

Thomson, Campbell C.

**Article**

## Private-public partnerships: Prerequisites for prime performance

EIB Papers

**Provided in Cooperation with:**

European Investment Bank (EIB), Luxembourg

*Suggested Citation:* Thomson, Campbell C. (2005) : Private-public partnerships: Prerequisites for prime performance, EIB Papers, ISSN 0257-7755, European Investment Bank (EIB), Luxembourg, Vol. 10, Iss. 2, pp. 113-129

This Version is available at:

<https://hdl.handle.net/10419/44847>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

## ABSTRACT

*This paper presents the findings of an evaluation of public-private partnership (PPP) projects financed by the EIB. The evaluation, carried out by Operations Evaluation of the EIB, suggests that EIB involvement can add financial and non-financial benefits and that PPP projects score well in terms of delivering infrastructure on time and budget. There is also evidence, however, that optimistic demand forecasts may compromise the efficiency and financial sustainability of some projects. A key finding of the evaluation is that, in reality, the choice was not so much between a PPP and traditional public procurement, as between a PPP project and no project, at least in the short to medium term. Key factors for success were the level of competition and the clarity of the project's output specification.*

**Campbell C. Thomson** (c.thomson@eib.org) is Adviser in Operations Evaluation of the EIB. The views expressed are strictly personal.

# Private-public partnerships: prerequisites for prime performance

## 1. Introduction

This paper presents some of the findings of an evaluation of public-private partnership (PPP) projects financed by the European Investment Bank (EIB). Fifteen projects, either fully operational or close to full completion, were selected for a desk review, based on data and information available in the Bank. Ten of these were then selected for in-depth evaluation, covering the scope and geographical range of the Bank's PPP portfolio. The evaluation assessed the performance of the projects against the Bank's standard evaluation criteria<sup>1</sup>, but paid particular attention to the Bank's role in the process and the impact of the PPP structure on both the project and the Bank. The paper is split into five sections, plus this introduction. Section 2 outlines key background issues to PPP operations, with particular reference to the EIB. Section 3 describes the impact of the PPP mechanism on the investment projects that were evaluated in depth. This is complemented by Section 4, which examines the impact of the PPP process on the EIB, while Section 5 considers the performance of the underlying projects. A summary and conclusions are presented in Section 6.

At its simplest, a PPP is the provision, long-term operation, and maintenance, of public infrastructure by the private sector. However, this description also fits a range of other activities, including privatised utilities. The Bank has no formal definition of PPP itself so, for the purposes of the evaluation, a definition was established in consultation with the Bank's operational directorates: a PPP should (i) have been initiated by the public sector, (ii) involve a clearly defined project, (iii) involve the sharing of risks with the private sector, (iv) be based on a contractual relationship limited in time, and (v) have a clear separation between the public sector and the borrower. This was the definition used to identify the portfolio of relevant projects and potential projects to be evaluated. During the evaluation, Eurostat presented guidelines on the accounting treatment of PPP projects. They did not provide a PPP definition *per se*; rather a set of criteria to define whether an investment should be 'on' or 'off' the national balance sheet. To be off-balance sheet, a PPP investment must involve the transfer of risk to the private sector of both project completion and either project use or project availability. All except one of the projects evaluated in depth would have satisfied the Eurostat tests. However, it should be noted that the governments concerned have not necessarily accounted for the projects in this way.

Private sector involvement in public infrastructure is not new. Historically, toll roads, bridges, canals, schools, railways, hospitals, etc. were normally outside the public sector. It might therefore be argued that what PPPs are doing is complementing, or replacing, a system of ownership and operation that largely developed in the nineteenth and twentieth centuries. The current developments in PPPs have been driven by a general move to the application of market disciplines and the involvement of the private sector. The growth of PPPs can therefore be seen as a parallel process to privatisation and outsourcing, lying somewhere between the two. At the policy level, this move has had widespread political backing. However, it can be argued that the growth of PPPs is due to a growing gap between investment needs and available public resources. There are two dimensions to be considered: 'quality', that what is delivered is better, and 'volume', that more can be delivered earlier. The first of these is obviously a desirable attribute for all investments. The second is less certain. Gaining economic benefit early is desirable, but only if later projects with



**Campbell C. Thomson**

<sup>1</sup> Relevance/efficacy, efficiency and sustainability. See the Annex for definitions.

greater through-life benefits are not displaced. It is difficult to describe a typical PPP because they are so diverse. However, as an introduction to the vocabulary used in this paper, a PPP is a long-term contract between a public sector promoter and a private sector provider. Under this contract the provider will typically arrange the funding for the project, build the asset the promoter has specified, operate and maintain it, and hand it over in good working condition to the promoter at the end of the contract. In return, the provider will receive either direct payments from the end users or be paid to provide the service by the promoter.

***There is clear EU support for the PPP mechanism and for the EIB playing a major role in this process.***

There is clear EU support for the use of private funding for public infrastructure, including the use of the PPP mechanism, and for the EIB playing a major role in this process. By the end of 2003, the Bank had signed loans to the value of EUR 14.7 billion for PPP operations. However, eligibility for EIB funding is always based on the underlying project, not the fact that it is a PPP. Further information on the Bank's PPP operations may be found in 'The Role of the EIB in Public-Private Partnerships (PPPs)', available at [www.eib.org/publications](http://www.eib.org/publications).

## **2. Background to the Bank's PPP projects**

### **2.1 Factors influencing the choice between PPP and traditional procurement**

PPPs typically involve complex financial structures, and complexity normally implies higher costs. The question is whether these extra costs are outweighed by any PPP quality and/or volume benefits. When choosing between a PPP and traditional public procurement, there are a number of issues to be considered:

**Capital budget.** Traditional public procurement investments depend on the availability of an appropriate capital budget. If capital budgets are constrained, for whatever reason, a promoter may not have the resources available to implement economically desirable investments. PPP investments may be used to circumvent these restraints and may be 'off-balance sheet' depending on the balance of risk between the public and private sectors.

**Recurring budget.** In a PPP, the private sector provider needs to be paid – either by end users through real tolls or by the public sector promoter through shadow tolls, asset availability fees, etc. These payments have to cover the costs of funding the project, plus operating and maintenance (O&M) costs.

**Risks.** There must be some sharing of risk in a PPP, for example project completion risk and operating risk, and the provider has to be paid a premium to accept these risks. The argument is that the private sector is better at managing some of these risks than the public sector and therefore the risk premium is lower than the cost to the public sector of carrying the risk itself.

**Complexity premium.** A PPP is an inherently more complex operation than public procurement. Some countries, such as the United Kingdom, carry a higher complexity premium than others; Spain for instance. The argument is that private sector disciplines will generate sufficient savings to offset the complexity premium, at least in the longer term, once the parties are fully experienced and standardised methodologies and documentation have become available.

**Skills transfer.** It is argued that the public sector should benefit from exposure to the skills of the private sector.

**Flexibility.** PPPs are normally less flexible than traditionally procured projects and may therefore be better suited to projects where the public sector does not anticipate frequent or substantial changes to the asset specification or how it is used, e.g., roads.

**Innovation.** PPPs can bring innovation through the private sector finding new ways of achieving 'output' targets, as opposed to meeting 'input' or 'design' specifications which normally form the basis of public procurement contracts.

It is clear from the above that any rational decision between PPP and public procurement will involve a complex analysis. It is further complicated by the need to consider a range of non-project issues, including: the maturity of the financial sector, taxation, and the level of sophistication of potential bidders. One option is to apply a common, structured decision tool such as a public sector comparator (PSC). A typical PSC will compare the likely costs and benefits of the two processes and generate a net present value for the public and PPP cases. However, the PSC approach can be rather artificial and, in practice, it is used in relatively few countries. Whether or not a PSC is used, or any other value-for-money test, it is clear that using a PPP does not change the fundamentals of the underlying project.<sup>2</sup>

## 2.2 Structure of a typical EIB-funded PPP project

The figure below sets out the legal structure of a typical EIB PPP project: a road project where users pay tolls. It is important to note that much of this complexity is not due to the PPP mechanism *per se*. It is generated by risk mitigation and loan guarantee mechanisms.

