

Development Finance Institutions and Infrastructure: A Systematic Review of Evidence for Development Additionality

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Acronyms & abbreviations

ADB – Asian Development Bank

AfDB – African Development Bank

AS – Advisory Services

BIO – Belgian Investment Company for Developing Countries

BOT – Build-Operate-Transfer

BMZ – Federal Ministry for Economic Co-operation and Development (Germany)

CDC – The UK Government's Development Finance Institution (previously Commonwealth Development Corporation)

COFIDES – Compañía Española de Financiación del Desarrollo

DEG – Deutsche Investitions- und Entwicklungsgesellschaft (German DFI)

DFI – Development Finance Institution

DFID – Department for International Development (UK)

DMC – Developing Member Country (Asian Development Bank)

EAIF – Emerging Africa Infrastructure Fund

EBRD – European Bank for Reconstruction and Development

EDFI – European Development Finance Institution

EIB – European Investment Bank

ESG – Environmental, Social and Governance

FinnFund – The Finnish development finance company

FMO – The entrepreneurial development bank of the Netherlands

FROR – Financial Rate of Return

GEF – Global Environment Facility

GHG – Greenhouse Gas

GNI – Gross National Income

IADB – Inter-American Development Bank

ICT – Information and Communications Technologies

IEA – International Energy Agency

IEG – The World Bank's Independent Evaluation Group

IFC – International Finance Corporation (a member of the World Bank Group)

IFU – The Industrialisation Fund for Developing Countries (Denmark)

ILO – International Labour Organisation

IPP – Independent Power Producer

KfW – German development bank

LDC – Least developed country

LIC – Low-income country

M&E – Monitoring and Evaluation

MDB – Multilateral Development Bank

MIC – Middle-income country

MIGA – Multilateral Investment Guarantee Agency

Norad – Norwegian Agency for Development Cooperation

NorFund – Norwegian Investment Fund for Developing Countries

OECD-DAC – Organisation for Economic Cooperation and Development – Development Assistance Committee

OeEB – The Development Bank of Austria

OPIC – Overseas Private Investment Corporation (USA)

PIDG – Private Infrastructure Development Group

PPI – Private Participation in Infrastructure

PPIAF – Public-Private Infrastructure Advisory Facility

PPP – Public-Private Partnership

PROPARCO – Société de Promotion et de Participation pour la Coopération Economique (France)

PSD – Private Sector Development

PSOD – Private Sector Operations Department (Asian Development Bank)

PSP – Private Sector Participation

RCT – Randomised Controlled Trial

RDB – Regional Development Bank

SBI-BMI – Belgian Corporation for International Investment

SIDA – Swedish International Development Cooperation Agency

SIFEM – Swiss Investment Fund for Emerging Markets

SIMEST – Società Italiana per le Imprese all'Estero (Italy)

SOFID – Sociedade para o Financiamento do Desenvolvimento (Portugal)

SwedFund – State owned risk capital company (Sweden)

TA – Technical Assistance

WBG – World Bank Group

Executive Summary

Infrastructure is a vital foundation for all forms of development, but remains seriously underprovided throughout much of the developing world. According to current estimates, more than 1 billion people in rural areas lack access to adequate transport (World Bank, 2012), over 780 million do not have access to safe drinking water (WHO/UNICEF, 2012), 1.3 billion had no reliable source of energy (IEA, 2011), and 2.4 billion lacked sanitation facilities (WHO/UNICEF, 2012). The World Bank finds that infrastructure investment in Africa falls short of the level required by US\$48 billion per year (Foster & Briceño-Garcia, 2010).

For decades it was assumed that infrastructure should be funded and provided by the public sector, but the failure of public investment to get close to necessary levels – and problems with the quality of public provision in some instances – led to an increasing focus on private investment. Private infrastructure investment increased significantly in the 1990s, from US\$20 billion at the start of the decade, to more than US\$140 billion in 1997¹. The East Asian financial crisis saw this figure abruptly halved, after which a steady recovery ensued, so that by 2008 investment commitments had reached US\$161 billion. In more recent years, the global financial crisis saw another fall, and investment commitments are now around 5% below their 2008 peak.

Thus, while private investment in infrastructure is significant, it is both volatile and insufficient to fill the funding gap. There is every reason to believe this will remain the case, with public investment remaining central to infrastructure provision. Rather than focusing either on purely public or private investment models, significant growth will be needed in both forms in most developing countries. By leveraging private sector investment with their own direct investments, Development Finance Institutions (DFIs) attempt to contribute to this goal.

It is within this context that this systematic review was commissioned to address the following questions:

What is the evidence of the impact of DFI support (including PIDG support) for private participation in infrastructure (PPI) on economic growth and poverty reduction? What conclusions can be drawn from this evidence to help DFIs better target their investment to maximise their impact on economic growth and poverty reduction?

In approaching these questions the review focused on the value-added, or 'additionality', that DFIs might create with respect to growth and poverty, where additionality is defined as *impact beyond that which would have occurred without DFI participation*. Defined in this way, there are a number of types of additionality that DFIs could feasibly create.

To be more precise, we set out to test the hypotheses that DFIs create additional impacts by performing the following functions:

- a) Leveraging additional *finance*;
- b) Influencing project *design* and the *policy* context so that development impacts are greater than they would otherwise have been;

¹ World Bank and PPIAF, PPI Project Database (<http://ppi.worldbank.org/>).

- c) Creating a positive *demonstration effect* so that private investors undertake similar projects without the need for DFI participation.

The review proceeded in two phases. Phase 1 examined publicly available evidence in the academic and grey literatures, as well as DFIs' own material. Much of the relevant evidence, however, is to be found in DFIs' internal project evaluations, which are generally not publicly available due to issues of commercial confidentiality. Focusing purely on publicly available information is obviously problematic, as there is no reason to assume that the information that is released by DFIs represents an unbiased sample of all evidence. Indeed, it is more likely that publicly available information will be positively skewed, with examples of 'success stories' being more likely to see the light of day than evaluations of more problematic projects.

To address this, phase 2 examined internal project evaluations for a group of five² major DFIs, based on negotiated terms of access. Participating DFIs are: IFC, KFW, CDC, AsDB and FMO. In each case, the researchers were granted access to previously confidential documents. As we were reliant on DFIs themselves to provide this documentation, it was not possible to verify that all relevant material was supplied. In total, more than 400 documents were reviewed, coded and analysed, roughly half in each phase of the review. In phase 1 these were a mixture of ex post project evaluations, independent reviews and syntheses of evaluations, DFI/donor reviews of particular sectors or regions and academic studies. For phase 2, the materials reviewed were almost entirely project level evaluations.

Before detailing the methodology applied, we will first present the key findings and recommendations.

Key findings

1. **Hard evidence is scarce.** We identify three reasons for this:
 - (i) It is difficult to measure causal relationships between infrastructure provision and development outcomes;
 - (ii) It is harder still to attribute a share of this total impact to the work of DFIs, either individually or as a group;
 - (iii) DFIs have traditionally focused on leveraging private finance into the infrastructure sector and have only recently begun to develop robust measurement systems to track their broader impacts. It will therefore take time before a solid evidence base can be constructed.
2. **DFIs can potentially create four different forms of impact 'additionality':** *financial* (where they leverage additional private finance into infrastructure); *design* (where they influence project design so that growth and/or poverty impacts are enhanced); *policy* (where they influence the policy context in which the project occurs to enhance growth/poverty impacts); and *demonstration* (where the success of a DFI-supported project provides a stimulus for subsequent private sector projects that do not involve DFIs).
3. **DFIs create financial additionality**, particularly in low-income countries (LICs) and in less commercially attractive sectors. In particular, DFIs are able to: (a) supply long-term finance, which is often essential for infrastructure but

² 12 DFIs were approached to participate in phase 2. Those not named here were not prepared to release their internal documents for the purposes of this research. Although PIDG is not included among participating DFIs, this is because of the relative youth of the organisation, meaning that there was insufficient material available to warrant inclusion.

frequently unavailable in LICs; (b) mitigate project risk, particularly in the early stages, thus leveraging additional finance by improving the attractiveness of deals (again, this is often crucial in LICs); and (c) provide and leverage finance counter-cyclically, either lending when private investors will not, or retaining positions when the private sector would pull out.

4. **Financial additionality is less apparent in middle-income countries** (MICs), and in commercially attractive sectors. Interestingly, phase 2 findings suggest that financial additionality is more likely in low-income and lower middle-income than in least-developed countries.
5. **DFIs seem less likely to act counter-cyclically during ‘good times’** (i.e. by reducing or eliminating lending when it is not needed).
6. **DFIs do influence project design and the policy context to boost growth.** Both in terms of upfront project selection (e.g. selecting projects that will remove ‘bottlenecks’ to growth) and during the project design phase, DFIs seek to enhance growth effects, through activities such as a focus on knowledge or technology transfer, for example. Similarly – though to a lesser extent – DFIs seek to influence regulatory frameworks to enhance growth (e.g. through liberalisation or by building public sector capacity to pursue private sector development).
7. **DFIs do less to influence project design and the policy context to increase direct poverty impacts.** Many would argue that growth reduces poverty, though the extent will depend on the nature of this growth – i.e. how ‘pro-poor’ it is. However, in addition to the growth channel to poverty reduction, many forms of infrastructure development have a *direct* effect on poverty. The mechanisms through which this occurs include factors such as enabling access to services that were previously not available, or providing poor people with new or improved access to markets. Certain aspects of project design will greatly influence the extent of these direct effects, such as the ability of the poor to physically access services, or their ability to afford fees. Surprisingly, we found very little evidence that DFIs actively seek to influence these design features to increase direct poverty effects. There was a similar lack of evidence of efforts to influence policy, for example through pushing for pro-poor regulatory requirements.
8. **DFIs could do more to amplify the development impact of projects.** An important part of the development impact of infrastructure stems from factors such as the quantity and quality of local employment they generate, and supply chain linkages with local SMEs. While there were examples of DFIs trying to enhance impacts in these areas, and a general recognition of their importance, there was also a surprisingly passivity in some cases. That is, the lack of progress in these areas was criticised in some projects, but there was little evidence of attempts to influence this. Given the value-add DFIs generally bring to projects – which often would not happen without their participation – there appears scope to demand a higher ‘price’ in development terms.
9. **DFIs prioritise the creation of demonstration effects, but these are hard to prove.** As highlighted above, the infrastructure funding gap in developing countries is very large. DFIs have significant but limited resources, which fall

well short of what is required. The aim is therefore to leverage these resources, both by attracting multiples of private finance to co-invest, but even more importantly by demonstrating the feasibility and attractiveness of such investments to commercial actors. In particular, DFIs aim to provide an example of success, and so facilitate a step-change in private investment in developing country infrastructure, where DFI participation is no longer required. Despite the priority given to the importance of creating demonstration effects, there is little evidence to support it in practice. In part this is because DFIs have only begun to focus on measurement relatively recently. More fundamentally, perhaps, it reflects the difficulty of proving causality in this area.

10. **There are hard limits to the demonstration effect.** Despite its importance, there are limits to the demonstration effect in practice. In large part, DFIs are able to do what they do (e.g. provide additional finance on the terms described above) *because they are DFIs*. The political backing they receive from developed country governments allows them to borrow on highly favourable terms (as there is very low perceived risk of default), and to lend on highly favourable terms (borrowers will be reluctant to default on a loan from a DFI due to the effect this may have on their relationship with the donor country, or the World Bank in the case of the IFC).

These factors enable DFIs to: (a) obtain and provide finance on better terms (e.g. longer term); (b) hold riskier overall portfolios than private institutions; (c) behave counter-cyclically; (d) enable private co-investors to access finance on the same terms, and have a similarly low default risk from borrowers; and e) provide 'insurance' with respect to political interference and risk. In many cases it is precisely these features that make a project possible, and they are the direct result of DFIs' rather unique position. It is thus not always possible for private actors to follow DFIs' example and make the same investments, as they do not enjoy the advantages that made these investments possible in the first place.

11. **Demonstration effects can be negative.** Where projects do not succeed, either because of factors such as a lack of political support, or the application of the wrong business model or funding mechanism, the example is likely to be negative. Instances were found where such negative demonstration effects created opposition (politically and/or amongst the public) to future attempts at PPI. This suggests the need for more up-front work on project appraisal and structuring.
12. **DFIs can create different forms of additionality in different projects.** In this report we developed a framework for categorising projects based on their commercial viability, which we believe could be useful. The five project categories are:
 - (i) Fully commercially viable – i.e. could go ahead without DFI involvement³;
 - (ii) Commercially viable but a political umbrella is essential to mitigate risks sufficiently to assure investors;
 - (iii) Project is commercially viable but only if finance is structured in ways that only DFIs will or can do;

³ Note that DFI advisory services can still play a valuable role in mobilising finance for projects that are commercially viable without DFI investment.

- (iv) Only commercially viable if a 'blended' model of concessional and commercial finance is used;
- (v) Not commercially viable – i.e. should be publicly funded.

We suggest that there is a basic difference between category (i)-(iii) and category (iv) projects. Category (iv) projects, for example, will not be attractive to private investors unless their returns are boosted by the use of concessional finance. However, these projects may be likely to create large direct poverty reduction impacts (for example access to affordable infrastructure services for poor people), or have a potentially large environmental role to play, particularly with regard to renewable energy, which has high up-front financing costs that act as a deterrent to private financiers. Unless recognised, these kinds of projects are likely to be squeezed in favour of categories (i)-(iii).

For the different forms of additionality, category (i) projects have none and there is thus little case for DFIs participating in them. For category (ii), financial additionality is a result of the importance of the 'political insurance' that DFIs can provide – i.e. investors would not commit finance without this backing. In these circumstances, we suggest that the 'premium' paid for this insurance should be a greater commitment to social and environmental standards by the private investor, as well as commitments on local employment and supply chain linkages. The same holds for category (iii) projects, where the importance of DFI finance (e.g. longer tenor should allow greater leverage to influence outcomes). Category (iv) projects are associated with concessional finance (e.g. OBA or 'viability gap' funding, and/or the use of Technical Assistance funds), so that development results are funded directly, though there may be the need to also build employment and SME development criteria into these agreements.

- 13. Examples of DFIs influencing project design to enhance direct poverty impacts occurred in category (iv) projects.** This suggests that it is very difficult for DFIs to achieve enhanced direct poverty effects using purely commercial finance. In many ways this is not surprising: extending physical access to the poor or reducing tariffs to make them affordable is likely to reduce the profitability of projects, and therefore reduce their attractiveness to private investors. One way of addressing this is to extract a greater 'development price' for the additionality that DFIs bring, as suggested above. But there will always remain projects that have low (or negative) commercial returns, but very high developmental (and/or environmental) returns. In such circumstances, a blended finance model, where concessional finance is used to boost the returns of private investors, is the only way to make the project viable for commercial investors.
- 14. DFIs may be constrained from undertaking category (iv) projects.** This can be understood through the tensions between DFIs' commercial and developmental mandates. For example:
- DFIs are generally required to offer finance on commercial terms.
 - Many DFIs are self-financing so maintaining profitability is a priority, and one which places a limit on the 'haircuts' DFIs could accept, even in principle.
 - DFIs must maintain a high credit rating and are thus incentivised to engage in high-return, low-risk projects.

- Many activities required to enhance developmental outcomes are costly and time-consuming, eroding competitiveness vis-à-vis the private sector.
- Most DFIs employ investment managers drawn from the private financial sector, creating a potential clash of cultures with the more developmental mandates of DFIs.

15. **Additionality cannot be separated from project selection.** As described in this report, DFIs do attempt to undertake projects where impacts will be high, particularly with respect to growth. However, this is not done systematically, in that total potential development impacts of projects are rarely estimated in a comparable way ex ante, or validated ex post. The word ‘selection’ should not be taken to mean that DFIs are examining a wide range of possible projects and then select one from this total set. In practice, there may be little choice, particularly in the infrastructure sector where projects are relatively large and infrequent. On the other hand, it is not the case that DFIs simply passively accept projects that happen to come their way.

Deciding whether or not to devote scarce resources to a project is a choice, and the argument made here is that a positive choice should only be made where the project has the potential to create greater development impacts than the alternatives. This does not mean that alternatives have to be ‘on the table’ at the same time, as choosing to undertake a project today will obviously affect the ability to undertake a different project tomorrow. Also, DFIs should be actively seeking out projects – including new projects in the early stages of development – with the greatest potential development benefits. Finally, it does not follow that selection only matters with such early stage projects. Of course, there is greater scope to actively shape a project at this stage, but agreeing to participate in a project *regardless of the stage of its development* involves an active choice on the part of DFIs, and one which constrains other choices that can be made in the future. By ‘selection’, therefore, we refer simply to the basis upon which DFIs make this choice, and whether this could be improved so that total development impacts are enhanced.

It is only possible to make assessments of this form if a project’s potential impact (or development ‘returns’) can be compared with the returns that could be achieved with other projects, *even if these alternatives are not currently investment ready, and regardless of the stage of the project’s development.*

A major problem, however, is that it is very difficult to accurately forecast total development impact, particularly in non-traded social and environmental areas. This is compounded by the fact that, even if these difficulties could be overcome, the time and financial resource implications may be prohibitive. Ideally, all potential projects would be assessed comprehensively with techniques such as Social Cost Benefit Analysis (SCBA), but this is simply impractical in terms of time and cost. What is needed, therefore, is a more streamlined approach, which can capture the key elements of an SCBA, but do so rapidly while keeping costs low⁴. Achieving the right balance between comprehensiveness and precision on the one hand, and operational feasibility on the other, is difficult but not impossible, and the evidence found in the course of this research suggests considerable scope for progress in this area.

⁴ There are experiences that can be built on in this regard. FMO, for example, has developed methods of approximating a project’s Economic Rate of Return (ERR).

If the goal of DFIs and donors is to achieve the maximum possible impact with their resources, then more 'active selection' of this kind is important. Regardless of how projects are selected, however, their development potential still has to be realised.

16. **DFIs, and donors, need to acknowledge these tensions more explicitly.** At present, donors are asking more and more of DFIs, particularly with respect to their poverty impacts. But DFIs were established to focus on growth, with poverty effects assumed to follow as a result. If they are now to be expected to deliver *additional direct poverty and/or environmental impacts* they need to be mandated, financed and staffed in a way that facilitates this.

Recommendations

Our core recommendations are as follows:

1. **Develop robust, comparable but operationally feasible project selection tools to maximise development impacts.** Adapting established techniques such as SCBA to make them practical in terms of time and resources, the methods would estimate the *potential* economic, social and environmental impacts of projects *ex ante*. This would ensure that only net positive projects are selected, and enable DFIs to prioritise those projects with the greatest potential impacts. Important factors to consider are: (a) that environmental costs and benefits are measured meaningfully⁵; (b) that appropriate weight is given to distributional factors⁶; and (c) that genuine attempts are made to estimate and incorporate the full range of social and environmental impacts, regardless of measurement difficulties.
2. **Develop a systematic evidence base on impact *ex post*,** drawing on best practice from inside and outside DFIs, and developing a common framework across DFIs.
3. **After projects are selected on the basis of development potential, they should be allocated to one of the five categories** described above. This would enable project financing to be structured appropriately, creating the 'architecture' that would allow development potential to be realised.
4. **Once projects are categorised, DFIs should proactively intervene to see development potential realised.**
 - For category (ii) and (iii) projects, DFIs should seek to leverage improved Environmental, Social and Governance (ESG) outcomes, and better local employment provision and SME linkages, as the 'price' to be paid for political 'insurance' and/or better financial terms.
 - For category (iv) projects, concessional finance should be used directly to realise identified development potential.
5. **If DFIs are to engage in category (iv) projects at scale, some structural changes may be required.** There are three main options. First, the "parent"

⁵ For example, The Economics of Ecosystems and Biodiversity (TEEB) project has developed interesting techniques for estimating the full economic value of ecosystem services. Furthermore, potential financial inflows through mechanisms such as REDD+ would need to be factored into the calculations of the NPV of environmental assets. (See: <http://www.teebweb.org/>)

⁶ Economic Rate of Return approaches sum the returns to different stakeholders affected by a potential project. These may be weighted to favour the interests of particular groups. Some DFIs are mandated to maximise benefits to the poor and marginalised, for example, and impacts (positive or negative) on these groups could be given a greater weight in the total calculation to reflect this. (See Esty et al, 2003, for a discussion).

bilateral donor or International Financial Institution could make a pool of grant funding available to the DFI specifically for the purpose of engaging in projects with direct poverty reduction outcomes – this could be an extension of current practice, where some DFIs use Technical Assistance facilities as conduits for non-commercial support. A possible extension of this would be for donors to pool funds in a general grant fund. DFIs would be able to bid for projects where it can be demonstrated that, without such funding, the project would not be commercially viable. Second, DFIs themselves could be enabled to provide concessional finance (perhaps through a dual structure similar to the World Bank’s hard and soft loan window). Third, DFIs could be mandated to work much more closely with development institutions specialising in this form of finance, with perhaps a greater specialisation and ‘division of labour’ between DFIs themselves.

6. **Align staff incentives with development rather than commercial outcomes** in order to prevent a bias towards the most commercially lucrative projects. There are a number of ways that this could be done. Waiting for development outcomes to materialise is likely to be too lengthy a process to be practical in this regard. One solution would be to use forecasted impacts, though the strength of this approach would depend on the accuracy of the forecasts. In reality, some kind of composite measure of performance would work best, where innovation in project selection and design, and the ability to successfully managed emerging risks, for example, could sit alongside development focused performance measures.
7. **DFIs should be strongly encouraged to collaborate more systematically with one another**; to complement each others’ strengths and perhaps enable more specialisation and ‘division of labour’ between DFIs. While the factors that make this difficult are well understood, the importance of achieving the shared goals of sustainable development and the elimination of poverty should be sufficient to overcome these.

A key goal of this commissioned review was to produce recommendations for how DFIs could increase their development impact. While recommendations for change can sound negative, this is not the intention. The evidence found in the course of both phases of this review suggests that DFIs working in the infrastructure sector generally have a positive development impact, and these positive impacts can be very large in some cases. The purpose of the review was to propose changes that would enhance this, so that, as far as possible, the development impact of scarce donor resources is maximised. Despite the impacts that have been achieved, there is scope for more. Our aim has been to describe specific steps that could be taken to fulfil this potential.

Methodology

Given the varied nature of the evidence on the questions under review, as well as its strong policy focus, it was decided to employ a ‘realist’ approach, which Pawson *et al* (2005: 1) describe as follows:

“Realist review is a relatively new strategy for synthesizing research which has an explanatory rather than judgemental focus. It seeks to unpack the mechanism of how complex programmes work (or why they fail) in particular contexts and settings.”

A realist review begins with a 'programme theory', which details the impacts that an intervention is supposed to have, and breaks this down into stages – or 'links' in the 'causal chain'. Evidence is then assembled to support, contradict and ultimately modify these links, so as to inform future policy interventions and improve outcomes. In this case, the 'links' correspond to the aspects of 'additionality' that DFIs are trying to create: financial, design, policy and demonstration.

As described above, the review was conducted in two phases, where publicly available and confidential materials were analysed. Phase 1 focused on the following DFIs: PIDG, IFC, MIGA, DEG, EIB, FMO, CDC, SIFEM, FinnFund, NorFund, SwedFund, PROPARCO, BIO, IFU, SOFID, SIMEST, SBI-BMI, OeEB, COFIDES, OPIC, EBRD, AfDB, ADB, IADB. As well as searching for academic evidence on the questions under review, internal and independent evaluations were obtained. Given the specificity of the review questions, academic material was limited, with the result that the focus was more on DFIs own evaluations as the best sources of potential evidence. The titles and abstracts of 2,527 documents were obtained and uploaded to the EPPI 4 Reviewer systematic review software hosted by the Institute of Education, University of London.

Inclusion criteria were then applied, which was simply relevance to the questions under review. This resulted in the exclusion of 2,323 documents. Full texts of 204 included documents were then uploaded. Each was coded for baseline date and quality, and for evidence and additional information relevant to the review: i.e. for relevance to one or more of the aspects of additionality identified. For each aspect, the coded material was reviewed and key themes identified, before being synthesised as summarised here and described comprehensively in the full review.

