

---

# Contents

---

|  |      |
|--|------|
| <i>List of figures</i>                               | viii |
| <i>List of tables</i>                                | ix   |
| <i>Acknowledgements</i>                              | xi   |
| <i>Introduction</i>                                  | xii  |
| <b>1 The airport business</b>                        | 1    |
| <i>Improving financial performance</i>               | 1    |
| <i>Not all airports equally profitable</i>           | 6    |
| <i>What is an airport?</i>                           | 7    |
| <i>Patterns of ownership</i>                         | 11   |
| <i>Measuring airport output</i>                      | 14   |
| <i>The world's major airports</i>                    | 21   |
| <b>2 Issues in airport management</b>                | 25   |
| <i>Objectives of airports policy</i>                 | 25   |
| <i>Trend to airport privatization</i>                | 26   |
| <i>Benefits and risks of privatization</i>           | 28   |
| <i>Growing runway shortage</i>                       | 33   |
| <i>Financing airport expansion</i>                   | 40   |
| <i>European airports and 1993</i>                    | 42   |
| <b>3 Airport cost and revenue structures</b>         | 45   |
| <i>Structure of airport costs</i>                    | 45   |
| <i>Economic characteristics of airports</i>          | 48   |
| <i>Sources of airport revenue</i>                    | 53   |
| <i>Trends in revenue development</i>                 | 58   |
| <b>4 Aeronautical charges and pricing policies</b>   | 62   |
| <i>Importance of aeronautical charges</i>            | 62   |
| <i>Traditional structure of aeronautical charges</i> | 63   |
| <i>Traditional pricing policies</i>                  | 69   |
| <i>ICAO and IATA views on airport charges</i>        | 71   |
| <i>Levels of airport charges</i>                     | 75   |

---

|          |  |     |
|----------|--|-----|
| <b>5</b> | <b>Alternative pricing strategies</b>                      | 78  |
|          | <i>Airports' legal constraints</i>                         | 78  |
|          | <i>Shortcomings of traditional charging structures</i>     | 80  |
|          | <i>Towards cost-related pricing</i>                        | 85  |
|          | <i>The application of cost-related pricing</i>             | 86  |
|          | <i>Peak charging in practice</i>                           | 93  |
|          | <i>A rationing strategy</i>                                | 98  |
|          | <i>Grandfather rights or slot auctions</i>                 | 99  |
| <b>6</b> | <b>Developing a commercial strategy</b>                    | 112 |
|          | <i>Strategic options</i>                                   | 112 |
|          | <i>Potential sources of commercial revenues</i>            | 117 |
|          | <i>The right organizational structure</i>                  | 121 |
|          | <i>Rental policies and recharges to tenants</i>            | 127 |
| <b>7</b> | <b>Maximizing concession revenue</b>                       | 131 |
|          | <i>Impact of traffic characteristics</i>                   | 132 |
|          | <i>Size and location of spaces available</i>               | 136 |
|          | <i>Skill of concessionaires</i>                            | 143 |
|          | <i>The portfolio approach</i>                              | 146 |
|          | <i>Choice of concessionaires and contract terms</i>        | 149 |
|          | <i>The competitors</i>                                     | 155 |
|          | <i>The key to success</i>                                  | 157 |
| <b>8</b> | <b>Monitoring airport performance and efficiency</b>       | 158 |
|          | <i>The need for performance indicators</i>                 | 158 |
|          | <i>To monitor or to compare</i>                            | 160 |
|          | <i>Measuring airport outputs and inputs</i>                | 162 |
|          | <i>Data comparability problems</i>                         | 164 |
|          | <i>Aggregate and disaggregate indicators</i>               | 169 |
|          | <i>Measures of overall cost performance</i>                | 170 |
|          | <i>Labour productivity</i>                                 | 174 |
|          | <i>Productivity of capital employed</i>                    | 176 |
|          | <i>Revenue-generation performance</i>                      | 177 |
|          | <i>Performance of commercial activities</i>                | 181 |
|          | <i>Profitability measures</i>                              | 184 |
|          | <i>Conclusions</i>   | 186 |
| <b>9</b> | <b>Airports in the United States by <i>Anne Grabam</i></b> |     |
|          | <i>Relationship with the airlines</i>                      | 188 |
|          | <i>Sources of capital investment</i>                       | 191 |
|          | <i>Airport revenues</i>                                    | 197 |
|          | <i>Airport costs</i>                                       | 200 |
|          | <i>Effects of airline deregulation</i>                     | 200 |
|          | <i>Future sources of finance</i>                           | 202 |

---

|    |   |     |
|----|---|-----|
| 10 | <b>Airports in the developing world</b>     | 207 |
|    | <i>Increasing emphasis on profitability</i> | 207 |
|    | <i>Need for better accounting practices</i> | 210 |
|    | <i>Improving aeronautical revenues</i>      | 211 |
|    | <i>Maximizing commercial opportunities</i>  | 213 |
|    | <i>Labour costs and manpower issues</i>     | 216 |
|    | <i>References</i>                           | 219 |
|    | <i>Index</i>                                | 222 |