***The legal structure of a typical EIB PPP project is complex, largely because of risk mitigation and loan guarantee mechanisms.***

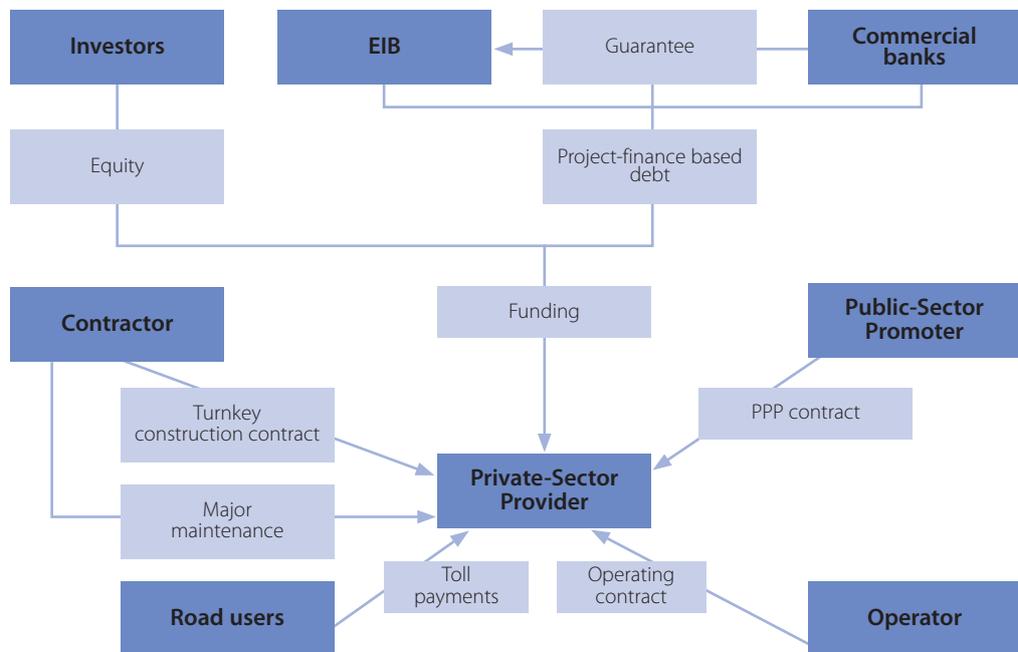
Most of the blocks are self-explanatory, but two remarks are useful. Firstly, there is the role of contractors and operators. The provider usually subcontracts the construction of the project on a fixed-price, fixed-delivery basis. This transfers some or all of the project risk to the subcontractors. Like the provider, these are typically unincorporated joint ventures, with some or all of the shareholders in common with the provider. It is also quite usual to subcontract the O&M of the PPP as well. These subcontractors may either be specialist suppliers or, again, special purpose vehicles (SPVs) with one or more shareholders in common with the provider.

Secondly, 10 to 25 percent of a PPP's capital costs are usually funded by equity or subordinated debt from the provider's shareholders, with the balance coming from external debt financiers. Apart from the EIB itself, debt finance may be provided by commercial banks or, in some cases, by the bond market. In most PPP transactions, the physical asset (e.g., a road or a school) cannot be pledged as security and, as noted above, the provider is usually an SPV. Security for the debt funding therefore cannot be based on either the provider's balance sheet or the value of physical assets. Instead, project finance techniques are employed, based on the project's cashflow. This takes account of the risks assumed under the PPP contract, combined with limitation of these risks through the various subcontracts.

<sup>2</sup> The question of how to assess the value for money that PPPs are expected to generate (relative to traditional public procurement) is the subject of Paul Grout's contribution to this volume of the *EIB Papers*.

Limitation of risk is important to enable the provider to raise a high ratio of external debt for the project, which reduces the cost of the project to the promoter because debt is assumed to be cheaper than equity.

Figure 1. Relationships between parties to a typical EIB-funded PPP Project



### 2.3 Risk sharing

*The allocation of risks between PPP partners should be such that each partner carries the risks he can manage, control, and mitigate better than the other partners.*

The key to the PPP process is the sharing of risks between the parties. However, PPPs also introduce risks that do not exist under traditional public procurement. In allocating risk, it is a general principle that risk should be carried by the party best able to control, manage, or mitigate that risk. The cost to potential providers of preparing PPP bids can be significantly higher than for traditional procurement, but this will depend on national legislation and the procurement procedure employed. Considering only the stages in the PPP process after the final bidder has been selected, let us consider some of the main risks and how they are shared between PPP promoter and PPP provider.

**Funding risks**, which mainly result from failure to reach financial close, are largely carried by the promoter. A winning bidder who cannot reach financial close will probably suffer a significant financial loss, as well as a loss in reputation. However, it is the promoter who has to deal with the consequences of the failure. The promoter normally mitigates this risk either by inviting bids only from well-established and qualified bidders, or by making it a condition when bids are submitted that bidders demonstrate the availability of finance. Funding risks can also stem from interest rate movements between the submission of bids and financial close. This risk is carried either by the promoter or the provider, depending on the terms of the bidding.

**Completion risk** is the risk that an asset cannot be designed and built on time, on cost and to specification. This risk should clearly be the responsibility of the provider who should have the appropriate skills and experience to mitigate it. The public sector could mitigate this risk on its

own projects (i.e., traditionally procured infrastructure assets) by employing the same device as the provider, i.e., the fixed-time, fixed-cost, fixed specification turnkey contract. However, historically it has not used this type of contract, and traditional public sector procurement has a history of large capital cost overruns.<sup>3</sup>

**Operating and maintenance risk** is typically carried by the private sector provider. It has two key elements: firstly, that the asset's maintenance requirements will differ from those predicted and, secondly, that there will be a difference in unit cost of maintenance. The potential up- and down-sides of this risk are both transferred to the private sector, which should therefore have an incentive to produce an asset with the lowest whole-life cost, or at least the lowest cost until the asset is handed back to the promoter.

**Termination risk**, which does not arise under traditional public procurement, is borne both by the promoter and the provider. It is the risk that the PPP arrangement will be terminated early, either because the provider fails financially or technically, for instance by not providing the contracted service in an acceptable manner. This is a risk for the provider as it will almost certainly suffer a material financial loss on termination. However, it is also a risk for the promoter if the service still needs to be provided after the termination. The risk can be partly mitigated by selecting suitable bidders. However, PPPs involve long-term contracts and there is a trend for the original technical members of a consortium to be displaced by purely financial investors who may not have the relevant experience and expertise. It should also be said that provider failure may be due to an inappropriate allocation of risk from the outset. In particular, it may apply to revenue risk, which is addressed next.

**Revenue risk** comes in different forms, depending on how the provider is remunerated. Although different remuneration schemes may be combined in practice, it is useful to distinguish three stylised schemes. When there are direct payments (e.g., tolls on roads/bridges and treatment fees for waste management), revenues depend on the unit price and the demand for the infrastructure service (e.g., the toll for each crossing of a bridge and the number of cars crossing). As far as risk is concerned, the unit price can be negotiated, but demand (e.g., traffic) is usually beyond the control of the provider, exposing it to revenue risk. When there are indirect payments (e.g., shadow tolls on roads), the provider's revenues also depend on demand for the service, but shadow tolls, and fee structures in general, can be designed to minimise the risk carried by the provider, while limiting windfall profits from large increases in demand. Finally, when the provider receives availability payments (e.g., for schools, hospitals, or physical transport infrastructure), revenues depend on the asset being available for use, with penalties for failure to perform. Under this remuneration scheme, the provider can control the risk, and so should carry the risk rather than the promoter.