It is important to note that project level information made public by DFIs is limited, primarily because of concerns over commercial confidentiality. Early on, it was recognised that this could undermine the purposes of the review: only project evaluations that DFIs choose to make public are available, creating an obvious selection bias, where both DFIs and private sector partners have a strong incentive to 'showcase' the most successful projects. To address this problem, the review team negotiated access to internal project evaluation documents from the IFC and subsequently with four further DFIs: FMO, AsDB, KFW and CDC. While this is a relatively small sample, it is a reasonable cross-section of DFIs, including a multilateral institution (IFC), a regional development bank (AsDB), a DFI which follows a fund-of-fund approach (CDC), and two bilateral DFIs with rather different investment philosophies (FMO and KFW).

In total 218 documents from these institutions were analysed in this second phase of the review. The largest number came from IFC (53%), with the remainder being shared by the other institutions in broadly similar proportions. As with phase 1, each document was coded for base data according to income, region and sector, and relevant text was also coded according to the aspects of additionality described above.

These two phases of the review were undertaken at different times and used slightly different approaches. Perhaps most importantly, phase 2 was designed and implemented in the light of the results from phase 1, so that it was possible to incorporate insights from phase 1 into the design of phase 2. Most notably, the role of project selection as an important form of potential additionality has been incorporated into phase 2 from the start.

1 Objectives

The objective of this systematic review is to answer the following two questions: *What is the evidence of the impact of DFI support (including PIDG support) for PPI on economic growth and poverty reduction? What conclusions can be drawn from this evidence to help DFIs better target their investment to maximise their impact on economic growth and poverty reduction?*

2 Background

In this section we first define some terms, before outlining the key relationships between infrastructure, economic growth and poverty reduction as evidenced in a selection of the core literature. Section 2.3 introduces private participation in infrastructure (PPI), covering the rationale for the involvement of the private sector, challenges to mobilising PPI investments, debates around impacts on the poor, and the role of Development Finance Institutions (DFIs). Section 2.4 describes the rationale for the review, and section 2.5 concludes with a discussion of relevant existing studies.

2.1 Definitions

Infrastructure is defined for the purposes of this study as transport, energy, information and communication technology, water and sanitation, industrial infrastructure and agri-business related infrastructure. Social infrastructure such as schools and hospitals has been excluded as a review of DFI investment has revealed that it is not a target area for DFI support (World Bank & PPIAF, 2010a).

For the purposes of this review, *Development Finance Institutions* (DFIs) are bilateral or multilateral development agencies “that provide funds, either as equity participation, loans or guarantees, to foreign or domestic investors in order to initiate or develop projects in sectors or countries in which the traditional commercial banks are reticent to invest in without some form of official involvement” (PIDG, 2010). Note that the multilateral and regional development banks (MDBs and RDBs) are included in this analysis, but only those divisions or arms of the banks that aim to mobilise private sector finance (e.g. the IFC in the case of the World Bank or the Private Sector Operations Department (PSOD) in the case of the Asian Development Bank).

The instruments and facilities to be covered are:

- Investment (loans and equity);
- Risk mitigation (e.g. loan guarantees);
- Advisory services (to governments);
- Project preparation and development services.

2.2 Infrastructure development, economic growth and poverty reduction

At the outset it is important to stress that the view that infrastructure is underprovided in most of the developing world is universally acknowledged. In 2006 the OECD estimated that more than 1 billion people lacked access to roads, 1.2 billion did not have safe drinking water, 2.3 billion had no reliable sources of energy, 2.4 billion lacked sanitation facilities and 4 billion were without modern communication services (OECD, 2006: 10). The World Bank recently concluded spending on infrastructure in

Africa currently falls short of the level required to meet its needs by US\$48 billion per year⁷, and that even with major efficiency savings a gap of US\$31 billion per year would remain (Foster & Briceño-Garcia, 2010).

Within this context, this section briefly explores the core literature on the links between infrastructure, economic growth and poverty reduction. The aims are the following:

- (i) To introduce the considerable research that has already been done in this area and identify the channels through which infrastructure can affect development outcomes.
- (ii) To demonstrate that establishing direct causal links between particular projects and development outcomes is fraught with methodological difficulties.
- (iii) To summarise the consensus that has developed on the general relationship between infrastructure and development outcomes (in the light of the methodological challenges).
- (iv) To emphasise the centrality of project design and policy context in shaping these outcomes.

2.1.1 Infrastructure and development: key channels

Understanding the impact of infrastructure investment on development

A number of important channels have been identified in the literature on the relationship between infrastructure and development outcomes. When we consider poverty reduction, there is a key distinction to be made between *direct* poverty reduction outcomes of infrastructure development and the *indirect* poverty reduction outcomes that may occur as a result of economic growth stimulated by infrastructure provision. Channels for direct and indirect impacts identified in the literature are summarised below (OECD, 2006; Jahan & McCleery, 2005; Prud'Homme, 2005).

Additional or improved infrastructure services can directly improve household incomes by:

- Increasing access for poor people to factor and product markets;
- Reducing risk and vulnerability;
- Enhancing asset mobilisation and usage;
- Creating employment in construction, operation and maintenance.

And directly improve the non-income aspects of poverty by:

- Providing household access to improved water sources, electricity and communications;
- Improving access to basic social services (such as health and education);
- Facilitating social cohesion;
- Empowering the poor.

These impacts are only potential however – their magnitude and distribution in practice will be determined by the accessibility, quality and affordability of the services provided by the infrastructure.

Infrastructure provision may stimulate *economic growth* (and thus *indirectly* stimulate poverty reduction) by:

- Reducing production and transaction costs;

⁷ Although one third of this spending is required for operation and maintenance rather than capital expenditure.

- Increasing private investment;
- Improving agricultural and industrial productivity;
- Removing 'bottlenecks' which slow industrial and economic growth.

Growth can be more or less poverty reducing, depending upon the extent to which its proceeds are widely shared. It is important to stress that infrastructure provision will have an indirect impact on poverty (via growth) only to the extent that growth is pro-poor. While it is outside the scope of this review to examine this subject in detail, it is an important factor when considering the channels through which infrastructure investment will impact on poverty.

Understanding the impact of infrastructure investment on development

Even if we assume growth is pro-poor, evidence on the impact of infrastructure is highly heterogeneous. While the theoretical mechanisms are understood (see above), understanding what this means in practice in a particular setting is more problematic.

The main factors contributing to this uncertainty are:

- The complexity of the relationship between current levels of infrastructure provision and returns on further investment;
- The importance of the institutional environment (and its national variation);
- Time lags between intervention and outcomes;
- Reverse causality (i.e. endogeneity).

Each is discussed briefly below.

Uncertainty over the relationship between current levels of infrastructure provision and economic rates of return on further investment can be understood through two apparently contradictory theories. The first predicts that rates of return will be higher in situations of under-provision, as even a small investment would provide an important boost to growth. The second predicts rates of return will be higher when there is already a reasonable level of provision, due to the realisation of 'network effects'⁸. Given this, we cannot expect constant or linear returns from infrastructure, and it may be difficult to distinguish the two effects in empirical studies (Estache & Fay, 2007; Straub, 2008a).

The institutional environment⁹ is important in determining the degree to which infrastructure investment translates into economic growth and poverty reduction (Straub, 2008b; Jahan & McCleery, 2005; DFID, 2002). For example, the quality of the construction and maintenance of facilities, or the degree of stakeholder input into projects can both have a strong influence on outcomes, and both will be significantly affected by the institutional environment.

Infrastructure's impact on growth is associated with long time lags, which vary by sector and are difficult to predict¹⁰. Time lags are particularly long and unpredictable in the case of transport infrastructure (World Bank, 2008).

⁸ The classic example of network effects in infrastructure is telecommunications, where returns to a connection increase in line with the number of connections already in existence. The concept can also be applied to transportation, water and electricity however; an investment that completes an incomplete network in any of these sectors will have high returns.

⁹ Regulatory frameworks, market structure, political economy and institutional quality, for example.

¹⁰ For example, growth effects may be delayed by firms' slow adjustment to the new opportunities on offer, but this will differ from place to place (Estache & Fay, 2007).

Infrastructure causes growth, but growth also causes greater demand for (and usually supply of) infrastructure – so called reverse causality, or ‘endogeneity’. This problem is believed to have caused over-estimates of the impact of infrastructure on growth in early studies (Estache & Fay, 2007). While econometric techniques have been developed to help reduce the problem, it cannot be eliminated.

Given these factors, it is unsurprising that the results of empirical studies show a high degree of variation. Despite the uncertainty over the ultimate impacts of particular projects, however, there is a consensus that infrastructure plays an important role in both growth and poverty reduction. Estache and Fay’s (2007: 6) review of debates in infrastructure policy find that “infrastructure generally matters for growth and production costs, although its impact seems higher at lower levels of income”. A review of links between infrastructure and development by Prud’Homme (2005: 161) comes to the conclusion that “infrastructure seems to have a relatively high rate of return – something like 15% – comparable to or even higher than the rate of return of private ‘productive’ capital”. Straub’s systematic review (2008b: 19) analyses 140 specifications from 64 papers between 1989 and 2007, and finds that “63% of the specifications find a positive and significant link between infrastructure and some development outcome”.

2.3 Private participation in infrastructure: rationale, challenges, debates and DFIs

2.1.2 Rationale for private participation in infrastructure (PPI)

Perceptions of the appropriate roles of the public and private sectors in the provision of infrastructure has changed significantly in recent decades, as described by Estache and Fay (2007: 1)

“During the 1980s, with a few high-profile exceptions in the Anglo-Saxon world, these sectors were clearly seen as a public sector responsibility and governments were looking inward for means to improve their quality and volume. But during the nineties, these concerns largely disappeared from governments’ agendas. Instead, received wisdom was that the private sector was going to take over these services, leaving only a residual role for governments (deregulation and restructuring, and the regulation of remaining residual monopolies). The time had come for the private sector to show what it could do after a frustrating long experience with an underperforming public sector. The vision did not play out as expected. Almost 20 years after privatization began to be touted as the solution to infrastructure woes, the role of the large scale private sector in the delivery of infrastructure services in energy, water or transport is far from being as widespread as many had hoped for, at least in developing countries.”

Investment commitments to infrastructure projects with private participation did indeed increase significantly in the 1990s, from around US\$20 billion at the start of the decade, to more than US\$140 billion by 1997¹¹. The East Asian financial crisis, however, saw this figure halved. Since then there has been a steady increase, so that by 2008 investment commitments reached US\$161 billion. The global financial crisis saw another fall, though this was not huge, and investment commitments are now around 5% below their 2008 peak.

¹¹ World Bank and PPIAF, PPI Project Database (<http://ppi.worldbank.org/>).

While private investment in infrastructure is now significant, it is far from sufficient to fill the infrastructure funding gap. As noted above, Africa's infrastructure funding gap has been estimated at US\$48 billion per year¹². The highest level of (public and private) investment commitments to infrastructure projects with private participation was a little over US\$12 billion in 2008. One review study finds that 80% of infrastructure investment in the developing world in the past 15 years has been from public sources (Estache & Fay, 2007). There is no doubt, therefore, that purely public government investment will remain central to infrastructure provision, and needs to be significantly increased.

However, as the above quotation suggests, the rationale for PPI goes beyond the provision of additional funding. At least in theory, the perception has been that private sector involvement can, *inter alia*:

- Reduce political interference in decisions on the distribution of infrastructure investment and thus improve its efficiency;
- Reduce costs by increasing the efficiency of operations and maintenance;
- Set tariffs at cost-recovery prices (avoiding the political pressures placed on governments to provide subsidies) and use revenues to improve and expand services;
- Generate increased fiscal revenues from subsidies avoided and income from concession contracts, which could be used for pro-poor programmes.

2.1.3 Challenges to mobilising private finance

2.3.1.1 Enabling environment

Many consider lower than anticipated private sector investment to be a consequence of challenges in the enabling environment of developing countries, where political, exchange rate, and regulatory risks may be high. In some countries public resistance to private involvement in infrastructure also presents a major challenge. To illustrate these points, up to 40% of contracts involving private participation in infrastructure were cancelled or renegotiated during the 1990s, largely due to over-estimates of financial return, and under-estimates of financial and political risk and levels of public opposition (DFID, 2007).

These challenges tend to be greater in low-income countries, which is one reason why private sector funding has tended to flow to more developed regions. Between 1990 and 2008, Latin American and the Caribbean captured 38% of total investment commitments to infrastructure projects with private participation, compared to 6% for sub-Saharan Africa and 12% for south Asia (World Bank and PPIAF, 2010a).

2.3.1.2 Potential for private sector involvement varies between sectors

According to the World Bank's 1994 World Development Report *Infrastructure for Development*, the potential for private sector involvement (i.e. the 'marketability') of infrastructure depends upon:

- The potential for competition;

¹² Although one third of this is required for operation and maintenance rather than capital expenditure and \$17 billion could theoretically be saved through efficiency savings.

- The consumption characteristics of the infrastructure service (i.e. whether it is 'excludable' and 'rival'¹³);
- The potential for full cost recovery from user charges;
- Public service considerations (i.e. concerns over equity);
- Environmental externalities.

All of these characteristics vary markedly by sector¹⁴. Telecommunications and energy, for example, are relatively 'marketable'. This is because: (a) they provide services for which user fees are charged, typically based on direct measures of consumption; (b) they are 'excludable' in the sense that access to them requires a connection to a network; and (c) it is possible to unbundle activities and thus create competition (competition occurs naturally in mobile telephony)¹⁵. At the other extreme, the marketability of rural roads is extremely low as they are not excludable and imposing direct user charges is almost impossible.

The table below from the World Bank's 1994 World Development Report provides a summary of the marketability of various infrastructure activities. The analysis remains highly relevant today: telecommunications and power are the most marketable sectors, while all the other sectors have some sub-sectors that are more marketable than others. For example, while rail passenger and freight services may be marketable, rail infrastructure is far less so. Similarly, while on-farm (tertiary) irrigation systems have a high degree of marketability, the marketability of supporting primary irrigation networks that feed into these systems is not as great.

¹³ A good is 'rival' if consumption by one user reduces the supply available to other users. A good is excludable if a user can be excluded from its use. A non-excludable, non-rival good is a definition of a pure public good (Samuelson, 1954).

¹⁴ Some of these characteristics will be influenced by multiple factors in the external environment, not just sector. For example the potential for cost recovery depends on the income level of the target population, and environmental externalities may depend upon the project location.

¹⁵ 'Natural monopolies' occur in technologies for which it is economically most efficient for production to be concentrated in one supplier, mainly due to high capital costs. A classic example is railway infrastructure.

Table 1. Marketability of infrastructure activities by sector

Key to marketability rating:		Potential for competition ^a	Characteristics of good or service	Potential for cost recovery from user charges	Public service obligations (equity concerns)	Environmental externalities	Marketability index ^b
□	= 1.0 (least marketable)						
■	= 2.0						
■	= 3.0 (most marketable)						
Telecom	Local services	Medium	Private	High	Medium	Low	2.6
	Long distance and value-added	High	Private	High	Few	Low	3.0
Power/gas	Thermal generation	High	Private	High	Few	High	2.6
	Transmission	Low	Club	High	Few	Low	2.4
	Distribution	Medium	Private	High	Many	Low	2.4
	Gas production, transmission	High	Private	High	Few	Low	3.0
Transport	Railbed and stations	Low	Club	High	Medium	Medium	2.0
	Rail freight and passenger services	High	Private	High	Medium	Medium	2.6
	Urban bus	High	Private	High	Many	Medium	2.4
	Urban rail	High	Private	Medium	Medium	Medium	2.4
	Rural roads	Low	Public	Low	Many	High	1.0
	Primary and secondary roads	Medium	Club	Medium	Few	Low	2.4
	Urban roads	Low	Common property	Medium	Few	High	1.8
	Port and airport facilities	Low	Club	High	Few	High	2.0
	Port and airport services ^c	High	Private	High	Few	High	2.6
Water	Urban piped network	Medium	Private	High	Many	High	2.0
	Nonpiped systems	High	Private	High	Medium	High	2.4
Sanitation	Piped sewerage and treatment	Low	Club	Medium	Few	High	1.8
	Condominial sewerage	Medium	Club	High	Medium	High	2.0
	On-site disposal	High	Private	High	Medium	High	2.4
Waste	Collection	High	Private	Medium	Few	Low	2.8
	Sanitary disposal	Medium	Common property	Medium	Few	High	2.0
Irrigation	Primary and secondary networks	Low	Club	Low	Medium	High	1.4
	Tertiary (on-farm)	Medium	Private	High	Medium	Medium	2.4

a. Due to either absence of scale economies or sunk costs, or existence of service substitutes.
b. Marketability index is average of ratings across each row.
c. Including cargo handling, shipping, and airlines.

Source: World Bank (1994)

The variation in marketability is illustrated in investment patterns. From 1984 to 2008, approximately 42% of investment commitments to infrastructure projects with private participation in the developing world was invested in telecommunications, 31% in energy, 22% in transport and 6% in water and sanitation (World Bank and PPIAF, 2010). In 2008, energy took the same proportion of investment, transport and water and sanitation decreased to 17% and 2% respectively, and telecommunications had increased to 50% (ibid).

2.1.4 Debates over the impact on the poor

The impact upon the poor of PPI investment is a controversial subject. While few would disagree that private sector involvement has the potential to improve efficiency and quality of service, many argue that private sector players have little interest in serving the poor and tend to set tariffs beyond their means (Harris, 2003). Since private firms aim to maximise profits they do not have natural incentives to extend access to those who cannot afford cost-recovery tariffs. As a result, unless infrastructure projects are specifically designed to take account of this – through requiring private operators to extend access to certain groups as a condition of the contract, for example – outcomes will often bring greater benefits to the relatively well-off (Foster & Briceño-Garcia, 2010).

The problem is most acute in high-risk countries, where investors require a higher rate of return to compensate for this risk: “the average tariff necessary to generate the minimum required rate of return in the poorest developing countries has to be higher than elsewhere since it needs to cover a higher cost of capital” (Estache, 2006: 4).

In the light of these debates, Estache & Fay (2007) summarise the instruments available to support **access** for the poor:

“For access there are three basic types of instruments: (a) instrument requiring operators to provide access (a service obligation to avoid unilateral exclusion by the provider); (b) instruments reducing connection costs (through cross-subsidies or direct subsidies built into the tariff design or through credit or discriminatory payment plans in favor of the poor); and (c) instruments increasing the range of suppliers (to give users choice, including the option of reducing costs by choosing lower-quality service providers).”

And for **affordability**:

“... all instruments work in at least one of three ways: (a) by reducing bills for poor households (through lifelines or means-tested subsidies based on socioeconomic characteristics or the characteristics of the connection, financed through cross-subsidies or direct subsidies built into the tariff design); (b) by reducing the cost of services (by avoiding granting a monopoly right when it is not necessary or by providing an incentive for operators to reduce costs and pass on the cost reductions to users); and (c) by facilitating the payment of bills (by allowing discriminatory administrative arrangements in favor of the permanently or temporarily poor)” (Estache & Fay, 2007: 19-20).

2.1.5 The role of DFIs

The inability of either the public or private sectors alone to finance and develop infrastructure projects at the level required in developing countries has led to more combined public-private approaches. DFIs are key players in this process, providing guarantees, loans and technical support to help mitigate the risks posed by projects with large sunk costs, particularly in higher-risk, less developed countries where commercial finance is difficult to obtain.

The establishment of the Private Infrastructure Development Group (PIDG) in 2002 demonstrated the awareness that had developed in the donor community of the particular difficulty of raising private finance for infrastructure. PIDG is in many ways a new type of DFI. It focuses exclusively on infrastructure, has multiple donors (in

contrast to the majority of DFIs which work bilaterally), and has several ‘Facilities’, each of which is explicitly designed to overcome a specific market failure.

2.4 Rationale for the review

The aim of this review is to assess the extent to which DFIs’ activity in the infrastructure sector creates ‘additional’ developmental impact, i.e. impact which is additional compared to the counterfactual of their non-involvement.

The need for such a study is illustrated by the findings of DFID’s (2007) literature review on private sector infrastructure investment:

“The weakness of the evidence base supporting the dominant PPI rationale is a significant challenge for the [private sector infrastructure investment] facilities... The emphasis of the Facilities is often more market-based than rights-based, and the independent reviews of the Facilities suggest they need to strengthen pro-poor impact and community engagement (pp.51 & 73).”

2.5 Similar studies

No literature reviews or systematic reviews addressing the particular question in this systematic review have been undertaken. For related studies, perhaps the most relevant is DFID’s (2008) *Desk Review of DFID’s Private Sector Infrastructure Investment Facilities*, which investigates how effectively DFID’s interventions in the private sector infrastructure portfolio of facilities supporting infrastructure investment have contributed to achieving DFID’s core objectives.

The study finds that:

“There is currently little quantitative evidence available to assess the development impact of the... Facilities, principally because very few investment projects resulting from their interventions have yet been completed and thus directly enhanced access or quality of infrastructure services (v).”

Given this, the assessment is based principally upon:

- (a) The growth and distribution of the DFIs’ activities;
- (b) Alignment with host country priorities;
- (c) Cost effectiveness;
- (d) Effectiveness in monitoring development impact;
- (e) The demonstration effect.

Although the report could not provide empirical evidence of the links between DFI activity and developmental outcomes, it concludes that:

“The PSI portfolio supports DFID’s broad strategic objectives, in particular in promoting economic growth in target... countries through advancing private participation in infrastructure development (ix).”

Another DFID study, which was commissioned as an input to the above study, is also relevant to this review. The conclusions of the *Literature Review of Private Sector Infrastructure Investment* (2007), was also broadly positive, though again the findings are inconclusive:

“While at the broad level, there is clear association between infrastructure investment, economic growth and poverty reduction, the steps in causality that lead from one to the other, and how these work specifically in the case of PPI

are less obvious... Empirical evidence for robust links between the steps in the causal chain is limited (p.8)."

3 Methods

This section begins by describing the methodological approach taken in this review. Section 3.2 explains our understanding of the 'causal chain' that links DFI engagement in infrastructure investment to growth and poverty outcomes, and is central to our approach. The following sections describe the study searches that were undertaken (3.3), the inclusion/exclusion process (3.4), and the coding and analysis of the included studies (3.5).

3.1 Approach: a 'Realist Review'

Unlike 'traditional' systematic reviews in the health sector, the evidence available on the impact of DFIs on growth and poverty reduction is not largely in the same form. Specifically, there is not a critical mass of randomised control trials (RCTs) available to provide comparable quantitative assessments of the evidence available. Rather, evidence is available in a range of forms, principally DFI project evaluations, which vary significantly in form by DFI, and a limited number of academic studies.

Given the heterogeneous nature of the available evidence on the question under review, it was decided to employ a 'realist' approach, which Pawson *et al* (2005: 1) describe as follows:

"Realist review is a relatively new strategy for synthesizing research which has an explanatory rather than judgemental focus. It seeks to unpack the mechanism of how complex programmes work (or why they fail) in particular contexts and settings."

A realist review begins with the elucidation of a 'programme theory', which details the impacts that an intervention is supposed to have at each stage, and breaks this down into stages – or 'links' in the causal chain. Evidence is then assembled to support, contradict and ultimately modify these links, so as to inform future interventions and improve desired outcomes.

3.2 Conceptualising and interrogating the causal chain

In this section, we first set out our understanding of the causal chain that links DFI engagement in infrastructure investment to growth and poverty outcomes. We then reframe this causal chain in terms of 'programme theory', where the assumptions that underpin each 'link' in the chain (i.e. what is supposed to happen and why) are made explicit. Finally, we identify and provide a rationale for selection of key links to be covered in this systematic review.

