General Aviation Flying in Australia

Report

This report examines the state of General Aviation (GA) flying in Australia. It is primarily based on a Bureau of Transport and Communications Economics (BTCE) survey of GA undertaken in 1994, which provided a snapshot of the industry for financial year 1992-93. Key areas examined include: the composition of the GA flying industry; flying activity; industry conduct; financial structure and performance; and industry views and perceptions.

Subject
Series
Date
A to Z
Search
Results
Print
Exit
GO BACK

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FOREWORD

The Bureau of Transport and Communications Economics (BTCE) has undertaken research into General Aviation (GA) flying in Australia to meet an identified gap in knowledge about this sector of aviation. This report covers the results of a survey of this sector by the BTCE, providing a snapshot of the state of the GA flying industry in 1992–93, together with some examination of activity trends over time. The BTCE aims to provide comprehensive data on GA that can be used in the analysis of policy issues and contribute to informed debate about issues affecting this sector of aviation.

Research, analysis and report writing were undertaken by Paula Barnes and Andrew Biggs (joint project leaders), Mick O'Halloran and Ben Wilson. Additional assistance was provided by John Heckenberg and Olya Vaisvila. Earlier work on the GA industry by Joe Motha is also acknowledged.

The BTCE especially wishes to thank the GA industry associations for their assistance with this study, particularly the survey of GA industry participants.

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CONTENTS

BOXES

FIGURES

TABLES

ABSTRACT

This report examines the state of General Aviation (GA) flying in Australia. It is primarily based on a Bureau of Transport and Communications Economics (BTCE) survey of GA undertaken in 1994, which provided a snapshot of the industry for financial year 1992–93. Key areas examined include: the composition of the GA flying industry; flying activity; industry conduct; financial structure and performance; and industry views and perceptions.

Changes in aviation policies affect GA. However, there has been little information on which to base debate about the likely impacts of such changes on GA. This BTCE report provides comprehensive data on GA that can be used in the analysis of policy issues and contribute to informed debate about issues affecting this sector of aviation.

SUMMARY

In recent years there have been changes in a number of policies that have affected the aviation industry. In comparison to the major airlines, the General Aviation (GA) industry has not been well researched. There has been a lack of information, other than anecdotal material and basic activity data, on which to base policy decisions.

Industry has supported the quest for better information that will assist it in assessing the impact of policy changes on the environment in which it operates, and contribute to more informed debate on GA issues.

The Bureau of Transport and Communications Economics (BTCE) study is the first comprehensive examination of the GA flying industry in Australia since 1979. Based largely on a survey of GA industry participants carried out in 1994, it represents a snapshot of the industry rather than an analysis of trends over time. Nevertheless material has been drawn from other sources to put this snapshot in perspective.

CHAPTER 1 INTRODUCTION

The study covered only the flying aspect of GA and did not attempt to cover those organisations or individuals involved *solely* in aircraft maintenance or provision of airport and other infrastructure.

GA has various definitions, but in this study it excludes all activity of the large airlines, includes only the GA activity of the low capacity or regional airlines, and includes gliding activity carried out by Air Operators Certificate (AOC) holders.

The study incorporated a detailed survey of participants in GA flying in Australia to gather data about various aspects of their GA activities carried out in 1992–93. Those surveyed included AOC holders conducting commercial operations (including low capacity regular

public transport operators who also conducted GA activity) and non-commercial fliers who owned aircraft.

CHAPTER 2 COMPOSITION OF THE GA FLYING INDUSTRY

Chapter 2 reports on the composition of the GA flying industry in 1992–93, focusing on the operators and owners of aircraft, those they employ and the aircraft they fly.

Number of flying industry participants

Two main groups directly participate in GA flying, commercial operators and non-commercial aircraft owners. The BTCE defines commercial operators as operators with an AOC (referred to as AOC holders), who may or may not own aircraft. Non-commercial aircraft owners are defined as the group of entities that own aircraft but do not hold AOCs.

AOC holders

At the beginning of 1994, there were an estimated 1061 individual AOC holders approved to carry out one or more commercial GA activities in Australia, including operators approved to carry out both GA and low capacity regular public transport (RPT) activities. The most common type of AOC holder was approved to undertake both aerial work and charter operations. More than half of all AOC holders had their postal addresses in NSW or Queensland.

Although AOC holders may be approved to undertake a number of activities, many concentrate on one activity. For the purposes of analysing industry sectors, or what are referred to in this report as activity groups, operators were grouped according to their *dominant* activity (defined as the activity which contributed at least 60 per cent of their income)—low capacity RPT, charter, flying training, aerial agriculture, aerial work, hire, mixed, non-commercial and unallocable.

For the purposes of various aspects of analysis, AOC holders were also grouped according to the number of aircraft owned by the operator (that is, *owned fleet size group*) or the number of aircraft owned by the operator plus on-line aircraft (that is, *operated fleet size group*).

NSW–ACT had the highest number of AOC holders in 1992–93. On a per 100 000 population basis, WA–NT had the highest ratio of commercial operators and Victoria–Tasmania the lowest. The activity group with

the highest number of operators was charter, followed by aerial work.

More than a third of AOC holders were based at non-Federal Airports Corporation (non-FAC) licensed aerodromes in 1992–93. Very large operated fleets were more heavily concentrated at FAC GA airports than other fleet sizes.

Non-commercial aircraft owners

There were an estimated 5302 aircraft owners not directly engaged in commercial GA operations (that is, owners who did not hold an AOC) at the end of 1993.

For the purposes of analysing non-commercial aircraft owners, they were grouped according to their *dominant* activity (defined as the activity which accounted for at least 60 per cent of their hours flown)—recreation, business, and hire. In this context, business flying does not refer to commercial aviation activities; it refers to flying as an adjunct to another business, for example, a veterinarian flying to a property to provide professional services.

In 1992–93, the highest number of non-commercial owners was based in NSW–ACT. On a per 100 000 population basis, Queensland had the highest ratio of non-commercial aircraft owners and Victoria–Tasmania the lowest. When allocated by dominant activity, almost half the non-commercial aircraft owners were in the recreation group.

More than 40 per cent of non-commercial aircraft owners were based at unlicensed aerodromes in 1992–93.

Direct employment

GA AOC holders are estimated to have directly employed some 6890 people for GA-related purposes as at 30 June 1993. It is estimated that another 3830 staff were employed by these operators specifically for business activities that were *not* directly related to GA.

The employee numbers reported here do not include employment by non-AOC holders operating in related, but non-flying, segments of the GA industry (for example, employees engaged in aircraft maintenance which is undertaken by any organisation other than one holding an AOC).

Aircraft

The BTCE survey results enable a comprehensive examination of the makeup of the aircraft fleets of AOC

holders and non-commercial aircraft owners and the characteristics of their aircraft.

Aircraft fleets

Owned fleet size for AOC holders and non-commercial aircraft owners. The BTCE survey estimates that in 1992–93 there were 2886 aircraft owned by AOC holders and 5966 owned by non-commercial aircraft owners, a total of 8852 aircraft.

The largest share of aircraft was based in NSW–ACT. Australia is estimated to have had 50 GA aircraft per 100 000 population in 1992–93.

The largest share of aircraft owned by AOC holders was based at non-FAC licensed aerodromes, the largest share for non-commercial aircraft owners at unlicensed aerodromes. The largest share of total aircraft was based at unlicensed aerodromes.

Operated fleet size for AOC holders. In 1992–93 there were 1264 on-line aircraft (that is, on long-term hire or lease) being operated by all AOC holders in Australia. This was in addition to their owned aircraft. The flying training activity group had the highest absolute number of on-line aircraft.

Short-term hire was undertaken by about half the flying training group.

Aircraft hire to non-commercial aircraft owners. Non-commercial aircraft owners hire additional aircraft from others for various reasons including the need to undertake training (perhaps to upgrade a licence) or when their aircraft are being repaired. Aircraft hire was undertaken by about 12 per cent of those in the business activity group.

Growth in fleet size. To put the 1992–93 estimates of fleet size in perspective, reference may be made to the number of aircraft on the Australian Civil Aircraft Register over time. The aircraft fleet has grown considerably over the past 35 years, from some 1300 Australian-registered aircraft in 1960 to some 9600 in 1995.

However, the proportion of aircraft based in each State (or Territory) has remained fairly constant.

The growth in the estimated number of aircraft involved in GA and regional airline operations appears to be closely linked to growth in general economic activity.

Aircraft characteristics

In 1992–93, fixed-wing single-engine piston aircraft accounted for 50 per cent of aircraft owned by AOC holders and 86 per cent of those owned by non-commercial aircraft owners. Such aircraft, the most common of which is the Cessna 172, represented 74 per cent of the total GA fleet.

Estimates of the number of owned aircraft by fuel type show the dominance of avgas aircraft in most activity groups.

Aircraft owned by AOC holders have higher average maximum take-off weight (MTOW) than those owned by non-commercial aircraft owners.

Reflecting the dominance of Cessna in the manufacture of the most common aircraft category (fixed-wing single-engine piston aircraft), Cessna was the most common manufacturer of aircraft owned by AOC holders and non-commercial aircraft owners in 1992–93.

In 1992–93, aircraft owned by AOC holders (aircraft which had an average age of 16 years) tended to be younger than those owned by non-commercial aircraft owners (aircraft average age of 22 years). Among AOC holders, operators in the aerial agriculture activity group are estimated to have had the oldest aircraft, on average. For non-commercial aircraft owners, aircraft owned by those in the recreation activity group tended to be the oldest.

For both AOC holders and non-commercial aircraft owners, fixed-wing single-engine piston aircraft were the oldest aircraft category, on average.

Survey respondents were asked to provide estimates of the current (1994) market value of aircraft which they owned in 1992–93. Aircraft owned by AOC holders in the low capacity RPT activity group had the highest average value ($1.6 million). Of the non-commercial aircraft owner activity groups, the business group had the highest average value of aircraft owned ($107 000).

CHAPTER 3 FLYING ACTIVITY

Chapter 3 reports on the nature and extent of flying activity by various participants in the GA flying industry.

Flying activity is conventionally measured in terms of hours flown. The various GA sectors performed 62 per cent of the total hours flown in Australian aviation in 1992–93, and 60 per cent of the total in 1994–95.

The GA *activity* shares considerably overstate the financial importance of GA, given disparities in the capacities and flying speeds of GA aircraft and airline aircraft. In terms of *output* measures such as tonne-kilometres performed or passengers carried, the importance of the GA fleet is dwarfed by domestic airlines.

Survey estimates

This chapter presents BTCE survey estimates for 1992–93 of GA flying *activity* as well as estimates of GA *output* for charter activity.

Hours flown

AOC holders. In 1992–93 the operators in the low capacity RPT group had the highest estimated average hours flown per year, and those in the non-commercial group, the lowest. For each of the activity groups, median hours flown were considerably lower than average hours, suggesting that in each group a relatively small number of operators flew a large number of hours.

The average operator in each of the activity groups was involved in at least two other GA activities in addition to their primary activity.

Small and medium fleets (both owned and operated) performed the majority of hours flown.

Non-commercial aircraft owners. In 1992–93, the non-commercial aircraft owners in the recreation group had the lowest estimated average and median hours flown per year, and the hire group, the highest.

In each activity group, the average non-commercial aircraft owner used his or her aircraft for both recreational and business purposes, and also hired out aircraft to other parties.

Aircraft fuel type. In 1992–93, avgas aircraft dominated total hours flown, though total fuel consumption of avtur aircraft exceeded that of avgas aircraft.

Landings

AOC holders. Two-thirds of the estimated landings were accounted for by the charter, aerial agriculture and flying training groups in approximately equal shares.

In both owned fleet size and operated fleet size terms, the small fleet groups accounted for around 40 per cent of estimated total landings.

Non-commercial aircraft owners. The business group accounted for almost half of total landings by non-commercial aircraft owners.

Output measures

Passengers carried. In 1992–93, the average operator in all AOC activity groups was estimated to have performed at least some charter activity. The highest average passenger number is for the charter group, as would be expected because this group performed the most charter activity.

By operated fleet size group, the highest estimated average passenger number is for the very large fleet group. This suggests a concentration of charter activity with operators having large fleets.

It is estimated that a total of 657 401 charter passengers were carried by all GA AOC holders in 1992–93. This is an average of 2.1 passengers per charter hour flown by GA AOC holders.

Freight carried. The average operators in five of the nine AOC activity groups were estimated to have carried some charter freight. However, as would be expected the highest average amount of freight was carried by the charter group.

By operated fleet size group, the highest estimated average number of kilograms of freight carried is for the large fleet group. This confirms a concentration of charter activity with operators having large fleets.

It is estimated that a total of 23 491 tonnes of freight was carried by GA AOC holders in 1992–93. This is an average of 76 kilograms of freight per charter hour flown by GA AOC holders.

Growth in activity

This chapter also considers growth in activity using time series data reported in the Department of Transport and Regional Development's (DoTRD's) AVSTATS GA database, and examines how this may be related to changes in economic activity over the period 1980 to 1995.

Hours flown

Charter activity has increased roughly in line with the level of real economic activity since 1983. The major deviation was around the time of the pilots' strike in

1989, when charter activity expanded to meet some of the demand not met by the airlines.

Flying training activity has risen, but not closely tracked growth in real gross domestic product (GDP) between 1980 and 1995.

The level of aerial agriculture activity generally tracked the rural commodity price index between 1980 and 1995.

Aerial work includes a wide range of activities. There appears to be no strong relationship between the indexes of the various aerial activities and real GDP.

As would be expected, the two community service flying activities (ambulance and search-and-rescue) appear not to be closely related to GDP.

Private and business activity have each declined both absolutely and relative to GDP over the period 1980 to 1995, though variations in activity from one six-month period to the next have tended to be in the same direction as movements in GDP.

Landings

The estimated number of landings between 1980 and the first half of 1995 ranged between 1.2 million and 1.9 million per six-month period.

Growth in landings and hours flown in GA and regional airline operations has lagged behind the growth in general economic activity, while growth in number of aircraft has more closely followed economic activity.

CHAPTER 4 INDUSTRY CONDUCT

Chapter 4 reports on the responses to the BTCE GA survey by AOC holders regarding their motivations for being in the industry, their aviation background and their business experience. It also reports on the occupations and business involvements of non-commercial aircraft owners.

AOC holders

It is estimated that, in 1992–93, 76 per cent of AOC holders were sole proprietorships, partnerships (with an average of 2.1 partners) or small private companies (with an average of 2.4 owners). The average length of operation of all AOC holders was 13 years.

Of those AOC holders who were either sole proprietors, partnerships or private companies, over 65 per cent

indicated that their primary motivation for entering GA had been a personal interest in aviation. Of these operators, 49 per cent had good commercial prospects as their secondary motivation.

When asked to consider the primary reason why they stayed in GA as a business, the primary motivation for nearly 55 per cent of sole proprietors, partnerships and private companies was personal interest in aviation. Seventeen per cent of respondents nominated an inability to sell their business or a lack of alternative opportunities as their reason for continuing in GA.

Non-commercial aircraft owners

Non-commercial aircraft owners were asked to identify occupations where recreational flying was undertaken and industry involvement where business flying was undertaken. Thirty-six per cent of respondents involved in recreational flying were 'farm managers'. Fifty-seven per cent of respondents involved in business flying were involved in the agriculture industry.

CHAPTER 5 FINANCIAL STRUCTURE AND PERFORMANCE

Chapter 5 reports estimates from the BTCE survey of GA of the financial position of GA industry participants.

Non-commercial aircraft owners

The hire group had the highest estimated average and median total expenses in 1992–93, while the recreation group had the lowest. Average total expenses for all non-commercial aircraft owners was over $16 000 and median total expenses over $10 000.

Flying expenses

It is estimated that, in 1992–93, maintenance accounted for the largest share of average total expenses, between 25 and 36 per cent, depending on activity group. Government charges represented 8–12 per cent of average total expenses.

In aggregate terms, the population of non-commercial aircraft owners is estimated to have had flying expenses of almost $87 million in 1992–93. More than 50 per cent of this total was attributable to the business activity group (where business relates to flying for non-aviation business purposes).

Income

Some non-commercial aircraft owners earn income from activities such as hiring out their aircraft, which offsets some of the costs of flying. In 1992–93 estimated average

income represented between 3 per cent of total costs for recreational fliers who own aircraft and 64 per cent of total costs for owners who mainly hired out their aircraft. However, most aircraft owners did not earn income from their aircraft.

In aggregate terms, the population of non-commercial aircraft owners had an estimated total income of over $14 million in 1992–93. The hire group accounted for over 70 per cent of this total.

Aircraft market value

In aggregate terms, the value of the aircraft fleet owned by 'non-commercial aircraft owners' is estimated to have been around $483 million in 1994. The fleet owned by the business activity group had the highest average value and made up 57 per cent of this total.

AOC holders

The responses to the BTCE survey of AOC holders were analysed by activity group and alternatively by operated fleet size group. AOC holders whose dominant activity was non-commercial activity or low capacity RPT were *not* included in this part of the analysis.

Financial position by activity group

Income. By activity group, the highest estimated average and median total income per year in 1992–93 was earned by the aerial work group, while the hire group yielded the lowest. The average for all commercial GA groups was over $556 000, while the median was over $157 000.

In terms of sources of income the aerial agriculture group was the most specialised, on average, with an estimated 94 per cent of total income being earned from aerial agriculture activity.

In aggregate terms, commercial GA operators are estimated to have earned over $544 million in 1992–93, with the largest contribution (41 per cent) from the charter group.

Expenses. The aerial work group had the highest estimated average and median total expenses in 1992–93, while the hire group had the lowest. Average total expenses for all commercial GA groups were over $572 000 and median total expenses, over $158 000.

The largest expense category for most activity groups was labour, representing between 22 and 34 per cent of average total expenses. The next most significant

expense category for most activity groups was maintenance, ranging from 14 to 26 per cent of average total expenses. Total government charges are estimated to have accounted for 3–8 per cent of average total expenses.

In aggregate terms, commercial GA operators are estimated to have incurred expenses of over $560 million in 1992–93, with the charter group the major contributor (41 per cent).

Profit. In 1992–93, the overall average profit position for GA was an estimated loss of almost $16 000. The estimated position varied widely by activity group, from an average loss before tax of almost $259 000 for the mixed group to an average profit before tax of over $24 000 for the aerial work group.

It is emphasised that these are estimates based on survey results. The estimates will vary from actual population averages, depending upon the statistical significance attached to these estimates.

Commercial GA operators are estimated to have made an aggregate loss of over $15.5 million in 1992–93.

Balance sheet position. In 1992–93, it is estimated that the average operator in the aerial work group had the highest total equity, on average, and the flying training group, the lowest.

The estimated averages for all commercial GA groups were over $710 000 for total assets, over $361 000 for total liabilities, and nearly $349 000 for total equity. Estimated medians were substantially lower.

In aggregate terms, commercial GA operators are estimated to have had total assets valued at over $695 million in 1992–93, with total liabilities of almost $354 million and total equity of over $341 million.

Financial position by operated fleet size group

Income. The highest estimated average total annual income was earned by the large operated fleet size group, while the single aircraft group yielded the lowest. In terms of medians, however, the highest income was earned by the very large fleet group and the lowest by zero operated fleet group (those operators using only aircraft on short-term hire).

In terms of sources of income, the average operator in the large operated fleet size group was the most

specialised, deriving 72 per cent of total income from charter operations.

In aggregate terms, the small fleet group contributed nearly 40 per cent of total income earned by commercial GA operators in 1992–93.

Expenses. As would be expected, the estimates show that average total expenses generally rose with fleet size. The large operated fleet group had the highest average total expenses in 1992–93, while the very large fleet group had the highest median total expenses. The zero operated fleet group had the lowest average and median total expenses.

The largest expense category for most fleet groups was labour, representing between 6 and 31 per cent of average total expenses. Maintenance was the second largest expense category for most fleet groups, ranging from 9 to 22 per cent of average total expenses. Total government charges accounted for 3 –8 per cent of average total expenses.

In aggregate terms, the small fleet group is estimated to have accounted for 42 per cent of total expenses incurred by all commercial GA operators in 1992–93.

Profit. The estimated profit position varied widely by fleet group. The only two fleet groups making a profit before tax on average were the medium fleet and the large fleet groups. The remainder of the groups made losses on average from around $6000 to $53 000.

It is again emphasised that these are survey estimates and that the actual population averages may vary.

The small fleet group is also estimated to have accounted for the largest share of the total loss made by all commercial GA operators in 1992–93.

Balance sheet position. In 1992–93, the average operator in the large operated fleet group had the highest level of total assets. This was largely due to the high estimated value of the aircraft fleet at about $2 million out of a total asset value of $3.5 million. The lowest level of total assets was held by the average operator in the zero operated fleet size group, which would be expected as there were no aircraft assets.

The large operated fleet group had the highest estimated average total liabilities, with the single operated fleet group the lowest.

In terms of equity, the large operated fleet group had the highest estimated total equity on average and the zero operated fleet group, the lowest.

Prices of flying activities

The highest estimated average income per hour in 1992–93 was earned for low capacity RPT and charter activity, as would be expected because these are the main people-carrying activities. The lowest average income per hour was attributable to private hire of aircraft and may reflect the use of smaller aircraft for this activity.

Financial ratio analysis

The scope for financial ratio analysis of GA is limited by available data. The ratio analysis presented in this chapter is therefore restricted to comparisons with other industries, using ratios for other Australian industries for the 1992–93 year estimated by the Australian Bureau of Statistics (ABS), and comparisons with 'rules of thumb'.

Profitability ratios. GA achieved poor results in terms of profitability for the 1992–93 year. This contrasts with the profitability of small businesses in the transport and storage sector, which was above the national average of all industries in all ratios estimated.

The hire activity group and the medium operated fleet group achieved the best profitability results on average in 1992–93. The poorest performance results on average were attributable to mixed activity group and the single aircraft operated fleet group. However, the performance of the median operator in most activity and fleet groups was profitable.

Liquidity ratio. Despite the losses sustained in GA in 1992–93, the industry was solvent on average. However, most activity groups and operated fleet size groups had current ratios which did not meet the rule of thumb of 1.5. Low current ratios were also reported by the ABS for the 'all transport and storage industries' group in 1992–93.

The median operator in most activity groups and most operated fleet sized groups was less solvent than the mean operator.

Debt ratios. Ideally debt exposure over a period of several years should be examined. However, this is not possible for the GA industry as the data are not available.

Because of the general unprofitability of GA in 1992–93, the overall estimate for the industry's interest coverage ratio was less than one. This means that the average operator did not earn enough to meet interest payments on borrowed funds.

The mixed activity group had by far the lowest estimate for the interest coverage ratio, and the only negative ratio at –8.3. In contrast, the aerial work and hire activity groups recorded interest coverage ratios greater than 2.0.

By operated fleet size group, the medium fleet group and the large fleet group had estimated interest coverage ratios of more than the comfortable ratio of three.

The long-run debt to equity ratios of all GA activity groups and all operated fleet size groups were lower than that for the transport and storage industry in 1992–93, implying that GA was less exposed to external borrowings. The GA industry average for all activity groups was 0.5 compared with 1.2 for the all transport and storage industries group and 1.1 for small transport and storage.

Labour ratio. Labour costs per employee in GA in 1992–93 were estimated to be $22 300, while the ABS estimated such costs at $35 700 for all transport and storage industries and $21 600 for small transport and storage businesses.

The aerial work, charter and aerial agriculture activity group estimates were higher than the GA average with the lowest estimate being for the hire activity group. On an operated fleet basis, the labour costs per employee tended to rise with fleet size, which would be expected to the extent that larger fleets may involve the use of more qualified and higher paid pilots. Median labour costs per employee are estimated to have been lower than the average for each of the activity and fleet groups.

It should be noted that these estimated average costs per employee include working proprietors and unpaid employees who are recorded as employees by the business. To this extent average labour costs per employee may be less than wages and salaries even though selected labour costs also include payments such as workers compensation and superannuation.

CHAPTER 6 INDUSTRY VIEWS AND PERCEPTIONS

Chapter 6 reports comments by respondents to the BTCE GA survey on the prospects for their GA activities and factors affecting GA at a regional or national level.

Comments reported here are based on the number of survey responses only, and are not estimates of the extent to which views are held by all GA flying industry participants.

Future prospects

Survey respondents were asked what were their expectations for the development of their GA activities over the next five years.

Non-commercial aircraft owners

Sixty-eight per cent of non-commercial aircraft owner respondents expected to maintain or increase their GA flying activities. In terms of capital expenditure, 71 per cent of respondents expected no change or an increase in their capital expenditure.

AOC holders

Almost half of AOC holder respondents expected an increase in flying activities and a further 21 per cent of respondents expected no change. In terms of employment, 42 per cent of respondents expected no change and a further 32 per cent expected an increase. For capital expenditure, 42 per cent of respondents expected an increase and a further 30 per cent no change.

Impediments to expansion

Survey respondents were asked what they believed would have the most impact in preventing the planned or potential expansion of their GA activities in the next five years. Respondents were given a number of possible options and asked to rank as many options as appropriate in order of size of impact.

Non-commercial aircraft owners

Of those non-commercial aircraft owner respondents who ranked their responses, over a quarter nominated increased maintenance/repair and spare parts costs as

the main impediment to growth in their GA activities. This was followed by increased fuel costs (16 per cent), increased Civil Aviation Authority (CAA) charges (11 per cent) and increased insurance costs (11 per cent).

Including all responses by non-commercial aircraft owners (not just those that were ranked), the four most often nominated impediments were the same as when ranked, but increased fuel costs became the most often nominated impediment ahead of increased maintenance costs.

AOC holders

Of those AOC holders who ranked their responses, 13 per cent nominated increased CAA charges as the main impediment to growth in their GA activities. This was followed by increased maintenance/repair and spare parts costs (9 per cent), increased cost of buying/leasing aircraft (8 per cent) and increased competition (7 per cent).

When unranked responses were added to the ranked responses for AOC holders, increased CAA charges and increased maintenance/repair and spare parts costs remained the two most frequently nominated impediments. However, increased insurance costs and increased fuel costs became the third and fourth most selected options.

Threats and opportunities

Respondents to both the non-commercial aircraft owners and the AOC holders surveys were given the opportunity to describe any major threats or opportunities that they thought may affect GA activities at a regional or national level, in the comments blocks at the end of the questionnaires. It should be noted that these comments were made by respondents in 1994 and therefore do not reflect any changes that have occurred since then.

Non-commercial aircraft owners

Forty-seven per cent of total non-commercial aircraft owner respondents provided comments on a range of topics in this comment block. Virtually all these comments identified threats to the industry rather than opportunities.

The most frequently mentioned threat to GA was cost-recovery or user-pays policies. This was followed by critical comments on government aviation policy in

general, flying costs (particularly fuel costs, aircraft purchase costs and maintenance costs), and the CAA.

AOC holders

One hundred and sixty-two AOC holders provided comments, the bulk of which were negative and concerned mostly with regulatory issues.

The CAA received the most criticism, attracting some 20 per cent of all comments, with administration and charges being most criticised. The second most frequently mentioned issue was flying costs, which attracted 13 per cent of all comments. Negative comments about the then Commonwealth Government and its aviation policies in general accounted for a further 13 per cent of all comments.

APPENDIXES

Appendix I contains the questionnaires used in the BTCE survey of GA.

Appendix II summarises the methodology adopted for the BTCE survey of GA.

Appendix III outlines discussions with industry associations and other organisations during the study.

Appendix IV provides time series data for selected aircraft characteristics derived from DoTRD's AVSTATS GA database.

Appendix V provides definitions of the financial ratios reported in chapter 5.

CHAPTER 1 INTRODUCTION

BACKGROUND TO THE STUDY

Over many years there have been changes in policies that have affected General Aviation (GA). However, despite the importance of GA, there has been a lack of information about it except for basic activity data collected by the Department of Transport and Regional Development (DoTRD) in AVSTATS' biannual *General Aviation Activity Survey.*

Detailed studies of GA in Australia have generally resulted from a need for information, particularly about the financial aspects of GA, to assist policy making. However, such studies have not been frequent, the last comprehensive study of GA in Australia being more than 15 years old. That study was undertaken by the then Bureau of Transport Economics (BTE), which conducted a survey of GA in 1979 (BTE 1980, 1981). Prior to this, a survey of GA was commissioned in 1972 by the then Department of Civil Aviation (Niall 1974).

The purpose of the Bureau of Transport and Communications Economics (BTCE) study reported upon here was to fill the identified gap in knowledge about GA, existing since the BTE study, and thus contribute to more informed debate on GA issues.

SCOPE OF THE STUDY

It is emphasised from the outset that this study does not cover all aspects of GA. In the broadest terms GA could be said to cover flying (both commercial and non-commercial operations), as well as related activities such as maintenance of GA aircraft and the provision of GA airports and other infrastructure. It was not possible to cover all of these aspects of GA in this study and only its flying aspect has been examined. The important segments of the GA industry relating to organisations or

individuals involved *solely* in aircraft maintenance or provision of airport and other infrastructure are not explicitly considered in this report. Maintenance costs and airport charges are briefly examined in the context of the cost of flying. For the purposes of this study, the term GA therefore refers to the flying aspects of GA. However, it is necessary to define in more detail what is meant by GA flying.

Broadly speaking, GA is understood to be that sector within aviation that excludes military aircraft and larger airlines. It is generally considered to be the smaller and more diverse part of aviation involving smaller aircraft. There is, however, some disagreement about the precise definition of GA, particularly relating to:

- non-scheduled activity by the major airlines;
- activities of low capacity regular public transport (RPT) operators; and
- sport aviation activities.

In this report, GA:[1]

- excludes all (scheduled and non-scheduled) activity of the major airlines (Ansett and Qantas);
- includes only the GA activity of low capacity or regional airlines (defined as operators performing RPT services whose fleets contain only aircraft with 38 seats or less, or with a payload of up to 4200 kg); and
- includes gliding activities carried out by holders of Air Operators Certificates.[2]

APPROACH TO THE STUDY

While there is much anecdotal evidence about the state of GA in Australia, little detailed data about GA existed at the commencement of this study. As was the case with previous studies of GA, it was therefore necessary to conduct a survey of individuals and organisations directly involved in GA flying activity to obtain data about various aspects of their GA activities.

During 1994 a series of surveys of GA was conducted by the BTCE:

- *BTCE General Aviation Survey 1994: Aircraft Owners*, which covered business fliers and recreational fliers who own aircraft (that is, non-commercial aircraft owners);
- *BTCE General Aviation Survey 1994: AOC Holders*, which covered commercial GA operators excepting those approved to undertake regular public transport activities; and
- *BTCE General Aviation Survey 1994: AOC Holders (including RPT Operators)*, which covered *only* those commercial GA operators who were also approved to undertake low capacity regular public transport activities. This survey focused on the GA activity of these operators, not their RPT activity.

These surveys requested information that would provide a 'snapshot' of GA for the financial year 1992–93, the latest year for which financial information was available when the field survey commenced in April 1994. Information relating to other years was not requested as this would have significantly increased the burden of responding to the survey and diminished its effectiveness.

Preliminary estimates from these surveys were published in December 1995 in BTCE Working Paper 19 *General Aviation Survey—Preliminary Estimates* (BTCE 1995). Preliminary results were also provided to the Parliamentary Inquiry into Aviation Safety and published in its report *Plane Safe* (HORSCOTCI 1995). The survey estimates presented in this report have been revised and extended.

STRUCTURE OF THE REPORT

The composition of the GA flying industry in terms of industry participants and aircraft is examined in chapter 2 of this report, which also provides the precise definitions of various aspects of GA that are used in this study.

Flying activity is the focus of chapter 3, which draws on time series data provided by the DoTRD in AVSTATS' *General Aviation Activity Survey* and the snapshot of activity in 1992–93 that is available from the BTCE survey of GA.

Chapters 4, 5 and 6 report results of the BTCE survey of GA. Aspects of industry conduct, such as the legal structure of industry participants, their motivation and, where applicable, their pricing behaviour, are examined in chapter 4. The financial position and performance of both the commercial and non-commercial sectors of GA flying in 1992–93 are

examined in chapter 5. Chapter 6 summarises the industry views and perceptions of the future of GA as reported by respondents to the survey.

There are five appendixes supporting the main body of the report. Appendix I provides copies of the questionnaires used in the BTCE GA survey. Survey methodology is discussed in appendix II, and an outline of discussions with industry associations and other bodies during the study appears in appendix III. Appendix IV provides time series data for selected characteristics of aircraft involved in GA and regional airline operations, derived from DoTRD's AVSTATS General Aviation database. Definitions of the financial ratios reported in chapter 5 are presented in appendix V.

NOTES

1. The AVSTATS data (DoT 1996b) referred to throughout this report define General Aviation as all non-scheduled flying activity in aircraft allocated a VH-registration by the Civil Aviation Safety Authority, except for that performed by the major airlines, but including non-scheduled flying by the regional airlines. Hot-air balloon operators have been included since the beginning of 1990.
2. Non-commercial aircraft owners of gliders were not directly surveyed, given the separate registration arrangements applying for gliders.

CHAPTER 2 COMPOSITION OF THE GA FLYING INDUSTRY

This chapter reports on the composition of the GA flying industry in 1992–93, focusing on the operators and owners of aircraft, those they employ and the aircraft they fly. The flying activity undertaken by these players is considered in chapter 3.

The BTCE GA survey canvassed those directly involved in flying activity and not, for instance, those organisations or individuals involved *solely* in aircraft maintenance or the provision of airport and other infrastructure. These important segments of the GA industry thus are not reported in detail here.

NUMBER OF FLYING INDUSTRY PARTICIPANTS

Two main groups directly participate in GA flying, commercial operators and non-commercial aircraft owners. The BTCE defines commercial operators as operators who hold an Air Operators Certificate (AOC), that is, AOC holders,[1] and non-commercial aircraft owners as the group of entities that own aircraft but do not hold AOCs.

Commercial operators can and do own aircraft as well, but do not need to *own* aircraft in order to hold an AOC. Non-commercial aircraft owners can either perform private or business flying activity, or they can hire out their aircraft to others. The low utilisation of most aircraft owned by non-commercial aircraft owners in Australia (reported in chapter 3) encourages owners to make their aircraft available for short-term hire, or to place their aircraft on-line with commercial operators. This creates a pool of aircraft for use by new or established operators. Information obtained from the BTCE survey of AOC holders includes data on their owned aircraft as well as on any aircraft which the operator leased or hired from other commercial operators or non-commercial aircraft owners.

AOC holders

Under the *Civil Aviation Act* 1988, anyone undertaking commercial operations within Australia must hold an Air Operators Certificate. An AOC certifies that commercial operators have conformed to the safety requirements of the particular operation, and can continue to comply with them. The Civil Aviation Regulations formally identify three commercial operation classes: aerial work, charter and regular public transport (RPT). AOCs are issued for a wide range of operations within these commercial classes (see box 2.1).

AOC authorisations for various commercial operations at the beginning of 1994[2] are listed in table 2.1. The number of authorisations exceeds the total number of AOC holders because most operators are approved to undertake more than one activity. At the beginning of 1994, there were an estimated 1061 individual AOC holders approved to carry out one or more commercial GA activities in Australia, including operators approved to carry out both GA and low capacity RPT activities (see table 2.2). The most common type of AOC holders were those approved to

BOX 2.1 COMMERCIAL OPERATIONS REQUIRING AIR OPERATORS CERTIFICATES

Regular Public Transport (RPT)—transporting persons generally, or transporting cargo for persons generally, for hire or reward in accordance with fixed schedules to and from fixed terminals over specific routes with or without intermediate stopping places between terminals.

High capacity RPT—RPT operations in high capacity aircraft, which are aircraft that have a capacity exceeding 38 passenger seats or with a payload of more than 4200 kg.

Low capacity RPT—RPT operations in low capacity aircraft, which are aircraft that have a capacity of 38 passenger seats or less or with a payload of up to 4200 kg.

Charter—carriage of passengers or cargo for hire or reward to or from any place otherwise than in accordance with fixed schedules to and from fixed terminals; or carriage, in accordance with fixed schedules to and from fixed terminals, of passengers or cargo or passengers and cargo in circumstances in which the accommodation in the aircraft is not available for use by persons generally.

Aerial work—activities including: aerial surveying, aerial spotting, agricultural operations, aerial photography, advertising, flying training, ambulance functions.

Agricultural operations—broadcasting of chemicals, seeds, fertilisers and other substances from aircraft for agricultural purposes, including purposes of pest and disease control.

Flying training—any training given during flight time in an aircraft for the purpose of increasing a person's skill in flying the aircraft.

Air Operators Certificates may also authorise:

helicopter operations; and

international operations.

Source Civil Aviation Regulations.

TABLE 2.1 AOC AUTHORISATIONS, AS AT 31 JANUARY 1994

Authorisation type	*Number*
RPT	
High capacity	81
Low capacity	56
Charter	997
Aerial work	912
Agricultural operations	185
Flying training	298
Helicopter operations	208
International operations	197

Source CAA Register of Air Operators Certificate Holders, 31 January 1994.

TABLE 2.2 AOC HOLDERS, BY STATE, AS AT 31 JANUARY 1994

Air Operators Certificate	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Aerial work only	16	4	15	6	14	1	3	0	59
Charter only	45	21	35	24	25	1	8	2	161
Aerial work and charter	88	58	111	23	46	7	25	3	361
Aerial work and flying training	8	5	5	5	4	2	0	0	29
Aerial work and aerial agriculture	40	14	17	7	13	1	1	1	94
Aerial work, charter and flying training	82	51	52	15	19	4	4	5	232
Aerial work, charter and aerial agriculture	25	7	16	3	3	0	2	0	56
Aerial work, charter, flying training and aerial agriculture	4	3	6	0	2	1	0	1	17
Low capacity RPT and any of the above	20	7	7	6	6	1	4	1	52
Total	328	170	264	89	132	18	47	13	1 061

Notes
1. Excludes high capacity RPT airlines and AOC holders with overseas addresses.
2. Excludes an estimated 85 AOC holders who had ceased business but had not yet been removed from the CAA Register.
3. Includes an estimated 41 AOC holders who carried out *mainly* non-commercial activity.

Source BTCE estimates using CAA Register of Air Operators Certificate Holders, 31 January 1994.

undertake both aerial work and charter operations. More than half of the total AOC holders had their postal addresses in NSW or Queensland.

A time series of the number of AOCs on issue was not available and thus changes over time are not known. The estimated number of AOC holders at 31 January 1994 has therefore been used for this report to represent the estimated number of commercial operators (excluding the major airlines) for the 1992–93 survey period.

AOC activity groups

Although AOC holders may be approved to undertake a number of activities, many concentrate on one activity. For the purposes of analysing industry sectors, or what are referred to in this report as activity groups, operators were grouped according to their dominant activity (defined as the activity which contributed at least 60 per cent of their income[3])—as described in box 2.2. Although some operators are

BOX 2.2 AOC ACTIVITY GROUPS

Low capacity RPT (regular public transport) group—operators whose *dominant* flying activity involves provision of scheduled airline services available to the public for carriage of passengers or freight, including regional (or 'commuter') airline operations, but excluding high capacity RPT (as undertaken by the major airlines, Ansett and Qantas).

Charter group—operators whose *dominant* flying activity is carriage of passengers or freight for hire or reward on non-scheduled services.

Flying training group—operators whose *dominant* flying activity is flying for the purposes of issue or renewal of a pilot licence or rating, including solo navigation exercises.

Aerial agriculture group—operators whose *dominant* flying activity is carriage or spreading of seed or chemical for agricultural purposes.

Aerial work group—operators whose *dominant* flying activity involves one or more of aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting, *community service flying* (such as police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance and disaster assistance), etc.

Hire group—operators whose *dominant* flying activity is hiring out of aircraft to other commercial operators and/or hiring out of aircraft for private flying.

Mixed group—operators with no *dominant* flying activity according to the 60 per cent rule.

Non-commercial group—operators whose *dominant* flying activity is not commercial (e.g. flying associated with an operator's business but not for hire or reward).

Unallocable group—(commercial) operators for whom there is insufficient information to identify a *dominant* flying activity.

identified as being 'non-commercial', this reflects their dominant activity and does not mean that they are undertaking no commercial activity.

Estimates of the number of operators by activity group and State of main base aerodrome[4] are presented in table 2.3. Figure 2.1 indicates that for AOC holders the most common State of main base aerodrome in 1992–93 was NSW–ACT. On a per 100 000 population basis, WA–NT had the highest ratio of commercial operators and Victoria–Tasmania the lowest, as evident in figure 2.2. Figure 2.3 shows that the activity group with the highest number of operators in 1992–93 was charter followed by aerial work.

TABLE 2.3 AOC HOLDERS, BY STATE OF BASE AND ACTIVITY GROUP, 1992–93

Activity group	*NSW and ACT*	*Vic. and Tas.*	*Qld*[a]	*SA*	*WA and NT*	*Australia*
Low capacity RPT	14	8	8	6	5	41
Charter	82	63	100	36	91	373
Flying training	64	35	36	14	14	162
Aerial agriculture	58	24	22	10	14	127
Aerial work	56	21	66	14	28	186
Hire	19	3	12	4	6	45
Mixed	15	18	7	4	3	50
Non-commercial	26	7	4	0	7	41
Unallocable	6	9	9	1	10	35
Total (all AOC activity groups)	341	188	265	89	177	1 061
All commercial groups[b]	315	181	261	89	170	1 020
All GA groups[c]	327	180	257	83	172	1 020
All commercial GA groups[d]	301	173	253	83	165	979

a. No responses were received from low capacity RPT operators with Queensland as State of base. However, it was assumed that all of the population of low capacity RPT operators in Queensland, when allocated on the basis of dominant activity, would belong to the low capacity RPT activity group.

b. All AOC activity groups excluding non-commercial.

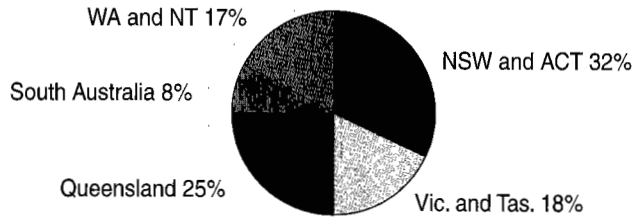
c. All AOC activity groups excluding low capacity RPT.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

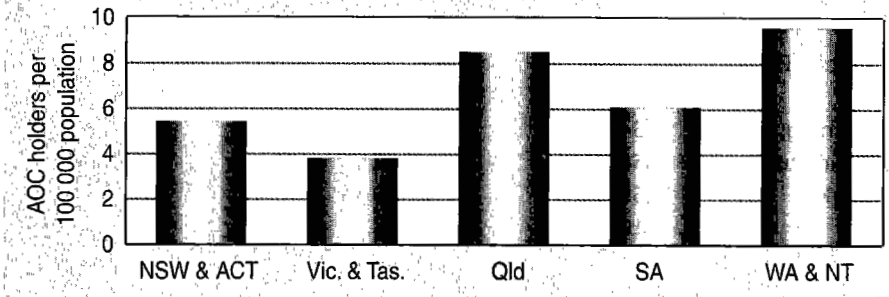
FIGURE 2.1 AOC HOLDERS: DISTRIBUTION BY STATE OF BASE, 1992–93



Source BTCE survey estimates.

BTCE

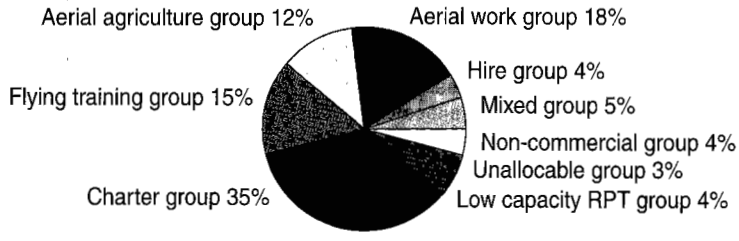
FIGURE 2.2 AOC HOLDERS PER 100 000 POPULATION, BY STATE OF BASE, 1992–93



Sources BTCE survey estimates, ABS (1995b).

BTCE

FIGURE 2.3 AOC HOLDERS: SHARES BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

BTCE

Depending on the analysis being undertaken, it is appropriate to consider AOC holders in a particular activity group, in all activity groups or in subsets of activity groups (see box 2.3). Table 2.3 includes totals for three subsets of activity groups.

BOX 2.3 SUBSETS OF AOC ACTIVITY GROUPS

All commercial groups (an estimated 1020 operators)—all activity groups including operators who provided insufficient information to allow allocation to an activity group, but excluding those whose dominant activity was non-commercial.

All GA groups (an estimated 1020 operators)—all activity groups including non-commercial, but excluding those whose dominant activity was low capacity RPT.

All commercial GA groups (an estimated 979 operators)—all activity groups excluding those whose dominant activity was low capacity RPT or non-commercial.

For much of the discussion in this chapter all AOC holders (that is, all AOC activity groups) are considered. Many in the low capacity RPT activity group use aircraft similar to other GA operators, and it is appropriate that aircraft owned or operated by all AOC holders are considered. However, there are matters where it is more appropriate to exclude operators whose dominant activity is low capacity RPT, even though they may undertake GA activity. For example, low capacity RPT operators are not included in the consideration of financial structure and performance in chapter 5, given that some of their characteristics tend to be considerably different from other GA operators.

AOC fleet size groups

For the purposes of analysing characteristics of aircraft, AOC holders were grouped according to the number of aircraft owned by the operator. This is referred to as *owned fleet size group* throughout the report (see box 2.4).

BOX 2.4 AOC OWNED FLEET SIZE GROUPS

Zero owned group	no owned aircraft (such operators use on-line aircraft or aircraft on short-term hire)
Single owned group	1 aircraft
Small owned group	2 – 5 aircraft
Medium owned group	6 – 10 aircraft
Large owned group	11 – 15 aircraft
Very large owned group	16 or more aircraft

Estimates of the number of operators by owned fleet size group[5] and State of main base aerodrome are presented for the various activity groupings in table 2.4.

For the purposes of some financial and other analysis, AOC holders were grouped according to the number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire). This is referred to as *operated fleet size group* throughout the report (see box 2.5).

BOX 2.5 AOC OPERATED FLEET SIZE GROUPS

Zero operated group	no owned or on-line aircraft (such operators use aircraft on short-term hire)
Single operated group	1 aircraft
Small operated group	2 – 5 aircraft
Medium operated group	6 – 10 aircraft
Large operated group	11 – 15 aircraft
Very large operated group	16 or more aircraft

Estimates of the number of operators by operated fleet size group[6] and State of main base aerodrome are presented for the various activity groupings in table 2.5.

Type of main base aerodrome

Both AOC holders and non-commercial aircraft owners identified a range of licensed and unlicensed aerodrome types which were used as their main base. These types are listed in box 2.6.

BOX 2.6 TYPES OF MAIN BASE AERODROME

FAC group 1 airports (Primary airports)—Sydney (*Kingsford Smith*), Melbourne (*Tullamarine*), Brisbane, Adelaide, Perth, Hobart.

FAC group 2 airports (Regional airports)—Essendon, Coolangatta, Townsville, Mt Isa, Launceston, Darwin, Alice Springs, Tennant Creek, Canberra.

FAC group 3 airports (General Aviation airports)—Bankstown, Camden, Hoxton Park, Moorabbin (*Harry Hawker*), Archerfield, Parafield, Jandakot.

Other licensed aerodromes—non-FAC aerodromes licensed by the Civil Aviation Authority.

Helipads

Unlicensed airstrips

Other—e.g. military, balloon field, hospital.

TABLE 2.4 AOC HOLDERS, BY STATE OF BASE AND OWNED FLEET SIZE GROUP, 1992–93

Owned fleet size[a] group	*NSW and ACT*	*Vic. and Tas.*	*Qld[b]*	*SA*	*WA and NT*	*Australia*
All AOC activity groups						
Zero (0 aircraft)	34	29	19	20	15	117
Single (1 aircraft)	117	53	110	27	62	369
Small (2–5 aircraft)	138	90	110	34	71	443
Medium (6–10 aircraft)	43	10	18	5	23	99
Large (11–15 aircraft)	5	6	4	2	4	21
Very large (16+ aircraft)	5	0	3	0	3	11
Total	341	188	265	89	177	1 061
All commercial activity groups[c]						
Zero (0 aircraft)	34	26	20	20	15	115
Single (1 aircraft)	96	50	111	27	55	339
Small (2–5 aircraft)	133	88	110	34	71	436
Medium (6–10 aircraft)	43	10	18	5	23	99
Large (11–15 aircraft)	5	6	4	2	4	21
Very large (16+ aircraft)	5	0	3	0	3	11
Total	315	181	261	89	170	1 020
All GA activity groups[d]						
Zero (0 aircraft)	34	29	19	20	15	117
Single (1 aircraft)	117	53	110	27	62	369
Small (2–5 aircraft)	130	86	106	28	66	416
Medium (6–10 aircraft)	41	7	16	5	23	92
Large (11–15 aircraft)	3	5	2	2	4	16
Very large (16+ aircraft)	3	0	3	0	3	9
Total	327	180	257	83	172	1 020
All commercial GA activity groups[e]						
Zero (0 aircraft)	34	26	20	20	15	115
Single (1 aircraft)	96	50	111	27	55	339
Small (2–5 aircraft)	125	84	106	28	66	409
Medium (6–10 aircraft)	41	7	16	5	23	92
Large (11–15 aircraft)	3	5	2	2	4	16
Very large (16+ aircraft)	3	0	3	0	3	9
Total	301	173	253	83	165	979

a. Number of aircraft owned by the operator.

b. No responses were received from low capacity RPT operators with Queensland as State of base. Estimates for Queensland are therefore inferred from Australian estimates rather than estimated directly.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.5 AOC HOLDERS, BY STATE OF BASE AND OPERATED FLEET SIZE GROUP, 1992–93

Operated fleet size[a] group	*NSW and ACT*	*Vic. and Tas.*	*Qld[b]*	*SA*	*WA and NT*	*Australia*
All AOC activity groups						
Zero (0 aircraft)	17	8	9	12	7	53
Single (1 aircraft)	116	39	83	26	46	310
Small (2–5 aircraft)	131	99	125	39	76	470
Medium (6–10 aircraft)	51	16	39	4	38	148
Large (11–15 aircraft)	11	9	4	4	4	32
Very large (16+ aircraft)	15	17	7	3	6	48
Total	341	188	265	89	177	1 061
All commercial activity groups[c]						
Zero (0 aircraft)	17	5	9	12	7	50
Single (1 aircraft)	96	39	84	26	39	284
Small (2–5 aircraft)	124	98	124	39	76	461
Medium (6–10 aircraft)	51	16	39	4	38	148
Large (11–15 aircraft)	11	9	4	4	4	32
Very large (16+ aircraft)	15	14	7	3	6	45
Total	315	181	261	89	170	1 020
All GA activity groups[d]						
Zero (0 aircraft)	17	8	9	12	7	53
Single (1 aircraft)	116	39	83	26	46	310
Small (2–5 aircraft)	125	95	124	35	71	450
Medium (6–10 aircraft)	46	13	36	2	38	135
Large (11–15 aircraft)	9	9	3	4	4	29
Very large (16+ aircraft)	13	15	6	3	6	43
Total	327	180	257	83	172	1 020
All commercial GA activity groups[e]						
Zero (0 aircraft)	17	5	9	12	7	50
Single (1 aircraft)	96	39	84	26	39	284
Small (2–5 aircraft)	119	94	122	35	71	441
Medium (6–10 aircraft)	46	13	36	2	38	135
Large (11–15 aircraft)	9	9	3	4	4	29
Very large (16+ aircraft)	13	12	6	3	6	40
Total	301	173	253	83	165	979

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. No responses were received from low capacity RPT operators with Queensland as State of base. Estimates for Queensland are therefore inferred from Australian estimates rather than estimated directly.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

In 1992–93 there were 22 airports owned by the Federal Airports Corporation (FAC), located in all States and Territories (see box 2.6). Seven of these (the group 3 airports) were designated as General Aviation airports, although GA operators were allowed to use all of the other FAC airports. The AOPA airfield directory (AOPA 1993) listed more than 1500 airfields, for use by GA aircraft. Table 2.6 shows the estimated percentage of AOC holders in each activity group that were based at each type of main base aerodrome.[7]

Figure 2.4 illustrates that the most common type of main base aerodrome for AOC holders is other (non-FAC) licensed aerodromes.