*There are three stylised types of revenue risk: unit-price risk, demand risk, and availability risk.*

### 3. The impact of PPPs on projects

#### 3.1 Why use a PPP?

In all the projects evaluated in depth, the main reason for choosing the PPP route was to launch investment programmes, which would not have been possible within the available public sector

<sup>3</sup> As Mathias Dewatripont and Patrick Legros argue in their contribution to this volume of the *EIB Papers*, however, cost overruns are not necessarily a bad outcome. They suggest that a PPP project of a given quality costing 200 without any cost overruns is less desirable than a traditionally procured project with the same quality planned to cost initially 100 and experiencing a 50 percent cost overrun.

budget, within a reasonable time. In any discussion of the merits of one procurement mechanism against another, or when evaluating the economic value of a project, the project should be compared against the next best alternative. However, what account should be taken of the probability of that next best alternative being available in practice? This is not an issue for the EIB, which historically has evaluated the economic worth of projects in isolation, i.e., without rating either alternative procurement mechanisms or one project against another. However, it probably should be an issue for public policy analysts. It also raises questions over the applicability of public sector comparators (PSCs). The value of a PSC may depend on the realistic availability of the alternative to the PPP. In the cases studied, it was clear that the real choice was not between a PPP and traditional public procurement, it was a choice between a PPP and either no project, or a delayed/smaller-scale project.

***The evaluation of EIB PPP projects found that there was a genuine sharing of risks between public and private partners.***

This does not imply that PPPs are nothing more than a device to limit government borrowing. The evaluation found that there was a genuine sharing of risks between the public and private sectors. In most cases the public sector was able to accelerate the construction of key infrastructure, to the economic benefit of the country concerned, and usually with ancillary environmental or social benefits. The EIB's own analyses of these projects confirmed this. The growth of PPPs could also be seen as being part of a wider change in the role of the state from a direct provider of services to that of a facilitator and regulator of these services.

### **3.2 Negotiations and contractual issues**

The PPPs evaluated in depth were more complex than they would have been under public procurement and posed new problems for the public sector. A public procurement award of contract has to deal with the timing and specification of the physical works. PPPs, on the other hand, also have to deal with revenue, O&M, financing and termination issues. The public sector may also be at a disadvantage during contract negotiations. An individual promoter will only rarely have to negotiate a PPP contract, while the provider is negotiating regularly. There may also be an issue of asymmetry in the quality of advice available to the public and private sector. Similarly, PPPs impose a much higher workload on both the promoter and the provider, but mainly on the provider. Referring to Figure 1, all of these contractual relationships have to be formalised. This can be time consuming and expensive. However, as the process develops this 'complexity premium' reduces: contracts become standardised and the parties learn to handle the relationships.

### **3.3 Project implementation**

The evaluation supports the premise that, *ex post*, PPPs are more likely to be on time and on budget. There was only one case where the PPP appeared to have higher costs than the public procurement alternative, and that was probably due to a lack of competition rather than complexity. Conversely, on two projects, the availability of the PPP option meant that bidding took place against a depressed construction market, producing very tight pricing. The use of standardised contracts and experience with PPPs should bring down the 'complexity cost' but, even now, there is probably no substantial cost disadvantage to the use of PPPs in the real world.

One of the arguments put forward in favour of PPPs is that they are more likely to be on time and on budget. The evaluation therefore sought to test whether this was true and, if not, whether delays were due to the promoter, the provider, or outside factors. Three projects exhibited significant delays and cost overruns. On one project, there were long delays in agreeing detailed project specifications with the promoter, which delayed completion and increased costs. On the second, costs increased when the specifications had to be changed to take account of new legislation.

The last project was delayed due to geological problems. In all cases, the additional costs were carried by the promoter.

Taking now a closer look at the potential PPP advantages, two of the promoters of the projects evaluated specifically referred to histories of public sector cost overruns as a major additional reason for going down the PPP route. The evaluated projects generally avoided such problems, but this was not because they were PPPs. Firstly, it was because the promoter specified its requirements for the project and kept to this specification. The cost overruns and delays referred to above were largely attributable to changes in the technical specifications or work scope after the contracts had been awarded. Secondly, the provider subcontracted construction to a construction company, often a shareholder in the provider, on the basis of a fixed-price turnkey contract. These benefits can be realised in conventional public procurement if the public sector applies the same approach. However, it is often difficult to replicate the external discipline imposed by the PPP due diligence process, i.e., from lenders such as the EIB, or to have the in-house skills needed to administer this type of process. There may also be economies of scale from the PPP route if it enables projects to be undertaken in larger units—e.g., a group of schools rather than schools procured individually, or a road procured as one complete project rather than split into sections.

***In principle, conventional public procurement could replicate some of the advantages of PPPs - but in practice, this is often difficult.***

However, there are also potential PPP disadvantages. The fixed-price turnkey construction contracts used in PPPs appear to be more expensive *ex ante* than standard quantities-based contracts – because not only are the contractual arrangements more complex, but the contractor is pricing in the risk of cost overruns and penalties for late completion. The question is whether the additional costs are compensated by savings later, so that the cost is lower *ex post* than it would have been under traditional procurement.

There are further questions. Firstly, the additional skills and resources needed to set up a PPP may restrict the potential bidders, reducing competition and increasing prices. Secondly, also on competition, using PPPs to accelerate a large-scale construction programme may create an increased demand for construction work, which itself pushes up prices. Finally, the time taken to set up the contractual arrangements for a PPP, and to reach financial close, may increase the project implementation time.

On costs, the promoters of two of the projects evaluated in depth stated that there was no significant cost disadvantage from using the PPP route, and that there may have been cost savings. However, in another case, the small number of eligible bidders almost certainly resulted in a bid price that was higher than necessary. Similarly, in the case of one specific country, circumventing the public sector budget constraint appears to have led to a roadbuilding boom, which resulted in increasing prices.

Referring to a range of previous EIB evaluations, some 50 public infrastructure projects were identified that had used public procurement. On project delays, 60 percent of projects were more than one year late, which is poor in comparison to the PPPs included in this evaluation. This figure is similar to the finding of an analysis carried out by the National Audit Office of the United Kingdom.

### **3.4 Project operation**

In evaluating the impact of PPPs on the operation of projects, the key question is: how have PPPs affected operating and maintenance costs and revenues? To start with O&M costs, in some EU countries, the public sector has a poor track record in the maintenance of its infrastructure and buildings. All projects analysed in depth had been completed to a standard at least as high as normal public procurement would have provided, and two promoters specifically commented

that the quality was higher than expected. Maintenance costs should therefore be no higher, and possibly lower, than for the public procurement alternative. The rationale is that the infrastructure or buildings will be designed for efficient long-term use, because the provider's return is based on their operation and maintenance. The provider will also face penalty charges if it fails to hand over a fully functioning asset at the end of the contract. The standing of maintenance is reinforced by two PPP characteristics. Firstly, the promoter's budget is precommitted to the provider, so maintenance does not have to compete with other budgetary demands. Secondly, detailed maintenance requirements are specified in all types of PPP contracts, therefore short-term budget constraints within the provider should not affect maintenance standards. Similar budget arrangements could be applied to traditionally procured projects, of course, but would be difficult to realise in practice. Since the projects evaluated were all quite new, no conclusion could be drawn on whether these long-term benefits would materialise.

***PPPs in the road sector seem to have been based on too optimistic demand projections, but this is also a feature of many traditionally procured projects.***

Turning to revenues, problems with project revenues, as compared to the original projections, are occurring in projects where the provider is bearing usage risk, i.e., the road projects with 'real', i.e., user-paid tolls. The evaluation included five of this type of project. On two of them, traffic is either at or above the original projections. On the other three, traffic is below projections. The 'hit rate' is therefore quite poor, although all the roads are at an early stage of operation, and long-term trends may improve. This result is similar to the findings of other EIB evaluations. There is also a risk that the pricing on a real-toll road inhibits the use of the infrastructure. The Bank's project appraisal department raised this issue at the project appraisal stage in the case of one project, and the evaluation did indeed find that the traffic was below expectations. That said, it is too early in the operation of the project to reach any firm conclusions. Two PPP projects included in other EIB evaluations found that users' willingness to pay was a serious issue. In one of those cases, social and political pressure to reduce the level of tolls led to the renegotiation of the PPP contract. In a third case - an EIB project that has not been evaluated - the issue has led to the promoter 'buying out' the provider's rights under the PPP contract. In the one shadow-toll project evaluated in depth, the traffic is below the provider's projections, but this is not a major issue because the structure of the shadow-toll payments is such that even a significant drop in traffic does not affect revenues. In essence, the promoter, and not the provider, has taken almost all of the traffic risk. In this case, the promoter is not worried by the current traffic levels: they are close to its original projections, which were lower than the provider's. The projects based on availability, where revenues depend on providing the service as specified, are all meeting revenue projections.