Figure 1. Graphical illustration of causal chain

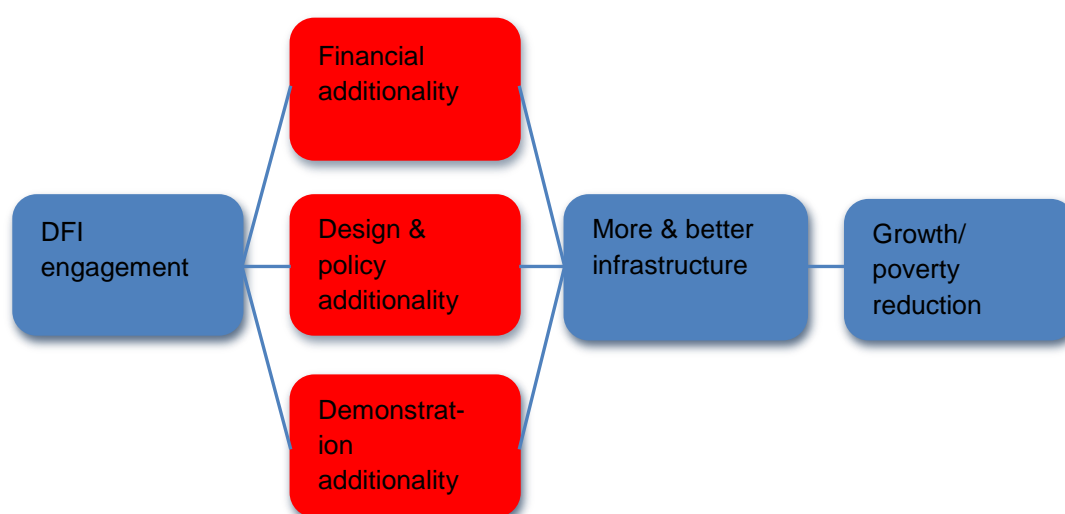


Figure 1 above sets out the links in the causal chain from DFI engagement to development impact, as conceived in the first phase of the review (P1). The questions (or links in the causal chain) are as follows:

- 1) Does DFI engagement crowd out (i.e. reduce) or create additional (i.e. increase) private investment in infrastructure projects? (*Financial additionality*).
- 2) What influence does DFI engagement have on the probability of subsequent private sector funded projects in the same jurisdiction? (*Demonstration additionality*).
- 3) What influence does DFI engagement have on infrastructure project design and the policy context within which projects occur? (*Design and policy additionality*).
- 4) What influence does project design/policy context have on (a) poverty reduction, and (b) economic growth outcomes?

As described above, it became apparent in P1 that project selection is itself a very important form of potential additionality. Although this was not incorporated into the first phase of the review, we were able to incorporate it into P2, the results of which are presented below. In terms of figure 1, this would therefore be the first link in the chain, and a vital one in that it determines the total potential development impact that could be achieved. It is likely, for example, that some projects have the potential to create more impacts than others. Selecting those projects with the greatest potential is therefore a precondition for maximising development impact. This does not ensure that this potential is realised, which may require DFIs to influence project financing, design and the policy context in particular ways. Selecting the best projects in the first instance makes it possible for this to occur, however, and is thus arguably the most important link in the entire chain.

In P1 we broadly assume that projects are selected well, and focus on the additionality that DFIs create after this stage. In P2 this problem is addressed, with selection issues being fully incorporated.

Link 1: DFIs and (financial) additionality

Ostensibly, DFIs have leveraged significant additional private sector finance. For example, according to the PIDG (2010: 1), “US\$390 million from the PIDG donors has helped secure US\$10.5 billion of private investment commitments.” The PIDG

website states that: “Every US\$1 of donor funds channelled through PIDG helps leverage commitments of over US\$25 of private sector funding for infrastructure.”¹⁶

The rationale for DFI engagement in infrastructure is clear. What is less clear, however, is how much ‘additionality’ this engagement actually creates. The quotations above focus on additionality of finance, where the claim is not that US\$1 of DFI investment leverages US\$25 of private investment, but that it ‘helps’ to do so. Methodologically, there is no obvious way to be more precise in terms of attribution. No counter-factual exists, and where a number of DFIs are involved – as is often the case – it is rarely clear how financial additionality should be allocated between the parties.

For Link 1, the assumption to test, therefore, is that DFIs do leverage significant additional private finance into the infrastructure sectors of developing countries. Given the methodological issues described above, no one source of information or methodological approach would be able to adequately test this. Instead evidence from a range of sources has been used to create a synthesis.

Link 2: DFIs and the ‘demonstration effect’

Producing a demonstration effect is, in some ways, the main goal of DFIs. The funds available to them are far short of what is required to fill the infrastructure funding gap. Developing country governmental budgets and donor funds have also historically proven inadequate to fill this gap. Through their financing and advisory activities, therefore, DFIs aim to improve private sector perceptions of the risk/return trade-off of infrastructure projects such that a step-change in private investment results.

In reality, public investment in infrastructure will remain important for the foreseeable future, not least because many of the projects that are required are unlikely to be commercially viable on their own terms. But public funding alone will never be enough to meet the shortfall, particularly in a climate of fiscal consolidation for both developing country governments and developed country donors. Consequently, the demonstration role of DFIs is crucial in reducing the infrastructure funding gap by encouraging private investment.

In common with Link 1, proving DFIs’ demonstration effect is challenging due to the absence of a counterfactual and the difficulty of isolating the demonstration effect of DFIs from other changes in the investment environment that may encourage private sector investment.

Link 3: DFIs, project design and policy context

There are numerous aspects of infrastructure project design and the policy environment that influence growth and poverty impacts. As will be described in more detail below, it is not possible to directly observe DFI impact upon growth or poverty through their work in the infrastructure sector. Instead, this link explores how DFI engagement affects (or does not) the design and policy characteristics that can be identified as having an impact on growth or poverty outcomes.

DFIs’ mandates and investment criteria vary widely, and we would expect to see this reflected in their activities in this regard. All the PIDG finance Facilities state, for example, that transactions should satisfy at least one of three criteria: (1) underpinning economic growth; (2) benefiting broad based population groups; and (3) promoting the interests of poor people (DFID, 2008: 21). The investment criteria

¹⁶ <http://www.pidg.org/sitePages.asp?step=4&navID=15&contentID=44>

are therefore not explicitly pro-poor, although the PIDG DFIs are mandated to focus on low-income countries.

Link 4: From infrastructure projects to development outcomes: design and policy features

The bulk of the academic and policy literature relates to the final link. The channels of impact, the importance of design and context, and the methodological challenges of assessing these factors have been well researched and summarised. Given that the focus of this review is the additionality of DFIs, the focus will be on the first three links, about which far less is known.

Therefore, while the key studies in this area have been reviewed and summarised, this does not form part of the formal systematic review process. Rather, key aspects of infrastructure project design and policy have been identified from this literature that has been shown to have a positive impact on (a) poverty and (b) growth. These are set out in Table 4 in section 6.2. As described above, the systematic review of Link 3 then looked for evidence that DFIs have sought to influence these proxies.

3.3 Searching for studies

In the first phase of the review, the search for relevant, publicly available studies had two components – general searches of academic databases and targeted searches for DFI evaluations through websites and direct contact with DFI staff. Phase 2 focused exclusively on participating DFIs' confidential internal project evaluations, which were made available to the research team on terms which required project- and partner-level anonymity.

3.1.1 General Searches

The following databases were searched: JOLIS, Web of Science, IDEAS, EconLit, Google Scholar.

Key search terms used (using different combinations and with increasing levels of specificity) were:

“additional(ity)”; “crowd(ing) out”; “demonstration or example”
“evaluation OR review OR appraisal”; “PPP OR PPI OR public private”;
“infrastructure OR water OR road OR energy OR power OR electrification OR sanitation OR telecom OR ports OR railway OR transportation OR ICT”; “design”;
“policy”; “framework”; “context”; “market based OR privatisation OR model OR revenues OR conditions OR regulation”; “impact or effect(s) OR outcomes”;
“poverty”; “growth”.

2,350 documents were obtained.

3.1.2 Targeted searches

The first stage of the targeted search was identification of relevant DFIs. The following decisions were made:

- 1) National DFIs based in developing countries would not be included. There are many such institutions, identifying them all would be challenging and obtaining documentation from them more challenging still. Most importantly however, these DFIs play a different role and have different priorities to

- 'donor' DFIs based in the developed world, which are the subject of this study.
- 2) Regional and multilateral DFIs and banks that aim to mobilise private sector investment in infrastructure in the developing world as part of their activities would be included. These are: the IFC and MIGA, the EIB and EBRD, ADB, AfDB and IADB.
 - 3) The other categories of organisation to be included are bilateral DFIs in developed countries and PIDG, which can be thought of as a 'multilateral DFI'.
 - 4) The focus was primarily for evaluations (ideally independent) from the included organisations as these were the most promising source of potential evidence.

The websites of the following organisations were searched manually: PIDG, IFC, MIGA, DEG, EIB, FMO, CDC, SIFEM, FinnFund, NorFund, SwedFund, PROPARCO, BIO, IFU, SOFID, SIMEST, SBI-BMI, OeEB, COFIDES, OPIC, EBRD, AfDB, ADB, IADB¹⁷. The OECD-DAC evaluations database was also searched using the word "private" in an attempt to capture all relevant studies.

The monitoring and evaluation and impact assessment policies of all the above organisations were studied. Those organisations that carried out or commissioned independent evaluations were also contacted directly to request documentation. A total of 177 DFI evaluations were obtained and 2,527 titles and abstracts were uploaded to the EPPI 4 Reviewer systematic review software hosted by the Institute of Education, University of London.

3.4 Inclusion/exclusion of studies

The primary criterion for inclusion in P1 is simply relevance: is the study (a) an evaluation (or summary of evaluations) of DFI projects in relevant sectors; (b) an appraisal of DFIs activities; or (c) an analysis of DFIs activities relating to one or more of the aspects of additionality. P2 only dealt with internal project evaluations focusing on the infrastructure sector, and so were relevant by definition.

The country income band upon which the evaluation or academic study focuses is also important. We focused on countries in the three lowest bands of the OECD-DAC List of Aid Recipients for 2009-2010 (Least Developed, Low Income and Lower Middle Income) as poorer developing countries generally face the greatest challenges in attracting private sector investment, and are the principal target countries for DFIs in the infrastructure sector. Studies focused on Upper Middle Income Countries were also included, but given lower priority as described below. We included studies from 1990 onwards, reflecting the concentration of DFI activity from this date. A review of titles and abstracts led to 2,323 documents being excluded on grounds of relevance or duplication. Ultimately, 204 documents were included and full texts uploaded to the review software.

Phase 2 reviewed 210 documents, making a total of 414 documents analysed in the entire review.

¹⁷ A brief summary of the mission, sectoral and country focus and activities of each of these organisations is provided in Annex A.

3.5 Coding and analysis

In P1 each document was coded four times:

1. Base data: DFI, sector, income level, region, intervention type, investment type.
2. Relevance/quality: documents were prioritised in terms of relevance and quality (e.g. Independent studies carried out by consultants or DFIs' independent evaluation departments were preferred to annual reports). 86 studies were prioritised. (The same four stage process was undertaken separately for the non-prioritised studies).
3. Evidence: statements supported by specific facts and figures, rather than general claims.
4. Additionality information on four aspects of additionality and explanatory factors.

For each aspect of additionality, coded material was reviewed and key themes then identified. P2 saw this process streamlined, with coding focusing on two areas. First, base data was coded as described above; second, given high levels of uncertainty on what could be counted as 'evidence' – not least as DFIs themselves were the sole source of the material – the final two categories were combined. Material was therefore coded that was indicative of DFI interventions that were likely to influence development outcomes with respect to: project selection; financing provision/leverage; project design; policy frameworks; and demonstration effects.

4 Search results and details of included studies (P1 and P2)

A breakdown of P1's 204 included studies by organisation, country income level, region and infrastructure sector is given below. Twenty of the 204 documents were not classified as independent, but were still seen as sufficiently relevant to include, although they were not classified as priority documents (they have been classified as 'other' – see section 5.3). These are documents such as annual reports and other reports produced by DFIs, but not by independent evaluation departments or independent consultants.

Table(s) 2. Included study breakdown

Organisation (or academic)

EBRD	75
IFC	28
ADB	15
EIB	12
MIGA	12
PIDG	6
Norad	5
NorFund	5
FMO	4
KfW	4
BMZ	3
CDC	2

Country income level*

Least developed	7
Other low-income	4
Lower middle-income	14
...	...

Region*

Africa	9
Asia	23
Europe	33
Latin America and the Caribbean	1
Total	66

*66 documents refer to specific regions. The others refer to multiple regions or are not region specific.

Sector*

Agri-infrastructure	1
Energy	22
Industry	11
Solid waste	2
Telecoms	7
Transport	20
Urban development	4
Watsan	16
Total	83

* 83 documents refer to specific sectors

SwedFund	2
DEG	1
IADB	1
SIDA	1
IFU	1
<i>Academic</i>	27
Total	204

Table 3 provides base data for phase 2 of the review, which are expressed as percentages of the total 210 documents.

Table 3. Phase 2 Base data					
<i>Income</i>	<i>Percentage</i>	<i>Region</i>	<i>Percentage</i>	<i>Sector</i>	<i>Percentage</i>
LDC	18.3	Africa	24.7	Energy	37.1
LIC	14.9	Asia	30.8	Telecoms	24.0
LMIC	36.1	Europe	12.1	Transport	28.0
UMIC	30.7	LAC	32.4	Urban dev.	3.4
				WatSan	7.4

5 Analysis of evidence from Phase 1

This section describes the evidence extracted from the documents studied and seeks to identify patterns in the data. Statements were only classified as evidence when they were supported by specific facts and figures. Therefore, while much of the material coded cannot be classified as evidence, it does provide information of interest, which is covered in section 6. Tables providing the statistical results of the P1 analysis are provided in Annex B.

5.1 Priority documents

A total of 86 documents seen to be highly relevant to the study question were coded in the first round of coding. Relevance has been evaluated on the basis of three criteria: (1) whether the evaluation covers least developed and low-income countries, which are the focus of the study question; (2) whether the evaluation covers the infrastructure sectors included in the study question; and (3) whether the document provides *evidence* on the study question from an independent source as opposed to, for example, annual reports that are produced internally.

Table 4. 86 priority documents: frequencies by organisation

DFI	
IFC	23
ADB	14
MIGA	12
EIB	7
Norad	5
FMO	4
BMZ	3
CDC	2
NorFund	2
PIDG	2
SwedFund	2
AFD	1
DEG	1
IADB	1
SIDA	1
IFU	1
Total	81

Of these 86 documents, 81 evaluate the work of a particular organisation. The frequencies of these documents by organisation are provided in the table below. This section first discusses frequencies of samples of evidence (i.e. the number of examples of evidence of each type of additionality) and goes on to discuss 'crosstabs' (i.e. mapping the frequency of outcomes against contextual factors and using the results to explore causality).

The weight of evidence is clearly positive; it indicates that the work of DFIs does create financial, design, policy and demonstration additionality more often than not. However, the number examples of 'negative or no' additionality suggest that there is room for improvement.

5.1.1 Additionality frequencies

From the 86 documents coded in the first tier, 67 examples of evidence of additionality in total were found (i.e. a phrase or paragraph containing evidence of additionality)¹⁸. Evidence of additionality is therefore limited. Evidence of policy

¹⁸ Note that this does not mean that 67 documents were found containing evidence of additionality, but that 67 examples of evidence of additionality were found in total in the 86 documents examined.

additionality and demonstration additionality is particularly scarce, with just five and eight examples respectively.

Table 5. Additionality evidence

<i>Financial additionality</i>		<i>Design additionality</i>			<i>Policy additionality</i>		<i>Demonstration effect</i>	
Positive	None	Growth	Poverty	Negative or none	Positive	Negative or none	Positive	Negative
18	10	14	6	6	4	1	5	3

5.1.1.1 *Financial additionality*

Evidence on financial additionality is mixed, with 18 examples of projects that created additionality and ten that would have gone ahead without DFI involvement. This suggests that DFIs have created financial additionality in a significant number of cases, but that these types of projects are not easy to identify and that significant up-front project screening and appraisal work is necessary and justified to ensure projects are additional.

5.1.1.2 *Design additionality*

Fourteen documents contain evidence of design additionality to promote economic growth, and six documents contain evidence of design additionality to enhance poverty reduction. Considering that increasing growth and reducing poverty are the principal goals of the organisations included in this study, this is a very small proportion of the 86 documents examined.

Under design additionality for growth, the three most frequent proxies are: “targeting bottlenecks to production and growth” (8 documents); “employment” (6); and “fiscal contribution” (6).¹⁹ Considerably less evidence was found for design additionality to enhance poverty reduction. Just six documents contain evidence of this type, five related to designing the infrastructure either to physically reach the poor (3) or be affordable for the poor (2), with the final example pertaining to labour standards. However, two documents contain examples of projects that have failed to physically reach the poor, and two documents provide evidence of projects that have not been affordable for the poor or poorest. In summary, the evidence of the *additional* impact of DFIs on poverty reduction is scarce, and where evidence does exist it is mixed.

5.1.1.3 *Policy additionality and demonstration additionality*

Evidence on policy additionality or demonstration additionality is also scarce. Just five documents contain evidence on the former: four cases of improvements to the legal and regulatory framework and one case of an unsuccessful attempt. Five documents contain evidence of demonstration additionality and three documents contain evidence of a failed attempt or a negative demonstration effect. The low numbers suggest that: (1) evidence on these types of additionality is not being gathered; and/or (2) the organisations under study struggle to generate these types of additionality.

¹⁹ Note, however, that the magnitude of the effect varies significantly between evidence samples, particularly for employment and fiscal contribution.

5.1.2 Crosstabs: Exploring regularities in the evidence

Within the review software, crosstabs are used to map the frequency of outcomes against contextual factors (for example financial additionality against country income level) and are thus employed to explore patterns in the data. There are some important caveats on this part of the review. First, a relatively small quantity of evidence was discovered by the research team, meaning that results cannot be said to be statistically significant (although this does not mean that they are not of interest). Second, some of the apparent patterns are attributable to:

- The type and range of studies the research team has been able to access;
- The way in which different organisations carry out evaluations;
- The variation in the quantity of evaluations the research team was able to access from each organisation.

As far as is possible we have attempted to control for these factors in the analysis, as explained under the headings below.

a) *Organisation*

The greatest number of documents containing evidence of financial additionality are from the IFC (8), MIGA (6) and the ADB (4). In the case of the IFC and the ADB this may be a reflection of the large scale of these organisations, but it is also due to the large number of documents available and their manner of reporting.

The only organisations with more than one document containing evidence of design additionality are ADB (6) and the IFC (3). This may suggest that the smaller and more resource-constrained DFIs are not focusing on and/or measuring design additionality. The three organisations demonstrating evidence of policy additionality are the IFC (3), MIGA (1) and Norad (1). This may be because each of these organisations engages actively in enabling environment activities, unlike bilateral DFIs.

The three organisations for which evidence of demonstration additionality was found are the IFC, ADB and Norad. Again these are organisations that have a wider remit than institutions such as the European bilateral DFIs (EDFIs).

5.1.1.4 *Region*

Evidence of financial additionality is shared equally between Africa and Asia, but examples of projects that would have taken place without the organisation's involvement are more common in Africa – seven examples, compared to three in Asia. It is *possible* that this may be associated with the strong mandate of the organisations based in the developed world to promote development in Africa, which may lead to excessive pressure to find projects and thus the selection of inappropriate projects. This is by no means the only possible cause, however, and as has been stressed, the sample size is too small to do more than suggest the existence of data patterns.

In Africa, two examples were found of a positive demonstration effect, while five were found of failed or negative demonstration effects. To compare, Asia has four positive and two negative examples. The sample is too small to draw definite conclusions, but the evidence suggests that creating a demonstration effect in Africa is challenging. There are no discernable patterns in design or policy additionality by region.

5.1.1.5 Sector

Evidence of financial additionality is most plentiful and most mixed for the energy and telecoms sectors. Seven examples of financial additionality were found in the energy sector, compared with four projects that would have gone ahead without DFI involvement. The corresponding figures for the telecoms sector are five and three respectively. There are three examples of financial additionality in transportation and two in water and sanitation, but no examples of projects that would have gone ahead without DFI involvement in either sector. With the usual caveats, this suggests a lower risk of crowding out in these sectors as they are less popular with private sector investors.

Evidence of policy additionality for growth is dominated by the energy sector, with six out of seven examples. Five of these six relate to changes to the legal and regulatory framework to encourage private sector investment. This provides another example (albeit supported by limited evidence) of DFIs fulfilling their objectives – a sound legal and regulatory framework is critical for a successful energy sector but is lacking in many of the poorest developing countries. Evidence of demonstration additionality is also dominated by the energy sector, although it is mixed: four examples of a positive effect versus three examples of a failed or negative demonstration effect. The evidence is similarly mixed for telecoms, with one positive example and two of failed or negative demonstration effects.

5.1.1.6 Design additionality broken down into income level and sector

Crosstabs for the design additionality code were broken down into greater detail under each sub-code of growth, poverty reduction and negative or none. In most instances the scale of the sample is too small to draw conclusions, but those contextual factors for which tentative hypotheses can be made are discussed below.

Country income level

Of the 26 examples of design additionality for growth, the most frequent (7) are examples of targeting bottlenecks to growth in LDCs. This is one of the principal objectives of the organisations under study, and provides some evidence that these organisations are fulfilling their mandates in this area. There are also five examples of employment creation in LDCs, but the number of jobs generated varies greatly.

Considering design additionality for poverty reduction, four of the seven examples are of projects that were designed to physically reach the poor in LDCs. Again, this provides some (limited) evidence of the organisations under study fulfilling their mandate. However, four of the seven examples of failed or negative design additionality are of projects which have failed to reach the poor or are not affordable for the poor in LDCs. This demonstrates the difficulty of creating commercially viable pro-poor projects in the poorest countries in the world.

Sector

Of the 12 interventions designed to target bottlenecks, seven are in the energy sector, which is widely acknowledged to be the sector suffering from the greatest under-investment in lower-income countries. Three are in the (pro-poor but often difficult to marketise) water and sanitation sectors. Again this provides a degree of evidence that the organisations under study are fulfilling their objectives.

5.2 EBRD documents

Of all the organisations under review, the greatest number of documents was sourced from the EBRD. The EBRD has a particular mandate and geographical focus: it aims to “help our countries make the transition towards well-functioning market economies” (EBRD website), and its “region of operations stretches from central Europe and the Western Balkans to central Asia” (*ibid*). EBRD documents were considered less relevant than those prioritised as many of the countries in this region are not LDCs or LICs. There are also important differences between the activities required to foster a transition to an open market economy and those to promote broad-based development in a low-income and/or high-risk country.

5.1.3 Additionality frequencies

Table 6. Additionality evidence from EBRD

Financial additionality		Developmental outcomes			Policy additionality			Demonstration effect	
Positive	None	Growth	Poverty	Negative or room to improve	Capacity	Legal and reg framework	Negative or room to improve	Positive	Negative
6	2	2	0	0	3	5	2	1	0

Evidence of additionality in the EBRD documents is sparse. While the patterns observed do not differ greatly from those observed for the 86 priority documents, the principal difference is a considerably higher proportion of policy additionality outcomes than for other organisations, particularly for the legal and regulatory framework. This is what we would expect to see for the EBRD given its transition mandate.

5.1.4 Crosstabs

Data was generally too sparse to generate patterns using crosstabs. However, considering financial and policy additionality outcomes against sectors does reveal some results of interest. For financial additionality we see a good distribution across sectors. Two positive results in water and sanitation support the suggestion that creating financial additionality in this sector is feasible for DFIs. In common with the study of the priority documents, we see the majority of policy additionality in the energy sector – principally energy sector reform to enable liberalisation, competition and the entry of the private sector.

5.3 Other studies

Finally, information from ‘other’ studies was reviewed. These documents were seen as less relevant either because: (1) they did not deal with the lower-income bracket countries of principal interest to this study, and/or; (2) they were not carried out by an independent body²⁰. There were 46 ‘other’ documents, but the research team eventually took the decision to exclude the 34 DFI annual reports. The small amount

²⁰ By independent body we mean an independent evaluation organisation within a DFI, for example the World Bank’s Independent Evaluation Group (IEG) or an external (and independent) agency or consultancy.

of material that may have been of interest in these documents were judged not to justify the long period of time that would have been required to code the text. Twelve 'other' studies were therefore included: five from EIB, three from IFC and four from KfW. Given the low number of documents coded and questions over their relevance and independence, the statistical patterns found in the evidence from these documents is not seen to be of sufficient importance to discuss here. However, data tables for this part of the study are available in Annex B.