TABLE 2.6 AOC HOLDERS: SHARES BY TYPE OF MAIN BASE AERODROME AND ACTIVITY GROUP, 1992–93

	Share (per cent)							
Activity group	*FAC group 1*	*FAC group 2*	*FAC group 3*	*Other licensed*	*Un-licensed*	*Helipad*	*Other*	*Total (no.)*
Low capacity RPT	11	6	11	44	28	0	0	41
Charter	14	9	11	38	25	1	3	373
Flying training	1	6	39	33	18	0	4	162
Aerial agriculture	0	0	0	40	58	2	0	127
Aerial work	7	16	19	19	21	13	4	186
Hire	0	20	18	26	37	0	0	45
Mixed	6	12	17	49	16	0	0	50
Non-commercial	9	0	38	28	0	16	9	41
Unallocable	8	19	18	47	7	0	0	35
Total (all AOC activity groups)	8	9	17	34	25	4	3	1 061
All commercial groups[a]	8	10	16	34	26	3	2	1 020
All GA groups[b]	8	10	17	34	25	4	3	1 020
All commercial GA groups[c]	8	10	16	34	27	3	2	979

a. All AOC activity groups excluding non-commercial.

b. All AOC activity groups excluding low capacity RPT.

c. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.7 AOC HOLDERS: SHARES BY TYPE OF MAIN BASE AERODROME AND OPERATED FLEET SIZE GROUP, 1992–93

	Share (per cent)							
Operated fleet size[a] group	*FAC group 1*	*FAC group 2*	*FAC group 3*	*Other licensed*	*Un-licensed*	*Helipad*	*Other*	*Total (no.)*
All AOC activity groups								
Zero (0 aircraft)	9	15	33	27	16	0	0	53
Single (1 aircraft)	6	6	11	37	30	6	3	310
Small (2–5 aircraft)	10	11	8	38	28	2	2	470
Medium (6–10 aircraft)	4	11	36	26	16	2	4	148
Large (11–15 aircraft)	15	11	19	7	35	12	0	32
Very large (16+ aircraft)	4	7	67	22	0	0	0	48
Total	8	9	17	34	25	4	3	1 061
All commercial GA activity groups[b]								
Zero (0 aircraft)	9	16	30	29	17	0	0	50
Single (1 aircraft)	6	6	10	38	33	5	2	284
Small (2–5 aircraft)	10	11	7	39	28	3	2	441
Medium (6–10 aircraft)	3	11	39	24	16	2	5	135
Large (11–15 aircraft)	16	12	20	0	38	13	0	29
Very large (16+ aircraft)	4	9	67	20	0	0	0	40
Total	8	10	16	34	27	3	2	979

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

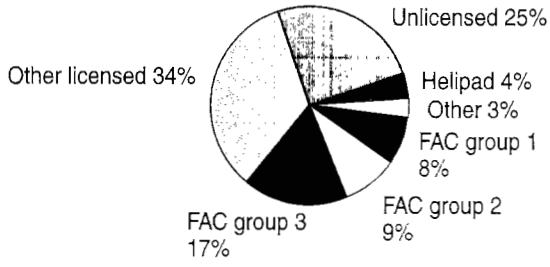
b. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Estimated percentage shares (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

2. Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

FIGURE 2.4 AOC HOLDERS: SHARES BY TYPE OF MAIN BASE AERODROME, 1992–93



Source BTCE survey estimates.

BTCE

Table 2.7 shows the estimated percentage of all AOC holders in each operated fleet size group which were based at each type of main base aerodrome. AOC holders with very large operated fleets were more heavily concentrated than other fleet sizes at FAC group 3 airports.

Non-commercial aircraft owners

There were an estimated 5302 aircraft owners not directly engaged in commercial GA operations at the end of 1993.[8] Table 2.8 provides details of the number of these non-commercial aircraft owners by State of postal address in Australia.

It was not possible to derive a time series of the number of non-commercial aircraft owners.[9]

Non-commercial aircraft owner activity groups

For the purposes of analysing non-commercial aircraft owners, they were grouped according to their dominant activity (defined as the activity which accounted for at least 60 per cent of their hours flown[10])—as described in box 2.7.

BOX 2.7 NON-COMMERCIAL AIRCRAFT OWNER ACTIVITY GROUPS

Business group—owners whose *dominant* flying activity is associated with the business(es) of the aircraft owner(s) but not for hire or reward, excluding flying training for employees.

Recreation group—owners whose *dominant* flying activity is private flying for own purposes of owner(s).

Hire group—owners whose *dominant* flying activity is hiring or cross-hiring out of aircraft to commercial operators, or hiring out of aircraft for private flying.

TABLE 2.8 NON-COMMERCIAL AIRCRAFT OWNERS, BY STATE, AS AT 31 DECEMBER 1993

State	*Non-commercial aircraft owners*
NSW	1 646
Vic.	1 121
Qld	1 278
SA	371
WA	624
Tas.	81
NT	105
ACT	76
Australia	5 302

Source BTCE estimates using CAA Register of Aircraft, 31 December 1993.

Estimates of the number of owners by activity group and State of main base aerodrome[11] are presented in table 2.9. Figure 2.5 indicates that for owners the most common State of main base aerodrome in 1992–93 was NSW–ACT. On a per 100 000 population basis, Queensland had the highest ratio of non-commercial aircraft owners and Victoria–Tasmania the lowest, as evident in figure 2.6. Figure 2.7 shows that when allocated by dominant activity, almost half of the non-commercial aircraft owners in 1992–93 were in the recreation group.

Non-commercial aircraft owners were not grouped according to fleet size for the purposes of analysing the characteristics of owned aircraft because the average fleet size for owners was just over one.

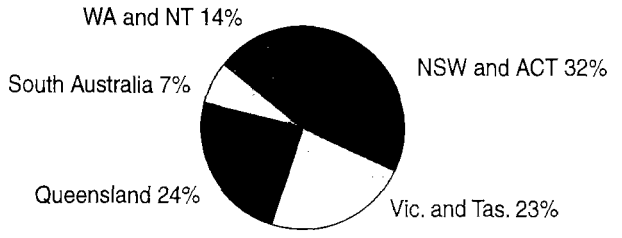
TABLE 2.9 NON-COMMERCIAL AIRCRAFT OWNERS, BY STATE OF BASE AND ACTIVITY GROUP, 1992–93

Activity group	*NSW and ACT*	*Vic. and Tas.*	*Qld*	*SA*	*WA and NT*	*Australia*
Recreation	907	653	658	149	171	2 538
Business	635	378	503	223	428	2 167
Hire	181	172	116	0	128	598
Total (all owner activity groups)	1 722	1 202	1 278	371	729	5 302

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

FIGURE 2.5 NON-COMMERCIAL AIRCRAFT OWNERS: DISTRIBUTION BY STATE OF BASE, 1992–93



Source BTCE survey estimates.

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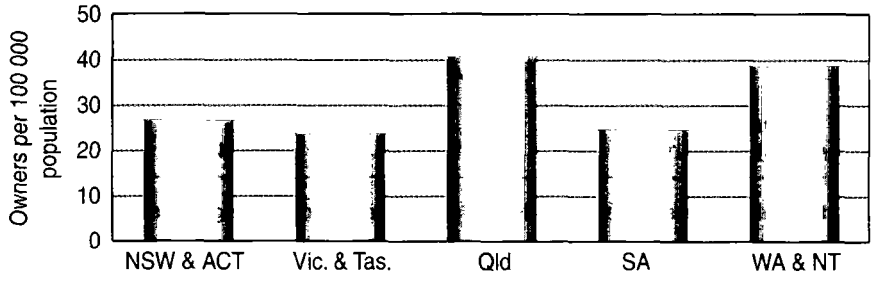
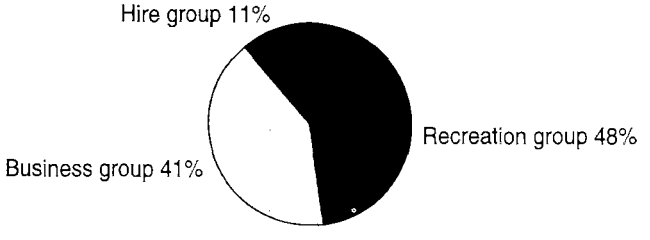
FIGURE 2.6 NON-COMMERCIAL AIRCRAFT OWNERS PER 100 000 POPULATION, BY STATE OF BASE, 1992–93



Sources BTCE survey estimates, ABS (1995b).

BTCE

FIGURE 2.7 NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

BTCE

Type of main base aerodrome

Table 2.10 shows the estimated percentage of non-commercial aircraft owners in each activity group which were based at each type of main base aerodrome (as listed in box 2.6).[12]

Figure 2.8 illustrates that the most common type of main base aerodrome for non-commercial aircraft owners was unlicensed aerodromes.

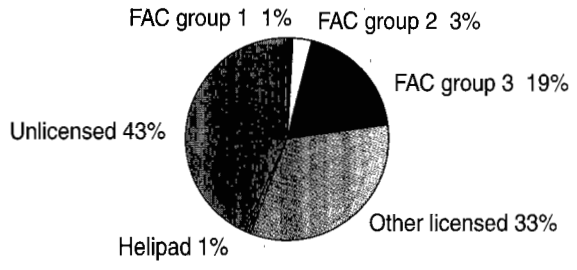
TABLE 2.10 NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY TYPE OF MAIN BASE AERODROME AND ACTIVITY GROUP, 1992–93

	Share (per cent)						
Activity group	*FAC group 1*	*FAC group 2*	*FAC group 3*	*Other licensed*	*Un-licensed*	*Helipad*	*Total (no.)*
Recreation	0	3	15	41	41	0	2 538
Business	2	0	17	23	57	2	2 167
Hire	0	12	45	37	6	0	598
Total (all owner activity groups)	1	3	19	33	43	1	5 302

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

FIGURE 2.8 NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY TYPE OF MAIN BASE AERODROME, 1992–93



Source BTCE survey estimates.

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DIRECT EMPLOYMENT

GA AOC holders are estimated to have directly employed some 6890 people for GA-related purposes as at 30 June 1993 (see table 2.11 which disaggregates employment by work category and table 2.12 which disaggregates employment by main work duty).[13] This total does not include another estimated 3830 staff employed by these operators

TABLE 2.11 DIRECT GA-RELATED EMPLOYMENT BY AOC HOLDERS, BY WORK CATEGORY, AS AT 30 JUNE 1993

(number of employees)

	Averages				*Median*[a]	*Population total*[b]
Activity group	*Full-time*	*Part-time*	*Unpaid/ voluntary*	*All work categories*	*All work categories*	*All work categories*
Low capacity RPT	43.1*	2.8*	0.1**	46.0*	12**	1 866*
Charter	3.6	1.3	0.4*	5.3	2	1 971
Flying training	2.7	2.3	2.4*	7.5	5	1 215
Aerial agriculture	2.6	1.9	0.2*	4.7	4	603
Aerial work	7.6	1.6	1.3*	10.5	5*	1 952
Hire	1.1**	1.7**	2.9**	5.7*	3	260*
Mixed	3.4*	2.1*	3.2*	8.8*	6**	442*
Non-commercial	1.8*	1.2*	–	3.0*	3	123*
Unallocable	5.8*	1.8*	1.7*	9.3*	8	324*
All GA groups[c]	4.0	1.7	1.1	6.8	3	6 890
All commercial GA groups[d]	4.0	1.7	1.2	6.9	3	6 767

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported employees in this category)

a. Median number employed is an estimate of that number employed above which half the population of operators has a higher number employed and below which half has a lower number employed.

b. The population total for a particular activity group is an estimate of aggregate number employed for GA-related purposes (for all work categories) by all operators in that group.

c. All AOC activity groups excluding low capacity RPT.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Includes self-employed owners who are involved in the day-to-day running of the organisation. Excludes staff employed specifically for business activities that are not directly related to GA.

2. Individual numbers may not add to totals due to rounding.

Source BTCE survey estimates.

TABLE 2.12 DIRECT GA-RELATED EMPLOYMENT BY AOC HOLDERS, BY MAIN WORK DUTY, AS AT 30 JUNE 1993

(number of employees)

	Averages					Median[a]	Pop. total[b]
Activity group	*Pilots*	*Maint-enance staff*	*Manage-ment staff*	*Clerical/ other office staff*	*All work duties*	*All work duties*	*All work duties*
Low capacity RPT	19.7*	10.0*	3.1	13.2*	46.0*	12**	1 866*
Charter	3.0	0.9	0.4	0.9	5.3	2	1 971
Flying training	5.1	0.3*	0.6	0.7	7.5	5	1 215
Aerial agriculture	2.1	0.8	0.4	1.5	4.7	4	603
Aerial work	5.5	1.8	0.8	2.3*	10.5	5*	1 952
Hire	3.0*	0.8**	1.2*	0.7*	5.7*	3	260*
Mixed	4.9*	1.4*	1.4*	1.2*	8.8*	6**	442*
Non-commercial	2.5*	0.1**	–	0.4**	3.0*	3	123*
Unallocable	5.1*	0.8**	0.7**	2.7*	9.3*	8	324*
All GA groups[c]	3.8	1.0	0.6	1.2	6.8	3	6 890
All commercial GA groups[d]	3.9	1.0	0.6	1.3	6.9	3	6 767

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported employees for this work duty)

a. Median number employed is an estimate of that number employed above which half the population of operators has a higher number employed and below which half has a lower number employed.

b. The population total for a particular activity group is an estimate of aggregate number employed for GA-related purposes (for all work duties) by all operators in that group.

c. All AOC activity groups excluding low capacity RPT.

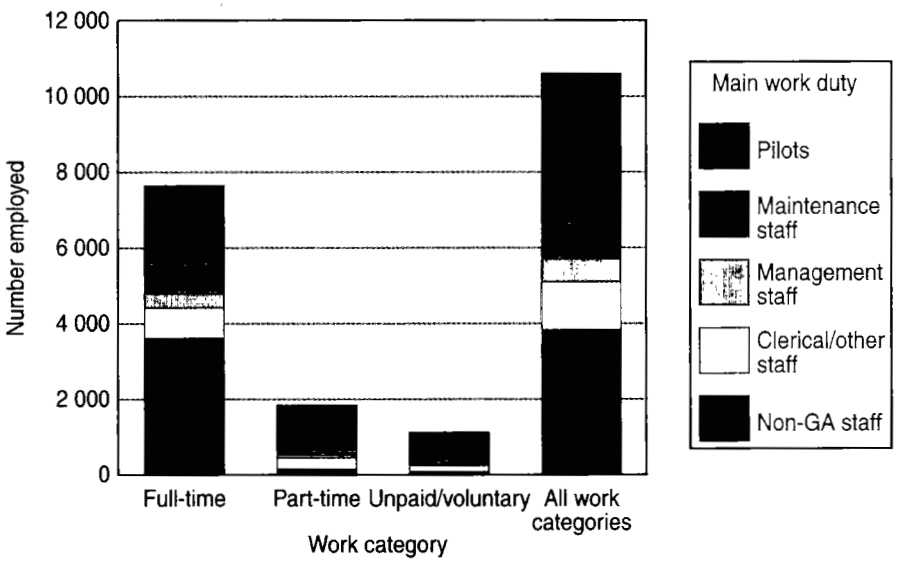
d. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Employees allocated according to their main work duty only. Includes self-employed owners who are involved in the day-to-day running of the organisation. Excludes staff employed specifically for business activities that are not directly related to GA.

2. Individual numbers may not add to totals due to rounding.

Source BTCE survey estimates.

FIGURE 2.9 DIRECT EMPLOYMENT BY GA AOC HOLDERS, BY MAIN WORK DUTY AND WORK CATEGORY, AS AT 30 JUNE 1993[a]



a. All AOC activity groups excluding low capacity RPT.

Source BTCE survey estimates.

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specifically for business activities that are not directly related to GA. Altogether, GA AOC holders employed an estimated total of 10 720 full-time, part-time and unpaid/voluntary staff as pilots, maintenance staff, management staff, clerical/other office staff or in non-GA business activities. Figure 2.9 illustrates the estimated shares of this total by work category and main work duty.

The employee numbers reported here do not include employment by non-AOC holders operating in related, but non-flying, segments of the GA industry. For example, employees engaged in aircraft maintenance which is undertaken by any organisation other than one holding an AOC have not been surveyed in this exercise.[14]

Non-commercial aircraft owners are estimated to have directly employed almost no-one solely for the purposes of their GA flying activities (as at 30 June 1993).[15]

There is no known source of time series data for the number of direct employees in GA flying.

AIRCRAFT

The Department of Transport and Regional Development collects time series data on the size of the aircraft fleet, its characteristics and activity, some of which are reported in appendix IV and referred to in this chapter and in chapter 3. Although the BTCE survey results reported in this chapter are for only 1992–93, they enable a more comprehensive examination of the makeup of the aircraft fleets of AOC holders and non-commercial aircraft owners and the characteristics of their aircraft.

Aircraft fleets

AOC holders may use a combination of owned, leased and hired aircraft in their operations, as well as hire out their owned aircraft. Non-commercial aircraft owners may hire in aircraft to undertake their activities, as well as hire out their owned aircraft. Where appropriate, owned and operated aircraft fleets have been separately estimated.

Aircraft fleets estimated in this study include gliders reported by AOC holders, but none for non-commercial aircraft owners.[16]

Owned fleet size for AOC holders and non-commercial aircraft owners

The BTCE survey estimates that in 1992–93[17] there were 2886 aircraft owned by all AOC holders and 5966 owned by the group defined in this report as non-commercial aircraft owners, a total of 8852 aircraft.[18]

By State of base

Estimates of the number of owned aircraft (or the owned fleet size) are reported for the various activity groups of AOC holders and non-commercial aircraft owners by State of base in table 2.13. As illustrated in figure 2.10, the largest share of aircraft were based in NSW–ACT. Australia is estimated to have had 50 GA aircraft per 100 000 population in 1992–93. When examined by ownership, this ranged from 10 aircraft owned by AOC holders per 100 000 population in Victoria–Tasmania to 46 aircraft owned by non-commercial aircraft owners per 100 000 population in WA–NT (see figure 2.11).

Also reported for AOC holders (for all activity groups and for all commercial GA activity groups) are estimates of the numbers of owned aircraft by owned fleet size group (table 2.14) and by operated fleet size group (table 2.15).

TABLE 2.13 NUMBER OF OWNED AIRCRAFT, BY STATE OF BASE AND ACTIVITY GROUP, 1992–93

	Population total[a]						*Average*	*Median*[c]
Activity group	*NSW & ACT*	*Vic. & Tas.*	*Qld*[b]	*SA*	*WA & NT*	*Aust.*	*Aust.*	*Aust.*
AOC holders								
Low capacity RPT	103	48	49	24	10**	246	6.1	4
Charter	163	101	192	42	249	754	2.0	1
Flying training	291	90	95*	44*	45*	564	3.5	2*
Aerial agriculture	211	57	48	25	31	386	3.0	2.6
Aerial work	117*	62*	123	32*	132*	456	2.5	2
Hire	36*	8**	42**	24**	8*	129*	2.8*	1.7**
Mixed	66**	101*	11*	13**	8**	213*	4.2*	3
Non-commercial	36*	6**	4**	–	7**	51*	1.2*	1
Unallocable	12**	6**	22**	–	47**	87*	2.5*	1**
Total (all AOC activity groups)	1 035	481	587	204	537	2 886	2.7	2
All commercial groups[d]	999	474	583	204	530	2 836	2.8	2.0
All GA groups[e]	932	433	538	180	527	2 640	2.6	2.0
All commercial GA groups[f]	896	426	534	180	520	2 590	2.6	2.0
Non-commercial aircraft owners								
Recreation	998	687	658	149*	214*	2 705	1.1	1.0
Business	695	412*	542	396*	514	2 560	1.2	1.0
Hire	181*	275**	116**	–	128**	701*	1.2*	1.0
Total (all owner activity groups)	1 874	1 374	1 316	545	857	5 966	1.1	1.0

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (there were no respondents in this State or respondents reported no owned aircraft)

a. The population total for a particular activity group is an estimate of the aggregate number of aircraft owned by all operators/owners in that group.

b. No responses were received from low capacity RPT operators with Queensland as State of base. However, it was assumed that all of the population of low capacity RPT operators in Queensland, when allocated on the basis of dominant activity, would belong to the low capacity RPT activity group. In this table it has been assumed that low capacity RPT operators in Queensland owned the Australian average number of aircraft for this activity group.

c. Median number of aircraft owned is an estimate of that number of aircraft above which half the population of operators/owners owns a higher number and below which half owns a lower number.

d. All AOC activity groups excluding non-commercial.

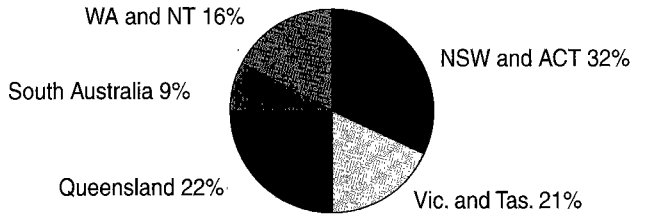
e. All AOC activity groups excluding low capacity RPT.

f. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

FIGURE 2.10 TOTAL GA OWNED AIRCRAFT: SHARES BY STATE OF BASE, 1992–93



Source BTCE survey estimates.

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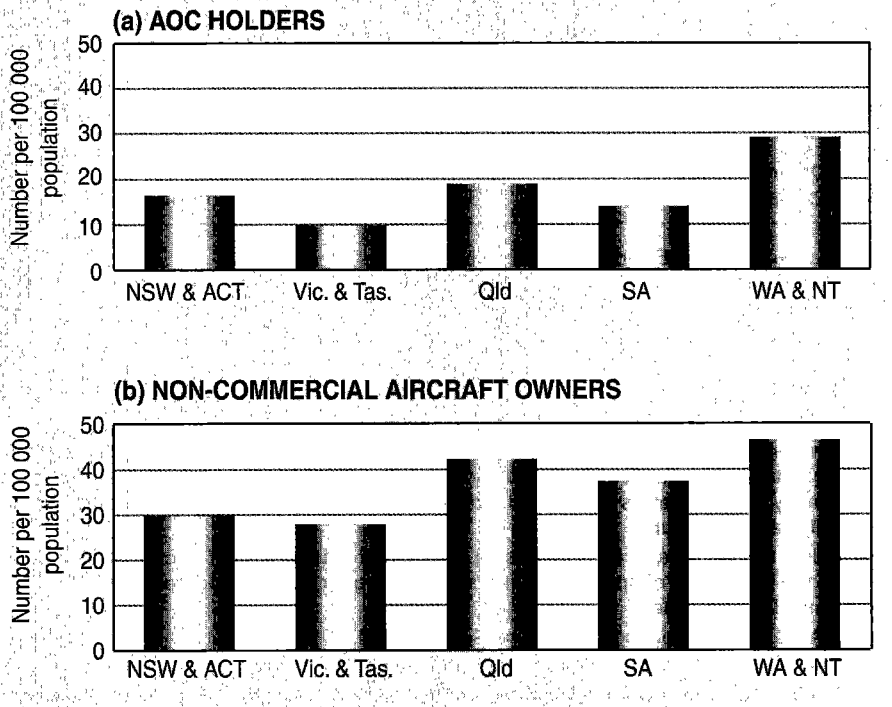
FIGURE 2.11 OWNED AIRCRAFT PER 100 000 POPULATION, BY STATE OF BASE, 1992–93



Sources BTCE survey estimates, ABS (1995b).

BTCE

TABLE 2.14 NUMBER OF AIRCRAFT OWNED BY AOC HOLDERS, BY OWNED FLEET SIZE GROUP, 1992–93

Owned fleet size[a] group	*Population total[b]*	*Average*	*Median[c]*
All AOC activity groups			
Zero (0 aircraft)	0	0	0
Single (1 aircraft)	369	1	1
Small (2–5 aircraft)	1 299	2.9	3
Medium (6–10 aircraft)	746	7.6	8
Large (11–15 aircraft)	251*	12.2*	12
Very large (16+ aircraft)	220*	20.1*	17.5
Total	2 886	2.7	2
All commercial GA activity groups[d]			
Zero (0 aircraft)	0	0	0
Single (1 aircraft)	339	1	1
Small (2–5 aircraft)	1 183	2.9	2.7
Medium (6–10 aircraft)	690	7.5	7.4
Large (11–15 aircraft)	197*	12.2*	12
Very large (16+ aircraft)	182*	20.9*	17.9+
Total	2 590	2.6	2

* Relative Standard Error >0.25 and ≤0.50

\+ Relative Standard Error was not calculated

a. Number of aircraft owned by the operator.

b. The population total for a particular owned fleet size group is an estimate of the aggregate number of aircraft owned by all operators in that group.

c. Median number of aircraft owned is an estimate of that number of aircraft above which half the population of operators owns a higher number and below which half owns a lower number.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Estimates of average and median number of aircraft in owned fleet size groups (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

2. Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.15 NUMBER OF AIRCRAFT OWNED BY AOC HOLDERS, BY OPERATED FLEET SIZE GROUP, 1992–93

Operated fleet size[a] group	*Population total[b]*	*Average*	*Median[c]*
All AOC activity groups			
Zero (0 aircraft)	0	0	0
Single (1 aircraft)	274	0.9	1
Small (2–5 aircraft)	1 060	2.3	2
Medium (6–10 aircraft)	825	5.6	6
Large (11–15 aircraft)	268	8.5	9.3
Very large (16+ aircraft)	459	9.7	8
Total	2 886	2.7	2
All commercial GA activity groups[d]			
Zero (0 aircraft)	0	0	0
Single (1 aircraft)	248	0.9	1
Small (2–5 aircraft)	971	2.2	2
Medium (6–10 aircraft)	739	5.5	6
Large (11–15 aircraft)	239*	8.1*	8.7*
Very large (16+ aircraft)	393*	9.8*	8*
Total	2 590	2.6	2

* Relative Standard Error >0.25 and ≤0.50

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. The population total for a particular operated fleet size group is an estimate of the aggregate number of aircraft owned by all operators in that group.

c. Median number of aircraft owned is an estimate of that number of aircraft above which half the population of operators owns a higher number and below which half owns a lower number.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Estimates of average and median number of aircraft in operated fleet size groups (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

2. Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

By type of main base aerodrome

Estimates of the percentage of owned aircraft by type of main base aerodrome for the various activity groups are reported in table 2.16. As illustrated in figure 2.12, these are consistent with the distribution of AOC holders and non-commercial aircraft owners by type of base. The largest share of aircraft owned by AOC holders was based at other licensed (non-FAC) aerodromes and the largest share for non-commercial aircraft owners at unlicensed aerodromes. For the total of all aircraft, the largest share was based at unlicensed aerodromes.

Operated fleet size for AOC holders

Aircraft operated by AOC holders include those owned by the operators plus on-line aircraft (those aircraft on long-term hire or lease).[19] Estimates of the number of aircraft on-line are reported for the various activity groups of AOC holders by State of base in table 2.17. The BTCE survey estimates that in 1992–93 there were 1264 on-line aircraft being operated by all AOC holders in Australia. This does not include aircraft hired on a short-term basis.

Figure 2.13, drawing on the results shown in tables 2.13 and 2.17, shows the shares of owned and on-line GA aircraft by activity type. AOC holders in the non-commercial activity group operated proportionately most on-line aircraft. The flying training activity group had the highest absolute number of on-line aircraft.

The numbers of aircraft on-line to AOC holders are also reported, by owned fleet size group (table 2.18) and by operated fleet size group (table 2.19).

Aircraft short-term hire to AOC holders

As well as using their operated fleets, AOC holders hire aircraft from other parties on a short-term basis.[20] Table 2.20 reports estimates of this short-term hire activity by activity group. Short-term hire was undertaken by about half of the flying training group.

TABLE 2.16 OWNED AIRCRAFT: SHARES BY TYPE OF MAIN BASE AERODROME AND ACTIVITY GROUP, 1992–93

	Share (per cent)										
Activity group	*FAC group 1*	*FAC group 2*	*FAC group 3*	*Other licensed*	*Un-licensed*	*Other*	*Helipad*	*Un-specified*	*Total[a] (no.)*	*Average (no.)*	*Median[b] (no.)*
AOC holders											
Low capacity RPT	10**	7	14*	54	15	–	–	–	246	6.1	4
Charter	13	9*	10*	45	20	2*	0**	–	754	2.0	1
Flying training	1	2**	59	18	15	4	–	3+	564	3.5	2*
Aerial agriculture	–	–	–	41	55	–	2	2+	386	3.0	2.6
Aerial work	9	16*	25*	20	12	6**	13**	–	456	2.5	2
Hire	–	15*	5*	11**	58*	–	–	12+	129*	2.8*	1.7**
Mixed	4*	4*	42**	37*	13*	–	–	–	213*	4.2*	3
Non-commercial	8**	–	44**	27*	–	8*	13	–	51*	1.2*	1
Unallocable	–	20**	44**	34*	2**	–	–	–	87*	2.5*	1**
Total (all AOC activity groups)	6	7	25	33	22	2*	3*	1+	2 886	2.7	2
All commercial groups[c]	6	8	24	33	23	2*	3*	1+	2 836	2.8	2.0
All GA groups[d]	6	7	26	31	23	2*	3*	1+	2 640	2.6	2.0
All commercial GA groups[e]	6	8	25	31	23	2*	3*	2+	2 590	2.6	2.0

Continued on next page

TABLE 2.16 OWNED AIRCRAFT: SHARES BY TYPE OF MAIN BASE AERODROME AND ACTIVITY GROUP, 1992–93 (continued)

	Share (per cent)										
Activity group	*FAC group 1*	*FAC group 2*	*FAC group 3*	*Other licensed*	*Un-licensed*	*Other*	*Helipad*	*Un-specified*	*Total*[a] *(no.)*	*Average (no.)*	*Median*[b] *(no.)*
Non-commercial aircraft owners											
Recreation	–	3*	16	38	43	–	–	–	2 705	1.1	1.0
Business	1	–	15*	20	60	–	1	2+	2 560	1.2	1.0
Hire	–	10*	53*	32*	6**	–	–	–	701*	1.2*	1.0
Total (all owner activity groups)	1	2	20	30	46	–	1	1+	5 966	1.1	1.0

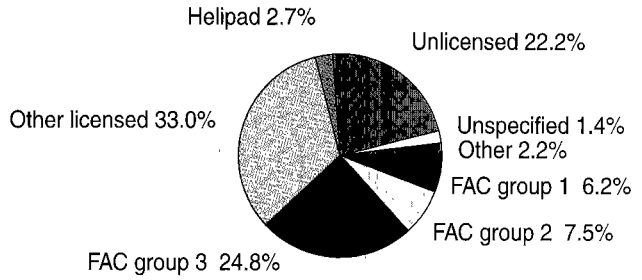
* Relative Standard Error >0.25 and ≤0.50
** Relative Standard Error >0.50
\+ Relative Standard Error was not calculated
– Nil (no operators/owners reported owned aircraft based at this type of aerodrome)
a. The population total for a particular activity group is an estimate of the aggregate number of aircraft owned by all operators/owners in that group.
b. Median number of aircraft owned is an estimate of that number of aircraft above which half the population of operators/owners owns a higher number and below which half owns a lower number.
c. All AOC activity groups excluding non-commercial.
d. All AOC activity groups excluding low capacity RPT.
e. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Individual numbers may not add to totals due to rounding of weighted estimates.
2. Zero percentage share reflects an estimate of less than 0.5.

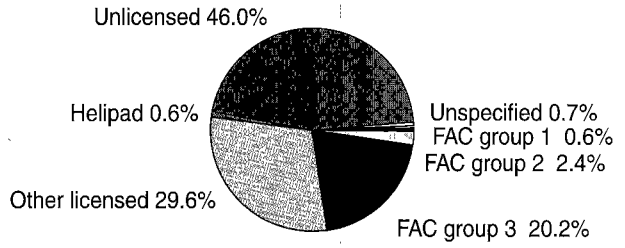
Source BTCE survey estimates.

FIGURE 2.12 OWNED AIRCRAFT: SHARES BY TYPE OF MAIN BASE AERODROME, 1992–93

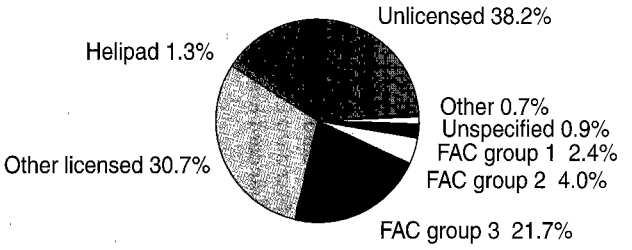
(a) AOC HOLDERS



(b) NON-COMMERCIAL AIRCRAFT OWNERS



(c) TOTAL OWNED AIRCRAFT



Source BTCE survey estimates.

BTCE

TABLE 2.17 NUMBER OF AIRCRAFT ON-LINE TO AOC HOLDERS, BY STATE OF BASE AND ACTIVITY GROUP, 1992–93

	Population total[a]						Average	Median[c]
Activity group	*NSW and ACT*	*Vic. and Tas.*	*Qld[b]*	*SA*	*WA and NT*	*Aust.*	*Aust.*	*Aust.*
Low capacity RPT	14*	17*	12+	8**	10**	61*	1.5*	0+
Charter	44*	73*	62*	37*	107	348	0.9	0+
Flying training	218	156*	79*	24**	26*	498	3.1	1**
Aerial agriculture	11**	22**	5*	–	–	34*	0.3*	0+
Aerial work	8	33**	26**	16*	–	106*	0.6*	0+
Hire	2**	–	2**	–	–	5**	0.1**	0+
Mixed	23*	42**	–	–	–	65*	1.3*	0+
Non-commercial	1*	56**	–	–	–	58**	1.4**	0+
Unallocable	12**	15**	19**	–	45**	90*	2.6*	1
Total (all AOC activity groups)	332	414	205+	84	188	1 264	1.2	0+
All commercial groups[d]	331	358	205+	84	188	1 206	1.2	0+
All GA groups[e]	318	397	193	76*	178	1 203	1.2	0+
All commercial GA groups[f]	317	340	193	76*	178	1 145	1.2	0+

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

– Nil (there were no respondents in this State or respondents reported no on-line aircraft)

a. The population total for a particular activity group is an estimate of the aggregate number of aircraft on-line to all operators in that group.

b. No responses were received from low capacity RPT operators with Queensland as State of base. However, it was assumed that all of the population of low capacity RPT operators in Queensland, when allocated on the basis of dominant activity, would belong to the low capacity RPT activity group. In this table it has been assumed that low capacity RPT operators in Queensland had on-line the Australian average number of on-line aircraft for this activity group.

c. Median number of aircraft on-line is an estimate of that number of aircraft above which half the population of operators have a higher number on-line and below which half have a lower number on-line.

d. All AOC activity groups excluding non-commercial.

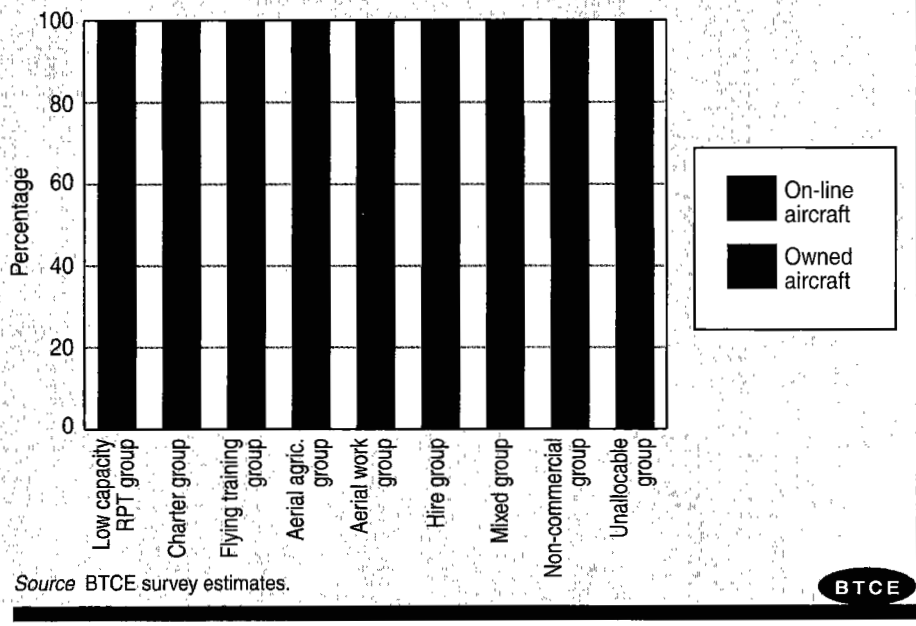
e. All AOC activity groups excluding low capacity RPT.

f. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

FIGURE 2.13 SHARES OF OWNED AND ON-LINE AIRCRAFT FOR AOC HOLDERS, BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

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TABLE 2.18 NUMBER OF AIRCRAFT ON-LINE TO AOC HOLDERS, BY OWNED FLEET SIZE GROUP, 1992–93

Owned fleet size[a] group	*Population total[b]*	*Average*	*Median[c]*
All AOC activity groups			
Zero (0 aircraft)	117	1.0	1*
Single (1 aircraft)	270*	0.7*	0+
Small (2–5 aircraft)	599	1.4	0+
Medium (6–10 aircraft)	214*	2.2*	0+
Large (11–15 aircraft)	51**	2.5**	0+
Very large (16+ aircraft)	13**	1.2**	0+
Total	1 264	1.2	0+
All commercial GA activity groups[d]			
Zero (0 aircraft)	117	1.0	1*
Single (1 aircraft)	211*	0.6*	0+
Small (2–5 aircraft)	568	1.4	0+
Medium (6–10 aircraft)	211*	2.3*	0+
Large (11–15 aircraft)	24**	1.5**	0+
Very large (16+ aircraft)	13**	1.5**	1+
Total	1 145	1.2	0+

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Number of aircraft owned by the operator.

b. The population total for a particular owned fleet size group is an estimate of the aggregate number of aircraft on-line to all operators in that group.

c. Median number of aircraft on-line is an estimate of that number of aircraft above which half the population of operators have a higher number on-line and below which half have a lower number on-line.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Estimates of average and median number of on-line aircraft in owned fleet size groups (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

2. Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.19 NUMBER OF AIRCRAFT ON-LINE TO AOC HOLDERS, BY OPERATED FLEET SIZE GROUP, 1992–93

Operated fleet size[a] group	*Population total[b]*	*Average*	*Median[c]*
All AOC activity groups			
Zero (0 aircraft)	0	0	0
Single (1 aircraft)	36	0.1	0+
Small (2–5 aircraft)	308	0.7	0+
Medium (6–10 aircraft)	324	2.2	2*
Large (11–15 aircraft)	114*	3.6*	2**
Very large (16+ aircraft)	483	10.1	10
Total	1 264	1.2	0+
All commercial GA activity groups[d]			
Zero (0 aircraft)	0	0	0
Single (1 aircraft)	36	0.1	0+
Small (2–5 aircraft)	297	0.7	0+
Medium (6–10 aircraft)	299	2.2	2*
Large (11–15 aircraft)	111*	3.8*	3**
Very large (16+ aircraft)	401	10.0	10
Total	1 145	1.2	0+

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. The population total for a particular operated fleet size group is an estimate of the aggregate number of aircraft on-line to all operators in that group.

c. Median number of aircraft on-line is an estimate of that number of aircraft above which half the population of operators have on-line a higher number and below which half have on-line a lower number.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Estimates of average and median number of on-line aircraft in operated fleet size groups (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

2. Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.20 SHORT-TERM HIRE OF AIRCRAFT TO AOC HOLDERS, BY ACTIVITY GROUP, 1992–93

Activity group	*Number of AOC holders who hired aircraft from others on a short-term basis*	*Number of times that AOC holders hired aircraft from others on a short-term basis (population total[a])*
Low capacity RPT	5	68*
Charter	131	4 784
Flying training	80	1 864*
Aerial agriculture	11	27**
Aerial work	23	283*
Hire	6	181**
Mixed	12	2 940**
Non-commercial	11	343**
Unallocable	4	44**
Total (all AOC activity groups)	281	10 534
All commercial groups[b]	270	10 190
All GA groups[c]	277	10 466
All commercial GA groups[d]	266	10 123*

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. The population total for a particular activity group is an estimate of the aggregate number of times aircraft were hired from others on a short-term basis by all operators in that group.

b. All AOC activity groups excluding non-commercial.

c. All AOC activity groups excluding low capacity RPT.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

Aircraft hire to non-commercial aircraft owners

Non-commercial aircraft owners hire additional aircraft from others for various reasons including the need to undertake training (perhaps to upgrade a licence) or when their aircraft are being repaired. Estimates of the number of owners who hired additional aircraft and the number of times they did so in 1992–93 are reported by activity group (see table 2.21).[21] Aircraft hire was undertaken by about 12 per cent of those in the business activity group.

Changes in owned fleet size

The BTCE survey asked both AOC holders and non-commercial aircraft owners how the size of their owned aircraft fleet had changed during 1992–93.[22] The resulting estimates indicate that changes over the 12 months varied by activity groups but, on average, fleet size had marginally decreased for AOC holders and marginally increased for non-commercial aircraft owners.[23]

TABLE 2.21 HIRE OF AIRCRAFT TO NON-COMMERCIAL AIRCRAFT OWNERS, BY ACTIVITY GROUP, 1992–93

Activity group	*Number of owners who hired aircraft from others*	*Number of times that owners hired aircraft from others (population total[a])*
Recreation	160	1 894**
Business	266	1 771**
Hire	34	69**
Total (all owner activity groups)	460	3 735*

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. The population total for a particular activity group is an estimate of the aggregate number of times aircraft were hired from others by all owners in that group.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

Growth in fleet size

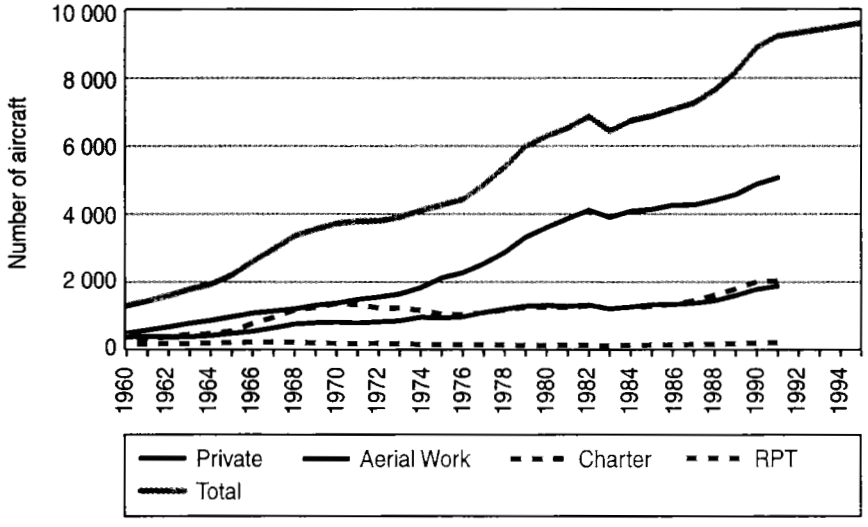
Number of registered aircraft over time

To put the 1992–93 estimates of fleet size in perspective, reference may be made to the number of aircraft on the Australian Civil Aircraft Register over time. The aircraft fleet has grown considerably over the past 35 years, from some 1300 Australian-registered aircraft in 1960 to some 9600 in 1995, as illustrated in figure 2.14.[24] This equates to an annual average growth rate of almost 6 per cent over the period.

Revised number of registered aircraft over time

Registered aircraft need not necessarily be active, nor even airworthy, because of the system of perpetual registration for aircraft. Thus the register currently includes aircraft which have been destroyed, are on permanent museum display and are being (or have been) dismantled.

FIGURE 2.14 NUMBER OF AIRCRAFT ON AUSTRALIAN REGISTER, BY OPERATIONAL CLASS, 1960 TO 1995



Notes 1. As at 30 June, except as at 31 December in 1958 to 1961.
2. The operational classifications used in the Air Navigation Regulations up until 1991 comprised 'Private', 'Aerial Work', 'Charter' and 'RPT'. These are not comparable with the two classifications used since then in the Civil Aviation Regulations, 'General Aviation' and 'Transport'.
3. RPT includes both low capacity and high capacity operations.

Sources BTE (1980), DoTRD (forthcoming).

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Many such aircraft have been removed from DoTRD's AVSTATS General Aviation database, leaving a revised estimate of 9302 aircraft (involved in GA and regional airline operations) on the register as at 30 June 1995 (see table IV.1 in appendix IV).

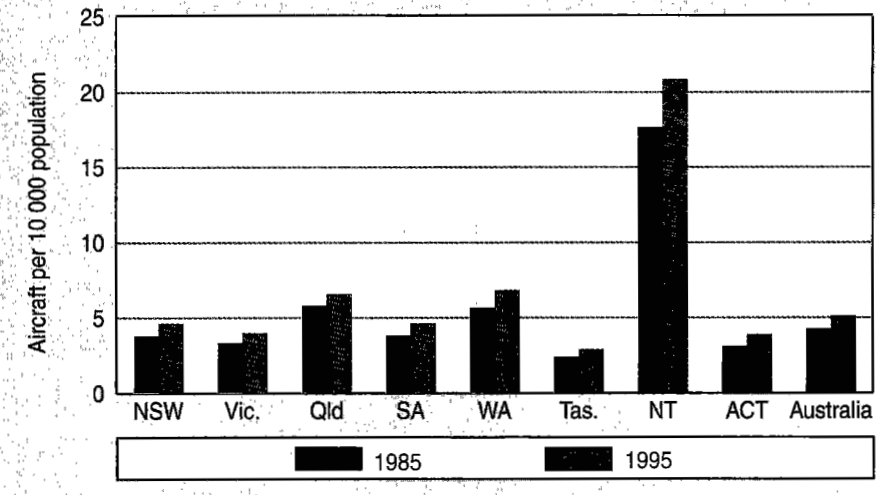
While the number of aircraft involved in GA and regional airline operations in Australia has increased by almost 40 per cent over the last ten years, the proportion of aircraft based in each State (or Territory) has remained fairly constant, as illustrated in table IV.1.[25]

Figure 2.15 shows that between 1985 and 1995 the estimated number of aircraft as a proportion of population has risen overall, and in each State. The noticeably higher level of aircraft per capita in the Northern Territory is probably a reflection of the remote location of the population.

The growth in the estimated number of aircraft involved in GA and regional airline operations appears to be linked to growth in general economic activity, as suggested by figure 2.16.

AVSTATS estimated that for the first half of 1993 there were a total of 9149 aircraft involved in GA and regional airline operations. This compares with BTCE survey estimates for 1992–93 (see table 2.13) of a

FIGURE 2.15 NUMBER OF REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS PER 10 000 POPULATION, BY STATE OF BASE, AS AT 30 JUNE 1985 AND 1995



Sources BTCE estimates derived from DoT (1996b and earlier issues), ABS (1995b and earlier issues).

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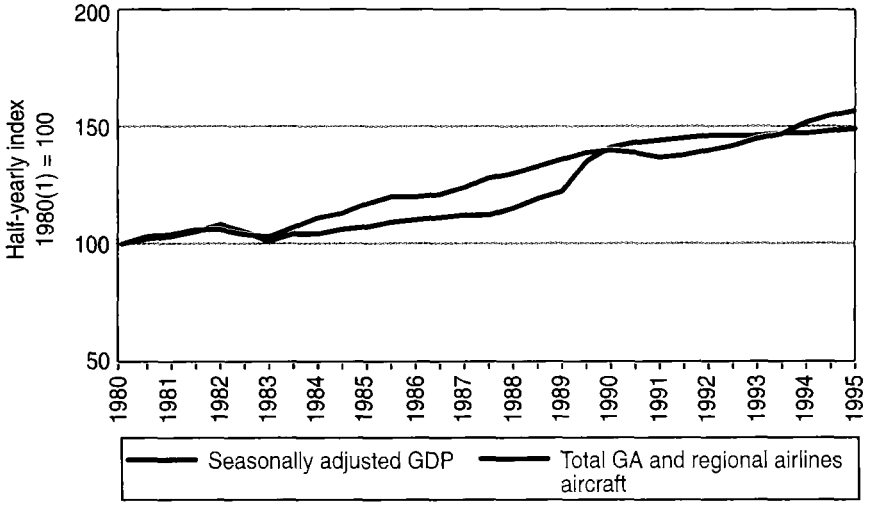
FIGURE 2.16 INDEXES OF GDP AND NUMBER OF REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, 1980 TO 1995



Sources BTCE estimates derived from DoT (1996b and earlier issues), ABS (1995a).

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total fleet of almost 8900 aircraft comprising 2886 aircraft owned by all AOC holders and 5966 aircraft owned by non-commercial aircraft owners.

Aircraft characteristics

Various characteristics of the GA fleet in 1992–93 are estimated from the BTCE GA survey and reported here.[26] Passing reference is made to time series and more recent data for these characteristics based on DoTRD's AVSTATS General Aviation database (as reported in appendix IV).[27]

Principal aircraft categories

The GA fleet may be categorised according to three technical characteristics:

- airframe type (fixed-wing, rotary-wing, balloon);
- power type (piston, turbine, none); and
- number of engines (zero, single, multiple).

Most of the aircraft in the GA fleet in 1992–93 are estimated to have had a fixed-wing airframe and a single piston engine as reported in table 2.22. Figure 2.17 illustrates that aircraft in this category are estimated to have accounted for 50 per cent of aircraft owned by AOC holders, 86 per cent for non-commercial aircraft owners and 74 per cent in total.

AVSTATS data for 1995 are consistent with the BTCE 1992–93 survey data with respect to dominant category (see table IV.2).

Number of engines

Although, as shown in figure 2.18, single-engine aircraft make up the bulk of the aircraft fleet (79 per cent overall), multi-engine aircraft are more common for certain activities. For example, 43 per cent of the aircraft owned by operators who perform mainly charter work are multi-engine, and virtually all of the aircraft owned by operators who mainly fly in RPT operations are multi-engine (see table 2.22). This reflects the regulation that single-engine Instrument Flight Rules (IFR) flying is not permitted for passenger charter or RPT operations.[28] This is consistent with the AVSTATS data (see table IV.3).

Fuel type

Piston-powered aircraft are fuelled by avgas (sometimes substituted by mogas) and turbine-powered by avtur. Estimates of the number of owned aircraft by fuel type, reported in table 2.23, show the dominance of avgas aircraft in all activity groups excepting, for AOC holders, the non-commercial activity group.

AVSTATS data indicate that the majority of aircraft involved in GA and regional airline operations use avgas (see table IV.4).

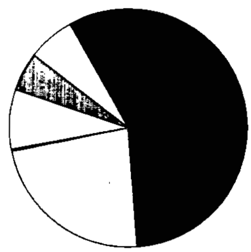
Maximum take-off weight

Tables 2.24 and 2.25 show estimates of the average and median maximum take-off weight (MTOW) of owned aircraft by aircraft category and activity group respectively. Aircraft owned by AOC holders have higher average MTOW (2298 kg) than those owned by non-commercial aircraft owners (1297 kg). Corresponding estimates by owned fleet size group of MTOW for AOC holders are reported in table 2.26.

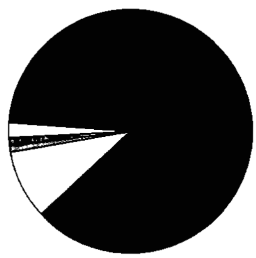
AVSTATS estimates that more than 50 per cent of the aircraft involved in GA and regional airline operations had a MTOW of between one and two tonnes at 30 June 1995 (see figure IV.1) with a mean MTOW of

FIGURE 2.17 OWNED AIRCRAFT: SHARES BY AIRCRAFT CATEGORY, 1992–93

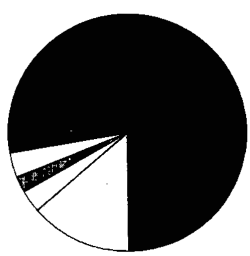
(a) AOC HOLDERS



(b) NON-COMMERCIAL AIRCRAFT OWNERS



(c) TOTAL OWNED AIRCRAFT



- Fixed-wing single-engine piston
- Fixed-wing multi-engine piston
- Fixed-wing single-engine turbine
- Fixed-wing multi-engine turbine
- Rotary-wing single-engine piston
- Rotary-wing single-engine turbine
- Rotary-wing multi-engine turbine
- Balloon
- Gliders

Source BTCE survey estimates.

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TABLE 2.22 NUMBER OF OWNED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93

	Fixed-wing				*Rotary-wing*					
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Balloon*	*Glider*[a]	*Total*[b]
AOC holders										
Low capacity RPT	9*	153	–	83*	–	–	–	–	–	246
Charter	253	254	–	55*	49**	90*	14*	27*	4**	754
Flying training	463	45	–	–	12**	–	–	4**	37*	564
Aerial agriculture	361	6**	8**	–	9**	3**	–	–	–	386
Aerial work	107	96*	2**	86*	68*	48*	43*	–	–	456
Hire	64*	27*	–	–	3**	–	–	–	34**	129*
Mixed	94*	24**	–	–	12**	21*	–	–	63**	213*
Non-commercial	10**	7**	–	9**	–	17*	8**	–	–	51*
Unallocable	38*	26*	–	4**	–	–	–	–	–	87*
Total (all AOC activity groups)	1 398	639	9*	236	154	179	65	31*	138*	2 886
All commercial groups[c]	1 389	631	9*	227	154	162	57*	31*	138*	2 836
All GA groups[d]	1 389	485	9*	153	154	179	65	31*	138*	2 640
All commercial GA groups[e]	1 380	478	9*	144	154	162	57*	31*	138*	2 590
Non-commercial aircraft owners										
Recreation	2 339	103**	–	30**	30**	30**	–	73**	..	2 705

Continued on next page

TABLE 2.22 NUMBER OF OWNED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93 (continued)

	Fixed-wing				*Rotary-wing*					
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Balloon*	*Glider*[a]	*Total*[b]
Business	2 160	266*	–	–	–	73**	–	–	..	2 560
Hire	490*	176**	–	–	–	–	–	–	..	701*
Total (all owner activity groups)	4 990	545*	–	30**	30**	103**	–	73**	..	5 966
Grand total[f]	6 388	1 184*	9+	266**	184**	282**	65+	104**	138+	8 852

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

.. Not applicable

– Nil (no operators/owners in this activity group reported owned aircraft in this category)

a. AOC holders only.

b. Total includes an estimated 230 aircraft of unspecified category.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

f. Grand total of all AOC activity groups and all aircraft owner activity groups.

