

# Evaluation Report

---

*Operations Evaluation (EV)*

## **Evaluation of EIB Financing of Airlines**

A Synthesis Report



## **EVALUATION REPORT**

# Evaluation of EIB Financing of Airlines

Prepared by

### **Operations Evaluation**

Campbell Thomson  
Monique Bianchi

### **External Consultants:**

Tim Goodyear  
Dieter Havlicek

March 2004

\* \* \*

### **NOTICE**

**The EIB has an obligation of confidentiality in relation to the owners, airlines and operators of the projects referred to in this report. Neither the EIB nor the consultants employed on these studies will disclose to a third party any information that might result in breach of that obligation, and the EIB and the consultants will not assume any obligation to disclose any further information nor to seek consent from relevant sources to do so.**



# Evaluation

## TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>EXECUTIVE SUMMARY AND RECOMMENDATIONS</b>                           | <b>1</b>  |
| <b>1. INTRODUCTION</b>   | <b>4</b>  |
| 1.1 Overview of the Airline Portfolio                                  | 4         |
| 1.1 Approach to the Evaluation   | 5         |
| <b>2. CONTEXT OF THE EVALUATION</b>                                    | <b>6</b>  |
| 2.1 Airline Industry Developments                                      | 6         |
| 2.2 The Aircraft in the Portfolio                                      | 11        |
| <b>3 RELEVANCE/EFFECTIVENESS OF PROJECTS</b>                           | <b>12</b> |
| 3.1 Contribution of Projects to Objectives                             | 12        |
| 3.2 Implementation Performance   | 12        |
| <b>4 PERFORMANCE OF THE PROJECTS EVALUATED IN DEPTH</b>                | <b>14</b> |
| 4.1 Operational Performance and EIRR                                   | 14        |
| 4.2 Project Sustainability: IDI, Physical, Environmental and Financial | 15        |
| 4.3 Project Performance Ratings  | 16        |
| <b>5. EIB IMPACT and PERFORMANCE</b>                                   | <b>17</b> |
| 5.1 Project Identification and Selection                               | 17        |
| 5.2 Project Analysis   | 18        |
| 5.3 Project Implementation and Monitoring                              | 20        |
| 5.4 EIB Additionality and Added Value (Financial and Non-Financial)    | 20        |
| 5.5 Summary of Main Issues Relating to the Project Cycle               | 21        |
| <b>ANNEX 1: INDIVIDUAL PROJECT RATINGS</b>                             | <b>24</b> |
| <b>ANNEX 2: EVALUATION CRITERIA</b>                                    | <b>27</b> |

## EXECUTIVE SUMMARY AND RECOMMENDATIONS

### Introduction

The report presents the findings of an evaluation of the airline projects financed by the Bank between 1 January 1990 and 31 December 2001. During this period the Bank financed 31 projects, with a total loan value of EUR 5 370 million. The evaluation considered the performance of projects against the Bank's standard evaluation criteria<sup>1</sup>, as well as the performance of the Bank itself. Ten representative projects were examined in-depth, including eight EU projects and one each from an Accession and a Mediterranean country.

The evaluation took into account :

Relevant EU policies : including Transport Policy, International Competitiveness and Regional Development. Current EU transport policy is to increase competition and minimise environmental impact.

Regular EIB sector papers: which identified key sector issues and provided a framework for the Bank's operations.

Particular sector characteristics :

- Competent operational airline management – making it difficult for the Bank to offer substantial non-financial value added.
- Consistent growth over time, but with volatile demand. This is closely linked to the economic cycle but heavily influenced by world events, e.g. "September 11th", SARS, the Iraq wars. While this creates opportunities for the Bank to promote EU policies, it makes risk assessment much more difficult.
- Fleet capacity has to be planned years in advance. It cannot be expanded or cut quickly, and there has been a tendency to overcapacity.
- The long-standing "Hub-and-Spoke" system of flight connections is being complemented by more "Point-to-Point" connections, mainly by regional airlines and new entrants. Many of these are low-cost carriers which typically use under-utilised airports, often in less-developed regions. The rapid growth of these airlines will have major implications for the sector as a whole.
- Although EU deregulation has increased competition, there are still substantial barriers to entry and exit. Airlines also have to operate in a complex regulatory framework of landing rights, bilateral arrangements, commercial alliances, etc.
- A wide spectrum of management and governance. At one end there are highly aggressive and entrepreneurial carriers, typically private sector. At the other end are flag carriers where operational decisions are strongly influenced by political and social considerations.

### Overall Performance of In-Depth Projects

Although there has been some EIB lending to freight airlines and regional carriers, the portfolio is dominated by "flag carriers"<sup>2</sup>. Eight of the projects examined in depth were for the renewal of passenger aircraft fleets, but with increases in capacity. The other two projects were for dedicated freighter aircraft.

---

<sup>1</sup> Relevance/Efficacy, Efficiency, and Sustainability, including a special reference to Institutional Development Impact (IDI).

<sup>2</sup> Airlines which are, or have been, state-owned and which usually have a dominant market position.

Overall, three projects were rated "Good", five were "Satisfactory", and two were "Unsatisfactory". There were no "Poor" projects.

Almost all projects were on-cost, on-time, and to specification. Also, as all except one of the projects were for replacement aircraft, the environmental objectives of lower emissions and greater fuel economy have been achieved. With the exception of the two projects which were rated as Unsatisfactory, all of the projects examined in-depth should be Sustainable. However, the Bank's portfolio also included a loan to an airline that has gone into liquidation. In all three cases the problems were at the corporate level; the projects themselves were sound. This highlights the need for a greater emphasis to be placed on corporate risk analysis, and particularly on the airline's marketing and strategic management.

Summing up the Bank's performance:

- It validated the airline's aircraft selection process, and measured its fleet planning against the Bank's own market analysis. However, the Bank normally did not get involved in projects until after purchase contract negotiation, i.e. once the project was fully defined.
- The Bank's market analysis was also the basis of the projected financial return, which was used as a proxy for the economic return. The calculated Financial Internal Rates of Return (FIRRs) showed wide variations, 4.6% to 27.3% for the base case, and were very sensitive to even minor changes in some of the key parameters, particularly yield and traffic growth.
- The Bank accepted, and helped create, a wide range of financing structures, including direct loans, intermediated loans, loans to Special Purpose Vehicles (SPVs), loans to leasing companies, etc. The degree of risk identified at appraisal differed widely between projects, but this was not fully reflected in the proposed risk mitigants.
- The Projects Department of the Bank has a standard set of modulated reporting requirements for the monitoring phase, reinforced by the Loan Contract. However, these appear to have been largely ignored by Promoters. Completion reporting was more satisfactory, with specific data requests being repeated until the information was provided.

### **EIB Impact and Value Added**

The pattern of EIB lending is set at the project identification stage, but there is no evidence of a coherent project identification and selection procedure. Typically, projects enter the Bank's system through a previous relationship with the airline or via governmental contacts. There was no apparent attempt to maximise Relevance by identifying policy issues to be promoted and developed. Similarly, the Bank's late entry into the projects meant that while costs and implementation schedules could be defined very accurately, there was little opportunity for the Bank to add technical value, and the Bank could only influence the project by refusing to finance parts of the Airline's investment programme.

Although the industry characteristics make it difficult for the Bank to add value, most projects could demonstrate at least some non-financial value added, e.g. highlighting inappropriate capacity planning, support for airline restructuring plans, encouragement to banks with little or no previous airline financing experience, and the creation of innovative financing structures. Financial value added appeared to be present but was not quantified ex-ante and could not be quantified ex-post.

## TABLE OF RECOMMENDATIONS

|    | EV Recommendation  | Accepted<br>Yes/No                               | OpsA/OpsB/PJ/RM <sup>3</sup><br>Comments   |
|----|--|--|--|
| 1. | With the EU policy objectives of increased competition and regional development, the Bank should more actively seek to diversify its client base: new entrants, regional carriers, and low-cost carriers, in order to increase value added. (5.5.1)  | OpsA – Yes<br>OpsB – Yes<br>PJ – Yes<br>RM - *   | <b>OpsA</b> : Subject to updated PJ sector study and compliance with EIB credit policy.<br><b>OpsB</b> : Good proposal but maybe difficult outside EU markets.<br><b>PJ</b> : Recommendation is consistent with developments proposed in CRD/PJ joint “E.U. airline sector report, 2000” (transmitted to the Board for information – see document CA 01/101, March 2001). To be updated. |
| 2. | In addition to project issues: eligibility, economic & financial justification, environment, etc., the Bank's appraisal should include an integrated corporate analysis. This would address the airline's competitive position, its strengths and weaknesses, particularly management and business strategies, and the contribution of the project to overall performance. (5.5.3) | OpsA – Yes<br>OpsB – Yes<br>PJ - Yes<br>RM - Yes | <b>OpsB</b> : Project appraisal should press state-owned airlines for greater divulgence of strategic objectives.<br><b>PJ</b> : Corporate analysis is already undertaken as part of the project appraisal.<br><b>RM</b> : Agreed. RM opinion always addresses corporate analysis and security structure of the proposed loan.   |
| 3. | When the EIB is asked to finance a well-defined airline investment programme, the Bank should follow a programme approach. (5.5.4)   | OpsA – Yes<br>OpsB – Yes<br>PJ – Yes<br>RM - *   | <b>OpsB</b> : Offers great potential for value added, but it may be more prudent to continue with current approach outside the EU.<br><b>PJ</b> : Subject to appropriate, project-level due diligence in the event of programme variations.  |

\* No response or comments necessary – subject is outside the Directorate's direct sphere of responsibility.

<sup>3</sup> Directorates for Lending Operations in the European Union (OPSA) and outside the European Union (OPSB), Projects Directorate (PJ), Risk Management (RM) - formerly Credit Risk Department (CRD).

## 1. INTRODUCTION

This report presents the findings of an evaluation of the European Investment Bank's (EIB) airline investments. The purpose was to assess the Relevance/Efficacy, Efficiency, Sustainability and Institutional Development Impact (IDI) of the Bank's investments, as well as the underlying strategies, policies and procedures followed. The report also addresses the net impact of EIB loans on the financing and, in particular, the quality and contribution of the Bank during project identification, preparation, appraisal and follow-up.