6 Synthesis of P1 coded text

In this section we synthesise the text that was coded as relevant to the study question. This includes the text coded as evidence according to the definition set out above, and the very large quantity of text that did not. That much of the text did not qualify as evidence should not be taken to mean that the material set out here is necessarily of less value than that in the previous section. Indeed, given the paucity of hard evidence, much of the real value of the review has been gleaned from the material summarised in this section.

As in the preceding chapter, we present findings for each of the aspects of additionality that were described in our causal chain: financial, design, policy and demonstration.

6.1 Financial additionality

The most fundamental aspect of DFIs' activities is their ability to leverage additional private investment into the infrastructure sectors of developing countries. There is strong evidence that infrastructure development supports economic growth and that growth is a prerequisite to poverty reduction. Therefore, to the extent that DFIs' activities leverage additional finance leading to a greater provision of infrastructure than would otherwise have been the case, we can say they are creating a positive developmental impact.

6.1.1 Types of financial additionality

The first finding to emerge is that DFI-leveraged finance is not always additional in the strictest sense of the word. In many cases finance could have been obtained without DFI engagement, but not in the form required to make the project economically viable. In practice, therefore, such finance can be thought of as additional, since it was the involvement of DFIs that enabled it to be mobilised in a form that made projects viable. A number of different categories can be identified:

a) Better terms: longer maturities and viable rates

Perhaps more than any other form of investment, infrastructure requires long-term financing. Fixed costs are high, and construction times long. Investors must therefore be prepared to wait a significant time for the project to pass the break-even point and begin to generate positive returns.

Long-term finance, however, is precisely what is lacking in many developing countries, particularly poorer, higher-risk countries that are a priority for some DFIs. Throughout the material reviewed, this was the common form of financial additionality. The quotations below from evaluations of IFC and ADB projects are typical:

“IFC’s involvement allowed the Company, for the first-time ever, to obtain long-term foreign currency financing at attractive rates.”^{21,22}

“Some sponsors considered ADB’s involvement essential as a means of enhancing creditworthiness and catalyzing commercial funding. ADB’s relatively long maturities and grace period were well suited to infrastructure financing.”²³

In many instances, DFIs are the only entities in a country able to provide and leverage finance of the appropriate maturities, which is clearly additional.

There is little evidence that DFIs offer loans at interest rates that do not fully reflect risks in any systematic sense. This is unsurprising, as most DFIs are prohibited from acting in such a way, and generally aim to adjust their rates to market levels.

“Despite the higher risks associated with subordinated debt, the willingness of the DFI to use this instrument may not imply a subsidy. For instance, ‘IFC ‘C’ loans are not viewed as a subsidy, since they earn very good returns’. Overall, the combination of additional basis points for longer maturing senior loans, and higher returns on mezzanine to conventional debt, are viewed by some in the commercial financial sector as adequate compensation for any additional risks taken by the DFIs. Generally, the private sector will not be able to take out loans with such long maturities. Loan maturities differ amongst DFIs.”²⁴

In some instances, such as the provision of long-term finance in high-risk countries, there is no strict market test, as there are no commercial players providing such finance on any terms. DFI activity in such situations could raise concerns over market distorting practices. However, as argued in an independent review of SIDA’s guarantee programme below, it is more a matter of ‘market-making’ than distorting, which is fully compatible with DFIs’ mandates.

“The potential distortions of the Sida guarantees must be seen in the context of already existing distortions. Thus, the existence of government backed DFIs dominating the long-term financing in the poorer developing countries implies a distortion in the sense that ‘pure market players’, e.g. local or international commercial banks, tend not to participate, both from the perspective that risks are perceived to be too high, and that the market lending rates by DFIs are too low given the risk levels. Sida guarantees which are risk-reflecting and with shared risks with commercial players fall in between: they are not provided on ‘ideal’ commercial grounds (which tends to be a theoretical level as there is no such commercial market), but they tend to be provided at more market like conditions than many DFI operations. There is a certain degree of ‘market making’ with the Sida guarantees in the sense they bring in commercial banks (or local capital markets) in a share private-public partnership in ‘markets’ otherwise dominated by the quasi-governmental DFIs. Yet ‘risk-reflecting’ is an implicit subsidy as compared to a ‘market rate’ as Sida is not pricing its own capital. In summary, overall Sida’s guarantees, which are provided at risk-reflected price, are more likely to reduce distortions in markets already heavily

²¹ Note that each reference has an ID number which can be used to identify the original document in the EPPI Reviewer software.

²² Independent Evaluation of IFC’s Development Results 2008: IFC’s Additionality in Supporting Private Sector Development (ID: 1251652).

²³ Evaluation - Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

²⁴ The use of subsidies by Development Finance Institutions in the infrastructure sector (ID: 1562411).

*distorted, or to create markets, which do not exist, than be a concern for creation of additional market distortions.*²⁵

6.1.1.1 Countercyclical

Private financing is a procyclical business. During economic upswings, perceptions of risk diminish, asset prices rise – boosting the value of collateral – and financing becomes increasingly available at tighter and tighter margins. During downswings, the opposite occurs. Differences between the relative attractiveness of regions, countries and sectors remain, but the general availability of financing and its terms move with the business cycle.

DFIs have an important role in taking a more countercyclical approach. While real economic prospects do deteriorate in difficult economic times, market perceptions often overshoot these realities. Consequently there will be many projects that are good investment prospects, but the timing is such that they appear not to be.

There are two aspects to this. First, a downturn in the home markets of investors could reduce the risk tolerance of financial institutions based there. Second, an economic downturn – or other problems – in the country where the investment is being sought, could reduce investors' appetite to take on country-specific risk. In very high-risk countries, DFIs may be able to provide political risk insurance when commercial actors would not. The approach taken by MIGA is contrasted with private insurers who are generally unwilling *"to enter markets during a conflict situation or in its immediate aftermath, and the scarcity of political risk insurance in high-risk countries such as Afghanistan"*.²⁶

The quote from the FMO below highlights the fact that DFIs are well aware of the importance of this function, but also stresses the need to behave countercyclically during upswings:

*"Past evaluations have demonstrated that FMO's investment and development outcomes can be badly affected by economic and financial sector crises in its markets. They also show that FMO has been able to achieve some of its best results and to play its role most effectively in post-crisis situations, when liquidity in our markets had dried up. DFIs should ideally play a countercyclical role, exercising restraint and withdrawing from markets and market segments when these are increasingly served by commercial finance, and stepping up their activities when and where commercial financiers withdraw. This follows directly from the additionality principle. At the start of 2008, when advising on FMO's strategic directions, we wrote that 'FMO may want to consider consciously and deliberately lowering its investment volumes at times when market liquidity is high (as evidenced, for example, by region-wide pressure on margins or by rapid growth in emerging markets private equity fundraising), to be all the more able to respond when the market reverses, liquidity dries up and FMO is optimally additional'."*²⁷

As we will discuss further below, it is difficult for DFIs to maintain this countercyclical stance. Although they are not subject to the same level of procyclical incentives as private actors, they do face such pressures, which need to be understood before they can be countered.

²⁵ SIDA Evaluation of Independent Guarantee Scheme (ID: 1545363).

²⁶ Independent Evaluation of MIGA's Development Effectiveness-2009: Enhancing MIGA's Risk Mitigation in IDA and Conflict-Affected Countries (ID: 1508110).

²⁷ FMO Annual Evaluation Review 2008/09 Good times, bad times and development effectiveness (ID: 1251604).

6.1.1.2 Risk absorption and mitigation during project development

DFIs are able to absorb more risk than private operators and so can play a crucial role in the early stages of a deal. As pointed out by SIDA below, private operators can face significant uncertainties and risks in the preparatory stages of projects, which they may not be compensated for:

“Often private companies undertaking pioneering projects in high-risk environments have to bear a number of, often unexpected, transaction costs, for example in respect of inflexible regulations, poorly experienced institutions etc. As such, the enterprises undertake a number of development efforts for which there tend to be no reward. Swedish development assistance should be prepared to share such costs and risks through the pricing of its guarantee premiums.”²⁸

The case for sharing these costs is clear, but DFIs can also go further and seek to identify and mitigate risks directly:

“ADB took the lead in technical, financial, and legal due diligence, identifying key project risks including traffic volume risk, toll adjustment risk, and political and economic risks, and designing measures to mitigate those risks. It also played a key role in mobilizing commercial financing when funding became scarce in the wake of the Asian financial crisis. ADB attracted financing from IFC, EFIC, Compagnie Francaise d’Assurance pour le Commerce Extérieur (COFACE), MIGA, and commercial banks.”²⁹

The importance of this function is reflected in the fact that PIDG has established dedicated facilities – InfraCo Asia and InfraCo Africa – to focus specifically on this area.

By taking on the high costs and risks of early stage project development, InfraCo Africa allows infrastructure projects to occur in situations where the private sector would not otherwise be willing or able to invest.

6.1.2 How can DFIs provide or leverage finance in environments where ‘pure market players’ do not?

a) Access to finance on favourable terms

DFIs maintain very high credit ratings, enabling them to access finance on more favourable terms than standard commercial institutions. There are a number of reasons for this, the most fundamental of which is that bilateral DFIs are backed by developed country governments so that default risk is effectively eliminated – or, more accurately, it is the same as the default risk of the government. Multilateral DFIs are backed by all member governments, again eliminating the risk of default.

As well as eliminating default risk for those lending to DFIs, the political backing they enjoy also provides them with protection with respect to their own lending. The probability of those borrowing from DFIs defaulting is lower than for commercial institutions. As described below, this is particularly noticeable for members of the World Bank Group, but the point also holds for bilateral DFIs:

“IFC loans have never been included in a sovereign debt rescheduling, nor have payments to the IFC ever been permanently interrupted by a general

²⁸ SIDA Evaluation of Independent Guarantee Scheme (ID: 1545363).

²⁹ Philippines: Loan and Complementary Loan to Manila North Tollways Corporation for the North Luzon Expressway Rehabilitation and Expansion Project (ID: 1245258).

debt-servicing moratorium (Moody's, 2007). This seems to be because the IFC – and other donor agencies – enjoy what is described as de facto preferred creditor status. This means that member governments grant IFC loans preferential access to foreign exchange in the event of a foreign exchange crisis. As a result, 'IFC loans, including the portions taken by participants, are exempt from country risk provisioning when applicable and have never been included in general country debt rescheduling... The preferred creditor status of the World Bank and other multilateral development institutions is not a legal status, but it is embodied in practice and has received consistent universal recognition. It is granted by member governments of the IFC and recognised by other creditors. It is also an important element in the IFC's triple-A ratings. Because of the mitigation of transfer and convertibility risk, capital markets transactions structured under the IFC B-loan umbrella can achieve a rating above the sovereign rating of the host country. Through the IFC umbrella, the ceiling can be "pierced". The preferred creditor status stems from the fact that defaulting on payments to the World Bank would probably result in a halt to disbursements of other Bank loans, and possibly a stop on the approval of new projects.' (Fitch ICBA, 2000). Developing country governments are therefore far less likely to default on payments on a contract involving a major donor than they are on another contract. With a MIGA guarantee, furthermore, MIGA has the right, in the event of a payout, to recoup the cost from the host country government.³⁰

As noted above, the IFC is able to extend its protection to commercial borrowers through its B-loan programme. Under this mechanism, the IFC is the 'lender of record', in that all funds are raised by the IFC and then distributed to other participants. In this way commercial institutions are able to access funds on the same terms as the IFC and with the same level of default risk. In many countries where DFIs operate the ability to provide this assurance to private investors is essential.

6.1.1.3 Ability to hold riskier portfolio than private investors

A further effect of their political support is that DFIs are able to take on more risk than private sector institutions and thus enable projects to proceed that would not in the absence of DFIs:

"...implicit subsidies that are provided by the public sector to the DFI are rarely translated into subsidies visible at project level, but are essentially providing support for the rationale of DFIs. These implicit subsidies allow the DFIs to hold large, risky investment portfolios, which means that, even though there is no direct subsidy element, projects which otherwise would not have gained support from the private sector can go ahead."³¹

DFIs also tend to display high levels of liquidity compared to private operators, enabling them to take on more risk.

"Given a high level of liquidity, it seems logical to suggest that DFIs can take higher risks without jeopardising their core business."³²

6.1.1.4 Political umbrella and stamp of approval effect

As well as reducing default risk, DFIs are able to significantly reduce the risk of political interference. Infrastructure projects require large upfront investment and

³⁰ Private Sector Participation in African Infrastructure (ID: 1234021).

³¹ The use of subsidies by Development Finance Institutions in the infrastructure sector (ID: 1562411).

³² The use of subsidies by Development Finance Institutions in the infrastructure sector (ID: 1562411).

have long lead-in times. They are also unusually dependent upon the maintenance of a supportive regulatory and policy framework. Providing comfort to investors that this will be maintained is therefore of fundamental importance.

The effect is particularly pronounced in the case of the World Bank Group, but extends to other organisations such as the Regional Development Banks:

“As a multilateral entity, it is able to play the role of an honest broker, and the deterrence effect arising from its mandate is valued greatly by investors, who understand that host countries have more at stake than just individual projects – potentially the much larger and more important relationship with the WBG could be at risk.”³³

“Investors were also clear that they find IFC to be a valuable partner... They also appreciate the protection from political risk that IFC’s involvement provides.”³⁴

“ADB participation provided an important means of ameliorating political risk, especially for tariffs in the power and energy sectors.”³⁵

DFIs also appear able to play the role of ‘honest broker’ over disputes between parties to a deal:

“For host countries, resolution of disputes provides a positive signaling effect of the attractiveness of the country as an investment destination.”³⁶

“In cases when projects encountered difficulties related to government actions, sponsors particularly appreciated ADB’s ability to access senior decision makers, in the role of an honest broker, to help resolve the problem.”³⁷

More generally, DFI participation confers a ‘stamp of approval’, giving a project credibility. This is particularly important in high-risk countries, and where there are no precedents:

“One of CDC’s objectives is to mobilise third party capital investment in emerging markets by demonstrating the benefits of successful investment to other capital providers. In this way, CDC can act as a ‘stamp of approval’ for new fund managers in emerging markets, reassuring and attracting other investors.”³⁸

“...the ‘blue stamping’ of having an official Danish developing financing institution on board is useful to many firms regardless of their experience in the market.”³⁹

“Most projects, in particular the ones where EIB entered into innovative financing schemes as discussed above, reported important catalytic and signalling effects through EIB participation. In a number of projects, the EIB was, as the biggest and/or only lender, providing both a stamp of approval to

³³ The World Bank Group Guarantee Instruments 1990–2007 (ID: 1251654).

³⁴ Evaluation of the Demonstration Effect of IFC’s Involvement in Infrastructure in Africa Draft Final Report (ID: 1251634).

³⁵ Evaluation _ Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

³⁶ The World Bank Group Guarantee Instruments 1990–2007 (ID: 1251654).

³⁷ Evaluation - Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

³⁸ CDC Group plc Development Review 2009 (ID: 1245342).

³⁹ Evaluation: the Industrialisation Fund for Developing Countries (IFU) (ID: 1545320).

*the project/sector as well as a significant sign of comfort and seriousness, thus improving the project's reputation through EIB participation.*⁴⁰

*"With respect to IFC role and contribution, IFC provided comfort to other financiers in a relatively new sector that many would have not considered without IFC's participation."*⁴¹

An important point to make, as suggested in the quotation below, is that the line between a political umbrella and *no* financial additionality is sometimes blurred.

*"With regard to the potential danger of only replacing other capital – which gives no value added effects to Norfund's investments – some of the other investors have indicated that the investments would have been carried out without Norfund. Norfund was however a preferred partner because of their experience of investing in developing countries and being owned by the Norwegian Government."*⁴²

In summary, it is clearly the case that DFIs can and do leverage significant levels of additional finance into infrastructure projects in developing countries. As we have seen, in many cases, investors would not have engaged with a project without DFI participation and the advantages (in terms of financing terms and risk reduction) and general assurance they are able to provide. This is particularly true in higher risk countries, where the value of these advantages and assurances is greatest.

6.1.3 Non-additionality and crowding out

As has been discussed, establishing a clear 'yes or no' answer on whether a DFI has created financial additionality is extremely difficult due to the lack of a counterfactual. Very few cases of clear crowding out were found in the review, where crowding out is defined as DFIs investing *in the place* of private financiers and thus prejudicing the development of a healthy private sector market for infrastructure financing. However, many cases were found of projects which the evaluators believe could have gone ahead without DFI involvement, as described below in the case of IFU.

*"The additionality of IFU is clearly least for those projects where the Danish investors would go ahead without IFU's participation. This is the case in half of all projects in Asia assessed by the Evaluation, three-fourths of the projects with large DPs and half of the projects with SME DPs in Africa, and two-thirds of the DPs in Latin America."*⁴³

Whether such projects would have gone ahead without DFI involvement is questionable. However, in these cases, it seems likely that the appropriate level of DFI involvement would be project development activities (such as those carried out by the PIDG InfraCo Facilities) rather than financing. Nevertheless, if the DFI is contributing just a small proportion of the total project finance (say 10%), a verdict of 'crowding out' again seems overly harsh.

If it appears that a project would probably have gone ahead without DFI involvement, but it is not clear that the DFI has crowded out other private investors (i.e. invested in

⁴⁰ Evaluation of operations financed by the EIB in Neighbourhood and Partnership Countries between 2000 and 2008 (ID: 1251585).

⁴¹ Private Sector Development In the Electric Power Sector: A Joint OED/OEG/OEU Review of the World Bank Group's Assistance in the 1990s (ID: 1251639).

⁴² Evaluation of the Norwegian Investment Fund for Developing Countries (Norfund) (ID: 1251662).

⁴³ Evaluation: the Industrialisation Fund for Developing Countries (IFU) (ID: 1545320).

their place when they wished to make the investment themselves), we have referred to this as ‘non-additionality’.

a) *Incentives to invest in more commercially attractive countries and sectors*

DFIs face pressures to bring in deals and it is easier to do this in good times and relatively attractive countries and sectors. Almost by definition, the greatest additionality will entail the most work and potentially the most delays. This is not conducive to achieving a high volume of deals, and the risk is that pressure on staff to make deals may erode financial additionality:

“In other cases, IFC involvement followed other investment in the sector – the Kenya Telekom privatization seems to have been in part triggered by the success of earlier mobile investment; while the IFC’s investment in Orange Cameroon came when both mobile operators were already in the process of rolling out networks.”⁴⁴

“Evidence suggests that during the first years FMO struggled with the additionality of projects funded by the LDC Infrastructure Fund. Each of the four cases in which the financing of the Fund was not additional and had no catalytic impact were approved at a moment when investment officers were eagerly looking for investment opportunities for the Fund.”⁴⁵

Given that it is easier to attract investors to projects in sectors with greater commercial prospects, there will be a natural pull towards such sectors, to the extent that DFIs are motivated by returns. In such circumstances, a lack of additionality risks becoming straight crowding out of the private sector, particularly where DFIs can provide finance on better than market terms:

“In recent years, PSOD has had difficulty obtaining central bank approval for bank-related transactions due to concerns about ADB crowding out commercial operations because of its potential to provide funds at below-market rates. Central bank concerns about ADB’s involvement in the Indian finance sector also have affected infrastructure operations.”⁴⁶

6.1.1.5 *Subsidised Technical Assistance or Advisory Services reduces financial additionality*

There is a risk that DFIs providing subsidised Technical Assistance (TA) or Advisory Services (AS) may be selected as preferred project participants as a result of these subsidies, and thus may crowd out other potential private investors. However, it is important to note that this only occurs in cases in which the TA or AS is being provided *in combination with* some form of finance on a particular project. Where TA or AS is provided in isolation and results in a private investor providing finance, neither non-additionality nor crowding out will occur.

The IFC in particular is concerned about the potential for distortion arising from this effect:

“...the increased availability of free (or subsidized) AS in support of private sector development – from IFC and other development institutions – makes it impossible to assess true client demand, and can be market distorting.. the provision of free or near-free AS could be market distorting, because: i) the

⁴⁴ Demonstration effect_Castalia_Africa_Evaluation_Draft_Final_Report.pdf

⁴⁵ IOB Evaluation: Investing in infrastructure (Evaluation of the LDC Infrastructure Fund) (ID: 1251601).

⁴⁶ INDIA: CASE STUDIES ON Private Sector Development and Operations (ID: 1245290).

*project may directly compete with projects offered by private providers of knowledge services; and ii) IFC may be indirectly competing with other financiers by effectively cross-subsidizing an investment it has with the same client. The risk is that a company agrees to a loan it could have obtained in effect more cheaply from other sources, removing IFC's financial additionality in the deal.*⁴⁷

There is a fine line to be drawn here. We have seen how DFI engagement – including TA or AS – can be crucial in mitigating early-stage risk and thereby enabling projects to occur. Alternatively, it is conceivable that DFIs could use free or concessional TA/AS to ‘sweeten’ a deal and thus crowd out private investors. While this is largely a matter of judgement – and in most cases will be relatively obvious – safeguards based on asset allocation for country risk and the commercial attractiveness of sectors could be one way to avoid the potential for distortion resulting from TA and AS.

In summary, despite the risks described above, we found little support for the view that *crowding out* of private investors by DFIs is a significant issue. However, the synthesis and the analysis of evidence in section 7 did provide support for the view that *non-additionality* as we have defined it here is relatively common. While a comprehensive review of the tools DFIs use to screen for possible non-additionality or crowding out is beyond the scope of this study, the material reviewed suggests that this may be one area in which DFIs could improve. The table below provides a preliminary classification of the likelihood of non-additionality or crowding out by DFI instrument or type of finance. The extent to which project commercial viability affects the likelihood of financial additionality and other outcomes is discussed in depth in section 7.1.

Table 7. Likelihood of non-additionality or crowding out by type of instrument or finance

Instrument or type of finance	Likelihood of non-additionality or crowding out
Technical Assistance, Advisory Services or Project Development <u>only</u>	None
Subsidised Technical Assistance, Advisory Services or Project Development <u>combined with</u> investment in a particular project	Potentially high, as the subsidised TA/AS effectively forms a subsidy on the investment, and could be market distorting
Finance on (close to) commercial terms	As discussed above, DFIs do not provide finance on commercial terms in the strictest sense of the word; this would be counter to their <i>raison d'être</i> . However the closer the finance provided is to pure commercial finance (which all DFIs theoretically aspire to), the greater the chances that private investors will be crowded out* *This is not to say that DFIs should not provide this type of finance, but that caution should be taken when doing so

⁴⁷ Independent Evaluation of IFC's Development Results 2009: Knowledge for Private Sector Development (ID: 1251653).

Financing with an element of grant or (clearly) concessional loan.	Examples of this type of concessional financing are surprisingly common, as discussed further in section 7.1. However, this type of finance is generally used to leverage private sector finance on commercial terms. In these cases, non-additionality appears considerably less likely, as DFIs search for the best terms and (at least in theory) would only provide concessional finance where there is no other option
DFI(s) provide majority of finance with little or no co-financing from private sector	In a limited number of cases, DFIs provide all or most of the project finance. (An example of this is the OLKARIA III geothermal power plant in Kenya, for which debt finance was provided by DEG, KfW, the European DFIs' EFP, Proparco, FMP and the EAIF, with no purely commercial parties involved ⁴⁸ .) In such cases there is clearly no risk of non-additionality

6.2 Design additionality

Many DFIs aim to do more than leverage private finance. While this is not true of all DFIs, many are committed to creating additional development impacts: larger growth effects and/or greater reductions in poverty resulting from projects than would be the case without their participation.

To test for these forms of additionality, we identified key aspects of infrastructure project design and policy frameworks that have been shown to have a positive impact on (a) poverty, and (b) growth, and looked for evidence of DFI influence on these. The proxies are provided in Table 8 below.

