbane-Darwin service on Wednesdays.

### **CAPACITY UTILISATION**

Detailed information on the utilisation of cargo space on domestic air cargo services in Australia is not available. However, estimates of the average cargo weight load factor for the airline industry are prepared by the Department of Transport and Communications (Department of Aviation 1986a, 21; 1987c, 17).<sup>4</sup> These data indicate that the load factor increased from 41.7 per cent in 1980-81 to 44.0 per cent in 1982-83 and then declined to 36.6 per cent in 1985-86. A decline of five percentage points between 1984-85 and 1985-86 was associated with an increase of 14 per cent in cargo capacity.

The average cargo weight load factor should be interpreted with caution as it is only a partial indicator. An aircraft's volumetric capacity is often reached before the maximum weight of cargo is loaded and in some cases aircraft range considerations may preclude full utilisation of the available cargo space. For example, the B727-77C operated by Australian has a capacity of 19 tonnes but can only carry 14 tonnes on the Melbourne-Perth route as a result of fuel requirements. In these circumstances, the cargo weight load factor may underestimate the extent to which available aircraft capacity is used. The validity of the figure is also affected when aircraft hours flown are below optimal or achievable levels as the calculations are based on services provided. In addition, the indirect method of calculating the cargo weight load factor and the assumptions about variables such as average passenger weight may further limit the usefulness of the data.

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4. The cargo weight load factor indicates the proportion of available cargo tonne-kilometres on scheduled airline services that is actually utilised. Cargo capacity is estimated by subtracting available passenger tonne-kilometres from total available tonne-kilometres. Passenger tonne-kilometres are calculated by multiplying passenger-kilometres by 0.09, the latter figure reflecting a standard passenger weight (including luggage) of 90 kilograms.

## CHAPTER 7 RATING PRACTICES

The structure of freight rates provides additional information on operational practices in the domestic air cargo industry. Trends in rates may also indicate changes in the operating environment.

### STRUCTURE OF FREIGHT RATES

Rates for domestic air freight can be considered in terms of published tariffs and discounts provided to larger shippers. Different conditions apply to the setting of rates for the carriage of air mail.

#### Published freight rates

Retail freight rate schedules are published by AAF, Australian and various freight forwarders. The schedules indicate the rates for selected origin-destination combinations under specified delivery conditions. Rates for carriage between major centres generally comprise a basic charge plus a rate per kilogram which varies with the route. Special rates are available for light bulky consignments and discounts are provided where pre-paid satchels and coupons are used.

Charges also vary with the speed of delivery specified by shippers. The highest rates are applied to same-day delivery, with Australian charging \$54 for movement of consignments up to two kilograms by its door-to-door courier service in October 1986. The overnight express rate is lower and there are further discounts for later delivery. For example, in October 1986 Australian's kilogram rate for Melbourne-Brisbane consignments picked up by 5 pm and delivered by 10 am on the following morning was \$6.01. This fell to \$2.92 for delivery by 1 pm and to \$2.05 for delivery up to 72 hours after lodgment. Similar discounts are provided by AAF although the specified delivery times are slightly different.

There is also variation in rates on some routes according to the direction of travel. For example, AAF's schedule published in October 1986 indicated that the kilogram rate for movement from Adelaide to Brisbane with 9 am delivery was \$10.28 whereas the charge in the opposite direction was only \$9.76.

After the removal of Commonwealth controls over air freight rates, Australian set its published rates below those of AAF (Wise 1984, 20). The margin was initially 10 per cent but it subsequently fluctuated and at one stage reached 15 per cent. Industry sources suggest that the differential reflects the historical dominance of the air cargo market by AAF and shippers' perceptions of the services provided by the two carriers. Similarly, when East-West established a separate cargo division in November 1985 its published rates were set below those quoted by Australian and AAF (Shires 1985).

The variation in scheduled rates published by the major airlines and freight forwarders in October 1986 is illustrated in Table 7.1. Australian's rates were generally the lowest, with AAF's kilogram rates being up to 47 per cent higher. There was wide variation in forwarders' rates which in several cases were higher than those quoted by AAF. Differences in rates may reflect variations in the range and quality of services provided by individual airlines and forwarders.

### Discounts

Published rates mainly apply to small shippers and in other cases shippers or forwarders negotiate lower rates with the carriers. It has been suggested that only 10 per cent of domestic air cargo is

TABLE 7.1 SCHEDULED AIR FREIGHT RATES FOR SELECTED ROUTES BY OPERATOR, OCTOBER 1986  
(dollars)

Operator	Basic charge	Rate per kilogram			
		Sydney-Melbourne	Sydney-Adelaide	Sydney-Perth	Sydney-Hobart
Australian	15.00	3.16	5.87	13.50	5.86
Wards	21.00	4.33	7.63	17.03	7.78
AFE <sup>a</sup>	26.00	4.25	7.94	19.80	8.41
Comet	29.60	4.45	8.19	19.53	10.04
TNT Air	29.80	4.81	8.26	18.31	8.49
AAF	24.00	4.25	8.36	19.80	8.41
Skyroad	20.46	4.90	9.08	19.84	9.06
Kwika Air	32.00	5.22	9.62	19.93	9.65

a. Ansett Freight Express.

Source *Transport and Distribution Letter* (1986b, 6).

carried at the published rates and that discounts of up to 80 per cent are provided by the two major airlines where substantial accounts are involved (Gawan-Taylor 1984a, 19; Shires 1985; *Transport and Distribution Letter* 1986b, 2). Similar discounts are provided to shippers by forwarders.

The extent of discounting is illustrated by rates for movement from Sydney to Melbourne provided by one forwarder contacted during the study. In late 1986 the average basic charge paid by shippers was 51 per cent below the company's scheduled charge and the average rate per kilogram was 60 per cent less than the rate in the forwarder's published schedule.

Shippers with large amounts of cargo are able to negotiate discounts where they require regular runs as a steady volume of base cargo has a favourable effect on carriers' cost structures. This is in contrast to irregular shipments where variability in traffic imposes some extra costs on carriers. Similarly, discounts are available where a shipper is prepared to accept longer delivery periods as this facilitates the use of otherwise under-utilised capacity.