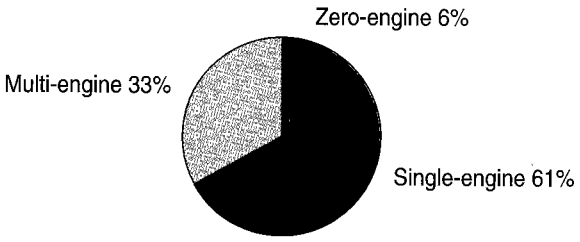
Notes 1. This table presents estimates of numbers for each aircraft category, by the activity groups used in this report. The grand total estimates differ from the AVSTATS data presented in table IV.2 (comprising estimates based on the aircraft register) for some aircraft categories. The AVSTATS data cannot be broken down by activity group.

2. Individual numbers may not add to totals due to rounding of weighted estimates.

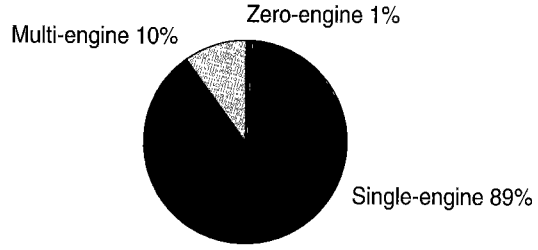
Source BTCE survey estimates.

FIGURE 2.18 OWNED AIRCRAFT: SHARES BY NUMBER OF ENGINES, 1992–93

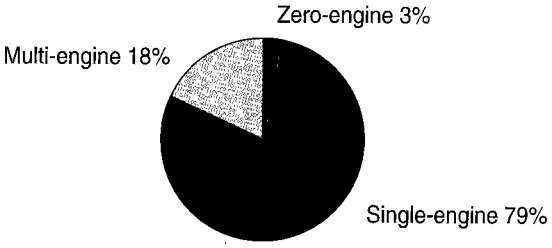
(a) AOC HOLDERS



(b) NON-COMMERCIAL AIRCRAFT OWNERS



(c) TOTAL OWNED AIRCRAFT



Source BTCE survey estimates.

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TABLE 2.23 NUMBER OF OWNED AIRCRAFT, BY FUEL TYPE AND ACTIVITY GROUP, 1992–93

Activity group	*Avgas*[a]	*Avtur*	*Unengined*[b]	*Unspecified*
AOC holders				
Low capacity RPT	162	83*	–	–
Charter	556	158*	31	9*
Flying training	519	–	41*	3**
Aerial agriculture	376	10*	–	–
Aerial work	272	179	–	5**
Hire	95*	–	34**	–
Mixed	130*	21*	63**	–
Non-commercial	17*	34*	–	–
Unallocable	64*	4**	–	19*
Total (all AOC activity groups)	2 191	490	169	37*
All commercial groups[c]	2 174	456	169	37*
All GA groups[d]	2 028	406	169	37*
All commercial GA groups[e]	2 011	373	169	37*
Non-commercial aircraft owners				
Recreation	2 473	60**	73**	99**
Business	2 426	73**	–	60**
Hire	666*	–	–	34**
Total (all owner activity groups)	5 566	133*	73**	194*
Grand total[f]	7 756	623	242	230*

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators/owners in this activity group reported owned aircraft with this fuel type)

a. A small proportion of piston-engined aircraft reported having used mogas as a subsitute fuel.

b. Gliders (AOC holders only) and balloons.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

f. Grand total of all AOC activity groups and all aircraft owner activity groups.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.24 MAXIMUM TAKE-OFF WEIGHT OF OWNED AIRCRAFT, BY AIRCRAFT CATEGORY, 1992–93

(kilograms)

	AOC holders		*Non-commercial aircraft owners*	
Aircraft category	*Average*	*Median*[a]	*Average*	*Median*[a]
Fixed-wing single-engine piston	1 331	1 202	1 106	1 068
Fixed-wing multi-engine piston	2 920	2 965	2 814*	2 327
Fixed-wing single-engine turbine[b]	3 252*	3 312	..	..
Fixed-wing multi-engine turbine	8 713	6 900	6 350**	6 350+
Rotary-wing single-engine piston	799	616	1 280**	1 280+
Rotary-wing single-engine turbine	1 627	1 450	1 416**	1 439+
Rotary-wing multi-engine turbine[b]	3 457	3 400	..	..
Balloon	1 042	895*	782**	782+
Glider[b]	450	450	..	..
All aircraft[c]	2 298	1 624	1 297	1 080

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

.. Not applicable (no owners reported owned aircraft in this category)

a. Median MTOW is an estimate of that MTOW above which half the population of aircraft owned by operators/owners has a higher MTOW for the particular aircraft category and below which half has a lower MTOW.

b. AOC holders only.

c. Total includes an estimated 230 aircraft of unspecified category.

Source BTCE survey estimates.

TABLE 2.25 MAXIMUM TAKE-OFF WEIGHT OF OWNED AIRCRAFT, BY ACTIVITY GROUP, 1992–93

(kilograms)

Activity group	*Average*	*Median*[a]
AOC holders		
Low capacity RPT	5 311	3 082
Charter	2 523	1 682
Flying training	1 015	1 050
Aerial agriculture	1 884	1 814
Aerial work	3 073	1 958
Hire	1 226	1 284
Mixed	1 144	1 050
Non-commercial	2 758*	1 958
Unallocable	2 072	1 724
Total (all AOC activity groups)	2 298	1 624
All commercial groups[b]	2 289	1600
All GA groups[c]	2 018	1450
All commercial GA groups[d]	2 003	1450
Non-commercial aircraft owners		
Recreation	1 108	1 050
Business	1 498	1 256
Hire	1 298	1 309
Total (all owner activity groups)	1 297	1 080

* Relative Standard Error >0.25 and ≤0.50

a. Median MTOW is an estimate of that MTOW above which half the population of aircraft owned by operators/owners has a higher MTOW and below which half has a lower MTOW.

b. All AOC activity groups excluding non-commercial.

c. All AOC activity groups excluding low capacity RPT.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Source BTCE survey estimates.

TABLE 2.26 MAXIMUM TAKE-OFF WEIGHT OF AIRCRAFT OWNED BY AOC HOLDERS, BY OWNED FLEET SIZE GROUP, 1992–93

(kilograms)

Owned fleet size[a] *group*	*Average*	*Median*[b]
All AOC activity groups		
Zero (0 aircraft)	..	..
Single (1 aircraft)	1 927	1 477
Small (2–5 aircraft)	2 313	1 626
Medium (6–10 aircraft)	2 436	1 633
Large (11–15 aircraft)	2 417	1 562
Very large (16+ aircraft)	2 223	1 313
Total	2 298	1 624
All commercial GA activity groups[c]		
Zero (0 aircraft)	..	..
Single (1 aircraft)	1 839	1 450
Small (2–5 aircraft)	2 250	1 587
Medium (6–10 aircraft)	2 026	1 543
Large (11–15 aircraft)	1 326	1 202
Very large (16+ aircraft)	1 347	1 179
Total	2 003	1 450

.. Not applicable

a. Number of aircraft owned by the operator.

b. Median MTOW is an estimate of that MTOW above which half the population of aircraft owned by operators has a higher MTOW and below which half has a lower MTOW.

c. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Estimates of average and median MTOW of owned aircraft in owned fleet size groups (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

Source BTCE survey estimates.

1756 kg. Between 1989 and 1995 (the period over which AVSTATS has had information available), there has been no obvious trend in the mean MTOW, although there has been some variation (see table IV.5).[29]

Manufacturers and models

Table 2.27 shows that in 1992–93 Cessna was the most common manufacturer of aircraft owned by AOC holders and non-commercial aircraft owners. This finding is consistent with AVSTATS data which rank models of aircraft involved in GA and regional airline operations (see table IV.6) and which show that in the first six months of 1995, some

TABLE 2.27 OWNED AIRCRAFT: RANKING BY MODEL, 1992–93

Ranking	*Manufacturer*	*Model*
AOC holders		
1	Piper	PA-31
2	Cessna	172
3	Piper	PA-28
4	Bell	B206
5	Piper	PA-25
6	Cessna	152
7	Robinson	R22
8	Cessna	310
9	Cessna	188
10	Cessna	206
Non-commercial aircraft owners		
1	Cessna	172
2	Cessna	182
3	Piper	PA-28
4	Cessna	206
5	Cessna	150
6	Mooney	M20
7	Cessna	180
8	Piper	PA-22
9	Beechcraft	B58
10	Cessna	177

Source BTCE survey estimates.

36 per cent of the aircraft involved in GA and regional airline operations had been manufactured by Cessna (see table IV.7) [30]. Overall, Cessna dominates because it has made considerably more than any other manufacturer of the most common aircraft category, fixed-wing single-engine piston aircraft (see table IV.8).

Age

Age of aircraft may be measured in terms of years or total hours.[31] Table 2.28 reports estimates of both measures, showing that in 1992–93 aircraft owned by AOC holders (with an average age of 16 years) tended to be younger than those owned by non-commercial aircraft owners (with an average age of 22 years). Amongst AOC holders, operators in the aerial agriculture activity group are estimated to have the oldest aircraft on

TABLE 2.28 AGE OF OWNED AIRCRAFT, BY ACTIVITY GROUP, AS AT 30 JUNE 1993

	Years		*Hours*[a]	
Activity group	*Average*	*Median*[b]	*Average*	*Median*[b]
AOC holders				
Low capacity RPT	13	14	10 039	8 826
Charter	18	16	6 168	5 506
Flying training	15	15	4 587	4 500
Aerial agriculture	19	18	5 623	4 000
Aerial work	14	13	6 691	6 286
Hire	16	15	4 705	5 000
Mixed	17	15	4 828	4 600
Non-commercial	15*	14	6 073*	6 783
Unallocable	16	16	7 148	6 022
Total (all AOC activity groups)	16	15	6 062	5 200
All commercial groups[c]	16	15	6 061	5 129
All GA groups[d]	16	15	5 693	5 000
All commercial GA groups[e]	17	15	5 684	5 000
Non-commercial aircraft owners				
Recreation	23	24	2 700	2 185
Business	22	20	3 720	2 985
Hire	20	17	4 111*	3 681
Total (all owner activity groups)	22	20	3 303	2 800

* Relative Standard Error >0.25 and ≤0.50

a. Engine hours flown since manufacture of aircraft.

b. Median age of aircraft is an estimate of that age of aircraft above which half the owned aircraft have a higher age and below which half the owned aircraft have a lower age.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Source BTCE survey estimates.

average. For non-commercial aircraft owners, aircraft owned by those in the recreation activity group tend to be the oldest.

Table 2.29 reports the same age information for AOC holders, by owned fleet size groups, across which average age is fairly constant. For both AOC holders and non-commercial aircraft owners, fixed-wing single-engine piston aircraft are the oldest aircraft category on average, as shown in table 2.30.

AVSTATS data show an overall median age of aircraft involved in GA and regional airline operations of 19 years as at 30 June 1995 (see table IV.9).[32] The median age has been increasing steadily since 1989 (when AVSTATS first had such information available), reflecting the two main peaks in the population of the aircraft fleet, those manufactured in 1978 and in 1967 (see figure IV.2).[33] Disaggregating the AVSTATS aircraft fleet data by country and period of manufacture indicates the changing nature of the fleet over time (see table IV.10).

Market value

Survey respondents were asked to provide estimates of the current (1994) market value of aircraft which they owned in 1992–93. Tables 2.31 and 2.32 report various estimates for AOC holders and non-commercial aircraft owners, by aircraft category and activity group respectively. The estimated average aircraft value for all GA AOC holders of $249 000 ($365 000 for all AOC holders, including low capacity RPT) is much higher than that of $81 000 for non-commercial aircraft owners.

No comparisons can be drawn with AVSTATS data, as the database contains no information on aircraft values.

TABLE 2.29 AGE OF AIRCRAFT OWNED BY AOC HOLDERS, BY OWNED FLEET SIZE GROUP, AS AT 30 JUNE 1993

	Years		*Hours*[a]	
Owned fleet size[b] *group*	*Average*	*Median*[c]	*Average*	*Median*[c]
All AOC activity groups				
Zero (0 aircraft)	..	..	..	..
Single (1 aircraft)	18	16	5 248	4 500
Small (2–5 aircraft)	17	16	5 745	5 000
Medium (6–10 aircraft)	16	15	6 981	6 000
Large (11–15 aircraft)	15	15	6 215	5 000
Very large (16+ aircraft)	15	14	6 002	5 314
Total	16	15	6 062	5 200
All commercial GA activity groups[d]				
Zero (0 aircraft)	..	..	..	..
Single (1 aircraft)	18	17	5 170	4 500
Small (2–5 aircraft)	17	16	5 515	4 795
Medium (6–10 aircraft)	16	15	6 425	5 500
Large (11–15 aircraft)	15	15	4 901	4 611
Very large (16+ aircraft)	16	14	5 780	5 300
Total	17	15	5 684	5 000

.. Not applicable

a. Engine hours flown since manufacture of aircraft.

b. Number of aircraft owned by the operator.

c. Median age of aircraft is an estimate of that age of aircraft above which half the owned aircraft have a higher age and below which half the owned aircraft have a lower age.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Estimates of average and median age of owned aircraft in owned fleet size groups (individually and in aggregate) for all commercial AOC activity groups and all GA AOC activity groups were very similar to those presented here for all AOC activity groups.

Source BTCE survey estimates.

TABLE 2.30 AGE OF OWNED AIRCRAFT, BY AIRCRAFT CATEGORY, AS AT 30 JUNE 1993

	AOC holders		*Non-commercial aircraft owners*	
Aircraft category	*Average years*	*Average hours*[a]	*Average years*	*Average hours*[a]
Fixed-wing single-engine piston	17	5 243	23	2 984
Fixed-wing multi-engine piston	18	7 807	20*	6 804**
Fixed-wing single-engine turbine[b]	2**	1 387**	..	..
Fixed-wing multi-engine turbine	11	9 313	26**	1 300**
Rotary-wing single-engine piston	12	4 386	30**	3 950**
Rotary-wing single-engine turbine	15	7 491	9**	2 236**
Rotary-wing multi-engine turbine[b]	11	4 478*	..	..
Balloon	6*	362	6**	157**
Glider[b]	16	3097	..	..
All aircraft[c]	16	6 062	22	3 303

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

.. Not applicable (no owners reported owned aircraft in this category)

a. Engine hours flown since manufacture of aircraft.

b. AOC holders only

c. Total includes an estimated 230 aircraft of unspecified category.

Source BTCE survey estimates.

TABLE 2.31 CURRENT[a] MARKET VALUE OF OWNED AIRCRAFT, BY AIRCRAFT CATEGORY

(1994 thousand dollars)

	AOC holders			*Non-commercial aircraft owners*		
Aircraft category	*Average*	*Median*[b]	*Population total*[c]	*Average*	*Median*[b]	*Population total*[c]
Fixed-wing single-engine piston	76	65	106 598	61	50	305 356
Fixed-wing multi-engine piston	173	160	110 297	151*	154	82 567*
Fixed-wing single-engine turbine[d]	743*	567	6 941*	..	..	..
Fixed-wing multi-engine turbine	2 672	1 695	630 373	500**	500+	15 113**
Rotary-wing single-engine piston	110	104	16 905	160**	160+	4 836**
Rotary-wing single-engine turbine	465	405	83 327	616**	623+	63 677**
Rotary-wing multi-engine turbine[d]	1 253*	1 080	81 891*	..	..	..
Balloon	27*	21	835*	16**	16+	1 152**
Glider[d]	29	30	4 001	..	..	..
All aircraft[e]	365	100	1 054 547	81	50	483 493

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

.. Not applicable (no owners reported owned aircraft in this category)

a. Current market value is in 1994 dollar terms as survey was administered in 1994.

b. Median market value is an estimate of that value above which half the population of aircraft owned by operators/owners has a higher value for the particular aircraft category and below which half has a lower value.

c. The population total for a particular aircraft category is an estimate of aggregate value of all the owned aircraft of the particular category in that activity group.

d. AOC holders only.

e. Total includes an estimated 230 aircraft of unspecified category.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 2.32 CURRENT[a] MARKET VALUE OF OWNED AIRCRAFT, BY ACTIVITY GROUP

(1994 thousand dollars)

Activity group	*Average*	*Median*[b]	*Population total*[c]
AOC holders			
Low capacity RPT	1 613	250	396 306
Charter	348	130	262 859
Flying training	58	45	32 458
Aerial agriculture	108	80	41 742
Aerial work	521	200	237 755
Hire	74	57	9 551
Mixed	108	60	23 068
Non-commercial	645*	484**	32 604*
Unallocable	210	146	18 204
Total (all AOC activity groups)	365	100	1 054 547
All commercial groups[d]	360	100	1 021 943
All GA groups[e]	249	95	658 241
All commercial GA groups[f]	242	94	625 637
Non-commercial aircraft owners			
Recreation	59	40	159 820
Business	107	63	273 939
Hire	71	66	49 734
Total (all owner activity groups)	81	50	483 493

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Current market value is in 1994 dollar terms as survey was administered in 1994.

b. Median market value is an estimate of that value above which half the population of aircraft owned by operators/owners has a higher value and below which half has a lower value.

c. The population total for a particular activity group is an estimate of aggregate value of the aircraft owned by all aircraft operators/owners in that activity group.

d. All AOC activity groups excluding non-commercial.

e. All AOC activity groups excluding low capacity RPT.

f. All AOC activity groups excluding low capacity RPT and non-commercial.

Source BTCE survey estimates.

NOTES

1. A small number of AOC holders undertakes mainly *non-commercial* flying activity (see box 2.2 and table 2.3). By holding AOCs, though, they are *permitted* to undertake commercial activity, unlike non-commercial aircraft owners.
2. The BTCE survey sampled AOC holders on the CAA Register as at 31 January 1994 because a record of holders of AOCs was not available for 1992–93.
3. Information on flying income was obtained from question 27 of the BTCE GA survey of AOC holders (reproduced at p. 201 of appendix I) and question 25 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 225 of appendix I). In some cases survey respondents provided insufficient information to be allocated on the basis of income. Where possible, hours flown were used as a proxy for income. Information on hours flown was obtained from question 21 of the BTCE GA survey of AOC holders (reproduced at p. 197 of appendix I) and question 21 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 222 of appendix I). Where survey respondents provided insufficient information to be allocated on either an income or hours flown basis (given the anonymity arrangements for the survey, further information could not be sought from these respondents), they were allocated to the 'unallocable' group, which was treated as a commercial group.
4. Information on State of main base aerodrome was obtained from question 2 of the BTCE GA survey of AOC holders (reproduced at p. 189 of appendix I) and question 2 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 213 of appendix I). State of main base aerodrome may differ from the State in which the AOC holder has a postal address.
5. Information on owned fleet size was obtained from question 18 of the BTCE GA survey of AOC holders (reproduced at p. 194 of appendix I) and question 18 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 219 of appendix I).
6. Information on operated fleet size was obtained from question 20 of the BTCE GA survey of AOC holders (reproduced at p. 196 of appendix I) and question 20 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 221 of appendix I).
7. Information on type of main base aerodrome was obtained from question 3 of the BTCE GA survey of AOC holders (reproduced at p. 189 of appendix I) and question 3 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 213 of appendix I).
8. The BTCE survey sampled aircraft owners on the CAA Register of Aircraft as at 31 December 1993, less those holding AOCs. This date was the closest available to 31 January 1994 which was used for the record of AOC holders.
9. Although details of all aircraft owners could be obtained over time from the CAA Register, non-commercial aircraft owners could not be separated out from commercial operators who also owned aircraft because no time series of AOCs on issue was available.
10. Information on hours flown was obtained from question 18 of the BTCE GA survey of aircraft owners (reproduced at p. 244 of appendix I).
11. Information on State of main base aerodrome was obtained from question 7 of the BTCE GA survey of aircraft owners (reproduced at p. 238 of appendix I). State of main base aerodrome may differ from the State in which the owner has a postal address.
12. Information on type of main base aerodrome was obtained from question 8 of the BTCE GA survey of aircraft owners (reproduced at p. 239 of appendix I).
13. Information on direct employment was obtained from question 7 of the BTCE GA survey of AOC holders (reproduced at p. 190 of appendix I) and question 7 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 215 of appendix I).

14. Such information is not readily available. The Australian Bureau of Statistics does not publish employment numbers disaggregated below the level of 'Air and Space transport'.
15. Information on direct employment was obtained from question 13 of the BTCE GA survey of aircraft owners (reproduced at p. 240 of appendix I).
16. No gliders were reported by non-commercial aircraft owners. Owners of gliders were not directly surveyed, given the separate registration arrangements applying for gliders.
17. Information on owned aircraft was obtained from question 18 of the BTCE GA survey of AOC holders (reproduced at p. 194 of appendix I), question 18 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 219 of appendix I) and question 16 of the BTCE GA survey of aircraft owners (reproduced at p. 242 of appendix I).
18. Of this total, some 228 aircraft owned by AOC holders (regardless of activity group) were estimated to be used *entirely* or *partially* for low capacity RPT purposes.
19. Information on on-line aircraft was obtained from question 20 of the BTCE GA survey of AOC holders (reproduced at p. 196 of appendix I) and question 20 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 221 of appendix I).
20. Information on hired aircraft was obtained from question 20 of the BTCE GA survey of AOC holders (reproduced at p. 196 of appendix I) and question 20 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 221 of appendix I).
21. Information on hired aircraft was obtained from question 17 of the BTCE GA survey of aircraft owners (reproduced at p. 243 of appendix I).
22. Information on change in fleet size was obtained from question 16 of the BTCE GA survey of AOC holders (reproduced at p. 194 of appendix I), question 16 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 218 of appendix I) and question 15 of the BTCE GA survey of aircraft owners (reproduced at p. 242 of appendix I). The survey questions asked for the net change in owned fleet size, not the numbers of sales and purchases of aircraft. The change would include aircraft written off as well as sold.
23. The relative standard errors associated with these estimates are high and statistically little can be confidently concluded.
24. In 1995 some 82 per cent of aircraft were categorised as being for 'General Aviation' operations. This figure is not strictly comparable with the 88 per cent of aircraft which were categorised as being for 'private', 'aerial work' or 'charter' operations in 1960 (operational classes are as defined in figure 2.14). Total registrations include aircraft categorised as being for high capacity RPT operations.
25. Table IV.1 shows the proportion of aircraft based in each State as at 30 June 1985 and 1995, as well as the percentage growth in the number of aircraft per capita over the same ten-year period. The per capita growth varies between the States, ranging from an increase of 13 per cent in Queensland to an increase of 26 per cent in the ACT. This suggests that there are probably other significant factors determining the changes in the level of aircraft ownership and number of aircraft based in any one State. Such other factors of importance may include changes in income levels, age distributions, other demographic variables, economic activity and structural changes.
26. Information on aircraft categories, number of engines, fuel type and maximum take-off weight was derived from reported aircraft models, which together with age and value information, was obtained from question 18 of the BTCE GA survey of AOC holders (reproduced at p. 194 of appendix I), question 18 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 219 of appendix I) and question 16 of the BTCE GA survey of aircraft owners (reproduced at p. 242 of appendix I).

27. While AVSTATS has recorded data extracted from the Civil Aviation Safety Authority's Aircraft Register Information System from June 1980 until the present, for some characteristics data have been collected only since December 1989.
28. Single-engine aircraft owned by RPT AOC holders are used for their non-RPT and non-charter activity.
29. This is more likely to reflect changes in the composition of the aircraft fleet and random variation, rather than any underlying change in aircraft sizes.
30. Table IV.7 shows that the number of aircraft in the 'other' category more than doubled between 1985 and 1995. In 1995 this included some 401 amateur-built aircraft. Part of the reason for the relative growth in the 'other' category may be that the major US manufacturers had pulled out of the GA aircraft market in the late 1970s and early 1980s, causing their relative importance in the fleet to be diluted.
31. In this context, total hours is assumed to have been interpreted by survey respondents as engine hours flown since the manufacture of an aircraft.
32. Table IV.9 shows that among the aircraft categories, the median age ranged from 21 years for fixed-wing single-engine piston aircraft, to 5 years for fixed-wing single-engine turbine aircraft.
33. Figure IV.2 shows that the age structure of the aircraft fleet has changed as the peaks of aircraft manufactured around 1967 and 1978 have moved back through the age distribution. Aircraft manufactured in these two years alone accounted for almost 12 per cent of the fleet in 1995.

CHAPTER 3 FLYING ACTIVITY

This chapter reports on the nature and extent of flying activity by various participants in the GA flying industry. As well as giving an indication of the strength of the industry, the distribution of GA activity across various flying activities, and over time, has implications for the planning of infrastructure for GA.

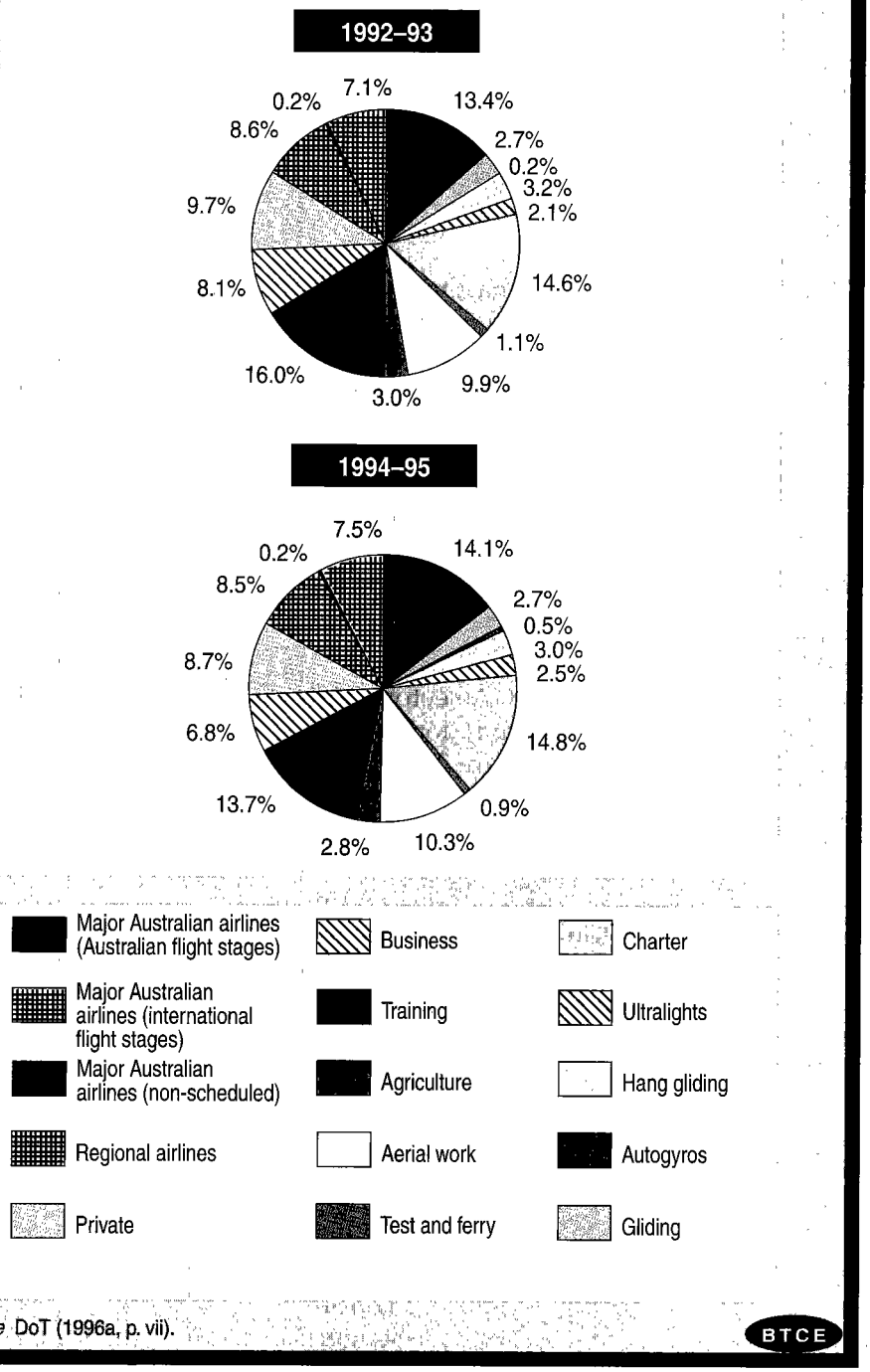
ACTIVITY AND OUTPUT MEASURES

A useful distinction may be drawn between activity and output measures. The ideal type of measure depends on the purpose for which it is to be used. Flying activity is conventionally measured in terms of hours flown. The various GA sectors performed 62 per cent of the total hours flown in Australian aviation in 1992–93 and 60 per cent of the total in 1994–95, as shown in figure 3.1.

The GA *activity* shares illustrated in figure 3.1 considerably overstate the financial importance of GA, given disparities in the capacities and flying speeds of GA aircraft and airline aircraft. In terms of *output* measures such as tonne-kilometres performed or passengers carried, the importance of the GA fleet is dwarfed by high capacity RPT airlines. Even so, GA is still an important part of aviation in Australia, particularly in terms of infrastructure requirements and other associated non-flying activities such as maintenance, for which demand is determined primarily by aircraft hours and landings.

When comparing different GA activities, the hours flown measure may hide the fact that different aircraft have different capacities and speeds, and are used for a range of different activities. Yet because GA is a diverse industry with many different outputs, it is difficult to compare output measures for say aerial spraying (kilolitres sprayed) with passenger charter (passengers carried or passenger-kilometres performed).

FIGURE 3.1 HOURS FLOWN BY REGISTERED AIRCRAFT, BY AVIATION SECTOR



Source DoT (1996a, p. vii).

BTCE

This chapter presents estimates for 1992–93 of GA flying *activity* (measured in hours flown and also landings) as well as estimates of GA *output* for charter activity (measured by passengers and freight carried). The chapter also considers growth in activity (hours flown and landings) using time series data reported in DoTRD's AVSTATS GA database, and examines how this may be related to changes in economic activity.

SURVEY ESTIMATES

Hours flown

Survey respondents were asked to provide information on total hours flown (in owned and hired aircraft) and hours flown in owned aircraft, by flying activity type,[1] as well as hours flown in owned aircraft and aircraft hired from other parties.[2] This enabled estimates to be made for hours flown by AOC holders and non-commercial aircraft owners, distinguishing by flying activity, activity group, fleet size groupings, ownership and aircraft category.

AOC holders

Estimates from the BTCE survey results are reported by activity group for total hours flown and hours flown in owned aircraft in table 3.1. In terms of hours flown, the AOC holders in the low capacity RPT group had the highest average hours flown per year, and those in the non-commercial group had the lowest. For each of the activity groups median hours flown was considerably lower than average hours, suggesting that in each group a relatively small number of AOC holders flew a large number of hours.

The share of total hours flown for all AOC holders and various subsets of them are illustrated by activity group in figure 3.2 and by flying activity in figure 3.3. The degree to which total hours flown was spread across a range of GA flying activities in 1992–93 is indicated in table 3.2. The average operator in each of the activity groups was involved in at least two other GA activities in addition to his or her primary activity.

TABLE 3.1 HOURS FLOWN BY AOC HOLDERS, BY ACTIVITY GROUP, 1992–93

	Total hours flown			*Hours flown in owned aircraft*		
Activity group	*Average*	*Median*[a]	*Population total*[b]	*Average*	*Median*[a]	*Population total*[b]
Low capacity RPT	7 042	2 740	285 752	6 794	2 740	275 678
Charter	937	295	349 665	784	250	292 619
Flying training	2 042	1 475	331 529	1 379	896*	223 921
Aerial agriculture	783	456	99 474	730	417	92 683
Aerial work	1 341	590	249 266	1 232	591	229 101
Hire	871*	248**	39 479*	819*	248**	37 122*
Mixed	1 574*	834**	79 224*	1 342*	596**	67 532*
Non-commercial	629*	475*	25 796*	592*	475*	24 258*
Unallocable	1 918*	1 279*	66 927*	1 398*	435**	48 772*
Total (all AOC activity groups)	1 439	555	1 527 114	1 217	465	1 291 687
All commercial groups[c]	1 472	560	1 501 317	1 243	461	1 267 429
All GA groups[d]	1 217	505	1 241 361	996	449	1 016 009
All commercial GA groups[e]	1 242	508	1 215 565	1 013	448	991 751

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Median number of hours flown is an estimate of that number of hours flown above which half the population of operators flies a higher number and below which half flies a lower number.

b. The population total for a particular activity group is an estimate of the aggregate number of hours flown by all operators in that group.

c. All AOC activity groups excluding non-commercial.

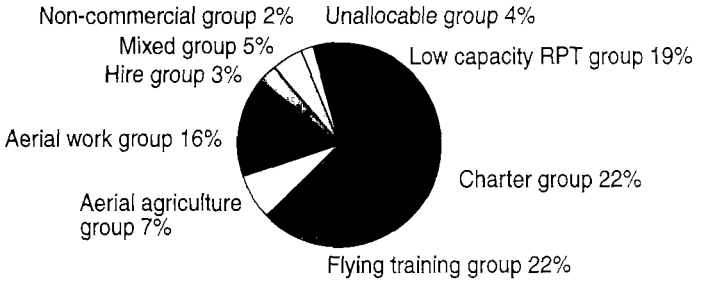
d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

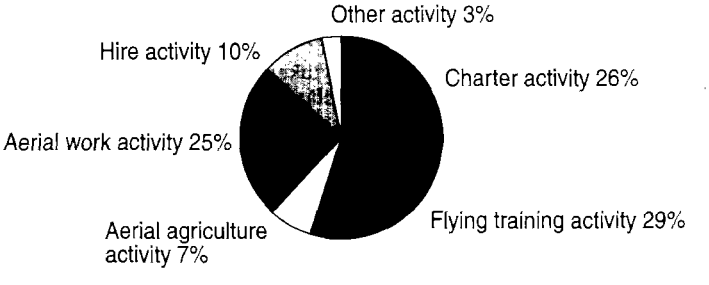
FIGURE 3.2 TOTAL HOURS FLOWN BY ALL AOC HOLDERS: SHARES BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

BTCE

FIGURE 3.3 TOTAL HOURS FLOWN BY ALL AOC HOLDERS: SHARES BY FLYING ACTIVITY, 1992–93



Source BTCE survey estimates.

BTCE

TABLE 3.2 TOTAL GA[a] HOURS FLOWN BY AOC HOLDERS: SHARES BY FLYING ACTIVITY AND ACTIVITY GROUP, 1992–93

(percentage of hours)

	Flying activity					
Activity group	*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Other[b]*
Low capacity RPT	37	13*	–	47**	1**	2**
Charter	79	10*	0**	7**	3*	1*
Flying training	3	75	–	1**	20*	1**
Aerial agriculture	1*	0**	96	0**	0**	2**
Aerial work	2*	2*	0**	94*	1**	1*
Hire	5**	15**	1**	9*	68**	3**
Mixed	13*	39*	2**	26**	18**	2**
Non-commercial	1**	1**	–	13**	–	84**
Unallocable	30	28	–	29	11**	1
Total (all AOC activity groups)	26	28	7	25	10	3*
All commercial groups[c]	26	29	8	25	11	1*
All GA groups[d]	26	29	8	25	10	3*
All commercial GA groups[e]	26	29	8	25	11	1*

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported hours flown in this flying activity)

a. Excludes low capacity RPT activity undertaken by all AOC activity groups, but includes GA flying activity by low capacity RPT activity group.

b. Includes business flying, not for hire or reward, test and ferry, and other unspecified activity.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Percentages may not add to 100 due to rounding.

2. Zero percentage reflects an estimate of less than 0.5.

Source BTCE survey estimates.

Estimates of total hours flown and hours flown in owned aircraft are also presented by owned fleet size group (see table 3.3) and by operated fleet size group (see table 3.4). The shares of total hours flown for all AOC holders are illustrated by owned fleet size in figure 3.4 and by operated fleet size in figure 3.5. Small and medium fleets (both owned and operated) performed the majority of hours flown in 1992–93.

TABLE 3.3 HOURS FLOWN BY AOC HOLDERS, BY OWNED FLEET SIZE GROUP, 1992–93

	Total hours flown			*Hours flown in owned aircraft*		
Owned fleet size[a] *group*	*Average*	*Median*[b]	*Population total*[c]	*Average*	*Median*[b]	*Population total*[c]
All AOC activity groups						
Zero (0 aircraft)	396	195*	46 561	..	..	..
Single (1 aircraft)	427	299	157 570	333	280	122 809
Small (2–5 aircraft)	1 339	926	593 559	1 090	887	483 388
Medium (6–10 aircraft)	4 908	3 544	484 715	4 589	3 040	453 271
Large (11–15 aircraft)	6 753	5 628*	139 331	6 295	4 895	129 886
Very large (16+ aircraft)	9 605*	9 094*	105 376*	9 328*	9 094*	102 333*
Total	1 439	555	1 527 114	1 217	465	1 291 687
All commercial GA activity groups[d]						
Zero (0 aircraft)	405	198	46 420	..	..	..
Single (1 aircraft)	420	292	142 316	322	255	108 952
Small (2–5 aircraft)	1 268	888	518 492	1 002	813	409 881
Medium (6–10 aircraft)	3 918	3 492	360 508	3 634	2 963	344 354
Large (11–15 aircraft)	4 867*	4 990**	78 479*	4 482*	4 671	72 256*
Very large (16+ aircraft)	7 956**	8 006+	69 351**	7 607*	7 945+	66 308*
Total	1 242	508	1 215 565	1 013	448	991 751

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

.. Not applicable

a. Number of aircraft owned by the operator.

b. Median number of hours flown is an estimate of that number of hours flown above which half the population of operators flies a higher number and below which half flies a lower number.

c. The population total for a particular fleet size group is an estimate of the aggregate number of hours flown by all operators in that group.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 3.4 HOURS FLOWN BY AOC HOLDERS, BY OPERATED FLEET SIZE GROUP, 1992–93

Operated fleet size[a] group	Total hours flown			Hours flown in owned aircraft		
	Average	Median[b]	Population total[c]	Average	Median[b]	Population total[c]
All AOC activity groups						
Zero (0 aircraft)	385*	49**	20 426*	..	..	..
Single (1 aircraft)	295	250	91 383	254	209	78 777
Small (2–5 aircraft)	954	700	448 370	829	568	389 690
Medium (6–10 aircraft)	3 298	2 270	488 216	2 982	2 084	441 478
Large (11–15 aircraft)	5 509	3 508	173 750	4 509	2 461*	142 229
Very large (16+ aircraft)	6 412	6 282	304 969	5 036	3 856*	239 513
Total	1 439	555	1 527 114	1 217	465	1 291 687
All commercial GA activity groups[d]						
Zero (0 aircraft)	404*	49**	20 285*	..	..	..
Single (1 aircraft)	281	250	79 669	238	200	67 467
Small (2–5 aircraft)	898	600	395 809	768	550	338 510
Medium (6–10 aircraft)	2 526	2 109	339 798	2 226	1 950	299 381
Large (11–15 aircraft)	4 401*	3 508	128 883*	3 415*	2 461*	100 008*
Very large (16+ aircraft)	6 243	6 067	251 122	4 633*	3 527*	186 385*
Total	1 242	508	1 215 565	1 013	448	991 751

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

.. Not applicable

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Median number of hours flown is an estimate of that number of hours flown above which half the population of operators flies a higher number and below which half flies a lower number.

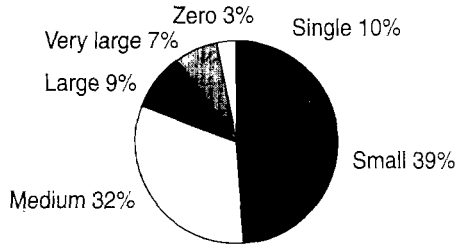
c. The population total for a particular fleet size group is an estimate of the aggregate number of hours flown by all operators in that group.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

FIGURE 3.4 TOTAL HOURS FLOWN BY ALL AOC HOLDERS: SHARES BY OWNED FLEET SIZE GROUP, 1992–93



Source BTCE survey estimates.

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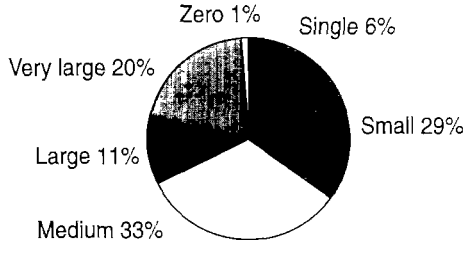
FIGURE 3.5 TOTAL HOURS FLOWN BY ALL AOC HOLDERS: SHARES BY OPERATED FLEET SIZE GROUP, 1992–93



Source BTCE survey estimates.

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Estimates are reported for average hours flown by category of owned aircraft (see table 3.5) and category of aircraft cross-hired or hired from other parties (see table 3.6), by activity group, during 1992–93.[3]

TABLE 3.5 AVERAGE HOURS FLOWN BY AOC HOLDERS IN OWNED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93[a]

	Fixed-wing				*Rotary-wing*				
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Other[b]*	*All aircraft*
Low capacity RPT	73**	2 704	–	4 017*	–	–	–	–	6 794
Charter	269	258	–	70*	61**	104*	9**	11*	784
Flying training	1 160	102*	–	–	52**	–	–	65**	1 379
Aerial agriculture	670	4**	32**	–	16**	8**	–	–	730
Aerial work	149	338*	2**	351*	189*	120*	81*	0	1 232
Hire	414**	211*	–	–	27**	–	–	167**	819*
Mixed	699*	143**	–	–	64**	269**	–	167**	1 342*
Non-commercial	147**	13**	–	92**	–	207*	133**	–	592*
Unallocable	836**	556**	–	7**	–	–	–	–	1 398*
Total (all AOC activity groups)	459	304	4**	254	67*	77	22*	29*	1 217
All commercial groups[c]	472	316	4*	261	69*	72	17*	31*	1 243
All GA groups[d]	487	204	4*	92*	71*	83	23*	31*	996
All commercial GA groups[e]	501	212	5*	92*	74*	77	19*	33*	1 013

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported hours flown in owned aircraft in this category)

a. These are averages for operators' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category.

b. Includes gliders and balloons.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Zero average hours reflects an estimate of less than 0.5.

Source BTCE survey estimates.

TABLE 3.6 AVERAGE HOURS FLOWN BY AOC HOLDERS IN HIRED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93[a]

	Fixed-wing				*Rotary-wing*				
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Other*[b]	*All aircraft*
Low capacity RPT	11**	28**	–	209**	–	–	–	–	248*
Charter	58	69*	–	9*	0**	12**	3**	2**	153
Flying training	586	31*	–	–	39**	6**	–	1**	663
Aerial agriculture	37*	–	16**	–	–	–	–	–	53*
Aerial work	5*	2**	–	4**	1**	96**	1**	–	109**
Hire	6**	–	–	–	16**	31**	–	–	52**
Mixed	184**	43**	–	1**	0**	4**	1**	–	232**
Non-commercial	1**	25**	–	–	–	12**	–	–	37*
Unallocable	196	157*	2	5	–	135*	24*	–	520
Total (all AOC activity groups)	134	38	1**	13*	7*	26*	2**	1**	222
All commercial groups[c]	139	38	1**	13*	8*	27*	2**	1**	229
All GA groups[d]	139	38	1**	4*	8*	27*	2**	1**	221
All commercial GA groups[e]	146	39	1**	5*	8*	28*	2**	1**	229

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported hours flown in hired aircraft in this category)

a. These are averages for operators' *fleets* of hired aircraft, regardless of how many aircraft are hired in each category.

b. Includes gliders and balloons.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Zero average hours reflects an estimate of less than 0.5.

Source BTCE survey estimates.

Non-commercial aircraft owners

Estimates from the BTCE survey results for total hours flown and hours flown in aircraft hired from other parties are reported by activity group in table 3.7. In terms of hours flown in 1992–93, the non-commercial aircraft owners in the recreation group had the lowest average and median hours flown per year, and the hire group the highest.

In each activity group, the average non-commercial aircraft owner used his or her aircraft for both recreational and business purposes, and also hired out aircraft to other parties. The distribution of total hours flown across these activities in 1992–93 is indicated in table 3.8. The share of total hours flown for all non-commercial aircraft owners is illustrated by activity group in figure 3.6 and by flying activity in figure 3.7.

Estimates are reported for average hours flown by category of owned aircraft, by activity group, during 1992–93 (see table 3.9).[4]

TABLE 3.7 HOURS FLOWN BY NON-COMMERCIAL AIRCRAFT OWNERS, BY ACTIVITY GROUP, 1992–93

	Total hours flown			*Hours flown in aircraft hired from other parties*		
Activity group	*Average*	*Median*[a]	*Population total*[b]	*Average*	*Median*[a]	*Population total*[b]
Recreation	66	55	166 673	3**	0+	8 359**
Business	142	100	308 078	2*	0+	4 465*
Hire	213*	129	127 284*	0.2**	0+	103**
Total (all owner activity groups)	114	80	602 035	2.4*	0+	12 927*

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Median number of hours flown is an estimate of that number of hours flown above which half the population of owners flies a higher number and below which half flies a lower number.

b. The population total for a particular activity group is an estimate of the aggregate number of hours flown by all owners in that group.

Source BTCE survey estimates.

TABLE 3.8 TOTAL HOURS FLOWN BY NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY FLYING ACTIVITY AND ACTIVITY GROUP, 1992–93

(percentage of hours)

	Flying activity			
Activity group	*Recreation*	*Business*	*Hiring out aircraft*	*Other*[a]
Recreation	84	6*	4**	6**
Business	10	86	1**	3*
Hire	7*	5**	86*	2**
Total (all owner activity groups)	31	45	21*	4**

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Includes community service flying, test and ferry, and flying training for employees.

Note Percentages may not add to 100 due to rounding.

Source BTCE survey estimates.

TABLE 3.9 AVERAGE HOURS FLOWN BY NON-COMMERCIAL AIRCRAFT OWNERS IN OWNED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93[a]

	Fixed-wing				*Rotary-wing*				
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Balloon*	*All aircraft*
Recreation	55	3**	–	0**	5**	1	–	1**	66
Business	121	17**	–	–	–	4**	–	–	142
Hire	156*	57**	–	–	–	–	–	–	213*
Total (all owner activity groups)	93	15*	–	0**	2**	2*	–	1**	114

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no owners in this activity group reported hours flown in owned aircraft in this category)

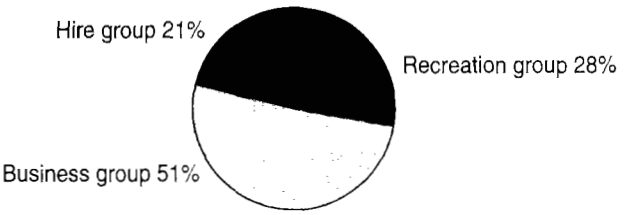
a. These are averages for owners' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Zero average hours reflects an estimate of less than 0.5.

Source BTCE survey estimates.

FIGURE 3.6 TOTAL HOURS FLOWN BY NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

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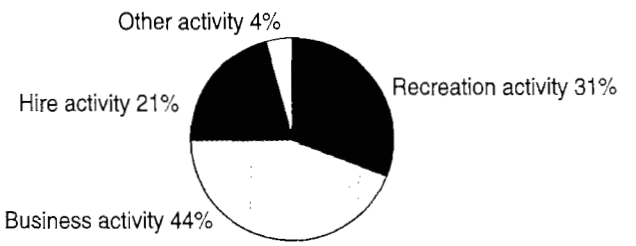
FIGURE 3.7 TOTAL HOURS FLOWN BY NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY FLYING ACTIVITY, 1992–93



Source BTCE survey estimates.

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Aircraft fuel type

Estimates of the total hours flown (and the fuel consumption[5]) by owned aircraft are identified by fuel type in table 3.10. Consistent with table 2.23, avgas aircraft dominate the total hours flown, though total fuel consumption of avtur aircraft exceeds that of avgas aircraft.

TABLE 3.10 TOTAL HOURS FLOWN AND TOTAL FUEL CONSUMPTION IN OWNED AIRCRAFT, BY FUEL TYPE AND ACTIVITY GROUP, 1992–93

	Avgas[a]		*Avtur*	
Activity group	*Hours flown (thousand)*	*Fuel consumption (million litres)*	*Hours flown (thousand)*	*Fuel consumption (million litres)*
AOC holders				
Low capacity RPT	119	20.2	172*	97.3*
Charter	202	21.2	63*	40.6*
Flying training	211	11.7	–	0.2*
Aerial agriculture	84	7.8	5*	2.1*
Aerial work	117	9.4*	96*	33.2**
Hire	30*	0.5*	–	0.2**
Mixed	46**	2.5*	14**	1.8**
Non-commercial	7**	0.5**	18*	11.0**
Unallocable	38*	4.9*	0**	0.6**
Total (all AOC activity groups)	854	78.6	368	186.8
All commercial groups[b]	847	78.1	350	175.8
All GA groups[c]	735	58.4	196	89.5
All commercial GA groups[d]	728	57.9	178	78.5
Non-commercial aircraft owners				
Recreation	163	5.9*	4	2.4**
Business	263	14.8	8**	0.8**
Hire	130*	6.5*	–	–
Total (all owner activity groups)	557	27.2	12*	3.2**
Grand total[e]	1 411	105.8	380	190.0

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators/owners in this activity group reported hours flown in owned aircraft of this fuel type)

a. A small proportion of piston-engined aircraft reported having used mogas as a substitute fuel.

b. All AOC activity groups excluding non-commercial.

c. All AOC activity groups excluding low capacity RPT.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

e. Grand total of all AOC activity groups and all aircraft owner activity groups.

Notes 1. Individual numbers may not add to totals due to rounding of weighted estimates.

2. Zero hours reflects an estimate of less than 0.5.

Source BTCE survey estimates.

Landings

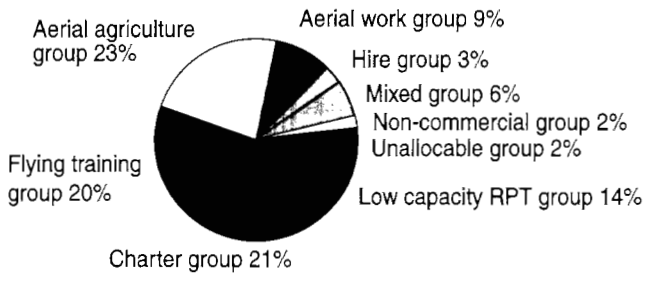
Survey respondents were asked to provide information on total landings (excluding touch and go landings) in owned aircraft and the proportion of these at base.[6] Information on total landings was also requested for aircraft hired from other parties.[7] This enabled estimates to be made for total landings and proportion of landings at base by AOC holders and non-commercial aircraft owners, distinguishing by activity group, fleet size groupings, ownership and aircraft category.

AOC holders

Estimates from the BTCE survey results are reported for total landings in owned aircraft by activity group in table 3.11. The table also contains estimates of the proportion of total landings at base during 1992–93. The shares of total landings by aircraft owned by all AOC holders are illustrated by activity group in figure 3.8. This shows that two-thirds of the landings were accounted for by the charter, aerial agriculture and flying training groups in approximately equal shares.

Estimates of total landings are also presented by owned fleet size group (see table 3.12) and by operated fleet size group (see table 3.13). The shares of total landings by aircraft owned by all AOC holders are illustrated by owned fleet size group in figure 3.9 and by operated fleet size group in figure 3.10. In both cases the small fleet groups accounted for more than 40 per cent of total landings.

