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# **Cost Cutting for Success:**

# **Factors Influencing Costs**

Dr George Williams Reader in Airline Economics

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#### Unit Cost (pence per ASK) in 2005/6

![](_page_1_Figure_2.jpeg)

Irrespective of whether an airline has high or low operating costs, a thorough knowledge and breakdown of them is vital in order for management to:

- monitor performance (to check if targets / budgets are being met. If not, remedial action can be taken)
- set appropriate fares and tariffs
- evaluate new routes, aircraft acquisition and outsourcing opportunities

![](_page_3_Picture_0.jpeg)

- For most carriers labour forms the largest input cost (typically 25-40% of total operating costs)
- Considerable variation exists in airline cost structures making comparison difficult
- Airline managers need to be aware of future trends in the availability, price and quality of key input factors (including *Outsourcing* opportunities)
- Some cost items are more controllable than others. It is important to know what influence management can exert on each input factor

![](_page_4_Picture_0.jpeg)

Airline operating costs are traditionally sub-divided into direct and indirect elements, after the exclusion of non-operating items such as profits earned by subsidiaries and those from asset sales.

(Interest payments traditionally have also been excluded, but this distorts comparisons with carriers that lease their aircraft.)

![](_page_5_Picture_0.jpeg)

The widely used breakdown of operating costs that follows is recommended by ICAO and is similar to the approach adopted in the UK and US.

The ICAO system has the advantage that the cost categories employed correspond to functional areas within the airline.

![](_page_6_Picture_0.jpeg)

#### Direct Operating Costs refer to the expenses incurred directly in the operation of a particular aircraft and include three main items:

- Flying Expenses [Flight Crew Salaries & Expenses / Fuel & Oil / Airport & En-Route Charges / Aircraft Insurance / Rental of Flight Equipment and Crews]
- Maintenance and Overhaul [Labour costs / Spares used / Maintenance Overheads]
- Aircraft Depreciation

![](_page_7_Picture_0.jpeg)

#### Indirect Operating Costs include all those items of expenditure which are not directly related to the operation of a particular aircraft:

- Station and Ground Costs
- Passenger services
- Ticketing, Sales and Promotion
- → General Administration

![](_page_8_Picture_0.jpeg)

# In practice the distinction between direct and indirect operating costs is not always clear cut.

On average, direct operating costs (DOCs) account for around one half of the total operating costs of scheduled carriers. However, wide variations are apparent between airlines. The DOC proportion of total cost can vary between 45% and 70%.

![](_page_9_Picture_0.jpeg)

#### IATA INTERNATIONAL SCHEDULED SERVICES

#### **DISTRIBUTION OF COSTS IN 2003**

DIRECT OPERATING COSTS (DOC)				
FLIGHT OPERATIONSFlight Crew(6.2)Fuel and Oil(16.5)Airport & En-Route Charges(9.3)	32.0			
MAINTENANCE	10.4			
DEPRECIATION / RENTALS / INSURANCE	<u>14.0</u>			
TOTAL D.O.C.	56.4			

![](_page_10_Picture_0.jpeg)

INDIRECT OPERATING COSTS (IOC)	%	
STATION AND GROUND	9.8	
PASSENGER SERVICES Cabin Attendants Other Pax Services(6.7)	12.8	
TICKETING, SALES AND PROMOTION	14.5	
GENERAL AND ADMIN.	<u>6.5</u>	
TOTAL I.O.C	43.6	

**Source: IATA Airline Economic Results and Prospects 2004** 

![](_page_11_Picture_0.jpeg)

While the ICAO approach enables the operating costs of an airline to be isolated and compared with other carriers, it provides neither a basis for pricing decisions nor a means for deciding the appropriate level of service frequency to provide on a route.

In order to be able to undertake these activities it is necessary to consider the concept of escapability.

![](_page_12_Picture_0.jpeg)

To enable an airline manager to know exactly which costs the company will avoid if a particular flight is not operated it is necessary to subdivide direct operating costs into fixed and variable elements.

The variable direct operating costs are those items of expenditure that can be escaped if a flight is not operated. Alternatively, they are the additional costs incurred when an extra flight is operated.

![](_page_13_Picture_0.jpeg)

#### **Sources of Cost Differences**

#### Direct Operating Costs

#### Indirect Operating Costs

#### Seating Density / Load Factor

![](_page_14_Picture_0.jpeg)

![](_page_14_Figure_1.jpeg)

Cranfield

## % Direct Operating Costs in 2005

![](_page_15_Figure_1.jpeg)

Cranfield

![](_page_16_Picture_0.jpeg)

#### **DOC breakdown in 2005**

![](_page_16_Figure_2.jpeg)

## **IOC breakdown in 2005**

![](_page_17_Picture_1.jpeg)

Cranfiel

![](_page_18_Picture_0.jpeg)

## Major Factors Affecting Airline Operating Costs

Aircraft Characteristics

- speed and capacity determine aircraft productivity

Route Structure and Type of Network –

- stage length affects aircraft and crew utilization, fuel used per block hour, relative station costs and some maintenance expenses

- service frequency directly influences aircraft and crew utilization rates

- average length of passenger haul affects sales and passenger handling costs

#### **Aircraft Productivity**

![](_page_19_Picture_1.jpeg)

![](_page_19_Figure_2.jpeg)

![](_page_20_Figure_0.jpeg)

#### Unit Cost against Stage Length (2005/6)

![](_page_21_Picture_1.jpeg)

(Average Aircraft Seating Capacity)

![](_page_21_Figure_3.jpeg)

![](_page_22_Picture_0.jpeg)

#### **Airline Staff Productivity in 2006**

![](_page_22_Figure_2.jpeg)

#### **Passenger Load Factors in 2006**

![](_page_23_Figure_1.jpeg)

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#### **Operating Cost Comparison** 2005/6 Financial Year

Airline	Unit Cost (pence per ASK)	Load Factor (% pass-km)	Av. Stage Length (km)	Av. Seats per aircraft
BA	4.62	76.3	2260	232
easyJet	4.34	81.7	967	148
First Choice	2.46	89.9	2460	225
flybe	7.17	65.7	480	101
Monarch	2.71	83.4	2227	255
Thomas Cook	2.46	89.0	2785	246
Virgin Atlantic	3.51	73.9	7160	344

![](_page_25_Picture_0.jpeg)

## Major Factors Affecting Airline Operating Costs

- Marketing Policy
  - scale and type of sales promotional activity
  - amount and quality of in-flight and ground handling services provided
- External Economic Factors
  - aviation fuel prices
  - landing fees and en-route charges
  - exchange rates
  - level of economic activity

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# **Survival Strategies**

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## Improvements in Airlines' Productivity

![](_page_27_Figure_1.jpeg)

Cranfield

![](_page_28_Picture_0.jpeg)

# Short Haul Unit Cost Performance of European Majors

![](_page_28_Figure_2.jpeg)

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#### **OPEC Oil Production Capacity and Output**

![](_page_29_Figure_2.jpeg)

Source: International Energy Agency (IEA) and Goldman Sachs Commodity Research

#### Fuel as a % of operating costs for various regions

![](_page_30_Figure_1.jpeg)

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Source: UBS Global Analyser

![](_page_31_Figure_0.jpeg)

Source: IATA

Over the last number of years there has been an annual improvement in fuel efficiency of 2.5%, saving the industry around \$2 billion per year. However the airline fuel bill for 2007 is expected at \$119 billion – 26% of operating costs.