Table 8. Design and policy proxies for increased development impact

<i>Poverty</i>		<i>Growth</i>	
<i>Design</i>	<i>Policy</i>	<i>Design</i>	<i>Policy</i>
Good quality service physically reaches the poor	Universal service obligations or bonuses for connecting poor areas/households	Targets bottlenecks which are barriers to productivity, trade etc	Better institutional arrangements for maintenance
Connection costs and user fees affordable for the poor	Poor users cross-subsidised or directly subsidised	Local suppliers used	Capacity building in domestic institutions
Appropriate service levels permitted or encouraged	Encourage competition to reduce costs and increase choice in level of service provided	Employment generation	Improved stakeholder engagement

⁴⁸ The Growing Role of the Development Finance Institutions in International Development Policy (ID: 1251682).

Design aims to reduce gender and other inequalities	Accompanying, sector wide pro-poor reforms and policies to enable the poor to access new commercial opportunities	Fiscal impact (i.e. increased government revenues)	Regulatory reform to avoid political interference (e.g. independent regulator)
Participation of poor in project planning	Requirement to consult with poor groups	Private sector development	
Pro-poor employment generation	Local content requirements (encourage PSD)		
Sources: Straub, S. (2008b) Infrastructure and Growth in Developing Countries: Recent Advances and Research Challenges – World Bank Policy Research Working Paper 4460 (Systematic review); World Bank World Development Report 1994: Infrastructure for Development; DFID (2002) Making Connections: Infrastructure for Poverty Reduction; Estache, A. (2006) Infrastructure: A survey of recent and upcoming issues. World Bank; Jahan, S. & McCleery, R. (2005) Making Infrastructure Work for the Poor: Synthesis Report of Four Country Studies – Bangladesh, Senegal, Thailand and Zambia. New York: UNDP; OECD-DAC (2006) Promoting Pro-Poor Growth: Infrastructure. OECD; Prud'Homme, R. (2005) Infrastructure and Development			

6.1.4 For growth

The great majority of material relevant to project design additionality focused on growth. Growth additionality was found to be created not only through project-level interventions, but also commonly in project selection; i.e. projects were selected on the basis that they would generate relatively high levels of economic growth. Below we consider the key themes emerging from the synthesis.

a) *Target Bottlenecks and support international trade*

The most common factor was the alleviation of 'bottlenecks' that constrain productivity and thus economic growth. This may relate to the multiplier impacts of a particular sector, as in the IFC project below:

*"The introduction of mobile phones in Nigeria has had a significant impact. There was almost no communications sector in Nigeria in 2001, except for an unreliable government owned fixed-line telephone company."*⁴⁹

Or to removing a constraint on inputs to a range of sectors, as in the ADB project described below:

*"In India, the Petronet LNG project plays an important role servicing India's large and growing demand for clean energy and supplies 20% of the LNG gas that is used to fuel taxis and buses in major urban centers in India and to industrial commercial users."*⁵⁰

Or to removing an actual, physical bottleneck:

⁴⁹ IFC in Nigeria: 1998 – 2007 An Independent Country Impact Review (ID: 1251629).

⁵⁰ Evaluation – Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

“There are no viable alternative routes to Central and Northern Luzon... By offering improved transport facilities to and from Northern and Central Luzon, the rehabilitated NLEX has assisted the development of industrial and commercial activities in the area. It has thereby eased local unemployment and created livelihood opportunities in an economy severely affected by the eruption of Mount Pinatubo in 1991 and the closure of the American air base at almost the same time.”⁵¹

A specific area of focus is on relieving bottlenecks with respect to international trade (quotations from ADB and SIDA respectively):

“Without the Project, Sri Lanka would have lost its competitive advantage in the port industry to other ports such as Salalah (Oman) and Aden (Yemen) because of (i) inefficiencies in its operation, and (ii) its limited facilities. In an environment of rapidly increasing container traffic, shipping lines will use ports where they can be assured of continuous and reliable service.”⁵²

“The Maputo Port – as a critical link in the Maputo Corridor – must be considered a project with very strong potential developmental dimensions not only for Mozambique, but also for the neighbouring countries.”⁵³

The weight of material on this subject makes it clear that this is a major concern for DFIs.

6.2.1.1 Generate employment, improve labour standards and make fiscal contribution

All new infrastructure facilities will generate some degree of employment, which can be considered additional if the project would not have occurred without the engagement of the DFI. The question, however, is whether DFIs go further than this, actively seeking to support projects with high employment potential, or to expand this potential through an influence on the project design or the policy context in which it occurs.

There are numerous references to the employment created through the project, with the quote below from IFU being typical:

“In all regions, the investment projects have resulted in some degree of direct employment creation, the conservation of jobs, and indirect job creation through sub-contractor jobs.”⁵⁴

Little material was found supporting the idea that DFIs proactively engage in efforts to enhance employment effects beyond this, however.

Where DFIs have been more active is with respect to labour standards:

“To date, many of the major DFIs have included labour provisions in their policies for their client companies. In this regard a leading role has been played by IFC. By 1998, IFC had adopted a safeguard policy dealing with labour issues (IFC Compliance Advisory Ombudsman, 2003). Following an assessment by the IFC’s Ombudsman in 2003 and consultations with a wide

⁵¹ Philippines: Loan and Complementary Loan to Manila North Tollways Corporation for the North Luzon Expressway Rehabilitation and Expansion (ID: 1245258).

⁵² Equity Investment and Loan to the Colombo Port Development Project in the Democratic Socialist Republic of Sri Lanka (ID: 1245316).

⁵³ SIDA Evaluation of Independent Guarantee Scheme (ID: 1545363).

⁵⁴ Evaluation: the Industrialisation Fund for Developing Countries (IFU) (ID: 1545320).

array of stakeholders, including the ILO, the 'IFC Policy and Performance Standards on Social and Environmental Sustainability' (IFC, 2006) were adopted and have been applied to all IFC-financed projects since May 2006 (Sims, 2008; Bakvis and McCoy, 2008)... In general, the IFC Performance Standards have become a reference for other DFIs in developing integrated labour provisions within their own policies (Sims, 2008)... Some DFI policies go further; those of EBRD and DEG even go beyond the scope of the labour standards protected by IFC's Performance Standards (Rudolph, 2005; EBRD, 2008). The EBRD requires companies, for example, to respect also certain EU regulation on non-discrimination. Many of these DFIs, including IFC, IDB and most of the European DFIs, also have an exclusion list in place that precludes DFIs from investing in clients that use child labour and forced labour.⁵⁵

While these developments are positive, their actual impact remains unclear:

"Little is known about the practical application of labour provisions in the policies of DFIs, as much of the information is confidential and the nature of such policies makes it premature to conduct a comprehensive assessment. In particular, information on the application of labour provisions in DFI policies regarding investments through financial intermediaries or in the context of public procurement is difficult to obtain and neither a comprehensive internal nor external assessment is available so far."^(ibid)

A similar view can be taken to fiscal contributions. Clearly any project that is completed successfully and yields a positive return will make a fiscal contribution. In the case of privatisation of former state-owned enterprises (SOEs), this may entail savings from eliminating subsidies, as well as tax returns.

This can be a significant part of the rationale for privatisation, as found in the case of the following IFC project:

"The main beneficiary in the airport project has been the host government, as revenue generation was the main impetus for privatization, and the concession agreement reflects this objective."⁵⁶

"OLKARIA III geothermal power plant... development effects include government revenues amounting to €5 million through tax revenues and royalties. This is particularly notable given Kenya's budget deficit of -3.5%."⁵⁷

For both employment and fiscal contributions, location matters. Situating a major project in a relatively deprived area amplifies the positive employment effect (the below quotation refers to long-term, indirect job creation, rather than short-term job creation during construction), and may also provide much needed revenue to local government, as described by this quotation from an ADB evaluation:

"An OECD evaluation of a cement plant in Viet Nam constructed in a remote and relatively poor area found that it was having important positive social impacts. The plant had helped attract other private investment to the region and is becoming a nucleus of an export processing zone. Road, rail, port, power, water and industrial infrastructure was being created. The company was

⁵⁵ Labour Standards and Development Finance Institutions: A review of current policies and activities_ILO discussion paper (ID: 1570971).

⁵⁶ A Decade of Action in Transport: An Evaluation of World Bank Assistance to the Transport Sector, 1995–2005 (ID: 1251623).

⁵⁷ The Growing Role of the Development Finance Institutions in International Development Policy (ID: 1251682).

*the largest tax payer in the province and it had made substantial contributions to the state education system.*⁵⁸

What this illustrates is that it is possible to generate additional development impacts through decisions such as where to locate a project. Clearly this is not a simple matter, but it remains surprising that more efforts on the part of DFIs to create such additionality was not found.

6.2.1.2 Generate knowledge and technology transfer

The material reviewed suggests that some DFIs are making concerted efforts to promote human capital development, as described in the below quotation from an evaluation of IFU:

*“For all regions, human capital investments through training and involvement of local staff and changed management regimes have been key features of the Danish enterprises’ activities. Technology transfer, in terms of technical equipment and procedures, transparent and open management principles and corporate governance – by some described as a cultural change – as well as quality control and monitoring are mentioned as impacts of the Danish enterprises.”*⁵⁹

Also relating to the employment function, we found a preference for local rather than expatriate employees in the case of some DFIs, for example FMO:

*“The project works with local subcontractors and only employs only a few (three to five) expats. The construction of the DTWP has a positive effect on the experience of local subcontractors. This experience not only consists of technical skills but also to safety and health standards at the construction site. Moreover, the constructor (Biwater) trains the Khartoum State Water Company (KSWC) personnel.”*⁶⁰

Given the importance of physical capital in the infrastructure sector, it is not surprising that some DFIs also focus on technology transfer (quotations relate to MIGA and Norfund respectively):

*“There is evidence that these MIGA projects efficiently transferred technology and know-how. State-of-the-art technology was installed and considerable effort was devoted to training and turning over plant management to local employees. OEU observed that the role of expatriate managers declined in importance the longer a project was in operation.”*⁶¹

*“The company has introduced new technology: Portland Composite Cement PCC versus the traditional Ordinary Portland Cement OPC. The former requires less clinker and is thus cheaper and uses fewer imports. PCC cannot be used for heavy structures like large bridges but lends itself well to construction of buildings. The PCC is now accepted and used by the building industry, and competitors have followed by selling the same product.”*⁶²

6.2.1.3 Encourage private sector development and promote competition

⁵⁸ Evaluation – Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

⁵⁹ Evaluation: the Industrialisation Fund for Developing Countries (IFU) (ID: 1545320).

⁶⁰ IOB Evaluation: Investing in infrastructure (Evaluation of the LDC Infrastructure Fund) (ID: 1251601).

⁶¹ Private Sector Development in the Electric Power Sector: A Joint OED/OEG/OEU Review of the World Bank Group’s Assistance in the 1990s (ID: 1251639).

⁶² Evaluation of Norwegian Business-related Assistance: Bangladesh Case Study (ID: 1251658).

Projects involving DFIs may also support private sector development, either directly or as a result of learning from industrial co-investors:

“Businesses primarily learn from each other in the market place. Operating on commercial terms and in conjunction with private companies is therefore a form of knowledge transfer, and in this environment Norfund is germane in a way that public institutions such as NORAD and the World Bank cannot be. In Nicaragua, Norfund has improved the financial discipline and stricter commercial orientation of the investments made through active board representation in the companies as well as by employing financial controllers and providing management advisory services and counselling to the companies... The industrial knowledge transfer will normally be in the form of an industrial co-investor.”⁶³

Private sector development may also occur indirectly through the creation of forward and backward linkages in the supply chain (the below quotation refers to IFC’s operations as a whole, not exclusively infrastructure projects):

“Three-quarters of IFC’s projects have contributed to the development of local private sectors through linkages supporting other private enterprises, demonstration effects, privatizations, or regulatory changes... The Private Sector Development (PSD) impact measures the effects of the project on the development of private enterprise beyond the project participants. This includes demonstration effects, effects on local suppliers of goods and services, technology and knowhow, employee training, contribution to domestic capital market development, project governance and reputation, the extent to which a project leads to more private ownership and stronger local entrepreneurship, greater competition or competitiveness, as well as impacts on competitors, new market entrants, and producers of complementary goods. Twelve out of the 21 projects (57%) received satisfactory or better ratings for PSD impacts as a result of their high demonstration effects and large upstream and downstream effects on the host countries.”⁶⁴

DFIs also seek to encourage PSD through increased competition, recognising that in many sectors service quality is likely to rise and prices fall as competition increases. While this will not be the case in some infrastructure sectors, which more resemble natural monopolies, it is particularly relevant in telecoms, or industrial sectors, as described below (quotations describe SIDA and ADB projects respectively):

“Overall, the intense competition in the sector is making telecom services increasingly accessible to the poor. MTN Uganda, Celtel and UTL all expand their networks to attract new clients, and the companies devise continuously new services to add to their markets, besides engage in a highly competitive pricing on the services.”⁶⁵

“The implementation of the Project led to the involvement of a high-quality sponsor that could introduce leading-edge technology in cement production and environmental and safety procedures... The Project is regarded to have stimulated private sector investment and increased competition in the cement industry, as evidenced by the fact that foreign private sector cement operations

⁶³ Evaluation of the Norwegian Investment Fund for Developing Countries (Norfund) (ID: 1251662).

⁶⁴ OEG Findings: Annual Review of IFC’s Evaluation Findings: FY 2000 (ID: 1251638).

⁶⁵ SIDA Evaluation of Independent Guarantee Scheme (ID: 1545363).

*accounted for about 26.4% of the total cement production in the country at the end of 2005 from a level of 0% at the time of loan processing.*⁶⁶

6.2.1.4 Improve Environmental, Social and Governance (ESG) performance

The importance of improving standards of corporate governance beyond the standards that would have been adopted in their absence is a major theme of all DFIs (the first two quotations describe ADB projects):

*“SAGT not only introduced service standards to the sector but also professional work ethics and corporate governance.”*⁶⁷

*“PSOD was complimented by sponsors on a number of occasions on its efforts to establish standards of high corporate governance in both infrastructure and financial sector projects.”*⁶⁸

*“Aside from investments, IFC also helped MWC become the first company in the Philippines to prepare a corporate sustainability report. The report covered MWC’s various environmental and social initiatives and measures that are linked to its business objectives and was published in 2004.”*⁶⁹

*“It should however be stressed that the presence of Norfund had an indirect positive impact on corporate governance. Norfund relies on IFC’s requirements in the Common Terms Agreement for the loan of 2004 with regard to environment, labour conditions and health. In the initial Norad loan this was only addressed by a default clause relating to various ILO conventions. No reporting was required.”*⁷⁰

While all DFIs have policies and guidelines on the social and environmental aspects of corporate behaviour, the actual impact of these appears to differ somewhat. It is clearly more difficult to monitor, and particularly to enforce, environmental and social standards using an arms-length fund-of-funds approach (such as that adopted by CDC) rather than investing directly. In the former case, the impact is more likely to occur at the asset allocation level rather than that of the individual firm, with the number of investments making the costs of firm-level monitoring prohibitive. On the other hand, DFIs using arms-length investment models, such as CDC and Norfund (although Norfund makes direct investments as well), tend to put significant effort into improving social and environmental standards, as their mode of operation makes it difficult for them to achieve design and policy additionality in more direct ways. This is illustrated by the quotation from an evaluation of Norfund.

*“It is positive to note that Norfund has formulated guidelines for environmental issues, human rights, ethical issues and workers’ health issues related to HIV/AIDS. They can function both as guidelines for upgrading business organisations in which Norfund invests directly and the general business environment. For the Aureos funds, Norfund has been active both in extending existing standards to environmental and health and safety concerns, as well as in training investors to adhere to standards in the field.”*⁷¹

⁶⁶ Viet Nam: Loans to the Nghi Son Cement Corporation (ID: 1245296).

⁶⁷ Equity Investment and Loan to the Colombo Port Development Project in the Democratic Socialist.

⁶⁸ Evaluation – Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

⁶⁹ Manila Water Company – Philippines: Helping to Provide the Poor with Access to Water (ID: 1251650).

⁷⁰ Evaluation of Norwegian Business-related Assistance: Bangladesh Case Study (ID: 1251658).

⁷¹ Evaluation of the Norwegian Investment Fund for Developing Countries (Norfund) (ID: 1251662).

The IFC can be seen as the industry leader in this area, particularly with regard to the comprehensiveness of its Performance Standards⁷² on ESG issues.

“IEG evaluations find that where clients are developing sound environmental management systems, with close supervision by IFC, projects are more likely to deliver sustainable environmental and social performance.”⁷³

As with labour standards, some DFIs have modified IFC Standards and applied them to their own work. This is illustrated in the case of Norfund by the quotation above (fourth quotation in section (e)).

6.2.1.5 Mobilise investment in green energy/energy efficiency

As well as reducing negative environmental impacts through their project activities, DFIs can act proactively, mobilising investment into sectors with positive environmental impacts such as renewable energy. In some cases there is a clear commercial rationale for the switch to greener production, such as the switch to natural gas-generated power from diesel generation in this FMO project:

“The five energy projects have significant effects on the environment. In the context of the Mtwara/Artumas project, all out-dated diesel-fired power supply facilities were dismantled. The transfer to natural gas-fired power generation resulted in a CO2 reduction of 784,000 MT per year. It is argued that by facilitating a fuel switch, the WAGP project in West Africa helps to reduce greenhouse gas emissions, both by substituting oil by gas and by using associated gas that would otherwise be flared.”⁷⁴

In cases where commercial viability is less clear, DFIs may access supporting finance from environmentally focused funds to support their activities:

“IFC support to energy efficiency started with its advisory services operations and then expanded through partnership programs with commercial banks, utility companies, energy management companies (EMCs), and energy efficiency equipment suppliers... The programs are typically co-financed by the Global Environment Facility (GEF) and other donors. So far, all programs are supported by GEF, especially those that provide technical assistance and a guarantee facility to banks. IFC is also providing a standalone energy efficiency credit line and guarantees to individual banks and EMCs.”⁷⁵

Examples of DFI investments in renewable energy are far less common than investments in energy efficiency, or energy production using cleaner fossil fuels. The reasons for this are relatively clear: renewable energy production remains an immature industrial sector; uncertainties and risks remain high; and costs are generally higher than non-renewable alternatives, calling into question the economic viability of projects without long-term policy support. Consequently, projects which do proceed are likely to have a wide spread of participants (to reduce risk) and may have limited private sector participation, even at the more commercially viable end of renewable energy production, as illustrated by the financing arrangements for the OLKARIA III geothermal project in Kenya:

“OLKARIA III geothermal power plant was constructed in 2000 and is the only independent power producer in Africa utilizing geothermal resources, which

⁷² See: <http://www.ifc.org/ifcext/sustainability.nsf/Content/EnvSocStandards>

⁷³ IEG Evaluation of IFC's Development Results 2007: Lessons from 10 years of experience (ID: 1558671).

⁷⁴ IOB Evaluation: Investing in infrastructure (Evaluation of the LDC Infrastructure Fund) (ID: 1251601).

⁷⁵ Assessing the Impact of IFC's China Utility-Based Energy Efficiency Finance Program Energy Efficiency Finance (ID: 1251656).

represent a reliable and affordable form of clean energy. The plant was set for a capacity expansion from 13MW to 48MW to meet the growing energy needs of Kenya's population and businesses, but was delayed due to difficulties in obtaining the necessary debt financing. DEG and KfW (national German development bank) joined forces in 2005 to provide €60 million and €30 million respectively in financing. Co-investors were mobilized with €25 million from European DFIs' EFP (see EFP case study), and individual contributions of €11 million to 15 million from PROPARCO, FMO and the Emerging Africa Infrastructure Fund (EAIF).⁷⁶

6.1.5 For poverty reduction

Despite their ostensible focus on poverty alleviation, we found little support for the proposition that DFIs actively seek to influence project design in a number of areas that the literature suggests are important in shaping poverty outcomes.

For example, little evidence was found of attempts by DFIs to:

- Influence governments or investors to provide improved access/affordability for the poor;
- Generate pro-poor employment during or after construction;
- Enable the poor to participate in project planning;
- Make explicit efforts to reduce exclusion of women and people with disabilities (only one example was found of a project that explicitly aimed to reduce gender inequality);
- Enhance local supply chain linkages.

During the coding of text for the 86 priority studies, just four examples were found of evidence of DFI projects resulting in direct poverty reduction outcomes, (i.e. clear evidence of improved access and/or affordability for the poor). Closer examination of these four projects revealed that *all were found to be funded in part by non-commercial financing*, as shown in the table below.

Table 9. Projects with direct pro-poor outcomes and non-commercial financing element

Project and pro-poor component	Form of non-commercial financing element
Omdurman Water Supply & Optimisation Project (FMO): Pro-poor water supply	30% grant financed. Subordinated loan
Manila Water Company (IFC): Pro-poor water supply	Output-based aid element to serve the poorest
Grameen Phone (Norad, NorFund, IFC & ADB): Pro-poor telecoms provision	Soft loan. Sponsor is part not-for-profit
Chiansi Irrigation Project (PIDG – InfraCo): Irrigation for poor smallholders	'Patient capital' model used to alter the viability of the project by absorbing high upfront costs and reducing return horizons to commercially-acceptable levels

6.1.6 Negative or no design additionality

Material was also found identifying areas in which DFIs had performed poorly in terms of design additionality. The two principal areas are insufficient consideration and understanding of project context (particularly as regards the position of

⁷⁶ The Growing Role of the Development Finance Institutions in International Development Policy (ID: 1251682).

governments and public sector entities) and the implementation of projects that clearly did not have pro-poor outcomes.

a) *Resistance from government or public sector entities*

Private sector infrastructure projects are unlikely to succeed where there is widespread resistance from the government or other public entities, or a policy in place that creates barriers to PPI. This is illustrated by the quotations from IFC and Norfund below:

“IFC’s discussions with the Water Commission began to break down as the parties disagreed on the privatization model. IFC was accused of trying to force a ‘one size fits all’ model on the commission when it proposed a plan similar to that used in Manila (Philippines). Based on conversations with former Water Commission officials, IEG learned that the commission believed that the IFC program had overlooked critical structural issues regarding the municipal water system. Eventually, the relationship fell apart.”⁷⁷

“At the time this investment was seen as the start of a major involvement by Norfund and SN Power in Sri Lanka’s hydropower sector. However... SN Power sees limited potential in Sri Lanka for private sector driven hydropower development, whether large or small-scale. The government’s policy is that large scale hydropower should be in state ownership, hence no existing plants are for sale, nor are any new constructions taking place.”⁷⁸

The opportunity costs of aborted projects are high and they may create negative demonstration effects. While this strengthens the case for extensive up-front screening and appraisal before taking the decision to invest, it can affect competitiveness with the private sector, as discussed in section below.

6.2.1.6 *Project does not have pro-poor outcomes*

In some cases, projects that priced out the poor had unforeseen consequences resulting in the growth they mobilised being unlikely to lead to poverty reduction, or not being aligned with country priorities. Examples of this are provided by the MIGA, FMO and EIB projects described below:

“10% of the projects with high business performance were rated partially unsatisfactory for their contribution to economic sustainability because monopolistic pricing and consumer welfare loss had limited their economic benefits. For example, an infrastructure project had satisfactory business performance at the time of IEG evaluation but the loss in consumer welfare and the monopolistic nature of the concession had resulted in a less than satisfactory economic contribution. The biggest beneficiary of this project was the host government because of the substantial fees it received from the concession to the detriment of the users and service providers of the project.”⁷⁹

“For part of the poorest population in Omdurman, the costs of improved water facilities may be too high. This means that they will continue to use (unsafe) secondary sources. In the short run, the costs of water will increase for almost 30% of the poorest households. Many of these households (72%) are not

⁷⁷ IFC in Nigeria: 1998 – 2007 An Independent Country Impact Review (ID: 1251629).

⁷⁸ Evaluation of Norwegian Business-related Assistance: Sri-Lanka Case Study (ID: 1251657).