The airline sector has some particular characteristics :

- Most airlines have highly competent operational management, giving little opportunity for the Bank to offer substantial non-financial added value.
- The market continues to show consistent growth, but demand is both closely linked to the economic cycle and highly volatile, with large perturbations from local, regional or world events, e.g. 9.11, SARS, Iraq wars. There are opportunities for the Bank to promote EU policies in such an environment, but assessing the risks involved over the life of an aircraft is difficult.
- Fleet capacity has to be planned years in advance. It cannot be expanded or cut quickly, and there has been a tendency to overcapacity.
- The long-standing "Hub-and-Spoke" system of flight connections is being complemented by more "Point-to-Point" connections by regional airlines and new entrants. Many of these are low-cost carriers which typically use under-utilised airports, often in less-developed regions. The rapid growth of these airlines will have major implications for the sector as a whole.
- Although EU deregulation has increased competition, there are still substantial barriers to entry and exit. Airlines also have to operate in a complex regulatory framework of landing rights, bilateral arrangements, commercial alliances, etc.
- A wide spectrum of management and governance. At one end there are highly aggressive and entrepreneurial carriers, typically private sector. At the other end are flag carriers where operational decisions are strongly influenced by political and social considerations.

### 1.1 Overview of the Airline Portfolio

The Bank financed 31 airline projects during the period, for a total of EUR 5 370 billion, broken down as:

| Region        | No.       | Value*      |
|---------------|-----------|-------------|
| EU            | 29        | 5255        |
| Acceding      | 1         | 40          |
| MED/Balkans   | 1         | 75          |
| ACP           | -         | -           |
| ALA           | -         | -           |
| <b>Totals</b> | <b>31</b> | <b>5370</b> |

\* Value of loans in EUR million

The portfolio reveals a pattern of lending which represents the past strategy and policy of the Bank :

- 64.5% of the loans studied, by value, were to large or second rank EU flag carriers.
- A further 18.5% of loans, by value, went to small/medium-sized flag carrier airlines.
- Of the remaining 17%, EUR 178 million (6.5% of the total by value), was used to support two regional aircraft projects. The balance went to freighter aircraft.

- Four of the airlines were undergoing, or had just undergone, refinancing/restructuring. Here, the Bank might be seen as having put its seal of approval on those processes. Some other projects appear to have been pure “flagship” operations, with the Bank financing a prestige project: just one bank among many.
- One of the small/medium flag carriers occupies a geographical market niche between Western and Eastern Europe. Traditionally, that niche was perceived as medium-haul European services involving the national hub airport. However, one of the projects with that airline was for replacement long-haul aircraft.
- There was one project failure, with the Bank being reimbursed through the guarantee structure. However, the aircraft were apparently sold at almost full market value, and are operating in a role similar to the original project. To that extent the project, i.e. the investment in the aircraft, could be said to have been economically successful.

The Bank supported fleet renewal programmes in nine of the ten in-depth projects, although there was also some expansion of capacity through larger aircraft and more efficient operations. In many cases, the aircraft being replaced would not have complied with environmental regulations after 2002.

### ***1.1 Approach to the Evaluation***

The evaluation was split into two phases. The first was a desk review of fifteen projects financed (loans or tranches of loans signed) between 1 January 1990 and 31 December 2001. Projects had to be: physically complete and operational, with loans that had not yet been repaid. Projects were then selected to be representative of the portfolio, while covering as many regions and project types as possible. The project breakdown was as follows:

| <b>Region</b> | <b>No.</b> | <b>Value<br/>M.EUR</b> |
|---------------|------------|------------------------|
| EU            | 13         | 2 668                  |
| Non-EU        | 2          | 115                    |
| <b>Totals</b> | <b>15</b>  | <b>2 783</b>           |

The thirteen EU projects represent 51% of the total funds committed to EU aircraft acquisitions by the Bank during the period. The EUR 2 783 million of total EIB lending represented 30% of total project costs. The review was based on the Bank's archive files, supplemented by meetings with key staff in the Operations and Project Departments, and sector information in the public domain. The data and information available limited the analysis to the Bank's evaluation criteria of Relevance/Efficacy and, to a limited extent, Efficiency. However, the review was also used to identify the key issues to be examined in the second phase.

This second phase was the in-depth evaluation of ten of the desk review projects, and included site visits to the airlines for discussions with the relevant personnel about the projects themselves and relations between airline and the Bank. Breaking down the ten projects by airline type :

- Two projects - one of the EU's largest national carriers: private and profitable;
- Three projects - second rank EU national airline, in terms of size: undergoing a reconstruction and privatisation process;
- One project - third rank EU national airline, in terms of size: undergoing a reconstruction and privatisation process;
- Two projects – EU freight carrier: private and profitable;
- One project – medium sized non-EU national airline, state owned;
- One project – small non-EU national airline, state owned.

This phase tested the projects against all of the Bank's evaluation criteria: Relevance/Efficacy, Efficiency and Sustainability, including a special reference to Institutional Development Impact. It



also measured the Bank's performance, including the management of the Project Cycle and its technical and financial value added.

## 2. CONTEXT OF THE EVALUATION

### 2.1 *Airline Industry Developments*

European airlines and the airline market have experienced a number of important changes and challenges since the mid-1990s, when the first in-depth projects were appraised. The Bank has analysed these developments periodically, most recently in a Sector Review in 2000, with the object of setting the Bank's lending in a broader context and to formulate an overall lending strategy. This evaluation endorses, and follows up on, that approach. The following assessment incorporates the key findings of that 2000 Review, and complements it with the latest developments and analyses of airline prospects<sup>4</sup>. It therefore provides the context for the in-depth evaluations to be found later in this report.

#### 2.1.1 *EU Industry structure and competitive strategies are changing rapidly*

- EU deregulation has increased market dynamism, benefiting smaller markets and hitherto less well-served areas. There is a quickening pace of market entry and exit, albeit mainly among small carriers, and intra-EU cross-border routes have been increasing at a rate of about 3% per year.
- Intra-EU barrier removal and the application of the EU competition rules has stimulated changes in the organisation of the EU airline industry and promoted market segmentation :
  - Large EU flag carriers have formed business alliances across national borders with non-EU flag carriers, as well as smaller independent and regional airlines. Members of these alliances may operate under their own brand or the name of the alliance. Airlines outside these alliances will find it increasingly difficult to survive if they cannot compete with low-cost carriers.
  - Low-cost carriers have seen remarkable growth. At the time of the 2000 Review their market share was about 3%, but growing exponentially. As of July 2003 the market share was 5%, corresponding to a weekly seat offer of 1.5 million. So far, most of this segment's traffic has been newly generated and not diverted from the established scheduled airlines. If the EU follows the US pattern, then these carriers may capture 25% of the enhanced overall market.
  - The differences between scheduled and charter airlines have practically disappeared. Charter airlines can now offer their services freely to anybody, without being tied to a holiday package. Similarly, the distinction between charter and low-cost carriers is becoming increasingly blurred, with vigorous competition between the two types of carrier.
- Global alliances have developed rapidly in response to commercial pressures and customer preferences. These can take various forms, ranging from relatively weak to strong: from code sharing and joint marketing to equity cross-holdings. In the EU, the leading "national" carriers are partners in one of three alliances: One World (British Airways), Star Alliance (Lufthansa) and SkyTeam (Air France). Each alliance has at least one US and Asian airline partner, thus spanning the globe. From the policy perspective, there is a delicate balance between fostering the economic benefits to the consumer of such alliances and preventing the formation of cartels. However, for the present at least, the benefits seem still to prevail and industry concentration in the EU is relatively low. In 2002 the six largest Association of European Airlines (AEA) members had a combined market share of about 25% of EU passenger traffic. The EU and US competition authorities are also insisting on modifications

---

<sup>4</sup> Sources: AEA, ICAO, Airbus Industries, Gemini Consulting and "Airline Business"

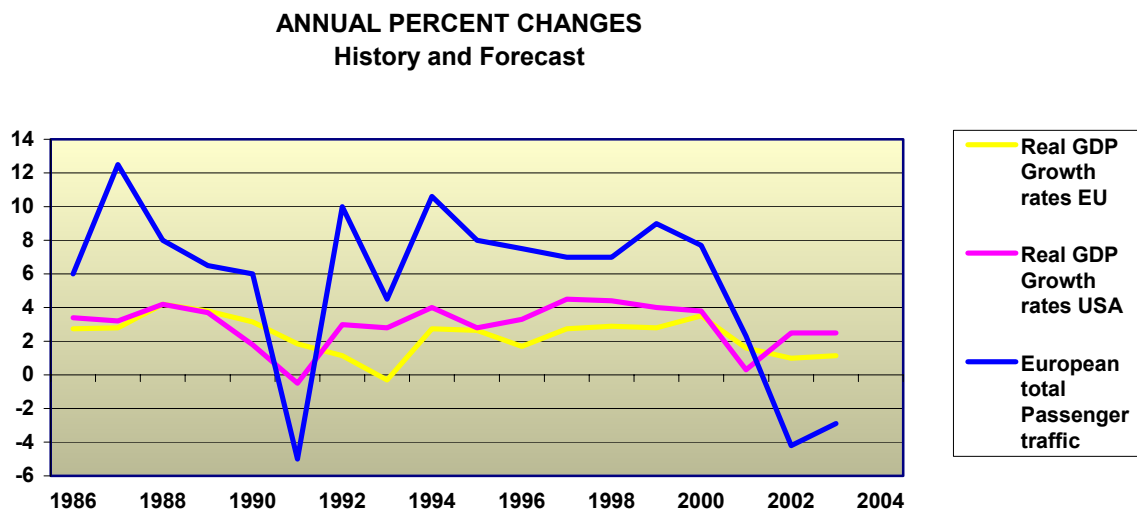
to agreements which they deem to be anti-competitive and not in the best interests of the travelling public.

