

# Evaluation Report

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*Operations Evaluation (EV)*

## **Evaluation of EIB Investments in Education and Training**



## **EVALUATION REPORT**

# Evaluation of EIB Investments in Education and Training

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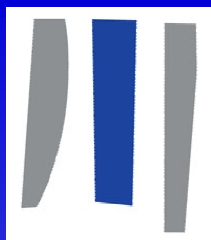
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July 2006

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### **NOTICE**

**The EIB has an obligation of confidentiality in relation to the Providers, Promoters, Commercial Lenders, and other persons involved in 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 neither assume any obligation to disclose any further information nor seek consent from relevant sources to do so.**



# Evaluation

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## GLOSSARY OF TERMS AND ABBREVIATIONS

ASAP	Amsterdam Special Action Programme
Board (of Directors)	The EIB Board of Directors which has sole power to take decisions in respect of loans, guarantees and borrowings.
Borrower	The legal <i>persona</i> with whom the Bank signs a Loan Agreement.
CD	EIB's Management Committee ( <i>q.v.</i> )
CA	EIB's Board ( <i>q.v.</i> )
EIB	European Investment Bank
ERR	Economic Rate of Return
EV	EIB Operations Evaluation (Ex-Post)
FIRR	Financial Internal Rate of Return
Investment Loan	A loan to part fund a project, which may or may not be made up of a number of sub-projects, but which is well defined at appraisal.
Management Committee	Internal EIB committee, comprising the Bank's President and Vice-Presidents
Programme Loan	A special case of the Investment Loan where the funding goes to either multiple Promoters or multiple sub-projects
OECD	Organisation for Economic Co-operation and Development
Ops-A	EIB Directorate for Lending Operations – EU Member, Acceding, Accession and Candidate States
PIN	Preliminary Information Note – Note which formally launches the project cycle within the Bank.
PJ	EIB ProJects Directorate – Responsible for <i>ex-ante</i> project techno-economic analyses, the preparation of the Technical Description, and the physical monitoring of implementation and completion.
PPP	Public Private Partnership
Project	A clearly defined investment, typically in physical assets, e.g. a specific section of road, a bridge, etc.
Promoter	Normally the <i>persona</i> responsible for identifying and developing a project. The promoter may also be responsible for operating and/or implementing the project.
RDI	Research Development and Innovation
RM	EIB Risk Management Directorate, responsible for credit appraisal and portfolio management
SPV	Special Purpose Vehicle – A company, with its own legal <i>persona</i> , set up for a limited set of specific purposes, e.g. to borrow for the construction of a project.
Technical Description	Project definition which forms the basis of the Loan Agreement; prepared by PJ.

## EXECUTIVE SUMMARY AND RECOMMENDATIONS

### Introduction

This report presents the findings of an evaluation of the EIB's investments in the education and training sector between 1997, when "Education" became eligible for EIB funding under the Amsterdam Special Action Programme (ASAP), and 2004. Following a review of the Bank's portfolio of projects, ten were selected for an individual evaluation as being representative of: geographic spread, stage of education, and the size and type of project being funded. The question of project type was particularly important for the evaluation. Instead of a single, clearly defined project, a substantial proportion of the operations were "Programme Loans" with a large number of small sub-projects. Lists of these sub-projects were presented at appraisal, but it was recognised that these lists could only be a "best guess". The evaluation assessed the performance of the projects against the Bank's standard evaluation criteria<sup>1</sup> in line with normal EV practice, but also paid particular attention to the impact of the Programme Loan structure, and to how the Bank had managed the introduction of a new eligibility criterion.

Although the Bank had financed education and training facilities before 1997, those operations were justified on the basis of their contribution to another EIB objective, typically regional development. The introduction of education as an eligibility criterion in its own right was a precursor to the introduction of the concept of Human Capital in 1999 and coincided with increasing Bank activity in areas such as Health, and Research, Development and Innovation (RDI). Between the introduction of the eligibility and the end of 2004, the Bank signed individual loans on 65 education operations, with a total value of EUR 6.4 billion. Of the 65: 10 were PPPs, 11 were with quasi-public entities, and 44 were promoted by public bodies. Although there have been projects in most of the Enlarged Union, and beyond, five countries represent 70% of the portfolio: Germany (26%), Spain (17%), Finland (11%), the United Kingdom (9%) and Poland (7%). Lending has grown rapidly and approvals now stand at some EUR 3 billion per year, covering all educational phases: pre-school, primary, secondary and tertiary. The funds have almost exclusively been used for the rehabilitation, expansion and new construction of physical infrastructure. To date, only a relatively small proportion of the Bank's lending has been for "soft", or current, education expenditure, e.g. consumables, student loans. All of the individual operations evaluated were primarily for educational infrastructure.

### Policy Impact of the Projects

Within the EU, responsibility for the content of teaching and the organisation of education services provision lies with each individual Member State. The EU's role is "to contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action"<sup>2</sup>. However, the importance of education in the context of job creation was formally recognised at the European Council meeting in 1997 and further developed at the meetings of Lisbon (2000), Stockholm (2001) and Barcelona (2002). As from 2002, the three main EU objectives in education are:

- Increasing the quality and effectiveness of education and training systems in the European Union;
- Facilitating the access of all to the education and training systems;
- Opening up education and training systems to the wider world.

The projects evaluated were initiated before these objectives were formally adopted, but they can all be seen to be contributing to the first objective, and most to the second as well. Some of the projects were implemented by private or quasi-private organisations, but all were initiated by the relevant regional or national education authority. All projects can therefore be taken to be in line with the Member States' education policies and objectives. What is less clear is the degree to which each project is either optimal within the set of available projects, or optimised within itself from an educational perspective.

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<sup>1</sup> Relevance, Effectiveness, Efficiency and Sustainability. See Appendix III for definitions.

<sup>2</sup> See Article 149 of the Treaty.

## Project Performance

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Relevance	6	4	-	-
Effectiveness	5	4	1	-
Efficiency*	3	5	-	-
Sustainability*	5	3	-	-
<b>Overall Rating*</b>	<b>4</b>	<b>4</b>	-	-

\* Two projects could not be rated because of a lack of data.

All projects were rated Satisfactory or better against the “Relevance” criterion, and also against “Sustainability” where data was available. Also, all except one were rated Satisfactory or better against Effectiveness. In general, projects and sub-projects were completed on-time and on-budget, and the quality of construction and post completion maintenance would suggest that the buildings would be able to achieve their planned economic life.

For “Efficiency”, all of the rated projects were Satisfactory or better. However, these ratings need to be treated with caution. Efficiency is normally measured through the project’s economic rate of return or some other form of cost-benefit analysis. In this case, all investments were for educational infrastructure and the benefits of improving educational infrastructure are difficult to quantify. However, OECD figures indicate that the total real rate of return for individuals obtaining a university degree ranges from 3.3% for a female student in Denmark, to 11.0% for a male student in Finland. These rates of return are typically equal to, if not greater than, those for physical assets. The problem is separating out what proportion of these benefits is due to physical assets and how much to, say, additional expenditure on teaching staff and other student resources. It is also widely accepted that education has many social benefits which are difficult to quantify.

This should not be taken to mean that a default rating has been used. The efficiency of all projects was reviewed and it is clear that there are substantial differences in efficiency between countries. There is also no clear correlation between investment per student and educational achievement as measured by the PISA<sup>3</sup> study. However, at least within the EU, it should be accepted that the relevant education authorities have the freedom to decide what level of efficiency is acceptable. In the cases examined, the *ex-post* costs of the assets realised were close to those expected *ex-ante*. It must therefore be assumed that, *ex-post*, the projects are achieving the *ex-ante* target ERRs, and that these returns are acceptable to the relevant authorities.

### EIB Impact and Value Added

The evaluation found that on the eight projects where the *ex-ante* Financial Value Added of the Bank was “high” or “medium”, the same level of Financial Value Added was being achieved *ex-post*. In contrast, on the two operations with low, but acceptable, *ex-ante* Financial Value Added, the *ex-post* position was marginal on one project and negative on the second. The Borrower of the marginal project believed that the value added would be zero if the additional costs of doing business with the EIB were to be taken into account. The Borrower on the “negative” project has repaid the loan. Most of the operations were proposed to the Bank in almost final form. This gave little scope for other forms of contribution.

### EIB Lessons Learnt

As a new sector for the Bank, the operational departments had to establish new procedures and processes. This was particularly true in the area of economic analysis. This learning process is reflected in the changes in approach between the first and latest operations reviewed. The first analyses largely concentrated on the fixed assets, with more recent analyses placing a greater emphasis on educational benefits and the impact on human capital. This is consistent with the evolution from the Amsterdam Council mandate given to the EIB, which focused on supporting education (and health) as “infrastructure”, to the subsequent redefinition and focus on the creation

<sup>3</sup> OECD–Programme for International Student Assessment : [www.pisa.oecd.org/pages/0,2987,en\\_32252351\\_32235731\\_1\\_1\\_1\\_1\\_1,00](http://www.pisa.oecd.org/pages/0,2987,en_32252351_32235731_1_1_1_1_1,00)

of Human Capital. After a necessarily slow start, the Bank has now established a pool of knowledge which allows the appropriate analysis of education projects. There are quantitative areas where it might still be developed, but a full analysis of the economic profitability of educational infrastructure in Europe would not be possible without establishing a body of knowledge on the outcomes of infrastructure investments. The Bank could contribute to such an opus, but establishing the baseline data, let alone the profound analytical work, would be beyond the capacity of any single institution.

Six of the operations were Programme Loans involving large numbers of sub-projects. These included the two projects with low or negative financial value added *ex-post*, and in both of those cases it was difficult to establish the Effectiveness of the projects. Only three of the six Borrowers had provided full monitoring data. This can be attributed to one or more of the following factors:

- The project as defined in the loan contract did not match any natural project boundary that the Promoter would recognise. This made it difficult for Promoters to provide data on the sub-projects the Bank thought it was funding.
- The organisation responsible for implementing and monitoring the sub-projects often had no contact with the Bank, and only an “arms-length” relationship with the Borrower.
- The Bank’s reporting requirements were not transmitted clearly to the appropriate unit within the implementing organisation, nor were they advised that this reporting was mandatory.
- Although reporting was always a contractual condition, there were instances where the condition was not fully satisfied and not enforced.