⁷⁹ Independent Evaluation Group (MIGA) 2006 Annual Report (ID: 1508107).

connected to the drinking water system. For 8%, expenditures will rise to more than 10% of their income.”⁸⁰

“In some instances, projects were selected without paying sufficient attention to their consistency with country investment priorities or their potential development impact.”⁸¹

It is important to consider the opportunity cost of such projects. Given the huge infrastructure deficit in many poor countries, it seems likely that the funding raised could have been used for projects that would have had a considerably greater pro-poor impact.

6.3 Policy additionality

We define policy additionality as being where the DFI has an impact on the legal and regulatory framework and/or develops capacity within the public sector. As with design, this section is separated into examples of policy additionality for growth and poverty.

In common with design additionality, the proxies were developed from a review of literature on the subject of the relationship between infrastructure, growth and poverty reduction, and are listed in Table 4 above.

6.1.7 For growth

a) *Legal and regulatory framework more conducive to growth*

By far the most commonly noted examples of policy additionality involve legal and regulatory frameworks to facilitate growth. In some cases – particularly with the regional and multilateral development banks – this is part of a broader process of economic liberalisation or transition to capitalism (first quotation below from ADB, second and third from EBRD):

“ADB played a critical role in facilitating the liberalization of the gas market and then helping mitigate investor and lender concerns, in what was a new and untested product and technology in India where there were limited skills and experience available locally... The Project has demonstrated it is possible to import LNG successfully at competitive prices, thereby supporting the liberalization of the gas sector and enhancing the level of private sector participation in the energy sector.”⁸²

“There have also been improvements in the legal and institutional framework for markets and efficiency... The project allowed the Bank to directly influence essential market reforms in the country’s telecommunications sector, strengthen corporate governance and promote market change.”⁸³

“An indisputable success of the TC assignment is the passage of a PPP Law. This has markedly improved the so-called enabling environment in the country as a whole, at least in terms of legal infrastructure.”⁸⁴

⁸⁰ IOB Evaluation: Investing in infrastructure (Evaluation of the LDC Infrastructure Fund) (ID: 1251601).

⁸¹ A synthesis report: Evaluation of the risk capital operations carried out by the EIB in four ACP Countries 1989-1999 (ID: 1251597).

⁸² Energy Policy 2000 Review: Energy Efficiency for a Better Future (ID: 1245297).

⁸³ EBRD (2000) (ID: 1245405).

⁸⁴ EBRD (2006) (ID: 1245378).

The IFC is able to amplify its impact in this area through collaboration with other branches of the World Bank Group:

“In a few instances, MIGA collaborated with IFC in support of electric power projects. Jamaica stands out in particular, as it involved close collaboration between IBRD, IFC and MIGA in promoting the PSDE reform agenda, each institution using its specialized services, which eventually led to the commercialization of Jamaica’s public utility and an increase in generating capacity.”⁸⁵

While in many instances, liberalisation is necessary, it also brings risks. In particular, it should not be assumed that regulation that is favourable to private investors and companies is necessarily optimal for national economic development. As recognised in the ADB evaluation quoted below, a fair and appropriate allocation of risks, and a holistic approach to regulation and institution-building, is essential for sustainability and effectiveness, but also to maintain public support and so political commitment:

“ADB recognized early on the potential perils of private power generation projects with power purchase agreements that allocated too many risks to government, and therefore supported renegotiation efforts in the aftermath of the Asian financial crisis and the development of more equitable risk-sharing arrangements. In the water sector, ADB initially supported bulk water BOT-type projects that did not address underlying sector problems related to water losses and service quality. However, its recent efforts have increasingly emphasized whole system approaches... Compared with past sector-based assistance, which focused on developing PPP modalities and individual transactions, ADB in recent years supported government efforts for developing cross-sector legal, regulatory and institutional frameworks. These structures are important for building and sustaining political commitment and local capacity for larger scale PSP in infrastructure.”⁸⁶

6.3.1.1 Build public sector capacity/commitment to foster growth

Several instances were found of DFIs’ enhancing capacity to realise PPI and/or commitment to PPI. Examples include capacity building for current and future privatisations and for public tendering and procurement (both quotations describe IFC projects):

“...the same individuals in the Privatization Unit went on to participate in other privatization transactions. In particular, officials mentioned the influence of the telecoms experience in implementing later electricity sector reforms, and unbundling and privatizing the state-owned electricity utility.”⁸⁷

“The process of tendering and negotiating Kipevu II, including negotiations with the IFC, also contributed to growing Government capacity in the energy sector on managing international competitive procurements of IPPs. The same officials involved in Kipevu II went on to procure the subsequent similar IPPs described above.”⁸⁸

⁸⁵ Private Sector Development in the Electric Power Sector: A Joint OED/OEG/OEU Review of the World Bank Group’s Assistance in the 1990s (ID: 1251639).

⁸⁶ ADB Assistance for Public-Private Partnerships in Infrastructure Development – Potential for More Success (ID: 1245325).

⁸⁷ Evaluation of the Demonstration Effect of IFC’s Involvement in Infrastructure in Africa Draft Final Report (ID: 1251634).

⁸⁸ Evaluation of the Demonstration Effect of IFC’s Involvement in Infrastructure in Africa Draft Final Report (ID: 1251634).

Many would argue that creating government support for PPI, and capacity to manage private sector involvement in ways that optimise national economic development, are key elements in efforts to reduce the infrastructure funding gap in the developing world. Thus the outcomes described above are potentially very important.

6.1.8 For poverty reduction

As in the previous section, no material was found to suggest that DFIs are actively engaged with public sector capacity building with respect to poverty reduction, or that they aim to influence policy so as to:

- Encourage pro-poor institutional and regulatory reform;
- Support the engagement of poor and vulnerable stakeholders during project planning.

Given the importance placed upon maintaining political support for reform (i.e. liberalisation/privatisation), and the fact that this support will be strongly influenced by underlying public attitudes to the process of change, DFIs' lack of engagement in these areas is surprising.

6.1.9 Negative or no policy additionality

Several cases were found of DFIs unsuccessfully attempting to influence the policy framework to enhance development outcomes, or being unable to influence the policy framework due to their mandate or structure.

a) *Governments made commitments that were not eventually fulfilled*

In some cases governments reneged on regulatory reform commitments once financing had been obtained, as in the ADB projects described below. While this may be something of an occupational hazard of much donor activity, it may also indicate that the context of the project was not well understood before financial commitments were made.

“The Government failed to establish an independent regulator, as it was required to do under the concession agreement.”⁸⁹

“While the Government of Viet Nam is widely regarded as a strong proponent of reform, few of the liberalization measures envisaged in the RRP have materialized. This result highlights the need for caution when designing projects in transition economies. Where possible, liberalization measures should occur before making investments, because demonstration effects are likely to have limited impact once funding is committed.”⁹⁰

6.3.1.2 *DFI mandate or structure constrains capacity to influence policy framework*

In several cases DFIs (or their evaluators) stressed the lack of a mandate or suitable structure to engage in enabling environment activities such as regulatory reform, despite these being perceived as necessary to successfully achieve their objectives:

“Due to PSOD’s limited capacity to pursue enabling environment reforms it operates in a reactive rather than proactive fashion. PSOD would benefit by scaling up its market presence in resident missions, and strengthening its

⁸⁹ Equity Investment and Loan to the Colombo Port Development Project in the Democratic Socialist Republic of Sri Lanka (ID: 1245316).

⁹⁰ Viet Nam: Loans to the Nghi Son Cement Corporation (ID: 1245296).

*access to technical assistance resources to initiate enabling environment reforms on its own account.*⁹¹

*“MIGA does not normally have leverage to influence the business environment and the country’s IC policies and regulatory framework.”*⁹²

DFIs adopting the ‘fund of funds’ model will be less able to exert influence on the policy framework, as demonstrated by the quotation below describing the BMZ Public-Private Partnership facility:

*“There seems to be a need to clarify who or what ‘public’ is, since the partner country is not officially involved in projects financed from the facility. The realization of ‘win-win situations’ depends on the definition of (at least partially) congruent objectives in a participatory process and a commitment by both the public and private side until the development process is self-sustaining.”*⁹³

RDBs and MDBs have greater scope, mandate and resources for enabling environment activities than, for example, bilateral DFIs. In addition, the private sector operations departments of MDBs and RDBs often collaborate with other departments within the Banks to improve the enabling environment for PPI:

*“While there is a close collaboration and coordination between the World Bank and IFC as regards private sector development work, this does not appear to be the situation with regard to European DFIs. For instance, the British Department of International Development (DFID) reported that contact with CDC could have been better, as did the Swedish and Danish development authorities with regard to Swedfund and IFU. The same lack of close collaboration can be found between Norfund and NORAD. This is in contrast to IFC/World Bank, where typically Country Assistance Strategies are prepared by the World Bank Group as a whole, including IFC as field mission participants. IFC activities are often accompanied by piggy-back World Bank technical assistance for capacity and competence-building to make it more attractive for other investors to join in.”*⁹⁴

6.4 Demonstration additionality

Although there is little hard evidence that DFIs create positive demonstration effects, this does not mean that no such effects exist. Difficulties in ‘proving’ demonstration effects arise partly from the perennial difficulty of finding a counter-factual and of ‘proving’ causality in a highly complex and rapidly changing environment with a multitude of potential explanatory variables. There is also the question of timescale, as any demonstration effect may take years to come to fruition.

Despite these difficulties, there was no shortage of non-evidence based claims for demonstration effects in the material we reviewed. Below we consider some of the main explanations of causality behind this effect, before considering cases in which DFIs’ activities appear to have had no demonstration effect (where one was anticipated) or a negative demonstration effect.

⁹¹ Evaluation – Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

⁹² An Evaluation of MIGA Investment Climate Activities (ID: 1508111).

⁹³ German Development Co-operation with Uganda Abstract of the Evaluation “Public-Private Partnership (PPP)” – Country Study Uganda (ID: 1245333).

⁹⁴ Evaluation of the Norwegian Investment Fund for Developing Countries (Norfund) (ID: 1251662).

6.1.10 Positive demonstration effects

a) *Demonstrate that risk-return ratio is better than perceived*

In some instances DFIs can demonstrate that private investors have an inaccurate view of risks and returns, i.e. that the risk-return ratio is actually better than they suppose:

“Maybe the most important benefit of fund investments, as noted by one of Swedfund's investment managers, is that the local investment professionals managing these funds can demonstrate to Swedfund and other investors that it is actually possible to invest successfully in the most remote markets and act as key reference points for future investment decisions. This is the way for poor countries to become perceived as exciting emerging markets.”⁹⁵

As well as Swedfund, this is very much the approach pioneered by the CDC. To be successful, it requires the DFI itself to be commercially successful. The more commercially successful DFIs are, the greater the potential demonstration effect.

6.4.1.1 *Risk-return ratio improves as a result of DFI activities*

As previously noted in this review, the activities of DFIs may serve to reduce actual risk, altering the reality of the investment climate, for example, as in the SIDA and IFC projects described below:

“The Sida guarantee played a significant, pioneering role in long-term local financing. At the time it was issued, the local capital market was unwilling and unable to provide more than short term financing. The bond market was basically non-existent. The Sida guarantee provided a first private bond issue in Uganda, which has later been followed by others.”⁹⁶

“...the influx of private investment in telecoms was observed in other sectors and lent impetus to the privatization program. Electricity sector officials cited the telecoms sector as having provided an example that private investment in infrastructure can work.”⁹⁷

As well as facilitating market innovations to alter the risk-return ratio in a broad sense, DFIs may change perceptions of the commercial attractiveness of a particular sector, and/or the size of the market available for competition. This may be the result of private sector development following a DFI intervention, or from DFI involvement in early stage risk-mitigation:

“IFC played a central role as an investor in Uganda's first mobile investment, and as the Government's advisor in the subsequent sector reform, which included privatization of the incumbent operator, Uganda Telecom and licensing of a second national operator (MTN). Two more major mobile networks are now being rolled out, and Uganda's telecoms sector is one of the most competitive in Africa.”⁹⁸

Finally, of course, the most straightforward demonstration effect for an investor may well be the presence of other investors:

⁹⁵ Swedfund's Investments Through Funds – Capital for Economic Growth and Development Driven by Local Businesses (ID: 1251680).

⁹⁶ SIDA Evaluation of Independent Guarantee Scheme (ID: 1545363).

⁹⁷ Evaluation of the Demonstration Effect of IFC's Involvement in Infrastructure in Africa Draft Final Report (ID: 1251634).

⁹⁸ Evaluation of the Demonstration Effect of IFC's Involvement in Infrastructure in Africa Draft Final Report (ID: 1251634).

“Investments by a multinational company or by an international fund improve the general climate for investments. As stated by one informant, ‘The best guarantee for a foreign investor is another foreign investor already present in the country’.”⁹⁹

6.4.1.2 Innovative and replicable model successfully used

Demonstrating that a new business model works and is commercially viable is an important function of DFIs. As we have seen, they have the capacity to absorb more risk than commercial operators, and so have greater scope to innovate or experiment, as in the ADB project described below:

“The Manila North Tollway Corporation project was the only infrastructure project in the Philippines approved and implemented over the period of analysis... The success of the project helped demonstrate the feasibility of public-private partnership structures in the road sector. The transaction is replicable and further private road projects are being processed by the government. Given the limited amount of successful public-private partnerships in the road sector worldwide, this outcome is positive.”¹⁰⁰

It is important for DFIs and policy makers not to assume that because a model works in one situation it is generally applicable. The contextualisation of positive outcomes requires a thorough examination of the factors that led to the project’s success, and an analysis of their feasibility in other settings. For example, experience with PPPs in the road sector has not been overwhelmingly successful. Exploring why the case described above is different, and the extent to which these factors can be transferred to other countries, should be a key component of DFIs’ project evaluation and strategic planning for future investments.

Demonstration effects can also occur within the DFI community, with innovative approaches developed by one DFI potentially providing a positive example to others:

“The InfraCo business model is widely seen as innovative and its progress is being monitored by a wide range of stakeholders and IFC is in the process of creating a similar vehicle to develop infrastructure projects.”¹⁰¹

6.4.1.3 Internationally accepted standards used

By bringing internationally accepted standards to bear a project may provide an important precedent. Particularly for social and environmental issues, this may be important in mitigating reputational risk for investors:

“Sponsors indicated that they value ADB participation as it provides a way of confirming that adequate standards of environmental, social, health, and safety management are put in place and observed.”¹⁰²

6.1.11 Negative or no demonstration effect

A considerable quantity of material was found to suggest that projects predicted to create a demonstration effect often fail to do so. In some cases DFI engagement may even create a negative effect, discouraging private investors from further involvement in the country or sector. This is summed up in a major IEG evaluation of IFC’s

⁹⁹ Evaluation of the Norwegian Investment Fund for Developing Countries (Norfund) (ID: 1251662).

¹⁰⁰ Evaluation – Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

¹⁰¹ Desk Review of DFID’s Private Sector Infrastructure Investment Facilities (ID: 1510260).

¹⁰² ADB Assistance for Public-Private Partnerships in Infrastructure Development – Potential for More Success (ID: 1245325).

additionality in 174 IFC-supported investment operations that reached early operating maturity during 2005–07:

“IFC’s catalytic role is unproven – it is not clear that IFC’s investment brought other investors to the country (as expected).”¹⁰³

Some possible explanations for this outcome are provided below.

a) *Perceptions of risk-return ratio increased*

In some cases, DFI projects may *increase* private investors’ perception of risk due to high-profile project failures, as described in the below extract from an independent evaluation of ADB’s private sector work in the Philippines:

“The Maynilad Water Services project did not reach financial close due to the financial difficulties experienced by the company. The investment in PIATCO air terminal was cancelled as implementation and operational disputes emerged between the sponsors and the Government before the commissioning of the completed terminal... Infrastructure investment has almost ceased following problems with Maynilad, PIATCO, Manila Electric Company, and Manila North Tollway.”¹⁰⁴

The extract from an ADB evaluation below describes a case in which projects were structured so that high risk levels only became apparent when financial markets became less liquid, thus discouraging future private investment. However, it should be acknowledged that the aftermath of the Asian financial crisis was a particularly extreme environment.

“Following the Asian financial crisis, it became apparent that concession agreements in sectors such as power, roads and water have sometimes allowed excessive levels of risks to be transferred to the private sector in areas such as tariff, traffic and currency movements. Project failures have effectively reduced the supply of private capital in these sectors.”¹⁰⁵

6.4.1.4 *Necessity of having a supportive enabling environment (which may not exist)*

In the infrastructure sector in particular, a supportive enabling environment is essential to a project’s success and to mobilising private sector investment. This is clear from the available literature, and DFIs themselves attest to this fact repeatedly. When projects are implemented in a weak enabling environment they rarely perform as expected, and thus will be less likely to encourage future private investors and may even discourage them. Evaluations of ADB’s work provide two examples of this situation:

“While PSOD’s PPP projects have been successful and have included many ‘pathfinder projects’, the impact on further PPP development has been somewhat reduced due to continuing weaknesses in the enabling environment; changes in government commitment to PSP (e.g. in Pakistan and Sri Lanka); underlying issues with PPPs, which can be relatively inflexible instruments,

¹⁰³ Independent Evaluation of IFC’s Development Results 2008: IFC’s Additionality in Supporting Private Sector Development (ID: 1251652).

¹⁰⁴ Philippines: Case Studies on Private Sector Development and Operations (ID: 1245339).

¹⁰⁵ Evaluation – Private Sector Development and Operations: Harnessing Synergies with the Public Sector (ID: 1245299).

particularly in times of economic crises; and lack of demonstration potential (e.g. the Guangzhou Pearl River project).¹⁰⁶

“ADB's assistance was critical in facilitating one of the cheapest power generation projects (Meghnaghat Power Plant IPP with 450 MW capacity) undertaken by the private sector in Asia. However, there has not been a follow-up private sector generation project to Meghnaghat and ADB's efforts to help the Government attract new investments to power generation were not successful... While the lack of capacity, governance issues including political interference, and unrealistic expectations of cost power purchase have contributed to lack of success in attracting private investment to power generation, it must be noted that there was inadequate interest from experienced and competent investors to invest in large-scale power plants in Bangladesh.”¹⁰⁷

In situations where government is not supportive of private sector engagement in infrastructure it will be difficult to create a demonstration effect, as shown by this extract from a MIGA evaluation:

“In an infrastructure project in a middle-income country, while the project was operating successfully and made positive contributions to economic sustainability, its demonstration effect was limited due to deficiencies in the regulatory environment and government-imposed restrictions on private sector involvement in the sector.”¹⁰⁸

Key ingredients for a supportive enabling environment extend beyond governments, however. In some cases, PPI is perceived as externally-driven and is thus unpopular, increasing the difficulty of creating a demonstration effect:

“This suggests that much public resistance may be attributable precisely to the fact that PPI has been externally driven. This presents a challenge for the facilities, not necessarily because they impose PPI, but because their involvement may be seen by local communities as an imposition. Public approval and participation in PPI may not only be advisable but also essential if reforms are not to be rejected.”¹⁰⁹

6.4.1.5 Unsuccessful projects generate hostility towards PPI within governments

Where projects involving PPI are unsuccessful or do not generate the anticipated benefits for governments, this may make political decision makers less inclined to encourage and facilitate further private investment, thus reducing future opportunities for PPI. The clearest example of this type of effect emerges from an independent evaluation of IFC's demonstration effect in Africa:

“Finally, there are some cases where the project was not seen as a success by Government and therefore created, if anything, negative demonstration effects. The clearest example is the Rift Valley Railway in Kenya and Uganda, in which the IFC was heavily involved as both investor and advisor to the Government of Kenya. This project was described in both countries as a failure, and in Kenya has made transport sector officials cautious about (but not outright against) PPI. Other examples are the Bujagali hydropower project in Uganda, where

¹⁰⁶ ADB Assistance for Public-Private Partnerships in Infrastructure Development – Potential for More Success (ID: 1245325).

¹⁰⁷ Sector Assistance Program Evaluation for Bangladesh Energy Sector (ID: 1245311).

¹⁰⁸ Independent Evaluation Group (MIGA) 2006 Annual Report (ID: 1508107).

¹⁰⁹ Literature Review on Private Sector Infrastructure Investment (ID: 1510261).

government officials perceived the project as “taking too long and being too expensive” and the SONEL privatization in Cameroon, where there has been frustration with the performance of the concession and lack of further investment. In both cases, the Government appears to have partly reverted towards a policy of Government investment in the sector (at least, for some subsequent hydropower investments).”¹¹⁰

6.4.1.6 Problems with commercial viability of particular sectors

A related but rather different issue is to sectors. Some sectors and project types are more commercially attractive than others, as illustrated by the following extract from an evaluation of an EBRD oil refinery project:

“The evaluation of this project concluded that the commercialisation and privatisation covenant of the Bank was not well conceived. There are almost no circumstances where a standalone refinery could be successfully commercialised and ultimately privatised, due to the inherent lack of interest from the global oil companies and the difficulty of structuring a refinery as a financially viable stand-alone project. This is particularly the case in remote frontier locations with difficult access to both feedstock and to key markets for petroleum products.”¹¹¹

Where projects attempt to use an inappropriate business model, the results are also likely to create a negative demonstration effect.

“...the fact that 67% of approved PSOD water transactions had to be cancelled due to disputes between project promoters and authorities, limitations of the BOT modality, and unresolved tariff issues highlights PSOD's particular difficulties in identifying viable transactions in this sector despite numerous attempts to become more engaged... While residential electricity tariffs in most DMCs cover for at least some operations and maintenance costs, residential water tariffs in most DMCs, particularly in South Asia, do not allow for any cost recovery, which does not permit the use of PPP modalities that involve assumption of demand risk by the private party.”¹¹²

The risk is that this negative demonstration effect spreads beyond the particular sector, undermining support for the PPP model in sectors where it would be much more suitable.

6.4.1.7 ‘Stamp of approval’/market making

A key finding to emerge from this review is the limits to the demonstration effect. The basic point is that DFIs are often able to mobilise finance precisely because they are DFIs backed by states. As a result, it is simply not possible in many cases for the private sector to replicate what they have done.

In the next section we will explore the implications of this in some detail.

7 Further phase 1 findings from the evidence and coded text

7.1 Towards a categorisation of project types by commercial viability

¹¹⁰ Evaluation of the Demonstration Effect of IFC's Involvement in Infrastructure in Africa Draft Final Report (ID: 1251634).

¹¹¹ EBRD (2004) (ID: 1245395).

¹¹² ADB Assistance for Public-Private Partnerships in Infrastructure Development – Potential for More Success (ID: 1245325).

During the review a picture has emerged of four different project types being executed by DFIs, categorised by commercial viability.

(i) Fully commercially viable

In some instances, DFIs were found to have not generated financial additionality. That is, the projects were fully commercially viable, and would have proceeded with or without DFI participation in the form of investment.

While there are arguments that can be made in favour of DFIs investing in projects of this kind (to enable them to leverage improved environment and social performance, for example), they are incompatible with the requirement to create financial additionality and thus ultimately unconvincing. Also, such participation runs a risk of crowding out private sector investors, which runs counter to DFIs' mandates of private sector development.

It should be noted that the above comment does not apply to DFI advisory services, which may help to mobilise finance from private investors where the principal barrier is a lack of management expertise, rather than commercial viability.

(ii) Commercially viable but a political umbrella is essential to mitigate risks sufficiently to assure investors

Numerous examples of projects of this kind were found, as described above. It should be noted that the distinction between category (i) and (ii) is not always straightforward. In some cases, the provision of a 'political umbrella' was clearly essential. In others, however, investors may ultimately have been prepared to go ahead without DFI engagement, though they had a preference for the political cover provided by co-investing with a DFI.

Where DFIs offer this political insurance, they should extract a 'price' for doing so. One option would be a commitment to greater social and/or environmental performance from the project sponsors.

(iii) Project is commercially viable but only if finance is structured in ways that only DFIs will or can do

As we have seen, there are numerous examples of projects where DFIs provided finance at maturities and/or terms which were essential to ensure the commercial viability of the project. Often this is combined with the provision of the 'political umbrella' described above, so that DFIs' additionality becomes cumulatively greater as we move down through this categorisation of projects.