---

# Figures

---

|     |  |     |
|-----|--|-----|
| 2.1 | Average aircraft size of AEA member airlines (European and domestic services)  | 36  |
| 2.2 | Accommodation of passenger growth on US domestic services 1971-86  | 37  |
| 2.3 | Accommodation of passenger growth by AEA member airlines 1977-89   | 38  |
| 3.1 | Average cost structures of western European airports   | 46  |
| 3.2 | Average cost structures: (a) large US airports 1989-90; (b) European airports 1989   | 49  |
| 3.3 | Airport long-run cost curve  | 50  |
| 3.4 | Relationship between short- and long-run average costs of airports   | 52  |
| 3.5 | Average revenue structures among European airports   | 55  |
| 3.6 | Revenue split as traffic grows among most European airports  | 56  |
| 3.7 | Average revenue structures of medium/large US airports 1989-90   | 57  |
| 5.1 | Short-run marginal-cost pricing with no peak congestion  | 87  |
| 5.2 | Short-run marginal-cost pricing in peak period   | 88  |
| 5.3 | Short-run marginal-cost pricing when peak demand exceeds runway capacity   | 90  |
| 6.1 | Traditional airport organization   | 122 |
| 6.2 | Commercially oriented airport organization: Gatwick Airport Ltd in 1990  | 124 |
| 6.3 | The commercial department of Gatwick Airport Ltd in 1990   | 125 |
| 7.1 | Impact of shop location on percentage of passengers making a purchase  | 138 |
| 7.2 | Departing passenger flows: (a) the traditional airport; (b) the commercial airport   | 141 |
| 7.3 | Alternative layouts for duty- or tax-free shops or other shopping concessions: (a) non-directed flow; (b) directed flow; (c) open flow | 144 |
| 7.4 | Sales of landside and airside shops at French airports in 1987   | 149 |

---

# Tables

---

|     |  |     |
|-----|--|-----|
| 1.1 | Reported surplus or deficit of major European airports 1983 and 1989   | 2   |
| 1.2 | Revex ratio for major European airports 1988   | 3   |
| 1.3 | Reported profit or loss for selected airports 1989   | 4   |
| 1.4 | World's top forty airports 1989 in terms of commercial air-transport movements (ATMs)  | 16  |
| 1.5 | World's top forty airports 1989 in terms of terminal passengers  | 17  |
| 1.6 | World's top forty airports 1989 in terms of cargo traffic  | 19  |
| 1.7 | World's top forty airports 1989 in terms of work-load units  | 22  |
| 3.1 | Categorization of airport revenue sources  | 54  |
| 3.2 | Income structure of Los Angeles International airport (financial year to June 1990)  | 58  |
| 3.3 | Profit or loss by activity area at selected UK airports 1989-90  | 60  |
| 4.1 | Impact of airport charges on airline costs: airport charges as a percentage of total operating costs   | 63  |
| 4.2 | Airport charges at selected airports March 1991  | 72  |
| 4.3 | ICAO and IATA recommendations on airport charges   | 74  |
| 4.4 | Representative charges February 1991 for Boeing 747-300 (with 280 passengers)  | 76  |
| 4.5 | Relative importance of aircraft and passenger charges February 1991: passenger charges as a percentage of total aeronautical revenue from Boeing 747 | 77  |
| 5.1 | Passenger charges at London Heathrow April 1991-March 1992   | 94  |
| 5.2 | Charge on landing at London Heathrow April 1991-March 1992   | 95  |
| 5.3 | Aircraft parking charges at London Heathrow April 1991-March 1992  | 95  |
| 5.4 | Airport charges at London Heathrow for Airbus A320 on international flight by time of day  | 96  |
| 6.1 | Sources of concession-fee income at London Gatwick and Frankfurt airports (excluding rents)  | 120 |
| 6.2 | Impact of alternative approaches to operation of airport concessions   | 126 |

---

|      |  |     |
|------|--|-----|
| 6.3  | Bases used by airports for establishing rental charges   | 130 |
| 7.1  | The process for successful letting of concessions  | 154 |
| 7.2  | Duty-free sales and airport concession income 1987-8   | 156 |
| 8.1  | Costs per WLU in 1989 for sample of European airports  | 171 |
| 8.2  | Labour costs and labour productivity in 1989 for selected European airports                                | 173 |
| 8.3  | Value-added ratios for European airports 1989  | 176 |
| 8.4  | Total revenues per WLU in 1989 for selected European airports  | 179 |
| 8.5  | Aeronautical and non-aeronautical revenues of selected European airports in 1989                           | 180 |
| 8.6  | Concession and rent revenue per passenger for selected European airports in 1989                           | 183 |
| 8.7  | Profitability measures for selected European airports in 1989  | 186 |
| 9.1  | Illustrative calculation of US airline charges under residual and compensatory approaches                  | 190 |
| 9.2  | The financial management approach of large US airports 1990  | 191 |
| 9.3  | Airport bonds of large US hub airports 1990  | 194 |
| 9.4  | Bonds and federal grant financing at US commercial airports  | 196 |
| 9.5  | Revenues at large US airports 1989-90  | 198 |
| 9.6  | Costs at large US airports 1989-90   | 201 |
| 9.7  | Passenger facility charge revenues at selected US airports 1990  | 205 |
| 9.8  | Landing charges at Boston Logan airport  | 205 |
| 10.1 | Profit or loss of selected Third World airports (financial year 1989)                                      | 208 |
| 10.2 | Third World airport charges compared to European February 1991: charges for Boeing 747 with 280 passengers | 212 |
| 10.3 | Concession revenue and rents as percentage of total revenue 1989   | 214 |
| 10.4 | Concession and rental income per passenger in 1989   | 214 |