Overall, one, or possibly more, providers may not be financially sustainable in the long term. However, the underlying projects are technically sound and the economic benefits they produce are independent of the ownership of the assets. In most of the projects evaluated, the failure of a provider would involve either the promoter taking over the project itself or re-tendering the operation and management of the project to a new provider. There would be costs associated with either of these options, but the promoter would probably still be better off than if they had carried out the project using public procurement. The private sector shareholders will have lost their investment, but that possibility is inevitable and, in any event, shareholders freely chose to accept the risks involved.

### **3.5 Other issues**

There are other PPP impacts worth mentioning. To begin with, a PPP generates more tax revenues than public procurement: there are long-term revenues from the provider's equity investors, O&M subcontractors, and lenders. There may also be capital gains tax payable on the increase in value of the provider's equity. Although they may not benefit the promoter directly, and may be difficult to

quantify, these extra tax revenues can be set against payments by the promoter when evaluating the net cost to the public sector. Secondly, PPPs may foster innovation in design and operation of a project. The promoter defines a specified output, but it is normally the provider who determines how it is delivered. It was probably too early to find evidence of innovation in operation of the projects evaluated, although on one education project, a number of O&M developments had been introduced that might have a wider impact on how educational infrastructure is managed. However, there is no obvious medium through which these benefits could be disseminated. Thirdly, the use of PPPs alongside traditionally procured projects has the potential to bring private sector management and implementation skills to the public sector (for instance, in areas such as keeping projects to schedule or improving service quality in operations). However, no evidence was found to support this, and it is possible that the use of PPPs may result in a transfer of technical skills from the public sector to the private sector. Finally, one could argue that lenders bring external discipline to the project. Indeed, in several of the projects evaluated, both promoter and provider agreed that intervention by the lenders, including the EIB, in the PPP contract and subcontract negotiation processes produced a better deal.

### **3.6 PPPs vs. traditional public procurement – summarising the findings**

As stated in Section 3.3, there is clear evidence from this evaluation that PPPs are more likely to be on time than traditionally procured projects. Other studies have come to the same conclusion. Similarly, provided there is no change in the project definition, and assuming the provider is carrying the completion risk, there would normally be no additional costs charged to the promoter. However, while these findings may be important for the management and availability of public infrastructure, they are not critical for the assessment of whether, or when, to choose the PPP mechanism. Assuming that the same economic benefits will be realised, the question is: which mechanism will provide the lower whole-life cost to the economy? This is, of course, the question that value-for-money tests (as discussed by Grout in this volume) are designed to answer *ex ante*. However, *ex post*, the evaluation could not quantitatively answer the question. Two methodologies were considered: the *ex post* modelling of the alternatives available *ex ante*, and direct project comparisons. The modelling approach was rejected for two reasons. Firstly, because of the level of uncertainty associated both with the risks being transferred and the behaviour of the public sector. Secondly, the resources needed to carry out this work on a reasonable number of projects placed it beyond the scope of the evaluation. The direct comparison approach also had to be rejected. To make an effective comparison it would be necessary to identify two projects of similar specification, constructed and operated in the same legal, financial and fiscal framework, and subject to the same market conditions. Although the EIB has a large and diverse portfolio, it was not possible to identify suitable project pairs. Under these circumstances, Operations Evaluation was unable to determine *ex post* whether the original decision to use a PPP was more cost-effective than other procurement options.

***The EIB evaluation confirms that PPPs are more likely to deliver infrastructure assets on time and within budget than traditionally procured projects.***

## **4. The impact of financing PPPs on the EIB**

The EIB's PPP exposure may be traced back to the loans made in 1987 to Eurotunnel (France/UK), in 1989 for the Orlyval project (France), and in 1992 for the Second Severn Crossing project (UK). These projects offered the Bank the opportunity to learn a number of valuable lessons. At the same time, project-finance lending techniques were being developed through the Bank's involvement with private sector project finance deals in the UK power industry and elsewhere. The main growth in the portfolio began with loans to projects under the UK Private Finance Initiative (PFI). The UK PFI dates back to 1992, but has developed rapidly since 1997, and similar schemes have been adopted

in many other EU member states. The Bank is now lending to PPP projects in Belgium, Denmark, Germany, Spain, France, Greece, Ireland, Italy, Netherlands, Austria, Poland, Portugal and the UK, as well as in non-member states, e.g., China and South Africa. The EIB is one of the largest individual lenders to PPPs, by volume, within the EU. Further information can be found in Table A1 of the Annex and in “The EIB’s role in Public-Private Partnerships (PPPs)”, as previously referenced.

In all cases evaluated, the EIB’s involvement in the projects was fully in line with EU policy, national policy, and the Bank’s own internal policies. As to EU policy it should be said that, historically, the EU has been neutral as to ownership of assets, e.g., there has been no policy on privatisation. However, in addition to a policy on deregulation of public services, there has been, since 1999, a clear policy from the European Commission to increase the level of private funding of infrastructure – for example in the transport sector – and the PPP structure is one way of achieving this policy objective. The Council of the European Union meeting of December 2003 also endorsed the use of the PPP mechanism.

Turning to national policies, there is no common policy between EU member states on the desirability of the PPP mechanisms. Some countries – the UK, Spain, and Portugal for instance – have made substantial use of the mechanism. Others have not used it at all. Projects supported by the Bank have to have the consent of the relevant member state government and it must be assumed that any PPP project receiving this consent is in line with national policies.

To appreciate the EIB’s policy towards PPPs, it is useful to note that most international finance institutions, e.g., World Bank and EBRD, have policies that actively promote the PPP mechanism. The EIB, on the other hand, reflects EU policy on how public projects are procured, and has no preference as to whether a project is implemented using conventional public sector procurement or through a PPP. The Bank may be perceived as supporting the use of PPPs, but its involvement in PPPs only reflects how a number of its clients want to procure the provision of public services. Similarly, ‘PPP’ is not an eligibility criterion for the EIB. Eligibility is based on the underlying project, and the Bank’s normal eligibility and project quality tests are applied.

***A particular challenge for the Bank when supporting PPPs is to effectively play two roles: mentor to the PPP promoter and lender to the PPP provider.***

A particular challenge for the Bank – and any other international finance institution supporting PPPs – is to effectively deal with two clients. On one side, there is the provider – normally the Bank’s borrower, on the other, there is the promoter, a public sector institution. This gives the Bank two roles: lender to the provider, and mentor to the promoter, who may have much less experience in PPPs than the Bank. This situation arises where the Bank gets involved in projects at an early stage, and there is an obvious potential conflict between these roles. Initially the Bank may be sitting on the promoter’s side of the table, helping to define and shape the project. It then moves to the provider’s side, sitting opposite the promoter, to help negotiate the PPP contract that is the main security for the Bank’s loan. There is a danger of a confusion of objectives and loyalties in this type of situation, but the Bank, or to be more accurate the staff involved, handled the transition well.

## **5. Rating EIB-financed PPPs against evaluation criteria**

### **5.1 Relevance and efficacy, efficiency, and sustainability**

The performance of EIB-financed projects is generally assessed on the basis of three core evaluation criteria: relevance/efficacy, efficiency, and sustainability (the Annex sets out these criteria in more detail). For the ten PPP projects that were evaluated in depth, Table 1 summarises the findings with respect to each core criterion and it also shows how many PPPs have received a ‘good’ and ‘satisfactory’ overall rating, respectively.

**Table 1. Rating of EIB-financed PPP projects against various criteria**

	Good	Satisfactory	Unsatisfactory	Poor
Relevance/efficacy	4	6	-	-
Efficiency	2	4	2	-
Sustainability	2	5	1	-
<b>Overall Rating</b>	<b>4</b>	<b>4</b>	-	-

Note: Only eight projects received an overall rating. This is because two projects could not be rated for efficiency or sustainability and were therefore not given an overall rating.