(iv) Only commercially viable if a 'blended' model of concessional and commercial finance is used

Categories (i)-(iii) can be thought of as on a spectrum where the distinction between them is fuzzy at the margins and subject to change over time. For example, a reduction in political risk could result in a category (ii) project becoming a category (i) project. Alternatively, development of a domestic market supplying long-term local currency could see a category (iii) project becoming a category (i). The final type, category (iv), is qualitatively different, however. Here we are concerned with projects with potentially very high developmental and/or environmental impacts, but where

commercial returns are likely to be very low, or possibly negative, and there is no guarantee that this will change over time.¹¹³

In Table 7 we separate this type of project into several further categories, distinguished by the type of non-commercial financing they would require and their likely developmental outcomes.

Although relatively few examples of type (iv) projects were found during the review, the development impact of these was high, as illustrated by Table 10 below, while some EBRD projects and the IFC's energy efficiency programme described in section 6.2.1 (f) provide further examples.

Table 10. Projects requiring non-commercial financing: type of finance; likely developmental outcomes; and examples from the documents studied

	Project type	Type of non-commercial finance likely to be required	Developmental outcomes	Examples from the documents studied
(a)	High direct development impact projects extending networks to poor urban or rural areas with large up-front fixed costs	One-off grant or concessional loan at fixed cost stage	Access for the poor to infrastructure services	<p>Omdurman Water Supply & Optimisation Project (FMO) <i>"The new plant will have a large effect on the total water supply and consumption. Simulations... suggest that the new plant will raise water consumption by 25%-30%. The effects of this improved supply will be largest for the poorest groups without a connection to the network. These people (approximately 35%-40% of the households in North Omdurman) have an income below USD 200 per month."</i>¹¹⁴ [Partly grant financed]</p> <p><i>"The Norad loans (and later Norfund's investments) were relevant: Grameen Phone provides millions of poor people in rural areas with phone communication, where there was none before."</i>¹¹⁵ [Soft loan]</p>

¹¹³ Returns to projects that reach the very poor are low due to the poor's constrained ability to pay, while projects with high environmental returns are low due to their positive (but un-costed) externalities.

¹¹⁴ IOB Evaluation: Investing in infrastructure (Evaluation of the LDC Infrastructure Fund) (ID: 1251601).

¹¹⁵ Evaluation of Norwegian Business-related Assistance: Bangladesh Case Study (ID: 1251658).

	Project type	Type of non-commercial finance likely to be required	Developmental outcomes	Examples from the documents studied
(b)	High direct development impact projects providing infrastructure services where the poor cannot pay commercially viable tariffs	On-going variable cost subsidy (e.g. extend OBA)	Affordable access for the poor to infrastructure services (note that (b) and (c) will often go together).	<i>“To further support [Manila Water Company’s] efforts in reaching lower income households, IFC helped facilitate a US\$2.8 million Output-Based Aid grant which was used to subsidize the cost of water connection to poor families.”¹¹⁶</i>
(c)	Public good type projects with wide economic benefits that cannot be captured by private suppliers, such as some transport projects	Blend of public and private funding	Pro-poor growth	EBRD <i>“It makes sense to offer financing for certain types of basic infrastructure independently of regulatory progress; examples include the backbone network and satellite terminals to support rural access. Even if it is difficult to prove that the investments in such basic infrastructure are commercially viable, the positive secondary effects on the overall economy should dominate.”</i>
(d)	Renewable energy projects with large up-front fixed costs that cannot be recouped on commercial terms	One-off grant or concessional loan and variable cost incentives (e.g. feed in tariffs)	Reduced carbon emissions. Growth and indirect poverty reduction as a result of energy production	IFC <i>“The intervention is to reduce information gaps about the benefits of energy efficiency. The program is also expected to generate demonstration effects. The programs are typically co-financed by the Global Environment Facility (GEF) and other donors. So far, all programs are supported by GEF, especially those that provide technical assistance and a guarantee facility to banks.”¹¹⁷</i>

¹¹⁶ Manila Water Company – Philippines: Helping to Provide the Poor with Access to Water (ID: 1251650).

¹¹⁷ Assessing the Impact of IFC’s China Utility-Based Energy Efficiency Finance Program Energy Efficiency Finance (ID: 1251656).

	Project type	Type of non-commercial finance likely to be required	Developmental outcomes	Examples from the documents studied
(e)	Projects with very long time frames	'Patient capital'	Any of the above	Chiansi Irrigation Project (PIDG – InfraCo) <i>"Currently, the small scale farmers in the region, rely on rainfall for four months a year... This project will facilitate access to year-round reliable, bulk water supply for farming, improved access roads and related transport and health infrastructure."</i> ¹¹⁸

Returning to the four overarching project categories, Table 11 below describes the potential for financial additionality, demonstration effect, growth and poverty reduction outcomes in each case.

¹¹⁸ PIDG Chiansi Results Measurement Sheet.

Table 11. Towards a categorisation of project types by commercial viability

		DFI financial additionality	Potential for demonstration effect	Potential for growth outcomes	Potential for direct poverty reduction outcomes
(i)	Fully commercially viable	No	None as project was already commercially viable	Good, but would have occurred without DFI investment	Little or none
(ii)	Commercially viable but political umbrella essential to mitigate risks sufficiently to assure investors	Yes	Little as purely commercial actors do not have political umbrella	Good	Possibly as a result of obligations to improve social and environmental standards as the 'price' to be paid for the political umbrella
(iii)	Project commercially viable but only if finance structured in ways that only DFIs will or can do	Yes	Reasonable, as this type of project may lower perceptions of risk-return ratio and make private players more inclined to provide finance on better terms	Good	Possibly as a result of obligations to improve social and environmental standards as the 'price' to be paid for better terms
(iv)	Only commercially viable for investors if non-commercial support is provided	Yes, but not in the way intended by most DFIs	None, as project not commercially viable	Depends on project type, especially the sector	Very good. See Table above for a breakdown of outcomes by project type

It is not clear that DFIs sufficiently recognise the fundamental difference between category (iv) projects and category (i)-(iii) projects. Yet this distinction is important, since category (iv) projects require a very different financing model and staff with different skill and knowledge sets (and possibly quite different mindsets) to category (i)-(iii) projects. If this is not appreciated, category (iv) projects may proceed in a way that is not appropriate (e.g. through attempts to run them on a commercial basis) and

thereby run a high risk of failure. Alternatively, they will be squeezed out of DFI portfolios by more commercially viable projects.

As discussed below, some DFIs may be of the view that category (iv) projects are not within their mandate and that they are not appropriate organisations to carry out such projects. In this case it is important for DFIs to be explicit about this, for donors to recognise and accept this situation, and for all parties to acknowledge that this is likely to make it more difficult for them to demonstrate direct poverty-reduction outcomes resulting from their work.

7.2 Sources of tension between commercial and developmental mandates

Our review suggests a number of factors that are limiting the extent to which DFIs can focus on, and achieve, direct poverty reduction outcomes.

7.1.1 Many DFIs are required to be self-financing

DFIs that are required to be self-financing must ensure their projects are profitable, as captured by the first part of Norfund's mission statement below.

“Norfund is an investment company intended to develop and establish profitable and sustainable enterprises in poor countries.” (Norfund website)

Clearly, this will preclude them from consciously taking on non-commercially viable (but potentially highly developmental) projects at a loss. More generally, it incentivises them to focus on the most commercially lucrative projects. As we have seen, however, this will not necessarily coincide with maximum development impact.

7.1.2 Maintain high credit rating through high returns/low risk

DFIs are able to access finance on favourable terms as they are perceived as less risky than commercial institutions, and this is important in enabling them to provide and leverage finance in low-income/high-risk environments. DFIs thus need to maintain the market perception of them as low-risk borrowers in order to continue receiving favourable terms, which may incentivise staff to seek relatively low-risk projects. The quotation below captures the trade-off, while also suggesting that DFIs could be taking on more risk:

“Given a high level of liquidity, it seems logical to suggest that DFIs can take higher risks without jeopardising their core business. However, any proposition that DFIs could do more to invest in high-risk infrastructure sectors and frontier areas needs to be handled with care. The central question is whether each DFI is operating at its optimum level of exposure given its liquidity. This optimum lies in an investment portfolio that balances the cost of managing elevated levels of investment risk (i.e. loss provisions on loans and guarantees, equity impairment revaluations, and retained earnings designated to technical assistance and grants), with the need to maintain levels of liquidity sufficient to ensure stable and high institutional credit ratings, in turn securing access to lower costs of borrowing and ongoing confidence in the credibility of the institution. We have not performed such an analysis. Whether DFIs are operating at this optimum might be informed by past experience, for example by looking at what happened during the Asian financial crisis of the late 1990s. During this period DFI portfolios were presumably far riskier, loan losses higher

and returns lower. And yet this poorer financial performance does not seem to have adversely affected the institutional credit ratings.”¹¹⁹

7.1.3 Ensure competitiveness – with private sector and other DFIs

Complex and time-consuming up-front screening is required to identify projects that:

- Are commercially viable, but only with DFI participation;
- Have the potential to create a demonstration effect;
- Will generate significant growth and poverty reduction outcomes.

Such a process is expensive and slows transaction times, characteristics that are off-putting for potential investees and co-investors. If DFIs' transaction costs (in terms of time and finance) are considerably higher than private investors, this would effectively reduce the commercial viability of the projects they become involved in, and thus erode their capacity to correct market failures. DFIs thus face a trade-off between expending time and resources identifying their 'ideal' project type and remaining efficient and competitive.

7.1.4 Clash of cultures: developmental vs commercial

Given that they were designed to engage with private investors, it is unsurprising that many people working for DFIs have a background in commercial finance. This is positive in the sense that they bring a clear understanding of the needs and constraints of private operators, but less so in that they are perhaps less focused on the developmental or environmental aspects of projects.

This is not to suggest that these factors are not considered important, but that the incentives to focus on maintaining deal flow and commercial success may be harder to resist than would be the case if more staff had a development-oriented background.

7.1.5 Mandates may constrain DFIs in other ways

a) Tied to national interests

Several bilateral DFIs are mandated to support economic development in their home countries as well as in the countries in which they invest, as demonstrated by the quotations from the websites of Finnfund and OPIC below. The range of projects in which these DFIs engage is constrained by the sectors and countries in which their home-country companies are willing and able to invest, which may not be those most likely to result in poverty reduction outcomes.

“We finance private projects that involve a Finnish interest... Apart from co-investing with Finnish companies we can finance ventures that use Finnish technology, co-operate with Finnish partners on a long-term basis or generate major environmental or social benefits.” (Finnfund website)

“OPIC is the U.S. Government's development finance institution. It mobilizes private capital to help solve critical world challenges and in doing so, advances U.S. foreign policy. Because OPIC works with the U.S. private sector, it helps U.S. businesses gain footholds in emerging markets catalyzing revenues, jobs and growth opportunities both at home and abroad.” (OPIC website)

¹¹⁹ The use of subsidies by Development Finance Institutions in the infrastructure sector (ID: 1562411)

7.2.1.1 *Some DFIs have a more developmental mandate than others*

As can be seen from the summary of DFIs' missions and country/regional focus in Annex A, the extent to which DFIs are focused on the poorest countries and/or people varies. CDC, for example, is strictly mandated to invest the majority of funding in the world's poorest countries (since 2009):

"CDC will make more than 75% of new investments in low-income countries (those with an annual gross national income (GNI) per capita of less than US\$905 in 2006)... [and] will invest more than 50% of its funds in sub-Saharan Africa." (CDC website)

Whereas for IFU limits on country income levels are less stringent:

"Host countries of investments must be on the OECD's DAC list of development aid recipients, and the 2009 GNI capita income may not exceed USD 6,098 (2011). A general exemption from this limit has been granted to South Africa, Botswana and Namibia." (IFU website)

7.2 Unpacking the causal chain assumptions

This review has been structured around the causal chain described in section 3.2. The findings from phase 1¹²⁰ of the review on the validity of the four assumptions that underpin the causal chain are summarised in this section.

1. DFIs leverage significant additional finance

The assumption to test is that DFIs do leverage significant additional private finance into the infrastructure sectors of developing countries. While it is not possible to quantify this figure, the evidence suggests that this assumption is broadly correct, but the probability that this is so in any given project is dependent on a number of factors:

- (i) Country income level: financial additionality is more likely in low- than in middle-income countries.
- (ii) Sector: some sectors are more commercially attractive than others (e.g. telecoms vs water and sanitation). DFIs are less likely to create financial additionality in sectors which are commercially attractive.
- (iii) Type of finance: Infrastructure projects require particular forms of financing, notably long-term financing due to the long gestation periods of projects. DFIs are often instrumental in providing finance of the required maturity and in this way create financial additionality.

2. DFIs produce a positive demonstration effect, leading to an increase in private investment over the longer-term, which is not dependent on DFI engagement.

Of all the assumptions reviewed, this is the most difficult to assess. Definitively proving causality in this area has not been possible with the material available to the

¹²⁰ Phase 2 findings generally corroborate those of the first phase of the review, though greater emphasis is placed on the issue of project selection as this was incorporated in P2 from the start.

reviewers, though the evidence suggests that the following factors will affect the probability of creating a demonstration effect:

- (i) Policy context: Particularly in the infrastructure sector, a supportive – and stable – regulatory framework is essential. Projects where DFIs can improve this framework, and there is confidence that it will be maintained without DFI participation, are more likely to create a demonstration effect.
- (ii) Project categories: Demonstration effects are only possible in projects that are fully commercially viable. Where projects are reliant on some form of concessional financing (and by their nature will never be fully commercially viable), the impossibility of creating a demonstration effect should be explicitly recognised.
- (iii) Extent to which project realisation depends on DFI ‘political umbrella’: As discussed earlier in the report, DFIs provide a ‘political umbrella’ or ‘insurance’ with respect to political interference and risk. In many cases it is precisely these features that make a project possible, and they are the direct result of DFIs’ unique position. Where project realisation is heavily dependent on the ‘political umbrella’ effect, a demonstration effect is less likely to occur.

3. *DFIs influence project design and policy contexts so that development impacts (growth and poverty) are greater than would have been the case without their participation.*

Unpacking this assumption is important. It could be argued that fulfilling assumptions 1 and 2 (financial and demonstration additionality) is sufficient, as this will lead to greater infrastructure provision, which has proven development benefits. DFIs generally go further, however, and claim additional impacts, often described as ‘pro-poor’.

The first point to consider is the way in which DFIs select projects, i.e. whether this is done on the basis of potential development impacts. While there is some evidence that this is the case, particularly with respect to growth effects, this type of assessment is not done systematically and – crucially – is not done in such a way as to enable *comparison* of developmental outcomes between projects under consideration. For this to be the case, DFIs would need to assess potential impacts *ex ante*, and do so in a way that took full account of economic, social and environmental impacts. Approaches such as Economic Rates of Return and Social Cost Benefit Analysis could be adapted for this purpose, and used to ensure only net positive projects were undertaken, and those with the greatest potential impact were selected.

Other factors relevant to this assumption are:

- (i) Financial (or private) returns may diverge from Economic (or social) returns. Commercial investors are concerned with the former, and – where there is a divergence – DFIs’ role is to influence project design to build in features associated with positive development outcomes.
- (ii) There are limits to this process. Some project design or financing features that are positive from a development perspective may be commercially negative. Private investors will only be prepared to incorporate such features to the extent that their target rate of return is maintained.

- (iii) There are limits to what DFIs can achieve in this regard, as they also face incentives to focus on the most commercially viable projects.
- (iv) Overcoming this problem may require changes to DFIs mandates and financing (e.g. allowing them to employ concessional finance and not requiring them to be self-financing).
- (v) DFIs have significant influence, both on governments and investors/businesses. It is not clear that this is leveraged to the extent it could be so as to improve project design and the policy context and thus enhance development outcomes.

4. *Infrastructure projects have significant (and large) development impacts, both directly (on poverty) and indirectly (on growth)*

As discussed earlier in the report, assessing the validity of this assumption by reviewing the evidence in full is beyond the scope of this review, although work carried out by others on this topic is discussed in section 2.2. Results have been found to be mixed and highly contingent upon contextual factors, and there are daunting methodological challenges in assessing the impact of infrastructure development. Nevertheless, there is an overall consensus that infrastructure plays an important role in both growth and poverty reduction. More research is clearly needed, particularly to identify the channels of impact, and how these differ by country, sector and income group. A particularly important area for DFIs is understanding in which circumstances and for which sectors there are trade-offs between growth and poverty outcomes in infrastructure investment strategies, and in which circumstances/sectors are there synergies.

8 Phase 2 findings

As described above, the second phase of the review entailed the analysis of confidential internal documents. To gain access to these documents, it was necessary to enter into non-disclosure agreements (NDAs) with a number of DFIs, where the anonymity of individual projects or partners was guaranteed. This precludes the extensive use of quotes as in P1 and necessitates a different approach. Accordingly results here are presented in aggregate form, with statistical results being contextualised by the research teams' analysis of the coded material.

Table 12. Reference frequencies by category				
	<i>Positive</i>	<i>Negative</i>	Pos/neg ratio	<i>Total</i>
Financial	100	25	4.0	125
Design	204	35	5.8	239
Policy	45	12	3.8	57
Demonstration	26	11	2.4	37
Selection	12	22	0.5	34
Totals	387	105	3.7	492

Table 12 gives headline figures for coded references by category. As we can see, the most numerous category – by some distance – is design. The next most frequently referenced is financial additionality, after which there is a considerable drop to the far less frequent categories of policy, demonstration and selection.

The table also shows whether the references are positive or negative by category, which is best captured in the pos/neg ratio column. Here the larger the number, the more positive references outweigh the negative. For the entire sample of 492 references, for example, there are 3.7 positive references for every negative one. By category, design additionality has the highest positive to negative ratio, with 5.8. Financial and policy additionality have ratios of 4 and 3.8 respectively, while there are 2.4 positive demonstration effect references for every negative one. It is only with selection effects that negative references are more likely than positive; almost twice as likely in fact.

8.1 Financial additionality

Table 13 describes the distribution of coded references on financial additionality by income, region and sector. As described above, positive references outnumber negative references by four to one. We can see, however, that this average hides considerable variability within each category.

For example, lower middle income countries (LMICs) have more than half of the references, both positive and negative. Regionally, Latin America and the Caribbean (LAC) dominates similarly, while energy, telecoms and transport account for the bulk of the sectoral references.

Table 13. Financial additionality – unweighted coded references								
<i>Income</i>	<i>Negative</i>	<i>Positive</i>	<i>Region</i>	<i>Negative</i>	<i>Positive</i>	<i>Sector</i>	<i>Negative</i>	<i>Positive</i>
LDC	2	6	Africa	4	22	Energy	9	40
LIC	1	18	Asia	5	20	Telecoms	10	31
LMIC	15	53	Europe	4	11	Transport	4	22
UMIC	7	23	LAC	12	48	Urban dev.	0	0
						WatSan	1	3
Total	25	100	Total	25	101	Total	24	96

As described above, base data frequencies vary, making it necessary to weight these findings to give an accurate picture – to ensure that the seeming dominance of Latin American references, for example, is not simply a reflection of a preponderance of materials from that region.

In the following sub-sections results are weighted by base data frequencies. The numbers given thus no longer reflect coded material, but probabilities. For example, a score of 30 for LDCs in the positive column would mean that there is a 30% probability of a project in an LDC being associated with financial additionality.

8.1.1 Income effects

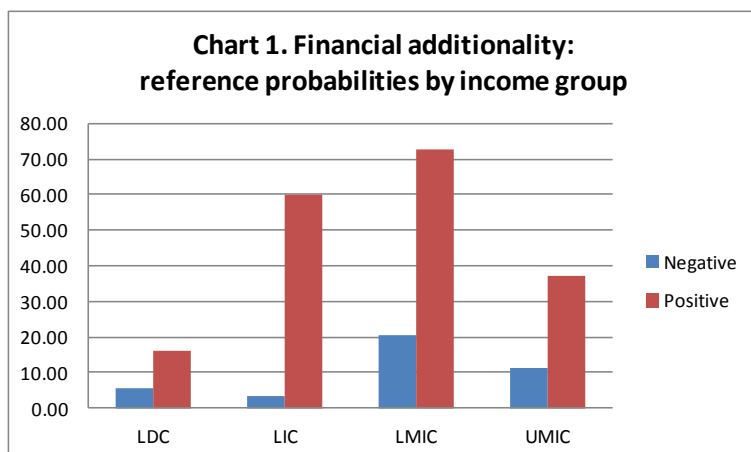


Chart 1 shows that, while the unweighted data exaggerates the importance of LMICs as a source of references, it remains the most important income group even when weighted.

This suggests that a project in a LMIC has a more than a 70% chance

of being financially additional, while the probability falls to 60% for LICs, and less than 40% for upper middle-income countries (UMICs). Perhaps surprisingly, it is LDCs where the probability of obtaining a positive reference for financial additionality is lowest, at less than 20%¹²¹. For negative references, LMICs again have the highest probability with 20%, followed by UMICs (10%), and LDCs (5%). References to a lack of financial additionality are least likely for LICs.

These findings make intuitive sense. Financial additionality appears to be more likely for countries in the middle of our income groups, where risks are perceived to be manageable enough to support private investment but large enough to require the comfort of co-investing with DFIs. Additionality then drops in the highest income bracket, where risks are likely to be lower, and the need for DFI engagement less pronounced. This is a difficult judgement to make of course, so again it is not surprising that the likelihood of obtaining a negative reference is greater in the higher income groups, as these are the countries that private investors would be more likely to enter without DFI participation.

The fact that LDCs attract fewer references than other groups may reflect the difficulty of attracting private investors into the infrastructure sectors of very poor countries. Risks may be too high for many to commit to the timescales needed for infrastructure projects, even with DFIs as co-investors. This would suggest something of a 'sweetspot', where DFI-leveraged private investment in infrastructure is likely to work best in countries that have already achieved a minimum level of

¹²¹ While ever effort was made to ensure accuracy, the possibility cannot be discounted that financial additionality was not cited specifically with respect to LDCs as much as other income groups as this was assumed by those compiling the evaluations.

development, but have not reached a level where private investors have the confidence to go it alone.

8.1.2 Regional effects

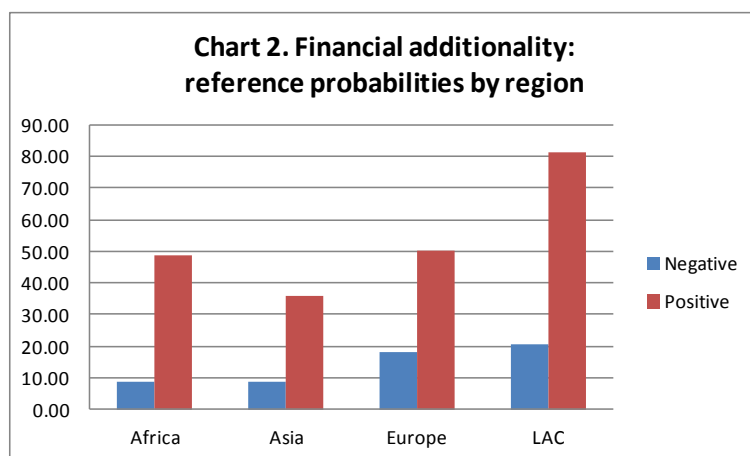


Chart 2 gives the information by region. Here the probability of a project being financially additional is far greater in Latin America than in other regions – 80%, compared to 50% in the next highest regions of Europe and Africa. At around 35%, the likelihood of a project

being financially additional in Asia is less than half that of Latin America.

References for a lack of financial additionality fall into two camps: in Latin American or European Projects, there is a roughly 20% probability; in African and Asian projects, this falls to slightly under 10%.

Analysis of the underlying text suggests the following explanations. First, additionality is least likely in Asia because of the commercial attractiveness of many Asian economies. Second, perceived political risks appear to be higher in Latin America than other regions, such that the comfort of co-investing with DFIs is more important because of the political ‘insurance’ this provides.

There may also be sectoral aspects. Table 14 gives the proportion of regional projects in the energy, telecoms and transport sectors. At 90% of all projects, this is significantly higher in Latin America than in the other regions being considered. As shown in the next section, it is these sectors that are most associated with financial additionality, negative and positive.