## **Conclusions**

The Bank’s contribution to the funding of the education sector has gone from zero to substantial in the space of a few years. Currently available figures suggest that the Bank is supporting nearly 5% of EU fixed capital formation in the sector. With only a few exceptions, the infrastructure created or developed using EIB funds has been constructed efficiently and effectively, and is being properly maintained and managed. The Bank’s services have adapted their organisation and methodologies to suit this new, and different, area of activity. However, it is suggested that the Bank should make a greater contribution to policy development and dissemination at the EU level; mainly linked to the impact of capital investment spending on the education sector.

However, there is a serious issue which needs to be addressed. There appears to be a gap between the Bank’s actions and its stated objectives and aspirations, especially with the evolution from supporting education “infrastructure” to investing in “human capital” and the development of the i2i initiative. While the Bank primarily continues to invest in the enabling infrastructure for education, i.e. in physical capital, the stated objective of both the EU and the Bank has evolved to the development of human capital. This suggests that the Bank should be identifying, and developing, ways to fund education more directly, in addition to its traditional “bricks and mortar” approach. Recent funding of intangible assets, e.g. student lending and academic research and development, suggest a willingness to address this issue, but more could, and should, be done.

## TABLE OF RECOMMENDATIONS

	<b>EV Recommendation</b>	<b>Response of the Operational Departments</b>
1.	The Bank should target projects which maximise its contribution to the EU policy objectives of Access, Education Quality and Educational Attainment. Specifically, it should be more open to accepting projects which are not based on physical assets. (§IV.1.c)	<p>The Bank has recognised the validity and desirability of investments with a more educational focus and has concluded loans in, for example, the areas of student loan support, teaching materials, and academic research and development.</p> <p>There may also be opportunities to further increase EIB Value Added through greater policy co-operation and collaboration with the European Commission and the peer community.</p> <p>However, the Bank cannot act unilaterally. Actions depend on the presence of a willing partner.</p>
2.	Educational indicators should be defined and agreed with the Promoter at appraisal, and included in the Bank's reporting requirements for the project. (§IV.1.c, §II.4)	This type of reporting will be applied to Direct Loans immediately and extended to all human capital projects as and when a successful outcome to the actions from Recommendation 3 is achieved.
3.	<p>Where the Borrower and Promoter are tied, e.g. where the Borrower is a Ministry of Finance and the Promoter is a Ministry of Education, appropriate arrangements should be put in place, that include the Ministry implementing the project, to ensure that the Bank's reporting and access requirements will be satisfied. (§II.2.c, §IV.2.b)</p> <p>Where there is no contractual chain between the Bank and the project Promoter, and the Borrower and Promoter are independent, then a Project Completion Agreement, including clauses on reporting and project access should be established between the Bank and the Promoter on the occasion of the signature of any loan contract. (§IV.2.b, §II.4)</p>	<p>For the Bank, the physical monitoring of projects has progressed from an essentially secondary preoccupation to one which is currently viewed as a top priority. The Bank already has established mechanisms to ensure that completion and operating data is reported to the Bank when lending to a project through a Financial Intermediary.</p> <p>A similar Project Implementation Agreement will therefore be investigated jointly by Ops, PJ and JU for the two cases mentioned in the recommendation.</p> <p>The Bank's objective in this action will be to ensure full and equal reporting of all projects funded by the Bank.</p>
4.	Where an Investment Loan is a programme involving a large number of sub-projects, the appraisal should place greater emphasis on the capacity and ability of the Promoter.(§IV.3)	It is proposed to undertake a review of the Bank's appraisal procedures to assess whether the application of existing tools, used for other project types with similar characteristics, would strengthen the analysis of this particular category of Investment Loan, or if the existing procedures, when correctly followed, should be sufficient.



	<b>EV Recommendation</b>	<b>Response of the Operational Departments</b>
5.	Where an operation is a “Programme Loan”, then the monitoring and reporting procedures should be analogous to those of a List Procedure Global Loan, i.e. with <i>ex-post</i> allocation (sub-project) reporting and an IT-based storage and retrieval system. (§IV.3)	<p>The Bank fully accepts the need for appropriate monitoring and reporting of Programme operations, whether they are Investment or Framework Loans. It also notes that most examples of information uncertainty identified in the evaluation related to how data was reported and stored, rather than a failure to obtain the necessary information.</p> <p>The Bank will initially review its procedures to ensure completeness and consistency of <i>ex-post</i> reporting and data storage across the Bank. It will then examine the business case for an <i>ex-post</i> sub-project IT tool, possibly based on, and giving the same functionality as, the existing IT tool used for Global Loan allocations.</p>

## INTRODUCTION

This report presents the findings of an evaluation of EIB investments in education and training made between 1997 and the end of 2004. In addition to assessing the performance of the projects against the Bank's standard evaluation criteria<sup>4</sup> particular attention was paid to a) how the Bank treated this new sector of activity, and b) the impact of loans with large numbers of sub-projects, which made up a large proportion of the lending. For the sake of convenience, this type of loan will be referred to as a Programme Loan.

### EU Educational Performance

As will be shown in §I.1.c, policymaking can take place at the national level, but is often devolved to regional, or local levels. The diversity of both policy setting processes and the organisation of education services between countries makes it impractical to present a comprehensive, Europe-wide view of the sector. However, some general comments can be made about the various levels of education, at least for the locations of the ten projects which have been the object of an individual evaluation. These are presented in Appendix I; divided into Primary Education, Secondary Education (Compulsory and Post-Compulsory) and Tertiary Education. Reference can also be made to reports such as the annual OECD report "Education at a Glance" and those from Eurydice. Ranking the EU's educational performance is difficult, but two international studies have compared the performance of various countries: PISA (Programme for International Student Assessment), a study of the performance of school pupils aged fifteen, and the "Shanghai Study" which measures the academic performance of universities.

PISA Study – A number of OECD countries, including 19 EU countries, are ranked for their performance in four areas, with an OECD norm of 500. The first study took place in 2000, a second in 2003 and a third will take place in 2006. The 2003 study showed that, for "Problem Solving", ten EU countries rate above the norm and nine below. For Mathematics, the balance is the same, while for both Reading and Science, the results are seven above and thirteen below. The economically less developed EU member states are mostly below the norm, but so are countries like Italy and Luxembourg, while Germany and Austria are below the norm for one or more of the rated topics. Spain and Greece have particularly poor results, despite having similar expenditure per student as a proportion of GDP as other EU Member States. Conversely, the Czech Republic is well above the norm for three of the topics, whilst having one of the lowest spends per student. This finding would tend to reinforce the Bank's view that "...the way money is spent appears to be more important than how much is spent,...".

Shanghai Study – While a few countries produce national or regional rankings of their universities, the only truly international study of the quality of universities is carried out by the Shanghai Jiao Tong University<sup>5</sup>. The methodology may be questioned, but the standards are international and consistent. This shows that the EU is home to only two of the top twenty universities in the world: Oxford and Cambridge, both in the UK. Extending this to the top 100, the EU has 30 % of the institutions: UK (11), Germany (5), France (4), Sweden (4), Netherlands (2), and one each in Italy, Denmark, Austria and Finland. However, Europe does have some 40 % of the universities in the top 200, 300, 400 and 500. For information, the EU represents some 21 % of the world GDP.

The Shanghai Study would suggest that the EU tertiary education sector is quite robust, but with a relatively small proportion of its institutions at the very forefront of academic achievement. However, with one or two country exceptions, the EU's secondary education performance rates no better than average. Only Finland performs really well in the PISA study, and some countries are well below the international norm. However, there is no clear correlation between applied resources and quality of educational attainment. Similar levels of expenditure in neighbouring countries can have substantially different results. This would tend to suggest that variations are due to either social/cultural differences or the management of the education process. Neither of these issues have been addressed by the individual projects evaluated. However, see also §IV.

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<sup>4</sup> Relevance, Effectiveness, Efficiency and Sustainability. See Appendix III for definitions.

<sup>5</sup> <http://ed.sjtu.edu.cn/rank/2005/ARWU2005Main.htm>

## Portfolio Presentation

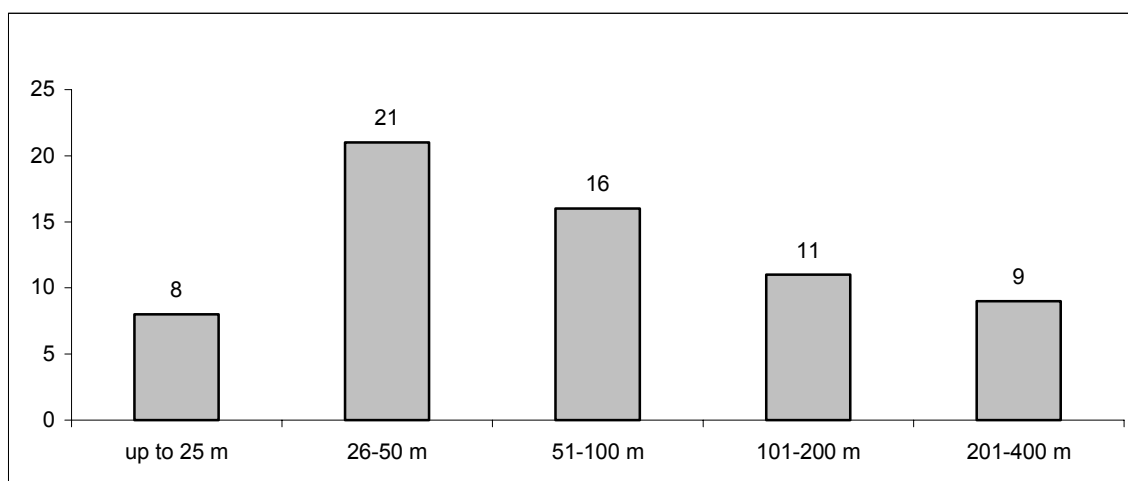
Education and training projects did not become eligible for EIB funding in their own right until 1997. Before that, the Bank had undertaken only a handful of projects in the sector, mainly for vocational training facilities, and usually eligible by virtue of their contribution to regional development. However, between 1 January 1997 and 31 December 2004, the cut-off date for the evaluation, the Bank financed 65 education and training operations in 19 countries for a total signed value of some EUR 6.4 billion. This includes infrastructure loans with a significant education component.

Based on Board of Directors (CA) approvals, this table shows how the Bank's activity has developed over the period; as measured by the number of projects per year and the education element of the signed loan value. The step change in 2001 coincides with the launch of the i2i eligibility. This was the Bank's response to the Lisbon strategy, and clearly marks the beginning of a period of increased activity both in project numbers and total volume of lending. Almost 80% of the loan volume has been approved since 2001.