Where there are significant imbalances in cargo flows, there may also be substantial variations in rates. Industry sources indicate that in late 1986 the rate into Tasmania was around \$1.20 per kilogram whereas on the return leg where cargo was limited the rate was only 30 cents per kilogram. Backhaul rates are generally limited to lower rated commodities as carriers do not want to dilute their revenue unnecessarily by providing low rates for high value commodities which would continue to travel at the higher rates. Where ground costs are a high proportion of total costs, lower linehaul costs associated with excess capacity may not be reflected fully in freight rates.

There are still some links between rates and commodity type. For example, perishables receive high priority and a low rate in recognition of the fact that the traffic is economical for the airlines to carry but very price-sensitive. Officials from one carrier contacted during the study indicated that they were trying to link urgency and service requirements (for example, cold storage facilities at terminals) to price and eliminate the links to commodity type. However, it was recognised that the extent to which this could be achieved was limited by the constraints imposed by demand elasticities.

Rates on particular routes may be reduced below attributable costs where a large national shipper is involved. The most common case is service to a centre such as Darwin which incurs high operating costs.



If a shipper has large quantities of traffic moving to other locations with a carrier, the operator may heavily discount rates on the expensive leg in order to retain the national account. Industry sources indicate that shippers often assess accounts primarily on the basis of a carrier's performance on difficult routes, and hence there is a strong incentive for a carrier to be more accommodating in these cases.

The level of discounts available to large shippers under favourable conditions was illustrated in late 1985 when details of an AAF account were published (*Transport and Distribution Letter* 1985, 1). It was reported that a company was paying very low rates such as 20 cents to send a 1 kilogram parcel from Sydney to Melbourne by air. This compared with the going rate of about \$5 on this route. The low rates were achieved by a member of a business group which was a major shipper. They were based on several conditions including 72-hour service, a minimum charge and movement on services where AAF had spare capacity.

#### **Mail**

Rates for the carriage of mail are currently based on several payment scales. Different rates are applied to air mail, courier traffic, priority paid mail and surface mail by air.<sup>1</sup>

Payments to trunk and regional carriers are administered by the Australian Postal Commission's central office. Rates are mainly determined by a cost-based formula with annual adjustments, although there is also an element of negotiation in the setting of rates. The rate is not affected by the route or direction of travel. Payments for the carriage of mail by commuter airlines are handled by the Australian Postal Commission's State offices.

The Commission has recently completed a review of the arrangements for the transport of mail by air. The findings of the review and any effects on the determination of rates were not available at the time this Paper was completed.

#### **TRENDS IN RATES**

An index of published domestic freight rates based on an industry sample is prepared by the Department of Transport and Communications

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1. In this case air mail refers to the sub-group of articles which require a high quality of service and rapid delivery.

(Department of Aviation 1987c). Figure 7.1 shows the trend in the index in real terms for various haulage distances since 1977.

There was a clear acceleration in the rate of increase of the index after 1979, with rates for short-haul and medium-haul services rising substantially compared with those for long-haul routes. The introduction of fixed handling charges by Ansett in June 1980 and by TAA in April 1981 was the major factor in the increases recorded in mid-1980 and 1981 (Department of Aviation 1984b, 16). Published rates were relatively stable during 1983 but further rises were recorded in 1984 and 1985. They fell in 1986 as a result of factors such as a substantial decline in cargo capacity utilisation and attempts by shippers to reduce distribution costs.

An index of airline freight rates is also produced by the BTE (1987). This generally indicates a similar trend to that in Figure 7.1, with a decline of 21 per cent in 1986.

The data prepared by the Department of Transport and Communications and the BTE indicate that published freight rates paid by small shippers increased in real terms until 1986. However, the indexes may not accurately reflect the trends in rates for large shippers who receive discounts. Time series data on actual rates paid are not available but some information on trends can be obtained from airline yields and other sources.

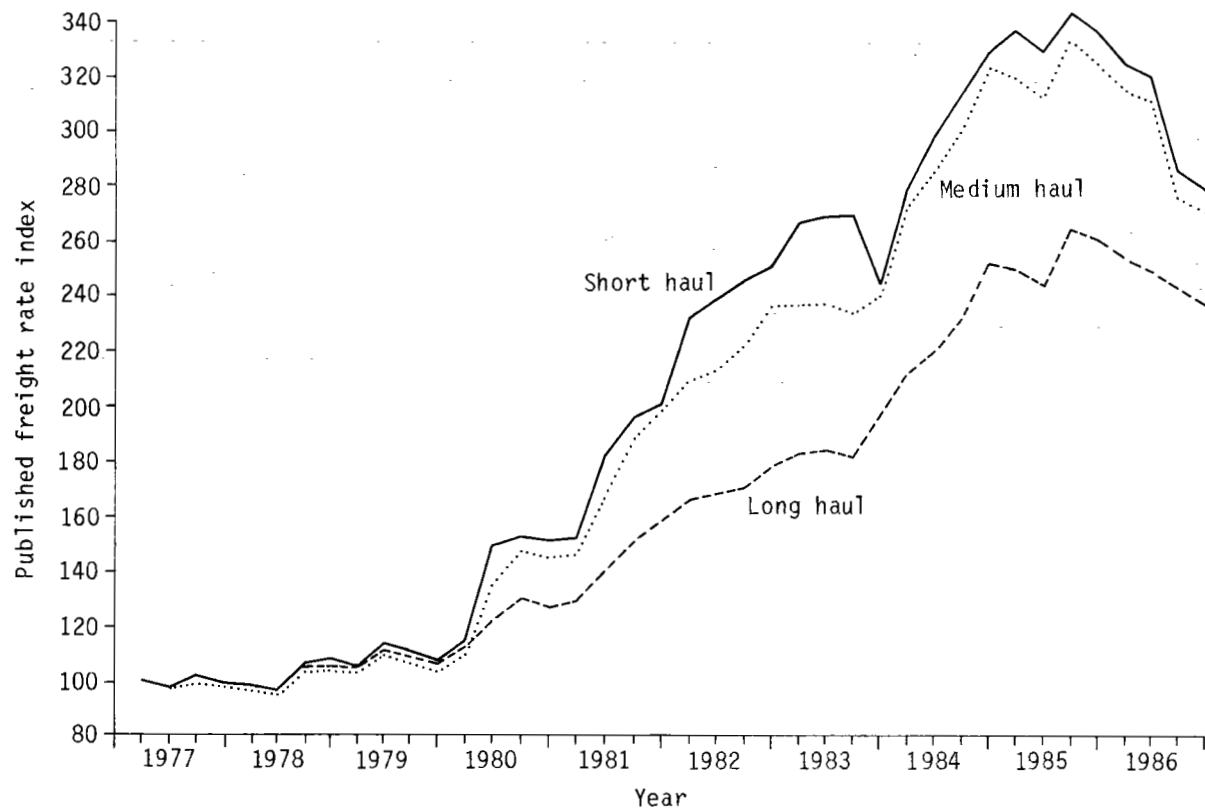
### Trunk airline yields

Data for Australian's cargo and passenger yields over the 10 years to 1985-86 are presented in Table 7.2.<sup>2</sup>