With respect to relevance/efficacy, four projects were rated ‘good’ and six ‘satisfactory’. Starting with the relevance criterion, all projects’ objectives are consistent with at least one EU policy (for example transport, regional development, and the EU environment policy), and most support more than one. All projects thus rate well against ‘relevance’, or will do once fully operational. Moreover, while all projects were eligible for EIB funding, six were also consistent with the priority policy objectives of regional development, environment, and education. As to efficacy, all projects were rated as either ‘good’ or ‘satisfactory’, although the rating for one project should be regarded as provisional until the project is fully operational. It is worth pointing out, however, that problems with this project can largely be attributed to interface problems with a related, traditional public procurement project. One project – although strong on ‘relevance’ – was weak on ‘efficacy’ as its implementation was neither on budget nor on time. The problem here has not been due to the provider but because of the public sector’s inability to define its needs and to manage multiple, interlocking PPPs. Once complete and with full benefits being achieved, the ‘satisfactory’ rating would almost certainly apply to both relevance and efficacy.

**The majority of EIB PPP projects evaluated received a good or satisfactory overall rating.**

Moving on to the second core evaluation criterion, i.e., efficiency, the most notable finding is that two projects have been rated as less than satisfactory. One suffers from lower than expected traffic combined with higher than necessary costs while the other has experienced cost overruns that are reducing its economic profitability. In the case of one of the projects that could not be rated, early traffic levels on the completed sections are below expectations and the project was unnecessarily expensive, but traffic may pick up once the full system is available.

Traffic levels have been lower than expected on a further two projects, but not to the extent that the economic viability of the projects has been compromised. In the first case, the problem is a combination of wider economic problems reducing traffic levels and a delay in completing a linked section of motorway. For the second, a combination of lower-than-expected traffic growth due to regional economic problems and exogenous factors, has resulted in traffic that is lower than the provider’s projections – but not the promoter’s.

This takes us to the sustainability criterion. On this count, all except one project has been rated as ‘good’ or ‘satisfactory’. Technically, all projects are sound and sustainable, with no particular problems identified during the evaluation, and providers having sound incentives to maintain assets properly. One of the unrated projects has a potential financial weakness, but it should still meet its original economic objectives.

Concentrating on financial sustainability, the projects most at risk are those where the provider is carrying the usage risk. Of these, one may recover: it is being managed by a financially strong group

that can accept low initial returns in the expectation of a full recovery in the long term. The position of another project, on the other hand, is less certain. The project is currently only sustainable by virtue of the EIB lending being based not just on a bullet repayment of capital, but also the 100% capitalisation of interest. Current projections show that there will be enough free cashflow to repay the commercial banks, but not to build up sufficient funds to repay the Bank's bullet loan. This suggests that some degree of refinancing will be required in the future. However, the concession stretches well beyond the term of the EIB loan and the Bank expects that there will be sufficient revenue, after the initial commercial bank loans have been paid off, to interest commercial bank's in such a refinancing. This potential refinancing structure was foreseen at appraisal and is reflected in the design of the Bank's operation. Finally, there is a third project where the provider is also under pressure, with projected equity returns at zero for at least a decade.

## 5.2 EIB value added

### *The most noticeable impact of EIB involvement in PPPs was to enhance their affordability...*

A key objective for the Bank is that its operations provide value added, implying that EIB support is instrumental in launching projects, enhancing the viability of projects, or in providing non-financial value added to promoters, providers, and/or society at large. With respect to the PPP projects analysed in depth, there is only one case where the project could not have proceeded without the EIB's participation, or at least not without being substantially revised. Conversely, there was also at least one case where the project would have proceeded with exactly the same funding structure whether the Bank had got involved or not. In between these two positions, the Bank usually had an impact on the affordability of the project.

While issues of loan term and repayment profile were important, the most important reason for the EIB being brought into the projects was its lower 'all-in' cost of financing. This raises the issue of displacement of commercial lending, especially as this lower cost did not always accrue to the public sector. However, once the EIB was involved, other types of value added from the Bank's presence could also be identified. This was particularly true in new PPP markets. In most cases, it was the fact that the EIB offered much longer loan maturities than other financing sources – often combined with fixed-rate pricing - which made the difference. That said, absolute availability of alternative funding, i.e., the ability and willingness of domestic banks to fund the project, was probably also a factor in countries with relatively less developed financial sectors.

There are cases where the final project scope depends on costs (i.e., the cheaper the funding, the greater the scope of the project), and there were a number of examples where lower-cost EIB funding clearly added financial value. This effect made a significant difference to the affordability of some projects and to the scope of others. In some cases, EIB involvement may also have helped to keep down the parallel commercial lenders' pricing and so produced a further, indirect reduction in costs. There is also a direct link between the Bank accepting project risk and the cost of its funding. If the Bank does not take project risk, the provider, who is also the borrower, normally has to pay the extra cost of commercial bank guarantees.

Several EU member states are now beginning to use public sector funding for PPP projects, in effect adding to what the EIB is already doing in this field, e.g., the UK Treasury's 'Credit Guarantee Finance'. These are public-sector loans to PPPs, guaranteed by commercial banks or insurance companies, and are an obvious parallel with the EIB's role. Similarly, there is the provision of funding for PPPs by *Infrastrutture SpA* in Italy. This approach lowers total costs and is something that providers have also been looking for in other countries, Germany for example.

What about non-financial value added associated with the Bank's support for PPPs? The promoters, providers, and commercial banks involved in the evaluation identified a number of areas where they felt that the Bank had brought substantial non-financial value added to their projects. To start with, the Bank is seen to have played a useful role in the validation of projects. Promoters also generally found the Bank's technical, economic and financial appraisals helpful in validating both their decision to go down the PPP route and the structure selected for the project. Similarly, other lenders to the projects had a high opinion of the EIB's project appraisal process, especially in the economic and engineering fields. In some cases, this helped commercial bankers to get their own internal credit approvals and it was especially helpful where the commercial bank loan underwriters were placing their loans in the syndication market. The effect was most obvious where the loan was the first of its type in the market.

Secondly, there were a few cases amongst the projects evaluated where the EIB truly acted as a catalyst to develop third-party funding for PPP projects, with the Bank actively encouraging participation by local and foreign banks, and promoting longer-term financing through its guarantee release structure.

Thirdly, commercial banks generally considered the Bank 'good partner', not only playing a major role in the funding, but also acting in a responsible and consistent manner once a PPP is up and running. The alternative would have been a much larger syndicate with less predictable partners from whom approval would be needed for all variations, waivers, and the like.

Fourthly, the Bank is seen to help the transfer of skills. This applies, in particular, to the transfer of PPP experience from one country to another; several promoters and providers in new PPP markets considered this an important contribution made by the Bank.

Fifthly, several providers commented that they are more comfortable with the EIB's policy of holding the whole of its loan for its entire life, thus creating a long-term partnership with their lender, rather than the approach of commercial banks, which sell their loans on the secondary market.

Finally, EIB support has several political effects, which arise from the Bank's status as a multilateral bank owned by EU member states. As an illustration, a number of providers and commercial banks feel that the EIB presence in a project helps to ensure that the promoter – or its government – meets its contractual obligations. Several promoters also said that the involvement of 'European money' via the EIB made their project more acceptable in regions where there was opposition to the use of PPPs on political grounds.

To conclude, there are many cases where the Bank provided significant non-financial value added, generally to the public sector rather than the private sector. Almost all promoters saw the exposure to the Bank's skills and the opportunity to learn from the Bank's experience as a valuable aspect of having the Bank involved in their projects. In at least two countries, it was clear that Bank staff, formally and informally, contributed significantly to building up PPP skills. Overall, although not a Bank policy objective, the evaluation allows to conclude that the Bank has a positive impact on institutional development, particularly in countries at an early stage of PPP development.

## **6. Summary and conclusions**

Broadly reflecting the structure of this paper, this section, first, summarises the impact of the PPP mechanism on the projects and the EIB and, second, concludes with a few remarks on prerequisites for prime performance of PPP projects.

*... but the EIB is also considered to have provided significant non-financial value added.*

To start with implications of the PPP mechanism, it is fair to say that PPP structures are more complex than traditional public procurement, although traditional procurement's apparent simplicity is often lost when proper account is taken of the risks involved. PPP complexity is due to the number of parties involved and, particularly, the mechanisms used to share the risks. The funding costs of PPPs are also higher, reflecting the impact of the risk being carried by the private sector, the cost of the additional loan structuring, and the private sector's higher financing costs. For the public sector, this is compensated by the private sector accepting a proportion of the risks and, in certain cases, the acceleration of investment programmes.