Year	No.	M.EUR	% of Total
1997	2	246	3.8
1998	5	210	3.3
1999	8	621	9.7
2000	5	330	5.2
2001	12	1,318	20.6
2002	11	1,666	26.0
2003	12	1,205	18.8
2004	10	810	12.6
<b>Totals</b>	<b>65</b>	<b>6,405</b>	<b>100.0</b>

Geographically, most of these projects were in the enlarged EU. Of the nineteen countries where the Bank has lent for education projects, fifteen are in the enlarged union, and EU projects represented some 95% of the total loan volume. Of the nineteen, five countries account for 70% of the total: Germany (26.1%), Spain (16.7%), Finland (11.3%), U.K. (9.0%), and Poland (7.1%). Comparing loan signatures with education investment data from Eurostat for 2002, the most recent figures published on-line, indicates that the Bank is funding nearly 5% of fixed capital formation within the EU.

The loans signed, or the implied education and training related component for infrastructure loans, ranged from as little as EUR 6 million up to EUR 400 million, with a median loan size of EUR 57 million but a mean of EUR 99 million due to a number of larger loans. The breakdown by loan size is shown below:



Programme Loans are clustered in the set of projects over EUR 100 million. This reflects the relatively small size of individual education investments. Sixteen out of the twenty loans over EUR 100 million are of this type, whereas there are only four in the 45 projects with a loan size of less than EUR 100 million. This does not include projects where the education element of a much larger scheme is less than EUR 100 million.

In terms of educational focus, i.e. primary/secondary versus tertiary education :

- There appears to be no bias in terms of loan size and educational focus; the distribution of loans between primary/secondary versus tertiary is similar in median and mean loan size as well as in their range.
- Some countries appear to have a concentration of EIB financing in certain sectors of education over others; for example, Germany, Spain and Italy have a focus in tertiary education while, in the U.K., EIB financing appears to be used predominantly for projects related to primary and secondary education.

Reviewing the portfolio by type of Borrower - i.e. public, quasi-private government agency, PPP - shows that ten projects had a clear PPP structure. All of these were located in either Ireland or the U.K.. Another eleven projects were with quasi-private entities; mostly specialising in real estate construction and management on behalf of public bodies. The remaining 44 projects were being implemented by public bodies: government ministries, municipalities, public universities, etc.. Analysing the type of project, i.e. rehabilitation, expansion or new construction, was more difficult. Six projects were clearly focused on new developments, but most were for a combination of types and 35 had components of all three.

### Methodology

The ten projects chosen for individual evaluation were selected to be broadly representative of the portfolio in terms of country coverage and loan volume, size of operation, type of operation, type of counterpart and educational stage. The projects were from six different EU countries:

Project	Size*	Type	Counterpart	Stage
1	Medium	Programme	Quasi-Private	Secondary/Tertiary
2	Large	Programme	Quasi-Private	Tertiary
3	Medium	Programme	Public	Secondary/Tertiary
4	Small	Investment	Public	Tertiary
5	Large	Programme	Public	Tertiary
6	Small	Investment	Public	Tertiary
7	Large	Programme	Quasi-Private	Primary/Secondary
8	Small	Programme	Quasi-Private	Secondary
9	Medium	Investment	Public	Tertiary
10	Small	Investment	Private (PPP)	Primary/Secondary

\* Loan Size – Small < EUR 100 million, Large >250 million

Typically, individual evaluations involved meetings with the organisations responsible for project implementation, operation and education policy. Site visits included meetings with the management of the educational institutions as well as an assessment of the buildings financed.

Site visits were preceded by an analysis of the Bank's internal documentation and information in the public domain, plus meetings with relevant staff from the operational directorates. Following the site visit, an individual report was prepared based on the pre-mission analysis and the data gathered on-site. These reports were discussed and agreed with the operational staff associated with the project, and the main elements were provided to project Promoters for their comments. The information contained in these reports is of a confidential nature and availability is restricted to EIB staff. They will not be released to outside parties and the EIB will not approach Promoters for their permission for a wider circulation. This evaluation report is a synthesis of the findings of the individual evaluations, plus an analysis of wider education policy and economic issues.

## **I. Policies and Strategies - Relevance**

### ***I.1.a EU Policies and Objectives***

The basic EU policy on education is defined, or constrained, in Article 149 of the Treaty which says:

*"The Community shall contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action, while fully respecting the responsibility of the Member States for the content of teaching and the organisation of education systems and their cultural and linguistic diversity."*

Historically, the EC's direct involvement in education has been in the development and operation of schemes and programmes aimed at integrating the education processes of the various member states. One such programme is Socrates/Erasmus, which seeks to build relationships between institutions in different countries through, for example, joint research programmes, and staff and student exchanges. However, while not actively involving itself in education at the delivery level, the EC has a history of developing and promoting education initiatives. The extent to which these actions can be said to have created specific EU policies and objectives is not clear, but there was certainly support at all levels for the development of education as an essential building block of European development. These initiatives, and the policy orientation, did not go so far as for the EC to seek to involve itself in the policy process at the national level, but the commitment to education was clear and unambiguous.

Since the early 1990s, there has been a recognition of the need for the EU to play a stronger, more direct, and possibly directive, role in education and training in order to promote Europe's economic and social future. This found a voice in a "White Paper" in 1995 prepared by the EC : "Teaching and Learning: Towards the Learning Society". This identified five general objectives :

- Encourage the acquisition of new knowledge;
- Bring schools and the business sector closer together;
- Combat exclusion;
- Develop proficiency in three Community languages;
- Treat capital investment and investment in training on an equal basis.

This white paper, and subsequent discussion at the Madrid European Council meeting in 1996, led to the Amsterdam Summit in 1997 which stressed the importance of education to economic growth and employment. This was reinforced and developed at the meetings of Lisbon (2000), Stockholm (2001) and Barcelona (2002). As from 2002, the three main EU objectives in education have been :

- Increasing the quality and effectiveness of education and training systems in the European Union;
- Facilitating the access of all to the education and training systems;
- Opening up education and training systems to the wider world.

### ***I.1.b EIB Policies and Mandates***

The Amsterdam Summit in 1997 asked the Bank's Board of Directors "*to examine its scope of intervention in areas of education, health, urban environment and environmental protection*". This led, in July 1997, to the EIB's Board approving the Amsterdam Special Action Programme (ASAP): designed, *inter alia*, to encourage growth and employment in Europe by increasing investment in education and health. Thus the EU Council, while recognising the role of national and regional bodies in education policy and its practical implementation, clearly mandated the Bank to participate in the funding of education and training services provision.

ASAP was a wider initiative than just education. It also included investments in health, urban environment, environmental protection, large infrastructure networks and SME financing. In June 1997, the plan was endorsed by the Board of Governors of the Bank, which requested the Board of Directors to put it into effect for a fixed period from 1997 to 2000. In turn, the Board of Directors endorsed the plan at a special session in July 1997. The basis was to be a number of guiding principles, plus a number of specifics relating to the sectors of application. The guiding

principles were mainly oriented towards good operational practice, e.g. respect for sound banking principles, the need to add value, provision for evaluation of results, etc. The specifics for education were also very broad: “...by financing investment projects in the education sector, throughout the Community, as they contribute to the supply of a skilled and adaptable workforce”. This breadth allowed the Bank to consider any and all education projects in terms of type, level, scope and objectives.

In 1999, there was a recognition by the Bank’s services that it should re-orient its education and health activities under the heading “Human Capital”. As part of the Bank’s first Corporate Operational Plan, four issues were identified as being particularly significant when selecting education projects for funding :

- Priority to be given to areas with the most pronounced Human Capital deficiencies;
- All levels of education to be supported;
- Both private and public sector funding to be supported;
- Encouragement for Research and Development.

The importance of measuring output, defined as being educational attainment, as well as input, was stressed. In addition, it was proposed to extend indefinitely the “Human Capital” eligibility. Until then it had been limited in time to 2000. Education, and health, thus became a permanent part of the Bank’s operations, with the eligibility being universally applicable in the EU and the Accession Countries.

A key feature of the 1995 White Paper had been the introduction to EU policymaking of the concept of “Human Capital”. The concept itself was not new, but it has since become an essential building block in Europe’s economic and social development. Since the 1999 adoption of human capital by the CA, the Bank has reiterated, and reinforced, its importance, with education being one of the three Innovation 2010 Initiative (i2i) pillars, alongside investments in Research, Development and Innovation (RDI) and Information and Communications Technology (ICT). i2i is one of the Bank’s five priority objectives and is its main contribution to the Lisbon Agenda. Education will therefore continue to be an important part of the Bank’s activity in the future.

Of the ten individual operations evaluated for this report, six were approved when “education” was a sufficient condition for them to be acceptable to the Bank, without there being a clear, specific policy objective.

***1.1.c National and Regional Policies***

As noted above, the content and organisation of the education process is the responsibility of the individual Member State. Within each Member State it is quite usual for this responsibility to be delegated to a more local level: Comunidad Autónoma, Land, country, etc.. This should allow the educational policies to match local needs. Therefore, although the ten individual projects were spread over six countries, in fact the educational policy objectives of all the projects were different. Policy objectives included:

Eliminating two shift use of schools		Reductions in average class sizes	
Raising the minimum school leaving age	Addressing educational weaknesses in specific schools	Expanding the range of subjects taught in schools	
Increasing student places for, and hence the numbers of, higher level technicians.		Providing for a substantial increase in the number of students at university level.	
Expanding the range of subject specialisms at university level.		Increasing efficiencies by eliminating multi-site working for individual university departments	

The educational objectives of the responsible education authorities tended to be quite wide. Those mentioned here are only the specific objectives for the projects evaluated and individual projects usually had multiple objectives. The common factor was that every education authority

had a strategic plan for education although some were more developed, and more specific, than others.

## ***1.2 Conclusions On Project Relevance***

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Relevance	6	4	-	-

**EU Policies** – At the time of selection and appraisal, the only EU policy was that education was a highly desirable activity. There were no clearly defined objectives, either qualitative or quantitative, other than promoting growth and employment. This makes it difficult to rate projects against this sub-criterion. However, if the Lisbon Agenda had been in place, all projects would have been rated Good or Satisfactory.

**EIB Policies** – All projects were eligible for EIB funding, and would be expected to have a rating of Satisfactory. However, one was rated as Good (Project 9), reflecting that project’s particular match with multiple EIB objectives.