The average yield for cargo was virtually unchanged in real terms over the period, suggesting that the reported increases in published rates may not accurately reflect the trends in market rates. However, there was significant variability in developments in individual years. Australian's cargo yields declined in the first three years during the period of detailed regulation and in the two years immediately following the relaxation of regulation. Increases in average yields were recorded in the two years prior to the regulatory changes and in the three years up to 1985-86. Initial analysis of the data therefore does not reveal a consistent relationship between the regulatory framework and the trend in Australian's average yield for cargo traffic.

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2. Average yield is computed by dividing revenue by tonne-kilometres for the traffic.



Source Department of Aviation (1986a, 1987c).

Figure 7.1 Published domestic airline freight rates in real terms, 1977 to 1986

TABLE 7.2 ANNUAL CHANGE IN AVERAGE YIELD IN REAL  
TERMS FOR AUSTRALIAN AIRLINES CARGO AND  
PASSENGER TRAFFICS, 1976-77 TO 1985-86<sup>a</sup>  
(per cent)

Year	Traffic	
	Cargo	Passenger
1976-77	-8.4	-4.2
1977-78	-4.7	-4.9
1978-79	-2.5	1.0
1979-80	5.9	-1.4
1980-81	9.2	2.6
1981-82	-5.3	4.3
1982-83	-3.4	4.1
1983-84	1.6	2.7
1984-85	5.0	1.4
1985-86	4.5	-2.6

a. Change on previous year.

Sources TAA (1980, 1985a). Australian Airlines  
(1986).

The data also indicate that Australian's average passenger yields did not change significantly from 1975-76 to 1985-86. However, there was some variability in the relationship between changes in cargo and passenger yields. Cargo yields declined more quickly than passenger yields between 1976-77 and 1978-79 and fell while passenger yields rose over the three years immediately following the relaxation of regulation of cargo activities. In the remaining years cargo yields increased more rapidly than passenger yields.

The changes in Australian's cargo yields also reflected the impact of other factors which had a significant impact on its operations over the period to 1985-86. In particular, the introduction of wide-body aircraft from 1981 was associated with changes in Australian's rating practices as it attempted to obtain a revenue contribution from its doubled cargo capacity. Discounts as high as 60 per cent off normal rates were introduced for cargo which was lodged for shipment in containers (TAA 1982, 13). Australian subsequently placed greater emphasis on obtaining higher yield cargo (TAA 1985a, 13).

Comprehensive data on trends in AAF's cargo yields are not publicly available. However, information on ATI's airline activities between 1975-76 and 1979-80 suggests that the decline in the company's average yield over this period was less than the fall in Australian's yield (Ansett Transport Industries 1980).

It has also been claimed that the two carriers' average freight yields were similar in 1979-80 but that there was subsequently a major change in their relative positions (Giles 1984, 3-5).<sup>3</sup> AAF's average yield reportedly doubled in real terms between 1979-80 and 1982-83 as a result of a deliberate policy of shedding low yielding traffic. This compared with a decline of 17 per cent in Australian's average yield over the period.

#### **Other information**

The different trends in yields for the two carriers raise the possibility that the changes in Australian's cargo yield may not closely reflect developments in average market rates. Statistics from several other sources suggest that rates paid by some shippers have declined in real terms since 1979.

Data on trends in one forwarder's air freight rates on the Sydney-Melbourne route are presented in Table 7.3. They indicate that bulk users received substantial reductions in rates in real terms for both consignment-note traffic and pre-paid satchels between 1979 and 1986.<sup>4</sup> One-off users received fewer benefits, with a smaller reduction in satchel rates and a substantial increase in charges for consignment-note traffic. A forwarder contacted during the study indicated that the less favourable trend in rates for one-off users reflected the high costs of servicing this market as a result of disruptions to regular delivery runs, a higher proportion of bad debts and the location of one-off users away from the major customers in business areas.

Some caution must be exercised in applying data for a particular route and from one forwarder to the industry. However, several forwarders

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3. The discussion in this paragraph refers to freight whereas the earlier parts of the section involve cargo (freight and mail).

4. Traffic which moves with an accompanying consignment-note generally involves large bulky items such as machinery spares and medical equipment. Pre-paid satchels are used for smaller items such as documents and computer tapes.

contacted during the study indicated that Table 7.3 provides a reasonable indication of the general direction of market rates in the industry. They also noted that the Sydney-Melbourne route was the corridor most affected by increased competition from road transport and hence reductions in rates on other major routes would not have been as great.

Several other observers have made general comments on movements in freight rates since 1981. An executive of Mayne Nickless noted that actual rates had fallen in real terms across the product range after the introduction of the regulatory changes (Commonwealth Reporting Service 1985, 230). Similarly, on services to Tasmania freight rates were reportedly held down and at certain times reduced substantially, particularly on backhauls (Government of Tasmania 1985, 30).

TABLE 7.3 AIR FREIGHT RATES ON THE SYDNEY-MELBOURNE ROUTE IN REAL TERMS, 1979 AND 1986

Traffic and rate component	Rate (\$)		Change (per cent)
	1979	1986 <sup>a</sup>	
Bulk users			
Consignment-note traffic			
Basic charge	5.00	2.50	-50
Rate per kg	1.20	0.61	-49
Pre-paid satchel	5.00	2.50	-50
One-off users			
Consignment-note traffic			
Basic charge	8.50	13.06	54
Rate per kg	1.50	2.32	55
Pre-paid satchel	8.00	6.67	-17

a. Data deflated using CPI for March 1979 and March 1986.

Source *Australian Flying* (1986, 46).

## CHAPTER 8 FUTURE PROSPECTS

It is difficult to accurately predict the future size and structure of the domestic air cargo industry. However, recent trends provide some indications of potential developments and it is possible to identify several major factors that will affect the industry.

### MARKET SIZE

Publicly available forecasts of future growth in the domestic air cargo market have been prepared by Gawan-Taylor (1984b, 3) and the BTE (1986).