- Freight is a profitable complement for most passenger airlines. Belly-hold space on passenger aircraft accounted for almost half of the global airfreight traffic in 2002. Its marginal cost is low and many airlines are now optimising cargo profits by improving logistics and developing customer-oriented delivery systems. This business is expected to grow by about 4.7% per annum (p.a.), faster than passenger traffic, as more aircraft with belly freight capacity come into use.
- More than 50% of global freight is currently handled by cargo-only companies; either integrated carriers (e.g. DHL, UPS) or specialist freight companies (e.g. Cargolux, Martinair). Airbus Industries estimates that the cargo traffic carried by dedicated freighters will grow by an average of 5.5% per year.

### 2.1.2 Strong but Volatile Growth Affect Industry Stability and Profitability

Airlines are a growth industry; but the growth is uneven :

- Passenger traffic (domestic, intra-EU and international) on AEA carriers grew by an average of 6.2% p.a. (world: about 4% p.a.) between 1990 and 2000, i.e. it nearly doubled. However, annual growth ranged from minus 5% in 1991 (the Gulf War) to more than 10% in 1992, and there is a strong correlation with economic activity in the US and Europe. The following graph shows these effects, the impact of 9/11, SARS, and the stock market collapse and ensuing economic slow-down.



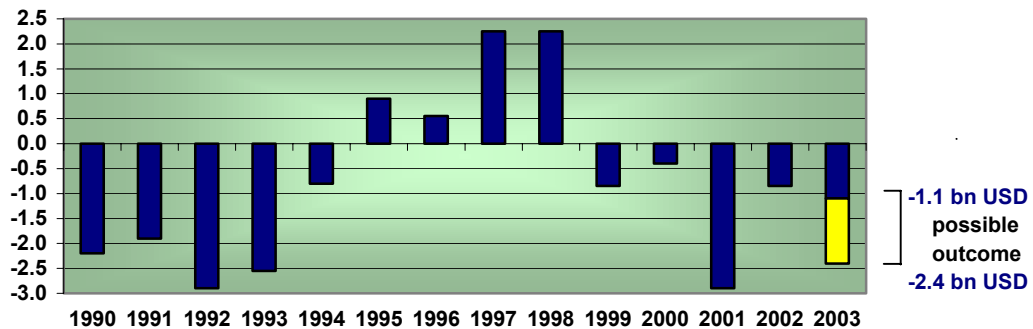
Source: AEA Yearbook 2003 (GDP growth rates) and historical AEA traffic statistics (passengers).  
Year 2003: estimate.

In the long term, growth is expected to continue, albeit at a slower pace and with perturbations as before. International passenger traffic on EU carriers is expected to grow at 4 - 5% p.a. for the next decade and EU domestic traffic between 3% and 4% p.a.. The slowing growth curve will be due to, *inter alia*, the start of market saturation and improved surface travel in the EU.

- Airline profitability is dependent on aircraft utilisation, yields and costs. Yields and costs are a function of the economic environment and management efficiency. The relationship between them is the load factor<sup>5</sup>, with the "breakeven load factor" being an important industry measure. The achieved load factor for AEA member airlines was higher than breakeven for only three years between 1991 and 2001.

<sup>5</sup> Ratio "Total revenue ton-km actually flown (passengers/freight)" to "Total available ton-km actually flown".

Operating Profit/Loss Total Scheduled Routes (current USD bn after interest)



Source: AEA Yearbook 2003

It is striking that in a period of fourteen years only four of them were profitable for the industry as a whole. An industry with a cumulative loss over thirteen years is not sustainable in the long run without drastic restructuring. There are various options for increasing profitability: increase yields per workload unit (wlu)<sup>6</sup>, increase the load factor, increase the aircraft's utilisation, or decrease costs :

- Increasing the yield per wlu has proved difficult. Low-yield traffic growth has been much faster than high-yield traffic, making the average yield per wlu even worse.
- Utilisation cannot be increased much further. The highest ever AEA average load factor was 69.2% and most EU airlines are now close to that figure. Increasing utilisation means either reducing network density and focusing on long-haul traffic or drastically re-thinking the business model for short and medium haul traffic.
- Ticketing and sales represent 17% of total costs, station and ground handling 17%, aircraft 12%, crew 13%, maintenance 9% and passenger service, fuel and airport charges 7% each. Airlines are working to reduce all of these costs without compromising safety and service quality. It has been estimated that alliances could offer savings of up to 20%.

The ability of an airline to manage capacity utilisation, control costs and react promptly to exogenous shocks is therefore crucial for its commercial success. An AEA analysis of the operating ratios (after interest) of a sample of 28 European airlines of different size between 1992 and 2001 found that although size is important, the most critical ingredient in an airline's success is efficient management and a good business model.

### 2.1.3 The Changing Regulatory Framework and its Implications for EU Airlines

Within the EU, the regulatory framework has shifted slowly from the nation states to a community framework. With a few exceptions, the issue of state aids is now largely resolved and it can be concluded that the EU Commission's program of phasing out state aids has been successful. Further, the air transport deregulation packages already mentioned are only just beginning to show their full impact. The EU's third liberalisation package, combined with a more forceful application of the competition rules, has undoubtedly produced a more competitive industry with a greater range of consumer choice. It has also made it easier for EU member states to abandon state ownership and the notion of the protected flag carrier. There are still some remnants of state influence, e.g. "golden" shares and take-over restrictions, but the trend is towards less interference. However, the right to fly between countries has historically been controlled by bilateral agreements between the individual governments. Complete deregulation is not possible while these bilateral agreements

<sup>6</sup> A measure expressed in kg and combining passenger and freight. One passenger equals 100 kg.

continue to restrict freedom of market entry and exit for EU carriers, cross-country mergers and acquisitions and other factors affecting economic efficiency and effective competition. The most important development in this respect has been the November 2002 ruling of the EU Court of Justice that nationality clauses in bilateral agreements with the US infringed on the EU Treaty principle of freedom of establishment. Although there is still some discussion as to the precise interpretation of the scope of the Court's ruling it is undisputed that discrimination on the grounds of nationality is prohibited.

This has important economic implications in the long run :

- Nationality clauses in bilateral agreements will have to be scrapped.
- The notion and privileged economic position of the national flag airline will disappear.
- There should be much more dynamism in the membership of airline alliances because third country traffic could be scheduled from any EU airport by any EU airline to any third country. Moreover, it will be much easier to establish a hub or terminus at an airport with spare capacity, irrespective of considerations of bilateral traffic rights.
- The probability of industry re-organisation and consolidation will increase, with some national airlines not continuing in their present form.
- Airline markets may become much more segmented, with carriers that have a comparative advantage in a particular market, serving that market, irrespective of their nationality.
- It will be up to the EU authorities to ensure the process is fair and ultimately to the benefit of the consumer.

The precise form and duration of the structural change process cannot be predicted, but historical EU and US precedents suggest that the process will be evolutionary, not revolutionary. However, the pressure on the industry to achieve ever-higher cost efficiency will make a re-organisation of the industry and the way it conducts its business inevitable.

#### *2.1.4 Potential Constraints to Growth and Industry Restructuring*

If increased competition is the objective, then new policies and actions will be needed. Apart from the above, remaining barriers to entry will need to be lowered. This will mean addressing the key issues of capacity constraints and slot allocation at hub airports as well as dealing rationally with environmental concerns.

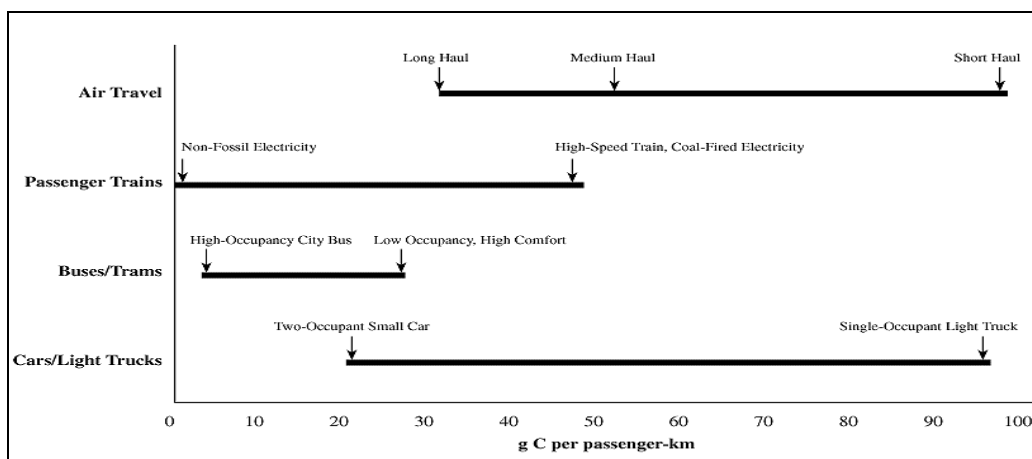
- **Capacity Constraints.** Congestion delays cost an estimated 2.5 billion EUR per year and rising. A developing consensus suggests that this can be managed by improving the efficiency of the existing airspace and airport systems by using new technological and management solutions and expanding air transport networks, where needed, and their linkages to other modes, in particular rail.
- **Hub Domination.** Airport capacity constraints make it difficult for new airlines to enter a particular local market, compounded by incumbent airlines having the right to use their landing slots in the subsequent season. Moreover, the industry is still organized on national lines and the large hub airports are still dominated by their flag carrier. This tends to preserve the status quo, exclude newcomers from the most lucrative markets and thus hamper effective competition.
- **Environmental Constraints.** There is a strong environmental lobby against air transport, largely based on the level of gaseous emissions. There is also no doubt that noise pollution is a serious issue for residents near airports. However, EU policy is not to minimise the use of air transport; it is to minimise its environmental impact. The Bank's support for this approach is reflected in the objectives of its projects. To put air travel into perspective: air transport represents only circa 2%<sup>7</sup> of all CO<sub>2</sub> emissions from fossil fuel use. If air traffic grows at 5% per year until 2050, then its estimated share of total man-made emissions of CO<sub>2</sub> will only increase to 3%<sup>6</sup>. Aircraft emissions from carbon monoxide and unburned hydrocarbons have