**Regional/National Policies** – All projects were being promoted by the relevant education authority, although this was sometimes via a third party. Therefore, all projects were compliant with regional/national policy objectives. However, it can be argued that most projects went beyond pure compliance and were addressing critical, rather than general, objectives. These projects were rated as Good.

Overall, **six** projects were rated **Good**: Projects 4, 6, 7, 8, 9, and 10. **All the rest** were **Satisfactory**. This would suggest that either the Bank was selecting projects which offered particular scope for educational impact, or that Promoters were presenting particularly desirable projects to the Bank for funding. Either way, this is a very positive outcome.

## **II. Project Performance**

### ***II.1 Effectiveness***

Project Effectiveness rates the extent to which project objectives have been achieved, based on the following parameters :

- **Implementation** : the evaluation looked at completion information : timing and costs, as well as more specific sectoral aspects, e.g. building design, the match between physical and education functionality;
- **Operation** : management of project operations, operating and maintenance (O&M) costs, as well as sector specific outputs, e.g. educational objectives.

#### ***II.1.a Implementation Performance***

##### Were the Projects/Sub-projects Fit for the Purpose?

For most countries, there was little difference in the quality of construction between schools and universities but, conversely, there was usually a clear difference in terms of design quality. Schools were generally designed to be functional, rather than aesthetically pleasing, although the building style was usually in keeping with the schools’ surroundings. Only one country was making an architectural statement with its schools. One sub-project visited was the renovation of an old building in a city centre. This had been fully and sympathetically modernised, including the provision of underground sports facilities, and worked well. A second school, a new build, looked impressive with external glass walls and good detailing. In fact, it had won an architecture prize. It also gave the impression of working well as a school. However, the head teacher pointed out that the glass walls were difficult and expensive to clean – something for which she did not have an adequate budget.

Universities, on the other hand, and particularly core facilities like lecture theatre blocks and libraries, were often being used to make a statement about the government's commitment to education and modern thinking. This was particularly true in four of the six countries visited. It is not clear whether this had a cost impact; the differences between the types of building visited during the individual evaluations were too great to be able to make a general statement. On the other hand, possibly because of the use of international competitions, there did appear to be a convergence of architectural style, with many of the buildings having no discernable national characteristics.

All buildings had to satisfy normal building codes and planning controls, although in Project 7 the Borrower had the right to authorise its own building proposals. Planning requirements were identified as a problem in only one sub-project of Project 1, where the steel structure had to be retained as an item of historic interest. This appears to have had a negative impact on the building's functionality, and some of the aesthetics may be questionable.

While the schools visited offered a sound use of available space, an efficient use of resources, and facilities which were well matched to student and educational needs, there were some doubts on the tertiary education sector. The buildings were often beautifully designed and built, but there could be questions on the balance of facilities. There were examples of this in two different countries. In both cases, buildings for science departments had under-utilised tutorial and lecture rooms, but research facilities which were already crowded. The reason for this is not clear; in both cases staff had been fully involved and consulted in the design and layout of the facilities.

### Case Study 1

With the exception of Case Study 4, all case studies were sub-projects of programme loans.

A new university library serving the humanities faculty, which has some 19 000 students and staff spread across Law, Economics and Sociology.

A central facility, which will develop as an information resource, it is a building which is functionally and aesthetically balanced. There are a number of interesting features including an impressive central well. The readers' need for light is satisfied by tall windows and high ceilings, while adjacent rooms have standard height ceilings to meet the need for high density book storage.

### Case Study 2

Refurbishment of Secondary School: Located in the city centre, this project included the comprehensive refurbishment of, and a new extension to, a one hundred year-old, listed school building. This "functional" refurbishment also provided new facilities needed in a new pedagogical environment, e.g. new computer laboratories, a school canteen, new chemistry and photography laboratories, etc.. Given the space constraints, two impressive underground full-size gymnasias were built. The project also aimed at the 'revitalisation' of previously underused space (basement, etc.). This successful project clearly contributed to the preservation of the country's historical heritage, while providing an educational setting that would allow for contemporary teaching methods.

A Sub-project with Good ratings against all criteria.

### Were the Projects/Sub-projects Completed on Time?

For seven projects, the implementation performance was satisfactory or better. Project 1 had the characteristics of a Programme Loan, in that the Technical Description was a "Best Guess", but only one sub-project, albeit a large one, failed to proceed as planned.

Problems on completion and operational reporting were encountered on three of the individual evaluations:

- For Project 3, the public sector Borrower was reluctant to schedule an evaluation mission; although some data had been submitted previously and the evaluation team did receive oral confirmation of the current completion status. This is partly attributable to the organisational distance between the Borrower and the separate public bodies responsible for implementing the sub-projects.



- In Project 5, the loan was repaid early, part-way through the evaluation. However, no completion data had been received at that point, although the Loan Agreement had called for a mid-term review and an updated Technical Description (See Glossary). Fortunately, information in the public domain could be used to indicate sub-project progress. This suggested that 50% of the sub-projects were either running late or had not yet been started. Completion was due in 2005.
- Finally, in Project 7, the Borrower/Provider could not readily identify which elements of its portfolio were covered by the Bank's loan, although it had provided the elements in the first place. However, if the emphasis is placed on sub-projects in their portfolio which address the main educational objective, then the project was probably about 80% complete during the evaluation, with full completion expected in 2006. This is two years later than the Borrower predicted, but in line with the Bank's opinion at appraisal, and the Technical Description.

It is noted that all three of these operations were Programme Loans.

#### Were the Projects/Sub-projects Completed on Cost?

For most projects, the cost control was particularly good. This, and the completion performance, may be at least partly due to the use of specialist organisations which were either in the private sector, or working to costed mandates and applying private sector disciplines. It is also probably easier to control costs when the individual sub-projects are relatively small.

The sub-projects in Project 7 were probably brought in on-budget; the Borrower appears to have adequate controls in place, but it was not possible to identify the specific costs for the EIB sub-projects. No cost data were available for Project 5.

#### Did Any of the Projects/Sub-projects Have a Significant Environmental Impact?

While some of the loan sizes were substantial, the individual projects were not. The only exception was Project 9 where the investments formed elements of large university development schemes. However, these all took place in suitably zoned areas, with designs which were not out of place with the surroundings. There was no significant negative environmental impact and some schemes will have had a positive impact.

### ***II.1.b Operating Performance***

#### Are the Operations of the Projects/Sub-projects Being Properly Managed?

In most cases, the maintenance and repair of educational infrastructure is a local responsibility, either directly by the school, college or university, or the lowest levels of local government. The alternative is for maintenance and repair by the private sector, but organised and managed by the same organisation that was responsible for project implementation. All of the educational institutions visited were fundamentally sound, fully functional, and in good condition.

#### Are the Operating and Maintenance Costs Appropriate and Being Adequately Funded?

In most countries, one organisation was responsible for project promotion and implementation, a second for project operation, with a third organisation responsible for the maintenance of any given sub-project. This made it difficult to reach a conclusion on whether O&M costs were reasonable or if there was adequate funding available. The only clear case was the PPP, where the O&M is the responsibility of the Provider and the levels of service are established in advance. In such cases there is an assumption that the buildings will be designed to balance initial capital expenditure against efficient long-term use, i.e. a life-cycle concept of design and operations, because the Provider's return is based on their operation and maintenance. The Provider will also face financial deductions if it fails to hand over a fully functioning asset at the end of the Contract.

## Are the Educational Objectives being Achieved?

Educational objectives were usually expressed in physical or quantitative terms : reducing average class sizes, increasing subject choice, increasing numbers of students, minimum leaving age, etc. All of the projects had this type of objective, and the educational infrastructure, where completed, is allowing these objectives to be achieved. Many projects also had educational objectives, but these focused on quantity of education : more students for longer periods. These objectives were all achieved. Only Project 10 had objectives relating to educational attainment or the quality of education being offered. In that case, the project has been highly successful. However, even if attainment or quality objectives had

been identified, very few education authorities have mechanisms in place to track educational development. All have data on student pass rates, etc. Most have data on numbers of pupils proceeding to tertiary education. A few can also track through to adult unemployment rates and earning power. What tends to be lacking is an evaluation of educational impact at the institutional level. Some education authorities are starting this process. In Project 9, a type of Scorecard has been developed which will, in future, be used in the allocation of resources. This is now being rolled out nationally. However, at present the allocation of education resources appears to be on the basis of equality of *per capita* spend, rather than maximisation of educational impact.

### Case Study 3

This new secondary school building sits on the site of a previous school which had “failed” educationally. The idea was to create a new school, with a new name, a new Headmaster, and new staff: a complete break from the past.

The building is quite unremarkable, but the project is an object lesson in how the combination of a suitable environment, committed management, and a head teacher with a clear vision and will to succeed can have a major impact on the educational achievement, and thus future life prospects, of a large number of young people.

A sub-project which deserves a particularly high rating against all criteria, but particularly Effectiveness.

### **II.1.c Conclusions on Effectiveness**

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Effectiveness	5	4	1	-

Apart from the minor concerns over the balance of facilities mentioned above, and uncertainty over Projects 3 and 5, all of the projects either have, or soon will have, achieved their physical objectives. More importantly, the physical facilities have been established which will allow the educational objectives presented in § I.1.c to be achieved.

**Five** projects were **Good**, **four** were **Satisfactory** and **one** was **Unsatisfactory**, due to apparent non-completion of sub-projects. What differentiated the Good from the Satisfactory projects was where the project could be clearly seen to have made a difference, e.g. Project 10 - a school which, prior to the project, had been failing academically, Project 8 – a project to reinforce compulsory education, and Projects 4, 6 & 9 which were allowing a significantly greater number of students to take up tertiary education.

### **II.2 Efficiency**

While Effectiveness considers whether projects are achieving their physical and economic objectives in absolute terms, Efficiency considers whether these objectives are being achieved in a cost effective manner. The EIB uses two measures: the ERR and the FIRR (See Glossary), and the findings for each are presented below.

## II.2.a ERR

Is the ERR acceptable and in line with *ex-ante* projections?

Some of the individual projects evaluated included a minority of funds for fixtures, fittings and, in the case of Project 5, educational materials, but essentially the Bank's funding went into the creation, renovation or extension of educational infrastructure. However, the individual or social benefits from these investments cannot be quantified without the type of information referred to in §II.1.b being available at the project level. It might be possible to assume that general, aggregate returns of the type available in "Education at a Glance" (See §1.) would reflect the returns to any single investment made by the same budget allocation mechanism under the same decision process. Certainly at the university level, that would probably not take into account variations in teaching costs and returns for different disciplines. In practice, the link between benefits of any sort and individual investments is tenuous at best.