The estimates prepared by Gawan-Taylor indicate average market growth of 6 per cent per annum for the period between 1985 and 1990. This estimate was based on several parameters including average annual growth rates of 3 per cent for real GDP and 1 per cent for real air freight rates.

The BTE forecasts are presented in Table 8.1. They indicate that freight carried by IPEC and the trunk airlines is expected to grow significantly over the period to 2000. Commuter traffic is forecast to grow at a slightly faster rate, despite the downturn in this sector over the last few years. Very low growth or a slight contraction in traffic is predicted for the regional airlines. In all sectors, the growth rate for air freight is expected to decline over time.

As the adequacy of cargo capacity on mixed-configuration services will be affected by the relative growth rates of passenger and cargo traffic, estimates for the passenger market are also presented in Table 8.1. They indicate that passenger traffic carried by regional airlines is expected to grow more quickly than the amount of cargo carried on these services over the period to 2000. For trunk and commuter airline operations, the cargo market is forecast to increase more quickly than passenger traffic under the high growth scenario but more slowly under the low growth scenario.

TABLE 8.1 FORECAST AVERAGE ANNUAL GROWTH RATES FOR DOMESTIC AIRLINE  
TRAFFIC, 1986 TO 2000  
(per cent per annum)

Market sector	Scenario	Period		
		1986-90	1991-95	1996-2000
Freight <sup>a</sup>				
Trunk <sup>b</sup>	High	4.0	3.3	2.6
	Low	3.2	2.6	1.9
Regional	High	0.4	0.2	0.2
	Low	0.0	-0.1	-0.1
Commuter	High	4.1	3.4	2.7
	Low	3.3	2.7	2.0
Passenger				
Trunk	High	4.0	3.5	3.1
	Low	2.2	2.2	1.8
Regional	High	3.7	3.4	3.0
	Low	2.6	2.3	1.9
Commuter	High	4.8	4.3	4.0
	Low	2.5	2.5	2.2

a. Excludes mail.

b. Includes IPEC.

Source BTE (1986, 47-53).

The forecasts in Table 8.1 were prepared using an econometric model based on quarterly traffic data for the eight years to 1984. The results are heavily influenced by the scenarios for GDP growth and real fares and freight rates that were used to generate the forecasts. They are also based on the recent regulatory framework and industry relationships. Major policy changes could therefore substantially affect actual traffic growth through effects on variables such as rating practices. Other variables assumed constant in the preparation of the forecasts include the structure of Australian industry and the impact of factors such as real interest rates on shippers' modal choices.

Industry participants contacted during the study identified a variety of factors which will affect the size of the domestic air cargo market. Computer equipment has been an important source of growth in the past but this traffic is now declining. In addition, computerisation is expected to reduce the amount of documentation that



is carried by air in future. Increased use of facsimile machines is likely to further undermine the level of document traffic.

Trends in freight rates will affect the amount of cargo that is moved by air. Industry sources indicate that in some cases market growth is already being restricted by buyer resistance to the level of air freight rates. At least one carrier has recently shed some low rated volumetric cargoes in order to increase average yields.

Developments in the road transport industry will also affect the size of the air cargo market. Continued upgrading of the national highway system is likely to result in increased competitive pressure on air transport operators on some routes. In particular, the eventual introduction of overnight express road services on the Sydney-Brisbane route is expected to reduce the amount of traffic available to air transport operators in the long run. On the other hand, one shipper contacted during the study indicated that a reversal of the recent trend to lower real freight rates in the road transport industry would adversely affect the competitive position of this mode.

Two views on the future relationship between the road and air sectors have been expressed by forwarders. One view is that air transport operators will develop their cargo activities by attracting low-yield traffic which is currently carried by road transport. This approach was used by the trunk airlines when the introduction of wide-body aircraft substantially increased their capacity (TAA 1982, 13). The other view on the development of the air cargo industry is that operators will concentrate on urgent, high-yield traffic and withdraw from the sectors of the market where road transport is highly competitive. The approach adopted by the air cargo industry will obviously have a significant effect on the amount of traffic that is moved by air but there is no general agreement on the direction in which the industry will develop.

The level of domestic air cargo traffic may also be affected by changes in domestic transport arrangements for international cargo. The Australian Customs Service has proposed the introduction of an Integrated Cargo Control and Clearance System under which most international cargo will be cleared from Customs control when it is discharged at the Australian port of arrival. Many forwarders believe that this system will concentrate customs clearance in Sydney and Melbourne and substantially reduce the movement of cargo under bond for clearance in smaller centres such as Brisbane and Adelaide.

In these circumstances, the amount of cargo moved under bond on

domestic routes by Qantas could be substantially reduced. However, this traffic would not necessarily be transferred to the domestic airlines. If containers were broken down by forwarders in Sydney and Melbourne, most of the cargo would probably be moved by road transport.

The extent to which international cargo is positioned domestically could also be affected by changes in schedules for international air services. In particular, the introduction of more direct services to smaller ports such as Adelaide could reduce the level of domestic transfers.

The impact of these kinds of changes is not included in the forecasts presented in Table 8.1. Actual growth in domestic air cargo traffic may therefore deviate substantially from these estimates.

## **INDUSTRY STRUCTURE AND OPERATION**

The major influences on the future structure and operation of the domestic air cargo industry can be considered in terms of the regulatory arrangements, curfews, aircraft and the broader operating environment.

### **Regulatory framework**

It was noted in Chapter 4 that the domestic air cargo industry is still subject to significant direct regulation. Several State governments continue to regulate intrastate operations, access to domestic cargo by international airlines is restricted and the Commonwealth Government requires prospective entrants to establish that there is a demand for their proposed services. Changes to these policies could directly affect the structure and operation of the domestic air cargo industry.

The regulatory framework for airline passenger operations will also be a key determinant of the industry's structure in coming years. In particular, the arrangements implemented by the Commonwealth Government when the Airlines Agreement expires in 1990 will have a significant impact.

### ***Current arrangements***

Under the present regulatory regime for the domestic airline passenger market, Australian and AAF would be expected to retain prominent positions in the domestic air cargo industry. This reflects the low operating costs of mixed-configuration aircraft for daytime cargo services, the advantages associated with established customer and service networks and the links with major forwarding groups. Some

expansion of other existing operators could occur but this would probably be limited to market niches requiring small aircraft or other specialist services not provided by the major airlines.