The evaluation found that the underlying physical projects evaluated in depth were largely completed on time, on budget, and to specification. This reflected the use of fixed-price, fixed-term construction subcontracts. These are common in PPP structures, but could also have been applied to public procurement. There was also evidence on some projects that the standard of the works was better than would have been found on a public procurement project.

**The key impact of the PPP mechanism was that the projects were implemented at all.**

The key impact of the PPP mechanism was that the projects were implemented at all. In all of the projects evaluated in depth, public sector budget constraints meant that the alternative to a PPP project was no project, or at least no project within the foreseeable future, rather than a public procurement project. The extent to which government spending limits could have been adjusted to accommodate these projects can be debated, but almost all promoters clearly stated that there would have been no budget for the projects as they were eventually implemented. In such cases, the use of a public sector comparator (PSC) to look at whether a PPP offers better value than public procurement might be questioned, and a PSC was carried out on only a minority of the projects evaluated. That said, the argument remains strong for carrying out some value-for-money test to assess the economic efficiency of the proposed solution, and as Grout (this volume) emphasises, useful value-for-money test do not necessarily have to use a PSC.

In some cases, the promoter was able to take advantage of a highly competitive construction market at the time of bidding, which produced cost savings. Conversely, restricted competition in one particular case meant that construction costs were probably some 30 percent higher than necessary. A cost risk noted in this context was that implementing a large PPP programme could raise demand for construction services in the short term, increasing bid prices as competition falls. This phenomenon has now been recognised as an important issue, and administrations are trying to manage the flow of projects to ensure that the market remains competitive.

The evaluation established that there is no generalised answer *ex post* as to whether PPPs are more or less expensive than public procurement projects. Each case has to be considered individually, taking into account factors such as: legal framework, existence of standardised contracts, type and degree of risk sharing, incidence of changes to project specification during project implementation, and taxation.

Turning to the impact of the PPP mechanism on the EIB, it is important to recognise that the Bank can often be seen as having two clients on PPP projects. Initially, it is the public sector promoter when the PPP structure and a financing strategy is being developed. Following the calls for tender, it is the bidder who becomes the Bank's client. Bank staff handled this transition well, but it does add another dimension to their responsibilities.

Similarly, the Bank can have multiple clients during the bidding phase. All potential bidders have to be treated equally, which might mean developing financing proposals for a number of bidders in parallel. The Bank has no formal system of 'Chinese Walls' or protocols on how the potential conflict

of interests should be handled. The evaluation found that potential conflicts were handled on a case-by-case basis, rather than established processes, but all relationships were handled correctly and professionally.

The previously mentioned complexity of PPPs makes them more demanding than traditional loans on staff resources, in terms of workload and duration. This was managed well where staff were devoting most of their time to PPPs, but was more difficult for staff working on a mixture of PPP and conventional projects.

Given the existence of third-party guarantees, at least during the periods of highest risk, none of the projects evaluated are likely to leave the EIB itself at significant risk. This is particularly important in the case of projects where the Bank may, at some point, be exposed to direct project risk, dependent on the project satisfying predefined financial, technical, and economic conditions.

What then can be concluded about the prerequisites for prime performance? Obviously, there is no general formula for successful PPPs, but there are clear indications on how to avoid problems. One is that projects should have clear boundaries and a fixed definition/specification. The contractual complexities of most PPPs mean that change will be expensive. By extension, the PPP mechanism may not be appropriate for projects that cannot be clearly defined/specified from the outset. Another indication is that the underlying project must be economically and financially sustainable: the PPP mechanism will tend to magnify project deficiencies. And then, competition must be maintained to minimise costs. The number of bidders for a PPP contract is typically lower than for a traditional contract. As a result, there is normally less competition, which implies higher prices. Any further restriction on the number of bidders will exacerbate this problem. A corollary is that competition can be used to minimise costs. Using the PPP mechanism can allow infrastructure to be tendered when the construction market is weak. Conversely, over-use of the PPP mechanism can create short-term increases in demand that absorb capacity and so drive up bid prices. Finally, for PPPs to provide value for money, providers need to carry risk. An important issue here is that a provider who carries usage risk needs to have a stronger capital structure than one who only carries construction and operating risks. An inadequate capital structure could lead to failure of the concessionaire. This can block projects and, depending on the nature of the local law and contract structure, can increase the costs to the promoter without creating any additional benefit.

***Clear output specifications, sufficient competition for PPPs, and adequate risk allocation are key for the success of PPPs.***

In sum, PPPs are not a panacea for public expenditure. They create new problems for promoters, providers, and financing bodies to solve. However, in the right circumstances, they can make public infrastructure available earlier, more effectively, and more efficiently than traditional public procurement. The challenge is to match their use to the circumstances.

## Annex

### EIB core evaluation criteria: Relevance/Efficacy, Efficiency, and Sustainability

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.

**Relevance** is the extent to which the objectives of a project are consistent with the relevant EU policies (the Treaty, Directives, Council Decisions, Mandates, etc.) and 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 policies in the context of the Article 267 of the Treaty that defines the mission of the Bank and the EIB related policies. Outside the Union, the main reference are the Community's relevant external policy objectives considered in the specific mandates given to the EIB by the Council of the European Union and the EIB interpretation of them.

**Efficacy (or effectiveness)** relates to the extent to which the objectives of the project have been achieved, or are expected to be achieved, taking into account their relative importance, while recognising any change introduced in the project since loan approval.

**Efficiency** is the measure to which project benefits/outputs are commensurate with resources/inputs. For the *ex ante* appraisal, a project's efficiency is normally measured through the economic and financial rate of returns. In public sector projects the economic and financial rate of returns often are not calculated *ex ante*. In those cases the efficiency of the project is estimated by a cost effectiveness analysis.

**Sustainability** relates to the likelihood of continued long-term benefits and the resilience to risk over the intended useful project life. The assessment of the project's sustainability varies substantially from one case to another depending on circumstances and takes into account the issues identified in the *ex ante* due diligence carried out by the Bank. Among the issues reviewed in the assessment are:

- Technical and management issues, mainly willingness, capacity and funding to carry out the necessary maintenance of the project in order that it can reach its useful life;
- Government commitment, regulatory environment and socio-political support (this is particularly important in weak institutional context such as in some developing countries);
- Financial sustainability for revenue generating projects, whether there is a significant risk that those revenues become unacceptably low, e.g., that they cannot cover at least the operating and maintenance costs;
- Environmental sustainability, whether there are environmental risks that might be a significant threat to the future operation of the project;
- Others issues that might affect the continued long-term benefits during the useful project life.

**Table A.1 EIB Loans for PPP projects, 1990-2003**

Sector	Contract (EUR millions)	(% of total)
Roads and motorway (includes combined road/rail projects, tunnels and bridges)	9,120	62
Urban development, renovation and transport	2,600	17
Airports	999	7
Traditional and high-speed trains	997	7
Social infrastructure (education and health)	549	4
Power generation, transmission, and distribution	258	2
Drinking and waste water treatment	165	1
<b>Total</b>	<b>14,688</b>	<b>100</b>

Note: Figures on contract values are based on the PPP definition used for this evaluation.