---

<sup>7</sup> "Aviation and the Global Atmosphere", Inter-Governmental Panel on Climate Change (IPCC).

virtually disappeared with the introduction of cleaner jet engines. However, a better comparison is emissions per passenger-km :

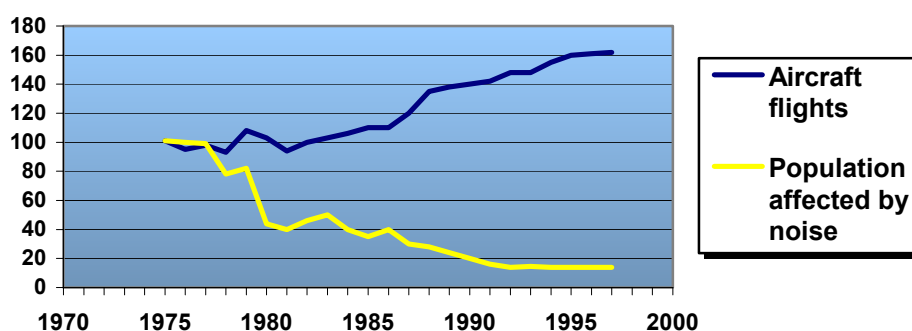
Comparative Carbon Emissions<sup>8</sup> (per passenger km)



The graph shows that the lowest emissions are a function of distance to be covered and, more importantly, of occupancy. The argument against air travel on environmental grounds is not clear-cut. It compares well with other modes on long haul, less well on short-haul.

Air transport is also a localised contributor to noise pollution, although its impact has been substantially reduced. The introduction of tough standards for noise emissions and the subsequent introduction of quieter aircraft and the implementation of noise abatement operating measures have substantially lowered the number of people affected by aircraft noise, as the following graph shows for Heathrow Airport:

**Heathrow Population Affected by Noise  
Percentage relative to 1974**



Source: Aviation & the Environment

### 2.1.5 Implications for the Bank

There is broad agreement that there is excess aircraft capacity in Europe, but less agreement on what the required capacity actually is. For reasons of competition and slot allocation, airlines are

<sup>8</sup> "Aviation and the Global Atmosphere", Inter-Governmental Panel on Climate Change (IPCC). Figures based on typical seat occupancy rates.

unwilling to reduce capacity and real or perceived short-haul demand patterns are creating a sub-optimal use of a wide range of assets and resources. Future EIB involvement in the industry will be influenced by:

- **Increasing industry volatility:** the combination of a fragmented structure, excess capacity, new competitive threats, and the disappearance of traditional protections and subsidies, is likely to lead to consolidation in the industry. The question for the sector and the Bank is whether this process will be orderly or chaotic. An orderly process, e.g. agreed takeovers, gradual reductions in staff and aircraft, would not threaten the Bank's outstanding loans or guarantors. On the other hand, the chaotic scenario: hostile takeovers, liquidations, rapid drops in the value of second-hand aircraft, etc. might have an adverse effect. This will require a deeper analysis of market and corporate risks and the use of appropriate instruments for their mitigation. When considering new operations in the sector, the long term viability of the company will be more important than the project's Financial Internal Rate of Return (FIRR).
- **Market segmentation:** EU deregulation is benefiting consumers by developing competition and opening up new market opportunities. The Bank's 2000 Review identified regional airlines as target clients. These, and low-cost airlines, should be actively pursued.
- **Global alliances:** global alliances will continue to shape intercontinental travel. The Bank should support EU member companies and assist them in improving their productivity and competitiveness.
- **Removal of constraints:** current airspace and airport congestion is the result of a complex array of factors and constraints: physical, regulatory and administrative, which cannot be solved within the Bank's remit and the tools available. However, once the competent authorities have addressed these issues, the Bank should consider intensifying its assistance in this area. This would increase EU airline industry productivity and promote competition through new market entries using freed up airport slots.

## 2.2 *The Aircraft in the Portfolio*

It has been suggested that the Bank should actively support the European aircraft industry. For its part, the Bank has taken the view that it should finance the most appropriate aircraft for the airline and the project. During the period in question, the Bank financed aircraft from seven manufacturers:

| Manufacturer | Origin      | Number of Aircraft | Percentage of Total Lending |
|--------------|-------------|--------------------|-----------------------------|
| Boeing*      | US          | 213                | 57%                         |
| Airbus       | EU          | 168                | 39%                         |
| Bombardier   | Canada      | 13                 | <1%                         |
| AVRO         | UK          | 12                 | <1%                         |
| ATR          | EU          | 11                 | <1%                         |
| Canadair     | Canada      | 4                  | <1%                         |
| Fokker       | Netherlands | 4                  | <1%                         |

\* Including 72 aircraft by McDonnell Douglas, acquired by Boeing in 1997.

These numbers should be treated with caution, because some projects involved substantial numbers of aircraft with the Bank financing a relatively small part of the total cost. However, there is no evidence of bias with regard to the source of the aircraft, which is an appropriate position for the Bank. However, with Airbus Industries having gained world market share and strong demand for smaller regional airplanes (Bombardier, Embraer), a more balanced distribution of lending can be expected.

### 3 RELEVANCE/EFFECTIVENESS OF PROJECTS

#### 3.1 *Contribution of Projects to Objectives*

##### 3.1.1 *EU Objectives and EIB Policies*

EIB policies reflect EU Objectives and, for lending within the EU, there are four which apply to the airline sector:

**Environmental Impact:** in all cases, the new aircraft had substantially lower emissions than the aircraft they were replacing. In three projects, the new aircraft were replacing aircraft which would shortly have been unable to operate within the EU. See also section 4.2.

**International Competitiveness:** six out of the nine projects were for long-haul aircraft, and the new aircraft offered lower operating costs overall, lower costs per seat-kilometre (or tonne-kilometre) flown and greater availability. All of these projects therefore rated well against Relevance.

**Regional Development:** three projects were for short-haul aircraft offering regional transport services. The projects were for new aircraft, offering the same savings as the long-haul aircraft above. The projects with these flag carriers were therefore Relevant for the policy of regional development.

**Increasing Competition:** the analysis of the portfolio in 3.1.1 shows that the Bank was not seeking to promote competition during the period and therefore had minimal impact on this policy objective. It was tending to reinforce the status quo by financing well established flag carriers rather than supporting market entrants, or seeking to slow down market exits. Important gaps in the Bank's portfolio include: low-cost carriers, non-flag long-haul carriers and, to a lesser extent, regional carriers. Obviously the Bank can only finance willing airlines, and it has tried unsuccessfully to finance low cost carriers. However, the Bank needs to address the issue of why its funding is not attractive to these carriers, rather than continuing to reinforce dominant market positions.

One project was based in a Partner country where the key policies are transport links with the EU and economic development. That project fully supported both policies.

##### 3.1.2 *National Objectives*

Of the six airlines involved in the ten projects, four were state owned at appraisal and a fifth had been state owned and was still in a dominant position in the sector. The sixth airline, a specialist freight carrier, had always been private sector but also had a strong position in the sector. In all cases, therefore, the airlines' interest and the national interest were closely aligned, so all investments can be taken to reflect National policy. This is particularly true for the state owned airlines, where five projects, involving three of the airlines, were part of a wider restructuring with a view to privatising them. In all cases, therefore, the Bank's projects were Relevant to National policies.

#### 3.2 *Implementation Performance*

##### 3.2.1 *Project Definition*

Aircraft renewal is a continuous process for large airlines, while an aircraft purchase contract may be a deal spread over many years covering a range of aircraft with different degrees of purchase certainty: firm orders, options, letters of intent, etc. This can make it difficult to define a project in the sense of the Bank's Technical Description, as appended to the Loan Contract. Aircraft are standard products which have to meet independent standards of airworthiness before going into production, with minor changes in specification to suit the needs of individual clients. The key issue is to identify the right number and type of aircraft to meet the airline's needs.

There are four basic design parameters for an aircraft project: Aircraft type, Aircraft number, Aircraft size and Aircraft commonality. The first three are clear, but while the fourth might be less obvious, it is very important. Airlines can gain substantial benefits by using only aircraft from one supplier:

- Procurement savings by placing larger orders with a single manufacturer (up to 50% of purchase price);
- Reduced maintenance and consumables costs through type harmonisation;
- Inter-changeability of aircraft between routes;
- Higher utilisation/pilot flexibility through easier qualification.

Low-cost airlines almost universally use not only one single manufacturer, but also one single model from that manufacturer.

Only one in-depth case was found where the original choice of the airline was inappropriate: see 5.1. In the case of a Desk Review airline, PJ took the view that the aircraft being proposed in a later project were inappropriate and the Bank refused to fund them. That company later went into liquidation.

In nine out of the ten projects the acquisition proceeded in line with the project definition. In the tenth case, the airline signed a loan contract with the Bank for the acquisition of five aircraft, but four of the aircraft were actually supplied to the airline under a lease agreement. This situation required the Technical Description to be reformulated between Loan Approval and Loan Signature.

### 3.2.2 Timetable

All of the airlines involved were technically competent and aircraft acquisition is not a difficult process. The aircraft were delivered on time in eight out of the ten projects. On one other project there was a delay of a few months on one aircraft due to a hold-up in the structuring of the financing arrangements, while the other project suffered a delivery delay on one out of five aircraft; again of just a few months.

This implementation performance is very good, but reflects the nature of the aircraft manufacturing business. Production schedules for aircraft are planned years ahead, and delivery dates are predictable with a high degree of accuracy. The aircraft had been ordered a long time in advance in every case, see 3.2.1., and usually long before the Bank got involved in the project.

### 3.2.3 Project Cost

For the reasons given in 3.2.1 and 3.2.2, project costs are also known well in advance. Accurate costs are usually available at the time of appraisal, based on the original contract value and known escalation charges. The only case where there is a significant variance between projected and actual project costs is on the project mentioned in 3.2.1, and that has nothing to do with the costs of the aircraft involved.