There have been studies which have claimed measurable educational benefits from improvements to school buildings. However, these typically refer to developing countries. This is considered in greater detail in §IV, but at present an ERR is not a satisfactory measure of the efficiency of individual projects or sub-projects. This evaluation therefore only considers the apparent efficiency of the investments in terms of comparative value for money. On this basis, three Projects: 4, 6, and 10, stand out as offering at least the same benefits as other projects, but at lower cost. Conversely, while the other projects are adequate and competent, there appeared to be inefficiencies in the systems which would increase costs with no associated benefit. Two examples:

- In Project 7, secondary schools are typically very small: often less than 200 pupils. This makes it impossible to cover all subjects within the school using full-time staff. Science teaching is reduced to a single subject and other subjects, such as languages, are taught by peripatetic teachers who have to serve a number of schools.
- In Project 2 and 9 – university departments stand alone, each with their own lecture and tutorial rooms. Although the departments are located on a single campus with only short distances between buildings, there is limited sharing of facilities. Lecture and tutorial rooms therefore spend most of the day empty.

In the first case, it is civic pride (embodied in National law) which requires each small, local community to have its own secondary school. In the second case, the planning was largely controlled by institutions which have no clear incentive to efficiency.

## II.2.b FIRR

Is the FIRR acceptable and in line with *ex-ante* projections?

The only project which could be described as having an FIRR would be the PPP. However, that figure relates to the availability of education infrastructure rather than education, *per se*.

## II.2.c Conclusions on Efficiency

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Efficiency*	3	5	-	-

\* Two projects could not be rated for Efficiency.

In the absence of real data on the benefits of education at the project level, **three** of the projects have been rated **Good**, **five** as **Satisfactory** and **two could not be rated**. The two projects which could not be rated were both Programme Loans to Finance Ministries, while responsibility for the education sub-projects lay with other ministries. The Bank had no direct counterpart relationship with the competent ministries and therefore no ready access to the sub-projects. The ratings themselves are based on a single underlying assumption; that the relevant education authority is part of a decision making process which will distribute resources on a rational basis. If a project is achieving its physical objectives: as all except one are, and if the costs are in line with

projections, then they will be achieving a rate of return which is acceptable to the Member State. Projects which have fully achieved or exceeded their objectives without unnecessary expenditure have been rated Good.

### ***II.3 Sustainability***

Clearly it is not enough that Projects/Sub-projects deliver the expected benefits at physical completion. In calculating the economic and financial benefits, there is an assumption that there will be a flow of benefits throughout the life of the project. The Sustainability criterion is used to judge the likelihood of these future benefits being realised. For Education, the risks associated with Sustainability have been grouped under four headings : Physical, Financial, Education, and Demographics.

#### ***II.3.a Physical***

##### Will the assets created be physically capable of continuing to offer the benefits?

While there were noticeable differences in the standard of construction between the various projects and sub-projects visited, the risk of not achieving a full economic life appeared low. Some may require greater through-life maintenance than others, and some will have higher environment<sup>6</sup> control costs, but the underlying structures appeared sound. All projects were relatively new, so the quality of, and commitment to, maintenance cannot be judged properly. However, where they were available, older buildings from the same Borrower and/or Promoter showed no signs of neglect.

It was also noticeable across all countries and types of education that the buildings were being treated with respect by the pupils/students and staff. There were no obvious signs of vandalism or carelessness: graffiti, damage to hard landscaping, etc.

#### ***II.3.b Financial***

##### Will there be sufficient funds available to support the desired level of educational services?

With the exception of the PPP, where the future payments are contractually and legally guaranteed, subject to the satisfactory performance of the private sector SPV at the heart of the arrangement, the financial risk for all projects is the willingness of future administrations to continue allocating funds to education. This risk is not negligible. There is an economic component to the risk : whether the countries can afford to maintain the buildings. However, historically the decisions to reduce funding, or not to increase spending to meet developing needs, have been largely political. It might be argued that the emphasis now being placed on education at the EU level might tend to reduce this risk, but this is by no means certain.

#### ***II.3.c Educational***

##### Will there be enough well qualified educators available to provide the desired level of education services?

It could reasonably be argued that all of the projects had an implicit objective to improve educational sustainability. All local education authorities recognised the need to develop the breadth and depth of education on offer. However, while there was usually a clear link between the investment and the provision of skills needed by the local community, only Project 2 included pedagogical investments. There was strong support for more varied education, for more students, for longer, i.e. on the demand side. There was less obvious support for investments in the supply side. There must be a risk that suitably trained and experienced staff, particularly for new areas of study and areas of study where there is strong demand for graduates, may not be available in the numbers required.

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<sup>6</sup> Heating and/or air conditioning costs, depending on climate and location

### II.3.d Demographic

Will there continue to be enough beneficiaries of education services to allow the economic benefits to be achieved?

There are two demographic issues. Firstly, there is the future number of pupils and students. Secondly, there is the question of where these numbers will be located. As a general rule, the numbers of students in future cohorts will fall, in line with the general ageing of the population.

#### Case Study 4

Rehabilitation of former Military Site: This project – a clear Investment Loan – turned a former military facility : hospital, etc. dating from the 1930s, into a flourishing engineering college. The project also included some new construction for laboratories, lecture halls, canteen, etc.. The college’s novel, application-oriented approach, and its good job placement record, brought a valuable tertiary education institution to an Objective 1 region, which has been plagued by high unemployment for some time.

This project was rated Good against all criteria

However, offsetting this is the political wish for students to stay on at school for longer, and for substantially greater numbers of students to enter tertiary education, i.e. an increase in the participation rate. So while there are declining school rolls at entry, the actual number of students in education will not fall for many years.

Secondly, there is the issue of where these students will be located. Rural depopulation will make it more difficult to sustain countryside schools. At the same time, migration to the cities is creating growing city, suburban and exurban populations. Linked to this is an

immigration and urban shift effect where hotspots of growth are created as families with children move into relatively small, or new, areas within cities. The problems of dealing with population movements were behind four of the individual projects: 1, 7, 8 and 10.

A demographic analysis was part of the strategic planning of all of the projects and, except in cases of political or social upheaval, rates of demographic change tend to be low. The risk of unexpected demographic problems is therefore likely to be similarly low.

### II.3.e Conclusions on Sustainability

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Sustainability*	5	3	-	-

\* Two projects could not be rated for Sustainability.

**Two** projects could **not be rated** for Sustainability: Projects 3 and 5, the same two projects which could not be rated for Efficiency (See §II.1.a.). **Three** projects were rated **Satisfactory** and **five** were rated **Good**. This unusually large number reflects not only the quality of construction, but also the commitment of adequate resources and the publicly expressed desire to make education a priority.

### II.4 Overall Conclusions on Project Performance

The following table summarises the individual and overall ratings of the projects which were evaluated in-depth:

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Effectiveness	5	4	1	-
Efficiency*	3	5	-	-
Sustainability*	5	3	-	-
<b>Overall Rating</b>	<b>4</b>	<b>4</b>	<b>-</b>	<b>-</b>

\* Two projects could not be rated for Efficiency or Sustainability and were therefore also not given an overall rating.

Overall, the projects which could be adequately assessed performed well, with the rider that what was being measured was their physical implementation. Only one project set educational objectives and these were achieved. However, if the Bank is investing in the sector for economic, rather than social, political or personal development, then it will need to pursue and develop educational indicators. Various indicators were proposed for projects during the period 2001 to 2003. However, these were not implemented for two main reasons. Firstly, because the Bank's direct counterpart was not responsible for generating the data. Secondly, because the proposals were not incorporated into the loan contracts. The first of these could potentially be overcome by establishing an agreement with the appropriate counterpart, usually the Promoter. Loan signature should be contingent on this agreement being in place. This approach should be used wherever there is a separation between the Borrower, e.g. a Ministry of Finance or intermediating Bank, and the Promoter, e.g. Ministry of Public Works or Education authority.

### III. EIB Contribution

#### III.1 Financial Value Added (FVA)

Criterion	Project Rating			
	High	Medium	Low	Zero/Neg
FVA	4	4	1	1

*Ex-ante*, two projects: 3 and 5, exhibited low, but acceptable, FVA, four: Projects 1, 2, 4 and 6, showed medium FVA, while the remaining four: Projects 7, 8, 9 and 10 offered high FVA.

*Ex-post*, eight out of the ten projects continued to offer high or medium FVA. However, the projects which had a low FVA *ex-ante* both showed a decline in FVA *ex-post* (see below).

The loans for eight of the individual projects were considered to be either a sovereign risk or had a credit rating close to the sovereign rating. In a further case (Project 9), the sovereign rating was boosted by a monoline insurance guarantee. Finally, there was one project, the PPP, where the Bank is carrying operational risk. However, this was accepted following a period of satisfactory performance and compliance with pre-established financial ratios. In addition, the PPP's revenue stream is under-written by the government, subject to the proviso noted in §II.3.b above.

The most obvious form of FVA is the Bank's interest rate and the Bank's advantage was greatest when its counterparts were either located in countries without a AAA rating, or were in the private sector. In one case, Project 2, the interest rate advantage was confirmed for each disbursement, which had to be on the basis of a competitive tender. However, a number of other forms of FVA were available :

EIB Presence – The Bank's presence in the finance plan was particularly positive where the Borrower was relatively new to the market, e.g. in Project 7. In these cases there was probably a combination of catalytic and validation effects. More difficult to quantify, but also likely to be present, would have been the competitive tension of the Bank being present; helping to limit the cost of funds being provided by the commercial banking sector.

Term – The Bank, as a long-term lending organisation, allows promoters of long-term, asset-based projects to match the term of the loan to the life of the assets. This was a particular advantage for Projects 7, 8 and 9, and was specifically mentioned by the Promoter of Projects 1 and 6.

Timing – The Promoters of Projects 4, 6 and 10 specifically mentioned that the Bank's presence enabled the projects to proceed. Without the Bank, the project might still have gone ahead but with a significantly reduced scope.

Where the interest rate element of the FVA was low *ex-ante*, then it had usually fallen *ex-post*. In the case of Project 3, the Borrower expressed the view “[t]he project appraisal procedure is time-consuming ..... Other lenders require only submission of the budget estimates as documentary support ..... Overall, the time and effort required is totally out of proportion with the loan

*amount.....*". More significantly, the Borrower on Project 5 reimbursed the loan in full<sup>7</sup>, including penalties, because the cost of EIB funding had become too high. It should also be noted that for the two projects offering Low FVA *ex-ante*, the only significant form of FVA available was the interest rate advantage.