The opportunities for profitable operation of freighter aircraft in the Australian market are unlikely to increase significantly in the near future. The small size of the domestic air cargo market, directional imbalances in traffic and the relatively high freight rates required for profitable freighter operations mean that the scope for additional all-cargo operators is limited. AAF has reportedly considered the operation of an Adelaide-Melbourne-Sydney-Brisbane freighter service using two BAe 146 aircraft but concluded that present traffic would not be sufficient for a viable operation (*Aircraft* 1986, 12). The experience of Bloodstock Air Services and Cargomasters suggests that additional specialist freight carriers would find it difficult to secure viable long-term niches in the market, particularly if they did not have substantial financial support and links with major shippers. However, managerial strategies and changes in economic conditions may have been significant factors in the withdrawal of these operators.

It seems unlikely that changes in the trunk airlines' operations would have major effects on the networks operated by TNT Air, Wards Express and Security Express - Country Couriers. The forwarders have specialised in the carriage of high yielding traffic in small freighters and operate at times or on routes where the airlines do not provide the required cargo services. However, scheduling changes by the trunk airlines could eliminate the need for some small freighter operations such as services into Darwin.

The forwarders' operations could be significantly affected by any changes to the arrangements for the transfer of bank documentation. In particular, increased use of electronic facilities could lead to the withdrawal of many freighter services as non-bank cargo alone could not support these operations.

Arrangements for the transport of mail by air may be affected by the outcome of the review recently undertaken by the Australian Postal Commission. The successful use of small charter aircraft on a trial basis to move mail between Melbourne, Sydney and Brisbane from June 1986 may also have implications for the carriage of air mail. This exercise arose from attempts to overcome capacity problems on the early evening passenger flights into Brisbane. The operation was extended to include Canberra in June 1987. Limited use of charter aircraft on selected routes where the major airlines cannot provide

adequate capacity is expected to become a permanent feature of air mail operations.

*Revised arrangements*

The entry of additional passenger carriers on the trunk routes would probably affect the positions of AAF and Australian. In a highly competitive environment, new operators would be expected to compete for cargo traffic as a means of increasing their revenue and profitability. However, the form of entry would be an important consideration. The introduction of additional wide-body aircraft could result in a substantial increase in cargo capacity on some major routes. On the other hand, the effect on capacity and competition would be smaller if the new operators used narrow-body aircraft. In both cases the established carriers would probably have competitive advantages as a result of their established operations.

A substantial liberalisation of the regulatory framework for passenger services could also affect the outlook for freighter operations since the removal of the present restrictions would allow greater flexibility in pricing and aircraft use. As noted in Chapter 4, the current regulatory framework for passenger operations reduces the attractiveness of using wide-body aircraft on night services which are primarily directed at the freight market. A rapid expansion of passenger services would also increase the cargo capacity available on mixed-configuration aircraft. In this case, there could be some effects on the operations of freighters.

The IRERDA Committee recommended that Qantas should be permitted to carry domestic freight on the domestic sectors of its international services (Independent Review of Economic Regulation of Domestic Aviation 1987, 29). Any relaxation of the restrictions on Qantas could affect the operations of the existing domestic carriers. However, the amount of additional cargo that Qantas could carry would probably be limited by the international orientation of its operations and the available capacity. In 1984-85 the capacity available for domestic cargo on Qantas flights was around 20 000 tonnes which was less than 12 per cent of the traffic carried by the domestic operators in that year (Qantas 1985, 53).

Several other factors would also affect the penetration of the domestic air cargo market by Qantas. Most of its capacity between Australian ports is on daytime flights on the Sydney-Melbourne and Sydney-Brisbane routes where there is already substantial capacity on the domestic airlines' wide-body aircraft and strong competition from road transport operators. Service frequencies on other routes would be too low for many domestic shippers. Arrival times for

international services are also vulnerable to delays which would adversely affect the quality of service. In addition, the close relationships between the major freight forwarders and the existing operators of domestic air cargo services could make it difficult to attract a large amount of purely domestic cargo.

### Curfews

The policy on curfews at Sydney, Brisbane and Adelaide airports will have a major effect on the future structure of the air cargo industry. Completion of the new airport in Brisbane in late 1987 is expected to permit the removal of curfews in that city and allow the operation of jet aircraft on night services (Gawan-Taylor 1984b, 25). However, industry sources suggest that the Sydney curfew is the key factor and that unfettered access to Brisbane alone will not significantly affect night freight operations in eastern Australia. The introduction of quieter freighters such as the BAe 146 or revision of the noise regulations could permit the operation of overnight jet services at the other airports which are currently affected by curfews.

Increased use of jet aircraft in these circumstances would enable carriers to increase capacity on overnight cargo services and replace the older turbo-prop equipment with newer freighters or aircraft from their passenger fleets. This could adversely affect IPEC's mainland operations in particular as Australian, which uses most of the capacity on the Argosy aircraft, could find that it was more economical to use its own jet aircraft on night freight services (Gawan-Taylor 1984b, 2). The agreement between Australian and IPEC expires in October 1987 but has reportedly been extended. AAF has also claimed that a moderate relaxation of curfews would enable it to operate all-cargo services on the Melbourne-Sydney-Brisbane route using B767 aircraft in place of the present Friendships and Westwinds (*Aircraft* 1986, 12).

### Aircraft

The two trunk airlines are currently undertaking major aircraft re-equipment programs. Changes in their fleets are primarily determined by passenger market considerations but there are also implications for air cargo operations.

Australian initially acquired five wide-body aircraft in the early 1980s but has recently sold one and has another aircraft on lease to an overseas operator. The use of the A300 on the Perth route has been substantially reduced and these aircraft are now concentrated on the east coast network. Any further changes in the wide-body fleet would have a significant impact on cargo operations as the A300 provides a

large amount of capacity and is the only aircraft currently operated by Australian which carries international containers.

New aircraft purchases by Australian involve replacements for the DC9 and the B727. The B737-300 has similar cargo capabilities to the DC9 aircraft which it has replaced and hence it has not significantly affected cargo activities. Australian also placed an order for nine A320 aircraft to replace their B727 fleet but the acquisition was subsequently deferred. The A320 program included equipment for container operations which would improve cargo transshipment times on domestic services and require significant expenditure on new ground handling equipment.

ATI currently has A320 and F50 aircraft on order and under option. The recent introduction of B737-300 aircraft into the domestic fleet has not significantly affected AAF's operations at this stage. Major changes in scheduling or the introduction of additional freighter aircraft are not expected in the medium term, although the purchase of BAe 146 freighters is still a possibility. Various options are under consideration by AAF.