### 3.2.4 Project Loan and Security Structures

The Bank accepted a range of financing structures, some of which were innovative and one of which won an international financing award. The Borrowers for the in-depth projects included: a national government, a state owned bank, intermediary banks, a combination of airline and intermediary banks, and Special Purpose Vehicles (SPVs) which then leased the aircraft to the airline.

The Bank financed both large and small projects, with a broad range of contribution to total project costs. It also accepted a wide variety of security structures, e.g.:

- **Single Loan to Single Signature Airline:** for the single project in this category, the aircraft was seen as a sufficient cover for a substantial part of the loan. A partial repayment would have been required if the value of the aircraft fell below 125% of the outstanding balance and the Bank sought an independent valuation of the aircraft.



- **Loans to Single Signature Financial Intermediaries:** in one project, single signature banks intermediated 75% of the value of the loans, while in a second project with the same airline, there was a switch from bank guarantee to mortgage security with a 125% loan cover in 2002 on one of the tranches.
- **Loan to Single Signature Airline:** the balance of the borrowing (25%) from the previous case was based on single signature, backed by mortgages over the aircraft.
- **Bank Guarantees:** loans to SPVs were guaranteed by acceptable financial institutions, backed by an assignment of rights on the SPVs on two projects.

From this it can be seen that the Bank regularly takes charges over aircraft as part of the security structure, but not as the first line of recourse, except on two projects where there is a single signature loan for part of the project. The majority of lending is guaranteed by first class banks.

The typical lives of the loans were long: 12 to 18 years for straight amortising loans, proportionately shorter for loans with balloon repayments. Grace periods ranged from zero to five years. Loan terms approached, but never exceed, the useful earning lives of the assets, depending on specific aircraft types. This length of term may be largely responsible for making the Bank an attractive source for aircraft financing. Most lending was on a variable rate basis in the second half of the period. Earlier loans were typically fixed rate, at high levels by current standards.

## 4 PERFORMANCE OF THE PROJECTS EVALUATED IN DEPTH

### 4.1 *Operational Performance and EIRR*

All of the aircraft except one were originally intended to replace existing aircraft, although there was some increase in capacity through greater seat numbers and availability. The investments were made mainly for cost reductions, rather than increasing revenues, and all airlines reported that the benefits foreseen at appraisal were fully realised. This is consistent with the nature of aircraft as a revenue-generating asset. Cost benefits in terms of reduced fuel consumption, maintenance, etc. are specified in advance and guaranteed. Performance risk is therefore very low.

PJ reports contain either an implicit assumption or an explicit statement to the effect that air travel is a liberalised market with no controls on inputs or outputs and therefore the FIRR is an acceptable proxy for the EIRR. This is the most practical approach, although there are distortions, e.g.

- Biased distribution and pricing of landing slots;
- The economic costs of noise and emissions are largely borne by the general public, rather than the airline;
- Flag-carriers have gained preferential bilateral rights;
- Market exit can be constrained.

However, the impact of these distortions is considered to be small.

The financial projection methodology was similar in all ten projects since, in all except one, an old set of assets was being replaced by a new set. However, some variations of detail were observed between projects, depending on the circumstances of individual airlines. Calculations were made of the differential cash flow (with and without project) against the cost of the project, taking into account the disposal proceeds of the old assets.

The *ex ante* Financial Internal Rates of Return (FIRRs), and hence Economic Internal Rates of Return (EIRRs), show wide variations between both projects and airlines. Many of these *ex ante* rates of return are highly sensitive to variations in the four parameters of traffic/yield/capacity/unit cost, but the degree of sensitivity differs markedly between airlines and between projects.

| Project | <i>Ex-Ante</i><br>FIRR/EIRR (%) | Project | <i>Ex-Ante</i><br>FIRR/EIRR (%) |
|---------|---------------------------------|---------|---------------------------------|
| A       | 9.0                             | F       | 15.0                            |
| B       | 10.5                            | G       | 15.0                            |
| C       | 6.5                             | H       | 7.7                             |
| D       | 4.6                             | I       | 14.0                            |
| E       | 7.5                             | J       | 27.3                            |

Projects appear to show strong profitability at the margin, while airlines continued to suffer either limited profitability or even losses during the period. However, each project does have an impact on overall airline profitability. To paraphrase a typical Project Completion Report (PCR) “*this airline is/has been suffering low profitability/losses since 9/11, but we assume that without the project things would have been even worse*”.

Lack of available data for the specific "EIB" aircraft meant that the calculation of an *ex-post* project FIRR was only possible for two airlines, both small. In the first case, the airline's fleet is homogenous and the performance of individual aircraft mirrors the performance of the company as a whole. This is the only airline whose *ex-post* performance corresponds with the *ex-ante* projection. In a second case, the Bank's aircraft were originally to be used to cover almost all of the airline's regional routes, for which revenue and cost data are available. Unfortunately, in this case, the aircraft have been suffering falling utilisation rates, and are making losses. This was aggravated by a management decision to re-allocate aircraft to minimise total company losses, at the expense of profitability on the routes meant to be flown by the "EIB" aircraft. For the other airlines, as the *ex-post* utilisation rates of the aircraft match the *ex-ante* projections, and the expected benefits have been realised, then the projected EIRRs will have been achieved.

#### 4.2 *Project Sustainability: IDI, Physical, Environmental and Financial*

**Institutional Development Impact (IDI):** at the operational level, all of the airlines financed were technically competent and, apart from the training and flight simulators included in some projects, will not have gained any direct institutional benefit. However, the Bank's investments during this period have to be seen against a background of progressive deregulation, the development of a free market, and a general move of airlines from the public to private sector; see 2.1. Three of the airlines were undergoing a restructuring in preparation for privatisation. This was successful in two cases and the companies are either achieving, or about to achieve financial profitability. Although the Bank had no direct influence, its presence and support did have an indirect role in turning these companies round. In the third case, losses are substantial and the Company will have to rely on government support for at least the foreseeable future. In this case, and one other, the Bank did try to have a positive impact but the potential benefits of the operation were nullified by the actions of the airline's management.

Finally, in two projects (I & J), a rating of Satisfactory has been given, but a better rating might have been "Not-Applicable".

**Physical:** all aircraft are the subject of an approved and regulated maintenance regime, which has to be carried out by licensed workshops. Physical sustainability should therefore not be a problem.

**Environmental:** every appraisal contained an environmental summary sheet, detailing areas of impact, effects and risks, mitigating measures, the degree of impact and comments and conclusions. References were routinely made to US FAR 36, to ICAO Annex 16 Chapter 3 and to EC Directive 89-0629. The Bank also raised the question of airlines' progress towards formal environmental

management schemes such as ISO 14001. At the time of the investment, all aircraft financed by the Bank fully complied with all current and planned environmental standards.

No attempt was made to quantify projects' environmental economic benefit, or the mitigation of environmental costs, but the environmental benefits projected at appraisal will have been realised.

**Financial:** in spite of recent difficult trading conditions, three of the four EU airlines evaluated in depth, are profitable and the fourth is approaching profitability after restructuring. If this performance can be maintained, the eight projects they represent should be financially viable. However, increasing competition may mean reduced margins and a more difficult operating environment.

One of the non-EU airlines is state owned but has been making losses for many years. Government policy is for the airline to be privatised, and it gave an undertaking to underwrite losses until 2004. However, this was based on the assumption that they would be reduced to zero. Losses were decreasing, both in absolute terms and as a proportion of turnover, but there has now been an announcement that the company will be acquiring a number of new aircraft, apparently at the request of the government. These aircraft are not required for current operations and losses will start to rise again if the airline goes ahead with the acquisitions. If this happens the airline will not be sustainable.

The second non-EU airline, also state owned, has a history of profitability according to highly simplified published accounts. However a very substantial loss has been reported in the specialist press for the 2002 financial year. Official data is still not available. The past failure of this company to report its accounts to the Bank, and the opacity of its published information, makes it difficult to assess the Company's real financial position. If these losses are temporary, the government will almost certainly support the airline in the short term: the underlying business should be profitable and the company is technically competent. However, it does suffer from weak strategic management which might make it difficult to improve its financial performance. On balance, therefore, the Company is at risk, but probably sustainable, in the short term at least.

### 4.3 Project Performance Ratings

| Criterion                | Project Rating |              |                |          |
|--------------------------|----------------|--------------|----------------|----------|
|                          | Good           | Satisfactory | Unsatisfactory | Poor     |
| Relevance/Efficacy       | 5              | 5            | 0              | 0        |
| Efficiency               | 2              | 7            | 0              | 1        |
| Sustainability           | 6              | 2            | 2              | 0        |
| Inst. Development Impact | 0              | 8            | 2              | 0        |
| <b>Overall Rating</b>    | <b>3</b>       | <b>5</b>     | <b>2</b>       | <b>0</b> |

Please refer to ANNEX 1 for a tabular summary of the ratings.

In overall terms, eight out of the ten projects examined are satisfactory or better. This is partly attributable to the nature of the assets and the operating environment which make it highly probable that any project will score well on efficacy and sustainability. Comparing the PCR and Evaluation findings, there is one project where the difference is more than a question of degree. In that case, the PCR was written shortly after physical completion and the project was rated Good, while the evaluation has rated it Unsatisfactory. In fact, both opinions are justified because the problems only appeared after the PCR had been written. This highlights one of the differences between completion reporting and evaluation.

The main risk to all of these airlines comes from the market and relate to volatile market demand, excess capacity and the competitive force of new entrants. Considering these three elements against the eight projects from the four passenger carriers:

**Volatile market demand:** the question is not just how efficient the Bank's projects are, but how resilient. Clearly, a large, well-capitalised carrier with a strong and diversified market position is the best placed to withstand these perturbations and, typically, that is the type of project the Bank has been financing.

**Excess Capacity:** despite market growth, there is still excess capacity. Not all of this capacity is actually flying, but it is all available at relatively short notice and airlines are still carrying the cost of the assets. At the same time the airline industry is becoming liberalised and deregulated. The perceived wisdom is that this will lead to consolidation in coming years. In plainer English, a number of flag carriers are going to disappear through merger, takeover or bankruptcy. With possibly one exception, all of the airlines financed by the Bank will either continue to exist or will change on terms which are attractive to it.