FIGURE 3.8 TOTAL LANDINGS BY ALL AOC HOLDERS IN OWNED AIRCRAFT: SHARES BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

BTCE

TABLE 3.11 LANDINGS BY AOC HOLDERS IN OWNED AIRCRAFT, BY ACTIVITY GROUP, 1992–93

	Total number of landings in owned fleet			*Proportion of landings at base*	
Activity group	*Average*	*Median*[a]	*Population total*[b]	*Average*	*Median*[a]
Low capacity RPT	7 597	3 393*	308 296	0.41	0.45
Charter	1 230	327	458 918	0.50	0.45
Flying training	2 721	1 269*	441 665	0.81	0.85
Aerial agriculture	4 189*	1 443*	532 079*	0.36	0.10**
Aerial work	1 017	600*	189 033	0.44	0.35
Hire	1 236**	258**	55 997**	0.51*	0.50
Mixed	2 581*	2 149*	129 890*	0.65*	0.84
Non-commercial	1 248*	1 445**	51 137*	0.40*	0.42*
Unallocable	1 588	293**	55 394	0.49	0.36+
Total (all AOC activity groups)	2 095	731	2 222 408	0.51	0.50
All commercial groups[c]	2 129	710	2 171 271	0.52	0.50
All GA groups[d]	1 877	663	1 914 112	0.52	0.50
All commercial GA groups[e]	1 903	645	1 862 975	0.52	0.50

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Median number/proportion of landings at base is an estimate of that number/proportion of landings above which half the population of operators lands a higher number/proportion of times and below which half lands a lower number/proportion of times.

b. The population total for a particular activity group is an estimate of the aggregate number of landings by all operators in that group.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 3.12 LANDINGS BY AOC HOLDERS IN OWNED AIRCRAFT, BY OWNED FLEET SIZE GROUP, 1992–93

Owned fleet size[a] group	Total number of landings in owned fleet			Proportion of landings at base	
	Average	Median[b]	Population total[c]	Average	Median[b]
All AOC activity groups					
Zero (0 aircraft)	..	..	..	..	..
Single (1 aircraft)	854	351	315 571	0.52	0.50
Small (2–5 aircraft)	2 248	1 193	996 579	0.50	0.50
Medium (6–10 aircraft)	6 514	5 409	643 333	0.57	0.70
Large (11–15 aircraft)	10 054*	7 236	207 435*	0.50**	0.49
Very large (16+ aircraft)	5 423**	8 139+	59 490**	0.51**	0.33+
Total	2 095	731	2 222 408	0.51	0.50
All commercial GA activity groups[d]					
Zero (0 aircraft)	..	..	..	..	..
Single (1 aircraft)	811	350	274 639	0.52	0.50
Small (2–5 aircraft)	2 182	1 102	892 172	0.51	0.50
Medium (6–10 aircraft)	5 667	5 286	521 351	0.59	0.70
Large (11–15 aircraft)	7 284*	5 414**	117 433*	0.53**	0.58**
Very large (16+ aircraft)	6 583**	8 633+	57 380**	0.56**	0.59+
Total	1 903	645	1 862 975	0.52	0.50

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

.. Not applicable

a. Number of aircraft owned by the operator.

b. Median number/proportion of landings at base is an estimate of that number/proportion of landings above which half the population of operators lands a higher number/proportion of times and below which half lands a lower number/proportion of times.

c. The population total for a particular fleet size group is an estimate of the aggregate number of landings by all operators in that group.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 3.13 LANDINGS BY AOC HOLDERS IN OWNED AIRCRAFT, BY OPERATED FLEET SIZE GROUP, 1992–93

	Total number of landings in owned fleet			*Proportion of landings at base*	
Operated fleet size[a] group	*Average*	*Median[b]*	*Population total[c]*	*Average*	*Median[b]*
All AOC activity groups					
Zero (0 aircraft)	..	..	..	..	..
Single (1 aircraft)	610	276	189 376	0.50	0.49
Small (2–5 aircraft)	1 914	844	900 021	0.50	0.48
Medium (6–10 aircraft)	4 427	2 650*	655 352	0.58	0.68
Large (11–15 aircraft)	7 265*	4 967*	229 148*	0.51*	0.55*
Very large (16+ aircraft)	5 225*	3 500**	248 511*	0.56	0.58*
Total	2 095	731	2 222 408	0.51	0.50
All commercial GA activity groups[d]					
Zero (0 aircraft)	..	..	..	..	..
Single (1 aircraft)	553	250	156 987	0.50	0.49
Small (2–5 aircraft)	1 875	800	826 264	0.51	0.50
Medium (6–10 aircraft)	3 716	2 575*	499 821	0.60	0.69
Large (11–15 aircraft)	5 329*	3 970**	156 064*	0.53*	0.55*
Very large (16+ aircraft)	5 564*	4 660**	223 839*	0.59*	0.69
Total	1 903	645	1 862 975	0.52	0.50

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

.. Not applicable

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Median number/proportion of landings at base is an estimate of that number/proportion of landings above which half the population of operators lands a higher number/proportion of times and below which half lands a lower number/proportion of times.

c. The population total for a particular fleet size group is an estimate of the aggregate number of landings by all operators in that group.

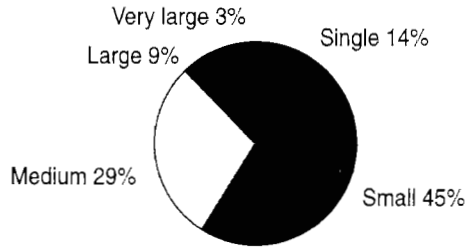
d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

Estimates are reported for average landings by category of owned aircraft (see table 3.14) and category of aircraft cross-hired or hired from other parties (see table 3.15), by activity group, during 1992–93.[8]

FIGURE 3.9 TOTAL LANDINGS BY ALL AOC HOLDERS IN OWNED AIRCRAFT: SHARES BY OWNED FLEET SIZE GROUP, 1992–93



Source BTCE survey estimates.

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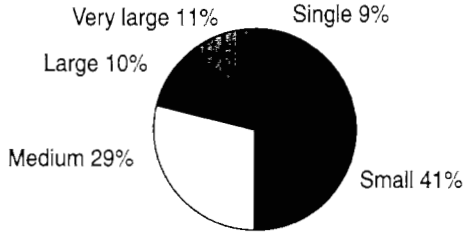
FIGURE 3.10 TOTAL LANDINGS BY ALL AOC HOLDERS IN OWNED AIRCRAFT: SHARES BY OPERATED FLEET SIZE GROUP, 1992–93



Source BTCE survey estimates.

BTCE

TABLE 3.14 AVERAGE LANDINGS BY AOC HOLDERS IN OWNED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93[a]

	Fixed-wing				*Rotary-wing*				
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Other[b]*	*All aircraft*
Low capacity RPT	23**	3 105*	–	4 469*	–	–	–	–	7 597
Charter	450	395*	–	61*	30*	228*	20**	45	1 230
Flying training	2 408	110*	–	–	48**	–	–	156*	2 721
Aerial agriculture	4 105*	24	16**	–	22**	21**	–	–	4 189*
Aerial work	238*	172*	1**	208*	79*	128*	160	31	1 017
Hire	746*	135*	–	–	48	–	–	307**	1 236**
Mixed	1 288*	193**	–	–	216**	481*	–	403**	2 581*
Non-commercial	115**	6**	–	89**	–	570*	468**	–	1 248*
Unallocable	741	326	–	103	–	–	–	418	1 588
Total (all AOC activity groups)	1 180	330	2*	239	48	148	56	92*	2 095
All commercial groups[c]	1 222	343	2*	245*	50	132*	39	96	2 129
All GA groups[d]	1 227	220	2*	71	50	154	58	96	1 877
All commercial GA groups[e]	1 272	229	2*	70	52	137*	41	100	1 903

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported landings in owned aircraft in this category)

a. These are averages for operators' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category.

b. Includes gliders and balloons.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding.

Source BTCE survey estimates.

TABLE 3.15 AVERAGE LANDINGS BY AOC HOLDERS IN HIRED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93[a]

	Fixed-wing				*Rotary-wing*				
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Other[b]*	*All aircraft*
Low capacity RPT	16**	30**	–	256**	–	–	–	–	301**
Charter	58*	54*	–	7*	0**	–	1**	1**	122
Flying training	1 108*	44**	–	–	49**	1**	–	1**	1 204*
Aerial agriculture	51**	–	38**	–	–	–	–	–	89**
Aerial work	11**	1**	–	1*	1**	23**	–	–	38*
Hire	3**	–	–	–	–	49**	–	–	53**
Mixed	203**	18**	–	1**	0**	4**	1**	–	227**
Non-commercial	1**	154**	–	–	–	–	–	–	154**
Unallocable	150	60**	3	2	–	–	–	–	215
Total (all AOC activity groups)	213*	36	5**	12*	8**	6*	0**	1*	282
All commercial groups[c]	222*	31	5**	13*	8**	7*	1**	1*	287
All GA groups[d]	221*	36	5**	3*	8**	7*	1**	1*	281
All commercial GA groups[e]	231*	31	5**	3*	9**	7*	1**	1*	287

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no operators in this activity group reported landings in hired aircraft in this category)

a. These are averages for operators' *fleets* of hired aircraft, regardless of how many aircraft are hired in each category.

b. Includes gliders and balloons.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Notes 1. Individual numbers may not add to totals due to rounding.
2. Zero average landings reflects an estimate of less than 0.5.

Source BTCE survey estimates.

Non-commercial aircraft owners

Estimates from the BTCE survey results are reported for total landings in owned aircraft by activity group in table 3.16. The table also contains estimates of the proportion of total landings (excluding touch and go landings) at base during 1992–93. The share of total landings by aircraft owned by non-commercial aircraft owners is illustrated by activity group in figure 3.11. The business group accounted for almost half of total landings.

Estimates are reported for average landings by category of owned aircraft, by activity group, during 1992–93 (see table 3.17).[9]

TABLE 3.16 LANDINGS BY NON-COMMERCIAL AIRCRAFT OWNERS IN OWNED AIRCRAFT, BY ACTIVITY GROUP, 1992–93

	Total number of landings in owned fleet			*Proportion of landings at base*	
Activity group	*Average*	*Median*[a]	*Population total*[b]	*Average*	*Median*[a]
Recreation	92*	50	232 252*	0.62	0.68
Business	131	90	284 735	0.59	0.55
Hire	282*	113*	168 370*	0.66	0.70
Total (all owner activity groups)	129	65	685 356	0.61	0.65

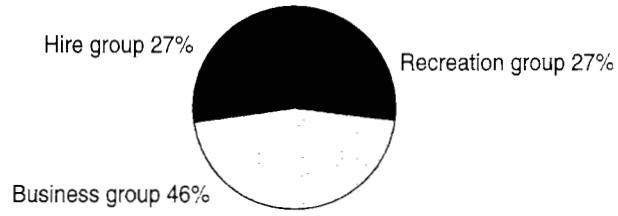
* Relative Standard Error >0.25 and ≤0.50

a. Median number/proportion of landings at base is an estimate of that number/proportion of landings above which half the population of owners lands a higher number/proportion of times and below which half lands a lower number/proportion of times.

b. The population total for a particular activity group is an estimate of the aggregate number of landings by all owners in that group.

Source BTCE survey estimates.

FIGURE 3.11 TOTAL LANDINGS BY NON-COMMERCIAL AIRCRAFT OWNERS IN OWNED AIRCRAFT: SHARES BY ACTIVITY GROUP, 1992–93



Source BTCE survey estimates.

BTCE

Output measures

Revenue-earning passengers and freight may only be carried on charter services (or RPT services which are not reported in this study). Although there is a wide range of other possible output measures, depending on flying activity, the only measures of output on which the survey questioned AOC holders related to charter activity. Respondents were asked to report the number of passengers and kilograms of freight carried on charter flights, regardless of *dominant* activity group.[10]

Passengers carried

When examined by activity group (see table 3.18), the average operator in all activity groups was estimated to have performed at least some passenger charter activity. The highest average passenger number is for the charter group, as would be expected because this group performed the most charter activity. By operated fleet size group (see table 3.19), the highest average passenger number is for the very large fleet group. This suggests a concentration of charter activity with AOC holders having large fleets.

TABLE 3.17 AVERAGE LANDINGS BY NON-COMMERCIAL AIRCRAFT OWNERS IN OWNED AIRCRAFT, BY AIRCRAFT CATEGORY AND ACTIVITY GROUP, 1992–93[a]

	Fixed-wing				*Rotary-wing*				
Activity group	*Single-engine piston*	*Multi-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Single-engine piston*	*Single-engine turbine*	*Multi-engine turbine*	*Balloon*	*All aircraft*
Recreation	60	4**	–	0**	24**	2	–	2**	92*
Business	112	14**	–	–	–	6**	–	–	131
Hire	217*	65**	–	–	–	–	–	–	282*
Total (all owner activity groups)	99	15*	–	0**	11**	3**	–	1**	129

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

– Nil (no owners in this activity group reported landings in owned aircraft in this category)

a. These are averages for owners' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Zero average hours reflects an estimate of less than 0.5.

Source BTCE survey estimates.

TABLE 3.18 CHARTER PASSENGERS CARRIED BY AOC HOLDERS, BY ACTIVITY GROUP, 1992–93

(number of passengers)

Activity group	*Average*	*Median*[a]	*Population total*[b]
Low capacity RPT	661*	240*	26 816*
Charter	1 618	609*	603 659
Flying training	64	9**	10 372
Aerial agriculture	1**	0+	117**
Aerial work	60**	0+	11 057**
Hire	27*	18**	1 211*
Mixed	254*	300	12 782*
Non-commercial	8**	0+	347**
Unallocable	512	0+	17 856
Total (all AOC activity groups)	645	18*	684 217
All commercial groups[c]	670	20**	683 870
All GA groups[d]	645	10**	657 401
All commercial GA groups[e]	671	15**	657 054

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Median number of charter passengers carried is an estimate of that number of passengers above which half the population of operators had more passengers carried and below which half had less passengers carried.

b. The population total for a particular activity group is an estimate of the aggregate number of charter passengers carried by all operators in that group.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Source BTCE survey estimates.

TABLE 3.19 CHARTER PASSENGERS CARRIED BY AOC HOLDERS, BY OPERATED FLEET SIZE GROUP, 1992–93

(number of passengers)

Operated fleet size[a] group	*Average*	*Median[b]*	*Population total[c]*
All AOC activity groups			
Zero (0 aircraft)	259	20*	13 749
Single (1 aircraft)	508	27**	157 651
Small (2–5 aircraft)	623	0+	292 823
Medium (6–10 aircraft)	919*	53**	136 106*
Large (11–15 aircraft)	976**	293**	30 781**
Very large (16+ aircraft)	1 117**	73**	53 107**
Total	645	18*	684 217
All commercial GA activity groups[d]			
Zero (0 aircraft)	273	16**	13 693
Single (1 aircraft)	554	33**	157 360
Small (2–5 aircraft)	640	0+	282 207
Medium (6–10 aircraft)	975*	52**	131 162*
Large (11–15 aircraft)	820**	269*	24 017**
Very large (16+ aircraft)	1 208**	78**	48 614**
Total	671	15**	657 054

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Median number of charter passengers carried is an estimate of that number of passengers above which half the population of operators had more passengers carried and below which half had less passengers carried.

c. The population total for a particular activity group is an estimate of the aggregate number of charter passengers carried by all operators in that group.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

It is estimated that a total of 657 401 charter passengers was carried by all GA AOC holders in 1992–93. This is an average of 2.1 passengers per charter hour flown by GA AOC holders.[11]

Freight carried

When examined by activity group (see table 3.20), the average operators in five of the nine activity groups were estimated to have carried some charter freight. The highest average number of kilograms of freight

TABLE 3.20 CHARTER FREIGHT CARRIED BY AOC HOLDERS, BY ACTIVITY GROUP, 1992–93

(kilograms)

Activity group	*Average*	*Median*[a]	*Population total*[b]
Low capacity RPT	14 096**	0+	572 018**
Charter	60 591**	0+	22 610 278**
Flying training	276**	0+	44 841
Aerial agriculture	–	–	–
Aerial work	–	–	–
Hire	–	–	–
Mixed	147**	–	7 418**
Non-commercial	–	–	–
Unallocable	23 737	0+	828 256
Total (all AOC activity groups)	22 679**	0+	24 062 812**
All commercial groups[c]	23 591**	0+	24 062 812**
All GA groups[d]	23 030**	0+	23 490 794**
All commercial GA groups[e]	23 995**	0+	23 490 794**

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

– Nil (no operators in this activity group reported carrying freight)

a. Median number of kilograms of freight carried is an estimate of that number of kilograms above which half the population of operators had more kilograms carried and below which half had less kilograms carried.

b. The population total for a particular activity group is an estimate of the aggregate number of charter kilograms of freight carried by all operators in that group.

c. All AOC activity groups excluding non-commercial.

d. All AOC activity groups excluding low capacity RPT.

e. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

TABLE 3.21 CHARTER FREIGHT CARRIED BY AOC HOLDERS, BY OPERATED FLEET SIZE GROUP, 1992–93

(kilograms)

Operated fleet size[a] group	*Average*	*Median[b]*	*Population total[c]*
All AOC activity groups			
Zero (0 aircraft)	2 381	0+	126 251
Single (1 aircraft)	1 601	0+	496 717
Small (2–5 aircraft)	4 346*	0+	2 043 000*
Medium (6–10 aircraft)	4 715*	0+	697 925*
Large (11–15 aircraft)	572 653**	0+	18 062 025**
Very large (16+ aircraft)	55 445**	0+	2 636 895**
Total	22 679**	0+	24 062 812**
All commercial GA activity groups[d]			
Zero (0 aircraft)	2 515	0+	126 251
Single (1 aircraft)	1 749	0+	496 717
Small (2–5 aircraft)	3 454*	0+	1 522 608*
Medium (6–10 aircraft)	5 184*	0+	697 248*
Large (11–15 aircraft)	616 735**	0+	18 062 025**
Very large (16+ aircraft)	64 283**	0+	2 585 945**
Total	23 995**	0+	23 490 794**

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Median number of kilograms of freight carried is an estimate of that number of kilograms above which half the population of operators had more kilograms carried and below which half had less kilograms carried.

c. The population total for a particular activity group is an estimate of the aggregate number of charter kilograms of freight carried by all operators in that group.

d. All AOC activity groups excluding low capacity RPT and non-commercial.

Note Individual numbers may not add to totals due to rounding of weighted estimates.

Source BTCE survey estimates.

carried is for the charter group, as this group performed the most charter activity. By operated fleet size group (see table 3.21), the highest average number of kilograms of freight carried is for the large fleet group. This confirms a concentration of charter activity with AOC holders having large fleets.

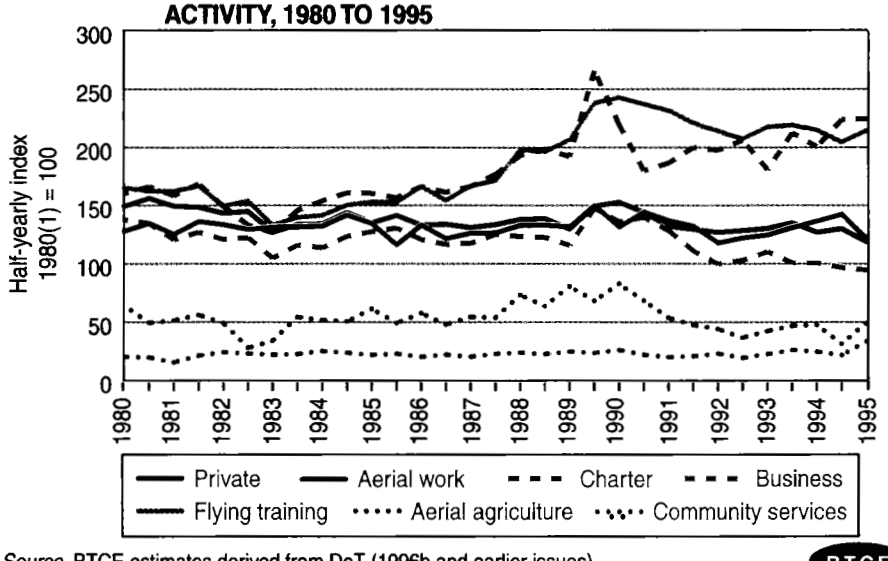
It is estimated that a total of 23 491 tonnes of freight was carried by GA AOC holders in 1992–93.[12] This is an average of 76 kilograms of freight per charter hour flown by GA AOC holders.[13]

GROWTH IN ACTIVITY

Hours flown

Time series data for each six-month period between 1 January 1980 and 30 June 1995 are presented in figure 3.12 for the number of GA hours flown by aircraft involved in GA and regional airline operations by type of flying activity.[14] The time series data used in the figure, reported in DoTRD's AVSTATS GA database, include the 1992–93 and 1994–95 (12-month) totals reported in table 3.22. These estimated data are compiled from information collected for each registered aircraft[15] and do not allow separation into activity by AOC holders and non-commercial aircraft owners.[16]

FIGURE 3.12 GA HOURS FLOWN BY REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY FLYING ACTIVITY, 1980 TO 1995



Source BTCE estimates derived from DoT (1996b and earlier issues).

TABLE 3.22 GA HOURS FLOWN BY REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY FLYING ACTIVITY, 1992–93 AND 1994–95

(thousand hours)

Type of flying activity	*1992–93*	*1994–95*
Private	258.8	248.8
Business	214.6	192.4
Flying training	425.1	419.1
Charter	387.2	448.3
Aerial work	248.1	264.9
Aerial agriculture	79.0	80.3
Community services	43.3	56.5
Total	1 656.1	1 710.3

Source BTCE estimates derived from DoT (1996b and earlier issues).

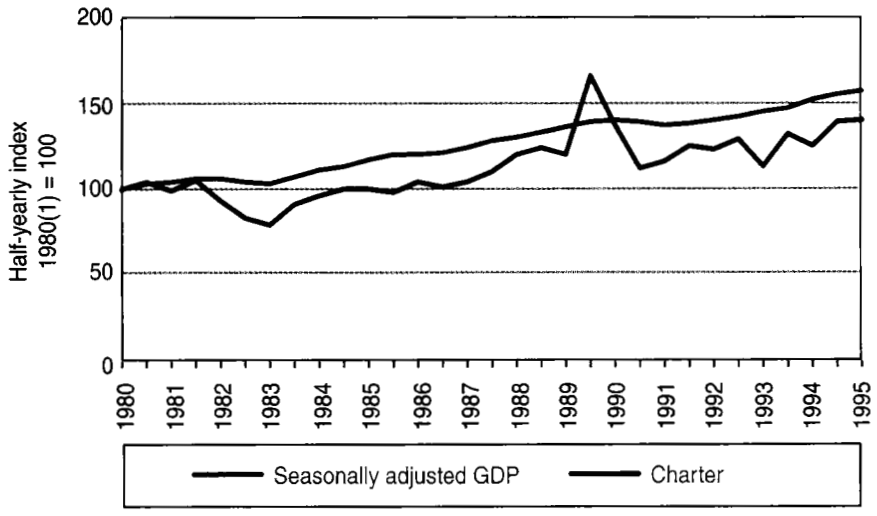
The most prominent feature of figure 3.12 is the sharp increase in the second half of 1989 for charter, private and business (the main people-carrying activities), and flying training. This coincides with the domestic airline pilots' strike in the second half of 1989. Aerial agriculture and community service flying, with different customer bases, were not so markedly affected by this dispute.

The relationship between estimated hours flown and measures of economic activity is separately examined for each type of flying activity in figures 3.13 to 3.18. This presentation does not attempt rigorously to consider the individual mathematical relationships, nor does it examine the range of other factors which could be expected to influence flying activity.

Charter

Figure 3.13 shows that charter activity has increased roughly in line with the level of real economic activity since 1983. The major deviation was around the time of the pilots' strike in 1989, when charter activity expanded to meet some of the demand not met by the airlines. By mid-1990 the level of charter activity was back to its pre-strike level, suggesting limited substitutability between charter services and regular public transport airline services. In addition, continuing intrastate deregulation has extended RPT services to a larger proportion of the population.[17]

FIGURE 3.13 INDEXES OF CHARTER ACTIVITY AND GDP, 1980 TO 1995



Sources BTCE estimates derived from ABS (1995a), DoT (1996b and earlier issues).

BTCE

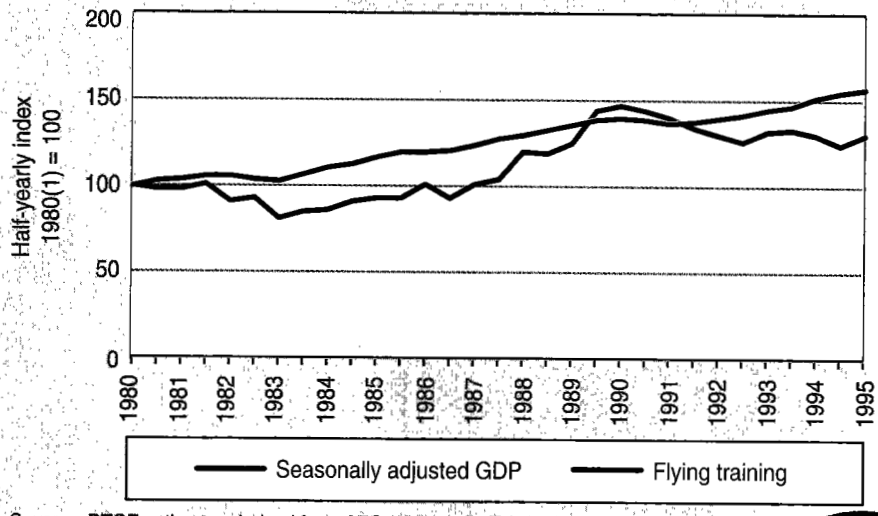
Flying training

The growth in flying training hours is determined by two main groups of people who undertake flying training. One group consists of those who are learning to fly solely for the pleasure of flying, and the other of people who are intending to work as pilots. Total hours flown in flying training would be expected to increase with rising economic activity (when there is expected to be greater activity in general aviation) or if there is a perceived shortage of pilots. As Australia also provides flying training for those from other countries, greater aviation activity or pilot shortages in other countries can also increase the amount of flying training activity in Australia. Figure 3.14 shows how flying training activity has risen, but not closely tracked growth in real Gross Domestic Product (GDP).

Aerial agriculture

The level of aerial agriculture is linked to the prospects of the agricultural sector. Figure 3.15 shows the index of aerial agricultural activity generally tracking the rural commodity price index.

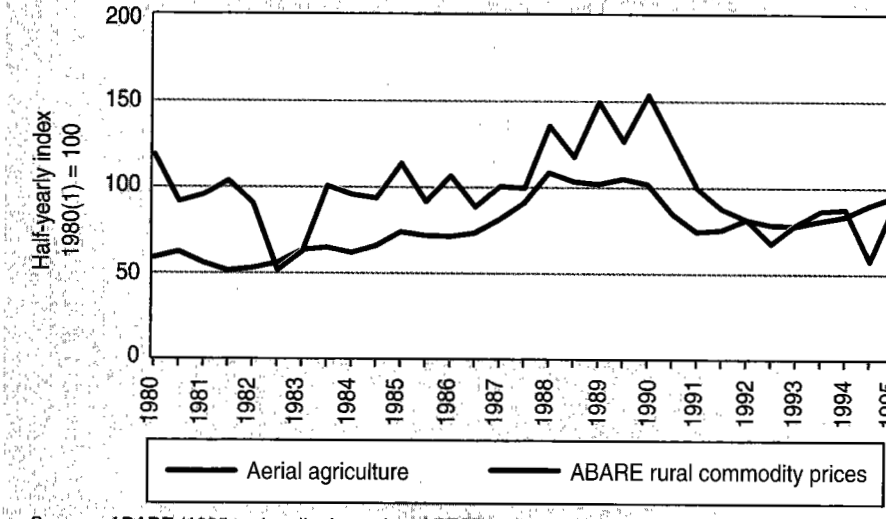
FIGURE 3.14 INDEXES OF FLYING TRAINING ACTIVITY AND GDP, 1980 TO 1995



Sources BTCE estimates derived from ABS (1995a), DoT (1996b and earlier issues).

BTCE

FIGURE 3.15 INDEXES OF AERIAL AGRICULTURAL ACTIVITY AND RURAL COMMODITY PRICES, 1980 TO 1995



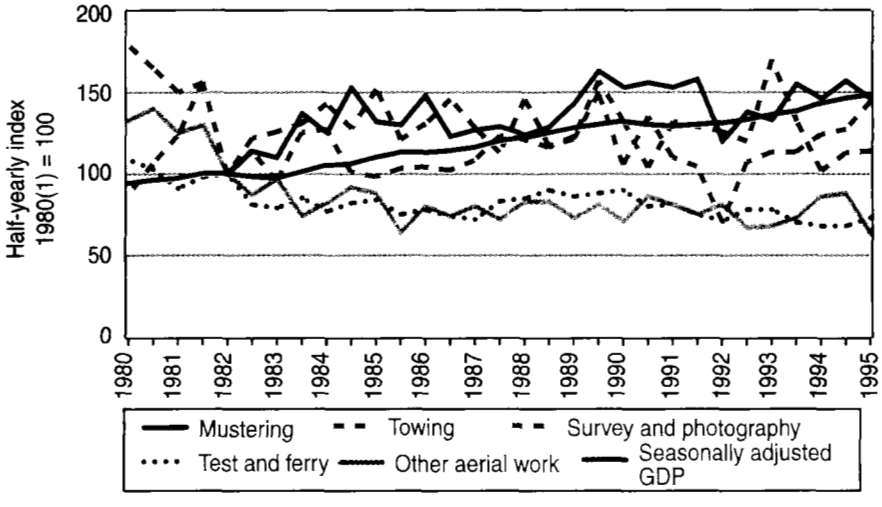
Sources ABARE (1995 and earlier issues) and BTCE estimates derived from DoT (1996b and earlier issues).

BTCE

Aerial work

Aerial work includes a wide range of activities. Hours flown for five main subsectors of aerial work—aerial stock mustering, towing (of gliders, banners and targets), aerial survey and photography, test and ferry, and other aerial work—are presented in figure 3.16. 'Other aerial work' includes activities such as advertising, cloud seeding, fire fighting, parachute dropping, pipe and powerline patrol, spotting and coastal surveillance. There appears to be no strong relationship between the indexes of the various other aerial activities and real GDP. Test and ferry and 'other aerial work' tend to have fluctuated within a relatively small range since 1982 compared to the other subgroups, particularly mustering, towing and survey and photography.

FIGURE 3.16 INDEXES OF SELECTED AERIAL WORK ACTIVITIES AND GDP, 1980 TO 1995



a. Up to and including December 1981, mustering was included in other aerial work; subsequently in its own category.

Sources BTCE estimates derived from ABS (1995a), DoT (1996b and earlier issues).

BTCE

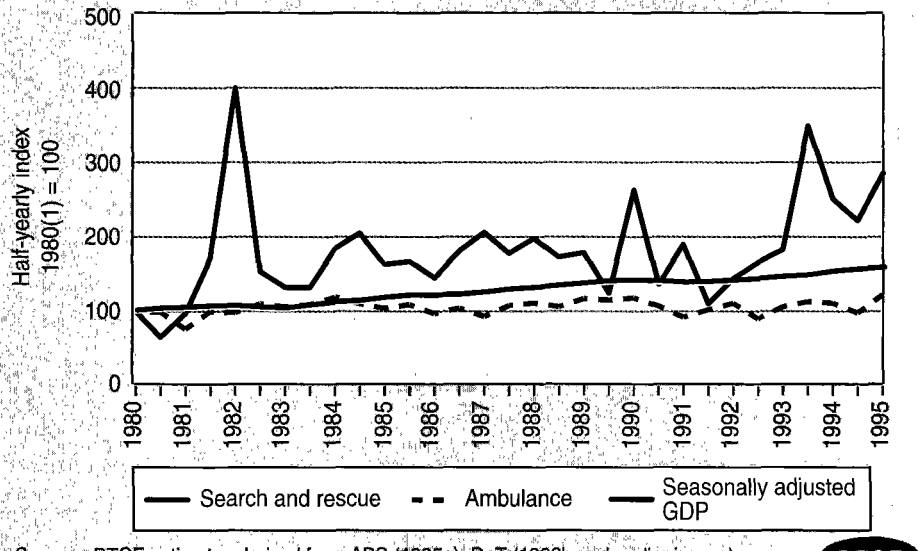
Community service flying

The two community service flying activities presented in figure 3.17, ambulance and search and rescue, appear to be not closely related to GDP. Search-and-rescue fluctuates widely, partly because there is a very low base level of search-and-rescue activity and partly because demand for this type of work would tend to be lumpy, and subject to large variations. Ambulance flying activity is more constant.

Private and business flying

Private flying is defined as flying for private pleasure, sport and recreation. Business flying is defined as flying for business or professional reasons but not directly for hire or reward. It would be expected that the level of economic activity and therefore income would affect the ability of businesses and individuals to undertake flying. Figure 3.18 shows that private and business activity have each declined both absolutely, and relative to GDP, over the period 1980 to 1995, though variations in activity from one six-month period to the next have tended to be in the same direction as movements in GDP.

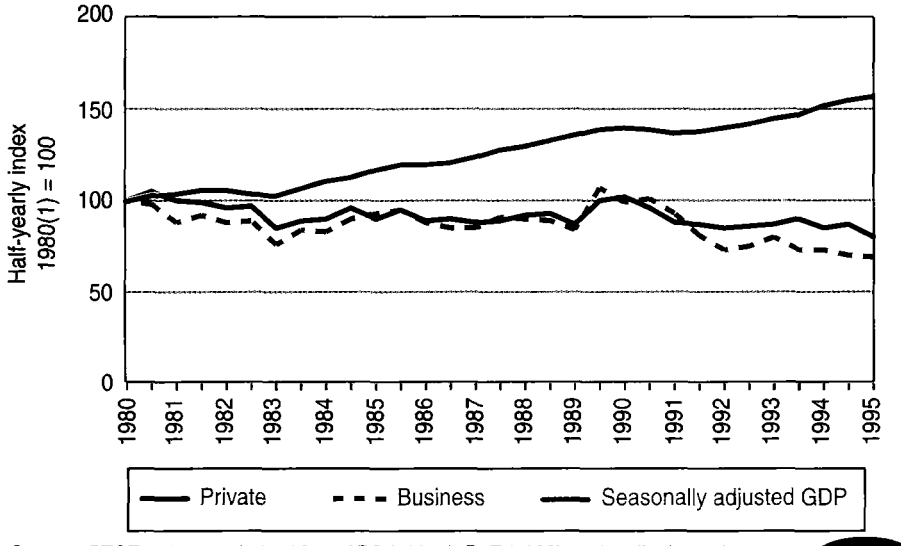
FIGURE 3.17 INDEXES OF COMMUNITY SERVICE FLYING ACTIVITIES AND GDP, 1980 TO 1995



Sources BTCE estimates derived from ABS (1995a), DoT (1996b and earlier issues).

BTCE

FIGURE 3.18 INDEXES OF PRIVATE AND BUSINESS FLYING ACTIVITIES AND GDP, 1980 TO 1995



Sources BTCE estimates derived from ABS (1995a), DoT (1996b and earlier issues).

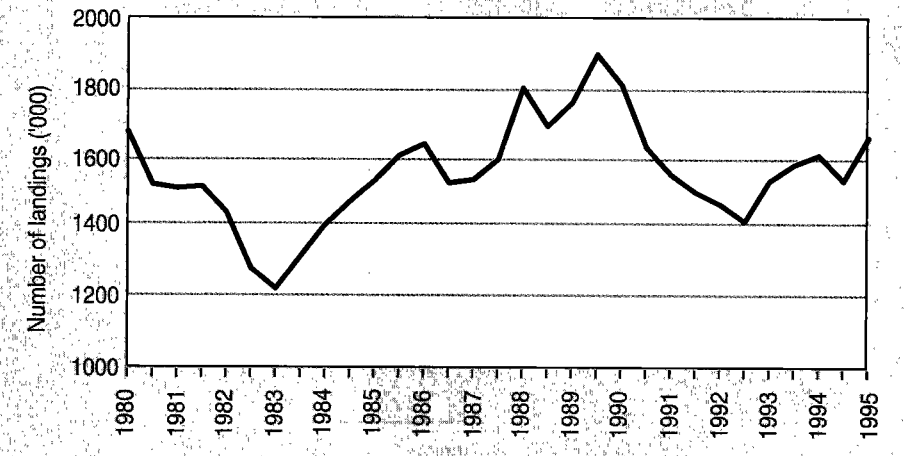
BTCE

Landings

Time series data for each six-month period between 1 January 1980 and 30 June 1995 are presented in figure 3.19 for the total number of landings by aircraft involved in GA and regional airline operations. The number of landings between 1980 and the first half of 1995 ranged between 1.2 million and 1.9 million per six-month period. The AVSTATS data used in the figure include the 1992–93 (12-month) total of almost 3 million landings. These data are compiled from information collected for each registered aircraft and do not distinguish between landings for GA activities and those for RPT activity. Also, these data do not allow separation into landings by AOC holders and non-commercial aircraft owners.[18]

Figure 3.20 shows that growth in landings and hours flown for aircraft involved in GA and regional airline operations has lagged behind the growth in general economic activity. Growth in number of aircraft has more closely followed economic activity. Since 1986 growth in hours flown has exceeded the growth in the number of landings.[19] Figure 3.21 shows that average landings per hour[20] have fallen in aerial agriculture and flying training activities, risen and fallen for other aerial work, and for the other activities remained relatively constant.

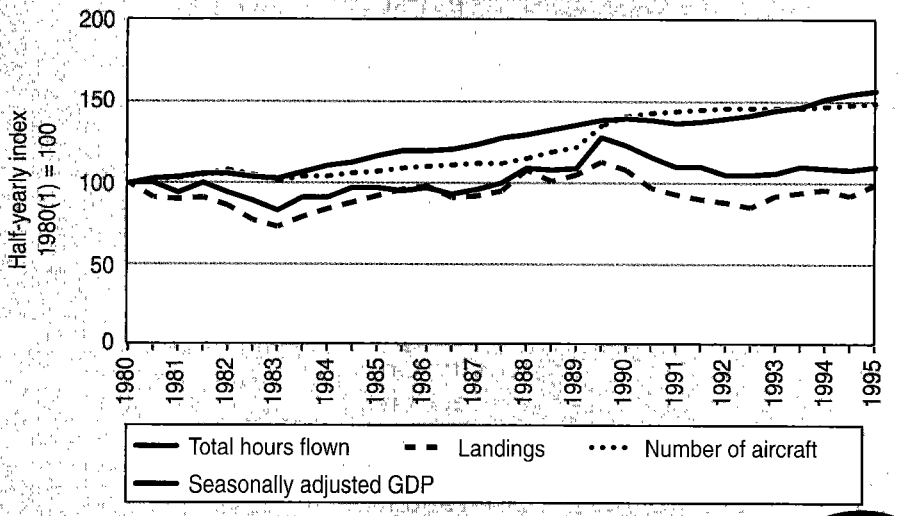
FIGURE 3.19 TOTAL NUMBER OF LANDINGS BY REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, 1980 TO 1995



Source BTCE estimates derived from DoT (1996b and earlier issues).

BTCE

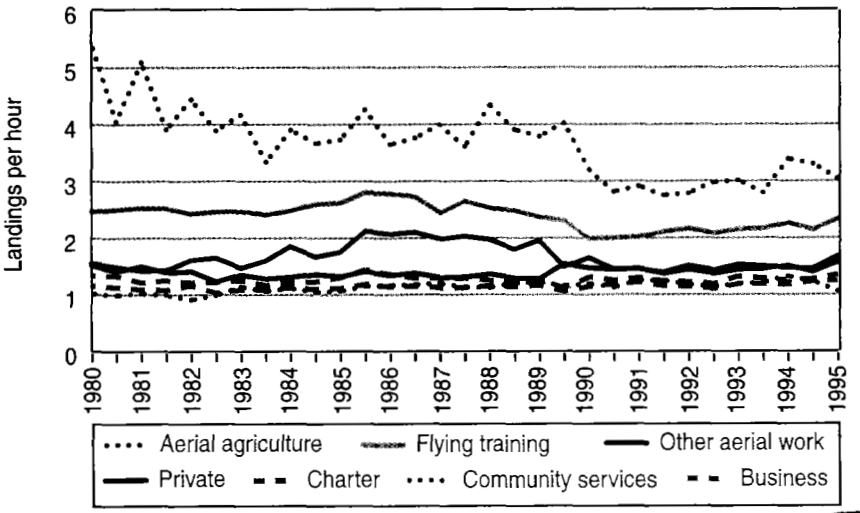
FIGURE 3.20 INDEXES OF GDP, NUMBER OF REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, HOURS FLOWN AND LANDINGS, 1980 TO 1995



Sources BTCE estimates derived from ABS (1995a), DoT (1996b and earlier issues).

BTCE

FIGURE 3.21 LANDINGS PER FLYING HOUR BY REGISTERED AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY DOMINANT FLYING ACTIVITY TYPE, 1980 TO 1995



Source BTCE estimates derived from DoT (1996b and earlier issues).

BTCE

NOTES

1. See question 21 of the BTCE GA survey of AOC holders (reproduced at p. 197 of appendix I), question 21 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 222 of appendix I) and question 18 of the BTCE GA survey of aircraft owners (reproduced at p. 244 of appendix I).
2. See questions 19 and 20 of the BTCE GA survey of AOC holders (reproduced at pp. 195 and 196 of appendix I), questions 19 and 20 of the BTCE GA survey of RPT-AOC holders (reproduced at pp. 220 and 221 of appendix I) and questions 16 and 17 of the BTCE GA survey of aircraft owners (reproduced at pp. 242 and 243 of appendix I).
3. These are averages for operators' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category.
4. These are averages for owners' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category. Corresponding estimates for aircraft hired from other parties have high relative standard errors with average hours flown for all owner activity groups being one for single-engine and zero for multi-engine fixed-wing piston aircraft, zero for multi-engine fixed-wing turbine aircraft and two for single-engine rotary-wing piston aircraft.
5. Estimated fuel consumption is based on information obtained from question 17 of the BTCE GA survey of AOC holders (reproduced at p. 194 of appendix I), question 17 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 218 of appendix I) and question 16 of the BTCE GA survey of aircraft owners (reproduced at p. 242 of appendix I).

6. See question 19 of the BTCE GA survey of AOC holders (reproduced at p. 195 of appendix I), question 19 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 220 of appendix I) and question 16 of the BTCE GA survey of aircraft owners (reproduced at p. 242 of appendix I).
7. See question 20 of the BTCE GA survey of AOC holders (reproduced at p. 196 of appendix I), question 20 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 221 of appendix I) and question 17 of the BTCE GA survey of aircraft owners (reproduced at p. 243 of appendix I).
8. These are averages for operators' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category.
9. These are averages for owners' *fleets* of owned aircraft, regardless of how many aircraft are owned in each category. Corresponding estimates for aircraft hired from other parties have high relative standard errors with average landings flown for all owner activity groups being one for single-engine and zero for multi-engine fixed-wing piston aircraft, and seven for single-engine rotary-wing piston aircraft.
10. See question 21 of the BTCE GA survey of AOC holders (reproduced at p. 197 of appendix I) and question 21 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 222 of appendix I).
11. Charter hours include dedicated passenger, dedicated freight and combined passenger and freight charter hours.
12. It should be noted that a very high relative standard error applies to this estimate.
13. Charter hours include dedicated passenger, dedicated freight and combined passenger and freight charter hours.
14. Flying activity types defined for the AVSTATS GA database (see DoT 1996b) are generally consistent with those used in the BTCE survey (see chapter 2).
15. The AVSTATS flying activity data include estimates for typically about 30 per cent of registered aircraft about which information is not collected (due to non-response) for each six-month period.
16. For 1992–93, the AVSTATS estimates of total GA hours flown (in aircraft involved in GA and regional airline operations) are similar to the BTCE estimates of total hours flown in aircraft owned by all AOC holders (excluding low capacity RPT operators) and all non-commercial aircraft owners.
17. As reflected in the growth of regional (low capacity RPT) airline activity.
18. For 1992–93, the AVSTATS estimates of total landings (in aircraft involved in GA and regional airline operations) are similar to the BTCE estimates of total landings in aircraft owned by all AOC holders (including low capacity RPT operators) and all non-commercial aircraft owners.
19. Where 'growth' includes negative growth.
20. The average number of landings per hour for each activity type was constructed by categorising aircraft in the aircraft register according to the hours that they performed most of their flying in, in the relevant six-month period, then calculating the ratio of the sum of landings in each category to the sum of hours in each category.

CHAPTER 4 INDUSTRY CONDUCT

It is often suggested that many commercial operators are involved in the GA industry because they have a personal interest in flying rather than because they consider GA to be a good commercial venture. Munro (1996, p. 31) states that 'Almost anyone who pays his own money to fly does so because he or she loves it. The vast majority of the small commercial operations in Australia are run by people who got into the business because they loved it'. The expression 'How do you make a million dollars out of an aviation business? Start with two million' is commonly quoted in reference to both GA and other types of aviation.

As part of the BTCE survey of AOC holders, information was sought from GA operators about their motivations for being in the industry, the way they conduct their businesses, their aviation background and their business experience.

In the BTCE survey of non-commercial aircraft owners, some questions were included to identify occupations of owners involved in recreational flying, and the industry involvement of those owners doing business flying.

NON-COMMERCIAL AIRCRAFT OWNERS

The majority of aircraft in Australia are owned by persons or organisations who do not hold an AOC, but who are involved in a variety of recreational and other activities. The diversity of these activities is a function of the various business interests and occupations of those owners.

Range of flying activities

The activities of aircraft owners who do not hold an AOC can be divided into three main types: recreational flying, business flying and aircraft hire. Many non-commercial aircraft owners in 1992–93 used their aircraft for more than one of these activities. Table 4.1 shows the flying activities undertaken by activity group. For all non-commercial aircraft owners examined, 78 per cent were involved in recreation flying, 53 per cent in business flying, and 22 per cent in aircraft hire. Notably, recreation flying was undertaken by a majority of owners in all groups, with 61 per cent of those in the business activity group and 52 per cent of the hire group indicating their involvement in recreation flying in 1992–93.

Ownership of aircraft by non-commercial aircraft owners

The majority of these aircraft owners own their aircraft in a personal capacity. Sixty-one per cent of non-commercial aircraft owners are estimated to have been either single or joint personal owners in 1992–93 (see table 4.2). Personal ownership was highest in the recreation activity group with 59 per cent sole ownership and a further 24 per cent joint ownership. The business activity group had the lowest level of personal ownership (37 per cent). In cases where a business was identified as owning the aircraft, private companies accounted for 20 per cent of all owners, and ranged from 10 per cent in the recreation activity group to 31 per cent in the business activity group.

Occupation of non-commercial aircraft owners involved in recreational flying

Examination of the occupation of all non-commercial aircraft owners involved in recreational flying shows that 'farm manager' was the leading classification overall in 1992–93, accounting for an estimated 36 per cent. This perhaps reflects the level of usage of aircraft in rural and remote areas, and the consequent availability of aircraft for recreational use. Other common occupations are detailed in table 4.3. They included 'tradespersons' (11 per cent), 'other managers and administrators' (11 per cent), 'retired persons or persons with no occupation' (10 per cent), and 'salespersons and personal service workers' (5 per cent).

Of owners classified into the recreation activity group, 'farm managers' were still highest ranked, although with a lesser percentage (22 per cent)

TABLE 4.1 SHARE OF NON-COMMERCIAL AIRCRAFT OWNERS UNDERTAKING SPECIFIC FLYING ACTIVITIES, BY ACTIVITY GROUP, 1992–93

(per cent)

	Activity group			
Flying activity	*Recreation*	*Business*	*Hire*	*All aircraft owners*
Recreational flying	100	61	52	78
Business flying	20	100	25	53
Aircraft hire	11	16	100	22

Note Relative Standard Errors were not calculated.

Source BTCE survey estimates.

TABLE 4.2 NON-COMMERCIAL AIRCRAFT OWNERS: SHARES BY TYPE OF OWNER AND ACTIVITY GROUP, 1992–93

(per cent)

	Activity group			
Type of owner	*Recreation*	*Business*	*Hire*	*All aircraft owners*
One personal owner	59	27	44	44
Joint personal owners	24	10	18	17
Sole proprietor	4	8	–	5
Partnership	3	21	7	11
Private company	10	31	24	20
Public company	–	2	–	1
Non-govt charitable/welfare	–	–	7	1
Deceased trust	–	2	–	1
Total	100	100	100	100

– Nil (no owners in this activity group reported this type of ownership)

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

TABLE 4.3 OCCUPATION OF NON-COMMERCIAL AIRCRAFT OWNERS INVOLVED IN RECREATIONAL FLYING, BY ACTIVITY GROUP, 1992–93

(per cent)

	Activity group			
Occupation[a]	*Recreation*	*Business*	*Hire*	*All relevant aircraft owners*[b]
Managers and administrators				
Farm manager	22	59	14	36
Other	13	8	14	11
Professionals				
Building professionals and engineers	4	4	–	3
Health practitioners	1	8	–	4
Business professionals	2	6	–	3
Other	3	3	24	4
Para-professionals				
Air and sea transport technical workers	10	–	–	5
Other	3	–	–	2
Tradespersons				
Building tradespersons	6	5	–	5
Other	10	3	–	6
Salespersons and personal service workers	6	5	–	5
Plant and machine operators, drivers	3	–	12	3
Labourers and related workers	1	–	12	2
Retired or none	16	–	24	10
Total	100	100	100	100

– Nil (no owners in this activity group reported this occupation)

a. Based on Australian Standard Classification of Occupations (ABS 1991).

b. Involved in any recreational flying.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

than for all recreation flying participants. 'Tradespersons' (16 per cent), 'retired persons or persons with no occupation' (16 per cent), and 'air and sea transport technical workers' (10 per cent) were the other main occupations represented. 'Farm managers' were quite dominant in the business activity group, accounting for 59 per cent of that group. Other significant rankings were 'other managers and administrators', 'tradespersons', 'health practitioners', 'business professionals' and 'salespersons and personal service workers'.

Industry classification of non-commercial aircraft owners involved in business flying

Those non-commercial aircraft owners involved in business flying were asked to nominate the industry for which the business flying was conducted. For all owners involved, agriculture was the leading industry with an estimated 57 per cent of business flyers working in this industry (see table 4.4). The other main industry groups nominated were community services (8 per cent), property and business services (7 per cent), construction (6 per cent), wholesale and retail trade (6 per cent), and transport and storage (5 per cent).

When those operators whose predominant activity was business flying are examined (that is, those classified into the business activity group), a similar pattern emerges, although the proportions and rankings are slightly different. For the recreation activity group, proportions and rankings showed greater variation with agriculture accounting for 38 per cent, transport and storage 24 per cent and manufacturing 12 per cent, followed by construction, property and business services, and wholesale and retail trade.

AOC HOLDERS

Information was sought from AOC holders about their motivations for being in the industry, the way they conduct their businesses, their aviation background and their business experience. Some questions were restricted to AOC holders who were either sole proprietors, partnerships or private companies, and this is reflected in the results presented below. Organisations with different legal structures, such as government departments or public companies with large numbers of owners, were excluded where questions would have been irrelevant or excessively difficult to answer.

TABLE 4.4 MAIN INDUSTRY OF NON-COMMERCIAL AIRCRAFT OWNERS INVOLVED IN BUSINESS FLYING, BY ACTIVITY GROUP, 1992–93

(per cent)

	Activity group			
ASIC industry[a]	*Recreation*	*Business*	*Hire*	*All relevant aircraft owners*[b]
Agriculture, forestry, fishing and hunting				
Agriculture	38	64	26	57
Mining				
Services to mining	–	2	–	2
Manufacturing	12	2	–	3
Electricity and gas	–	2	–	1
Construction	10	6	–	6
Wholesale and retail trade	7	6	–	6
Transport and storage	24	–	26	5
Communications	–	2	–	2
Finance, property and business services				
Property and business services	9	7	–	7
Public administration and defence				
Public administration	–	2	–	1
Community services				
Health	–	6	–	5
Welfare and religious services	–	–	48	3
Recreation, personal and other services				
Entertainment and recreational services	–	2	–	2
Total	100	100	100	100

– Nil (no owners in this activity group reported this industry)

a. Based on Australian Standard Industrial Classification (ABS 1983).

b. Involved in any business flying.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

Legal structure

As shown in table 4.5, the majority of AOC holders is estimated to have been sole proprietorships, partnerships or small private companies in 1992–93.[1] Forty-nine per cent of all AOC holders were private companies, having only 2.4 owners on average. Sole proprietorships accounted for 14 per cent of AOC holders and partnerships (with an average of 2.1 owners) accounted for a further 14 per cent.

When examined by individual activity group, the proportions were often significantly different. The flying training, hire and mixed groups each had a higher proportion of incorporated associations, reflecting the presence of most recreational flying clubs in these activity groups. Aerial agriculture was the activity group most dominated by private companies,

TABLE 4.5 LEGAL STRUCTURE OF AOC HOLDERS, BY ACTIVITY GROUP, 1992–93

(per cent)

	Activity group							
Legal structure type	*Low capacity RPT*	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All AOC holders*[a]
Sole proprietor	–	18	19	11	9	22	6	14
Partnership	–	22	11	10	9	11	18	14
Private company	95	51	48	73	37	36	25	49
Company limited by guarantee	–	4	7	5	8	20	12	7
Incorporated association	–	3	13	–	9	11	33	7
Other recreational club	–	1	2	–	–	–	–	1
Public company	5	–	–	–	5	–	6	3
Government department	–	–	–	–	21	–	–	4
Other[b]	–	1	–	2	2	–	–	1
Total	100	100	100	100	100	100	100	100

– Nil (no operators in this activity group reported this legal structure)

a. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

b. Includes statutory body, non-government charitable and/or welfare organisation, trust, unincorporated association, and others not specified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

with 73 per cent of operators having this legal structure. A notable feature in the aerial work group is that 21 per cent consisted of government departments. The least diverse activity group was low capacity RPT, with some 95 per cent of operators being private companies, and the balance being public companies.

Age of organisation

The AOC holders survey asked 'In which year did this organisation commence GA activities?'[2] The results of this question are detailed by activity group and legal structure in table 4.6. The results of this question

TABLE 4.6 AVERAGE LENGTH OF BUSINESS OPERATION[a] FOR AOC HOLDERS, BY ACTIVITY GROUP AND LEGAL STRUCTURE, AS AT 30 JUNE 1993

(years)

	Activity group							
Legal structure type	*Low capacity RPT*	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All AOC holders[b]*
Sole proprietor	..	10	13	10	10	4**	16**	11
Partnership	..	8	8	18	14	12**	13*	10
Private company	21	10	13	16	9	9*	23*	13
Company limited by guarantee	..	6	33*	6	34	12	23*	19
Incorporated association	..	9*	21	..	32*	37**	27*	25
Public company	32	..	..	..	18	..	10**	14
Government department	..	..	..	..	17	..	..	18
Other[c]	..	32	9	9	17	..	..	20
All legal groups	21	10	15	15	16	12*	21	13

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

.. Not applicable (no operators in this activity group reported this legal structure)

a. Average length of business operation refers to the length of time the organisation has conducted GA activities. It does not necessarily reflect the period of involvement by the current owner(s).

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

c. Includes statutory body, non-government charitable and/or welfare organisation, trust, unincorporated association, and others not specified.

Source BTCE survey estimates.

are based on the activity group and legal status of respondents as at 30 June 1993. [3]

The average length of operation for all AOC holders was 13 years as at 30 June 1993, with individual organisations having been in business as long as 66 years. The averages for the various groups of operators varied from 4 years, for sole proprietors involved in hire activities, to 37 years for incorporated associations involved in hire activities.