The Bank's ability to increase its FVA is limited, e.g. operating efficiency gains and the development of products to meet particular needs. There might be more opportunities in the area of risk management and structured funding, with the Bank accepting more risk on more projects, while continuing to act within its credit risk guidelines. However, of more immediate concern was the fact that in at least one of the countries concerned, the Bank's interest rate setting mechanism was resulting in rates which were no longer attractive.

### **III.2 Other Contribution**

There was no observable contribution to projects either at the design stage or in the selection of sub-projects, except in Project 7, where the Bank's services worked with the Promoter to clarify the Bank's eligibility criteria and to define an appropriate Technical Description. It was noted that in one country there had been a country education sector study before the Bank's involvement in the project. This was used to establish a dialogue with the Ministry of Education leading to various operations, however, the priority investment areas identified in the study were not matched by projects available to the Bank: see also §IV. Some Promoters, e.g. Projects 2 and 7, found the Bank's techno-economic appraisal helpful in validating their building quality and design criteria, but this had the effect of improving the "comfort factor" for the staff responsible for implementing the project, rather than influencing the development and final outcome of the project. The Bank also worked closely with the Promoter of Project 7 to develop the tools needed to meet the Bank's reporting requirements.

## **IV. EIB Management of the Project Cycle**

### **IV.1 EIB Response to the New Sector**

As noted in §1., the evaluation paid particular attention to how the Bank treated a new sector of activity, and how this was integrated into the normal operating framework of the Bank. This part of the evaluation was based on an independent analysis of: the Bank's internal papers, the development of the appraisal methodologies, and interviews with the main sector actors within the Bank. The findings have been broken down into four blocks: Preparation and Methodology, The Learning Curve, Scope for Development, and Questions on the Rationale for Current Actions. The following summarises the findings for each of these sections, and a more complete analysis is presented in Appendix II.

#### **IV.1.a Preparation and Methodologies**

The Bank's first, formal education strategy was developed in 1999. This was some eighteen months after receiving the mandate, and after five loans to education projects had been initiated, appraised, approved and signed. The gap can be attributed to the time needed to allocate internal resources, identify suitable staff, and prepare the necessary background material. The strategy called for upstream country sector work and stricter criteria for project identification and appraisal. The same year also saw the development of an appraisal methodology which still provides some solid foundations and guidelines on how to conduct education sector analysis at the country level, as well as project-specific analysis.

#### **IV.1.b The Learning Curve**

Prior to 1997, the EIB's involvement in education focused on technical/vocational training and was minimal relative to overall Bank lending. These early projects were not "education" projects in the sense the Bank uses the term today. They were construction projects for schools and training centres, justified in terms of regional development.

Post ASAP, a timeline of analytical approaches can be traced:

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<sup>7</sup> After the desk research had been carried out, but before the Borrower had been contacted to participate.

- 1997 – Relevance of economic analysis questioned, although a cost/benefit analysis might be useful. Absence of comparative data highlighted.
- 1998 – Projects without any economic analysis.
- 1999 – Introduction of OECD data and sector-wide rates of return and the justification of projects by extrapolation. Application of 1999 methodology. Discussion on the need for education indicators.
- 2000 – A step back from economic analysis, particularly quantitative analysis.
- 2001 – A return to sector rates of return, but also raising the use of school achievement as a performance indicator.
- 2002 – Economic rates of return calculated for different types of tertiary education.
- 2003 – Original private rate of return estimated for a student loan project.

#### ***IV.1.c Scope for Development***

There has been visible and substantial progress in EIB operations in education since 2000. However there is scope for further development. In particular, there is still a tendency to treat education projects as construction projects. Not enough attention is paid to the education *per se* aspect of the project, i.e. on how students are learning. It can also be argued that the current workload for the educational team is too high, which allows too little attention to be paid to individual projects and leaves little time for sector work. There have been some excellent appraisals but most appear to be approached mechanistically, probably, for reasons of time pressure.

Beyond the emphasis on buildings, education projects deal mainly with quantitative issues, e.g., increase in student capacity with little attention paid to student learning. Given the emphasis on school buildings, the Bank correctly commissioned a study on the effect of such buildings on student learning (*The Appraisal of Investments in Educational Facilities*. With the OECD 2000: 17-32). The results of the study were positive, suggesting a significant link between infrastructure investments and educational impact, and these findings are routinely cited in support of investment in buildings for enhancing education quality. However, newer and more robust evidence conditions the earlier findings. The best current research, which was carried out in developing countries and therefore may or may not be directly relevant to EU countries, suggests that each additional primary school constructed per 1000 children led to an average increase of 0.12 to 0.19 years of schooling and 1.5 to 2.7 percent increase in wages. This would argue that, at least within the study countries, resources should be applied more directly to the education process, where the economic returns can be significantly higher.

These findings would suggest two recommendations. Firstly, setting aside considerations of workload and structural reporting difficulties, a greater emphasis should be paid to measuring educational impacts through the routine use of an appropriate set of indicators, agreed *ex-ante*, and reported on *ex-post*. Secondly, while physical infrastructure may be important as an enabling mechanism, the Bank should make a conscious effort further to develop and support education initiatives which are not asset based where it may be possible to achieve greater benefits. Examples, which have already been considered, include initiatives on student lending, R&D and eLearning content development.

#### ***IV.2.a Appraisal***

##### Identification and Selection

As observed in previous evaluations, the Bank has no formal system for tracking the project selection process. This makes it difficult to confirm the degree of selectivity. It would therefore be useful if the Preliminary Information Note (PIN) were to summarise the history of the Bank's involvement to date. The people involved in many of the projects had often moved on from their original positions, forgotten how the EIB had originally got involved, or had inconsistent recollections. However, there were two main routes into the Bank:



- Proactive, through existing contacts with, e.g. central or regional governments, taking the new eligibility criterion of Education/Human Capital and identifying how the Bank could work with local partners to fund suitable projects in the sector. The Bank is not a project promoter and relies on local partners to identify investment needs and opportunities. When a project is identified, the Bank tests the project against its Corporate Operational Plan and decides whether or not to launch the formal project recognition process.
- Reactive, through existing contacts. In one case, a list of potential PPP education projects had been identified. The Bank reviewed the projects on the list and selected those which it felt would both fit the Bank's resources and have the maximum educational impact.

Neither of these approaches would appear to be maximising the Bank's policy impact, although the second case is probably better than the first. However, the Bank was clearly not accepting any and all projects offered. The Bank's services only proceeded with projects for which there was a *prima facie* case for funding based on eligibility and a first reaction to suitability. In view of the strong local dimension to the development and definition of education projects, the Bank has little to contribute at the project definition stage. As already emphasised, education policy and implementation are national and regional responsibilities and decisions on school and university building projects have to be made on the basis of local and regional needs. The Bank does not have the resources to participate at that level and, in any case, it is not the Bank's role to displace local decision making.

#### Project Analysis

Analyses were based on a standard structure covering the key issues of the operation. In particular, attention was paid to those elements of the project which had an EU or EIB statutory dimension: eligibility, economic rationale, environment and procurement. As all projects had been the object of at least one formal, or informal, testing stage before the appraisal itself, all projects were fully satisfactory. However, some inconsistencies were observed when it came to considering the actions needed to achieve the project's physical and economic objectives:

- **Sub-project Selection** – Where the project involved a relatively small number of sub-projects, i.e. in Investment Loans, there was usually a clear picture of the need that these particular sub-projects were going to address. A clear justification for each of the main elements was presented. However, six of the projects evaluated were Programme Loan operations, usually involving extended implementation periods. In these circumstances it must be expected that a proportion of the sub-projects will be modified before nominal project completion, to reflect local difficulties or changes in local circumstances. None of the appraisals for these projects gave a clear analysis of the selection criteria for the sub-projects, or how competing sub-projects would be prioritised. There was an implicit assumption that the Promoter, usually the education authority, was fully competent and making rational selection decisions based on well-defined education policies and selection criteria. However, it was clear from the evaluation that other criteria were often playing an important part: local level politics, planning constraints, availability of building land, availability of matching funds, etc.
- **Project Definition** – All projects had a Technical Description to define the project, and to be one of the bases of the loan contract. Again, for straightforward Investment Loans, these were normally well defined. For Programme Loans, the Technical Description had to be more flexible, but the procedures for handling sub-project changes and reporting were not clear, and there was not always an obvious link between the project Technical Description and the total works being carried out. In at least one case (Project 8) the Technical Description included most, but not all, of a mandate given to Borrower, when the whole mandate would have been eligible.
- **Project Implementation** – All appraisals included a descriptive text on which organisation would be responsible for the implementation of the project. Very few gave a judgement as to whether the organisation had sufficient resources, expertise or experience to carry out this work. Neither did they say how much of the work would be carried out in-house and how much would be contracted out, in which case to whom and on what

basis. In at least two Programme Loan cases (Projects 1, 2) the Technical Description appeared to be a construct to meet administrative and statutory needs, rather than a working tool. In these cases, the Technical Description had no meaning for either the Promoter or the Borrower. Trying to identify what the Bank's funds had actually been used for, or even what eligible expenditure might have taken place, was difficult.

- **Job Creation** – This is a standard element in all appraisal analyses and is broken down into jobs created during the construction phase and permanent jobs. The number of permanent jobs was usually reported by the Bank, based on information received from the Promoter. The basis of the construction jobs was less clear. The cost per man-year of construction employment varied by a factor of more than twenty, apparently being five times higher in the country with the lowest cost of living in the sample compared to the country with one of the highest.
- **Project Operation** – The observations on project implementation apply equally to project operation – only more so. It was rare to find any analysis on how projects would be maintained and repaired, other than identifying the responsible organisation, or to indicate the probability of this work being adequately funded. The exception was the PPP.
- **Fitness for Purpose** – It was noted that it was unusual for appraisal reports to comment on the suitability of proposed technical solutions, i.e. on the size, layout, etc. of the school or university building. This may have been because the information was not available at appraisal, or impractical as in the case of the Programme Loans. It was also unusual to comment on comparable measures such as unit construction costs, or built area per student/pupil. With the acknowledged difficulty of identifying education benefits, the opportunity was not taken to develop alternative measures of efficiency.
- **Risk Analysis** – Although there was an appraisal of each project, usually well structured and quite comprehensive, the risks associated with the operation were rarely clearly identified and only quantified for the PPP.