**New Entrants:** new entrants are a threat to flag carriers, not just because they are competitors, but also because the current generation of new entrants are not competing on terms that the established market is used to. They are offering a different product: low cost-low service seats – a flying bus-service. They work through different sales and distribution channels: telephone hotlines and the Internet, rather than city centre offices and travel agents. And they work through different airports where costs are lower, incentives are higher and landing slots are freely available.

The sustainability and efficiency of airlines will depend on how management responds to these new pressures. Management failure, or lack of management capacity, is what marks out the two Unsatisfactory projects. One of these projects is probably still operating reasonably efficiently and may be able to recover, but the lack of transparency makes it difficult to tell. The other project is in a much more difficult position, with a lack of management capability and a mismatch between demand and fleet profile. It is entirely dependent on government support to stay in business.

## 5. EIB IMPACT and PERFORMANCE

### 5.1 *Project Identification and Selection*

The pattern of Bank lending is set by the project identification process. However, the Bank retains very little information about this activity, with no formal guidelines on identification procedures. Project identification is carried out by the Lending Departments (OpsA and OpsB), which are already in contact with airline management, government authorities and other interested parties in many countries and mainly depends on prior relationships, however tenuous. This does not necessarily make the process invalid, but it does mean that there is a tendency to reinforce the status quo. The Bank's approach to new clients appears rather ad hoc, and reactive to market opportunities. It is not proactive based on a coherent sales and marketing strategy backed by structured client prospecting and contact records. This is particularly important in a dynamic market where target clients are not traditional Bank counterparts. There is also little evidence of the Bank seeking to maximise policy impact via project selection. Projects are accepted or rejected based on eligibility and project quality criteria, but not rated for policy impact.

Involvement of the Bank in the aviation sector is based on two eligibility criteria :

- The improvement of transport links within the EU and between EU and the rest of the world;
- International competitiveness of European industry.

These eligibility criteria should not be confused with policy objectives. They are used in the appraisal process as part of the *ex post* justification, not as part of the project identification and selection process. The second criterion clearly aims to promote increased competitiveness of European air transport. However, this is not actually tested or judged either at the project selection stage or as part of the appraisal process. This would involve comparing the potential project with the pool of all such projects. In practice, projects are being judged in isolation, without taking into account the projects of other airlines. These other projects are either being “crowded out” because of

insufficient resources, or the Bank is not aware of them. In this way, the impact of EIB action (or inaction) on the EU domestic competitive equilibrium is not neutral.

Meeting one or more of the Bank's eligibility criteria, along with meeting the Bank's viability tests, is sufficient condition for acceptance. However, if the Bank wishes to maximise its policy impact it may be desirable to see eligibility as a necessary but not sufficient condition, and to increase the set of projects from which it makes its selection.

Although one might expect the Bank, as a project financing institution, to get involved in project definition, it was almost always left to the airlines. The Bank's role was to review the procurement procedures which were already underway, in terms of types, manufacturers, numbers, technical details and cost. That is not to impugn the work of PJ work in the appraisal process. The problem is the very nature of aircraft fleet planning/ordering/financing, which tends to have a long lead-time from first identification of need, and a very compressed time frame for project execution. These industry characteristics might suggest that the Bank should offer airlines a programme loan mechanism, rather than artificially defining "projects" to fit the traditional direct loan product.

There was only one case where the definition of the project changed significantly between the start of appraisal and project approval. In Project E, the project presented to the Bank included two groups of aircraft: short-haul regional turbo-prop aircraft and medium-haul jet aircraft. Having carried out its independent financial projections, PJ were strongly of the opinion that while the turbo-prop aircraft were financially viable, the jet aircraft were not, and recommended that they be dropped from the project definition. This was accepted, and the aircraft were excluded. However, there was no inhibition placed on the airline to prevent it acquiring the second group of aircraft and it did proceed to buy some of them. The airline has not been able to fill the available capacity, has not achieved profitability, and is in serious financial difficulty. In this case, there was also no analysis presented to the Board on what the impact would have been if the Company were to proceed with its original plans. PJ had already carried out the financial projections, but the risks were not communicated to the Board. The Board was looking at a satisfactory PJ opinion on the redefined project, rather than what was likely to happen at the corporate level.

## 5.2 Project Analysis

**Rationale and Objectives:** as far as project rationale is concerned, PJ's Appraisal Reports for all cases allowed the identification of the physical and economic objectives of the projects. Physical objectives were always explicitly stated in the body of the report and in the Appendix. Quantified economic objectives, on the other hand were usually only specified implicitly, through the calculated FIRR and the assumptions underlying its calculation.

**Employment:** the expected impact on employment was identified, in terms of jobs created and/or secured. In most cases, the *ex-ante* assessment was for either no job creation, with "existing jobs secured" or a maximum of 50 or 100 jobs created, with existing jobs secured. However, the required cost reduction and productivity improvement for project sustainability, identified as part of the appraisal process, in several cases implied job *destruction* – but this was neither mentioned nor quantified.

**Management:** in all cases the appraisal report included a commentary on the quality of the airline's management; acceptable in most projects, although some deficiencies were identified, e.g. the lack of strategic management at the Company responsible for Project C. However, the focus tended to be on the operational level of management and related to the project. There was little attention paid to the strategic and commercial management of the airlines or whether or not the management practices and managers themselves were appropriate for a volatile and competitive operating environment. The question of governance, as opposed to management, was only raised in Project E although it was clearly an important issue for many of the state-owned airlines.

**Timescale and Project Cost:** in most cases purchase contracts had already been signed so the costs and delivery schedule were known.

**Procurement:** the procurement procedures for all projects were accepted, and were always based on international negotiations. The limited number of aircraft suppliers appropriate for any given project, typically only two, made this the most appropriate procurement procedure to use.

**Financial and Economic Analysis:** see 4.1. All projects were the object of a financial analysis based on the marginal impact. *Ceteris paribus*, this is a valid approach for the EIRR and may be acceptable for financial projections in a stable environment and where the project forms a discrete business unit. However, none of the Companies examined were in a stable environment. Three were in the middle of a restructuring process and, in most of the projects examined, the aircraft were part of a fungible fleet.

While the FIRR as proxy for the EIRR is imperfect, it is the only workable tool available at this stage. However, as a tool for indicating the viability and sustainability of the project it has a number of weaknesses :

- The "with and without" project analysis considers the replacement of the oldest aircraft in the fleet by new aircraft. This is clearly correct for the project, i.e. the replacement aircraft, and gives a picture of the economic value of the project. However, what is probably more important, both to the Bank and to the airline, is the effect the investment will have on the airline's overall cost structure and competitiveness. This approach also misses the dimension of the size of the project relative to the airline.
- The analysis tends to take a broad brush approach to revenues, yields, etc. It would be difficult to do anything else, but in practice, the specific aircraft involved might experience different market conditions and might be individually more-or-less profitable than the average in any given year. If accuracy at the level of the individual aircraft, or small group of aircraft, is impractical, then it might be better to focus at a higher level to assess the impact of the project on the Business Unit or the airline as a whole.
- Project analysis is a weak indicator of sustainability. Airline projects are rarely independently viable and sustainable. They depend on the continuing existence of the airline to give access to landing rights, etc. Obviously the aircraft which make up a project may be sold, but while a failed project may damage an airline, a failed airline is almost certain to kill a project

A financial analysis which is part of a broader consideration of corporate risks might therefore be more useful than project profitability in isolation.

**Recommendations and Conditions:** although the degrees of risk identified at appraisal differed widely between projects, the proposed mitigants did not. All ten projects were seen as carrying some down-side commercial risk - the size of the risk being a function of the project cost in relation to the asset base of the airline and the *ex ante* notion of the worst likely return. This varied widely, but the risks of the airlines not achieving sufficient long-term profitability to keep the projects sustainable were seen as small. However, against this it was normal for the Bank to require bank guarantees, rather than single signatures plus mortgages.

The Bank is not in a position to influence international airlines strongly on how they should run their businesses. However, as part of the appraisal process, it was possible to make observations on commercial matters:

- Airline membership of an alliance was seen as being highly desirable. In practice, one of the alliances identified at appraisal has vanished and others have changed significantly.
- The fact that a new CEO and management team would keep an airline commercially on track.
- That the purchase of aircraft through the project was at competitive prices – thus adding to the project's long-term viability.

Risk mitigation planned at appraisal generally included some specific clauses in the finance and/or guarantee contracts. Special attention was sometimes recommended by the Credit Risk Department

(CRD), and followed up on, when the project, for example, incorporated a mortgage guarantee. However, see also 5.3.

### **5.3 *Project Implementation and Monitoring***

#### **5.3.1 *Indicators and Reporting***

Despite reporting obligations being clearly defined and forming part of the Loan Agreement, airline performance and Bank follow-up were poor.

PJ has developed a standard set of reporting requirements and Borrowers have a contractual obligation to provide certain information during and immediately after project implementation. However these appear to have been largely ignored and not pursued by the Bank. The exception was completion reporting, which was the object of a different process with specific data requests to the airline, repeated as necessary by PJ. Similarly, loan contracts require airlines to submit other information, e.g. financial figures, on a regular basis, but very few airlines comply. It has been suggested that much of this information is already in the public domain, e.g. on the Internet. If this is in fact true, then there is no need to include the term in the contract. Specific reporting conditions were recommended on Project D; a PJ recommendation was for close monitoring and a performance review before the disbursement of each tranche, to check progress towards completion of a restructuring plan. Although the recommendation was followed through into the contract, the airline did not comply with it.

No progress reports were seen, irrespective of the *ex-ante* level of monitoring ascribed to each particular project. In fact, monitoring documents of any category are rare and difficult to find, but smaller airlines and one of the non-EU airlines appeared more inclined to deliver information. The Bank does not take any action in relation to these obligations, other than to remind airlines that certain information is required/is overdue.