The highest average among the legal groups was 25 years for incorporated associations, most likely due to the inclusion in this group of many recreational clubs, and community service organisations. The longevity of such non-profit organisations is probably a reflection of their legal status, which makes it unlikely that they would ever be sold, liquidated or otherwise cease operations, except in exceptional circumstances.

Among the activity groups, the longest average period of operation of 21 years was shared by the mixed group and the low capacity RPT group.

Low figures for any activity group suggest a high failure rate in that part of the industry, an influx of new operators, or a combination of both these factors.

Motivation of operators

AOC holders who were sole proprietors, partnerships or private companies were asked to nominate their motivations for having entered and remained in GA as a business. The results of these questions have been weighted to obtain estimates relating to the population of these three groups. However, it should be noted that these estimates, while applying to over 75 per cent of all AOC holders, do not necessarily reflect the views of AOC holders in general.

Reasons for entering GA

Respondents were asked 'What attracted the owners of this organisation to GA as a business?'[4] Of the following reasons, respondents were asked to select three and rank them in order of importance:

- Good commercial prospects

- Personal interest in aviation
- Taxation considerations
- Family business
- Other (please specify).

It is estimated that, of all those AOC holders with the relevant legal structure, 67 per cent had 'personal interest in aviation' as their primary motivation for entering GA (see table 4.7). When grouped according to activity group, 'personal interest in aviation' was also the most common primary motivation in every activity group. Overall for all relevant AOC holders, where 'personal interest in aviation' was the primary

TABLE 4.7 PRIMARY REASONS FOR STARTING A GA BUSINESS, BY ACTIVITY GROUP[a]

(per cent of first ranked responses)

	Activity group							
Primary reason	*Low capacity RPT*	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
Good commercial prospects	19	15	10	21	26	0	28	16
Personal interest in aviation	52	68	81	54	60	92	48	67
Taxation considerations	0	0	0	0	0	0	0	0
Family business	6	8	5	16	9	0	12	8
Lack of alternatives	0	1	2	0	0	0	12	1
Part of non-GA activity	0	3	0	6	3	8	0	3
Other[c]	23	5	3	3	2	0	0	4
Total	100	100	100	100	100	100	100	100

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

c. Includes club, own boss, way of life, and other reasons not specified or classified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

motivation, 49 per cent nominated commercial prospects as their second choice, while 29 per cent chose family business and 12 per cent, taxation considerations.

Of the estimated 33 per cent of all the relevant AOC holders where 'personal interest in aviation' was not their primary motivation for entering GA, the most common motivation was 'good commercial prospects'. By activity group, this was also the case, except for the hire group, for which 'part of non-GA activity' was the most frequently nominated primary motivation after 'personal interest in aviation'.[5]

Table 4.8 provides details of the distribution of primary reasons for entering GA, by legal structure. The most notable feature is that among the three legal structure groups examined, sole proprietors nominated 'personal interest in aviation' more frequently than other groups, and least often nominated 'good commercial prospects'. This suggests that sole proprietors were more likely to have been motivated to enter the GA industry by a personal interest in aviation than were either partnerships or private companies, although aviation interest was by far the dominant reason for all three groups.

TABLE 4.8 PRIMARY REASONS FOR STARTING A GA BUSINESS, BY LEGAL STRUCTURE[a]

(per cent of first ranked responses)

	Legal structure			
Primary reason	*Sole proprietor*	*Partnership*	*Private company*	*All relevant AOC holders*
Good commercial prospects	4	14	20	16
Personal interest in aviation	86	68	61	67
Taxation considerations	0	0	0	0
Family business	5	14	8	8
Lack of alternatives	2	0	1	1
Part of non-GA activity	2	2	4	3
Other[b]	1	1	5	4
Total	100	100	100	100

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes club, own boss, way of life, and other reasons not specified or classified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

Reasons for staying in GA

Respondents were also asked 'Why do the owner(s) of this organisation remain in GA as a business?'[6] Of the following reasons, respondents were asked to select three and rank them in order of importance:

- Good commercial gain
- Personal interest in aviation
- Taxation considerations
- Family business
- Unable to sell the business
- Lack of suitable alternative business prospects
- Other (please specify).

Once again, the predominant primary reason was 'personal interest in aviation', accounting for an estimated 54 per cent of all sole proprietors, partnerships and private companies. When these AOC holders were grouped according to activity group, aviation interest remained the most common primary motivation in every case (see table 4.9).

While still being the most common motivation in all activity groups, the percentage shares for 'personal interest in aviation' as a reason for *staying* in the GA industry are lower than they were in the preceding question regarding reasons for *entering* the GA industry.

Thirteen per cent of the relevant AOC holders are estimated to have 'good commercial gain' as their primary reason for staying in GA. Of particular interest, 'unable to sell the business' and 'lack of alternatives' together attracted 17 per cent of primary reasons. This suggests that some operators would have liked to leave the industry, but were not in a position to do so.[7]

The primary reasons for staying in GA, when examined by legal structure (see table 4.10), show a similar distribution to the reasons for entering GA. Sole proprietors were the group estimated to be most motivated by 'personal interest in aviation' (76 per cent), followed by partnerships (52 per cent) and then private companies (47 per cent). Sole proprietors were least motivated by 'good commercial prospects' (7 per cent), compared to 16 per cent and 11 per cent respectively for private companies and partnerships. Private companies had the highest estimated proportion (19 per cent) primarily motivated to remain in GA by 'unable to sell the business' or 'lack of alternatives'.

TABLE 4.9 PRIMARY REASONS FOR STAYING IN GA AS A BUSINESS, BY ACTIVITY GROUP[a]

(per cent of first ranked responses)

	Activity group							
Primary reason	*Low capacity RPT*	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
Good commercial gain	16	7	6	22	35	9	29	13
Personal interest in aviation	29	60	63	34	45	83	38	54
Taxation considerations	0	0	0	0	0	0	0	0
Family business	23	7	8	18	0	0	13	8
Unable to sell the business	16	9	10	5	9	0	13	9
Lack of alternatives	16	9	6	14	2	0	8	8
Part of non-GA activity	0	3	0	5	8	9	0	4
Other[c]	0	5	8	2	2	0	0	5
Total	100	100	100	100	100	100	100	100

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

c. Includes club, own boss, way of life and other reasons not specified or classified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

TABLE 4.10 PRIMARY REASONS FOR STAYING IN GA AS A BUSINESS, BY LEGAL STRUCTURE[a]

(per cent of first ranked responses)

	Legal structure			
Primary reason	*Sole proprietor*	*Partnership*	*Private company*	*All relevant AOC holders*
Good commercial gain	7	11	16	13
Personal interest in aviation	76	52	47	54
Taxation considerations	0	0	0	0
Family business	3	18	7	8
Unable to sell the business	9	6	9	9
Lack of alternatives	4	6	10	8
Part of non-GA activity	1	2	5	4
Other[b]	0	4	6	4
Total	100	100	100	100

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes club, own boss, way of life and other reasons not specified or classified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

Comparison of primary reasons for entering and staying in GA as a business

It is interesting to compare the reasons for AOC holders entering GA and their reasons for staying in GA. Table 4.11 shows the estimated distribution of where sole proprietors, partnerships and private companies nominated their primary motivations for both entering and leaving the industry. Not unexpectedly, the number of these AOC holders who nominated 'personal interest in aviation' as their first choice for both entering and staying in the GA industry exceeds all other combinations.

Of those who nominated their primary reason for entering GA as 'personal interest in aviation', 76 per cent also stated that this was their primary reason for staying in the industry. Seven per cent nominated 'good commercial gain', 7 per cent 'unable to sell' and 6 per cent, 'lack of suitable alternatives'.

TABLE 4.11 COMPARISON OF PRIMARY REASONS FOR STARTING AND FOR STAYING IN GA AS A BUSINESS[a]

(per cent of first ranked responses)

	Reason for entering GA					
Reason for staying in GA	*Good commercial prospects*	*Personal interest in aviation*	*Taxation consid-erations*	*Family business*	*Other[b]*	*Total (all relevant AOC holders)*
Good commercial gain	8	5	0	1	0	13
Personal interest in aviation	2	51	0	1	0	54
Taxation considerations	0	0	0	0	0	0
Family business	1	1	0	4	0	7
Unable to sell	1	5	0	0	2	9
Lack of alternatives	2	4	0	1	1	8
Other[c]	2	1	0	0	5	9
Total (all relevant AOC holders)	16	67	0	8	8	100

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes club, own boss, way of life, lack of alternatives, part of non-GA activity, and other reasons not specified or classified.

c. Includes club, own boss, way of life, part of non-GA activity, and other reasons not specified or classified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Relative Standard Errors were not calculated.

Source BTCE survey estimates.

Of those who nominated their primary reason for entering GA as 'good commercial prospects', 50 per cent indicated 'good commercial gain' as their primary reason for staying in the industry, 13 per cent 'lack of suitable alternatives', 13 per cent 'personal interest in aviation' and 6 per cent, 'unable to sell'.

Management of GA organisations

As the flying aspect of GA business is apparently an important motivator in the industry, it may affect the way in which GA operators allocate their time and energies in their businesses.

Several questions were asked regarding the flying and business background of owners of GA operations, and their involvement in both the flying and management aspects of their business.[8] Answers to these questions may indicate the amount of experience and thus expertise which GA operators are able to apply to both the management and aviation aspects of their businesses.

Flying involvement of owners of GA businesses

Fifty-seven per cent of all owners of sole proprietorships, partnerships and private companies in 1992–93 were pilots. This is shown in table 4.12, which details by activity group the average number of pilot and non-pilot owners per GA business.

Some 88 per cent of the GA businesses had at least one owner–pilot; some 84 per cent of the GA businesses had at least one owner–pilot who performed some flying hours in 1992–93. This reinforces the conclusion that 'personal interest in aviation' is an important motivator for those involved in GA businesses.

TABLE 4.12 NUMBER OF PILOT AND NON-PILOT OWNERS PER GA BUSINESS, BY ACTIVITY GROUP, 1992–93[a]

(group averages)

	Activity group							
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
Pilot owners	0.7	1.1	1.7	1.1	1.1	1.3*	1.4*	1.2
Non-pilot owners	0.6	0.8	0.9	1.1	0.8	0.8**	2.0**	0.9
Total owners	1.3	1.9	2.6	2.3	1.9	2.1**	3.4**	2.1
Pilots as a percentage of total owners	51	57	65	50	59	60**	42**	57

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

Source BTCE survey estimates.

Of those organisations which had at least one owner–pilot, their owner–pilot(s) performed an average 31 per cent of hours flown by all pilots in 1992–93 (see table 4.13). Considered by activity groups, owner–pilot(s) of low capacity RPT organisations flew the smallest average proportion of total pilot hours (just 6 per cent), while owner–pilots in the hire group flew the highest proportion (86 per cent). Table 4.13 also shows the average number of owner–pilots in these organisations, by activity groups.

As table 4.14 shows, owner–pilots performed an average of 270 flying hours in 1992–93, and had an average total flying experience of 5873 hours. This is a large amount of flying experience, and suggests that owner–pilots are very likely to possess considerable expertise in the flying aspects of their businesses. By activity group, the average total flying experience varied from 4259 hours for the hire group to 9256 for aerial agriculture operators.

Management involvement of owners of GA businesses

AOC holders who were sole proprietorships, partnerships and private companies were asked 'Is the manager of this organisation also an owner of this organisation?'[9]

An estimated 92 per cent of these GA businesses were managed by an owner, indicating a high level of involvement of owners in the day-to-day management tasks (see table 4.15). The proportion was high for all activity groups, ranging from 84 per cent for low capacity RPT operations to 100 per cent for the hire group.

It is interesting to note that 77 per cent of sole proprietors identified themselves as full-time pilots rather than full-time managers when asked to classify themselves by their main employment duty. This view by sole proprietors of their role correlates with the finding that this group was also more likely to have a primary motivation to remain in GA by a personal interest in aviation (76 per cent) than were all operators (54 per cent, see table 4.10), and less motivated by commercial gain (7 per cent) than all operators (13 per cent).

Previous business experience was also examined, with operators being asked if any owners had previously operated businesses, and if so, for how long. Overall, in those businesses where the manager was an owner, 59 per cent of businesses had owners with previous business experience. The individual activity groups show a range from 46 per cent for flying training to 94 per cent for hire operators (see table 4.15).

TABLE 4.13 OWNER–PILOT INVOLVEMENT IN FLYING PERFORMED BY GA BUSINESSES WITH AT LEAST ONE OWNER–PILOT, BY ACTIVITY GROUP, 1992–93[a]

(group averages)

	Activity group							
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
Owner–pilots share of hours per business[c]	6*	31	39*	48	31*	86*	20*	31
Number of owner–pilots per GA business	1.0	1.1	1.8	1.3	1.4	1.3	1.6	1.3

* Relative Standard Error >0.25 and ≤0.50

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies who had at least one owner–pilot.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

c. Share of total pilot hours flown.

Source BTCE survey estimates.

TABLE 4.14 AVERAGE FLYING PERFORMED PER OWNER–PILOT, BY ACTIVITY GROUP, 1992–93[a]

(hours)

	Activity group							
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
In 1992–93	340*	202	400*	279	272	107*	202*	270
Total flying experience	6 005*	5 083	4 645	9 256	6 820*	4 259*	7 881*	5 873

* Relative Standard Error >0.25 and ≤0.50

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies who had at least one owner–pilot.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

Source BTCE survey estimates.

TABLE 4.15 MANAGEMENT OF GA BUSINESSES BY OWNERS, BY ACTIVITY GROUP, 1992–93[a]

(per cent)

	Activity group							
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders*[b]
Manager is an owner	84	93	98	90	85	100	88	92
Owner(s) have previous business experience[c]	78	60	46	52	56	94	43	59

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies only.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

c. Percentage of specified GA businesses (whose manager is an owner), where at least one of the owners has previous business experience.

Note Relative Standard Errors were not calculated.

Source BTCE survey estimates.

Table 4.16 shows the amount of previous business experience of owners where there is an owner–manager and any of the owners had previous business experience. In such businesses, the previous business experience of *all owners* combined averaged 23 years per business across all activity groups, and the experience of *each owner* averaged 10 years. This previous experience includes all business experience whether GA or non-GA related.

Pricing behaviour in GA

The BTCE GA survey did not request price data. GA services are diverse, as are the aircraft types which may be used to perform them. As a result, prices for services may vary considerably, and additionally, may not be determined until the flying activity is requested by a potential customer. For example, it is meaningless to ask 'How much do you charge for passenger charter services?', when the answer depends on a range of factors including where the customer wishes to go, how many people are in the group, and when they wish to fly. The BTCE GA survey therefore requested that respondents identify the principles they used to set their prices.[10]

TABLE 4.16 AVERAGE PREVIOUS BUSINESS EXPERIENCE OF OWNERS OF GA BUSINESSES WITH AN OWNER–MANAGER, BY ACTIVITY GROUP, AS AT 30 JUNE 1993[a]

(years)

	Activity group							
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
Previous experience of all owners	16	21	18	23	25*	24*	62*	23
Previous experience of each owner	11	11	6	10	11*	11*	11*	10

* Relative Standard Error >0.25 and ≤0.50

a. Weighted estimates based on survey responses from sole proprietors, partnerships, and private companies where the manager was an owner, and any of the owners had previous business experience.

b. Includes all specified groups plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

Source BTCE survey estimates.

Pricing policies of GA services

Responses to the BTCE survey by AOC holders revealed that it is common for operators to use different pricing policies for different activities performed. For example, a charter operator may use cost plus mark-up for charter services, but set flying training prices to match competitors at the same airport.

The most common pricing policies overall were (as shown in table 4.17):

- cost plus markup (adopted by 34 per cent of all AOC holders);
- what the market will bear (34 per cent);
- prices set at or below competitors prices (31 per cent); and
- negotiation (22 per cent).

Although the survey data did not indicate any large differences in the preferred pricing policies used by the various activity groups, there were some differences, as table 4.17 shows.[11] The most common pricing policy in low capacity RPT, charter and aerial agriculture groups was what the

TABLE 4.17 PRICING POLICIES NOMINATED BY AOC HOLDERS, BY ACTIVITY GROUP, 1992–93[a]

(per cent)

	Activity group							
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agri-culture*	*Aerial work*	*Hire*	*Mixed*	*All relevant AOC holders[b]*
What the market will bear	56	37	33	40	22	23	24	34
Price at or below competitors' prices	49	35	29	31	21	47	34	31
Cost plus markup	37	31	41	27	29	49	58	34
Decided by negotiation	24	28	13	32	17	23	12	22
Cost recovery	0	7	17	4	23	26	14	12
Other[c]	0	3	1	6	2	0	6	3
Not applicable	0	0	0	0	12	0	0	3

a. Operators could nominate one or more policies.

b. Includes all AOC holders plus non-commercial operators and operators that provided insufficient information to allow allocation to an activity group.

c. Includes 'cost recovery based on load factor', and 'experience'.

Note Unweighted survey responses.

Source BTCE survey estimates.

market would bear. In each of the other activity groups most operators indicated the use of the cost plus markup pricing policy. The use of cost recovery was used only by a significant number of operators in the aerial work and hire activity groups.

More detail is revealed when pricing policies for the different flying *activities* are examined. As table 4.18 shows, for community service flying, over a third of responses were either 'cost-recovery' or 'not applicable', reflecting the significant proportion of non-revenue activities (such as business flying), charitable or government-funded services, or cost-recovered activity such as search-and-rescue flying among the respondents. Community service and other aerial work both included a broad range of pricing policies, perhaps reflecting the diverse nature of activities which are included in these categories.

TABLE 4.18 PRICING POLICIES NOMINATED BY AOC HOLDERS, BY FLYING ACTIVITY, 1992–93[a]

(per cent)

	Flying activity						
	Low capacity RPT	*Charter*	*Flying training*	*Aerial agriculture*	*Community service[b]*	*Other aerial work[c]*	*Hire*
What the market will bear	40	26	20	24	10	19	13
At or below competitors' prices	35	23	27	26	12	17	27
Cost plus markup	21	31	35	22	26	28	35
Negotiation	4	13	7	25	11	18	10
Cost recovery	0	5	10	2	17	12	14
Other[d]	0	1	1	1	4	1	0
Not applicable	0	0	0	0	20	4	0
Total	100	100	100	100	100	100	100

a. Operators could nominate one or more policies for any individual flying activity.

b. Includes community service flying such as police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance, disaster assistance, etc.

c. Includes flying such as aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting, etc.

d. Includes 'cost recovery based on load factor', 'experience' and other unspecified.

Notes 1. Percentages may not add to 100 due to rounding.

2. Unweighted survey responses.

Source BTCE survey estimates.

All types of flying activity had several different pricing policies, many with no particularly dominant policy. A 'cost plus markup' pricing policy was most common in flying training and aircraft hire, attracting 35 per cent of responses in both activity groups. Low capacity RPT flying showed the least diversity, with all responses falling within only four of the seven pricing categories, and being dominated by 'what the market will bear' with 40 per cent of responses, and 'at or below competitors' prices' with 35 per cent.

FINDINGS OF PREVIOUS BTE STUDY

The Bureau of Transport Economics study (BTE 1981) included a largely theoretical discussion of likely motivational factors, and was not based on any survey data. As such, there are no 'findings' of that study to compare with the results of the BTCE surveys.

The BTE discussed the relative importance of various motivational forces in relation to various types of GA operations:

- commercial gain;
- community interest;
- 'way of life';
- recreation; and
- tax avoidance.

The BTE suggested that commercial operations and operations which are part of non-GA business activities would be most likely motivated by commercial gain. Government, quasi-government or charitable organisations, on the other hand, may be more likely to be motivated by community interest, but would still attempt to minimise the cost of providing services.

The BTE suggested that when the 'way of life' motivation operated in tandem with the profit motivation,

> the operator could be expected to be prepared to accept a lower rate of return on capital and own labour input simply to be able to stay in the industry. An operator with a 'way of life' motivation will, when the industry is facing an excess supply, remain as the price for services falls while operators who are commercially motivated are driven out of the industry. Operators with a high degree of 'way of life' motivation may also tend to concentrate their own time in actual flying, aircraft maintenance and new aircraft evaluation at the expense of management. This may lead to poor financial performance and make poor observed financial performance an endemic phenomenon in general aviation. (BTE 1981, p. 190)

The financial performance of operators in 1992–93, as estimated from the BTCE GA survey, is discussed in the next chapter.

NOTES

1. Question 9 of the BTCE GA survey of AOC holders (reproduced at p. 191 of appendix I) asked 'What is the legal status of this organisation?'
2. Question 4 of the BTCE GA survey of AOC holders (reproduced at p. 189 of appendix I).
3. It is possible that respondent organisations may have had a different legal structure or predominant flying activity during their operational history, but this information is not available.
4. Question 13 of the BTCE GA survey of AOC holders (reproduced at p. 192 of appendix I).
5. Respondents who did not rank their choices, but simply ticked them, are not included in table 4.7. When these responses are included and all responses weighted and analysed on the basis of the estimated number of times an option was selected, regardless of ranking, 'personal interest in aviation' remained the most frequently chosen motivation, both overall (41 per cent) and within each activity group. 'Good commercial prospects' remains the second most frequently chosen motivation overall (23 per cent) and in every activity group except flying training, where 'family business' is second, and the hire group, where 'taxation considerations' is second.
6. Question 14 of the BTCE GA survey of AOC holders (reproduced at p. 192 of appendix I).
7. When all responses, including those who ticked their choices are included, the most selected reasons overall were 'personal interest in aviation' (34 per cent), 'family business' (15 per cent), 'good commercial gain' (14 per cent). 'Unable to sell the business' and 'lack of alternatives' together were selected by 23 per cent of the relevant AOC holders.
8. For sole proprietors, partnerships and private companies only.
9. Question 11 of the BTCE GA survey of AOC holders (reproduced at p. 191 of appendix I).
10. Question 22 of the BTCE GA survey of AOC holders (reproduced at p. 199 of appendix I).
11. Unweighted survey responses only.

CHAPTER 5 FINANCIAL STRUCTURE AND PERFORMANCE

The BTCE survey of GA requested information about the financial position of both non-commercial aircraft owners and AOC holders. A detailed snapshot of the financial position of GA in 1992–93, based on the data collected, is presented in this chapter. The concept of financial performance is more relevant to commercial GA activity than to GA where the purpose of the flying activity is either recreational or an input into another activity, as in the case of business flying. Consequently, this chapter focuses primarily on the AOC holders[1] rather than the non-commercial aircraft owners surveyed by the BTCE. However, for the non-commercial aircraft owners the costs associated with such activity and any offsetting incomes that owners may derive from their aircraft are examined.

FINANCIAL STRUCTURE OF NON-COMMERCIAL AIRCRAFT OWNERS

The BTCE survey of non-commercial aircraft owners requested information about flying expenses incurred and any income earned from owned aircraft.[2] Current market value of aircraft was also requested.[3] The response rates to the financial questions and particular items within those questions were lower than the overall survey response rate. On average the financial questions had a 52 per cent response rate compared to an overall survey response rate of 67 per cent (refer to appendix II for further details).

The survey responses were analysed by activity group (recreation, business and hire) and for all non-commercial aircraft owners, as defined in chapter 2. Estimates are presented in this chapter for the average aircraft owner, the median aircraft owner and the population of non-commercial aircraft owners.

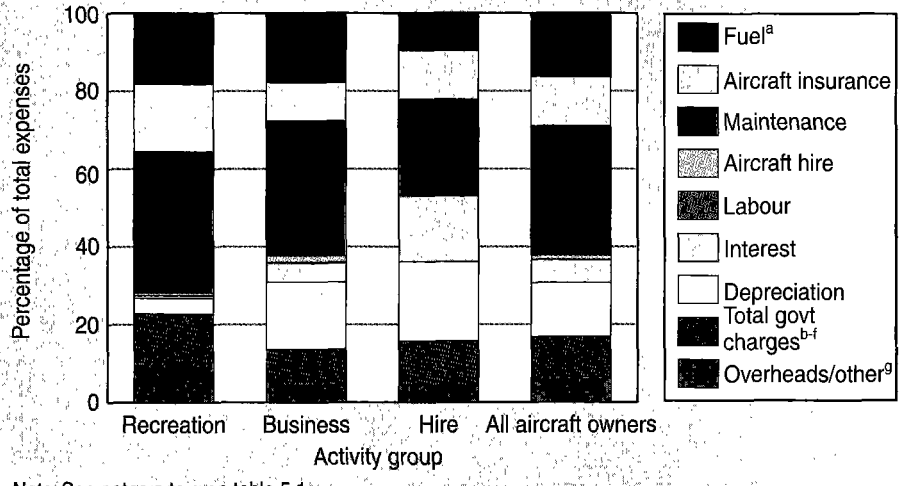
Flying expenses

The main expense categories for the average aircraft owner in each of the activity groups are presented for 1992–93 in table 5.1.

Maintenance expenses accounted for the largest share of expenses, between 25 and 36 per cent of average total expenses, depending on activity group. Depreciation was the lowest for the recreation group. It would be expected that non-commercial aircraft owners would only record depreciation of their aircraft if they were able to claim a tax deduction for such depreciation. This would depend on the extent to which owners in the recreation group also used their aircraft for activities, such as business flying or hiring out the aircraft, that may attract taxation benefits in certain circumstances. Government charges represented between 8 per cent and 12 per cent of average total expenses (see figure 5.1).

In aggregate terms, the population of non-commercial aircraft owners is estimated to have had flying expenses of almost $87 million in 1992–93. Those owners classified in the recreation activity group accounted for just over 30 per cent of this total, with the business group and hire group accounting for 51 per cent and 19 per cent respectively.

FIGURE 5.1 NON-COMMERCIAL AIRCRAFT OWNERS: EXPENSE ITEMS AS PERCENTAGES OF AVERAGE TOTAL EXPENSES, BY ACTIVITY GROUP, 1992–93



Note See notes a to g on table 5.1.

Source BTCE survey estimates.

BTCE

TABLE 5.1 NON-COMMERCIAL AIRCRAFT OWNERS: EXPENSES, BY ACTIVITY GROUP, 1992–93

(dollars)

	Activity group			
Expense item	*Recreation*	*Business*	*Hire*	*All owners*
Averages				
Fuel[a]	1 898**	3 637**	2 597*	2 681**
Aircraft insurance	1 816	2 008	3 395*	2 062
Maintenance	3 768	7 015	6 676*	5 420
Aircraft hire	70**	349**	20**	179**
Labour	0+	35**	0+	14**
Interest	75**	990**	4 575**	962*
Depreciation	418**	3 502**	5 517*	2 271*
Government charges				
Fuel excise[b]	569**	1 209**	882*	872**
FAC charges[c]	238**	255**	1 945**	441**
CAA charges[d]	123**	125*	106**	119*
Local govt charges[e]	325**	69**	121**	192**
Other govt charges[f]	33	37	31**	34
Total govt charges	1 289*	1 695	3 085**	1 658*
Overheads/other[g]	1 078**	1 065**	1 153**	1 074*
Total expenses	10 411	20 295	27 019*	16 321
Median[h]				
Total expenses	6 502	14 372	23 237**	10 323
Population total[i]				
Aggregate expenses	26 418 378	43 981 306	16 150 988*	86 550 671

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Excludes fuel excise.

b. Includes excise on avgas, avtur and mogas.

c. Includes FAC General Aviation Infrastructure Tariff, FAC landing charges, FAC parking charges, FAC rental.

d. Includes terminal navigation, rescue and fire fighting, en route and meteorological service charges.

e. Includes fixed annual charges, landing charges and rental, as levied by both local government and private airport authorities. It was not possible to identify separately charges levied by type of authority.

f. Includes radio licence fees.

Continued on next page

g. Includes payments to other organisations for flying training, rental of hangars other than from airport authorities and other GA-related overheads.

h. Median expenses is an estimate of that level of expenses above which half the population of owners has higher expenses and below which half has lower expenses.

i. The population total for a particular activity group is an estimate of aggregate expenses incurred by all owners in that activity group.

Note Individual numbers may not add to totals due to rounding.

Source BTCE survey estimates.

Income

Some non-commercial aircraft owners earn income, from activities such as hiring out their aircraft, which offsets some of the costs of flying. Table 5.2 provides estimates of this income for 1992–93.

TABLE 5.2 NON-COMMERCIAL AIRCRAFT OWNERS: INCOME, BY ACTIVITY GROUP, 1992–93

(dollars)

	Activity group			
Income item	*Recreation*	*Business*	*Hire*	*All owners*
Averages				
Hire of aircraft to private fliers	63*	210**	4 841*	662*
Hire of aircraft to commercial operators	356**	12**	12 325*	1 565*
Other[a]	–118**	1 198**	119**	447**
Total income	301**	1 420**	17 285**	2 674**
Median[b]				
Total income	0+	0+	9 483*	0+
Population total[c]				
Aggregate expenses	764 979**	3 077 880**	10 332 628**	14 175 486**

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Includes cost sharing arrangements, profit/loss on sale of owned aircraft or parts.

b. Median income is an estimate of that income above which half the population of owners has higher income and below which half has lower income.

c. The population total for a particular activity group is an estimate of aggregate income earned by all owners in that activity group.

Note Individual numbers may not add to totals due to rounding.

Source BTCE survey estimates.

Average income represented between 3 per cent of total costs for recreational fliers who own aircraft and 64 per cent of total costs for owners who mainly hire out their aircraft. However, as median incomes suggest, most owners did not earn income from their aircraft.

In aggregate terms, the population of non-commercial aircraft owners is estimated to have had total income of over $14 million in 1992–93. Those owners in the hire activity group, as would be expected, accounted for the majority of this income (73 per cent), with the business group and recreation group accounting for 22 per cent and 5 per cent respectively.

Market value of owned aircraft fleets

Another aspect of the financial structure of non-commercial aircraft owners is the market value of the aircraft fleet they own. A summary of the average, median and total value of this owned fleet[4] is presented in table 5.3.

TABLE 5.3 CURRENT[a] MARKET VALUE OF AIRCRAFT FLEETS OWNED BY NON-COMMERCIAL AIRCRAFT OWNERS, BY ACTIVITY GROUP

(1994 dollars)

	Activity group			
Aircraft fleet value	*Recreation*	*Business*	*Hire*	*All owners*
Average				
Owned fleet value[b]	63 105	126 539	83 141*	91 279
Median[c]				
Owned fleet value[b]	41 000	65 000	70 000	50 000
Population total[d]				
Aggregate fleet value	159 820 530	273 939 290	49 733 910*	483 492 720

* Relative Standard Error >0.25 and ≤0.50

a. Current market value is in 1994 dollar terms as survey was administered in 1994.

b. These estimates of *fleet* values differ from the estimates of average/median *aircraft* values reported in tables 2.31 and 2.32.

c. Median fleet value is an estimate of that fleet value above which half the population of owners has a higher fleet value and below which half has a lower fleet value.

d. The population total for a particular activity group is an estimate of aggregate value of the aircraft owned by all owners in that activity group.

Note Individual numbers may not add to totals due to rounding.

Source BTCE survey estimates.

The market value of the fleet of the average aircraft owner in the business activity group was the highest of the three activity groups. This would be expected as this group includes corporate jets and aircraft used by businesses on a full-time basis as an input into their non-aviation business activities. The highest median fleet value was for the hire activity group.

In aggregate terms, the value of the aircraft fleet owned by the group defined here as 'non-commercial aircraft owners' is estimated to have been around $483 million in 1994. The fleet owned by the business activity group accounts for the majority of this value (57 per cent).

FINANCIAL STRUCTURE AND PERFORMANCE OF AOC HOLDERS

The BTCE survey of AOC holders requested profit and loss statement and balance sheet information.[5] The response rates to the financial questions and particular items within those questions were lower than the overall survey response rate. The average response rate for the financial questions was around 26 per cent compared to the overall survey response rate of 43 per cent (see appendix II). Again, this was not unexpected given the commercially sensitive nature of the information sought. However, considerable effort was taken to impute financial information where respondents had not answered all or part of the financial questions. The steps taken to improve the accuracy of the financial results are discussed in appendix II. Despite this, the financial information presented below comprises estimates of varying statistical significance that may vary from actual population values.

The survey responses were analysed by activity group and alternatively by operated fleet size group (as defined in chapter 2) and weighted up to reflect the population of operators in each of these groups. Estimates are presented for the average operator, the median operator and the population of operators.

Financial position by activity group

For the purposes of analysing industry sectors, or what will be referred to as activity groups, operators were grouped according to their dominant activity (defined as the activity which contributed at least 60 per cent of their income[6]). The groups[7] used were: charter, flying

training, aerial agriculture, aerial work, hire, mixed and 'all commercial GA groups'.[8]

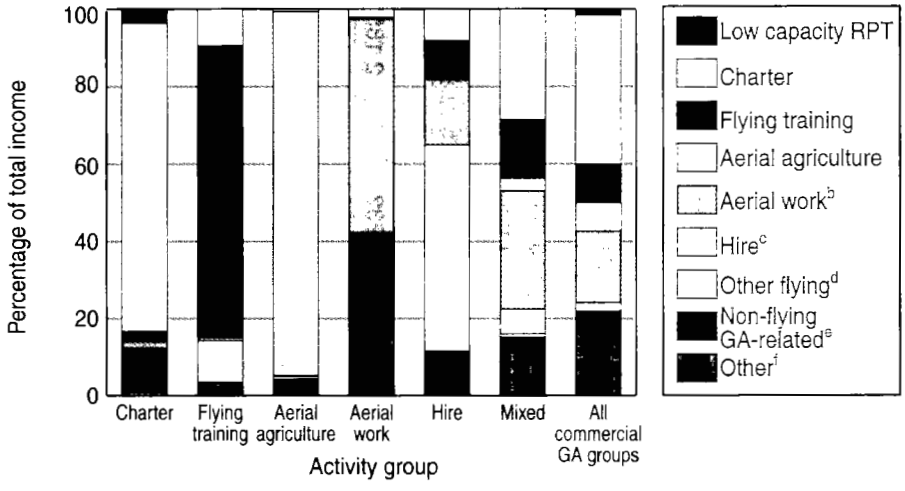
Income

Estimates of average commercial operator income by activity group for 1992–93 are presented in table 5.4. The highest average and median total income per year was earned by the aerial work group, while the hire group yielded the lowest. Average income for all commercial GA groups was $556 152, and median income was $157 057 in 1992–93.

In terms of sources of income, the aerial agriculture group was the most specialised on average, with 94 per cent of total income for this group being earned from aerial agriculture hours. As would be expected, the mixed group had the most diverse income sources (see figure 5.2).

In aggregate terms, commercial GA operators are estimated to have earned over $544 million in 1992–93. The largest contributions to this total were those of the charter group (41 per cent) and the aerial work group (32 per cent).

FIGURE 5.2 ALL COMMERCIAL GA OPERATORS: INCOME ITEMS AS PERCENTAGES OF AVERAGE TOTAL INCOME, BY ACTIVITY GROUP, 1992–93



Note See notes b to f on table 5.4.

Source BTCE survey estimates.

BTCE

TABLE 5.4 ALL COMMERCIAL GA OPERATORS: INCOME, BY ACTIVITY GROUP, 1992–93

(dollars)

	Activity group						
Income item	*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups*[a]
Averages							
Low capacity RPT	21 507	0	0	0	0	0	8 664**
Charter	477 906	28 736	2 073	20 316	16 624	136 290	214 362
Flying training	15 326	229 316	0	3 520	19 566	72 549	54 779
Aerial agriculture	1 008	0	331 492	680	878	16 013	41 384
Aerial work[b]	9 574	2 121	839	522 469	34 283	146 082	102 411**
Hire[c]	2 320	32 891	654	3 045	108 416	31 052	12 570**
Other flying[d]	121	803	1 941	0	168	3 958	1 339**
Non-flying GA-related[e]	67 232	2 185	11 563	5 135	10 860	17 496	30 087**
Other[f]	4 502	7 471	3 660	392 697	12 441	55 273	90 555
Total income	599 496*	303 523	352 222	947 862	203 236*	478 713*	556 152
Median[g]							
Total income	102 907*	156 432	204 828	213 088	35 082**	207 995*	157 057
Population total[h]							
Aggregate income	223 709 353*	49 268 549	44 743 367	176 196 020	9 209 096**	24 088 262*	544 473 289

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

Continued on next page

a. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

b. Includes income from aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting, community service flying (such as police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance and disaster assistance), etc.

c. Includes income from hiring out of aircraft to other commercial operators and hiring out of aircraft for private flying.

d. Includes income from provision of pilots/crew, winch launching of gliders and other unspecified flying income.

e. Includes gross profit from GA maintenance/engineering for others, sale of aircraft and parts as a dealer, airshows, membership fees/subscriptions, ground school income, fuel concession income, etc.

f. Includes net profit/loss on sale of non-current assets, interest income, rent, gross profit from bar/accommodation, government grants, donations, sponsorship, etc.

g. Median income is an estimate of that income above which half the population of operators has higher income and below which half has lower income.

h. The population total for a particular activity group is an estimate of aggregate income earned by all operators in that activity group.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Relative Standard Errors are only reported for average and median total income estimates, population total aggregate income estimates, and all estimates for 'all commercial GA groups'. In general the relative standard errors for the estimates for the subcategories are higher.

Source BTCE survey estimates.

Expenses

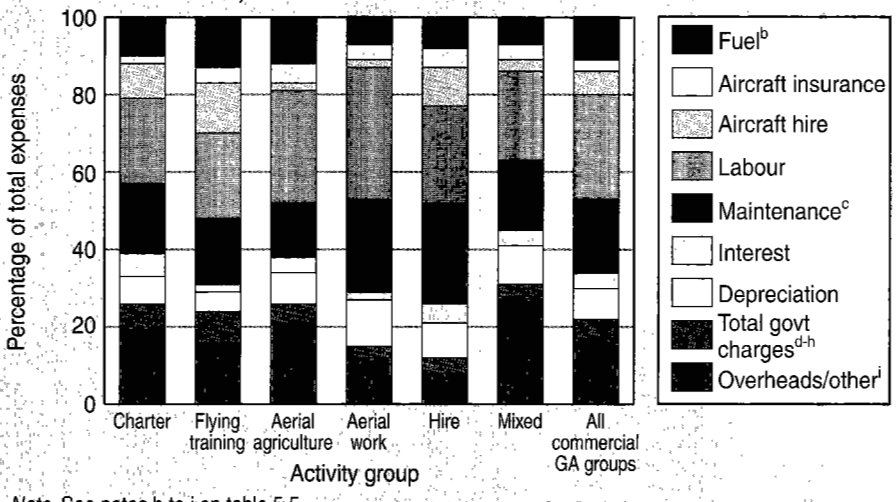
Estimates of the main expense categories for operators in each of the activity groups are presented for 1992–93 in table 5.5.

The aerial work group had the highest average and median total expenses in 1992–93, while the hire group had the lowest. Average total expenses for all commercial GA groups was $572 029 and median total expenses was $158 037.

The largest expense category for most activity groups was labour, representing between 22 and 34 per cent of average total expenses. The next most significant expense category for most activity groups was maintenance, ranging from 14 to 26 per cent of average total expenses. Total government charges accounted for between 3 and 8 per cent of average total expenses (see figure 5.3).

In aggregate terms, commercial GA operators are estimated to have incurred expenses of over $560 million in 1992–93. Again the charter and aerial work groups dominated this total with shares of 41 per cent and 31 per cent, respectively.

FIGURE 5.3 ALL COMMERCIAL GA OPERATORS: EXPENSE ITEMS AS PERCENTAGES OF AVERAGE TOTAL EXPENSES, BY ACTIVITY GROUP, 1992–93



Note See notes b to i on table 5.5.

Source BTCE survey estimates.

BTCE

TABLE 5.5 ALL COMMERCIAL GA OPERATORS: EXPENSES, BY ACTIVITY GROUP, 1992–93

(dollars)

Expense item	*Activity group*						
	Charter	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups*[a]
Averages							
Fuel[b]	62 570	39 258	44 024	75 558	14 927	50 060	56 414
Aircraft insurance	14 646	11 163	19 262	38 401	10 268	31 430	19 145
Aircraft hire	52 351	39 170	6 804	16 567	19 064	24 430	35 059
Labour	136 947	68 266	107 164	312 120	48 086	169 113	152 422
Maintenance[c]	110 040	53 024	50 769	220 974	48 291	133 039	111 049
Interest	35 026	6 939	14 744	14 361	8 870	27 843	21 605
Depreciation	40 181	13 728	29 958	107 842	17 937	73 872	47 679
Government charges							
Fuel excise[d]	7 971	13 161	12 439	6 353	4 286	10 519	8 915**
FAC charges[e]	6 424	6 593	1 123	12 332	1 603	12 733	6 863**
CAA charges[f]	18 012	2 670	991	8 839	706	844	9 743*
Local govt charges[g]	5 690	1 462	2 422	1 875	331	463	3 220*
Other govt charges[h]	448	140	908	280	129	181	337*
Total govt charges	38 546	24 027	17 884	29 679	7 055	24 740	29 076
Overheads/other[i]	122 815	48 692	76 556	108 278	14 771	203 149	99 580*
Total expenses	613 120*	304 266	367 164	923 779*	189 270	737 676*	572 029
Median[j]							
Total expenses	114 985	165 432*	188 034	331 089*	67 623*	165 909**	158 037
Population total[k]							
Aggregate expenses	228 793 091	49 389 079*	46 641 542	171 719 393*	8 576 226*	37 118 962**	560 016 280

Continued on next page

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

b. Excludes fuel excise.

c. Excludes wages and salaries paid to maintenance staff directly employed by the commercial operator. These expenses are included under labour.

d. Includes excise on avgas, avtur and mogas.

e. Includes FAC General Aviation Infrastructure Tariff, FAC landing charges, FAC parking charges, FAC rental.

f. Includes terminal navigation, rescue and fire fighting, en route and meteorological service charges.

g. Includes fixed annual charges, landing charges and rental, as levied by both local government and private airport authorities. It was not possible to identify separately charges levied by type of authority.

h. Includes radio licence fees.

i. Includes advertising, payments to other organisations for flying training, rental of hangars/office space other than from airport authorities, association fees, other overheads and other unspecified expenses.

j. Median expenses is an estimate of that level of expenses above which half the population of operators has higher expenses and below which half has lower expenses.

k. The population total for a particular activity group is an estimate of aggregate expenses incurred by all operators in that activity group.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Relative Standard Errors are only reported for average and median total expense estimates, population total aggregate expense estimates, and all estimates for 'all commercial GA groups'. In general the relative standard errors for the estimates for the subcategories are higher.

Source BTCE survey estimates.

Profit

Estimates of average profit before tax[9] for each of the activity groups for 1992–93 are presented in table 5.6.

In 1992–93, the overall average profit position for GA was a loss of almost $16 000. The position varied widely by activity group, from an average loss before tax of almost $259 000 for the mixed group to an average profit before tax of over $24 000 for the aerial work group. It is emphasised that these are estimates based on survey results and that the actual population averages may vary. In particular the high relative standard error for the profit estimate for the mixed group should be noted.

Commercial GA operators are estimated to have made an aggregate loss of over $15.5 million in 1992–93. The mixed group and the charter group were the largest contributors to this loss. However, the caveat regarding the accuracy of the mixed group estimate is again noted.

TABLE 5.6 ALL COMMERCIAL GA OPERATORS: PROFIT BEFORE TAX, BY ACTIVITY GROUP, 1992–93

(dollars)

Activity group	*Average*	*Population total*[a]
Charter	–13 624*	–5 083 738*
Flying training	–743	–120 530
Aerial agriculture	–14 942	–1 898 175
Aerial work	24 083*	4 476 627*
Hire	13 966*	632 870*
Mixed	–258 963**	–13 030 700**
All commercial GA groups[b]	–15 877	–15 542 991

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. The population total for a particular activity group is an estimate of aggregate profit before tax earned by all operators in that activity group.

b. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

Source BTCE survey estimates.

Balance sheet position

The average balance sheet position for each of the activity groups for 1992–93 is presented in table 5.7.

In 1992–93, it is estimated that the average operator in the aerial work group had the highest level of total assets. The lowest level of total assets was held by the average operator in the hire group. The mixed group is estimated to have had the highest level of average total liabilities and the hire group the lowest. In terms of equity, the aerial work group had the highest total equity on average and the flying training group the lowest. In general, aircraft assets dominated total assets while current liabilities were the major component of total liabilities.

The averages for all commercial GA groups were $710 209 for total assets, $361 445 for total liabilities and $348 764 for total equity. The medians for all commercial GA groups were substantially lower at $151 054 (total assets), $56 113 (total liabilities) and $67 505 (total equity).

In aggregate terms, commercial GA operators are estimated to have had total assets valued at over $695 million in 1992–93, with total liabilities of almost $354 million and total equity of over $341 million.

Financial position by operated fleet size group

An alternative way of looking at the financial position of commercial GA operators is to group them by operated fleet size. Ideally financial position could be examined by activity group and operated fleet size group jointly, which would enable differences in financial position attributable to both activity and operated fleet size to be analysed. However, insufficient data were available for this to be done with sufficient statistical confidence. Operated fleet size has therefore been examined independently of activity group.

For the purposes of analysis of operated fleet size, operators were grouped according to the number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire). The operated fleet size groups[10] used were: zero operated (no owned or on-line aircraft), single operated (1 aircraft), small operated (2–5 aircraft), medium operated (6–10 aircraft), large operated (11–15 aircraft), and very large operated (16+ aircraft).

TABLE 5.7 ALL COMMERCIAL GA OPERATORS: BALANCE SHEET POSITION, BY ACTIVITY GROUP, AS AT 30 JUNE 1993

(dollars)

	Activity group						
Balance sheet item	*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups*[a]
Averages							
Assets							
Current assets	224 339	73 460	167 308	358 936	48 956	168 480	204 178
Non-current assets							
Aircraft	344 931	159 297	214 982	784 841	143 084	653 676	402 918
Other non-current assets	127 287	8 884	48 950	241 241	36 092	171 266	103 112
Total non-current assets	472 218	168 181	263 932	1 026 082	179 176	824 942	506 031
Total assets	696 557*	241 641	431 240	1 385 018	228 132**	993 422**	710 209
Liabilities							
Current liabilities	246 139	52 876	131 045	281 888	22 442	343 797	199 196
Non-current liabilities							
Aircraft debt	138 914	47 381	81 861	103 653	36 574	173 973	109 801
Other long-term debt	94 136	6 065	33 839	59 268	31 499	27 132	52 448
Total non-current liabilities	233 050	53 446	115 700	162 921	68 073	201 105	162 249
Total liabilities	479 189*	106 322	246 745	444 809	90 515*	544 902**	361 445
Equity							
Total equity	217 368*	135 319	184 495	940 209	137 617**	448 520**	348 764

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TABLE 5.7 ALL COMMERCIAL GA OPERATORS: BALANCE SHEET POSITION, BY ACTIVITY GROUP, AS AT 30 JUNE 1993 (continued)

(dollars)

	Activity group						
Balance sheet item	*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups*[a]
Median[b]							
Total assets	121 166*	121 109	184 297	428 411	126 420	428 053**	151 054
Total liabilities	74 375*	28 955**	79 762*	36 676**	55 067**	18 517**	56 113
Total equity	37 255*	58 082*	65 792**	300 111*	69 446	417 479**	67 505
Population total[c]							
Aggregate assets	259 815 761*	39 387 483	54 767 480	257 613 348	10 265 940**	49 671 100**	695 294 611
Aggregate liabilities	178 737 497*	17 330 486	31 336 615	82 734 474	4 073 175*	27 245 100**	353 854 655
Aggregate equity	81 078 264*	22 056 997	23 430 865	174 878 874	6 192 765**	22 426 000**	341 439 956

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

b. Medians are an estimate of that level of the variable above which half the population of operators has a higher value of the variable and below which half has a lower level of the variable.

c. The population total estimate for a variable for a particular activity group is an estimate of the variable aggregated across all operators in that activity group.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Relative Standard Errors are only reported for average and median total assets, total liabilities and total equity estimates, population total aggregate estimates and all estimates for 'all commercial GA groups'. In general the relative standard errors for the estimates for the subcategories are higher.

Source BTCE survey estimates.

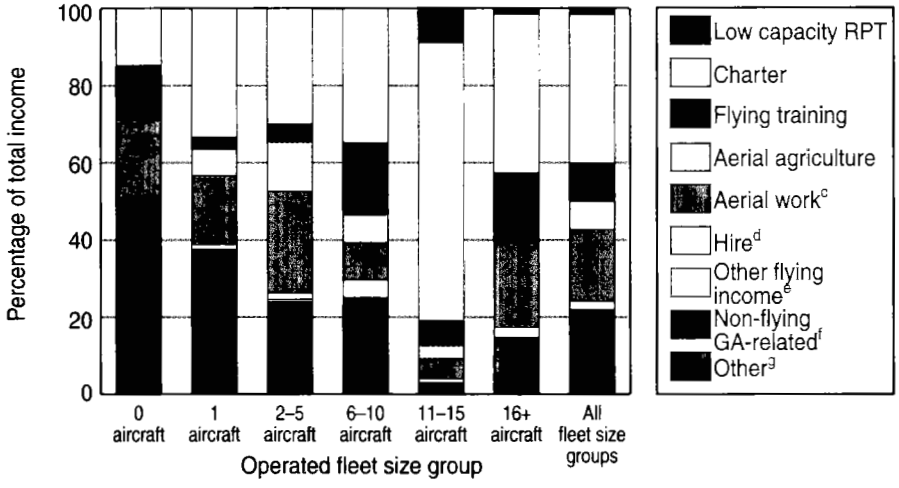
Income

Estimates of commercial operator income by operated fleet size group in 1992–93 are presented in table 5.8. The highest average total income per year was earned by large fleet group, while the single aircraft group yielded the lowest. In terms of medians, however, the highest income was earned by the very large fleet group and the lowest by zero aircraft fleet group.

In terms of sources of income, the average operator in large fleet group was the most specialised deriving 72 per cent of total income from charter operations (see figure 5.4). The average fleet operator in each of the fleet groups, except the zero aircraft group, earned the largest share of their income from charter activity. In absolute terms the average operator in the large fleet group had the largest charter income, averaging $1.9 million. Income from low capacity RPT activity also was restricted to the larger aircraft fleet groups.

The average operators in the medium and very large fleet groups were dominant in terms of flying training income with around 18 per cent of their total income from this activity. In absolute terms the very large fleet group had the highest average flying training income at over $400 000.

FIGURE 5.4 ALL COMMERCIAL GA OPERATORS: INCOME ITEMS AS PERCENTAGES OF AVERAGE TOTAL INCOME, BY OPERATED FLEET SIZE GROUP, 1992–93



Note See notes c to g on table 5.8.

Source BTCE survey estimates.

TABLE 5.8 ALL COMMERCIAL GA OPERATORS: INCOME, BY OPERATED FLEET SIZE GROUP, 1992–93

(dollars)

	Operated fleet size[a] group						
Income item	*Zero (0 aircraft)*	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups[b]*
Averages							
Low capacity RPT	0	0	107	594	228 386	33 560	8 664**
Charter	20 220	42 945	145 346	312 034	1 852 984	929 180	214 362
Flying training	19 407	3 864	22 776	167 302	164 869	413 251	54 779
Aerial agriculture	0	8 939	62 648	65 329	89 098	1 678	41 384
Aerial work[c]	27 692	22 727	127 472	86 447	130 364	487 928	102 411**
Hire[d]	550	1 805	8 240	41 455	30 284	61 527	12 570**
Other flying[e]	86	116	2 727	239	967	145	1 339**
Non-flying GA-related[f]	28 815	10 549	44 004	14 718	35 382	15 793	30 087**
Other[g]	39 814	37 500	72 770	209 795	38 191	314 870	90 555
Total income	136 585*	128 444	486 090	897 914*	2 570 525**	2 257 932**	556 152
Median[h]							
Total income	39 673**	60 576	160 562	462 924	1 002 429	1 231 615**	157 057
Population total[i]							
Aggregate income	6 855 649*	36 469 057	214 261 042	120 774 953*	75 281 799**	90 830 788**	544 473 289

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

Continued on next page

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Includes all specified fleet size groups. Excludes operators with low capacity RPT as their dominant activity and 'non-commercial' AOC holders.

c. Includes income from aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting, community service flying (such as police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance and disaster assistance), etc.

d. Includes income from hiring out of aircraft to other commercial operators and hiring out of aircraft for private flying.

e. Includes income from provision of pilots/crew, winch launching of gliders and other unspecified flying income.

f. Includes gross profit from GA maintenance/engineering for others, sale of aircraft and parts as a dealer, airshows, membership fees/subscriptions, ground school income, fuel concession income, etc.

g. Includes net profit/loss on sale of non-current assets, interest income, rent, gross profit from bar/accommodation, government grants, donations, sponsorship, etc.

h. Median income is an estimate of that income above which half the population of operators has higher income and below which half has lower income.

i. The population total for a particular fleet size group is an estimate of aggregate income earned by all operators in that fleet size group.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Relative Standard Errors are only reported for average and median total income estimates, population total aggregate income estimates and all estimates for 'all commercial GA groups'. In general the relative standard errors for the estimates for the subcategories are higher.

Source BTCE survey estimates.

The average fleet operator in the small fleet group had the highest percentage share of their income in aerial agriculture. In absolute terms the large fleet group had the highest average aerial agriculture income at over $89 000. The zero aircraft group had no aerial agriculture activity, which may reflect the relatively specialised nature of aerial agriculture aircraft and a tendency to therefore own or have longer-term on-line arrangements when undertaking this activity.