## Economic and Financial Reports\*

- Report 2005/02** Eric Perée and Timo Vällilä, *"Fiscal Rules and Public Investment"*.
- Report 2005/01** Timo Vällilä and Aaron Mehrotra, *"Evolution and determinants of public investment in Europe"*.
- Report 2004/02** Alfred Steinherr, Ali Tukul and Murat Ucer, *"The Turkish Banking Sector: Challenges and Outlook in Transition to EU Membership"*.
- Report 2004/01** Federico Galizia, *"Systemic credit risk in the presence of concentration"*.
- Report 2003/02** Federico Galizia, *"Measuring the "financial gap" of European corporations: an update"*.
- Report 2003/01** Rien Wagenvoort, *"Bank Survey evidence on bank lending to SMEs in the European Union"*.
- Report 2002/02** A. Rossi, G. Bichisao & F. Campolongo, *"Hedge accounting within IAS39"*.
- Report 2002/01** Luisa Ferreira de Almeida & Patrick Vanhoudt, *"Catching the Celtic tiger by its tail"*.
- Report 2001/03** Eric Perée & Alfred Steinherr, *"The euro and capital markets: A new era"*.
- Report 2001/02** Federico Galizia & Dermot O'Brien, *"Do capital expenditures determine debt issues?"*
- Report 2001/01** Federico Galizia with Thomas Steinberger, *"The "savings gap" of European Corporations: A first look at the available data"*.
- Report 2000/02** Christopher Hurst & Kristian Uppenberg, *"Investment issues in south-eastern Europe"*.
- Report 2000/01** Dermot O'Brien & Rien Wagenvoort, *"Some empirical findings on the characteristics of cost-efficient credit institutions"*.
- Report 99/P3** Carsten Sprenger, *"Direct investment and the eastern enlargement of the EU"*.
- Report 99/P2** Daniel Piazolo, *"The credibility and growth effects of EU institutions for Eastern Europe"*.
- Report 99/P1** Hendrik Hassheider, *"Private sector investment as a means of financing Trans-European Networks"*.
- Report 99/02** Rien Wagenvoort & Paul Schure, *"The recursive thick frontier approach to estimating efficiency"*.
- Report 99/01** Paul Schure & Rien Wagenvoort, *"Economies of scale and efficiency in European banking: New evidence"*.
- Report 98/05** Daniel Ottolenghi, *"Walking a tightrope: Financial liberalisation in Mediterranean countries"*.
- Report 98/04** Christian Keuschnigg, *"Venture capital: A case for investment promotion"*.
- Report 98/03** Roman Arjona, Pascale Viala & Rien Wagenvoort, *"Small business finance and the European financial environment: Some empirical evidence"*.
- Report 98/02** Alfred Steinherr & Roman Arjona, *"The impact of European Monetary Union on the development of the Mediterranean zone"*.
- Report 98/01** Marco Buti, Lucio R. Pench & Paolo Sestito, *"European unemployment: Contending theories and institutional complexities"*.
- Report 97/05** Mireille Fischbach & Maria Scattaglia, *"Financial flows to Eastern Europe: Determinants, volatility and sustainability issues"*.
- Report 97/04** Mirela Keuschnigg, *"Banking in Central and Eastern Europe"*.
- Report 97/03** Gregorio Impavido, *"Pension funds and stock market development in Eastern Europe: Is there a link?"*.
- Report 97/02** Agnès Belaisch & Kristian Kjeldsen, *"Value-at-risk models for determining capital adequacy: Does allowance for correlation within broad risk categories matter?"*.
- Report 97/01** Agnès Belaisch, *"Why are long-term interest rates so high in Europe?"*.

Economic and Financial Reports are preliminary material circulated to stimulate discussion and critical comment.

\*As from 2004, EFRs are available in electronic format only.

---

The above publications are available free of charge from:

### European Investment Bank

Economic and Financial Studies

100, boulevard Konrad Adenauer

L-2950 Luxembourg

 [infoefs@eib.org](mailto:infoefs@eib.org)  (+352) 43 79-8895

[www.eib.org/efs](http://www.eib.org/efs)

## EIB Papers 2004 – 2005

### Volume 10, Number 2, 2005: Innovative financing of infrastructure - the role of public-private partnerships: lessons from the early movers

Armin Riess, *"Is the PPP model applicable across sectors?"*

Paul A. Grout, *"Value-for-money measurement in public-private partnerships"*

Patricia Leahy, *"Lessons from the Private Finance Initiative in the United Kingdom"*

Rui Sousa Monteiro, *"Public-private partnerships: some lessons from Portugal"*

Andreas Brenck, Thorsten Beckers, Maria Heinrich, Christian von Hirschhausen, *"Public-private partnerships in new EU member countries of Central and Eastern Europe"*

Campbell Thomson, *"Public-private partnerships: prerequisites for prime performance"*

### Volume 10, Number 1, 2005: Innovative financing of infrastructure - the role of public-private partnerships: infrastructure, economic growth, and the economics of PPPs

Timo Väilä, Tomasz Kozluk, & Aaron Mehrotra, *"Roads on a downhill? Trends in EU infrastructure investment"*

Ward Romp & Jakob de Haan, *"Public capital and economic growth: a critical survey"*

Christophe Kamps, *"Is there a lack of public capital in the European Union?"*

Timo Väilä, *"How expensive are cost savings? On the economics of public-private partnerships"*

Mathias Dewatripont & Patrick Legros, *"Public-private partnerships: contract design and risk transfer"*

### Volume 9, Number 2, 2004: The internationalisation of production in Europe: Case studies of foreign direct investment in old and new EU members

Frank Barry, *"Export-platform FDI: the Irish experience"*

Thierry Mayer, *"Where do foreign firms locate in France and why?"*

Magdolna Sass, *"FDI in Hungary: the first mover's advantage and disadvantage"*

Gábor Hunya, *"FDI in small accession countries: the Baltic states"*

### Volume 9, Number 1, 2004: The internationalisation of production in Europe: Causes and effects of foreign direct investment and non-equity forms of international production

Armin Riess & Kristian Uppenberg, *"The internationalisation of production: moving plants, products, and people"*

Zbigniew Zimny, *"Long-term trends in international production"*

Kristian Uppenberg & Armin Riess, *"Determinants and growth effects of foreign direct investment"*

Jozef Konings, *"The employment effects of foreign direct investment"*

Ari Kokko & Patrik Gustavsson, *"Regional integration, FDI, and regional development"*

---

The above publications are available free of charge from:

#### European Investment Bank

Economic and Financial Studies

100, boulevard Konrad Adenauer

L-2950 Luxembourg

 [infoefs@eib.org](mailto:infoefs@eib.org)  (+352) 43 79-8895

[www.eib.org/efs](http://www.eib.org/efs)

## EIB Papers 2002 – 2003

### Volume 8, Number 2, 2003: Europe's changing financial landscape: The financing of small and medium-sized enterprises

Rien Wagenvoort, *"SME finance in Europe: introduction and overview"*.  
Rien Wagenvoort, *"Are finance constraints hindering the growth of SMEs in Europe?"*.  
Ulrich Hommel & Hilmar Schneider, *"Financing the German Mittelstand"*.  
Michel Dietsch, *"Financing small business in France"*.  
Luigi Guiso, *"Small business finance in Italy"*.

### Volume 8, Number 1, 2003: Europe's changing financial landscape: Recent developments and prospects

Eric Perée & Armin Riess, *"The transformation of finance in Europe: introduction and overview"*.  
Thorsten Beck, *"Stock markets, banks, and economic development: theory and evidence"*.  
Graham Bishop, *"The role and development of EU capital markets"*.  
E. Philip Davis, *"Institutional investors, financial market efficiency, and financial stability"*.  
Arnoud Boot, *"Restructuring in the banking industry with implications for Europe"*.

### Volume 7, Number 2, 2002: The financial integration of an enlarged EU: Macroeconomic interlinkages

Robert A. Feldman & Nancy Wagner, *"The financial sector, macroeconomic policy and performance"*.  
Paul De Grauwe & Marianna Grimaldi, *"Exchange rate regimes and financial vulnerability"*.  
Willem Buiter & Clemes Grafe, *"Anchor, float or abandon ship: exchange rate regimes for the Accession countries"*.

### Volume 7, Number 1, 2002: The financial integration of an enlarged EU: Banking and capital markets

Armin Riess, Rien Wagenvoort & Peter Zajc, *"Practice makes perfect: A review of banking in Central and Eastern Europe"*.  
Dana Hájková, Jan Hanousek & Libor Němeček, *"The Czech Republic's banking sector: Emerging from turbulent times"*.  
Éva Várhegyi, *"Hungary's banking sector: Achievements and challenges"*.  
Peter Zajc, *"Slovenian banks a decade later"*.  
Erich Hampel, *"Successful banking in an enlarged EU"*.  
Jens Köke & Michael Schröder, *"The future of Eastern European capital markets"*.