Within the Bank's reporting system for physical completion, two of the criteria are “Assessment of *ex-post* financial performance as against projection” and “Market changes detected by the time of the *Project Completion Report*”. Structured observations on these points were often not possible, because the information was not provided by the airline.

It is possible that monitoring was informal: there is certainly evidence of staff members joining general financial sector briefings from at least one airline. It is also possible that time pressures and lack of resources mean that the appraisal of new projects takes precedence over monitoring, but completion reports generally do not give a full picture at the end of each project. The implication is that it is sufficient that the airline still exists and still makes regular repayments to the Bank.

#### **5.3.2 *Implementation and Operation***

No modern aircraft acquisition projects have any significant technical or operational risk attached to them – unless it is a risk associated with the ability of airlines to maintain them adequately. As part of the appraisal process, PJ in all cases paid particular attention to this aspect and found the airlines adequately qualified and equipped, or that they *would* be so qualified and equipped, as part of the acquisition package. No problems were identified *ex-post*.

### **5.4 *EIB Additionality and Added Value (Financial and Non-Financial)***

#### **5.4.1 *EIB Additionality***

The Bank's manuals do not clearly define “additionality”, although the implied rationale for Bank lending would be that it adds a dimension that a commercial lending institution would find it difficult to provide. On purely financial additionality, the Bank's contribution is greatest for the two non-EU projects. Term lending from other sources, e.g. Export Credit Agencies (ECAs), was only available,

if at all, at substantially higher cost. The other eight projects could also have been funded by commercial banks, as indeed the majority of their capital investments were.

#### *5.4.2 Financial Value Added*

The Bank can be seen to offer significant financial value added on some EU projects reviewed in depth. The value added stems not from the price, i.e. lending rate, *per se*, but from the total cost of providing EIB finance, i.e., including the costs of providing the Bank with an acceptable guarantee. This has been possible through the Bank's acceptance of non-traditional, tax-driven financing structures, and flexibility on what constitutes an acceptable guarantee. In three cases the Bank's ultimate guarantee was on the aircraft themselves through a number of externally guaranteed SPVs, one per aircraft, while in another case one tranche of the loan, representing some 40% of the value of the loan was guaranteed by a mortgage on the aircraft. However, generally speaking, within the EU, the Bank's guarantees came from acceptable commercial banks, most of whom were also intermediating loans on behalf of the airlines.

For one of the non-EU projects, the financial benefit was substantial. A state guarantee was available and the Bank was able to provide long-term funding which would not have been available from the domestic market. Other sources of funding, e.g. international banks, leasing companies and ECAs would have been available, but only at a substantially higher cost.

For the second non-EU project, which was also state guaranteed, the situation is unclear. The problem is that while the funds were used to promote the overall objectives of the Company and the EU, they were used to pay down debt and lease aircraft rather than buying them as foreseen at the approval stage.

#### *5.4.3 Non-Financial*

In the final analysis the Bank was able to add little purely technical added value. This was partly because of the nature of the product and its acquisition process, and partly because the companies themselves were all fully competent technically. However, the evaluation did identify some examples :

- Projects A & F: The presence of the Bank encouraged commercial banks to enter the airline financing market.
- Projects D, F, G & H: Indirect support of airlines undergoing restructuring.
- Project E: There was some added value through the company not buying quite as many aircraft as it had intended. However, the Company's management problems had not been resolved through many years of external technical assistance and it is doubtful if the Bank could have had a greater impact without devoting a disproportionate amount of resources to the project.

### **5.5 Summary of Main Issues Relating to the Project Cycle**

Within the resource constraints imposed, the Bank has managed to avoid making any Poor airline investments, with one exception, and even there, there was little wrong with the project. The Bank has also been able to highlight weaknesses in airlines' proposals, e.g. Project E and the failed airline which, had they been fully accepted by the airline, would have had a positive impact on its performance.

Only two of the Bank's projects have been rated Unsatisfactory and in both cases the problems lie with the airline management and not the projects themselves. Also, while some of the problems could have been identified at appraisal for one of the projects, the other would have been much more difficult to predict.



There are however, a number of key issues relating to the projects where lessons might be learnt by the Bank:

#### *5.5.1 Competition*

An analysis of the Bank's portfolio would suggest that the Bank is not seeking to maximise competition in line with EU policies. By number, and to an even greater extent by volume, the Bank appears to favour the status quo. The Bank has only two airline clients which are neither flag carriers directly nor a subsidiary of a flag carrier. It has only two regional airlines, and no low-cost carriers. In 2000 an internal paper of the Bank recommended that EIB lending should include a balance of flag, regional and low-cost carriers but, since then, out of five projects appraised and approved, three have been repeat operations and four have been with flag carriers. The fifth is an independent regional airline – except that it operates under a franchise agreement with the flag carrier, using its name and colours.

#### *5.5.2 Market Analysis*

The appraisal of all projects studied included a market analysis, looking at levels of activity, projecting growth and identifying trends in areas such as yield, within the air transport sector. However, a review of those analyses raises two issues. Firstly, the question of inter-modal competition was ignored on earlier projects. This is, of course, valid for long-haul flights, but not for short-haul, where TGVs and cars are viable alternatives. Secondly, and more importantly, there is very little on the competitive dynamics of the sector and how the Company markets itself. If the sector is going to be more competitive then the Bank's analysis will need to address an additional range of issues: pricing of products vis-à-vis the competition, differentiation of service, service delivery, etc.

#### *5.5.3 Corporate Risk Analysis*

Experience has shown that state-owned flag carrier airlines can stagger on for many years making substantial losses without addressing business issues or going into liquidation. However, with increasing privatisation and the EC's decision on "once-and-for-all" state aid, the rate of airline failures is likely to increase. The expected consolidation may be either "clean" or "messy", and if messy then a number of airlines will suffer the same fate as Air Afrique, Swissair and Sabena. There are a number of EU and Acceding country flag carriers which only exist because of governmental will, and which would be unlikely targets for acquisition by established carriers. However, the Bank's current analyses focus on three separate types of analysis: Ops analyses the airline's historical financial performance and presents the airline in outline, PJ analyses "the project", which may represent only a small percentage of the airline's fleet, and CRD reviews the airline's creditworthiness. There are two clear cases of company failure that the Bank has been involved in, with one airline being liquidated and the other being technically insolvent each year until the government increases its capital. In both cases, the failure is due to corporate rather than project problems. Risks to the Bank are therefore corporate rather than project. This applies to most of the Bank's private sector operations and suggests that the analytical focus should be on corporate rather than project analysis, except for the calculation of the EIRR, etc.. This approach would greatly facilitate repeat operations and could be a dynamic and continuous process, with continuous client monitoring, rather than case-by-case analysis as and when projects arise. However, while PJ has already done some work on corporate analysis, this would need to be developed and integrated across Directorates.

#### *5.5.4 Programme Lending*

Adopting a broader, corporate risk approach would also allow the Bank to structure lending programmes, which would be a better fit with the investment patterns of a number of market-based clients, including airlines. Under this arrangement, the Bank would carry out a full appraisal of the

company and its investment programme. During implementation, there would be sufficient flexibility in the programme to allow variations in the technical description, subject to approval by the Bank's services, to give the client sufficient scope to react to market developments.

#### 5.5.5 *Security and Credit risk*

The Bank's security for projects in this sector still normally comes from commercial banks. However, there are a number of loans where a mortgage forms part of the security structure for the loan. CRD is always prudent about the securities offered, but it may consider reviewing its approach to further reduce the Bank's risks when mortgages and leases are involved. Aircraft values are cyclical with airlines' performance, with a multiplier. Under financial leases, if the airline were to fail the lessor would recover the aircraft and attempt to sell it – but this is likely to coincide with the lowest point in the market. If it is accepted that leases, because of their tax advantages, are one of the most attractive forms of financing to a private carrier, then an operating lease might be more attractive to the Bank. This approach is already well established within the Bank. In the event of corporate failure, the lessor can lease the aircraft again, even at marginal rates, and wait for aircraft values to recover.

#### 5.5.6 *EIB Rating*

The Bank has invested in projects which are Relevant, Sustainable and Efficient. However, it has contributed relatively little to either Institutional Development or competition. As competition has become the key EU policy for the sector – accepting the environment as a *sine qua non* – then the Bank's rating on Relevance will fall unless it moves its focus away from the *status quo*.

**ANNEX 1: INDIVIDUAL PROJECT RATINGS**

N.B. I.C. = International Competitiveness, Inc.C. = Increasing Competition/Regional Development, Env. = Environment

| <b>Project</b>                | <b>Relevance/Efficacy*</b>  | <b>Efficiency</b>   | <b>Sustainability</b>  | <b>Inst. Del. Impact</b>  | <b>Rating</b>         |
|-------------------------------|---|---|--|---|-----------------------|
| <b>Project A</b><br>Freight   | <u>Good</u><br>National Objectives:<br>Satisfactory<br>EU Objectives:<br>I.C. – Good<br>Inc.C. - N/A<br>Env. – Good                 | <u>Good</u> : Costs as projected, but higher growth than predicted.                         | <u>Satisfactory</u> : Significant market risk but good management and positive environmental impact.   | <u>Satisfactory</u> : Local skills base development and better use of high value personnel.                                     | <b>Good</b>           |
| <b>Project B</b><br>Freight   | <u>Satisfactory</u><br>National Objectives:<br>Satisfactory<br>EU Objectives:<br>I.C. – Satisfactory<br>Inc.C. - N/A<br>Env. – Good | <u>Good</u> : Profitability of overall operation improved. Operational savings realised.    | <u>Satisfactory</u> : Net positive environmental impact, improved competitive position, more stable operation.                                   | <u>Satisfactory</u> : New facility for in-house and third party training.   | <b>Satisfactory</b>   |
| <b>Project C</b><br>Passenger | <u>Good</u> For both National and EU policies – reinforcement of extra-EU links.  | <u>Satisfactory</u> : Planned reduction in operating costs realised, benefits as projected. | <u>Unsatisfactory</u> : Overstaffed, with no clear business strategy and weak commercial strategy. Lack of transparency and recent large losses. | <u>Unsatisfactory</u> : Operationally competent but project did not address management issues. Failure to comply with contract. | <b>Unsatisfactory</b> |
| <b>Project D</b><br>Passenger | <u>Satisfactory</u><br>National Objectives:<br>Satisfactory<br>EU Objectives:<br>I.C. – N/A<br>Inc.C. – Satisfactory<br>Env. – Good | <u>Satisfactory</u> : Financial performance is improving in difficult trading conditions.   | <u>Satisfactory</u> : No problems with physical assets and management strategy has improved.   | <u>Satisfactory</u> : Competent airline.  | <b>Satisfactory</b>   |