On average for all fleet sizes, aerial work represented over 18 per cent of total income. However, for the medium and large fleet groups it represented less than 10 per cent. Income from hiring out aircraft was a less significant source of income for all fleet sizes at under 5 per cent of total income in all cases.

In aggregate terms, the small fleet group contributed nearly 40 per cent of total income earned by commercial GA operators in 1992–93.

Expenses

Estimates of the main expense categories for operators in each of the operated fleet size groups are presented for 1992–93 in table 5.9.

As would be expected, the estimates show that average total expenses generally rose with fleet size. The large fleet group had the highest average total expenses in 1992–93, while the very large fleet group had the highest median total expenses. The zero aircraft group had the lowest average and median total expenses.

The largest expense category for most fleet groups was labour, representing between 6 and 31 per cent of average total expenses. For the zero and single fleet groups, overheads/other was the largest expense category at around 30 per cent. Maintenance was the second largest expense category for most fleet groups, ranging from 9 to 22 per cent of average total expenses. For the two largest fleet groups, this maintenance expense consists of more inhouse maintenance expenditure than payments to external maintenance providers. This reflects the tendency for operators of larger fleets to employ more maintenance staff to carry out inhouse maintenance of their fleet. Total government charges accounted for between 3 and 8 per cent of average total expenses (see figure 5.5).

TABLE 5.9 ALL COMMERCIAL GA OPERATORS: EXPENSES, BY OPERATED FLEET SIZE GROUP, 1992–93

(dollars)

Expense item	Operated fleet size[a] group						
	Zero (0 aircraft)	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups*[b]
Averages							
Fuel[c]	22 316	8 337	54 062	86 805	248 690	228 817	56 414
Aircraft insurance	57	4 297	16 591	31 324	90 506	87 508	19 145
Aircraft hire	16 422	12 293	22 891	55 478	173 862	167 156	35 059
Labour	8 805	31 243	148 773	247 528	499 600	669 224	152 422
Maintenance[d]	12 828	21 448	107 691	169 179	517 132	422 107	111 049
Interest	6 173	8 778	20 909	28 085	76 722	75 005	21 605
Depreciation	19 744	23 749	53 264	62 896	45 628	133 118	47 679
Government charges							
Fuel excise[e]	3 004	1 972	7 166	22 759	11 352	48 407	8 915**
FAC charges[f]	2 558	793	5 689	11 359	34 729	43 582	6 863**
CAA charges[g]	3 113	1 158	6 773	8 216	135 201	14 360	9 743*
Local govt charges[h]	571	565	4 104	1 916	2 194	21 721	3 220*
Other govt charges[i]	51	53	336	539	381	2 508	337*
Total government charges	9 298	4 541	24 068	44 789	183 856	130 579	29 076
Overheads/other[j]	46 944	49 186	91 406	80 921	476 444	378 183	99 580*
Total expenses	142 586	163 872	539 655	807 007*	2 312 440**	2 291 698*	572 029
Median[k]							
Total expenses	13 307**	71 101	181 787	425 335	836 887	1 422 684*	158 037

Continued on next page

TABLE 5.9 ALL COMMERCIAL GA OPERATORS: EXPENSES, BY OPERATED FLEET SIZE GROUP, 1992–93 (continued)

(dollars)

Expense item	Operated fleet size[a] group						
	Zero (0 aircraft)	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups[b]*
Population total[l]							
Aggregate expenses	7 156 860	46 528 060	237 871 532	108 547 335*	67 723 396**	92 189 097*	560 016 278

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Includes all specified fleet size groups. Excludes operators with low capacity RPT as their dominant activity and 'non-commercial' AOC holders.

c. Excludes fuel excise.

d. Excludes wages and salaries paid to maintenance staff directly employed by the AOC holder. These expenses are included under labour.

e. Includes excise on avgas, avtur and mogas.

f. Includes FAC General Aviation Infrastructure Tariff, FAC landing charges, FAC parking charges, FAC rental.

g. Includes terminal navigation, rescue and fire fighting, en route and meteorological service charges.

h. Includes fixed annual charges, landing charges and rental, as levied by both local government and private airport authorities. It was not possible to identify separately charges levied by type of authority.

i. Includes radio licence fees.

j. Includes advertising, payments to other organisations for flying training, rental of hangars/office space other than from airport authorities, association fees, other overheads and other unspecified expenses.

k. Median expenses is an estimate of that expenses above which half the population of operators has higher expenses and below which half has lower expenses.

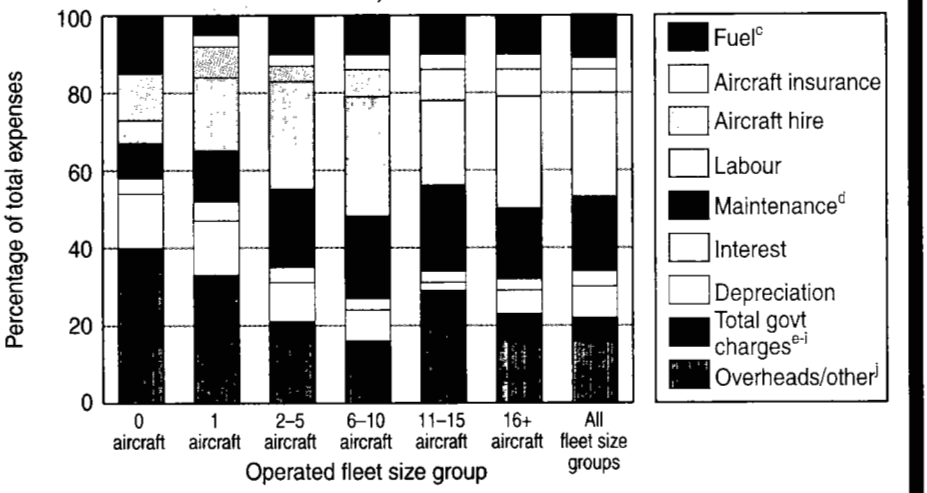
l. The population total for a particular fleet size group is an estimate of aggregate income earned by all operators in that fleet size group.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Relative Standard Errors are only reported for average and median total expense estimates, population total aggregate expense estimates and all estimates for 'all commercial GA groups'. In general the relative standard errors for the estimates for the subcategories are higher.

Source BTCE survey estimates.

FIGURE 5.5 ALL COMMERCIAL GA OPERATORS: EXPENSE ITEMS AS PERCENTAGES OF AVERAGE TOTAL EXPENSES, BY OPERATED FLEET SIZE GROUP, 1992–93



Note See notes c to j on table 5.9.

Source BTCE survey estimates.

BTCE

In aggregate terms, the small fleet group is estimated to have accounted for 42 per cent of total expenses incurred by all commercial GA operators in 1992–93.

Profit

Estimates of average profit before tax for each of the operated fleet size groups in 1992–93 are presented in table 5.10.

The position varied widely by fleet group. The only two fleet groups making a profit before tax on average were the medium and large fleet groups. The remainder of the groups made losses on average from around $6000 to $53 000. It is again emphasised that these are survey estimates and that the actual population averages may vary. In particular the high relative standard errors for the profit estimates for the large and very large fleet groups should be noted.

The small fleet group is also estimated to have accounted for the largest share of the total loss made by all commercial GA operators in 1992–93.

TABLE 5.10 ALL COMMERCIAL GA OPERATORS: PROFIT BEFORE TAX, BY OPERATED FLEET SIZE GROUP, 1992–93

(dollars)

Operated fleet size[a] group	*Average*	*Population total[b]*
Zero (0 aircraft)	–6 001*	–301 211*
Single (1 aircraft)	–35 428	–10 059 003
Small (2–5 aircraft)	–53 565	–23 610 490
Medium (6–10 aircraft)	90 907*	12 227 618*
Large (11–15 aircraft)	258 085**	7 558 403**
Very large (16+ aircraft)	–33 766**	–1 358 309**
All commercial GA groups[c]	–15 877	–15 542 989

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. The population total for a particular fleet size group is an estimate of aggregate profit earned by all operators in that fleet size group.

c. Includes all specified fleet size groups. Excludes operators with low capacity RPT as their dominant activity and 'non-commercial' AOC holders.

Source BTCE survey estimates.

Balance sheet position

The average balance sheet position estimated for each of the operated fleet size groups for 1992–93 is presented in table 5.11.

In 1992–93, the average operator in the large fleet group had the highest level of total assets. This was largely due to the high value of the aircraft fleet at about $2 million out of a total asset value of $3.5 million. The very large fleet group had a lower level of aircraft assets, reflecting a lower average value of owned aircraft. The lowest level of total assets was held by the average operator in the zero aircraft group, which would be expected as there were no aircraft assets. The large fleet group had the highest average total liabilities with the single aircraft group the lowest. In terms of equity, the large fleet group had the highest total equity on average and the zero aircraft group the lowest.

TABLE 5.11 ALL COMMERCIAL GA OPERATORS: BALANCE SHEET POSITION, BY OPERATED FLEET SIZE GROUP, AS AT 30 JUNE 1993

(dollars)

	Operated fleet size[a] group						
Balance sheet item	*Zero (0 aircraft)*	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups[b]*
Averages							
Assets							
Current assets	133 946	122 552	186 136	226 450	934 169	462 087	204 178
Non-current assets							
Aircraft	0	164 905	323 699	524 134	2 088 133	1 122 577	402 918
Other non-current assets	264 203	137 005	114 471	53 299	482 060	126 888	103 112
Total non-current assets	264 203	301 909	438 170	577 433	2 570 193	1 249 465	506 031
Total assets	398 149	424 461	624 306	803 883*	3 504 362**	1 711 552**	710 209
Liabilities							
Current liabilities	172 321	112 212	169 262	188 743	1 115 203	546 222	199 196
Non-current liabilities							
Aircraft debt	273	37 710	83 331	206 943	433 163	389 935	109 801
Other long-term debt	71 671	49 652	51 014	52 122	188 739	58 126	52 448
Total non-current liabilities	71 944	87 362	134 344	259 066	621 902	448 061	162 249
Total liabilities	244 265*	199 574	303 606	447 809*	1 737 105**	994 283**	361 445
Equity							
Total equity	153 884**	224 887	320 700	356 074**	1 767 257**	717 269**	348 764

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TABLE 5.11 ALL COMMERCIAL GA OPERATORS: BALANCE SHEET POSITION, BY OPERATED FLEET SIZE GROUP, AS AT 30 JUNE 1993 (continued)

(dollars)

Balance sheet item	Operated fleet size[a] group						
	Zero (0 aircraft)	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups*[b]
Median[c]							
Total assets	6 171**	73 672	201 351	427 143	488 071**	1 530 197*	151 054
Total liabilities	2 413**	14 697*	54 012*	187 743	316 783**	854 892*	56 113
Total equity	3 266**	36 738*	86 149*	135 219**	164 082	730 534**	67 505
Population total[d]							
Aggregate assets	19 907 450	120 546 924	275 318 946	108 524 205*	101 626 498**	68 462 080**	695 294 611
Aggregate liabilities	12 213 250*	56 679 016	133 890 246	60 454 215*	50 376 045**	39 771 320**	353 854 655
Aggregate equity	7 694 200**	63 867 908	141 428 700	48 069 990**	51 250 453**	28 690 760**	341 439 956

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Includes all specified fleet size groups. Excludes operators with low capacity RPT as their dominant activity and 'non-commercial' AOC holders.

c. Median expenses is an estimate of that expenses above which half the population of operators has higher expenses and below which half has lower expenses.

d. The population total estimate for a variable for a particular fleet size group is an estimate of the variable aggregated across all operators in that fleet size group.

Notes 1. Individual numbers may not add to totals due to rounding.

2. Relative Standard Errors are only reported for average and median total assets, total liabilities and total equity estimates, population total aggregate estimates and all estimates for 'all commercial GA groups'. In general the relative standard errors for the estimates for the subcategories are higher.

Source BTCE survey estimates.

Prices of flying activities

Services provided by GA operators are diverse. Prices for services may vary considerably, and additionally, may not be determined until the flying activity is requested by a potential customer. While prices charged by commercial operators could not sensibly be requested as part of the survey, survey data on income by flying activity and hours flown by flying activity can be used to derive proxy prices. Such proxies are averages across a variety of operators with different fleets of aircraft and of course are not representative of a flying hour in a particular aircraft being operated at a specific airport. For example, the price of an hour of flying training in a Cessna 150, a basic 2-seater single-engine aircraft, is different to that of an hour in a Piper Seminole, a small twin-engine aircraft. However, average income per hour estimates do provide some indication of the likely range of prices for various types of flying activity.

Estimates of average income per hour flown by income activity and activity group in 1992–93 are provided in table 5.12. In terms of proxy prices, the last column in that table provides the average across all commercial GA operators for income per hour by type of flying activity. The highest average income per hour in 1992–93 was earned for low capacity RPT and charter activity, as would be expected because these are the main people-carrying activities. The overall average figure for flying training activity by all commercial GA groups was $152 per hour.[11] The lowest average income per hour was attributable to private hire of aircraft and may reflect the use of smaller aircraft for this activity.

Financial ratio analysis

Financial ratio analysis is a technique commonly used to examine the financial position of a business. While financial ratios in isolation provide little information, they do allow comparisons of businesses within an industry and between industries, overcoming the problem of comparing the performance of businesses of different absolute sizes. Financial ratios can also be used to examine performance of a particular business or industry over time or performance against 'rules of thumb'.

For GA, the scope for such comparisons of financial ratios is limited by available data. For reasons of confidentiality it is not possible to present comparisons of ratios for individual respondents to the BTCE GA survey. Also, the absence of a time series of financial information about the GA industry prevents any useful comparisons of ratios for GA over time.[12] The ratio analysis presented in this chapter is therefore limited to

TABLE 5.12 ALL COMMERCIAL GA OPERATORS: AVERAGE PRICES, BY FLYING ACTIVITY AND ACTIVITY GROUP, 1992–93

($ per hour)

	Activity group						
Flying activity	*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups*[a]
Low capacity RPT	679	..	..	..	..	..	703
Charter	670	404	387	660	396	662	662
Flying training[b]	174	150	..	149	151	118	152
Aerial agriculture	509	..	439	331	98	575	424
Aerial work (excluding community services)	159	96	261	469	262	349	368
Community services	73	..	..	296	1 061	418	254
Commercial hire	47	95	159	465	221	172	126
Private hire	91	82	..	215	149	100	89
All flying activity	569	144	436	413	213	260	353

.. Not applicable (no respondents to the survey in this activity group reported income for this flying activity)

a. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

b. Calculated using flying hours that include training hours by employees of the operator. This average income figure may therefore be an understatement of flying training income per hour. The extent of such an understatement is not known.

Note Relative Standard Errors for this table are >0.50.

Source BTCE survey estimates.

comparisons with other industries, using ratios for other Australian industries for the 1992–93 year estimated by the Australian Bureau of Statistics (ABS 1994), and comparisons with 'rules of thumb'.

Estimates for four categories of ratios are presented in this chapter: profitability, liquidity, debt and labour.[13] Average financial ratios for commercial GA operators by *activity group* are presented in table 5.13 and corresponding median ratios in table 5.14. For commercial GA operators by *operated fleet size group*, average financial ratios are presented in table 5.15 and corresponding median ratios in table 5.16.

Profitability ratios

Profitability refers to the ability of a business to generate revenues in excess of expenses. Profitability ratios measure the efficiency of a firm in generating profits from its resource base, that being either sales, equity or assets. The higher a profitability ratio is, the more profitable the firm is, in a relative sense.

Operating profit margin

The operating profit margin represents the percentage of sales income that the firm converts into profits. Before even comparing GA with other industries, in absolute terms the average GA operator made a loss and therefore a negative operating profit margin. The average operator for all commercial GA groups had an estimated operating profit margin of –3.4 per cent in 1992–93. Profitability varied between activity groups. Only in the aerial work and hire groups did the average operator return positive operating profits for the year, and therefore positive profitability ratios of 4.3 and 7.3 per cent respectively. The mixed activity group fared the worst, returning an estimate of –61.2 per cent for this ratio, although it should be noted that a very high relative standard error is associated with this estimate.

The ABS estimated that the operating profit margin for all business of all sizes was 6.2 per cent in 1992–93. For transport and storage businesses it was lower at 3.5 per cent, but higher for small transport and storage businesses at 7.1 per cent. Based on these average results the majority of GA activity groups obviously performed poorly in 1992–93 compared to the rest of the transport and storage industry. The median operating profit margins by activity group present a more profitable picture. The operating profit margin for the median operator in all activity groups

TABLE 5.13 COMPARISON OF AVERAGE FINANCIAL RATIOS: COMMERCIAL GA ACTIVITY GROUPS AND SELECTED ABS INDUSTRY GROUPS, 1992–93

		GA activity group							*ABS industry group*		
Average ratio		*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups*[a]	*All industries all sizes*	*Transport and storage all sizes*[b]	*Small transport and storage businesses*[c]
Profitability ratio											
Operating profit margin	(%)	–2.3**	–0.3**	–4.3*	4.3*	7.3**	–61.2**	–3.4**	6.2	3.5	7.1*
Return on funds	(%)	4.8*	3.3*	–0.1*	3.5*	11.1**	–35.6**	1.1	19.5	7.1	20.3*
Return on assets	(%)	–2.0*	–0.3	–3.5	1.7*	6.1**	–26.1**	–2.2	3.9	2.5	9.2*
Return on net worth	(%)	–6.3*	–0.6	–8.1	2.6*	10.2**	–57.7**	–4.6	10.7	7.1	30.5*
Liquidity											
Current ratio	(times)	0.9*	1.4*	1.3*	1.3	2.2**	0.5**	1.0	na[d]	0.8	0.9
Debt											
Interest coverage	(times)	0.6*	0.9*	0*	2.7*	2.6*	–8.3**	0.3	2.2	1.9	3.5*
Long-run debt to equity	(times)	1.1*	0.4	0.6*	0.2	0.5**	0.5**	0.5	na[d]	1.2	1.1*
Labour											
Selected labour costs per employee	($)	25 900*	10 000*	22 600*	29 400*	8 400**	19 300**	22 300	26 000	35 700	21 600

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

na Not available

Continued on next page

a. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

b. The ABS allocates a business on the basis of the activity from which it derives most of its income (ABS 1994, p. 56).

c. The ABS defines a small business as 'those management units which are not part of large business groups (a large business group employs over 500 people, or has income of more than $250 million, or has assets of over $1000 million), and employ (a) less than 20 persons for non-manufacturing industries; or (b) less than 100 persons for manufacturing industries.' (ABS 1994, p.56).

d. These ratios are reliant on an accurate split of current and non-current assets and liabilities. Such splits were not available for the finance and insurance industries that were supplying data to the ABS and consequently the ratios for 'all industries' could not be estimated.

Sources BTCE survey estimates, ABS (1994).

TABLE 5.14 MEDIAN FINANCIAL RATIOS: COMMERCIAL GA ACTIVITY GROUPS, 1992–93

		GA activity group						
Median[a] ratio		*Charter*	*Flying training*	*Aerial agriculture*	*Aerial work*	*Hire*	*Mixed*	*All commercial GA groups[b]*
Profitability ratio								
Operating profit margin	(%)	1.5**	2.9**	9.0**	12.5	–3.9**	5.0**	2.7*
Return on funds	(%)	2.1**	5.5**	15.7**	16.6*	–0.1**	0.2**	5.8*
Return on assets	(%)	0.9**	3.7**	10.3*	9.9**	–1.3**	2.6**	2.6*
Return on net worth	(%)	3.6**	5.4	11.8**	14.9*	–1.3**	0.1**	4.3**
Liquidity								
Current ratio	(times)	0.8	0.3*	0.9	0.9**	4.3+	1.8**	0.8
Debt								
Interest coverage	(times)	1.2*	1.0**	2.9*	0.9**	1.0**	–2.8**	1.1*
Long-run debt to equity	(times)	0+	0+	0+	0+	0.1**	0+	0+
Labour								
Selected labour costs per employee	($)	8 900*	8 600*	17 600	26 500	1 500**	8 400**	12 000

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Median ratio is an estimate of that ratio above which half the population of operators has a higher ratio and below which half has a lower ratio.

b. Includes all specified activity groups plus operators that provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT as their dominant activity.

Source BTCE survey estimates.

TABLE 5.15 COMPARISON OF AVERAGE FINANCIAL RATIOS: COMMERCIAL GA OPERATED FLEET SIZE GROUPS AND SELECTED ABS INDUSTRY GROUPS, 1992–93

		GA operated fleet size[a] group							*ABS industry group*		
Average ratio		*Zero (0 aircraft)*	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups[b]*	*All industries all sizes*	*Transport and storage all sizes[c]*	*Small transport and storage businesses[d]*
Profitability ratio											
Operating profit margin	(%)	–6.2**	–39.0	–13.0**	13.2*	10.2**	–1.7**	–3.4**	6.2	3.5	7.1*
Return on funds	(%)	0.1*	–8.5	–7.2	19.3**	14.0**	3.5**	1.1	19.5	7.1	20.3*
Return on assets	(%)	–1.5*	–8.4	–8.6	11.3*	7.4**	–2.0**	–2.2	3.9	2.5	9.2*
Return on net worth	(%)	–3.9**	–15.8	–16.7	25.5**	14.6**	–4.7**	–4.6	10.7	7.1	30.5*
Liquidity											
Current ratio	(times)	0.8*	1.1	1.1	1.2*	0.8**	0.9**	1.0	na[e]	0.8	0.9
Debt											
Interest coverage	(times)	0*	–3.0	–1.6	4.2**	4.4**	0.6**	0.3	2.2	1.9	3.5*
Long-run debt to equity	(times)	0.5**	0.4	0.4	0.7**	0.4**	0.6**	0.5	na[e]	1.2	1.1*
Labour											
Selected labour costs per employee	($)	3 300**	10 800**	24 900	22 700**	27 500**	24 800**	22 300	26 000	35 700	21 600

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

na Not available

Continued on next page

a. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

b. Includes all specified fleet size groups. Excludes operators with low capacity RPT as their dominant activity and 'non-commercial' AOC holders.

c. The ABS allocates a business on the basis of the activity from which it derives most of its income (ABS 1994, p. 56).

d. The ABS defines a small business as 'those management units which are not part of large business groups (a large business group employs over 500 people, or has income of more than $250 million, or has assets of over $1000 million), and employ (a) less than 20 persons for non-manufacturing industries; or (b) less than 100 persons for manufacturing industries.' (ABS 1994, p. 56)

e. These ratios are reliant on an accurate split of current and non-current assets and liabilities. Such splits were not available for the finance and insurance industries that were supplying data to the ABS and consequently the ratios for 'all industries' could not be estimated.

Sources BTCE survey estimates, ABS (1994).

TABLE 5.16 MEDIAN FINANCIAL RATIOS: COMMERCIAL GA OPERATED FLEET SIZE GROUPS, 1992–93

		Operated fleet size[b] group						
Median[a] ratio		*Zero (0 aircraft)*	*Single (1 aircraft)*	*Small (2–5 aircraft)*	*Medium (6–10 aircraft)*	*Large (11–15 aircraft)*	*Very large (16+ aircraft)*	*All commercial GA groups[c]*
Profitability ratio								
Operating profit margin	(%)	–1.7**	–2.3**	5.1**	2.3**	3.6**	2.6*	2.7*
Return on funds	(%)	4.4**	–2.0**	7.1**	5.0*	19.3**	17.1	5.8*
Return on assets	(%)	17.9*	–1.4**	3.1**	2.4**	4.6**	1.0**	2.6*
Return on net worth	(%)	7.7**	–1.4**	4.0**	7.9*	17.5**	14.4**	4.3**
Liquidity								
Current ratio	(times)	1.4**	0.8*	0.8	0.8**	0.8	1.0**	0.8
Debt								
Interest coverage	(times)	0+	0.5**	1.1	1.1*	3.1	1.4*	1.1*
Long-run debt to equity	(times)	0+	0+	0+	0+	0.4**	1.0**	0+
Labour								
Selected labour costs per employee	($)	0**	4 300*	16 300	18 700	18 600*	20 100	12 000

* Relative Standard Error >0.25 and ≤0.50

** Relative Standard Error >0.50

\+ Relative Standard Error was not calculated

a. Median ratio is an estimate of that ratio above which half the population of operators has a higher ratio and below which half has a lower ratio.

b. Number of aircraft owned by the operator plus on-line aircraft (that is, those aircraft on long-term hire or lease, rather than short-term hire).

c. Includes all specified groups. Excludes operators with low capacity RPT as their dominant activity and 'non-commercial' AOC holders.

Source BTCE survey estimates.

(except for the hire group) was positive, the highest at 12.5 per cent for aerial work. The median operating profit margin for all commercial GA groups was 2.7 per cent.

By operated fleet size group, the larger fleet groups (with the exception of the very large fleet group) made a profit and therefore had positive operating profit margins in 1992–93. The average operators in the medium fleet group and the large fleet group had operating profit margins of 13.2 and 10.2 per cent respectively, well above the ABS estimates for all industries (6.2), all transport and storage industries (3.5) and small transport and storage businesses (7.1). The average operator with one aircraft had the lowest operating profit margin at –39 per cent. The median operating profit margins by fleet group were negative for the zero and single fleet groups but positive for all other fleet groups, the highest at 3.6 per cent for the large fleet group.

Return on funds ratio

The return on funds ratio indicates how effectively the firm uses the funds available to it, in the form of both equity and borrowings. The average operators in the charter and training groups, although recording a loss for the year, returned a positive returns on funds ratio because interest payments exceeded the net operating loss. For other flying activity groups, the return on funds ratio reflected the operating profit margin. ABS estimates show that small transport and storage businesses had a higher return on funds ratio, on average, than all industries of all sizes. GA performed poorly relative to these ABS groups. Again, the median ratios generally show a higher return than the average ratios, except for the charter and hire activity groups.

By operated fleet size group, the results for return on funds generally reflect those for the operating profit margin. The exceptions are that the zero and very large fleet groups had positive returns on funds despite having operating losses, again due to interest payments exceeding the net operating loss for those groups. The medium fleet group had the highest return on funds at 19.3 per cent, just below the ABS all Australian industries at 19.5 per cent and small transport and storage businesses at 20.3 per cent. The median ratios by fleet group are higher than the average ratios for all fleet groups except for the medium fleet group.

Return on assets ratio

The return on assets ratio indicates how effectively a business uses its assets by expressing profits as a percentage of total assets. The estimate of this ratio for the hire group (6.1 per cent) exceeded the national average for all industries (3.9 per cent) but fell short of the average for small transport and storage industries (9.2 per cent). The GA activity groups that made losses in 1992–93 (charter, training, aerial agriculture and mixed) obviously had negative return on assets ratios. By operated fleet size group the pattern is the same as for the operating profit margin, with the larger fleets (with the exception of the very large fleet group) earning positive return on assets larger than the all industries average.

The median ratios are again higher than the average ratios for all activity groups except the hire group. In terms of operated fleet size group, all median ratios are higher than the average ratios except for the medium and large fleet groups.

It should be noted that the return on assets ratio is affected by the way in which businesses account for their assets. Assets may be carried at book value which could be well below a current or revalued figure. Consequently the ratio may be overstated. In the case of GA it is quite likely that aircraft may have a current value significantly greater than their depreciated book value. To the extent that GA operators have their aircraft recorded at historical depreciated value rather than current value, the estimates of the return on assets ratio may be overstated and the actual position for GA worse than the ratios suggest.

Return on net worth ratio

The return on net worth ratio is an indicator of how efficiently equity is being employed within the firm. On average all commercial GA operators lost an amount equal to 4.6 per cent of their equity in 1992–93. Obviously this is unsustainable in the long run. By comparison, the ABS estimated that in 1992–93 small businesses in the transport and storage sector achieved an average return on net worth of 30.5 per cent. This was well above the national average for all industries, which was 10.7 per cent, and all transport and storage industries at 7.1 per cent. By operated fleet size group, only the medium and large fleet groups earned a positive return on net worth. Comparing the median and average return on net worth ratios, the median ratios are higher than the average ratios, except for the medium fleet group and the hire group.

Summary

GA achieved poor results in terms of profitability for the 1992–93 year. This contrasts with the profitability of small businesses in the transport and storage sector, which was above the national average of all industries in all ratios estimated. The hire activity group and the medium operated fleet size group achieved the best profitability results on average in 1992–93. The poorest performance results on average were attributable to the mixed activity group and the single operated fleet size group.[14] However, the performance of the median operator in most activity and operated fleet size groups was profitable.

Liquidity ratio

Liquidity refers to the ability of a business to meet its short-term financial obligations as and when they fall due. While long-term solvency depends on long-term profitability, in the short run this is not necessarily the case.

Current ratio

The current ratio indicates the ability of the business to pay short-term obligations from current asset resources.[15] The higher the ratio, the greater the ability of the business to service its interest payments. However, a high current ratio might imply either efficient business management in minimising current liabilities, or conversely an excess investment in working capital and idle resources. In isolation, the ratio is difficult to interpret unless cash flows are known, which they are not for GA.

Despite this, an accepted rule of thumb commonly employed for the current ratio is 1.5, although the appropriate range for the current ratio depends on the nature of the business. The average current ratio estimated by the ABS for transport and storage industries of all sizes was 0.8. This compared to a average current ratio of 1.0 for all commercial GA operators. So despite the losses sustained in GA in 1992–93, the industry was solvent on average, although only one activity group (hire) met the rule of thumb of 1.5. By operated fleet size group, the current ratios were all below 1.5, ranging from 0.8 for the zero and large fleet groups to 1.2 for the medium fleet group. These are in line with the average current ratios for all transport and storage industries.

The median operators in most activity groups were less solvent than the average operator except for the hire and mixed activity groups. In terms of operated fleet size groups, the zero and very large fleet groups had higher median than average current ratios while all other fleet groups had lower median current ratios.

Debt ratios

Debt ratios give an indication of a firm's dependence on external borrowings to support business operations. They provide an indication of whether debt is being used to advantage or whether the company is too exposed to debt. Ideally debt exposure over a period of several years should be examined. However, this is not possible for the GA industry as the data are not available.

Interest coverage

Interest coverage provides an indication of the ability of a business to service its borrowings. It measures the number of times over that interest expenses can be paid out of earnings before interest and tax (EBIT). The higher the ratio, the greater the ability of the business to service interest payments, but a comfortable ratio is considered to be 3 (SIA 1994). Because of the general unprofitability of GA in 1992–93, the overall estimate for the industry was low (0.3). This means that the average operator did not earn enough to meet interest payments on borrowed funds, as does any ratio below 1.

The sectoral breakdown by activity shows some contrasts between groups. The mixed activity group had by far the lowest estimate for the interest coverage ratio and the only negative ratio at –8.3. In contrast, the aerial work and hire activity groups recorded interest coverage ratios greater than 2.0. This means that the average operators in both of these groups were able to pay all of their interest payments out of earnings. Both sectors recorded estimates of the interest coverage ratio greater than the national average for all industries of 2.2.

By operated fleet size group only the medium fleet group and the large fleet group had interest coverage ratios of more than the 'comfortable' ratio of 3. At 4.2 and 4.4 respectively, these groups had higher interest coverage than the ABS all industries ratio of 2.2 and transport and storage small business of 3.5.

Again the median ratios for both activity groups and operated fleet size groups were generally higher than the average ratios. The exceptions were the aerial work and hire activity groups and the medium and large fleet groups.

Long-run debt to equity ratio

The long-run debt to equity ratio (or gearing ratio) measures the firm's dependence on external funds over the longer term. The higher the ratio, the higher the proportion of assets financed by external lenders. However, it has been suggested that 'Most businesses stay below a 1 to 1 debt to equity ratio, because they don't want to take on so much debt or because they can't convince creditors to loan them more than one-half of their asset' (Tracy 1989, p. 147).

Across GA businesses, long-run debt to equity ratios ranged from 0.2 (aerial work group) to 1.1 (charter group). The GA industry average of 0.5 is lower than the transport and storage industry average of 1.2 and the small transport and storage business average of 1.1, implying that GA is less exposed to external borrowings than the rest of the transport and storage industry. On an operated fleet group basis, the long-run debt to equity ratios occupy a narrow range from 0.4 to 0.7, with that of the medium fleet group being the highest at 0.7. Again these are all lower than the ABS transport and storage industry estimates.

For both activity and operated fleet size groups, the median ratios were generally lower than the average ratios, being zero for most groups. However, these medians should be treated with caution as they were calculated from a small number of survey responses and it was not possible to calculate relative standard errors for them.

Labour ratio

Labour costs per employee

Labour costs per employee in GA in 1992–93 were estimated to be $22 300, while the ABS estimated such costs at $35 700 for all transport and storage industries and $21 600 for small transport and storage businesses. The aerial work, charter and aerial agriculture activity group estimates were higher, at $29 400, $25 900 and $22 600 respectively. The lowest labour cost per employee is estimated to have been for the hire activity group, with an average of $8400. On an operated fleet basis, the labour costs per employee tended to rise with fleet size, which would

be expected to the extent that larger fleets may involve the use of more qualified and higher paid pilots. Median labour costs per employee are estimated to have been lower than the average for each of the activity and fleet groups.

It should be noted that these average costs per employee, as estimated by the BTCE and the ABS, include working proprietors and unpaid employees who are recorded as employees by the business. To this extent average labour costs per employee may be less than wages and salaries even though selected labour costs also include payments such as workers' compensation and superannuation. However, the relatively low labour costs per employee results may also support the anecdotal evidence that some pilots, in order to accumulate flying hours, will fly for very little reward, for nothing, or actually pay commercial GA operators to allow them to do particular types of work (HORSCOTCI 1995, p. 56).

Comparison with previous BTE study

It is difficult to draw any firm conclusions about the performance of an industry from a snapshot of its performance in one year. The BTCE GA survey has provided data for 1992–93 but this is not necessarily a typical year. In terms of hours flown, 1992–93 was part of a downturn in the GA industry. Comparisons with ABS data for other industries, while providing a benchmark, also have limitations.

The BTE (1981) reported the results of a survey of aircraft owners which requested information for the year 1978–79. Many changes in the industry have occurred since this survey. Direct comparisons are not possible and may have little relevance. However, a few results are worth noting.

The BTE (1981) reported estimates of operating profit margin and return on funds ratios for small, medium and large fleets. These are presented in table 5.17. Although not categorised in the same way for the BTCE 1992–93 survey, the results from 1978–79 do show some similarities. Small fleets on average made a loss in both periods. Medium fleets made a profit in 1978–79 but a loss in 1992–93, but larger fleets (with the exception of very large fleet group in 1992–93) made a profit on average in both periods.

TABLE 5.17 FINANCIAL PERFORMANCE BY FLEET SIZE, BTE 1979 SURVEY

Financial performance measure	*Small fleets*[a]	*Medium fleets*[b]	*Large fleets*[c]
Profit (1978–79 dollars)	–16 561	50 273	119 760
Operating profit margin	–0.65	0.13	0.14
Return on funds ratio	–0.08	0.19	0.16

a. Small fleet was defined as 1 owned aircraft and based on 3 observations.
b. Medium fleet was defined as 2–5 owned aircraft and based on 7 observations.
c. Large fleet was defined as 6 or more owned aircraft and based on 27 observations.

Source BTE (1981).

NOTES

1. The financial performance of AOC holders whose main activity was non-commercial activity or low capacity RPT is *not* covered in the report.
2. Question 20 of the BTCE GA survey of aircraft owners (reproduced at p. 246 of appendix I) covered gross income earned from aircraft and question 21 (at p. 246 of appendix I) expenses associated with GA flying activities.
3. Question 16 of the BTCE GA survey of aircraft owners (reproduced at p. 242 of appendix I) covered market value of aircraft.
4. The average owned fleet size for non-commercial aircraft owners is just over one so average aircraft values and average fleet values will be similar.
5. Question 27 of the BTCE GA survey of AOC holders (reproduced at p. 201 of appendix I) covered profit and loss statement information and question 28 (at p. 204 of appendix I) balance sheet information.
6. In some cases survey respondents provided insufficient information to be allocated on the basis of income. Where possible, hours flown were used as a proxy for income. Where respondents provided insufficient information to be allocated on either an income or hours flown basis, they were allocated to the 'unallocable' group, which was included in 'all commercial GA groups'.
7. The numbers estimated to be in each activity group are provided in table 2.3 in chapter 2.
8. 'All commercial GA groups' includes all specified activity groups plus operators who provided insufficient information to allow allocation to an activity group. Excludes operators with low capacity RPT or non-commercial activity as their dominant activity.
9. The survey response to the question asking the amount of tax paid in 1992–93 was not responded to by sufficient operators for any estimate of average tax paid to be made.
10. The numbers estimated to be in each fleet size group are provided in table 2.5 in chapter 2.

11. Abbot (1993, p. 31) provides a range of hourly rates for flying training as charged by aero clubs in March 1993. These rates averaged $100 to $151 for solo training and $111 to $167 for dual instruction in single-engine aircraft. The BTCE survey estimate is not directly comparable with these rates as it includes twin-engine training and training by commercial operators other than aero clubs which may have different charging policies.
12. The ability to compare the results of the 1979 BTE GA survey with those of the present survey is severely limited by the differences in the surveyed population and the information presented in BTE (1981). The relevance of such comparisons is also doubtful given the length of time between surveys and the changes to the industry that have occurred during that time. Nonetheless, a brief comparison is presented later in the chapter.
13. The definitions used for these ratios are presented in appendix V.
14. It should be noted that the estimates for the hire and mixed activity groups have relative standard errors greater than 0.50 and should be considered highly unreliable. This also applies to some of the results for the medium operated fleet size group.
15. 'Current' generally implies, with respect to assets, those that can be realised within one year, and with respect to liabilities, those that are to be settled within one year.

CHAPTER 6 INDUSTRY VIEWS AND PERCEPTIONS

In the BTCE surveys of both non-commercial aircraft owners and AOC holders,[1] respondents were asked to provide comment on GA issues. Structured questions regarding the prospects, threats and opportunities for their GA activities over the next five years were included as well as space for general comments on factors affecting GA at a regional or national level. An overview of the comments received is presented in this chapter. No attempt has been made to assess the validity or accuracy of the comments made by respondents. It should also be noted that the comments reported here are based on the unweighted number of respondents to the survey who made a particular comment and are not estimates of the extent to which views are held by all GA flying industry participants. The proportion of respondents to the survey making a particular comment may not reflect the proportion of all GA flying industry participants who hold that view.

FUTURE PROSPECTS

Non-commercial aircraft owners and AOC holders were asked what were their expectations for the development of their GA activities over the next five years with respect to flying activities, employment and capital expenditure.[2] It should be noted that the five-year period referred to commenced in 1994 when the survey was conducted.

Non-commercial aircraft owners

The results of the responses to this question about future prospects for non-commercial aircraft owners are presented in table 6.1.

TABLE 6.1 FUTURE PROSPECTS FOR GA ACTIVITIES BY NON-COMMERCIAL AIRCRAFT OWNERS

(number of responses)

	Flying activities	*Persons directly employed*	*Capital expenditure*
Large increase	8	0	17
Small increase	45	1	45
No change	53	2	49
Small decrease	19	1	8
Large decrease	14	0	11
Don't know	12	0	15
Not applicable	0	146	0
Not stated	6	7	12
Total responses	157	157	157

Source BTCE survey estimates.

Flying activities

Thirty-four per cent of respondents indicated that they expected no change in their flying activities over the next five years, while 29 per cent indicated a small increase was expected. A further 5 per cent expected a large increase. Twelve per cent expected a small decrease and 9 per cent a large decrease. Overall, the majority of respondents (68 per cent) expected to maintain or increase their GA flying activities.

Persons directly employed

This aspect of future prospects was not applicable to most respondents, as most non-commercial aircraft owners do not directly employ anyone for the purposes of GA activities. It is not possible to draw any conclusions from the four responses where respondents did directly employ people for the purposes of GA activity.

Capital expenditure

Thirty-one per cent of respondents expected no change in their capital expenditure during the next five years. Forty per cent of respondents expected an increase in their capital expenditure (29 per cent a small increase and 11 per cent a large increase). A small decrease in capital expenditure was expected by 5 per cent of respondents with a further

7 per cent expecting a large decrease. Overall, 71 per cent of respondents expected no change or an increase in their capital expenditure.

AOC holders

The results of the responses to this question about future prospects for AOC holders are presented in table 6.2.

Flying activities

Almost half of respondents expected an increase in flying activities over the next five years. Thirty-nine per cent of respondents indicated a small increase and a further 9 per cent a large increase. No change in flying activities was expected by 21 per cent of respondents. Fourteen per cent of respondents expected a decrease in activities (6 per cent a small decrease and 8 per cent a large decrease).

Persons employed

Many respondents (42 per cent) expected no change in their employment over the next five years. Thirty-two per cent of respondents expected an increase in the number they employed while only 10 per cent expected a decrease. Again, the majority of respondents expected no change or an increase.

TABLE 6.2 FUTURE PROSPECTS FOR GA ACTIVITIES BY AOC HOLDERS

(number of responses)

	Flying activities	*Persons employed*	*Capital expenditure*
Large increase	35	13	34
Small increase	149	109	127
No change	79	159	113
Small decrease	21	18	14
Large decrease	30	22	25
Don't know	36	28	34
Not stated	31	32	34
Total responses	381	381	381

Source BTCE survey estimates.

Capital expenditure

Thirty-three per cent of respondents expected a small increase in their capital expenditure during the next five years. A further 9 per cent expected a large increase. Thirty per cent of respondents expected no change, while only 10 per cent expected a decrease in capital expenditure. Overall most respondents expected an increase or no change.

IMPEDIMENTS TO EXPANSION

Non-commercial aircraft owners and AOC holders were asked what they believed would have the most impact in preventing the planned or potential expansion of their GA activities in the next five years.[3] Respondents were given a number of possible options and asked to rank as many options as appropriate in order of size of impact (from largest to smaller).

Non-commercial aircraft owners

The results of the responses to this question about impediments to growth for non-commercial aircraft owners are presented in tables 6.3 and 6.4. Table 6.3 includes the results from respondents that ranked the impediments as requested. Over a quarter of respondents nominated increased maintenance/repair and spare parts costs as the main impediment to growth in their GA activities. This was followed by increased fuel costs (16 per cent), increased CAA charges (11 per cent) and increased insurance costs (11 per cent).

Some respondents did not rank their choices, but simply ticked them. The results obtained when these unranked responses were added to those provided in table 6.3 are presented in table 6.4. On this basis, the four most often nominated impediments were the same, but increased fuel costs became the most often nominated impediment ahead of increased maintenance costs.

TABLE 6.3 FACTORS PREVENTING GROWTH OF GA ACTIVITY BY NON-COMMERCIAL AIRCRAFT OWNERS, FIRST RANKED RESPONSES

(first priorities among ranked responses)

	Number	*Per cent of total*
Increased maintenance/repair and spare parts costs	23	28
Increased fuel costs	13	16
Increased CAA charges	9	11
Increased insurance costs	9	11
No plans to expand/not applicable	8	10
Increased FAC charges	4	5
Environmental regulations	3	4
Other government regulations	3	4
Shortage of adequate premises	1	1
Increased cost of buying/leasing aircraft	1	1
Inability to obtain suitable aircraft	1	1
Inability to obtain sufficient finance	1	1
Difficulty in obtaining spare parts	1	1
Increased wage costs	1	1
Increased other government charges	1	1
Other unspecified	3	4
Total	82	100

Source BTCE survey estimates.

TABLE 6.4 FACTORS PREVENTING GROWTH OF GA ACTIVITY BY NON-COMMERCIAL AIRCRAFT OWNERS, ALL RESPONSES
(all responses)

	Number of comments	*Per cent of respondents who commented*
Increased fuel costs	113	78
Increased maintenance/repair and spare parts costs	110	76
Increased CAA charges	100	69
Increased insurance costs	93	64
Increased FAC charges	90	62
Increased local government/private airport authority charges	77	53
Difficulty in obtaining spare parts	41	28
Increased cost of buying/leasing aircraft	40	28
Increased other government charges	32	22
Other government regulations	25	17
Shortage of suitably qualified maintenance staff	24	17
Inability to obtain suitable aircraft	23	16
Inability to obtain sufficient finance	22	15
Environmental regulations	21	14
Shortage of adequate premises	21	14
Increased wage costs	13	9
Shortage of suitably qualified pilots	13	9
No plans to expand/not applicable	9	6
Other unspecified	12	8

Source BTCE survey estimates.

AOC holders

The results of the responses to this question about impediments to growth for AOC holders are presented in tables 6.5 and 6.6. Table 6.5 includes the results from respondents that ranked the impediments as requested. Thirteen per cent of respondents nominated increased CAA charges as the main impediment to growth in their GA activities. This was followed by increased maintenance/repair and spare parts costs (9 per cent), increased cost of buying/leasing aircraft (8 per cent), increased competition (7 per cent), and inability to obtain sufficient finance (6 per cent).

TABLE 6.5 FACTORS PREVENTING GROWTH OF GA ACTIVITY BY AOC HOLDERS, FIRST RANKED RESPONSES

(first priorities among ranked responses)

	Number	*Per cent of total*
Increased CAA charges	27	13
Increased maintenance/repair and spare parts costs	19	9
Increased cost of buying/leasing aircraft	16	8
Increased competition	15	7
Inability to obtain sufficient finance	13	6
No plans to expand/not applicable	12	6
Inability to obtain suitable aircraft	11	5
Environmental regulations	9	4
Other government regulations	9	4
Increased insurance costs	8	4
Increased FAC charges	6	3
Shortage of suitably qualified maintenance staff	5	2
Increased wage costs	5	2
Increased fuel costs	4	2
Shortage of suitably qualified pilots	3	1
Increased local government/private airport authority charges	3	1
Difficulty in obtaining spare parts	3	1
Increased other government charges	1	1
Other unspecified	39	19
Total	208	100

Source BTCE survey estimates.

Unranked responses were again added to the ranked responses (as discussed for the non-commercial aircraft owners), and the results obtained are provided in table 6.6. On this basis, increased CAA charges and increased maintenance/repair and spare parts costs remained the two most frequently nominated impediments. However, increased insurance costs and increased fuel costs became the third and fourth most selected options.

TABLE 6.6 FACTORS PREVENTING GROWTH OF GA ACTIVITY BY AOC HOLDERS, ALL RESPONSES

(all responses)

	Number of comments	*Per cent of respondents who commented*
Increased CAA charges	208	62
Increased maintenance/repair and spare parts costs	183	55
Increased insurance costs	177	53
Increased fuel costs	164	49
Increased FAC charges	160	48
Increased local government/private airport authority charges	142	43
Increased cost of buying/leasing aircraft	135	40
Increased wage costs	114	34
Inability to obtain suitable aircraft	112	34
Increased competition	110	33
Inability to obtain sufficient finance	89	27
Environmental regulations	87	26
Difficulty in obtaining spare parts	80	24
Increased other government charges	70	21
Shortage of suitably qualified pilots	68	20
Shortage of suitably qualified maintenance staff	68	20
Other government regulations	65	19
Other unspecified	60	18
Shortage of adequate premises	53	16
No plans to expand/not applicable	12	4

Source BTCE survey estimates.

THREATS AND OPPORTUNITIES

Respondents to both the non-commercial aircraft owners and the AOC holders surveys were given the opportunity to describe any major threats or opportunities that they thought may affect GA activities at a regional or national level, in the comments blocks at the end of the questionnaires.[4] It should be noted that these comments were made by respondents in 1994 and therefore do not reflect any changes that have occurred since then.

Non-commercial aircraft owners

Seventy-four respondents (47 per cent of total respondents) provided comments on a range of topics in this comment block. Virtually all these comments identified threats to the industry rather than opportunities. The comments were divided into 11 main categories as presented in table 6.7.

TABLE 6.7 THREATS TO GA IDENTIFIED BY NON-COMMERCIAL AIRCRAFT OWNERS

(per cent of comments)

Comment		*Per cent*
Cost recovery and user-pays policies		**20**
Government and its aviation policies in general		**18**
Flying costs		**18**
General	7	
Aircraft purchase	4	
Maintenance	3	
Fuel	2	
Insurance	2	
CAA		**16**
Airspace	5	
Charges	3	
General administration	3	
Expertise/service quality	3	
Mandatory equipment	2	
Bureaucracy in general		**8**
FAC		**6**
Charges	5	
General administration	1	
Safety		**5**
Other airport authorities		**4**
Airport privatisation		**3**
Environmental policies and other regulatory policies		**2**
Miscellaneous		**1**
Total		**100**

Note Percentages may not add to 100 due to rounding.

Source BTCE survey estimates.

It is recognised that there is overlap between these categories. For example future CAA charges may be part of a cost recovery program. However, comments have been allocated to the category which most accurately reflects the respondents' particular wording and emphasis.

Comments on government aviation policy in general were critical with several respondents indicating that government charges and regulations would lead to the demise of the industry. It was suggested that government should actively foster GA as it is a vital part of Australia's transport system.

Several respondents saw bureaucracy as a threat to GA, particularly the amount of paperwork and red tape associated with aviation. It was also felt that the standard of services provided to GA by government agencies was falling while charges rose.

The most frequently mentioned threat to GA was cost recovery or user-pays policies. Respondents indicated that GA is discriminated against as they believed other transport modes were not subject to cost recovery and user-pays policies. They also stated that they were paying for services they did not need and/or use so this was not really user-pays. Recovery of costs related to safety regulation was particularly criticised.

More generally, several respondents saw aviation as a community obligation. Safety standards had fallen in recent years in the view of other respondents, with the specific areas of pilot training and 'cutting corners' under cost pressures being mentioned.

The CAA was criticised on a variety of issues. Both current and future charges were seen as major threats. Airspace changes were both praised and criticised, with the confusion surrounding proposed changes being highlighted. Some respondents more generally criticised the running of the CAA, mentioning the lack of experienced staff in particular.

Current and future charges of the FAC were also seen as a threat to GA, but by fewer respondents. Lack of appropriate expertise in the FAC was also raised. Charges at local aerodromes were also criticised. There were both positive and negative comments on the issue of privatisation of airports, but the uncertainty surrounding it was seen as a problem.

With respect to flying costs, the costs of fuel (fuel excise), aircraft purchase, maintenance and insurance were particularly highlighted as problems for the industry.

Among miscellaneous issues raised by respondents were the ageing of the aircraft fleet, and fuel availability in remote areas.

AOC holders

One hundred and sixty-two respondents provided 335 comments on a range of topics in response to the open-ended question on threats and opportunities for GA. The bulk of the comments were negative and, while covering a large range of aviation issues, were concerned mostly with regulatory issues. Table 6.8 provides details of the distribution of responses by comment group.

The CAA received the most criticism, attracting some 20 per cent of all comments, with administration and CAA charges being most criticised. The second most frequently mentioned issue was flying costs, which attracted 13 per cent of all comments. This included comments on cost components such as fuel, aircraft purchase prices, maintenance and insurance, as well as comments on the high overall cost of operating aircraft.

Negative comments about the Commonwealth Government and its aviation policies in general accounted for a further 13 per cent of all comments. This included comments on the absence of policies which fostered GA in Australia and more general criticism of a wide range of government policies not necessarily related to aviation.

Comments relating to the issue of competition in the GA industry made up 12 per cent of total comments. It was suggested that a lack of regulation of numbers in the industry and downward pressure on prices as a result of competition were threats to the future of the industry. A small number of respondents (6) also suggested that increased competition affected maintenance expenditure undertaken by commercial operators.

Ten per cent of all comments related to cost recovery and user-pays policies. These comments included: complaints that GA is cost-recovered while other modes are not; that GA operators should not have to pay for facilities and services which they did not use; and complaints about cost recovery of safety regulation.

The charges and general administration of the FAC were criticised in 6 per cent of all comments made by AOC holders. Most comments were concerned with the level of current or increasing FAC charges, uncertainty caused by the proposed FAC privatisation, and lack of expertise within the FAC.

Other issues considered to be threats to the future of GA included environmental policies, problems of safety, bureaucracy in general, airport privatisation, and the practices of non-FAC airport authorities.

TABLE 6.8 THREATS TO GA IDENTIFIED BY AOC HOLDERS
(per cent of comments)

Comment		*Per cent*
CAA		**21**
General administration	8	
Charges	8	
Expertise/service quality	4	
Airspace	2	
Flying costs		**13**
Fuel	4	
Aircraft purchase	3	
Maintenance	2	
Insurance	2	
General	2	
Government and its aviation policies in general		**13**
Competition		**12**
Need to regulate numbers in industry	3	
Price pressures	3	
Effect on maintenance expenditure	2	
From non-profit organisations	1	
From ultralights	1	
Unlicensed operators	1	
From other transport modes	1	
Cost recovery and user-pays policies		**10**
FAC		**6**
Charges	4	
General administration	2	
Environmental and other regulatory policies		**5**
Safety		**4**
Bureaucracy in general		**4**
Airport privatisation		**4**
Other airport authorities		**1**
Miscellaneous		**8**
Total		**100**

Note Percentages may not add to 100 due to rounding.

Source BTCE survey estimates.

Findings of previous BTE study

It is interesting to compare the major comments by respondents to the BTCE survey with those reported from the BTE General Aviation Survey 1979. The most frequently expressed views in the BTE survey were:

- fuel costs were rising excessively;
- fuel shortages were a major problem to all types of operators;
- Air Navigation Charges were excessive or could be reduced; and
- the Department of Transport's cost-recovery program was seen by the operators as inappropriate, unworkable or unreasonable to GA (BTE 1980, p. 215).