---

The above publications are available free of charge from:

#### European Investment Bank

Economic and Financial Studies

100, boulevard Konrad Adenauer  
L-2950 Luxembourg

 [infoefs@eib.org](mailto:infoefs@eib.org)  (+352) 4379-8895

[www.eib.org/efs](http://www.eib.org/efs)

## EIB Papers 2000 – 2001

### Volume 6, Number 2, 2001: The 2001 EIB Prize

**First Prize;** Erich Gundlach & Luder Wößmann, *"Better school for Europe"*.

**Second Prize;** Jan Fidrmuc, *"Democracy in transition economies: Grease or sand in the wheels of growth"*.

**Third Prize;** Gilles Duranton & Vassilis Monastiriotis, *"The evolution of the UK North-South divide: Should we mind the gap?"*.

### Volume 6, Number 1, 2001: European economic growth: The impact of new technologies

Christopher Hurst & Kristian Uppenberg, *"Wonders will never cease: Prospects for a new economy in Europe"*.

Paul David, *"Productivity growth prospects and the new economy in historical perspective"*.

Patrick Vanhoudt & Luca Onorante, *"Measuring economic growth and the new economy"*.

Danny Quah, *"ICT clusters in development: Theory and evidence"*.

Hermann Hauser, *"Nothing ventured, nothing gained"*.

Andrew Gillespie, Randal Richardson & James Cornford, *"Regional development and the new economy"*.

Luc Soete & Bas ter Weel, *"Computers and employment: The truth about e-skills"*.

Harald Gruber, *"The diffusion of information technology in Europe"*.

### Volume 5, Number 2, 2000: Regional convergence in Europe: Theory and empirical evidence

Daniel Mouque, *"A survey of socio-economic disparities between the regions of the EU"*.

Angel de la Fuente, *"Convergence across countries and regions: Theory and empirics"*.

Jacques-François Thisse, *"Agglomeration and regional imbalance: Why? And is it bad?"*.

Philippe Martin, *"The role of public policy in the process of regional convergence"*.

Patrick Vanhoudt, Thomas Mathä & Bert Smid, *"How productive are capital investments in Europe?"*.

### Volume 5, Number 1, 2000: Regional development in Europe: An assessment of policy strategies

Christopher Hurst, Jacques-François Thisse & Patrick Vanhoudt, *"What diagnosis for Europe's ailing regions?"*

Yannis Ioannides & George Petrakos, *"Regional disparities in Greece: The performance of Crete, Peloponnese & Thessaly"*.

Rodolfo Helg, Giovanni Peri & Gianfranco Viesti, *"Abruzzo & Sicily: Catching up and lagging behind"*.

Andrés Rodríguez-Pose, *"Economic convergence and regional development strategies in Spain: The case of Galicia & Navarre"*.

Margarethe Quehenberger, *"Lessons from Eastern Germany"*.

Bertrand Rossert, *"Contributing to regional development through project selection"*.

---

The above publications are available free of charge from:

#### European Investment Bank

Economic and Financial Studies

100, boulevard Konrad Adenauer

L-2950 Luxembourg

 [infoefs@eib.org](mailto:infoefs@eib.org)  (+352) 43 79-8895

[www.eib.org/efs](http://www.eib.org/efs)

## EIB Papers 1998 – 1999

### Volume 4, Number 2, 1999: The 1999 EIB Prize

**First Prize;** Philippe Martin, "Are European regional policies delivering?".

**Second Prize;** Rudi Dornbusch & Francesco Giavazzi, "Hard currency and sound credit: A financial agenda for Central Europe".

**Third Prize;** Jordi Gual, "Deregulation, integration and market structure in European banking".

**Special Topic Prize;** Jens Verner Andersen & Jørn Henrik Rasmussen, "Solving the unemployment puzzle in Europe".

### Volume 4, Number 1, 1999: European banking after EMU

Christopher Hurst & Rien Wagenvoort, "European banking after EMU".

Martin Brookes, "The impact of EMU on portfolio management".

Graham Bishop, "New capital market opportunities in Euroland".

Colin Mayer, "European capital markets: Competition between systems".

Luigi Spaventa, "Comments on the future of the EMU capital markets."

Daniel Gros & Karel Lannoo, "The structure of financial systems and macroeconomic instability".

Clas Wihlborg, "Supervision of banks after EMU".

Christopher Hurst, Eric Perée & Mireille Fischbach, "On the road to wonderland? Bank restructuring after EMU".

Rien Wagenvoort & Paul Schure, "Who are Europe's efficient bankers?".

Philip Molyneux, "Increasing concentration and competition in European banking: The end of anti-trust?"

Jean Dermine, "The case for a European-wide strategy".

Ingo Walter, "Financial services strategies in the euro-zone".

### Volume 3, Number 2, 1998: International financial institutions in the 21st century

Christopher Hurst & Eric Perée, "Only a mid-life crisis? The future for IFIs in an integrated world".

Michael Klein, "One hundred years after Bretton Woods: A future history of the World Bank Group".

Jannick Lindbaek, Guy Pfeffermann & Neil Gregory, "The evolving role of multilateral development banks: History and prospects?".

Jean-François Rischard, "Multilateral development banks and global public networks: Speculations for the next century".

Pasquale Scandizzo, "The purpose, management and governance of IFIs: A case study of ambiguity".

Nicholas Stern & Hans Peter Lankes, "Making the most of markets: The role of IFIs".

Joseph Stiglitz, "IFIs and the provision of international public goods".

A discussion between Alfred Steinherr & Jacques Attali.

### Volume 3, Number 1, 1998: Employment in Europe

Christopher Hurst, "A discussion of the papers and an overview of the role of investment".

Jørgen Elmeskov, "The unemployment problem in Europe: Lessons for implementing the OECD Jobs Strategy".

Gilles Saint-Paul, "Does technical progress create unemployment?".

Michael Burda, "The consequences of EU enlargement for Central and Eastern European labour markets".

José Viñals & Juan Jimeno, "The impact of EMU on European unemployment".

Jacques Drèze, Alain Durré & Henri Sneessens, "Investment stimulation, with the example of housing".

Ole Rummel & Thomas Schröder, "The employment effects of investment projects".

Pascale Viala, "Financing young and innovative enterprises in Europe: Supporting the venture capital industry".

---

The above publications are available free of charge from:

#### European Investment Bank

Economic and Financial Studies

100, boulevard Konrad Adenauer

L-2950 Luxembourg

 [infoefs@eib.org](mailto:infoefs@eib.org)  (+352) 43 79-8895

[www.eib.org/efs](http://www.eib.org/efs)

## EIB Papers 1996 – 1997

### Volume 2, Number 2, 1997: The 1997 EIB Prize

**First Prize;** Bernadette Frédérick & Peter Vanden Houte, "What is the optimum strategy for freezing exchange rate parities at the start of EMU".

**Second Prize;** Jean Dermine, "Eurobanking, a new world".

**Joint Third Prize;** Daniel Gros, "The dynamics of European integration".

**Joint Third Prize;** Martin Kolmar, "On the efficiency of national social security systems in the European Union".

**Awards for Authors under 30** for essays by Pablo de Andrés Alonso & Félix J. Lopez Iturriaga; Volker Köllmann & Andri Kopperschmidt; and Jérôme Vacher.

### Volume 2, Number 1, 1997: Banking in an uncertain world

Edward Gardener & Philip Molyneux, "The too-big-to-fail doctrine revisited".

Agnès Belaisch, "High real interest rates: A long-term risk?".

Pier-Luigi Gilibert, "Expected loss as a credit risk measure".

Jacques Girard & Christopher Hurst, "The capital structure of private infrastructure projects and the risk of default".

Kristian Kjeldsen, "Value-at-risk and capital adequacy: The challenge for financial regulation".

### Volume 1, Number 1, 1996: Special Issue on EMU

Daniel Gros, "The steeple chase towards EMU".

Ole Rummel, "On the feasibility of EMU with diverse European economic transmission mechanisms".

Bernhard Winkler, "Is Maastricht a good contract?".

Paul de Grauwe, "How to fix conversion rates at the start of EMU".

Luis Gonzalez-Pacheco & Alfred Steinherr, "A proposal to stabilise the value of the ECU".

---

The above publications are available free of charge from:

#### European Investment Bank

Economic and Financial Studies

100, boulevard Konrad Adenauer

L-2950 Luxembourg

 [infoefs@eib.org](mailto:infoefs@eib.org)  (+352) 43 79-8895

[www.eib.org/efs](http://www.eib.org/efs)