IPEC has also considered the purchase of new aircraft but the existing equipment is expected to be retained for some time. The BAe 146 has not been acquired as it is not compatible with other equipment used in Australia and has a high capital cost.

### **Broad operating environment**

The future structure of the domestic air cargo industry will also be affected by changes in the broad operating environment such as general economic conditions and overall industry policy.

The size of the domestic air cargo market will obviously have a significant effect on the industry's structure. Other things being equal, rapid growth would be expected to facilitate the emergence of new services by providing greater scope for the creation of viable market niches. It could also encourage increased specialisation or changes in the mix of pure cargo and mixed-configuration operations. Slow growth or a contraction of the market could limit the scope for these developments.

The pattern of economic development in Australia will also influence the structure of the air cargo industry. Increased activity in manufacturing industry could lead to changes in air cargo movements and the type of service required by shippers. Future development of time-sensitive industries such as finance and advertising will also affect air cargo operations.

Changes in fuel prices could affect the relative economics of mixed-configuration and freighter aircraft. Substantial increases would raise the operating costs of freighters. Under the existing regulatory framework, there would probably be a smaller effect on mixed-configuration operations due to the marginal nature of cargo on many routes. Fuel price changes could also affect the relative competitiveness of road transport.

## CHAPTER 9 CONCLUDING REMARKS

The domestic air cargo industry has grown substantially in the post-war period but it still accounts for a relatively small proportion of the total domestic cargo market in terms of tonnes and tonne-kilometres. Overnight express cargo is probably the largest category in terms of revenue. The major competitor in the markets serviced by air transport is express road services and there has been some loss of traffic to road transport operators in recent years.

Commonwealth regulation of airline passenger, freight and mail services has had a major impact on the development of the domestic air cargo industry. Detailed economic regulation commenced in 1952 and the two airline policy subsequently enabled TAA and Ansett to attain prominent positions in the domestic passenger and cargo markets.

The Commonwealth Government was generally opposed to the establishment of specialist air freight carriers for much of the post-war period but there was some relaxation of this policy after 1976. This enabled the freight forwarders to increase their presence in the air cargo market. The new entrants essentially filled market niches that were not adequately serviced by the major airlines, although there were also some areas of competition.

Legislative changes passed in 1981 reduced direct Commonwealth Government controls over the domestic air cargo industry and enabled specialist freight operators to acquire large turbo-jet aircraft. However, the industry was not completely deregulated as significant direct and indirect regulation still remained.

These amendments were followed by the temporary entry of two all-cargo operators. In addition, IPEC expanded its freighter operations and East-West increased its involvement in the cargo market. Forwarders also continued to develop their air freight activities, with Mayne Nickless acquiring the remaining major independent operators. Changes in the trunk airlines' activities included the introduction of wide-body aircraft and jet freighters, establishment of new management structures and changes in the nature and scope of freight activities.



Initial analysis of the available data does not provide sufficient information to identify the impact of the regulatory changes on the level of air freight traffic. Developments in the industry after 1981 were affected by a variety of factors such as the introduction of new aircraft to meet the requirements of the passenger market, high real interest rates, changes in distribution practices and increased competition from road transport operators.

AAF and Australian still have major roles in the carriage of air freight and mail in Australia. IPEC has grown rapidly to become the third largest carrier but traffic carried by regional and commuter airlines has generally declined in recent years. Qantas provides domestic transport for some overseas cargo under bond.

Freight forwarders provide a substantial proportion of the cargo carried by the trunk airlines. Most of the forwarder traffic is handled by affiliates of TNT and Mayne Nickless and several of these organisations also operate air services. Companies controlled by TNT support AAF while Mayne Nickless has a close commercial relationship with Australian.

Mixed-configuration aircraft provide a substantial amount of capacity for the movement of air cargo but have several shortcomings from the viewpoint of air cargo operations. This has led to the operation of freighters on various services. The use of freighters is limited by factors such as the small size of the Australian market, imbalances in traffic and the relatively high operating costs of these aircraft.

Freighters are used for the movement of both overnight express freight as well as bank documentation and other urgent cargo during the day. Networks are operated by Australian, AAF, TNT Air, IPEC and the Wards Express and Security Express - Country Couriers divisions of Mayne Nickless. The available data suggest that capacity utilisation on airline freighter services has declined in recent years.

Freight rate schedules are published by the major airlines and various freight forwarders. Rates vary between carriers and in response to factors such as delivery time and direction of travel. Published rates generally apply to smaller shippers but there are substantial discounts for large shippers. Payments for the carriage of mail are mainly determined by a cost-based formula although there is also an element of negotiation.

Published freight rates generally increased in real terms during the late 1970s and early 1980s but they declined in 1986. Information on the market rates paid by larger shippers is more difficult to obtain,

but it appears that in at least some cases they have declined in real terms in recent years.

Forecasts prepared by the BTE indicate that freight carried by the trunk airlines and IPEC will grow significantly over the period to 2000. Freight carried by commuter operators is expected to grow at a slightly faster rate but regional airline traffic is forecast to increase slowly or contract slightly. The amount of cargo moved by air may be affected by factors such as computerisation, increased use of facsimile machines, penetration of the express market by road transport operators and changes in the structure of Australian industry.

The future structure of the domestic air cargo industry will be determined by a variety of factors. The regulatory framework for the passenger market will be a particularly important influence and will also affect the level of traffic. The policy on curfews will have major effects. Other important considerations include aircraft re-equipment programs by the trunk airlines, the size of the domestic air cargo market and the pattern of economic development in Australia.