NOTES

1. Includes low capacity RPT respondents.
2. See question 24 of the BTCE GA survey of aircraft owners (reproduced at p. 200 of appendix I), question 30 of the BTCE GA survey of AOC holders (reproduced at p. 205 of appendix I) and question 28 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 229 of appendix I). For all of these, a 'large' change was defined as involving a change of 50 per cent or more over the five-year period and a 'small' change was defined as involving a change of less than 50 per cent over the five-year period.
3. See question 25 of the BTCE GA survey of aircraft owners (reproduced at p. 250 of appendix I), question 31 of the BTCE GA survey of AOC holders (reproduced at p. 206 of appendix I) and question 29 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 230 of appendix I).
4. See question 26 of the BTCE GA survey of aircraft owners (reproduced at p. 251 of appendix I), question 32 of the BTCE GA survey of AOC holders (reproduced at p. 207 of appendix I) and question 30 of the BTCE GA survey of RPT-AOC holders (reproduced at p. 231 of appendix I).

APPENDIX I SURVEY DOCUMENTS

This appendix contains the following survey documents:

BTCE General Aviation Survey 1994: AOC Holders

BTCE General Aviation Survey 1994: AOC Holders (including RPT Operators)

BTCE General Aviation Survey 1994: Aircraft Owners

BTCE GENERAL AVIATION SURVEY 1994: AOC HOLDERS

The following questionnaire was distributed to a sample of AOC holders (excluding those holding an AOC which allowed them to undertake regular public transport activities).

**bureau of
transport and communications
economics**

GENERAL AVIATION SURVEY 1994

AOC HOLDERS

COMMERCIAL-IN-CONFIDENCE
Reply will only be seen by authorised BTCE representatives

Please return completed survey form within 10 days

BTCE GENERAL AVIATION SURVEY 1994

Dear Aircraft Operator

You have been randomly selected from the Register of Aircraft Operators' Certificates to participate in this survey.

The purpose of this survey is to collect up-to-date information that can form a better basis for Government policy analysis and informed debate on General Aviation (GA) issues.

Despite the importance of GA, there is a lack of information about it except for basic activity data. The last comprehensive study of GA in Australia is over a decade old and it is expected that the issues affecting GA are now different. Up-to-date accurate information is therefore needed to assess the current status and the future of GA.

The Bureau of Transport and Communications Economics is a centre for applied economic research in the Commonwealth Department of Transport. We are a professionally independent organisation that conducts objective and unbiased research, and are not linked with bodies such as the CAA and the FAC. During the planning stages of our study we consulted all major GA associations, all of which expressed support for this survey.

We are aware that you may already respond to the 6-monthly *Survey of Hours Flown and Landings* carried out by the Department of Transport. The information you regularly provide is greatly appreciated but we are sure you will understand that we need some additional information for an analysis of GA to be undertaken.

Your participation in this survey is vital. Only with your help in completing the questionnaire can comprehensive aggregated information on your industry be compiled for use by all: aircraft operators; GA associations; government bodies.

The little time you spend in completing the questionnaire will mean a big difference in the accuracy and reliability of the results of the survey and therefore the credibility of our report.

Yours faithfully

Maurice Haddad
Director

April 1994

BTCE GENERAL AVIATION SURVEY 1994

Completion Information

SURVEY ANONYMITY AND CONFIDENTIALITY ARRANGEMENTS

- This survey has been organised to guarantee you **complete anonymity** and the **strictest confidentiality** of the information you provide. Two reply paid envelopes are enclosed. The small envelope is for the tear-off information sheet at the bottom of this page. The larger envelope is for the completed questionnaire.
- The tear-off sheet will tell us you have responded, but not which questionnaire we have received from you. Thus we will be able to avoid unnecessarily bothering you when we follow up those who have not responded.
- Only the pooled results of the survey will be published. Individual survey forms will be destroyed and individual responses will not be available in any form to other organisations.

SOURCE DOCUMENTS

- The requested information should be available from your aircraft records and your profit and loss and balance sheet statements for 1992-93.
- Where consulting actual records would be too time consuming, please give us your best estimate.

REPORT ON SURVEY FINDINGS

- A full copy of our report will be given to all participating GA associations. If you would like a free copy of the summary of the survey results for yourself, please indicate this on the tear-off information sheet at the bottom of this page.

ASSISTANCE AND FURTHER INFORMATION

- If you have any questions about the study or the questionnaire, or you would like some assistance in completing the questionnaire, please phone one of our project team (Paula, Mick or Olya) on the freecall number 1800 673 404 or write to the GA Survey Team, GPO Box 501, Canberra ACT 2601.

AFTER COMPLETING THE QUESTIONNAIRE, PLEASE COMPLETE THIS FORM and PLACE IT IN THE SMALL REPLY PAID ENVELOPE

Would you like a free copy of the summary of the survey results when it is completed?

Yes ☐ **No** ☐

PLEASE SEND US YOUR COMPLETED QUESTIONNAIRE IN THE LARGE REPLY PAID ENVELOPE WITHIN 10 DAYS

BTCE GENERAL AVIATION SURVEY 1994

Definitions

For the purposes of this survey the following terms are defined as below.

Passenger charter - carriage of passengers for hire or reward

Freight charter - carriage of freight for hire or reward

Flying training - flying for the purposes of issue or renewal of a pilot licence or rating, including solo navigation exercises

Aerial agriculture - carriage or spreading of seed or chemicals for agricultural purposes

Community service flying - police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance, disaster assistance, etc

Other aerial work - Aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting, etc

Business flying - flying associated with a business but not for hire or reward; excludes flying training for employees

BTCE GENERAL AVIATION SURVEY 1994

Section 1 General information

This section seeks general information about this organisation.

1. Which of the following Aircraft Operators' Certificate categories does this organisation hold?

Please tick as many boxes as appropriate.

Charter ☐ 1
Aerial work: aerial agriculture ☐ 2
Aerial work: flying training ☐ 3
Aerial work: other ☐ 4
Other _____ ☐ 5
Please specify

2. Where is the main base aerodrome of this organisation?

Please specify postcode and state. For balloons, please indicate where they are housed.

Postcode of aerodrome ☐☐☐☐
State ☐☐☐

3. What type of aerodrome is the main base aerodrome of this organisation?

Please tick the appropriate box.

FAC Group 1 (SY, ML, BN, AD, PH, HB) ☐ 1
FAC Group 2 (EN, CB, DN, LT, TL, AS, CG, MA, TC) ☐ 2
FAC Group 3 (BK, HOX, CN, MB, AF, PF, JT) ☐ 3
Other licensed aerodrome ☐ 4
Unlicensed airstrip ☐ 5
Other _____ ☐ 6
Please specify

4. In which year did this organisation commence GA activities? 1 9 ☐☐

BTCE GENERAL AVIATION SURVEY 1994

5. Does this organisation use a financial year ending 30 June?

Yes ☐ 1
No ☐ 2 ⟶ **Please indicate the date on which this organisation's financial year ends (eg 31 December or 31 March)** _____

Please note

*This survey relates to the financial year 1992-93, that is 1 July 1992 to 30 June 1993. However, if you have a different financial year, please treat all references to 1992-93 as references to **your** financial year (eg a financial year ending 31 December 1992 or 31 March 1993).*

*If your records for 1992-93 are not available, please provide data for the last available financial year. If you are not using 1992-93, please specify the year being used*_____

*Please complete the **whole** of this form for **your** financial year.*

6. Did this organisation operate for all of 1992-93 (or *your* financial year)?

Yes ☐ 1
No ☐ 2 ⟶ **Please indicate period of operation** **From** / / **To** / /

and the reason this organisation did not operate for all of 1992-93.

_____

_____

7. How many people were directly employed by this organisation on 30 June 1993 (or at the end of *your* financial year)?

Include any owners who are involved in the day-to-day running of this organisation. Where employees perform duties in more than 1 category, please record them only once, according to their main duty.

	Paid employees		**Unpaid or voluntary employees**
	Full-time	**Part-time or casual**	
Pilots	_____	_____	_____
Maintenance staff	_____	_____	_____
Management staff	_____	_____	_____
Clerical/other office staff	_____	_____	_____
Non-GA staff*	_____	_____	_____
TOTAL EMPLOYED	_____	_____	_____

** **Non-GA staff** are those employed specifically for business activities that are not directly related to GA (eg. aero club bar staff).*

BTCE GENERAL AVIATION SURVEY 1994

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8. What is the combined flying experience of all pilots employed by this organisation?

Include manager and owners involved in the day-to-day running of this organisation if they are pilots.

Combined pilot hours flown in 1992-93 *for this organisation* _____
Combined accumulated pilot hours of all employed pilots _____

9. What is the legal status of this organisation?

Please tick the appropriate box.

- ☐ 1 Sole proprietorship
- ☐ 2 Partnership
- ☐ 3 Private company

- ☐ 4 Company limited by guarantee
- ☐ 5 Incorporated association
- ☐ 6 Other recreational club
- ☐ 7 Public company
- ☐ 8 Government department
- ☐ 9 Statutory body
- ☐ 10 Non-government charitable and/or welfare organisation
- ☐ 11 Other _____ *Please specify*

Please go directly to Section 2 on page 5

10. How many owners of this organisation (including part owners) are pilots?

Please indicate number of owners in each category.

Non-pilot ☐ A
Pilot ☐ B ⟶ **How many pilot hours were flown by the owner(s)?**
Combined total pilot hours flown in 1992-93 *for this organisation* _____
Accumulated pilot hours of owner(s) _____

11. Is the manager of this organisation also an owner of this organisation?

Yes ☐ 1 ⟶ *Please go to Question 13*
No ☐ 2

BTCE GENERAL AVIATION SURVEY 1994

12. Is the manager of this organisation a pilot?

No ☐ 1
Yes ☐ 2 ⟶ **How many pilot hours were flown by the manager?**

Pilot hours flown in 1992-93 *for this organisation* _____
Accumulated pilot hours of manager _____

13. What attracted the owner(s) of this organisation to GA as a business?

Please number up to three boxes in order of importance
(1 = most important, 3 = less important).

Good commercial prospects ☐ A
Personal interest in aviation ☐ B
Taxation considerations ☐ C
Family business ☐ D
Other _____ ☐ E
Please specify

14. Why do the owner(s) of this organisation remain in GA as a business?

Please number up to three boxes in order of importance
(1 = most important, 3 = less important).

Good commercial gain ☐ A
Personal interest in aviation ☐ B
Taxation considerations ☐ C
Family business ☐ D
Unable to sell the business ☐ E
Lack of suitable alternative business prospects ☐ F
Other _____ ☐ G
Please specify

15. Before owning this organisation, were any of the owners, including part owners, operating other businesses (that is, *any* type of business)?

No ☐ 1
Yes ☐ 2 ⟶ **For how long had the owners operated businesses?**

_____ combined total years

BTCE GENERAL AVIATION SURVEY 1994

Section 2 Aircraft characteristics and aircraft activity

This section seeks the activity levels and general characteristics of all aircraft operated by this organisation, whether these aircraft were owned, hired or cross-hired by you during 1992-93 (that is 1 July 1992 to 30 June 1993 or *your* financial year).

Where consulting actual records would be too time consuming, please give us your best estimates.

Some of the information requested here may already be provided by you for the Department of Transport's *Survey of Hours Flown and Landings*. However, we also need to ask you this information in our survey, so we can match financial information with activity levels while maintaining your anonymity.

BTCE GENERAL AVIATION SURVEY 1994

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16. Has the size of this organisation's <u>owned</u> aircraft fleet (including co-owned aircraft) changed since 30 June 1992?

No ☐ 1
Yes ☐ 2 ⟶ **Number of aircraft increase** _____
OR
Number of aircraft decrease _____

17. Please estimate how much fuel this organisation bought in an average month during 1992-93

	Avgas	**Avtur**	**Other** *Please specify:*
Number of litres bought in an average month	litres	litres	litres
% used in this organisation's owned aircraft	%	%	%

18. Please complete the following table for each aircraft this organisation <u>owned</u> (including co-owned aircraft) during 1992-93.

Aircraft characteristics - <u>Owned</u> aircraft in 1992-93
If this organisation owns more than 8 aircraft please copy and attach additional sheets

	Aircraft 1	**Aircraft 2**	**Aircraft 3**	**Aircraft 4**
Aircraft type *Please specify:* (eg Cessna 150)				
Aircraft age *Please specify:* Age in years Total time	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours
Current market value of aircraft *Please estimate to nearest $5000:*	$_____,000	$_____,000	$_____,000	$_____,000

	Aircraft 5	**Aircraft 6**	**Aircraft 7**	**Aircraft 8**
Aircraft type *Please specify:* (eg Cessna 150)				
Aircraft age *Please specify:* Age in years Total time	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours
Current market value of aircraft *Please estimate to nearest $5000:*	$_____,000	$_____,000	$_____,000	$_____,000

BTCE GENERAL AVIATION SURVEY 1994

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19. Please complete the following table for the total of each category of aircraft <u>owned</u> (including co-owned aircraft) by this organisation in 1992-93.

Where consulting actual records would be too time consuming, please give us your best estimates. Please include all activity whether performed by this organisation or performed by those who hired or cross-hired the aircraft from this organisation.

Aircraft activity - <u>Owned</u> aircraft in 1992-93

	FIXED WING			
	Piston		Turbine	
	Single	Multi	Single	Multi
Total hours flown in 1992-93				
Total landings* during 1992-93				
Proportion of total landings* at base during 1992-93	%	%	%	%

	ROTARY WING		
	Piston single	Turbine single	Turbine twin
Total hours flown in 1992-93			
Total landings during 1992-93			
Proportion of total landings at base during 1992-93	%	%	%

	OTHER AIRCRAFT *Please specify aircraft type*		
Total hours flown in 1992-93			
Total landings* during 1992-93			
Proportion of total landings* at base during 1992-93	%	%	%

* *Please exclude touch and go landings*

BTCE GENERAL AVIATION SURVEY 1994

20. Please complete the following table for the total of each category of aircraft this organisation cross-hired or hired *from* other parties during 1992-93.

IF NOT APPLICABLE, PLEASE GO TO QUESTION 21.

Where consulting actual records would be too time consuming, please give us your best estimates. Include all hire/cross-hire periods including very short term (eg 1 hour). Only include the activity undertaken for the period the aircraft was operated by this organisation.

Aircraft activity - Aircraft cross-hired or hired in 1992-93

	FIXED WING			
	Piston		Turbine	
	Single	Multi	Single	Multi
Number of aircraft on-line in 1992-93				
Number of times aircraft were hired/cross-hired on a short term basis (other than those on-line) in 1992-93				
Total hours flown in 1992-93				
Landings* during 1992-93				

	ROTARY WING		
	Piston single	Turbine single	Turbine twin
Number of aircraft on-line in 1992-93			
Number of times aircraft were hired/cross-hired on a short term basis (other than those on-line) in 1992-93			
Total hours flown in 1992-93			
Landings during 1992-93			

	OTHER AIRCRAFT *Please specify aircraft type*		
Number of aircraft on-line in 1992-93			
Number of times aircraft were hired/cross-hired on a short term basis (other than those on-line) in 1992-93			
Total hours flown in 1992-93			
Landings* during 1992-93			

**Please exclude touch and go landings.*

BTCE GENERAL AVIATION SURVEY 1994

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21. Please complete the following table for the total of all aircraft operated (whether owned, co-owned, hired or cross-hired *from* other parties) by this organisation during 1992-93.

Where consulting actual records would be too time consuming, please give us your best estimates. Please note that for aircraft hired or cross-hired from other parties, only include the activity undertaken for the period the aircraft was operated by this organisation.

All aircraft activity - 1992-93

Activity level → / Activity type ↓	Total hours flown in 1992-93	Hours flown in owned aircraft in 1992-93	Passengers or freight carried in 1992-93
Passenger charter			pax
Freight charter			kg
Flying training Including flying training for employees			
Aerial agriculture			
Community services flying Police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance, disaster assistance			
Other aerial work			
Business flying Flying associated with ***this*** business but not for hire or reward, excluding flying training for employees			
Hire to commercial operators Where aircraft are hired or cross-hired ***out*** to other commercial operators			
Hire to private flyers Where aircraft are hired ***out*** for private flying			
Other *Please specify:* _____ _____			
TOTAL HOURS FLOWN			

Section 3 Financial information

This section seeks some standard accounting information on this organisation. Much of the information sought will probably be contained in standard accounting Balance Sheets and Profit and Loss Statements for 1992-93 (that is 1 July 1992 to 30 June 1993 or *your* financial year as indicated in Question 5).

The following questions will provide information that will allow the examination of the current financial status of the GA industry, and allow comparisons of GA with other industries.

BTCE GENERAL AVIATION SURVEY 1994

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22. Please select the pricing policy or policies mainly used by this organisation for its GA flying activities. In the column on the right, please specify the types of service(s) to which these policies were applied.

Pricing policy		**Service for which policy was used (eg charter, spraying, survey, etc)**
"What the market will bear" (maximum price customers will pay)	☐ 1	_____
Price at or below competitors' services	☐ 2	_____
Cost plus profit markup (eg cost +10%)	☐ 3	_____
Price decided by negotiation with customers	☐ 4	_____
Cost recovery	☐ 5	_____
Other _____ *Please specify*	☐ 6	_____

Please make any comments you wish on pricing policies in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

_____

_____

_____

_____

23. Does this organisation undertake business activity that is <u>not</u> related to GA?

No ☐ 1 ⟶ *Please go to Question 27 on page 13*
Yes ☐ 2 ⟶ **Please specify non-GA activity** _____

BTCE GENERAL AVIATION SURVEY 1994

24. For financial purposes (both profit and loss statement and balance sheet) does this organisation separately identify its non-GA business activity?

Yes ☐ 1
No ☐ 2 ——→ *Please go to Question 26*

25. Please estimate the percentage of this organisation's total income that is attributable to your NON-GA RELATED business activities.

Percent of total income _____%

For the remainder of the financial questions please provide information for this organisation's GA-RELATED ACTIVITIES ONLY ——→ *Please go to Question 27*

26. Please estimate the percentage of the following items that is attributable to your NON-GA RELATED business activities.

For the purposes of this survey we are only interested in your GA-related activity. This question requests information that will allow us to remove your non-GA business activity from the information provided in the following questions.

	%
Percent of total income	_____
Percent of total expenses	_____
Percent of total assets	_____
Percent of total liabilities	_____
Percent of total net capital expenditure	_____

For the remainder of the financial questions please provide information for the TOTAL OF ALL BUSINESS ACTIVITY.

BTCE GENERAL AVIATION SURVEY 1994

Please note

To save time answering Questions 27 and 28, you may wish to simply attach a photocopy of the relevant sections of your accounts if they provide the information requested. Any text which may identify this organisation should be masked during copying to maintain anonymity.

If your accounts are generally publicly available, such as for a public company or aero club, you may wish to attach a copy of your annual report for 1992-93.

27. Please complete the following Profit and Loss Statement information for 1992-93 (or for *your* financial year).

Please round to the nearest $1000. Where information for individual categories is not available please provide totals in the right hand column.

INCOME

	$	$
GA flying income:		
Passenger charter	_____	
Freight charter	_____	
Flying training	_____	
Aerial agriculture	_____	
Community services	_____	
Other aerial work	_____	
Hiring out aircraft to other commercial operators	_____	
Hiring out aircraft to private flyers	_____	
Other _____ *Please specify*	_____	
TOTAL		_____
Gross profit* from other GA-related activity (including GA maintenance/engineering for others, sale of aircraft and parts as an aircraft dealer, airshows, membership fees/subscriptions, ground school income, fuel concession income, etc)		_____
Income from all other sources (including net profit/loss on sale of non-current assets, interest income, rent, gross profit* from bar/accommodation, and government grants, donations, sponsorship, excluding capital grants, etc)		_____
TOTAL INCOME		_____

* Gross profit is sales revenue less cost of goods sold

BTCE GENERAL AVIATION SURVEY 1994

EXPENSES	$	$
Aircraft		
Fuel and oil		
Aircraft insurance		
Hire or cross-hire of aircraft *from* other parties		
Total aircraft expenses		
Aircraft and equipment maintenance/engineering (ie recurring maintenance, and engine and airframe overhaul)		
Maintenance by external organisations		
Inhouse maintenance (eg parts, consumables)		
Per cent incurred in maintenance for others_____%		
Total aircraft and equipment maintenance/engineering expenses		
Labour costs of direct employees (include wages and salaries plus labour oncosts such as holiday pay, long service leave, superannuation, worker's compensation and allowances)		
Pilots		
Maintenance staff		
Per cent incurred in maintenance for others_____%		
Other employees		
Total labour costs		
Interest payments on borrowed funds (exclude repayments of loan principal)		
Aircraft loan interest payments		
Other interest payments (eg loans, bank overdraft)		
Total interest payments		
Provisions for depreciation		
Aircraft		
Other non-current assets		
Total provision for depreciation		
Government charges		
FAC charges: GAIT		
Other landing and parking		
Other aircraft charges		
Rental of hangars and office space		
CAA charges: Aircraft charges		
Other (eg publications)		
Local govt/private airport authority charges:		
Fixed annual charges		
Other landing and parking charges		
Rental of hangars and office space		
Other (eg radio licence fees)		
Total government charges		

BTCE GENERAL AVIATION SURVEY 1994

Overheads	$	$
Advertising, marketing, promotional expenses		
Payments to other organisations for flying training		
Rental of hangars/office space (other than from airport authorities)		
Fees paid to associations		
Other overheads		
Total overheads		
Any other expenses not included above		
TOTAL EXPENSES		

NET PROFIT (LOSS)

Please indicate losses by placing value in brackets

Net profit (loss) before tax and abnormal and extraordinary items	
Tax payable, if applicable	
Profit (loss) on abnormal and extraordinary items *Please specify:*	
Net profit (loss) after tax and abnormal and extraordinary items	

BTCE GENERAL AVIATION SURVEY 1994

28. Please complete the following Balance Sheet information as at 30 June 1993 (or as at the end of *your* financial year).

Please round to the nearest $5000. Where information for individual categories is not available please provide totals in the right hand column.

Balance Sheet as at 30 June 1993

ASSETS	$	$
Current Assets (including cash at bank, debtors, supplies, stock, pre-paid expenses, etc)		_____
Non-Current Assets (less accumulated depreciation where applicable)		
All aircraft	_____	
Other non-current assets (including goodwill)	_____	
Total non-current assets		_____
TOTAL ASSETS		_____
LIABILITIES		
Current Liabilities (including bank overdraft, creditors, provision for taxation, etc)		_____
Non-Current Liabilities		
Aircraft debt	_____	
Other longer-term debt	_____	
Total non-current liabilities		_____
TOTAL LIABILITIES		_____
EQUITY		
TOTAL EQUITY (including proprietors' or shareholders' funds, reserves, retained earnings)		_____

29. Please estimate the value of this organisation's acquisition and disposal of capital goods (eg aircraft, equipment, hangars) in 1992-93.

Cost of acquisition of aircraft, equipment, land and buildings, etc $_____

Revenue from disposal of aircraft, equipment, land and buildings, etc $_____

Section 4 Views and comments

This section asks for your views and comments on the future prospects of this organisation's GA activity and GA overall.

30. What are this organisation's expectations for the development of its GA activities over the next 5 years?

Please tick the appropriate box in each row
(large = a total of 50% or more over the 5 year period,
small =a total of less than 50% over the 5 year period)

Flying activities

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Employment

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Capital expenditure

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Please make any comments you wish on these expectations in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

BTCE GENERAL AVIATION SURVEY 1994

31. What factors do you believe will have the most impact in preventing the planned or potential expansion of this organisation's GA activities in the next 5 years?

Please number in order of size of impact ***as many*** *boxes as appropriate (1 = largest impact, 2 = smaller impact than 1, etc).*

- Shortage of suitably qualified pilots ☐ A
- Shortage of suitably qualified maintenance staff ☐ B
- Shortage of adequate premises ☐ C
- Inability to obtain suitable aircraft ☐ D
- Difficulty in obtaining spare parts ☐ E
- Inability to obtain sufficient finance ☐ F
- Increased wage costs ☐ G
- Increased maintenance/repair and spare parts costs ☐ H
- Increased fuel costs ☐ I
- Increased insurance costs ☐ J
- Increased cost of buying/leasing aircraft ☐ K
- Increased CAA charges ☐ L
- Increased FAC charges ☐ M
- Increased local government/private airport authority charges ☐ N
- Increased other government charges *Please specify*_____ ☐ O
- Increased competition ☐ P
- Environmental regulations *Please specify*_____ ☐ Q
- Other government regulations *Please specify*_____ ☐ R
- Other *Please specify*_____ ☐ S

Please make any comments you wish on these factors in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

_____

_____

_____

_____

BTCE GENERAL AVIATION SURVEY 1994

32. Please use the space below to describe any major threats or opportunities that you think may affect GA activities at a regional or national level.

You may also use this space to expand upon any of the answers given in this survey (please specify question number if appropriate).

THANK YOU FOR YOUR CO-OPERATION
Please remember to detach the slip on page iii and return it and the completed questionnaire in the separate envelopes provided.

BTCE GENERAL AVIATION SURVEY 1994: AOC HOLDERS (INCLUDING RPT OPERATORS)

The following questionnaire was distributed *only* to AOC holders who held an AOC which allowed them to undertake low capacity regular public transport activities. The questionnaire differed only slightly from that sent to other AOC holders, with some questions specifically mentioning low capacity RPT activities in addition to GA activities.

**bureau of
transport and communications
economics**

GENERAL AVIATION SURVEY 1994

AOC HOLDERS
(including RPT operators)

COMMERCIAL-IN-CONFIDENCE
Reply will only be seen by authorised BTCE representatives

Please return completed survey form within 10 days

BTCE GENERAL AVIATION SURVEY 1994

Dear Aircraft Operator

The Register of Aircraft Operators' Certificates indicates that you hold an AOC allowing you to undertake RPT operations. We are asking you to participate in this survey because most AOC holders undertake some General Aviation activity. Even if GA is not a major aspect of your aviation activity, we ask you to complete this form.

The purpose of this survey is to collect up-to-date information that can form a better basis for Government policy analysis and informed debate on General Aviation (GA) issues.

Despite the importance of GA, there is a lack of information about it except for basic activity data. The last comprehensive study of GA in Australia is over a decade old and it is expected that the issues affecting GA are now different. Up-to-date accurate information is therefore needed to assess the current status and the future of GA.

The Bureau of Transport and Communications Economics is a centre for applied economic research in the Commonwealth Department of Transport. We are a professionally independent organisation that conducts objective and unbiased research, and are not linked with bodies such as the CAA and the FAC. During the planning stages of our study we consulted all major GA associations and the Regional Airlines Association of Australia, all of which expressed support for this survey.

We are aware that you may already respond to the 6-monthly *Survey of Hours Flown and Landings* carried out by the Department of Transport. The information you regularly provide is greatly appreciated but we are sure you will understand that we need some additional information for an analysis of GA to be undertaken.

Your participation in this survey is vital. Only with your help in completing the questionnaire can comprehensive aggregated information on your industry be compiled for use by all: aircraft operators; aviation associations; government bodies.

The little time you spend in completing the questionnaire will mean a big difference in the accuracy and reliability of the results of the survey and therefore the credibility of our report.

Yours faithfully

Maurice Haddad
Director

June 1994

BTCE GENERAL AVIATION SURVEY 1994

Completion Information

SURVEY CONFIDENTIALITY ARRANGEMENTS

- This survey has been organised to ensure the ***strictest confidentiality*** of the information you provide. Two reply paid envelopes are enclosed. The small envelope is for the tear-off information sheet at the bottom of this page. The larger envelope is for the completed questionnaire.
- The tear-off sheet will tell us you have responded, but not which questionnaire we have received from you. Thus we will be able to avoid unnecessarily bothering you when we follow up those who have not responded.
- Only the pooled results of the survey will be published. Individual survey forms will be destroyed and individual responses will not be available in any form to other organisations.

SOURCE DOCUMENTS

- The requested information should be available from your aircraft records and your profit and loss and balance sheet statements for 1992-93.
- Where consulting actual records would be too time consuming, please give us your best estimate.

REPORT ON SURVEY FINDINGS

- A full copy of our report will be given to all participating aviation associations. If you would like a free copy of the summary of the survey results for yourself, please indicate this on the tear-off information sheet at the bottom of this page.

ASSISTANCE AND FURTHER INFORMATION

- If you have any questions about the study or the questionnaire, or you would like some assistance in completing the questionnaire, please phone one of our project team (Andrew Biggs or Ben Wilson) on the freecall number 1800 673 404 or write to the GA Survey Team, GPO Box 501, Canberra ACT 2601.

AFTER COMPLETING THE QUESTIONNAIRE, PLEASE COMPLETE THIS FORM and PLACE IT IN THE SMALL REPLY PAID ENVELOPE

Would you like a free copy of the summary of the survey results when it is completed?

Yes ☐ **No** ☐

PLEASE SEND US YOUR COMPLETED QUESTIONNAIRE IN THE LARGE REPLY PAID ENVELOPE WITHIN 10 DAYS

BTCE GENERAL AVIATION SURVEY 1994

Definitions

For the purposes of this survey the following terms are defined as below.

Passenger charter - carriage of passengers for hire or reward

Freight charter - carriage of freight for hire or reward

Flying training - flying for the purposes of issue or renewal of a pilot licence or rating, including solo navigation exercises

Aerial agriculture - carriage or spreading of seed or chemicals for agricultural purposes

Community service flying - police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance, disaster assistance, etc

Other aerial work - Aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting, etc

RPT (Regular Public Transport) services - scheduled airline services available to the public for carriage of passengers or cargo, including domestic and regional (or "commuter") airline operations.

Business flying - flying associated with a business but not for hire or reward; excludes flying training for employees

BTCE GENERAL AVIATION SURVEY 1994

Section 1 General information

This section seeks general information about this organisation.

1. Which of the following Aircraft Operators' Certificate categories does this organisation hold?

Please tick as many boxes as appropriate.

Charter ☐ 1
Aerial work: aerial agriculture ☐ 2
Aerial work: flying training ☐ 3
Aerial work: other ☐ 4
RPT ☐ 5
Other _____ ☐ 6
Please specify

2. Where is the main base aerodrome of this organisation?

Please specify postcode and state.

Postcode of aerodrome ☐☐☐☐
State ☐☐☐

3. What type of aerodrome is the main base aerodrome of this organisation?

Please tick the appropriate box.

FAC Group 1 (SY, ML, BN, AD, PH, HB) ☐ 1
FAC Group 2 (EN, CB, DN, LT, TL, AS, CG, MA, TC) ☐ 2
FAC Group 3 (BK, HOX, CN, MB, AF, PF, JT) ☐ 3
Other licensed aerodrome ☐ 4
Unlicensed airstrip ☐ 5
Other _____ ☐ 6
Please specify

BTCE GENERAL AVIATION SURVEY 1994

4. In which year did this organisation commence aviation activities?

in General Aviation | 1 | 9 | | |
in RPT | 1 | 9 | | |

5. Does this organisation use a financial year ending 30 June?

Yes ☐ 1
No ☐ 2 ⟶ **Please indicate the date on which this organisation's financial year ends (eg 31 December or 31 March)** _____

Please note

*This survey relates to the financial year 1992-93, that is 1 July 1992 to 30 June 1993. However, if you have a different financial year, please treat all references to 1992-93 as references to **your** financial year (eg a financial year ending 31 December 1992 or 31 March 1993).*

*If your records for 1992-93 are not available, please provide data for the last available financial year. If you are not using 1992-93, please specify the year being used*_____

*Please complete the **whole** of this form for **your** financial year.*

6. Did this organisation operate for all of 1992-93 (or *your* financial year)?

Yes ☐ 1
No ☐ 2 ⟶ **Please indicate period of operation** **From** / / **To** / /

and the reason this organisation did not operate for all of 1992-93.

_____

_____

BTCE GENERAL AVIATION SURVEY 1994

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7. **How many people were directly employed by this organisation on 30 June 1993 (or at the end of *your* financial year)?**

Include any owners who are involved in the day-to-day running of this organisation. Where employees perform duties in more than 1 category, please record them only once, according to their main duty.

	Paid employees		Unpaid or voluntary employees
	Full-time	Part-time or casual	
Pilots	_____	_____	_____
Maintenance staff	_____	_____	_____
Management staff	_____	_____	_____
Clerical/other office staff	_____	_____	_____
Other staff	_____	_____	_____
TOTAL EMPLOYED	_____	_____	_____

8. **What is the combined flying experience of all pilots employed by this organisation?**

Include manager and owners involved in the day-to-day running of this organisation if they are pilots.

Combined pilot hours flown in 1992-93 *for this organisation* _____
Combined accumulated pilot hours of all employed pilots _____

9. **What is the legal status of this organisation?**

Please tick the appropriate box.

- ☐ 1 Sole proprietorship
- ☐ 2 Partnership
- ☐ 3 Private company
- ☐ 4 Company limited by guarantee
- ☐ 5 Incorporated association
- ☐ 6 Other recreational club
- ☐ 7 Public company
- ☐ 8 Government department
- ☐ 9 Statutory body
- ☐ 10 Non-government charitable and/or welfare organisation
- ☐ 11 Other _____ *Please specify*

Please go directly to Section 2 on page 6

BTCE GENERAL AVIATION SURVEY 1994

10. How many owners of this organisation (including part owners) are pilots?

Please indicate number of owners in each category.

Non-pilot ☐ A
Pilot ☐ B ⟶ **How many pilot hours were flown by the owner(s)?**
Combined total pilot hours flown in 1992-93 *for this organisation* _____
Accumulated pilot hours of owner(s) _____

11. Is the manager of this organisation also an owner of this organisation?

Yes ☐ 1 ⟶ *Please go to Question 13*
No ☐ 2

12. Is the manager of this organisation a pilot?

No ☐ 1
Yes ☐ 2 ⟶ **How many pilot hours were flown by the manager?**
Pilot hours flown in 1992-93 *for this organisation* _____
Accumulated pilot hours of manager _____

13. What attracted the owner(s) of this organisation to GA as a business?

Please complete this question for GA aspects only, even if RPT aspects are more important

Please number up to three boxes in order of importance
(1 = most important, 3 = less important).

Good commercial prospects ☐ A
Personal interest in aviation ☐ B
Taxation considerations ☐ C
Family business ☐ D
Other _____ ☐ E
Please specify

BTCE GENERAL AVIATION SURVEY 1994

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14. Why do the owner(s) of this organisation remain in GA as a business?

Please complete this question for GA aspects only, even if RPT aspects are more important

Please number up to three boxes in order of importance
(1 = most important, 3 = less important).

Good commercial gain ☐ A
Personal interest in aviation ☐ B
Taxation considerations ☐ C
Family business ☐ D
Unable to sell the business ☐ E
Lack of suitable alternative business prospects ☐ F
Other _____ ☐ G
Please specify

15. Before owning this organisation, were any of the owners, including part owners, operating other businesses (that is, *any* type of business)?

No ☐ 1
Yes ☐ 2 ⟶ **For how long had the owners operated businesses?**

_____ combined total years

BTCE GENERAL AVIATION SURVEY 1994

Section 2 Aircraft characteristics and aircraft activity

This section seeks the activity levels and general characteristics of all aircraft operated by this organisation, whether these aircraft were owned, hired or cross-hired by you during 1992-93 (that is 1 July 1992 to 30 June 1993 or *your* financial year).

Where consulting actual records would be too time consuming, please give us your best estimates.

Some of the information requested here may already be provided by you for the Department of Transport's *Survey of Hours Flown and Landings*. However, we also need to ask you this information in our survey, so we can match financial information with activity levels while maintaining your anonymity.

16. Has the size of this organisation's owned aircraft fleet (including co-owned aircraft) changed since 30 June 1992?

No ☐ 1
Yes ☐ 2 ⟶ **Number of aircraft increase** _____
OR
Number of aircraft decrease _____

17. Please estimate how much fuel this organisation bought in an average month during 1992-93

	Avgas	**Avtur**	**Other** *Please specify:*
Number of litres bought in an average month	litres	litres	litres
% used in this organisation's owned aircraft	%	%	%

BTCE GENERAL AVIATION SURVEY 1994

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18. Please complete the following table for each aircraft this organisation <u>owned</u> (including co-owned aircraft) during 1992-93.

Aircraft characteristics - <u>Owned</u> aircraft in 1992-93

If this organisation owns more than 8 aircraft please copy and attach additional sheets

	Aircraft 1	Aircraft 2	Aircraft 3	Aircraft 4
Aircraft type *Please specify:* (eg Piper PA-31-350)				
Aircraft age *Please specify:* Age in years Total time	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours
Current market value of aircraft *Please estimate to nearest $5000:*	$_____,000	$_____,000	$_____,000	$_____,000
Extent to which aircraft is used for RPT services *Please tick*	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3

	Aircraft 5	Aircraft 6	Aircraft 7	Aircraft 8
Aircraft type *Please specify:* (eg Piper PA-31-350)				
Aircraft age *Please specify:* Age in years Total time	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours
Current market value of aircraft *Please estimate to nearest $5000:*	$_____,000	$_____,000	$_____,000	$_____,000
Extent to which aircraft is used for RPT services *Please tick*	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3	*Entirely* ☐ 1 *Partially* ☐ 2 *Not at all* ☐ 3

BTCE GENERAL AVIATION SURVEY 1994

19. Please complete the following table for the total of each category of aircraft <u>owned</u> (including co-owned aircraft) by this organisation in 1992-93.

Where consulting actual records would be too time consuming, please give us your best estimates. Please include all activity whether performed by this organisation or performed by those who hired or cross-hired the aircraft from this organisation.

Aircraft activity - <u>Owned</u> aircraft in 1992-93

	FIXED WING			
	Piston		Turbine	
	Single	Multi	Single	Multi
HOURS FLOWN				
Total hours flown in 1992-93				
Proportion of total hours flown *for RPT services* in 1992-93	%	%	%	%
LANDINGS				
Total landings* during 1992-93				
Proportion of total landings* made *on RPT services* during 1992-93	%	%	%	%
Proportion of total landings* *at base* during 1992-93	%	%	%	%

	OTHER AIRCRAFT *Please specify aircraft type*		
HOURS FLOWN			
Total hours flown in 1992-93			
Proportion of total hours flown *for RPT services* in 1992-93	%	%	%
LANDINGS			
Total landings* during 1992-93			
Proportion of total landings* made *on RPT services* during 1992-93	%	%	%
Proportion of total landings* *at base* during 1992-93	%	%	%

* *Please exclude touch and go landings*

BTCE GENERAL AVIATION SURVEY 1994

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20. Please complete the following table for the total of each category of aircraft this organisation cross-hired or hired *from* other parties during 1992-93.

IF NOT APPLICABLE, PLEASE GO TO QUESTION 21.

Where consulting actual records would be too time consuming, please give us your best estimates. Include all hire/cross-hire periods including very short term (eg 1 hour). Only include the activity undertaken for the period the aircraft was operated by this organisation.

Aircraft activity - Aircraft cross-hired or hired in 1992-93

	FIXED WING			
	Piston		Turbine	
	Single	Multi	Single	Multi
Number of aircraft on-line in 1992-93				
Number of times aircraft were hired/cross-hired on a short term basis (other than those on-line) in 1992-93				
HOURS FLOWN				
Total hours flown in 1992-93				
Proportion of total hours flown *for RPT services* in 1992-93	%	%	%	%
LANDINGS				
Total landings* during 1992-93				
Proportion of total landings* made *on RPT services* during 1992-93	%	%	%	%

	OTHER AIRCRAFT *Please specify aircraft type*		
Number of aircraft on-line in 1992-93			
Number of times aircraft were hired/cross-hired on a short term basis (other than those on-line) in 1992-93			
HOURS FLOWN			
Total hours flown in 1992-93			
Proportion of total hours flown *for RPT services* in 1992-93	%	%	%
LANDINGS			
Total landings* during 1992-93			
Proportion of total landings* made *on RPT services* during 1992-93	%	%	%

**Please exclude touch and go landings.*

BTCE GENERAL AVIATION SURVEY 1994

21. Please complete the following table for the total of all aircraft operated (whether owned, co-owned, hired or cross-hired *from* other parties) by this organisation during 1992-93.

Where consulting actual records would be too time consuming, please give us your best estimates. Please note that for aircraft hired or cross-hired from other parties, only include the activity undertaken for the period the aircraft was operated by this organisation.

All aircraft activity - 1992-93

Activity level → / Activity type ↓	Total hours flown in 1992-93	Hours flown in owned aircraft in 1992-93	Passengers or freight carried in 1992-93
Passenger RPT			pax
Freight RPT			kg
Passenger charter			pax
Freight charter			kg
Flying training Including flying training for employees			
Aerial agriculture			
Community services flying Police work, search and rescue, fire fighting, fire spotting, coastal surveillance, beach patrol, aerial ambulance, disaster assistance			
Other aerial work			
Business flying Flying associated with ***this*** business but not for hire or reward, excluding flying training for employees			
Hire to commercial operators Where aircraft are hired or cross-hired ***out*** to other commercial operators			
Hire to private flyers Where aircraft are hired ***out*** for private flying			
Other *Please specify:* _____ _____			
TOTAL HOURS FLOWN			

BTCE GENERAL AVIATION SURVEY 1994

Section 3 Financial information

This section seeks some standard accounting information on this organisation. Much of the information sought will probably be contained in standard accounting Balance Sheets and Profit and Loss Statements for 1992-93 (that is 1 July 1992 to 30 June 1993 or *your* financial year as indicated in Question 5).

The following questions will provide information that will allow the examination of the current financial status of the industry, and allow comparisons with other industries.

22. Please select the pricing policy or policies mainly used by this organisation for its flying activities. In the column on the right, please specify the types of service(s) to which these policies were applied.

Pricing policy		**Service for which policy was used (eg RPT, charter, spraying, survey, etc)**
"What the market will bear" (maximum price customers will pay)	☐ 1	_____
Price at or below competitors' services	☐ 2	_____
Cost plus profit markup (eg cost +10%)	☐ 3	_____
Price decided by negotiation with customers	☐ 4	_____
Cost recovery	☐ 5	_____
Other _____ *Please specify*	☐ 6	_____

Please make any comments you wish on pricing policies in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

_____

_____

_____

_____

BTCE GENERAL AVIATION SURVEY 1994

23. Does this organisation undertake business activity that is <u>not</u> related to GA?

No ☐ 1 ⟶ *Please go to Question 25*
Yes ☐ 2 ⟶ **Please specify:** **RPT activity** _____
other non-GA activity _____

24. Please estimate the percentage of the following items that is attributable to your RPT and OTHER NON-GA RELATED business activities.

For the purposes of this section we are particularly interested in your GA-related activity. This question requests information that will allow us to remove your RPT and other non-GA business activity from the information provided in the following questions.

	RPT (%)	Other non-GA(%)
Percent of total income	_____	_____
Percent of total expenses	_____	_____
Percent of total assets	_____	_____
Percent of total liabilities	_____	_____
Percent of total net capital expenditure	_____	_____

For the remainder of the financial questions please provide information for the TOTAL OF ALL BUSINESS ACTIVITY.

BTCE GENERAL AVIATION SURVEY 1994

Please note

To save time answering Questions 25 and 26, you may wish to simply attach a photocopy of the relevant sections of your accounts if they provide the information requested. Any text which may identify this organisation should be masked during copying to maintain anonymity.

If your accounts are generally publicly available, such as for a public company, you may wish to attach a copy of your annual report for 1992-93.

25. Please complete the following Profit and Loss Statement information for 1992-93 (or for *your* financial year).

Please round to the nearest $1000. Where information for individual categories is not available please provide totals in the right hand column.

INCOME

	$	$
Aviation flying income:		
Passenger RPT		
Freight RPT		
Passenger charter		
Freight charter		
Flying training		
Aerial agriculture		
Community services		
Other aerial work		
Hiring out aircraft to other commercial operators		
Hiring out aircraft to private flyers		
Other _____ *Please specify*		
TOTAL		
Gross profit* from other GA-related activity (including GA maintenance/engineering for others, sale of aircraft and parts as an aircraft dealer, fuel concession income, etc)		
Income from all other sources (including net profit/loss on sale of non-current assets, interest income, rent, and government grants, donations, sponsorship, excluding capital grants, etc)		
TOTAL INCOME		

* Gross profit is sales revenue less cost of goods sold

BTCE GENERAL AVIATION SURVEY 1994

EXPENSES	$	$
Aircraft		
Fuel and oil	_____	
Aircraft insurance	_____	
Hire or cross-hire of aircraft *from* other parties	_____	
Total aircraft expenses		_____
Aircraft and equipment maintenance/engineering (ie recurring maintenance, and engine and airframe overhaul)		
Maintenance by external organisations	_____	
Inhouse maintenance (eg parts, consumables)	_____	
Per cent incurred in maintenance for others_____%		
Total aircraft and equipment maintenance/engineering expenses		_____
Labour costs of direct employees (include wages and salaries plus labour oncosts such as holiday pay, long service leave, superannuation, worker's compensation and allowances)		
Pilots	_____	
Flight attendants	_____	
Maintenance staff	_____	
Per cent incurred in maintenance for others_____%		
Other employees	_____	
Total labour costs		_____
Interest payments on borrowed funds (exclude repayments of loan principal)		
Aircraft loan interest payments	_____	
Other interest payments (eg loans, bank overdraft)	_____	
Total interest payments		_____
Provisions for depreciation		
Aircraft	_____	
Other non-current assets	_____	
Total provision for depreciation		_____
Government charges		
FAC charges: GAIT	_____	
Other landing and parking	_____	
Other aircraft charges	_____	
Rental of hangars and office space	_____	
CAA charges: Aircraft charges	_____	
Other (eg publications)	_____	
Local govt/private airport authority charges:		
Fixed annual charges	_____	
Other landing and parking charges	_____	
Rental of hangars and office space	_____	
Other (eg radio licence fees)	_____	
Total government charges		_____

BTCE GENERAL AVIATION SURVEY 1994

Overheads	$	$
Advertising, marketing, promotional expenses		
Payments to other organisations for flying training		
Rental of hangars/office space (other than from airport authorities)		
Fees paid to associations		
Other overheads		
Total overheads		
Any other expenses not included above		
TOTAL EXPENSES		

NET PROFIT (LOSS)

Please indicate losses by placing value in brackets

Net profit (loss) before tax and abnormal and extraordinary items	
Tax payable, if applicable	
Profit (loss) on abnormal and extraordinary items *Please specify:*	
Net profit (loss) after tax and abnormal and extraordinary items	

26. Please complete the following Balance Sheet information as at 30 June 1993 (or as at the end of *your* financial year).

Please round to the nearest $5000. Where information for individual categories is not available please provide totals in the right hand column.

Balance Sheet as at 30 June 1993

ASSETS	$	$
Current Assets (including cash at bank, debtors, supplies, stock, pre-paid expenses, etc)		_____
Non-Current Assets (less accumulated depreciation where applicable)		
All aircraft	_____	
Other non-current assets (including goodwill)	_____	
Total non-current assets		_____
TOTAL ASSETS		_____
LIABILITIES		
Current Liabilities (including bank overdraft, creditors, provision for taxation, etc)		_____
Non-Current Liabilities		
Aircraft debt	_____	
Other longer-term debt	_____	
Total non-current liabilities		_____
TOTAL LIABILITIES		_____
EQUITY		
TOTAL EQUITY (including proprietors' or shareholders' funds, reserves, retained earnings)		_____

27. Please estimate the value of this organisation's acquisition and disposal of capital goods (eg aircraft, equipment, hangars) in 1992-93.

Cost of acquisition of aircraft, equipment, land and buildings, etc $_____

Revenue from disposal of aircraft, equipment, land and buildings, etc $_____

BTCE GENERAL AVIATION SURVEY 1994

Section 4 Views and comments

This section asks for your views and comments on the future prospects of this organisation's aviation activity and aviation overall.

28. What are this organisation's expectations for the development of its GA activities over the next 5 years?

Please tick the appropriate box in each row
(large = a total of 50% or more over the 5 year period,
small = a total of less than 50% over the 5 year period)

Flying activities

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Employment

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Capital expenditure

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Please make any comments you wish on these expectations in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

BTCE GENERAL AVIATION SURVEY 1994

29. What factors do you believe will have the most impact in preventing the planned or potential expansion of this organisation's GA activities in the next 5 years?

*Please number in order of size of impact **as many** boxes as appropriate (1 = largest impact, 2 = smaller impact than 1, etc).*

- Shortage of suitably qualified pilots ☐ A
- Shortage of suitably qualified maintenance staff ☐ B
- Shortage of adequate premises ☐ C
- Inability to obtain suitable aircraft ☐ D
- Difficulty in obtaining spare parts ☐ E
- Inability to obtain sufficient finance ☐ F
- Increased wage costs ☐ G
- Increased maintenance/repair and spare parts costs ☐ H
- Increased fuel costs ☐ I
- Increased insurance costs ☐ J
- Increased cost of buying/leasing aircraft ☐ K
- Increased CAA charges ☐ L
- Increased FAC charges ☐ M
- Increased local government/private airport authority charges ☐ N
- Increased other government charges *Please specify*_____ ☐ O
- Increased competition ☐ P
- Environmental regulations *Please specify*_____ ☐ Q
- Other government regulations *Please specify*_____ ☐ R
- Other *Please specify*_____ ☐ S

Please make any comments you wish on these factors in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

_____

_____

_____

_____

BTCE GENERAL AVIATION SURVEY 1994

30. Please use the space below to describe any major threats or opportunities that you think may affect GA activities at a regional or national level.

You may also use this space to expand upon any of the answers given in this survey (please specify question number if appropriate).

THANK YOU FOR YOUR CO-OPERATION
Please remember to detach the slip on page iii and return it and the completed questionnaire in the separate envelopes provided.

BTCE GENERAL AVIATION SURVEY 1994: AIRCRAFT OWNERS

The following questionnaire was distributed to a sample of aircraft owners who did not hold an AOC.

**bureau of
transport and communications
economics**

GENERAL AVIATION SURVEY 1994

AIRCRAFT OWNERS

COMMERCIAL-IN-CONFIDENCE
Reply will only be seen by authorised BTCE representatives

Please return completed survey form within 10 days

BTCE GENERAL AVIATION SURVEY 1994

Dear Aircraft Owner

You have been randomly selected from the Aircraft Register to participate in this survey.

The purpose of this survey is to collect up-to-date information that can form a better basis for Government policy analysis and informed debate on General Aviation (GA) issues.

Despite the importance of GA, there is a lack of information about it except for basic activity data. The last comprehensive study of GA in Australia is over a decade old and it is expected that the issues affecting GA are now different. Up-to-date accurate information is therefore needed to assess the current status and the future of GA.

The Bureau of Transport and Communications Economics is a centre for applied economic research in the Commonwealth Department of Transport. We are a professionally independent organisation that conducts objective and unbiased research, and are not linked with bodies such as the CAA and the FAC. During the planning stages of our study we consulted all major GA associations, all of which expressed support for this survey.

We are aware that you may already respond to the 6-monthly *Survey of Hours Flown and Landings* carried out by the Department of Transport. The information you regularly provide is greatly appreciated but we are sure you will understand that we need some additional information for an analysis of GA to be undertaken.

Your participation in this survey is vital. Only with your help in completing the questionnaire can comprehensive aggregated information on your industry be compiled for use by all: aircraft operators; GA associations; government bodies.

The little time you spend in completing the questionnaire will mean a big difference in the accuracy and reliability of the results of the survey and therefore the credibility of our report.

Yours faithfully

Maurice Haddad
Director

April 1994

BTCE GENERAL AVIATION SURVEY 1994

Completion Information

SURVEY ANONYMITY AND CONFIDENTIALITY ARRANGEMENTS

- This survey has been organised to guarantee you **complete anonymity** and the **strictest confidentiality** of the information you provide. Two reply paid envelopes are enclosed. The small envelope is for the tear-off information sheet at the bottom of this page. The larger envelope is for the completed questionnaire.
- The tear-off sheet will tell us you have responded, but not which questionnaire we have received from you. Thus we will be able to avoid unnecessarily bothering you when we follow up those who have not responded.
- Only the pooled results of the survey will be published. Individual survey forms will be destroyed and individual responses will not be available in any form to other organisations.

SOURCE DOCUMENTS

- The requested information should be available from your aircraft records and any financial records you kept for your aircraft for 1992-93.
- Where consulting actual records would be too time consuming or if you do not keep records, please give us your best estimate.

REPORT ON SURVEY FINDINGS

- A full copy of our report will be given to all participating GA associations. If you would like a free copy of the summary of the survey results for yourself, please indicate this on the tear-off information sheet at the bottom of this page.

ASSISTANCE AND FURTHER INFORMATION

- If you have any questions about the study or the questionnaire, or you would like some assistance in completing the questionnaire, please phone one of our project team (Paula, Mick or Olya) on the freecall number 1800 673 404 or write to the GA Survey Team, GPO Box 501, Canberra ACT 2601.

AFTER COMPLETING THE QUESTIONNAIRE, PLEASE COMPLETE THIS FORM and PLACE IT IN THE SMALL REPLY PAID ENVELOPE

Would you like a free copy of the summary of the survey results when it is completed?

Yes ☐ **No** ☐

PLEASE SEND US YOUR COMPLETED QUESTIONNAIRE IN THE LARGE REPLY PAID ENVELOPE WITHIN 10 DAYS

BTCE GENERAL AVIATION SURVEY 1994

Definitions

For the purposes of this survey the following terms are defined as below.