| * The Efficacy rating for all projects was Satisfactory. All projects achieved their physical objectives on time and on budget. |   |   |   |  |                       |
|---|---|---|---|--|-----------------------|
| Project   | Relevance/Efficacy  | Efficiency  | Sustainability  | Inst. Del. Impact                                  | Rating                |
| <b>Project E</b><br>Passenger   | <u>Satisfactory</u><br>National Objectives:<br>Unsatisfactory<br>EU Objectives:<br>I.C. – N/A<br>Inc.C. – Satisfactory<br>Env. – Good | <u>Poor</u> : Operating costs are too high; failure to match capacity to demand.                          | <u>Unsatisfactory</u> : No problem with physical assets but Company is technically insolvent. Management is failing to address market challenges. | <u>Unsatisfactory</u> : No measurable improvement. | <b>Unsatisfactory</b> |
| <b>Project F</b><br>Passenger (Long-haul)   | <u>Good</u><br>National Objectives:<br>Good<br>EU Objectives:<br>I.C. – Good<br>Inc.C. - N/A<br>Env. – Good                           | <u>Satisfactory</u> : Improved profitability despite difficult trading conditions.                        | <u>Good</u> : Market risks remain but business has been rationalised and company has a clear and independent business strategy.                   | <u>Satisfactory</u> : Competent airline.           | <b>Good</b>           |
| <b>Project G</b><br>Passenger (Long-haul)<br>NB: This project is an extension of previous project, so the same comments apply.  | <u>Good</u><br>National Objectives:<br>Good<br>EU Objectives:<br>I.C. – Good<br>Inc.C. - N/A<br>Env. – Good                           | <u>Satisfactory</u> : See above.  | <u>Good</u> : See above   | <u>Satisfactory</u> : See above.                   | <b>Good</b>           |
| <b>Project H</b><br>Passenger   | <u>Satisfactory</u><br>National Objectives:<br>Satisfactory<br>EU Objectives:<br>I.C. – N/A<br>Inc.C. - Satisfactory<br>Env. – Good   | <u>Satisfactory</u> : Costs and benefits as projected. Helping turn loss maker into a profitable airline. | <u>Satisfactory</u> : Clear strategy, no problems foreseen.   | <u>Satisfactory</u> : Competent airline.           | <b>Satisfactory</b>   |

| <b>Project</b>                            | <b>Relevance/Efficacy</b>   | <b>Efficiency</b>   | <b>Sustainability</b>  | <b>Inst. Del. Impact</b>                    | <b>Rating</b>       |
|---|---|---|--|---|---------------------|
| <b>Project I</b><br>Passenger (Long-haul) | <u>Good</u><br>National Objectives:<br>Satisfactory<br>EU Objectives:<br>I.C. – Good<br>Inc.C. - N/A<br>Env. – Good                 | <u>Satisfactory</u> : Assets<br>are operating<br>profitably although<br>marginal benefits<br>lower than at appraisal. | <u>Satisfactory</u> : Clear strategy,<br>although market risks remain.               | <u>Satisfactory</u> :<br>Competent airline. | <b>Satisfactory</b> |
| <b>Project J</b><br>Passenger (Long-haul) | <u>Satisfactory</u><br>National Objectives:<br>Satisfactory<br>EU Objectives:<br>I.C. – Satisfactory<br>Inc.C. - N/A<br>Env. – Good | <u>Satisfactory</u> : Business<br>is operating profitably.  | <u>Satisfactory</u> : No problems<br>foreseen, net positive<br>environmental impact. | <u>Satisfactory</u> :<br>Competent airline. | <b>Satisfactory</b> |

## ANNEX 2: EVALUATION CRITERIA

### Core criteria

Project performance is assessed using the evaluation criteria as defined by the OECD, DAC Working Party on Aid Evaluation. These are also used in the Evaluations Cooperation Group, which brings together the evaluation units of the multilateral development banks. The criteria used in all evaluations are relevance / efficacy, efficiency and sustainability.

- Relevance is the extent to which the objectives of a project are consistent with the beneficiaries' requirements, country needs, global priorities and partners' policies.
- Efficacy (or effectiveness) relates to the extent to which the objectives of the project have been achieved, or are expected to be achieved, taking into account their relative importance, while recognising any change introduced in the project since loan approval.
- Efficiency is the measure to which project benefits/outputs are commensurate with resources/inputs (funds, expertise, time, etc.).
- Sustainability relates to the likelihood of continued long-term benefits and the resilience to risk over the intended useful projects life.

### Complementary Criteria

The following criteria are used dependent on their relevance to the evaluation.

1. **Institutional Development** – The extent to which a project improves or weakens the ability of a country or region to make more efficient, equitable, and sustainable use of its human, financial and natural resources, for example through: (a) better definition, stability, transparency, enforceability and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Such impacts can include intended and unintended effects of a project.
2. **Other Impacts** – This criterion can include other areas of special focus, including:
  - a. Poverty reduction - extent to which project achieved planned poverty reduction impact; unintended impact should also be considered.
  - b. Transition impact
  - c. Environmental impact
  - d. Other impacts
3. **Borrower Performance** – Adequacy of Borrower's assumption of ownership and responsibilities during all phases. Main focus on effective measures taken by Borrower to establish basis for project sustainability, especially – and right from the identification stage – through fostering participation by the project's stakeholders, in addition to its own support.

### EIB Performance

- Management of the project cycle: Quality of services provided by the EIB during all project phases. Main focus is on the EIB's role in ensuring project quality at entry; that effective arrangements were made for satisfactory implementation and future operation of the project.
- EIB additionality: Additionality is the extent to which EIB financing induces benefits that would otherwise not occur<sup>9</sup>. There are two main types of additionality: financial and technical.

---

<sup>9</sup> See the Inter Agency Round Table on Additionality of Private Sector Development Programs and Operations supported by the International Financial Institutions held at Washington DC in May 2002.

## THE EUROPEAN INVESTMENT BANK

The European Investment Bank (EIB) is owned by the fifteen European Union (EU) Member States and has its headquarters in Luxembourg. It supports EU policies on a self-financing basis, raising its resources on the world's capital markets for onlending to sound capital investment projects that promote the balanced development of the European Union.

Set up in 1958 by the Treaty of Rome, the EIB has its own administrative structure and decision-making and control bodies (Board of Governors - usually the Finance Ministers of the Member Countries - Board of Directors, Management Committee and Audit Committee).

As a major international borrower, which has always been awarded the highest "AAA" credit rating by the world's leading rating agencies, the EIB raises large volumes of funds on fine terms; it onlends the proceeds of its borrowings on a non-profit basis.

The volume of the EIB's operations has grown steadily and the Bank is today one of the largest financing institutions of its kind in the world. While the bulk of its loans are within the European Union, the Bank has also been called upon to participate in the implementation of the Union's development aid and cooperation policies through financing for the benefit of some 120 non-EU countries. It therefore supports:

- Economic growth in the African, Caribbean and Pacific States and the Overseas Countries and Territories, as well as in the Republic of South Africa;
- A stronger Euro - Mediterranean partnership;
- Preparations for the accession of the Central and Eastern European Countries and Cyprus;
- Industrial cooperation, including the transfer of technical know-how, with Asia and Latin America.

The EIB began carrying out ex-post evaluations in 1988, mainly for its operations in non-EU Member Countries. In 1995, the Bank established an Evaluation Unit to cover operations both inside and outside the Union. Ex-post evaluations take a thematic approach and are intended for publication. To-date the bank has published:

1. Performance of a Sample of Nine Sewage Treatment Plants in European Union Member Countries (1996 - available in English, French and German)
2. Evaluation of 10 Operations in the Telecommunications Sector in EU Member States (1998 - available in English, French and German)
3. Contribution of Large Rail and Road Infrastructure to Regional Development (1998 - available in English, French and German)
4. Evaluation of Industrial Projects Financed by the European Investment Bank under the Objective of Regional Development (1998 - available in English, French and German)
5. An Evaluation Study of 17 Water Projects located around the Mediterranean (1999 - available in English, French, German, Italian and Spanish).
6. The impact of EIB Borrowing Operations on the Integration of New Capital Markets. (1999 – available in English, French and German).
7. EIB Contribution to Regional Development A synthesis report on the regional development impact of EIB funding on 17 projects in Portugal and Italy (2001 – available in English (original version), French, German, Italian and Portuguese (translations from the original version)).
8. Evaluation of the risk capital operations carried out by the EIB in four ACP countries 1989-1999 (2001 - available in English (original version), French and German (translations from the original version)).
9. EIB financing of energy projects in the European Union and Central and Eastern Europe (2001- available in English (original version), French and German (translations from the original version))
10. Review of the Current Portfolio Approach for SME Global Loans (2002 – available in English (original version), French and German (translations from the original version)).
11. EIB Financing of Solid Waste Management Projects (2002 – available in English (original version), French and German (translations from the original version)).

12. Evaluation of the impact of EIB financing on Regional Development in Greece (2003 – available in English (original version)).
13. Evaluation of Transport Projects in Central and Eastern Europe (2003 – available in English (original version)).
14. EIB Financing of Urban Development Projects in the EU (2003 – available in English (original version)).
15. Evaluation of the projects financed by the EIB under the Asia and Latin America mandates (2004 - available in English (original version), French, German and Spanish).
16. Evaluation of EIB financing of Airlines (2004 – available in English (original version)).

These reports are available from the EIB website: <http://www.eib.org/publications/eval/>  
or by e-mail: [EValuation@eib.org](mailto:EValuation@eib.org)