#### *IV.2.b Monitoring*

A feature common to almost all of the individual evaluations was the failure on the part of the Borrower to provide the information which either PJ felt was desirable, and which it had included as a Condition or Recommendation to its project opinion, or which was specified in the loan contract. The reasons for this situation varied between projects, but the following were the commonest with more than one applying to any given project:

- The Borrower, who is usually the Bank's only direct counterpart, was not the project Promoter and the project Promoter did not provide the information required. Generally the Promoter was not party to the contract and had no idea of its provisions.
- The Borrower had difficulty relating the Technical Description in the loan contract to the works carried out during the period.
- The information which would have been useful to the Bank, e.g. on academic performance, was held by an organisation with which the Bank had no contractual relationship.
- Reporting of project data only took place when information was specifically and repeatedly requested by the Bank, e.g. for project completion, or when the Promoter or Borrower wanted a follow-up loan.

Although most of the projects were completed satisfactorily, the fact of completion or stage of completion, was often only known through the evaluation. It was very rare for the Bank's counterparts to provide the information required, at the time required, without prompting.

### IV.3 Conclusions on the Project Cycle

Criterion	Project Rating			
	Good	Satisfactory	Unsatisfactory	Poor
Appraisal	2	6	-	-
Monitoring	1	7	2	-

From the table above, it can be seen that the Bank's performance has been more than satisfactory overall, with only two projects receiving an Unsatisfactory rating for one of the headings. However, this is slightly misleading, because the monitoring for a further two projects was correct in terms of process, but weak in terms of substance. There were also a number of cases, all Programme Loans, where counterparts had difficulty identifying which components of their investment programme had been part-funded by the Bank. This was particularly true where the Bank was funding a number of years' investments. There are three options which could be considered to minimise this problem:

- The degree of uncertainty can be reduced by offering smaller loans which cover fewer years' activities, but with a simplified renewal procedure.
- The use of one or more mid-term reviews, with disbursement conditional on justificatory evidence of sub-projects being funded. This worked particularly well in one case (Project 8).
- Accepting that the loan would be used to fund a proportion of the Promoter's relevant portfolio. This would be analogous to the Global Loan portfolio approach.

The appraisal of Programme Loans poses particular problems at appraisal. Where it is accepted in advance that there will be changes to the Technical Description during the implementation period, the Bank is particularly reliant on the appraisal capacity of the Borrower/Promoter. Few of the individual evaluations had a thorough analysis of these bodies. This issue has already been identified by the Bank for its Framework Loans, and new procedures have been established. These procedures could equally be applied to Programme Loans, provided that the strength and depth of the analysis can be verified over the next twelve months.

Finally, Programme Loans have many of the characteristics of Global Loans and the same issues on reporting on the use of funds apply. In the case of Project 8, for example, disbursements were based on satisfying the Bank that appropriate use had been made of the funds previously supplied. This approach mirrors almost exactly the approach that the Bank has taken on Global Loans, except that while the data is recorded in the Bank's data warehouse for Global Loans, in this case the data lay in the Ops and Archive files. This may have contributed to a mismatch in completion reporting data. There is no reason why the Global Loan approach and allocation recording system could not be applied to Programme Loans.

## EDUCATION SYSTEMS WITHIN THE EU

This brief overview provides some background information on current education systems within the EU, as they apply to the countries in which the individually evaluated projects were located. Nursery, or pre-primary school, education will not be considered, on the basis that while it may lay a foundation for future education, it is usually not directed to achieving specific educational objectives.

Primary – Primary education, of between five and seven years depending on country, is the first stage of compulsory education with specific educational objectives. There is always public provision, but private schooling accounts for up to one third of primary education take-up in some countries; often associated with either low public respect for the state provision, or with a particular religious orientation. In all of the projects visited with primary school content, there is a clear break between primary and secondary education, almost always involving a change of school. The move from primary to secondary is usually automatic. There is normally a check on the abilities and achievements of the pupils, but weak performance do not usually prevent a pupil from progressing. However, in many countries these checks are used to stream pupils between different categories of compulsory education: academic versus non-academic. Typically, state primary education provision is highly localised, with some countries having maximum distance or travel time limits. Primary class sizes were normally smaller than for secondary schools.

Secondary: Compulsory – Compulsory secondary education normally lasts until age sixteen, although in some countries this is expressed as a minimum age for permanent employment and that pupils who have achieved a pass at the “age sixteen” examinations may leave school. Performance at this stage can set the pattern for a person’s life, but there are wide variations in the quality of teaching across the EU as measured by the PISA<sup>8</sup> study: See §I.3.

Secondary: Post Compulsory – All countries have provision for both academic and vocational education and training beyond the minimum school leaving age. In all cases the academic element is seen as a continuation of secondary teaching and is normally handled within the school system. Where there are greater differences is in vocational education. In some countries, there is a clear separation of systems with education and training taking place in technical and commercial colleges, often on a day-release basis as part of wider training schemes, although still under the same education authority. In other countries, this type of education is handled in the school system, albeit with specialised schools.

Tertiary – Tertiary education shows the greatest diversity across the EU. There are two features that most countries have in common. Firstly, the desire to increase the numbers passing through the tertiary education phase through an increase in the participation rate. Every country sees this as being important for the economic future of the country. The main differences are in the emphasis between vocational and academic education, and the interaction between the institutions and the local, regional and national economies. The second feature is the independence of individual universities. While almost all universities are under some measure of control through the public budget process, individual universities have a high degree of independence and autonomy. The main differences are, again, the degree to which universities are integrated into their regional and national economies – rather than purely being a supplier of academically trained graduates, and whether they see themselves primarily as academic and research organisations, or developers of social and economic benefits.

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<sup>8</sup>

Programme for International Student Assessment: managed by the OECD

## EDUCATION SECTOR METHODOLOGY DEVELOPMENT WITHIN THE EIB

*NB Please note that the internal papers referred to in this appendix, e.g. on country situations or policy issues, are confidential to the Bank. They will not be disseminated outside the Bank, and will not be supplied to third parties.*

This part of the evaluation was based on an independent analysis of the development of the Bank's appraisal methodologies and interviews with the main sector actors within the Bank. The findings have been broken down into four blocks: Preparation and Methodology, The Learning Curve, Scope for Development, and Questions on the Rationale for Current Actions.

### Preparation and Methodologies

Although education was a new area of activity for the Bank, there was a gap of eighteen months between receiving the mandate and the production of an education strategy paper. This gap can be attributed to the need to allocate internal resources and recruit suitable staff and the time needed to prepare the necessary background material. In the meantime the Bank had initiated, appraised, approved and signed loans for five education projects. This first COP paper, in January 1999 called for a new role of the Bank in the education (and health) sector, including upstream country knowledge by means of sector work, and stricter criteria for project identification and appraisal. This was followed in October 1999 by a paper: "Appraisal Methodology for Investments in the Education Sector". This paper was circulated as a working version, and is still being reprinted with the same "working version" alert on the cover. Although never put in final version, the paper provides some solid foundations and guidelines on how to conduct education sector analysis at the country level, as well as project-specific analysis. The paper contains a very good chapter on economic analysis of education, as well as a call for measuring the distributive aspects of public education expenditure.

In the years that followed, the Bank did prepare country (or region) sector papers for : Turkey (2000), Hungary (2000), Greece (2001), the Czech Republic (2001), Accession Countries (2001), the Republic of South Africa (2003), Poland (Tertiary Education) (2004) and England (Tertiary Education) (2005). These analyses were of a high standard, but their recommendations were not always followed. Sector papers were not prepared for most of the countries in which the Bank was lending, and the rate of production of sector papers has fallen. This can be attributed to two factors: the difficulty of finding adequate resources to pursue this development work in the light of the rising project workload, and problems in identifying and retaining skilled and experienced education economists.

In addition to these country specific papers, the Bank has also prepared internal papers in the areas of

- Returns to education in the EU, 2001
- Financing Human Capital through financial intermediation in developing countries, 2002
- PPPs and e-learning, 2002
- Student finance schemes, 2003
- Innovative approaches to human capital in the enlarged union, 2004

While the quality of these is variable, from the modest to the excellent, it is clear that the Projects Directorate has throughout recognised the need to take a different approach to the funding of human capital projects.

### The Learning Curve

Before considering the development of the Bank's approach to education after ASAP, it is worth reviewing its education-sector activities before the introduction of the ASAP initiative. Prior to 1997, the EIB's involvement in education focused on technical/vocational training and was minimal relative to overall Bank lending. After an initial loan for ECU 1 million for an "Ecole Européenne" in 1969, the next operation was not until 1977: for a professional training centre. Lending picked up in the 1980's with 11 completed projects for a total of ECU 229 million for the

whole decade. These early projects were not “education” projects in the sense the Bank uses the term today. They were construction projects for schools and training centres, justified in terms of regional development. For that reason, these projects are not part of the evaluation. On the other hand these early projects provide a benchmark as to how the analytical aspects of Bank operations have changed over time. They can therefore be seen as being a control group.

As an example, a project in 1985 for “technical education institutes” was justified on Article 130 of the Treaty of Rome. No profitability estimate or other education dimension is cited in the appraisal report. The same eligibility criterion was used for a 1986 university engineering school project in the same country. The conclusions of the appraisal stated “The concept of profitability is not relevant for this type of project”, and “Comparison of project cost and benefits ... shows an acceptable ERR of about 10%”. The first statement is clearly wrong, but possibly justified on the basis that the Bank did not have education economists on its staff at the time. On the other hand, by 1986 the human capital school in economic thought was in full swing among general economists and the concept of economic profitability of education most relevant. The second statement not only contradicts the first one, but the figure of a 10% economic rate of return was not supported by any clear analysis. Similar statements may be found in later projects running into the early 1990s.