Passenger charter - carriage of passengers for hire or reward

Freight charter - carriage of freight for hire or reward

Flying training - flying for the purposes of issue or renewal of a pilot licence or rating, including solo navigation exercises

Aerial agriculture - carriage or spreading of seed or chemicals for agricultural purposes

Community service flying - police work, search and rescue, aerial ambulance, fire fighting, fire spotting, coastal surveillance, beach patrol, disaster assistance, etc

Other aerial work - Aerial survey, towing, photography, advertising, parachute dropping, surveillance, cloud seeding, mustering, spotting etc

Private flying - flying for pleasure, sport or recreational purposes

Business flying - flying by the aircraft owners, their employees, or the aircraft hirer for business or professional purposes, but not directly for hire or reward

1992-93 - this survey relates to the financial year 1992-93, that is 1 July 1992 to 30 June 1993. If you operate on a different financial year, please treat all references to 1992-93 as references to your financial year (eg a financial year ending 31 December 1992 or 31 March 1993)

BTCE GENERAL AVIATION SURVEY 1994

Section 1 General information

This questionnaire is designed to cover all aircraft owners other than those that hold an Aircraft Operators' Certificate (AOC). If you, or a company you own, hold an AOC, please return the questionnaire uncompleted (without detaching the tear-off information sheet).

Aircraft owners covered by this questionnaire include those that fly for business purposes (other than in those cases where an AOC would be required) or recreation, and those that hire out their aircraft. As it was not possible to identify in advance the purposes for which you fly, some questions will not apply to you. Please complete those questions relevant to you.

The following section seeks general information about your GA flying activities.

BTCE GENERAL AVIATION SURVEY 1994

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1. Are the aircraft owned by you/your organisation used for transport related to your business activities (eg as a company car would be used)?

This does not include you/your organisation hiring out your aircraft to others or you flying your own aircraft while it is hired to someone else (eg your employer).

Please tick the appropriate box.

Yes ☐ 1
No ☐ 2 ——→ *Please go to Question 4*

2. What is the main kind of industry, activity or service carried out by the business(es) for which these aircraft are flown?

Please specify _____

3. In which year did your business commence its business flying? 1 9 ☐ ☐

4. Are the aircraft owned by you/your organisation hired or cross-hired to others (including for very short periods of time, such as by the hour)?

Yes ☐ 1
No ☐ 2

5. Are the aircraft owned by you/your organisation flown by the owner(s) for recreational purposes?

Yes ☐ 1
No ☐ 2 ——→ *Please go to Question 7*

6. What is the occupation(s) of the aircraft owner(s)?

Please specify as fully as possible (eg accountant in State public service, farmer)

_____

7. Where is your/your organisation's main base aerodrome?

Please specify postcode and state. For balloons, please indicate where they are housed.

Postcode of aerodrome ... ☐☐☐☐
State.. ... ☐☐☐

BTCE GENERAL AVIATION SURVEY 1994

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8. What type of aerodrome is your/your organisation's main base aerodrome?

Please tick the appropriate box.

FAC Group 1 (SY, ML, BN, AD, PH, HB) ☐ 1
FAC Group 2 (EN, CB, DN, LT, TL, AS, CG, MA, TC) ☐ 2
FAC Group 3 (BK, HOX, CN, MB, AF, PF, JT) ☐ 3
Other licensed aerodrome ☐ 4
Unlicensed airstrip ☐ 5
Other _____ ☐ 6
Please specify

9. Are your aircraft owned by ... ?

Please tick the appropriate box.

You own the aircraft in a personal capacity
You personally ☐ 1
Joint owners personally _____ ☐ 2
Please specify number of owners

The business owns the aircraft
Sole proprietorship ☐ 3
Partnership ☐ 4
Private company ☐ 5
Public company ☐ 6

Government department ☐ 7
Statutory body ☐ 8
Non-government charitable and/or welfare organisation ☐ 9

Other _____ ☐ 10
Please specify

10. Did you/your organisation commence or cease GA flying activities during 1992-93?

No ☐ 1
Yes, commenced ☐ 2
Yes, ceased ☐ 3

If you <u>commenced or ceased</u>, please indicate the month and the reason.

_____
_____
_____

BTCE GENERAL AVIATION SURVEY 1994

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11. How many of the owners of the aircraft registered to you/your organisation piloted the aircraft during 1992-93?

Please specify the number.

_____ owner(s)

12. Do you/your organisation employ any people solely for the purposes of your GA flying activities?

Yes ☐ 1
No ☐ 2 ——→ *Please go to Question 14*

13. How many people were directly employed by you/your organisation solely for the purposes of your GA flying activities on 30 June 1993 (or at the end of *your* financial year)?

Where employees perform duties in more than 1 category, please record them only once, according to their main duty.

	Full-time	**Part-time or casual**
Pilots	_____	_____
Maintenance staff	_____	_____
Management staff	_____	_____
Other (eg clerical)	_____	_____
TOTAL EMPLOYED	_____	_____

14. Please estimate the combined pilot hours flown in 1992-93 for your/your organisation's GA flying activities

Combined pilot hours flown in 1992-93 by employed pilots _____
Combined pilot hours flown in 1992-93 by owners _____

Section 2 Aircraft characteristics and aircraft activity

This section seeks the general characteristics of all aircraft operated by you or by your organisation, whether these aircraft were owned or hired during 1992-93 (that is 1 July 1992 to 30 June 1993 or *your* financial year).

Where consulting actual records would be too time consuming, please give us your best estimates.

Some of the information requested here may already be provided by you for the Department of Transport's *Survey of Hours Flown and Landings*. However, we also need to ask you this information in our survey, so we can match financial information with activity levels while maintaining your anonymity.

BTCE GENERAL AVIATION SURVEY 1994

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15. Has the size of your/your organisation's <u>owned</u> aircraft fleet (including co-owned aircraft) changed since 30 June 1992?

No ☐ 1
Yes ☐ 2 ⟶ **Number of aircraft increase** _____
OR
Number of aircraft decrease _____

16. Please complete the following table for each aircraft you/your organisation <u>owned</u> (including co-owned aircraft) during 1992-93.

Where consulting actual records would be too time consuming, please give us your best estimates. Please include all activity whether performed by you/your organisation or performed by those who cross-hired or hired the aircraft from you/your organisation.

Aircraft characteristics and activity - <u>Owned</u> aircraft in 1992-93
If you/your organisation own more than 4 aircraft please copy and attach additional sheets

	Aircraft 1	Aircraft 2	Aircraft 3	Aircraft 4
Aircraft type *Please specify:* (eg Cessna 150)				
Cruising fuel consumption *Please specify:*	_____ litres/hr	_____ litres/hr	_____ litres/hr	_____ litres/hr
Aircraft age *Please specify:* Age in years Total time	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours	_____ years _____ hours
Current market value of aircraft *Please estimate to nearest $5000:*	$_____,000	$_____,000	$_____,000	$_____,000
Flight hours during 1992-93 *Please estimate:*				
Total landings* during 1992-93 *Please estimate:*				
Proportion of total landings* at base during 1992-93 *Please estimate:*	_____%	_____%	_____%	_____%

** Please exclude touch and go landings*

BTCE GENERAL AVIATION SURVEY 1994

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17. Please complete the following table for the total of each category of aircraft you/your organisation hired *from* other parties during 1992-93.

IF NOT APPLICABLE, PLEASE GO TO QUESTION 18.

Where consulting actual records would be too time consuming, please give us your best estimates. Include all hire periods including very short term (eg 1 hour). Only include the activity undertaken for the period the aircraft was operated by you/your organisation.

Aircraft characteristics - Aircraft hired in 1992-93

	FIXED WING			
	Piston		Turbine	
	Single	Multi	Single	Multi
Number of times aircraft were hired in 1992-93				
Total hours flown in 1992-93				
Total landings* during 1992-93				

	ROTARY WING		
	Piston single	Turbine single	Turbine twin
Number of times aircraft were hired in 1992-93			
Total hours flown in 1992-93			
Total landings during 1992-93			

	OTHER AIRCRAFT *Please specify aircraft type*		
Number of times aircraft were hired in 1992-93			
Total hours flown in 1992-93			
Total landings* during 1992-93			

* *Please exclude touch and go landings.*

BTCE GENERAL AVIATION SURVEY 1994

18. Please complete the following table for the total of all aircraft operated (whether owned, co-owned or hired *from* other parties) by you/your organisation during 1992-93.

Where consulting actual records would be too time consuming, please give us your best estimates. Please note that for aircraft hired from other parties, only include the activity undertaken for the time period the aircraft was operated by you/your organisation.

All aircraft activity - 1992-93

Activity level → Activity type ↓	Total hours flown in 1992-93	Hours flown in aircraft hired *from* other parties in 1992-93
Business flying Flying associated with the business(es) of the aircraft owner(s) but not for hire or reward, excluding flying training for employees		
Recreational flying Private flying for your own purposes		
Community services flying Police work, search and rescue, fire fighting, fire spotting, beach patrol, aerial ambulance, coastal surveillance, disaster assistance, etc		
Hire to commercial operators Where your aircraft are hired or cross-hired ***out*** to commercial operators		
Hire to private flyers Where your aircraft are hired ***out*** for private flying		
Other (eg test and ferry, flying training for employees) *Please specify:* _____ _____		
TOTAL HOURS FLOWN		

Section 3 Financial information

This section seeks some information on the cost of ONLY your/your organisation's GA FLYING ACTIVITIES for the financial year 1992-93 (or *your* financial year).

To save time you may wish to simply attach a photocopy of the relevant sections of any accounts you may keep. Any text which may identify you or your organisation should be masked during copying to maintain anonymity.

If your accounts are generally publicly available, such as for a public company, you may wish to attach a copy of your annual report for 1992-93, if it gives separate financial information for your GA flying activities only.

BTCE GENERAL AVIATION SURVEY 1994

19. What was the average fuel price you/your organisation paid in 1992-93?

Avgas	_____ cents/litre
Avtur	_____ cents/litre
Other *Please specify* _____	_____ cents/litre

Please note

For recreational flyers, some income and expense categories in this section may not be applicable (eg labour costs of direct employees). Please complete those categories that apply to you and indicate those that are not applicable.

20. Please indicate the gross income earned from your/your organisation's aircraft during 1992-93.

Please indicate losses by placing in brackets.

None (no income was earned from GA activities/not applicable) ☐

	$
Hiring out the aircraft to private flyers	_____
Hiring out the aircraft to commercial operators	_____
Cost sharing arrangements (do not include co-ownership)	_____
Profit (loss) on sale of owned aircraft or parts	_____
Other *Please specify* _____	_____

21. Please fill in the following expenses for your/your organisation's GA FLYING ACTIVITIES ONLY for 1992-93 (or for *your* financial year).

Please estimate, where financial records are not kept. Where information is not available for individual categories please provide totals in right hand column. Round to the nearest $100 if you wish.

EXPENSES

	$	$
Aircraft		
Fuel and oil	_____	
Aircraft insurance	_____	
Hire of aircraft *from* other parties	_____	
Hangarage expenses (other than direct payments to FAC)	_____	
Total aircraft expenses		_____
Aircraft and equipment maintenance/engineering (ie recurring maintenance, and engine and airframe overhaul)		
Maintenance by external organisations	_____	
Inhouse maintenance (eg parts, consumables)	_____	
Total aircraft and equipment maintenance/engineering expenses		_____

BTCE GENERAL AVIATION SURVEY 1994

	$	$
Government charges		
FAC charges: GAIT		
Other landing and parking		
Other aircraft charges		
Rental of hangars and office space		
CAA charges: Aircraft charges		
Other (eg publications)		
Local Govt/private airport authority charges:		
Fixed annual charges		
Other landing and parking charges		
Rental of hangars and office space		
Other (eg radio licence fees)		
Total government charges		
Labour costs of direct employees ☐ Not applicable		
(ie wages and salaries plus labour oncosts such as holiday pay, long service leave, superannuation, worker's compensation and allowances)		
Pilots		
Maintenance staff		
Other employees		
Total labour costs		
Interest payments on borrowed funds ☐ Not applicable		
(exclude repayments of loan principal)		
Aircraft loan interest payments		
Other interest payments (eg on loans, bank overdraft)		
Total interest payments		
Provisions for depreciation ☐ Not applicable		
Aircraft depreciation		
Other non-current GA-related assets		
Total provision for depreciation		
Overheads ☐ Not applicable		
Payments to other organisations for flying training		
Rental of hangars/office space		
(other than from airport authorities)		
Other GA-related overheads		
Total overheads		
Any other GA flying expenses not included above		
TOTAL EXPENSES		

BTCE GENERAL AVIATION SURVEY 1994

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22. Please complete the following Asset and Liability information for ONLY your/your organisation's GA FLYING ACTIVITIES as at 30 June 1993 (or at end of *your* financial year).

Please estimate, where financial records are not kept. Round to the nearest $1000 if you wish.

Total (GA flying related) Assets (less accumulated depreciation if applicable) $_____
(eg stock of fuel, aircraft, hangars, etc)

Total (GA flying related) Liabilities ☐ Not applicable $_____
(eg aircraft debt, etc)

23. Please estimate the value of this organisation's acquisition and disposal of capital goods (eg aircraft, equipment, hangars) in 1992-93.

Cost of acquisition of aircraft, equipment, land and buildings, etc $_____
Revenue from disposal of aircraft, equipment, land and buildings, etc $_____

BTCE GENERAL AVIATION SURVEY 1994

Section 4 Views and comments

This section asks for your views and comments on the future prospects of your/your organisation's GA activity and GA overall.

24. What are your/your organisation's expectations for the development of its GA flying activities over the next 5 years?

Please tick the appropriate box in each row
(large = a total of 50% or more over the 5 year period,
small = a total of less than 50% over the 5 year period)

Flying activities

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Persons directly employed

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know	Not applicable
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

Capital expenditure

Large increase	Small increase	No change	Small decrease	Large decrease	Don't know
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

Please make any comments you wish on these expectations in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

BTCE GENERAL AVIATION SURVEY 1994

25. What factors do you believe will have the most impact in preventing the planned or potential expansion of your/your organisation's GA activities in the next 5 years?

*Please number in order of size of impact **as many** boxes as appropriate (1 = largest impact, 2 = smaller impact than 1, etc).*

- Increased maintenance/repair and spare parts costs ☐ A
- Increased fuel costs ☐ B
- Increased wage costs of employees (if applicable) ☐ C
- Increased insurance costs ☐ D
- Increased cost of buying/leasing aircraft ☐ E
- Increased CAA charges ☐ F
- Increased FAC charges ☐ G
- Increase local government/private airport authority charges ☐ H
- Increased other government charges *Please specify*_____ ☐ I
- Environmental regulations *Please specify*_____ ☐ J
- Other government regulations *Please specify*_____ ☐ K
- Shortage of suitably qualified pilots ☐ L
- Shortage of suitably qualified maintenance staff ☐ M
- Shortage of adequate premises ☐ N
- Inability to obtain suitable aircraft ☐ O
- Difficulty in obtaining spare parts ☐ P
- Inability to obtain sufficient finance ☐ Q
- Other *Please specify*_____ ☐ R

Please make any comments you wish on these factors in the space provided below.

If space is insufficient, please attach additional sheets or use the space at the end of the questionnaire.

_____

_____

_____

_____

26. Please use the space below to describe any major threats or opportunities that you think may affect GA flying activities at a regional or national level.

You may also use this space to expand upon any of the answers given in this survey (please specify question number if appropriate).

THANK YOU FOR YOUR CO-OPERATION

Please remember to detach the slip on page iii and return it and the completed questionnaire in the separate envelopes provided.

APPENDIX II SURVEY METHOD

BACKGROUND

Existing published data about the current status of General Aviation (GA) flying in Australia were limited to basic activity data collected by the Department of Transport and Regional Development in AVSTATS' biannual *General Aviation Activity Survey*. The comprehensive information required for a detailed study of GA was not available. It was therefore necessary for the BTCE to conduct a survey of those directly involved in GA flying activity. This appendix summarises the methodology adopted for this survey.

SURVEY OBJECTIVE

The overall objective of the survey was to obtain information on various aspects of the GA flying industry for 1992–93. Facts as well as opinions were to be sought. The survey was to seek sufficient information to enable weighting and expansion of survey data.

SURVEY DESIGN

Survey population

As noted in chapter 2, the characteristics of commercial GA operators and non-commercial aircraft owners differ. Consequently two General Aviation populations were defined, each being surveyed separately.

The population of commercial operators was defined as GA operators who hold an Aircraft Operators Certificate (AOC). A population frame was constructed from the then Civil Aviation Authority's (CAA's)[1] register of AOC holders as at 31 January 1994. This population of 1146 (including 56 low capacity RPT AOC holders) was initially stratified by 9 AOC types. The 8 non-RPT AOC types (not involving any low capacity RPT operations) were further stratified by 6 geographical regions.

The population of non-commercial aircraft owners was defined as the group of entities that own aircraft but that do not hold AOCs. The CAA's Aircraft Register, which covers all aircraft owners, was used in conjunction with the AOC listing to arrive at a frame for this population as at 31 December 1993.[2] This population of 5643 was stratified by 153 ABS statistical subdivisions or groups of subdivisions, where the population in any one subdivision was too small for meaningful sampling.

When undertaking the survey it became evident that the population frames included units which, although they were no longer operating commercially or no longer owned aircraft (during the survey period), remained on CAA registers. Consequent population errors identified in the sample were assumed to be representative of the population as a whole.

Sampling method

Given the limited resources available, it was decided to survey samples rather than the entire populations. Theoretically it is possible to eliminate sampling error altogether by use of a census, which is a 100 per cent sample. Typically, however, there is non-response with its attendant problems, and the population is often too large to follow up extensively (as in the case of GA with a commercial operator population of 1146 and a non-commercial aircraft owner population of 5643).

For non-commercial aircraft owners, a proportionate random sample of 257 (nearly 5 per cent) was selected across each strata. For the commercial operators, a sample of 245 non-RPT AOC holders (22 per cent) was initially selected. A proportionate random sample was selected across strata based on AOC types (not involving any low capacity RPT operations) and geographical regions. For the commercial operators who were approved to undertake low capacity regular public transport activities in addition to any other commercial activities (i.e. those with a low capacity RPT AOC), a census was taken because of the small total of 56 operators in this stratum.

A larger sample was selected for commercial operators than for non-commercial aircraft owners for several reasons. Commercial operators, who were of primary interest for this study, were expected to be more variable in their characteristics. Also, these participants were to be asked more detailed financial questions for which survey and item non-response rates were expected to be higher.

In theory, it is possible to determine the optimal sample size for a given level of reliability of the results. However, in practice it was not possible to do this before the commencement of the BTCE survey. The calculation of optimal sample size requires population estimates for key variables. For the key variables in this survey, the financial variables, there were no population estimates available.

Survey mode

A self-administered mail survey, with both mail and telephone follow-up, was selected as the survey mode. In choosing this survey mode the disadvantages of mail surveys were considered. Low response rates are common with mail surveys, although a previous Bureau of Transport Economics mail survey of this industry had achieved a response rate of 60 per cent, and vigorous follow-up was planned for the 1994 BTCE survey. Complex and lengthy questionnaires are more likely to be thrown away if received by mail than declined when the respondent is approached for a personal interview.

Two main advantages of mail surveys were weighed against these disadvantages. First, the cost of a mail survey is considerably lower than a telephone survey or personal interviews, particularly given the dispersed population in this case. Second, a mail survey can be designed to provide the respondent with complete anonymity. While anonymity has the added disadvantage that there is no opportunity for clarification of answers, confidentiality was raised as a major issue by the industry associations. It was their view that only the provision of anonymity would convince their members to respond. This was the deciding factor in the choice of survey mode.

More generally, self-administered surveys and anonymity can sometimes encourage respondents to answer more sensitive questions, such as those related to financial information, and provide more accurate answers than telephoned or personal interviews. In this case, where detailed financial information was being requested, it also provided respondents with the time to consult their records and provide considered rather than immediate answers.

Questionnaires

The questionnaires were designed to provide detailed information while minimising the burden on the respondent so far as possible. In some

cases information was requested that was available in aggregated form from other sources. However, for this study it was important to be able to link the new data and existing data types on an individual operator basis. This requirement was highlighted to those participating in the survey, particularly as the then Department of Transport already collected some of these data.

The desire to minimise respondent burden required the design of three questionnaires (see appendix I):

- *BTCE General Aviation Survey 1994: AOC Holders*—for the majority of commercial operators; and
- *BTCE General Aviation Survey 1994: AOC Holders (including RPT Operators)*—for commercial operators approved to undertake low capacity regular public transport activities in addition to any other commercial activities.
- *BTCE General Aviation Survey 1994: Aircraft Owners*—for the non-commercial aircraft owners;

The two questionnaire types for AOC holders were very similar, with the standard AOC questionnaire being amended for low capacity RPT operators for two reasons. First, it was necessary to indicate clearly to low capacity RPT operators that they were being included in this General Aviation survey. Otherwise, many of them may have instantly discarded the questionnaire as not relevant to them. Second, some questions required rewording so that operators would report their GA activity separately to their low capacity RPT activity. For the purposes of this study, the BTCE was interested in only their General Aviation activity. For the remainder of this appendix references to the survey of commercial operators apply to both AOC holder questionnaire types.

Question types included a mixture of classification questions, those seeking facts and those requesting opinions/attitudes. Each questionnaire was divided into four main sections:

- general information (characteristics of the respondent);
- aircraft characteristics and aircraft activity;
- financial information; and
- views and comments.

Much consideration was given to the length, relevance and reasonableness of the questions as well as the physical design of the questionnaires, particularly given the need to minimise the number of questions. Drafts of the questionnaires were sent to all relevant industry associations and other bodies for comment. Amendments were incorporated prior to the ABS Statistical Consultancy Unit assessing the design of the questionnaires. The questionnaires were then redrafted to include the suggestions of the ABS.

The confidentiality requirement was incorporated into the design of the questionnaire by the inclusion of a tear-off slip that identified the respondent but which could be returned separately from the questionnaire. This enabled the questionnaire forms from respondents to be anonymous, but allowed non-respondents to be identified and followed up. The tear-off slip was also used to ask respondents if they wished to receive a summary of the survey results.

Pilot testing

Final drafts of the questionnaires were pilot-tested to make sure that they would work in the field with the target population. This final testing phase was carried out with a range of ACT and NSW volunteers, covering a variety of non-commercial aircraft owners and commercial operators. For the commercial operators, in particular, a pilot test of relevant questionnaires with at least one subject from each of the activity strata was attempted, although it was not possible in all cases. A total of 21 pilot tests was conducted. The testing was done in three phases. The questionnaires were progressively edited to attempt to remove major and obvious sources of confusion, so further pilot testing could be undertaken to ensure the problems were corrected.

To preserve confidentiality, volunteers were told that real data, especially for the financial questions, were not required. In addition to the complete questionnaires, pilot test subjects for both questionnaires were also shown alternative versions of two segments of the questionnaires. This approach was taken as a result of ABS advice that there were potential problems with these segments, and alternative approaches should be assessed during pilot testing.

The findings of the pilot testing were incorporated into the survey forms where possible. The pilot testing process was not ideal, for two main reasons:

- it was not possible to obtain as many willing pilot test subjects as originally planned (even though pilot testing extended over twice as long a period as intended, and was conducted at Bankstown as well as in the Canberra region); and

- the final versions of the questionnaires were not pilot-tested due to time constraints and difficulties in obtaining further pilot test subjects.

Failure to pilot test the final versions of the questionnaires is unlikely to have resulted in any major sources of confusion or ambiguity. The changes that were made after the last round of pilot testing introduced very few new elements to the questionnaires. The majority of changes involved either the removal or simplification of existing questions. Where possible the exact suggestions of the last set of pilot test subjects were used, and some terminology was rechecked with industry sources.

The pilot testing was primarily concerned with adequacy of questionnaire design in terms of obtaining the raw data. Due to the need to administer the survey promptly it was not possible to test all aspects of the survey design (e.g. data analysis procedures).

SURVEY ADMINISTRATION

Initial mail-out

A package was mailed to each person/organisation selected in the samples. It contained:

- an endorsing cover letter from an association to which they belonged or a general letter from the Aircraft Owners and Pilots Association of Australia (when membership of a particular organisation could not be identified);

- the appropriate questionnaire, which included a cover letter from the director of the BTCE; and

- two reply-paid envelopes (one for the return of the identifying slip discussed above and the other for the anonymous return of the questionnaire).

Freecall inquiry line

A freecall inquiry line was publicised both before the survey and on the questionnaire. This inquiry line allowed general inquiries by interested parties and specific questions from survey participants.

Reminder regime

Selective follow-up was conducted in two stages. A second package was mailed to non-respondents three weeks after the initial mail-out. This package was the same as before, except that the original cover letter from an association was replaced by a reminder letter from an association.

The final stage of follow-up was conducted by telephone, commencing a further three weeks later. A team member contacted remaining non-respondents to encourage them to make a commitment to respond. As part of this process an effort was made to ascertain reasons for non-response. These are reported in table II.1. Where contact could not be

TABLE II.1 STATED REASONS FOR NON-RESPONSE

(number of non-respondents who stated a reason)

Reason	*Non-commercial aircraft owners*	*AOC (original)*	*AOC (supplementary)*	*Low capacity RPT AOC*	*Total*
Confidentiality concerns	0	8	7	2	17
Too busy	2	1	7	3	13
Judged themselves irrelevant	0	0	12	0	12
No longer had aircraft	3	0	6	0	9
Survey useless	0	0	4	0	4
Dislike of government	1	0	2	0	3
Extended absence	2	0	0	0	2
Too many surveys	1	0	1	0	2
Kept no records	1	0	0	0	1
Length of questionnaire	0	0	1	0	1
Adverse consequences of other surveys	0	1	0	0	1
Other	1	0	0	0	1
Total	11	10	40	5	66
% of total non-respondents	14.3	9.4	10.7	18.5	13.0

made by telephone (for example, where numbers were not available or there was consistently no answer) a final mailing was used. This consisted of a final reminder letter from the project leader together with the questionnaire and reply-paid envelopes.

Supplementary sample

Following completion of the follow-up phase of the GA survey, it was appropriate to examine the extent and implications of non-response to the survey.

Preliminary analysis of the survey data indicated that the sample obtained for (non-RPT) AOC holders provided estimates for key variables which had low levels of precision. This was due to low numbers of responses to some survey questions by particular types of commercial operators and the high levels of variability in these segments of the population of commercial operators.

Following ABS advice, a supplementary sample of AOC holders was undertaken to increase the sample size to that which would provide estimates that met minimum standards of precision (in a statistical sense). This was based on calculation of the standard errors associated with the estimates of population characteristics for key data items from the original sample of AOC holders.

A supplementary sample of 704 (65 per cent of the population frame) was selected from the original AOC stratified population frame (with the original sample removed). For some strata of AOC holders all remaining population units were surveyed. The survey procedures followed were the same as for the original sample.

All data collected related to a specific time point (1992–93) despite the delay in administration of the supplementary sample of AOC holders. The original and supplementary samples of AOC holders were tested to see if additional non-response bias may have been introduced due to the lower response rate of the supplementary (larger) sample. The testing involved comparisons of weighted relative frequency histograms for key data items. The results of this testing suggested that there was little difference between the two samples and they were thus merged and treated as one for all subsequent data analysis.

Response rates

Survey response rates for the various samples are provided in table II.2. Table II.3 presents the percentage share of total responses for various stages in the survey process. The response rates for all the samples are high for mail surveys. However, a high response rate is not the only factor that is important for the reliability of survey results. As indicated in the discussion of the supplementary sample, the absolute numbers of responses and the response rates to individual questions (item response rates) are also important. Item response rates for the financial questions were significantly lower than the overall questionnaire response rates (see table II.4), although still high for a mail survey.

TABLE II.2 SURVEY RESPONSE RATES BY SAMPLE

(per cent)

Sample	*Response rate*
Non-commercial aircraft owners	67
AOC holders	
AOC holders excluding low capacity RPT (original)	52
AOC holders excluding low capacity RPT (supplementary)	40
AOC holders excluding low capacity RPT (both samples)	43
AOC holders (low capacity RPT only)	46
AOC holders (all)	43

Note Response rate is calculated as: number of responses/(gross sample less population errors less return-to-senders).

TABLE II.3 SURVEY RESPONSES BY STAGE OF SURVEY

(per cent of total responses)

Stage	*Non-commercial aircraft owners*	*AOC (original)*	*AOC (supplementary)*	*Low capacity RPT AOC*	*Total*
Initial mail-out	54	43	34	39	42
Mail follow-up	29	31	29	26	29
Telephone follow-up	16	26	37	35	29

Note Percentages may not add to 100 due to rounding.

TABLE II.4 ITEM RESPONSE RATES

Item	AOC holders	Non-commercial aircraft owners
	(per cent)	*(per cent)*
Overall questionnaire	43	67
Employment questions	42	..
Flying activity questions	41	66
GA flying income question	31	..
Total income question	30	58
Total expenses question	27	57
Profit questions	23	..
Assets/liabilities questions	23	42
	(number)	*(number)*
Estimated population	1 061	5 302
Net sample size (sample minus sample loss)	888	235
Sample responses	381	157

.. Not applicable

Population errors

Population errors included aircraft owners who had AOCs, respondents who commenced operations after 1992–93 or ceased before 1992–93, those who were living overseas or who had died, and AOC holders who had no AOC or had AOCs under more than one name. All such population errors were treated as sample loss.

DATA PROCESSING AND EDITING

Coding, initial editing and data entry

Questionnaires were coded after initial data checking and editing, and then entered onto separate databases using SAS statistical computing software, for each of the four survey types (original AOC holders, supplementary AOC holders, non-commercial aircraft owners and low capacity RPT AOC holders).

Data validation

The consistency and accuracy of the data were assessed extensively with internal validation checks for logic, data being within permissible ranges and treatment of missing data. Where possible, inconsistent answers were changed if the appropriate answers were clear from the original questionnaire. No external data validation was possible given the anonymity of survey responses which meant that respondents could not be contacted and asked to clarify their answers.

NON-RESPONSE AND DATA EXPANSION

Survey and item non-response

Many surveyed units failed to respond at all (survey, or complete, non-response) or failed to provide an answer to a particular question (item non-response, or non-reporting). This potentially may cause two problems: a reduction in the precision of survey estimates and survey estimates becoming biased estimates of the population. In the case of AOC holders, the taking of the supplementary sample sought to address the first problem. The second problem is more difficult to overcome. Advice was sought from the ABS on ways of reducing possible non-response bias.

The BTCE survey may have survey non-response bias because it omits the behaviour of units failing to respond, from consideration in the survey. The problem arises when the likelihood of a unit returning a completed questionnaire is related to data items that the survey is trying to collect. This may affect estimates of a whole range of variables.

Given the extensive reminder regime already pursued, it was judged that any attempt to take a random sample of non-respondents (asking them a limited number of questions by, say, telephone) would be futile. It was thus not possible to obtain any information on units that failed to respond which would have allowed comparison with respondents to test for non-response bias.

The BTCE survey may also have item non-response bias where the failure to respond is related to sensitivity associated with the question, most likely where financial data are involved and respondents are concerned with the confidentiality of their responses. The item non-response rate was particularly high for financial questions (as noted in table II.4). Bias is variable (or item) dependent, with a sample yielding biased estimates

for one variable but unbiased estimates for another. Bias will be of particular concern if it is present for the key data items.

In seeking to minimise the effects of non-response, item non-response was not used as a basis to exclude an entire survey response.

Data expansion

Advice was obtained from the ABS on weighting and expansion of the data from the two samples, particularly to take account of non-response.

Only one weight was calculated for each unit in the sample, determined by its original stratum. Alteration of the weighting to adjust for non-response by post-stratification was not possible because population totals (or even estimates) were not available for any post-strata based on the key (financial) data items.

Imputation was carried out in order to assign values to units with non-response for particular data items. Regression imputation was undertaken for key financial data items for the sample of AOC holders. This involved fitting a model for the relationship between predictor variables and the key data item for all units where responses for all the relevant data items were available. Particular care was taken to avoid predicting outside the range of data that was used to fit the model.

For all variables used in subsequent data analysis, mean imputation was undertaken for any missing values. Depending upon the number of units involved, mean values were imputed at either the stratum level, the category (stratum and activity group combination) level or 'population' level for four subsets of the AOC holder sample and for the entire non-commercial aircraft owner sample.

Imputed values were flagged to enable them to be excluded from calculation of variances associated with estimates to avoid artificially reducing the variances.

DATA ANALYSIS

Weighted estimates of means, population totals and medians were made for a range of original and transformed variables. For AOC holders this was done by activity group, owned fleet size group and/or operated fleet size group, for all the population as well as three subsets (see chapter 2 for definitions). For non-commercial aircraft owners this was done by activity group.

Relative standard errors

In producing estimates of population characteristics the aim is to ascertain with some known (or estimated) level of accuracy, what value would have been obtained if the entire population had been sampled with the same questionnaire. Since only a subset of the entire population was surveyed, the estimates are subject to some error or variability resulting from the differences between possible samples. This inherent variability, called sampling error, is often estimated by a measure of standard error.[3]

In the GA survey analysis, relative standard error (RSE) is the measure used. The RSE of an estimate is an indication of the size of the standard error of the estimated compared with the estimate itself. Being a relative measure, the RSE values for different estimates can be compared. RSEs are presented in this report as percentages. Generally estimates with a RSE percentage of more than 25 can be considered unreliable and those with RSE percentages greater than 50 per cent highly unreliable. Estimates with RSE percentages less than 25 are considered reliable.

NOTES

1. This role is now undertaken by the Civil Aviation Safety Authority.
2. It was not possible to obtain population frames for precisely the same time period because a record of AOC holders was not available for 1992–93.
3. Standard error is an absolute measure of the variability of an estimate, allowing the statement with a given level of certainty that the actual value of the variable being estimated lies within a particular interval or range.

APPENDIX III INDUSTRY CONSULTATION

The cooperation of the General Aviation flying industry was considered vital to the success of the survey. Consultation was therefore a priority from the beginning of the survey process. This consultation involved discussions with industry associations and publicity about the survey, as outlined in this appendix.

DISCUSSIONS WITH GENERAL AVIATION ASSOCIATIONS AND OTHER RELEVANT ORGANISATIONS

In the planning stages for the survey, discussions were held with all relevant General Aviation associations and other bodies, as listed in box III.1. It is believed that more than 90 per cent of those involved in GA flying are covered by the GA associations listed.

During the initial discussions, the issues affecting those involved in General Aviation were canvassed and help with the BTCE survey was sought. There was a positive response to the study by those consulted, together with offers of assistance with the survey.

Throughout the development of the survey, industry associations were kept informed of progress and provided assistance with a range of matters. Assistance included:

- comment on the survey documents, particularly with reference to technical aspects of General Aviation;
- provision of cover letters and reminder letters endorsing the survey;
- nomination of possible subjects for pilot testing;
- selective followup of non-respondents; and
- publicity in association magazines and newsletters.

BOX III.1 INDUSTRY ASSOCIATIONS AND OTHER ORGANISATIONS CONSULTED DURING THE PLANNING AND CONDUCT OF THE GA SURVEY

Aerial Agricultural Association of Australia Ltd (AAAA)
Aircraft Owners and Pilots Association of Australia (AOPA)
Archerfield Airport Chamber of Commerce (AACC)
Australian Aviation Industry Association Inc (AAIA)
Australian Ballooning Federation (ABF)
Australian Business Aircraft Association Incorporated (ABAA)
Australian Sport Aviation Confederation Incorporated (ASAC)
Bankstown Airport Chamber of Commerce (BACC)
Cairns and North Airports Chamber of Commerce (CNACC)
Civil Aviation Authority (CAA)
Department of Transport, Aviation Division (DoT)
Federal Airports Corporation (FAC)
General Aviation Association (GAA)
Gliding Federation of Australia (GFA)
Helicopter Association of Australia (HAA)
Overnight Airfreight Operators Association Incorporated (OAOA)
Regional Airlines Association of Australia (RAAA)
The Royal Federation of Aero Clubs of Australia (RFACA)
Sport Aircraft Association of Australia (SAAA)

PUBLICITY

Every effort was made to publicise the survey as widely as possible, and to demonstrate the benefits of the survey to the respondents. Prior to the commencement of the field survey, an open letter to the industry from the Director of the BTCE was published in a range of association newsletters and aviation magazines. Presentations were also made at meetings held by some GA associations and further publicity undertaken during the followup phase of the field survey.

APPENDIX IV AIRCRAFT CHARACTERISTICS

In conjunction with its biannual *General Aviation Activity Survey*, the Department of Transport and Regional Development (DoTRD) extracts data from the Civil Aviation Safety Authority's Aircraft Register Information System. These data are recorded, along with the corresponding DoTRD survey data on hours flown and landings, on DoTRD's AVSTATS General Aviation database.

This appendix reports various AVSTATS data on aircraft characteristics referred to in chapter 2. These include time series and data which are more recent than the 1992–93 estimates obtained from the BTCE GA survey.[1]

NOTES

1. The AVSTATS data reported here comprise VH-registered aircraft, excluding ultralight aircraft, gliders, hang gliders or autogyros (for which AVSTATS separately reports various statistics).

STATE OF BASE

TABLE IV.1 AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY STATE OF BASE, AS AT 30 JUNE 1985 AND 1995

State	Number		Percentage of total fleet		Growth in number of aircraft per head of population between 1985 and 1995 (per cent)
	as at 30 June		as at 30 June		
	1985	1995	1985	1995	
NSW	2 076	2 844	31	31	22
Vic.	1 367	1 803	20	19	21
Qld	1 497	2 164	22	23	13
SA	525	684	8	7	21
WA	803	1 187	12	13	21
Tas.	107	138	2	1	21
NT	262	363	4	4	18
ACT	78	119	1	1	26
Australia	6 715	9 302	100	100	21

Note Percentages may not add to 100 due to rounding.

Sources DoT (1996a and earlier issues), ABS (1995b).

PRINCIPAL AIRCRAFT CATEGORIES

TABLE IV.2 AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY AIRCRAFT CATEGORY, AS AT 30 JUNE 1995

(number)

Aircraft category	
Fixed-wing single-engine piston	6 568
Fixed-wing multi-engine piston	1 349
Fixed-wing single-engine turbine	99
Fixed-wing multi-engine turbine	361
Rotary-wing single-engine piston	419
Rotary-wing single-engine turbine	193
Rotary-wing multi-engine turbine	83
Balloon/airship	230
All aircraft	9 302

Source BTCE estimates derived from DoT (1996b).

NUMBER OF ENGINES

TABLE IV.3 AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY NUMBER OF ENGINES AND DOMINANT FLYING ACTIVITY, AS AT 30 JUNE 1995

(number)

	Number of engines				
Dominant flying activity[a]	*0*	*1*	*2*	*3 or 4*	*All aircraft*
Charter	85	488	628	7	1 208
Flying training	6	1 041	126	1	1 174
Aerial agriculture	0	322	2	0	324
Community services	0	6	99	0	105
Other aerial work	2	641	93	0	736
Business	9	1 222	282	2	1 515
Private	57	2 549	142	1	2 749
Regional airline	0	2	210	3	215
Not active	69	1 010	190	7	1 276
Total	228	7 281	1 772	21	9 302

a. Dominant flying activity is defined as that activity which accounted for the largest number of hours flown by the aircraft during the 6 months ended 30 June 1995.

Source BTCE estimates derived from DoT (1996b).

FUEL TYPE

TABLE IV.4 AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY FUEL TYPE, AS AT 30 JUNE 1990 TO 1995

(number)

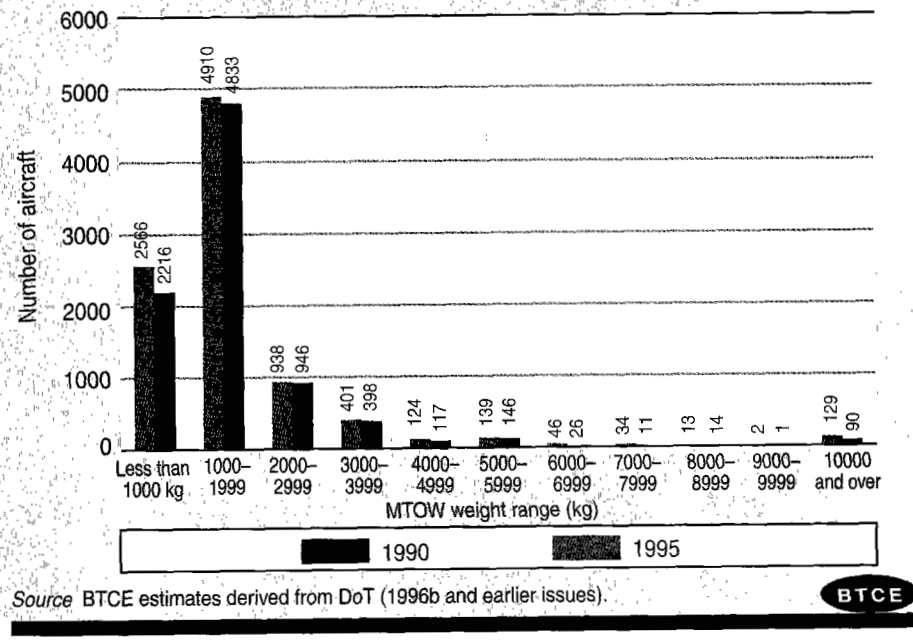
Fuel type	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*
Avgas[a]	8 037	8 222	8 316	8 305	8 280	8 331
Avtur	578	597	622	643	669	736
Two-stroke	2	4	7	4	4	7
Non-powered	180	192	189	197	218	228
All aircraft	8 797	9 015	9 134	9 149	9 171	9 302

a. Includes piston-engined aircraft that used mogas as a substitute fuel.

Source BTCE estimates derived from DoT (1996b and earlier issues).

MAXIMUM TAKE-OFF WEIGHT

FIGURE IV.1 MAXIMUM TAKE-OFF WEIGHT OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, AS AT 30 JUNE 1990 AND 1995



Source BTCE estimates derived from DoT (1996b and earlier issues).

TABLE IV.5 MEAN MAXIMUM TAKE-OFF WEIGHT OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY AIRCRAFT CATEGORY, 1989 TO 1995

(kilograms)

	Six months ending											
Aircraft category	*1989 31 Dec.*	*1990 30 Jun.*	*1990 31 Dec.*	*1991 30 Jun.*	*1991 31 Dec.*	*1992 30 Jun.*	*1992 31 Dec.*	*1993 30 Jun.*	*1993 31 Dec.*	*1994 30 Jun.*	*1994 31 Dec.*	*1995 30 Jun.*
Fixed-wing single-engine piston	1 194	1 193	1 191	1 190	1 187	1 184	1 175	1 172	1 170	1 168	1 170	1 169
Fixed-wing multi-engine piston	2 720	2 718	2 715	2 717	2 742	2 729	2 775	2 768	2 774	2 780	2 817	2 826
Fixed-wing single-engine turbine	3 426	3 417	3 314	3 329	3 303	3 462	3 493	3 430	3 395	3 442	3 464	3 647
Fixed-wing multi-engine turbine	7 880	8 140	7 943	8 008	8 161	7 987	8 377	9 011	8 739	8 806	8 854	8 919
Rotary-wing single-engine piston	929	902	889	873	865	865	859	863	857	852	850	854
Rotary-wing single-engine turbine	1 614	1 583	1 571	1 560	1 570	1 561	1 549	1 535	1 549	1 542	1 536	1 551
Rotary-wing multi-engine turbine	4 376	4 283	4 303	4 306	4 474	4 470	4 601	4 676	4 702	4 615	4 713	4 634
Balloon/airship	na	810	815	865	864	860	882	892	924	933	957	961
All aircraft	1 728	1 717	1 698	1 696	1 703	1 685	1 706	1 724	1 716	1 717	1 735	1 756

na Not available (balloons were included from the first half of 1990).

Source BTCE estimates derived from DoT (1996b and earlier issues).

MANUFACTURERS AND MODELS

TABLE IV.6 RANKING OF MODELS OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, AS AT 30 JUNE 1995

Ranking	*Manufacturer*	*Model*	*Number*
1	Cessna	172	952
2	Piper	PA-28	824
3	Cessna	182	655
4	Cessna	150	450
5	Cessna	210	261
6	Robinson	R22	226
7	Piper	PA-32	200
8	Piper	PA-31	198
9	de Havilland	DH-82	182
10	Cessna	206	169

Source BTCE estimates derived from DoT (1996b).

TABLE IV.7 TEN MOST COMMON MANUFACTURERS OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, AS AT 30 JUNE 1985 AND 1995

(number of aircraft)

Manufacturer	*1995*	*Manufacturer*	*1985*
Cessna	3 327	Cessna	2 834
Piper	1 925	Piper	1 537
Beechcraft	702	Beechcraft	590
de Havilland	329	de Havilland	215
Robinson	239	Bell	171
Bell	199	Mooney	122
Mooney	146	Auster	99
Auster	127	American Air	86
Kavanagh	115	Victa	72
Socata	92	Aerocommander	65
Other	2 101	Other	924
All aircraft	9 302	*All aircraft*	6 715

Source BTCE estimates derived from DoT (1996b and earlier issues).

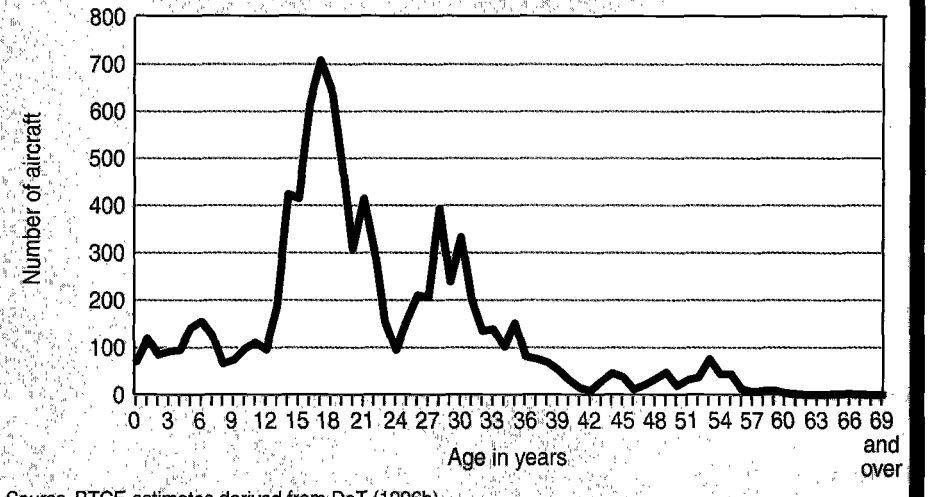
TABLE IV.8 MOST COMMON MANUFACTURERS OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY AIRCRAFT CATEGORY, AS AT 30 JUNE 1995

Aircraft category	*Two most common manufacturers*	*Per cent of category*
Fixed-wing single-engine piston	Cessna	47
	Piper	23
Fixed-wing multi-engine piston	Piper	34
	Cessna	26
Fixed-wing single-engine turbine	Airtractor	35
	Ayres	25
Fixed-wing multi-engine turbine	Beech	18
	Cessna	14
Rotary-wing single-engine piston	Robinson	57
	Bell	13
Rotary-wing single-engine turbine	Bell	66
	Aerospatiale	17
Rotary-wing multi-engine turbine	Sikorsky	41
	Aerospatiale	24
Balloon	Kavanagh	51
	Cameron	18

Source BTCE estimates derived from DoT (1996b).

AGE

FIGURE IV.2 AGE OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, AS AT 30 JUNE 1995



Source BTCE estimates derived from DoT (1996b).

TABLE IV.9 MEDIAN AGE OF AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY AIRCRAFT CATEGORY, 1989 TO 1995

(years)

	Six months ending											
Aircraft category	*1989 31 Dec.*	*1990 30 Jun.*	*1990 31 Dec.*	*1991 30 Jun.*	*1991 31 Dec.*	*1992 30 Jun.*	*1992 31 Dec.*	*1993 30 Jun.*	*1993 31 Dec.*	*1994 30 Jun.*	*1994 31 Dec.*	*1995 30 Jun.*
Fixed-wing single-engine piston	15	16	16	17	17	18	18	19	19	20	20	21
Fixed-wing multi-engine piston	14	15	15	16	16	17	17	18	18	19	19	20
Fixed-wing single-engine turbine	1	2	1	2	2	3	3	4	4	5	5	5
Fixed-wing multi-engine turbine	10	11	11	12	12	12	12	13	13	14	13	14
Rotary-wing single-engine piston	9	10	9	10	10	11	11	12	11	10	10	11
Rotary-wing single-engine turbine	11	11	11	12	12	13	13	14	14	15	15	16
Rotary-wing multi-engine turbine	9	9	9	10	10	11	11	12	12	13	13	14
Balloon/airship	na	4	4	5	5	6	6	7	7	7	7	7
All aircraft	14	15	14	15	15	16	16	17	17	18	18	19

na Not available (balloons were included from the first half of 1990).

Source BTCE estimates derived from DoT (1996b and earlier issues).

TABLE IV.10 AIRCRAFT INVOLVED IN GA AND REGIONAL AIRLINE OPERATIONS, BY COUNTRY AND PERIOD OF MANUFACTURE, AS AT 30 JUNE 1995

	Period of manufacture						
Country of manufacture	*Pre 1950*	*1950 to 1959*	*1960 to 1969*	*1970 to 1979*	*1980 to 1989*	*1990 to 1995*	*Total*
Australia	146	30	97	101	242	244	860
Belgium	2	0	0	0	0	0	2
Brazil	0	0	0	8	16	2	26
Canada	8	47	25	9	27	6	122
China	0	0	1	2	0	0	3
Czechoslovakia	0	1	7	0	0	1	9
United Kingdom	114	88	21	43	85	20	371
France	1	1	15	22	76	55	170
Germany	2	0	1	0	15	23	41
Holland	0	2	1	5	3	0	11
Israel	0	0	0	5	9	0	14
Italy	0	1	12	39	17	0	69
Japan	0	0	29	21	1	3	54
New Zealand	2	1	24	51	4	12	94
Poland	0	6	0	2	10	4	22
South Africa	0	0	0	1	1	0	2
Spain	0	0	0	0	1	0	1
Sweden	0	1	0	0	6	8	15
United States	165	280	1 885	3 602	1 264	211	7 407
Soviet Union	0	0	0	1	3	0	4
Others	0	0	3	0	0	2	5
Total	440	458	2 121	3 912	1 780	591	9 302

Source BTCE estimates derived from DoT (1996b).

APPENDIX V DEFINITIONS OF FINANCIAL RATIOS

As no time series of financial ratios for GA were available, another point of comparison was needed for the financial ratios for GA for 1992–93. The Australian Bureau of Statistics *Business Operations and Industry Performance Australia 1992–93* (ABS 1994) provides ratios for a range of industry groups and allows comparison between GA and other industries. The same financial ratios used by the ABS have therefore been calculated for GA, where applicable. The ratios used in chapter 5 are defined in this appendix, according to ABS (1994) definitions.

PROFITABILITY RATIOS

Operating profit margin is the percentage of goods and services available as operating profit (100 × OPBT/sales of goods and services), where Operating Profit Before Tax (OPBT) is a measure of profit before extraordinary items and before income tax and appropriations to owners.

Return on funds is the percentage of the total funds that this year's earnings before interest and tax represent, that is, EBIT × 100/(net worth + non-current liabilities), where Earnings Before Interest and Tax (EBIT) is profit prior to the deduction of interest expense and income tax.

Return on assets is OPBT as a percentage of the total book value of assets (OPBT × 100/total value of assets).

Return on net worth is OPBT as a percentage of shareholders' funds (OPBT × 100/net worth)

LIQUIDITY RATIO

Current ratio is the number of times current assets exceed current liabilities (current assets/current liabilities).

DEBT RATIOS

Interest coverage is the number of times over that businesses can meet their interest expenses from their earnings before interest and tax (EBIT/interest expense).

Long-run debt to equity is the percentage of owners' equity which would be required to discharge non-current liabilities (non-current liabilities/net worth).

LABOUR RATIO

Selected labour costs per employee is the average amount of selected labour costs incurred by business (including wages, salaries, superannuation, workers' compensation premiums) for each employee, working proprietor and working partner (selected labour costs/persons employed).

For the ABS ratio, persons employed include working proprietors, working partners, permanent, part-time, temporary and casual employees, and managerial and executive employees working for a business during the last pay period in June each year. Unpaid staff are included if explicitly mentioned in business records during that pay period. Employees absent on paid or prepaid leave are included.

Employment data taken from the BTCE GA survey includes persons employed on a full-time, part-time, casual or unpaid/voluntary basis. Any owners who are involved in the day-to-day running of the organisation are also included. Staff employed primarily for non-GA-related duties are excluded.

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ABBREVIATIONS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
AGPS	Australian Government Publishing Service
AOC	Air Operators Certificate
AOPA	Aircraft Owners and Pilots Association of Australia
avgas	aviation gasoline
avtur	aviation turbine fuel
BTCE	Bureau of Transport and Communications Economics
BTE	Bureau of Transport Economics
CAA	Civil Aviation Authority
DoT	Department of Transport
DoTRD	Department of Transport and Regional Development
EBIT	Earnings Before Interest and Tax
FAC	Federal Airports Corporation
GA	general aviation
GDP	gross domestic product
HORSCOTCI	House of Representatives Standing Committee on Transport, Communications and Infrastructure
IFR	Instrument Flight Rules
mogas	motor gasoline
MTOW	maximum take-off weight
OPBT	Operating Profit Before Tax
RPT	regular public transport
RSE	relative standard error (see appendix II)
SAAA	Sport Aircraft Association of Australia
SIA	Securities Institute of Australia