APPENDIX I FREIGHTER NETWORKS OF DOMESTIC AIRLINES AND FORWARDERS

TABLE I.1 AUSTRALIAN AIRLINES' FREIGHTER NETWORK, NOVEMBER 1986

Route	Operator and aircraft	Days operated						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Transcontinental								
Perth-Melbourne-Perth	Australian B727	X	X	X	X			
East coast capitals								
Adelaide-Melbourne-Sydney-Brisbane	IPEC Argosy <sup>a</sup>	X	X	X	X			
Brisbane-Sydney-Melbourne-Adelaide	IPEC Argosy <sup>a</sup>	X	X	X	X			
Sydney-Melbourne-Sydney	Norfolk <sup>b</sup> King Air	X	X	X	X			
	Purcell Citation		X	X	X	X		
Melbourne-Canberra-Sydney <sup>c</sup>	Norfolk <sup>b</sup> King Air		X	X	X	X		
	Australian DC9						X	
Melbourne-Canberra-Melbourne	Interair Mu2	X	X	X	X	X		
Canberra-Melbourne-Canberra	Lloydair Aerostar		X		X			
Brisbane-Sydney-Brisbane	Australian F27QC	X	X	X	X	X		
Sydney-Brisbane-Sydney	Aviation Centre							
	Aerostar	X	X	X	X			
Sydney-Brisbane	Australian DC9						X	
Queensland								
Cairns-Townsville-Mackay-Brisbane-								
Rockhampton-Mackay-Townsville-Cairns	Norfolk <sup>b</sup> King Air	X	X	X	X			

TABLE I.1 (Cont.) AUSTRALIAN AIRLINES' FREIGHTER NETWORK, NOVEMBER 1986

Route	Operator and aircraft	Days operated						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Tasmania								
Melbourne-Launceston-Melbourne	IPEC DC9 <sup>d</sup>	X	X	X	X	X	X	
Hobart-Melbourne-Launceston-Hobart	Australian DC9							X
Launceston-Hobart	Air Tas <sup>f</sup> Heron		X	X	X	X		
Hobart-Launceston-Hobart	Air Tas <sup>f</sup> Navajo	X	X	X	X			

a. Five-sixths of capacity is leased to Australian.

b. Norfolk Island Airlines.

c. Aircraft is operated under contract to Wards who lease all space to Australian on this leg and use it themselves on the return flight.

d. Equivalent of one flight per evening available to Australian. Three or four flights are operated each night.

f. Airlines of Tasmania.

Source Australian Airlines (pers. comm. 1986).

TABLE I.2 AAF'S FREIGHTER NETWORK, NOVEMBER 1986

Route	Operator <sup>a</sup> and aircraft	Days operated						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Transcontinental								
Melbourne-Perth-Melbourne	AAF B727			X	X	X		
East coast capitals and Queensland								
Melbourne-Sydney	Ansett B767	X	X	X	X			
Sydney-Melbourne	Ansett B767	X	X	X	X			
Sydney-Melbourne-Sydney	Rundle Cessna 404	X	X	X	X			
Canberra-Melbourne-Canberra	Vee H Cessna 380	X	X	X	X			
Melbourne-Brisbane-Melbourne <sup>b</sup>	Pel Air Westwind	X	X	X	X			
Brisbane-Melbourne <sup>b</sup>	Pel Air Westwind	X						
Melbourne-Brisbane-Cairns	Starflight Westwind	X	X	X	X			
Cairns-Mackay-Brisbane-Melbourne	Starflight Westwind	X	X	X	X			
Sydney-Brisbane-Mackay-Townsville	Air NSW F27QC	X	X	X	X			
Townsville-Brisbane-Sydney	Air NSW F27QC	X	X	X	X			
Sydney-Brisbane-Sydney	Air NSW F27QC						X	
Townsville-Brisbane	Air NSW F27QC					X	X	
Townsville-Cairns	Rundle Cessna 404					X	X	
Brisbane-Townsville-Cairns	Air NSW F27QC							X
Mt Isa-Longreach-Brisbane-return <sup>c</sup>	Rundle Cessna 404	X	X	X	X			
Townsville-Mt Isa	Rundle Cessna 404						X	X
Rockhampton-Brisbane-Rockhampton	Pel Air Shorts 360	X	X	X	X			

TABLE I.2 (Cont.) AAF'S FREIGHTER NETWORK, NOVEMBER 1986

Route	Operator <sup>a</sup> and aircraft	Days operated						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Tasmania								
Melbourne-Launceston-Melbourne	AAF B727		X	X	X	X		X
Launceston-Hobart-Launceston	Air Tas Heron							X
	Air Tas Navajo							X
Western Australia								
Perth-Pt Hedland-Perth	Ansett WA F28	X	X	X				
Pt Hedland-Karratha	Fortescue							
	Aerocommander		X	X	X			
Pt Hedland-Paraburdoo	Fortescue							
	Aerocommander		X	X	X			
Perth-Pt Hedland-Karratha- Paraburdoo-Geraldton-Perth	Ansett WA F28					X		
Perth-Pt Hedland-Broome-Derby	Ansett WA F28					X		
Perth-Karratha-Pt Hedland- Paraburdoo-Perth	Ansett WA F28						X	

a. Abbreviations are used for Rundle Air Services (Rundle), Vee H Aviation (Vee H), Airlines of Tasmania (Air Tas) and Fortescue Air (Fortescue).

b. Aircraft chartered by Australia Post for this service.

c. Designates identical ports on return journey.

Source AAF (pers. comm. 1986).

TABLE I.3 TNT AIR'S OVERNIGHT FREIGHTER NETWORK, INTERSTATE AND QUEENSLAND ROUTES, NOVEMBER 1986

Route	Operator <sup>a</sup> and aircraft	Days operated						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Northern and central Australia								
Darwin-Katherine-Tennant Ck- Adelaide-Sydney-return <sup>b</sup>	Pel Air Westwind	X	X	X	X			
Darwin-Katherine-Tennant Ck- Alice Springs-Adelaide-Melbourne- Sydney	Pel Air Westwind					X		
Sydney-Melbourne-Adelaide- Alice Springs-Tennant Ck-Katherine- Darwin	Pel Air Westwind	X						
Alice Springs-Adelaide-Melbourne- return <sup>b</sup>	Tillair Conquest	X	X	X	X			
East coast capitals								
Sydney-Melbourne-Sydney	Aviation Aerostar		X	X	X	X		
Brisbane-Sydney-Melbourne-return <sup>b</sup>	Tillair Citation	X	X	X	X			
Brisbane-Sydney-Coolangatta-Brisbane	Tillair Conquest							X



TABLE I.3 (Cont.) TNT AIR'S OVERNIGHT FREIGHTER NETWORK, INTERSTATE AND QUEENSLAND ROUTES, NOVEMBER 1986

Route	Operator <sup>a</sup> and aircraft	Days operated						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Queensland								
Brisbane-Mackay-Townsville-Cairns	IPEC Argosy						X	
Townsville-Brisbane-Mackay-Townsville	Country Bandierante							X
Brisbane-Townsville-Brisbane	Tillair Conquest						X	
Brisbane-Emerald-Brisbane	Norfolk King Air						X	
Emerald-Brisbane-Emerald	Central Chieftain				X			
	Central Aztec	X	X	X				X
Emerald-Longreach-Emerald	Central Lance						X	
Tasmania								
Hobart-Launceston-Devonport-								
Melbourne-Devonport-Hobart	Air Tas Chieftain	X	X	X	X			

a. Abbreviations are used for Aviation Centre (Aviation), Country Couriers (Country), Norfolk Island Airlines (Norfolk), Central Highlands Air Taxis (Central) and Airlines of Tasmania (Air Tas).

b. Designates identical ports on return journey.