Post ASAP, a timeline of analytical approaches can be followed, based on specific comments included in appraisal reports :

- 1997 – “The economic and financial analysis of such educational projects is extremely complex and often irrelevant... A financial profitability is not relevant for an educational institute.” This statement repeats the EIB thinking in the mid-1980s, although international economic thinking had taken an opposite view.
- 1997 – “The assessment of the financial profitability is not relevant for an education project”. However, the analysis goes on to say that “the calculation of the economic profitability on educational investments is often based upon a cost/benefit analysis”, and correctly laments that “these calculations require reliable statistics....which are not available for the project in question”.
- 1998 – Projects without any economic analysis.
- 1999 – “Because of the fragility of the calculation .... the profitability estimate has not been made for this project..... (but) ..... results of recent OECD studies concerning the country as a whole....the rate of return for secondary education in the country tends to be among the lowest in the OECD area”. This was the first referenced use of OECD data, possibly coinciding with the first publication of “Education at a Glance” rate of return estimates for OECD countries. This project also marks the beginning of using education sector-wide rates of return for justifying (by extrapolation) specific education projects.
- 1999 – A later appraisal report contains for the first time an excellent and original estimate of the economic rate of return of the project, about 7%. It also contains an excellent market analysis of the output of universities, as well as cost-effectiveness analysis. It is the first attempt to apply in an actual project the October 1999 appraisal methodology (see above).
- 1999 – later still, project analyses included a) the education impact of the project, considered in terms of student learning, and b) discussion on the need for education achievement indicators.
- 2000 – A step back from economic analysis, particularly quantitative analysis.
- 2001 – First reference to *i2i* plus the comment “given the nature of the projects involved, ....it is hard to monetise the benefits. Therefore we have not undertaken a typical cost/benefit analysis and estimate an economic rate of return specific to this project. We quote .... estimates for sector rates of return and expect that all the basic and secondary education projects covered by the present programme are reflective of such sector level rates of return.” Rates are quoted for secondary education from other studies ranging from 3.1 to 22.8%.

- 2001 – Raises the use of school achievement as a performance indicator. Good analysis of education achievement. “An economic rate of return has not been calculated for this project. The financial profitability of the (PPP) project .....is estimated to be about 7.5%.”
- 2002 – An economic rate of return was calculated, 6.5% and 5.2% for different types of tertiary education. Very good analytical annexes.
- 2003 – Original private rate of return estimated at 14.6%. Rationalised student loans as the beneficiaries paying. Landmark project as it broke away from school construction. Excellent analysis at appraisal.

NB many projects between 2001 and 2005 did not quantify the ERR.

It is worth noting that the EIB is not unique among international institutions in being late to reflect the importance of human capital in its lending programme. Lending by The World Bank for education was very limited between 1962 and the mid-1980s, but it has since increased its lending for education and health, the two primary human capital sub-sectors, to as much as one quarter of its lending in some regions. The Inter-American Development Bank and the Asian Development Bank followed similar paths. While bearing in mind that the Bank’s lending is predominantly within the developed, rather than the developing world, and that some mandates such as ACP to some degree and ALA do not include human capital, the EIB is now approaching comparable levels. Some 16% of whole-Bank lending approvals in 2005 were in these sectors.

### **Scope for Development**

After a slow start, there has definitely been visible and substantial progress in EIB operations in education since 2000. However there is scope for further development:

Continued construction mentality. Even today, most projects are treated as construction projects. Not enough attention is paid to the education *per se* aspect of the project, i.e. on how students are learning.

Organisational misplacement. Human capital is placed in the Industry & Services Department. This might not do justice to the prominent role education should play in Bank operations, and might be a contributor to the construction syndrome in education projects.

Insufficient resources. The Human capital Division has nine professional positions, out of which two are education economists. This staff is recently appraising about 20 projects per year.

Erratic Sector Work. Education sector work started in 2000 but seems to have slowed down with only one piece of work in 2004.

Sector work – project divide. On the rare occasions where sector work preceded a project, the actual project does not reflect the priorities identified in the sector work.

Sketchy appraisal. The quality of project appraisal is very mixed. There have been some excellent examples, but most appraisals appear to be approached mechanistically. The economic analysis is often incomplete and the quality of economic analysis is a function of who participated in the appraisal. This leads to presentations to the Board which are inconsistent between similar types of project. Cost-benefit analysis has been used in some sector work and project preparation but, again, not consistently. Estimates of the distributive incidence of public expenditure on education are not encountered in project documents. Issues of internal education efficiency, e.g. student learning per euro spent, are not routinely addressed at appraisal.

Alternatives. The Bank is a receiver of projects, and not a Promoter. However, when considering which projects to accept, and in analysing the economic efficiency of its projects, the Bank does not take alternative actions sufficiently into account.

Insufficient attention paid to education quality. Beyond the emphasis on buildings, education projects deal mainly with quantitative issues, e.g., increase in student capacity.

With the rare exceptions cited in the projects list above, no attention is paid to student learning.

Misleading evidence. Given the emphasis on school buildings, the Bank correctly commissioned a study on the effect of such buildings on student learning (*The Appraisal of Investments in Educational Facilities*. With the OECD 2000: 17-32). The results of the study were positive, and this study is routinely cited in support of the buildings for enhancing education quality. However, newer and more robust evidence conditions the earlier findings.

### **Questions on the Rationale for Current Actions**

A key question for the Bank, as a funder of educational infrastructure, rather than education *per se* is “*Do better buildings contribute to education quality?*” Since most of EIB financing for education has been for school buildings, it is natural to ask what other evaluation studies have found regarding the effectiveness of buildings in improving school quality. The results are mixed. There is no clear answer that better school buildings lead to better school quality. Three studies are most widely cited in the academic literature on the subject: a meta-analysis referring to the United States, and two developing country quasi-experimental evaluations.

In the US, a review of 74 studies has shown that, other things being equal, the effect of better facilities on student achievement was statistically significant in only 12 cases. Only one in ten studies documented a statistically significant effect of better facilities on achievement. In Brazil, the analytical tool was the cost-effectiveness of a variety of school inputs such as buildings, textbooks and teacher qualifications. Cost effectiveness in this case is defined as achievement gain per unit of expenditure on the particular input. A large evaluation research project of the World Bank in the Northeast of Brazil has shown that software inputs such as textbooks, were more cost-effective in raising student achievement relative to infrastructure. Software inputs were nearly ten times more effective in raising student achievement, relative to better classrooms. This study was catalytic for the World Bank in changing its education policy away from bricks and mortar towards software inputs. Another evaluation study in Indonesia randomly assigned students to better and worse schools in terms of facilities. The better facilities were the result of a major school construction program in the country. The analytical tool was the econometric isolation of the effect of better school facilities compared to a control group of school districts that no construction took place. It was found that, other things being equal, each primary school constructed per 1000 children led to an average increase of 0.12 to 0.19 years of schooling and 1.5 to 2.7 percent increase in wages.

It may be debatable whether this developing country analysis is wholly valid for the Bank’s Member State operations. However, there is still greater room to doubt whether the EIB should continue with its almost universal focus on education infrastructure.



## EVALUATION PROCESS and CRITERIA

Project performance is assessed using the core evaluation criteria as defined by the Evaluation Cooperation Group (ECG), which brings together the operations evaluation units of the multilateral development banks (World Bank group, regional development banks, and EIB), in line with the work of the OECD- DAC Working Party on Aid Evaluation, and adapted to meet the particular operating needs of the EIB. Evaluations take due account of the analytical criteria used in the ex-ante project appraisal and the strategy, policies and procedures that relate to the operations evaluated. Changes in EIB policies or procedures following project appraisal, which are relevant to the assessment of the project, will also be taken into account.

### 1. RELEVANCE TO EU, EIB AND COUNTRIES POLICIES

#### (First Pillar of value added sheet for individual operations)

**Relevance** is the extent to which the objectives of a project are consistent with EU policies, as defined by the Treaty, Directives, Council Decisions, Mandates, etc., the decisions of the EIB Governors, as well as the beneficiaries' requirements, country needs, global priorities and partners' policies. In the EU, reference is made to the relevant EU and EIB policies and specifically to the Article 267 of the Treaty that defines the mission of the Bank. Outside the Union, the main references are the policy objectives considered in the relevant mandates.

### 2. PROJECT PERFORMANCE

#### (Second Pillar of value added sheet for individual operations)

- **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** concerns the extent to which project benefits/outputs are commensurate with resources/inputs. At ex-ante appraisal, project' efficiency is normally measured through the economic and financial rates of return. In public sector projects a financial rate of return is often not calculated ex-ante, in which case the efficiency of the project is estimated by a cost effectiveness analysis.
- **Sustainability** is the likelihood of continued long-term benefits and the resilience to risk over the intended life of the project. The assessment of project sustainability varies substantially from case to case depending on circumstances, and takes into account the issues identified in the ex-ante due-diligence carried out by the Bank.

### 3. EIB CONTRIBUTION

- **EIB Financial value added (Third Pillar of value added sheet for individual operations)** identifies the financial value added provided in relation to the alternatives available, including improvements on financial aspects as facilitating co-financing from other sources (catalytic effect).
- **Other EIB contribution (optional)** relates to any significant non-financial contribution to the operation provided by the EIB; it may take the form of improvements of the technical, economic or other aspects of the project.

### 4. EIB MANAGEMENT OF THE PROJECT CYCLE

**EIB Management of the project cycle** rates the Bank's handling of the operation, from project identification and selection to post completion monitoring

## **EUROPEAN INVESTMENT BANK OPERATIONS EVALUATION (EV)**

In 1995, Operations Evaluation (EV) was established with the aim of undertaking ex-post evaluations both inside and outside the Union.

Within EV, evaluation is carried out according to established international practice, and takes account of the generally accepted criteria of relevance, efficacy, efficiency and sustainability. EV makes recommendations based on its findings from ex-post evaluation. The lessons learned should improve operational performance, accountability and transparency.

Each evaluation involves an in-depth evaluation of selected investments, the findings of which are then summarized in a synthesis report.

The following thematic ex-post evaluations are published on the EIB Website :

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) and French (translation from the original version)).

**EUROPEAN INVESTMENT BANK**  
**OPERATIONS EVALUATION (EV)**

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), French and German (translations from the 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) French and German)
17. Evaluation of EIB Financing of Air Infrastructure (2005 - available in English (original version))
18. EIB financing with own resources through global loans under Mediterranean mandates (2005 - available in English (original version) German and French.)
19. Evaluation of EIB Financing of Railway Projects in the European Union (2005 - available in English (original version) and French.)
20. Evaluation of PPP projects financed by the EIB (2005 - available in English (original version).
21. Evaluation of SME Global Loans in the Enlarged Union (2005 - available in English (original version) and German.)
22. EIB financing with own resources through individual loans under Mediterranean mandates (2005 - available in English (original version) and German.)
23. Evaluation of EIB financing through individual loans under the Lomé IV Convention (2006 - available in English (original version) and French.)
24. Evaluation of EIB financing through global loans under the Lomé IV Convention (2006 - available in English.)
25. Evaluation of EIB Investments in Education and Training (2006 - available in English.)

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