Source TNT Air (pers. comm. 1986).

8 TABLE I.4 TNT AIR'S DAYTIME FREIGHTER NETWORK, NSW AND SA ROUTES, NOVEMBER 1986

<i>Route<sup>a</sup></i>	<i>Operator<sup>b</sup> and aircraft</i>
<b>New South Wales</b>	
Sydney-Tamworth-Armidale-Glen Innes-Inverell-return	Aviation Aerostar
Sydney-Bathurst-Mudgee-Coolah-Coonabarabran-Coonamble-Walgett-return	Donoghue Baron
Sydney-Dubbo-Warren-Nyngan-Cobar-Bourke-Brewarrina-return	Donoghue Baron
Sydney-Cowra-Cootamundra-Narrandera-Jerilderie-Deniliquin-return	Aviation Aerostar
Deniliquin-Moulamein-Balranald-Wentworth	MacKnights Aerostar
Cowra-West Wyalong-Griffith-Hay-return	Western Seneca
Sydney-Canberra-Tumut-Wagga-Albury-Corowa-return	Le Claire Aerostar
Tamworth-Narrabri-Moree-Mungindi-Collarenebri-Lightning Ridge-return	Donoghue Twin Commanche
Sydney-Goulburn-Canberra-Cooma-return	Aviation Aerostar
Sydney-Nowra-Moruya-Merimbula-return	Donoghue Baron
Sydney-Orange-Parkes-Condobolin-L. Cargelligo-Hillston-Ivanhoe-Wilcannia-Broken Hill-return	Aviation Aerostar
<b>South Australia</b>	
Adelaide-Pt Pirie-Whyalla-Pt Augusta-Hawker-return	Cessna 402
Adelaide-Pt Lincoln-Lock-Wudinna-Streaky Bay-Ceduna-return	Cessna 310
Adelaide-Minlaton-Cowell-Cleve-Kimba-return	Cessna 310
Adelaide-Kingston-Naracoorte-Millicent-Mt Gambier-return	Cessna 402

a. Return journey generally covers the same ports.

b. Abbreviations are used for Aviation Centre (Aviation), Donoghue Executive Charters (Donoghue), Western Airlines (Western), Le Claire Aviation (Le Claire) and MacKnights Airlines (MacKnights).

Source TNT Air (pers. comm. 1986).

TABLE I.5 WARDS EXPRESS AND SECURITY EXPRESS - COUNTRY COURIERS FREIGHTER NETWORK, APRIL 1987

Route <sup>a</sup>	Aircraft	Days operated				
		Mon	Tues	Wed	Thurs	Fri
Wards Express						
Darwin-Alice Springs-Melbourne	Learjet 35a	X	X	X	X	
Melbourne-Sydney-Alice Springs-Darwin	Learjet 35a	X	X	X	X	
Security Express - Country Couriers						
Victoria						
Essendon-Horsham-Hamilton-return	Navajo	X	X	X	X	X
Essendon-Warrnambool-Portland-return	Aero Commander	X	X	X	X	X
Essendon-Swan Hill-Mildura-return <sup>b</sup>	Baron	X	X	X	X	X
Essendon-Sale-Bairnsdale-return	Partenavia	X	X	X	X	X
Essendon-Wangaratta-Albury-return		X	X	X	X	X
Essendon-Bendigo-Essendon		c	c	c	c	c
New South Wales						
Sydney-Lismore-Coolangatta-return	Aerostar	X	X	X	X	X
Sydney-Macksville-Coffs Harbour-Grafton-return	Baron	X	X	X	X	X
Sydney-Taree-Port Macquarie-Kempsey-return	Jet Ranger	X	X	X	X	X
Sydney-Belmont-Sydney		X	X	X	X	X
Sydney-Newcastle-Warkworth-return		X	X	X	X	X
Sydney-Newcastle-Williamtown-return		X	X	X	X	X

TABLE I.5 (Cont.) WARDS EXPRESS AND SECURITY EXPRESS - COUNTRY COURIERS FREIGHTER NETWORK, APRIL 1987

Route <sup>a</sup>	Aircraft	Days operated				
		Mon	Tues	Wed	Thurs	Fri
Queensland						
Cairns-Townsville-Mackay-Rockhampton-Brisbane-return	Spence	X	X	X	X	
Brisbane-Mackay-Proserpine-Townsville-Cairns-return	Cessna 210	X	X	X	X	X
Brisbane-Thangool-Emerald-Dysart-Mackay-return	Partenavia	X	X	X	X	X
Brisbane-Maryborough-Bundaberg-Gayndah-return	Chieftain	X	X	X	X	X
Mackay-Hughenden-Cloncurry-Mount Isa-return		X	X	X	X	X
Brisbane-Dalby-Roma-Mitchell-Charleville-return <sup>d</sup>		X	X	X	X	X
Emerald-Alpha-Barcaldine-Longreach-return		X	X	X	X	X
Rockhampton-Townsville-Rockhampton		X	X	X	X	X
Townsville-Gladstone-Townsville		X	X	X	X	X
Townsville-Rockhampton-Gladstone		X				
Sydney-Brisbane-Sydney		X	X	X	X	
Brisbane-Sydney-Brisbane		X	X	X	X	

a. Return journey generally covers the same ports.

b. Return flight includes Bendigo.

c. Back-up flight where required.

d. Return flight includes Toowoomba.

Source Mayne Nickless (pers. comm. 1987).

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### Abbreviations

AGPS      Australian Government Publishing Service  
BTE      Bureau of Transport Economics  
TAA      Trans Australia Airlines

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## ABBREVIATIONS

AAF	Ansett Air Freight
AFE	Ansett Freight Express
ANA	Australian National Airways
ATI	Ansett Transport Industries
GDP	Gross Domestic Product
IRERDA	Independent Review of Economic Regulation of Domestic Aviation
TAA	Trans Australia Airlines