Africa	72
Asia	82
Europe	75
Latin America	90

8.1.3 Sectoral effects

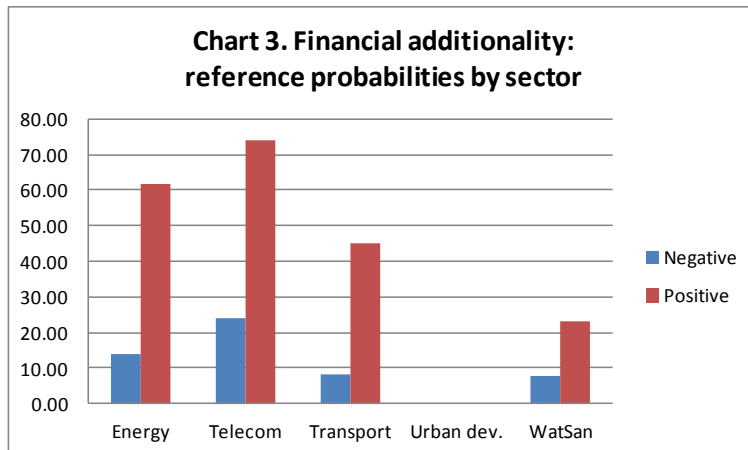


Chart 3 shows that positive references to financial additionality are most likely in telecoms (more than 70%) and energy (60%). The likelihood of a project obtaining a positive reference falls to 45% in the transport sector and as little as 30% in water and sanitation projects.

Urban development projects had no references¹²². On the negative side, references are again most likely in telecoms followed by energy, transport, and water and sanitation.

8.1.4 Financial additionality findings

In phase 1, evidence was found that DFIs create financial additionality in three ways. First, by providing and leveraging finance at longer maturities than would be commercially available. Second, by providing, maintaining and leveraging finance countercyclically, particularly in downturns¹²³. Third, by absorbing early stage risk, thus increasing the commercial attractiveness of projects and attracting private investors who would otherwise not have invested. It was argued that DFIs are able to do this in large part because of their unique positions as politically backed entities. This enables them to borrow on favourable terms in capital markets, due to their absence of default risk¹²⁴, and the fact that borrowers are less likely to default on them. These same factors enable them to hold riskier portfolios than private institutions in a general sense, but also to behave more countercyclically and to take on early stage project risk.

Phase 2 supports these findings, and also suggests that it is the provision of finance at suitably long maturities that is the most important of the three functions.

We can also break down the form of financial additionality in other ways. For example, finance may be *additional* in the sense that no private investors were prepared to invest and the project could not have proceeded without DFI support. On the other hand, finance may be *catalytic*, in that the provision of DFI finance was instrumental in attracting private sector co-investors. It is worth exploring this distinction a little further.

¹²² Here and more generally, urban development results need to be treated with some caution, as there were relatively few projects within this category as shown in Table 1.

¹²³ There was far less evidence of DFIs exiting or avoiding projects in upturns, or booms.

¹²⁴ Given political backing, DFI default risk is effectively that of the sovereign – or sovereigns in the case of multilateral institutions – that stand behind them.

While catalytic finance is additional by definition, finance could be additional – but non-catalytic in that it was not possible to attract private co-investors – for three reasons:

- (a) The project was not commercially viable and had few development benefits, and should not have been undertaken in the first place;
- (b) The project was not commercially viable but had significant development benefits, and so should have been undertaken, but with support from non-commercial finance¹²⁵;
- (c) The project was commercially viable but private investors had incorrect perceptions of either risk (too high) or expected returns (too low).

It is difficult to argue that DFI financing projects of type (a) represents financial additionality at all. Type (b) is additional, in that the project had developmental value and may not have proceeded with DFI backing. However, due to the low (or negative) commercial returns available from the project, financing on purely commercial terms is not possible. The third type is clearly additional, and represents countercyclical finance (where risks are seen as too high), and/or the creation of a positive demonstration effect (where perceptions are that potential returns are lower than is actually the case).

In cases where finance is additional for one of the reasons given above, the next questions are how financial support should be structured, and what ‘returns’ the DFI is able to obtain for providing this finance. For the first question, the project will need finance provided at certain maturities and on particular terms. Some DFIs may require a financial premium for providing finance when private investors are not willing to do so – for example, at the early stage of a project where risks are high or where investing countercyclically. Similarly, they may require a premium if finance is provided on longer maturities than the private sector is prepared to. Indeed, in some cases the ability to negotiate such a premium is seen as evidence of additionality.

But as described above, DFIs are able to act in this way because of their political backing. The purpose of this backing, however, is not to maximise financial returns to the DFI, but to maximise development returns. Given this, it seems strange that DFIs should use their position to obtain greater financial returns, when the objective should surely be to obtain better development outcomes.

We can think of this in terms of different rates of return: the Financial Rate of Return (FRR) measures returns to a particular project or investor; the Economic Rate of Return (ERR); measures the broader economic costs and benefits of the project, capturing multiplier and spill-over effects; the Social Rate of Return (SRR) measures economic benefits as in ERR, but also measures non-traded social and environmental factors to capture the full costs and benefits to society of a project.

We can think of this as three concentric circles, with FRR being a subset of ERR, and ERR being a subset of SRR. From the perspective of DFIs, the aim should be to

¹²⁵ For example, subsidised loans or grants delivered through mechanisms such as Viability Gap Funding, Output-Based-Aid (OBA), and/or via Technical Assistance (TA) programmes.

maximise the SRR of a project, which is different from maximising the FRR of either the project itself, or the DFI's investment in it. Where there is alignment between the FRR and SRR (i.e. where both financial and development returns are high), this is straightforward. Where the FRR is lower than the SRR, however, the private sector will undersupply investment, and there is a case for DFIs to use their own resources (e.g. early stage risk absorption; provision of longer tenors) to improve the risk-return ratio and align FRR with SRR. As the gap between FRR and SRR widens, however, it becomes necessary to use concessional finance to bring infrastructure provision to SRR-maximising levels. As we move into public goods territory, where FRRs are very low but SRRs very high, full public financing is likely to be appropriate.

In phase 1 we described these project categorisations in terms of their commercial viability. In Table 15 this is replicated, with an additional category (v) added for projects most suited to public financing.

Table 15. Project categorisation					
<i>Category</i>	i	ii	iii	iv	v
<i>Category description</i>	Fully commercially viable	Commercially viable if political risks addressed	Commercially viable if finance structured in a particular way	Only commercially viable if concessional finance used	Not commercially viable
<i>Type of finance</i>	Commercial funding	Commercial + DFI political risk insurance	Commercial + DFI risk assumption*	Commercial + concessional	Public funding
<i>DFI 'returns'***</i>	Financial	Financial + ESG	Financial + ESG	ESG	-
<i>Direct DFIs***</i>	X	√	√	√	X
<i>Fund of Fund DFIs</i>	√	√	√	X	X
<p>* Early risk absorption, provision of longer term finance or adoption of subordinate creditor position.</p> <p>** What DFIs can expect to get in return for their engagement. The two categories are (1) financial returns, and (2) development returns – environment, social, governance (ESG).</p> <p>*** Direct DFIs are those engaging directly at the project level. This may be investment (e.g. equity or loans), or other financial instruments such as guarantees, or technical assistance (TA).</p>					

We can distinguish between types of DFI in this regard. While it makes sense for DFIs involved in direct investment in projects to seek to maximise the SRR, this is not necessarily the case for DFIs that employ a fund-of-funds approach. Here the aim is

narrower: to show that it is possible to make good returns by investing in particular countries/regions and/or sectors, with the aim of increasing the flow of investment. These DFIs are not looking to change the risk-return ratio through the use of their own resources or concessional finance. Rather, the aim is to demonstrate to investors that their perceptions of risk and return are incorrect. Essentially, therefore, this is a question of ‘branding’, where inaccurate perceptions of a particular country, region or sector can be disproved by the example of DFI success. For this reason Table 15 indicates that there is a case for these forms of DFIs to be involved in projects that are fully commercially viable – but only where there is a misconception over risks or returns.

Although the goal of fund-of-fund DFIs is to maximise FRR, to avoid compromising other development objectives, this must be done so that SRR is at least equal to FRR. That is, if a high FRR is obtained through social or environmentally exploitative activities which damage the long-term development prospects of a country, there is no case for DFI involvement. Where social and environmental returns are at least equivalent to financial returns, however, a positive case can be made. This potentially offers a way of steering the activities of such DFIs, where projects with high FRRs **and** high SRRs should be focused on¹²⁶.

An important finding of this research is that financial additionality is often a marginal call. In some instances it is obvious that an investment is definitely additional or definitely not. In many cases – perhaps most – it is not possible to be so definitive. There are also a number of reasons why DFIs have an incentive to claim financial additionality in particular cases:

- The development need is very high;
- The project fits with the strategic priorities of the DFI;
- The project may generate high financial returns;
- There is a general enthusiasm for PPI projects.

Given uncertainty over the additionality of many projects, and these incentives, the risk is that projects that are not really additional are undertaken. To avoid this, and to ensure that the project is financed and structured in ways that maximise development benefits, it is essential that robust project appraisal and selection techniques are used. We will return to this issue later in the report.

¹²⁶ This is the approach employed by the UK’s CDC as of 2011:
<http://www.cdcgroup.com/uploads/businessplanpresentation-may2011.pdf>

8.2 Design additionality

Table 16. Design Additionality – unweighted coded references

	Growth	Employment*	PSD*	Targets bottlenecks*	Poverty	Negative
LDC	12	4	5	7	2	3
LIC	38	14	25	3	5	3
LMIC	104	18	84	11	5	19
UMIC	36	11	26	6	2	10
Total	190	47	140	27	14	35
Africa	48	15	36	4	6	7
Asia	29	9	19	5	6	8
Europe	47	4	37	9	0	10
LAC	66	19	48	10	2	10
Total	190	47	140	28	14	35
Energy	74	16	54	10	1	8
Telecoms	68	13	53	5	3	9
Transport	32	11	21	9	4	5
Urban dev.	4	1	2	1	1	1
WatSan	8	2	6	0	4	7
Total	186	43	136	25	13	30

* Employment, private sector development (PSD) and targets bottlenecks are sub-categories of growth.

Table 16 describes unweighted references to design additionality by income, region and sector. There are three main categories of reference – growth, poverty and negative – where material is coded that suggests DFIs influence project design to (a) boost growth, (b) achieve direct, poverty reducing effects, or (c) have a negative influence on these factors. The growth category is broken down to cover design interventions to create employment, encourage PSD, or target bottlenecks that are restraining growth.

The headlines are: growth effects dominate; PSD is the most important component of growth; and references to negative design impacts are more frequent than positive impacts on (direct) poverty.

8.2.1 Income effects

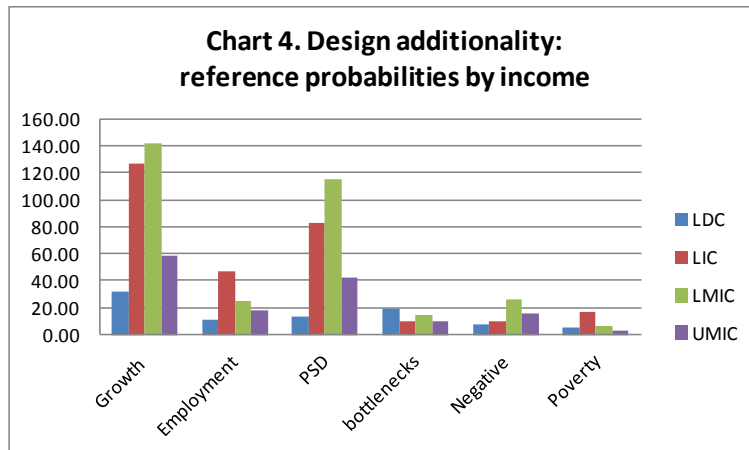


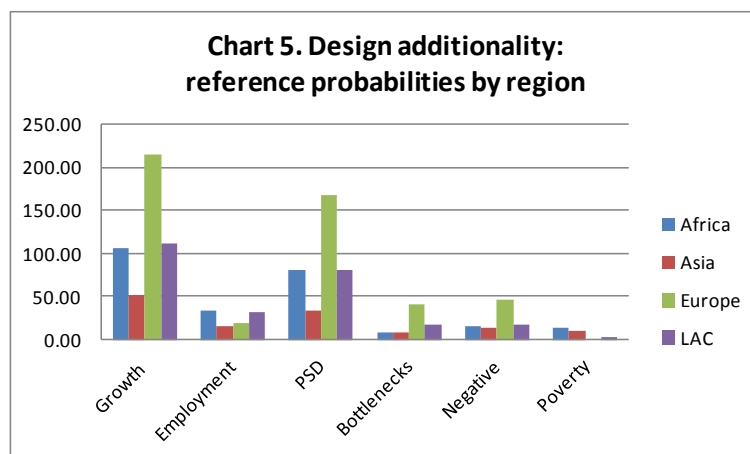
Chart 4 shows that the importance of growth/PSD interventions largely results from their predominance in LICs and LMICs.

Of the other growth sub-categories, employment is most important in LICs, and removing

bottlenecks to growth most prevalent in LDCs.

Negative effects are considerably more likely to occur in LMICs than other income groups, while LICs are the only group where there is a reasonable probability (a little under 20%) of references supporting DFI interventions to enhance direct poverty effects.

8.2.2 Regional effects



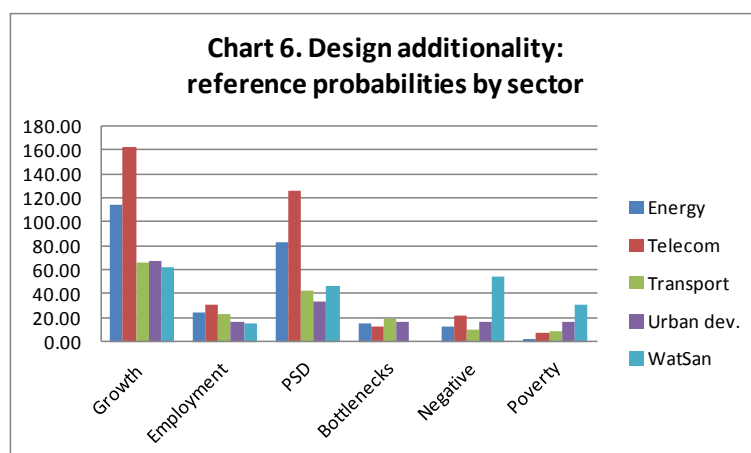
As we can see from Chart 5, the focus on growth is most pronounced in Europe, followed by Latin America and Africa. For the former, each project has an average of two references suggesting DFI additionality, while the latter two regions have one.

Projects in Asia, in contrast, were half as likely to obtain a positive reference on growth. Within growth, PSD again dominates, with the regional pattern following that for the growth category as a whole. For employment effects, Africa is the region most likely to have positive references, while for bottlenecks this is Europe.

Europe is also the region that is considerably more likely to have negative references, where the probability is almost 50%. References to poverty interventions

are again limited, but far more likely to occur in Africa and Asia than in the other regions.

8.2.3 Sectoral effects



As in the previous two sections, Chart 6 shows that growth interventions dominate, and that within growth PSD is by far the most important concern.

In terms of sector, these results are driven by telecoms and energy, where growth/PSD concerns are particularly pronounced.

References to interventions to achieve direct poverty effects are most likely in water and sanitation, but this is also the case with references to negative impacts.

8.2.4 Design additionality findings

Design interventions to boost growth are far more common than those focused on poverty effects. As discussed at length in P1, however, growth is likely to reduce poverty, and so a growth focus is an entirely legitimate approach to reducing poverty. DFIs have tended to claim more than this, however, arguing that they go beyond the poverty-reducing effects that would occur as a result of growth, to influence projects so that direct poverty effects are also enhanced. They have also been facing increasing pressure from donors to demonstrate additional impact in these areas. As in P1, we found little evidence of this, and the examples that did exist were generally associated with the use of concessional finance, usually to expand access and/or reduce tariff rates. The conclusion from P1 that pure commercial finance may be incompatible with the achievement of these forms of additional poverty effects is therefore supported.

Within growth, claims to have created employment are common. Where finance is truly additional in the sense that the project would *definitely* not have occurred without the DFI this is legitimate. As with poverty, however, there was little evidence of DFIs actively seeking to influence projects so as to increase the number of jobs created, or to select projects that have the potential to create disproportionately large numbers of jobs.

In some cases, DFIs encouraged a reduction in the workforce, or a reduction in pay rates. Here the rationale was that this was necessary to ensure competitiveness and thus make growth and higher levels of future employment more likely. While this may be a necessary approach when circumstances demand, a problem is the lack of efforts to test the validity of the assumptions *ex post*. That is, did the retrenchments and wage cuts actually lead to more competitiveness or not, and what are the

conditions needed to make this more or less likely? Addressing these questions is far beyond the scope of this review, but it is clearly an extremely important issue that requires detailed further work. In the absence of this form of analysis, the interventions can seem more ideologically than empirically driven.

There were some examples of DFIs encouraging the employment of local staff, particularly in more senior management positions. This was offset, however, by examples of the opposite, where internal criticisms were made of the failure to be more proactive in this regard. Similar points can be made of some aspects of PSD, particularly the formation of supply chain linkages with local SMEs. Although there are positive examples where DFIs have actively sought to promote this, more often there are criticisms of the fact that few such linkages were created.

As with employment impacts such as local staff, there is a surprising passivity. It is clear that DFIs would like to see more impacts in this regard, as they are often quite critical of their lack, but this too rarely translates into proactive efforts to achieve these outcomes. Given the points made above about the returns DFIs could expect for creating financial additionality, there would seem to be considerable scope to push for more.

PSD may also refer to the introduction of new goods and services, which is most likely in LDCs where there are significant market gaps. The promotion of competition by supporting new entrants in existing markets is another form of PSD, and one that is more common in countries with higher levels of income (i.e. LIC and above). Interestingly, this form of PSD is also more common in Europe and Latin America, presumably because of the historical experience of communism and monopolistic state provision. A particularly positive form of PSD is where local banks are used as co-financiers, thus achieving financial sector development (FSD) in conjunction with the development of the real economy.

As was the case in P1, there is considerable emphasis placed on the removal of bottlenecks to growth on the part of DFIs. This is clearly particularly important in the infrastructure sector, but impacts could be enhanced further by a more co-ordinated approach across the supply chain. For example, improving transport links can have a very positive effect on growth by enabling producers to access new markets. However, this will only be the result if the goods themselves are competitive in these markets. Infrastructure support that was co-ordinated with support to improve producers' competitiveness would ensure these positive effects result.

For environmental, social and governance (ESG) interventions, it is useful to break down the acronym. Improvements in governance are obviously a win-win – good governance is strongly associated with better financial performance. DFIs operating a fund-of-fund model are particularly well placed to push good governance reforms, which are likely to yield financial as well as developmental returns. Things are less straightforward when it comes to environment interventions: some will be commercially positive (e.g. efficient energy use); others could be positive for some companies (e.g. larger ones in terms of reputational risk, smaller ones in terms of complying with supply chain standards). In some instances, however, improving environmental performance will not be commercially positive. It is important to

recognise and address this properly – different forms of DFIs would do this differently.

Given fund-of-fund investors are focused on demonstrating that good financial returns can be earned in ways that are developmentally beneficial, there is a strong argument for avoiding investments in sector and companies with high ESG risks, as they are not in a position to influence this. DFIs that invest directly, in contrast, have much greater scope to influence environmental and social performances, particularly as they may have access to non-commercial sources of finance to support these goals. This suggests something of a division of labour between different types of DFIs in terms of the investments they make.

References to negative design effects tend to fall into one of two categories. Most can be put down to poor selection in the first place, often for the reasons described at the end of section 2.1.4. The remainder are due to a failure to intervene effectively at an early stage – i.e. insisting on local employment or SME linkages.

8.1 Policy additionality

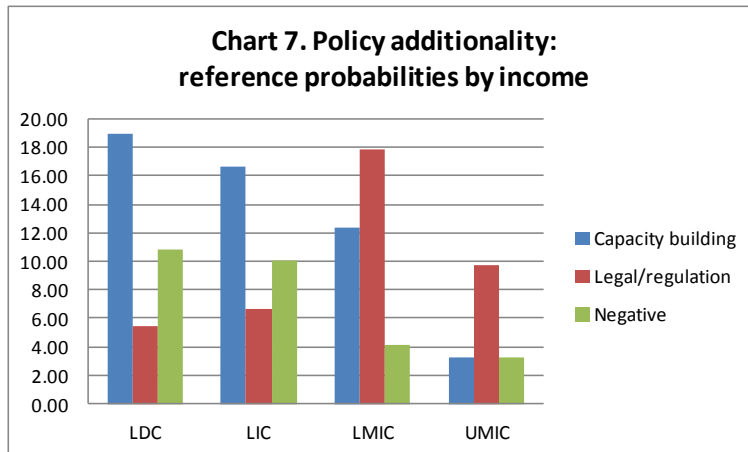
Table 17. Policy additionality – unweighted coded references			
	<i>Capacity building</i>	<i>Legal/regulation</i>	<i>Negative</i>
LDC	7	2	4
LIC	5	2	3
LMIC	9	13	3
UMIC	2	6	2
Total	23	23	12
Africa	7	4	4
Asia	6	3	5
Europe	9	9	3
LAC	0	7	0
Total	22	23	12
Energy	11	10	6
Telecoms	1	4	1
Transport	2	6	2
Urban dev.	4	0	0
WatSan	4	1	2
Total	22	21	11

Table 17 gives the breakdown for policy additionality references. The growth-poverty distinction from P1 has been dropped, as policy interventions examined were invariably focused on enhancing growth.

The two positive categories have an equal number of total references, each of which are around twice as numerous as references to negative interventions.

As with the previous categories, it is necessary to examine the weighted results to identify differences by income group, region or sector.

8.2.5 Income effects

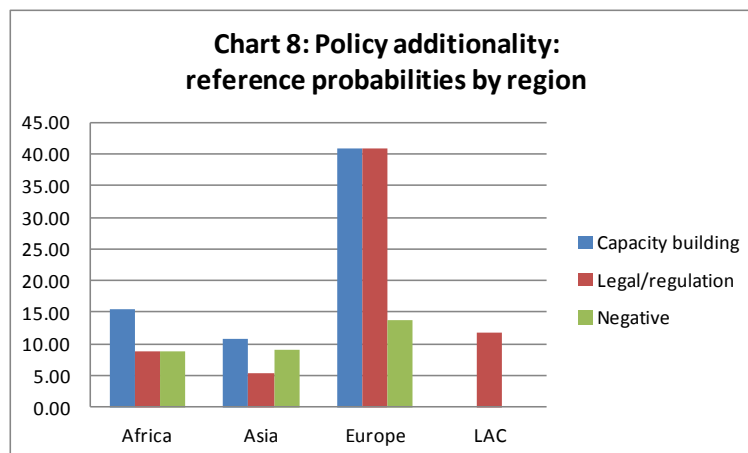


As we can see from Chart 7, interventions to build capacity are most likely in LDCs, and then decline as incomes rise. This is very much the pattern that would be expected.

Conversely, interventions focused on legal and/or regulatory frameworks are least likely in LDCs

and become progressively more likely as incomes rise. Again, this is what would be expected. The probability of interventions of this kind peak with LMICs, before falling off sharply in UMICs. As with capacity building, references to negative interventions are highest for LDCs and progressively fall as incomes rise.

8.2.6 Regional effects



Regionally, we can see that interventions on policy are disproportionately likely in Europe, where capacity building and legal/regulatory framework references are equally probable. Given the transition from planned to market economies in the region, this is very much what

we would expect to see.

For the other regions, capacity building is most important in Africa and, to a lesser extent, Asia. Latin America, in contrast, obtained no references in this area, but interventions focused on the legal and/or regulatory framework were relatively likely. Negative references were most likely in Europe, about half as likely as this in Africa and Asia, and no negative references were found in Latin America.

8.1.1 Sectoral effects

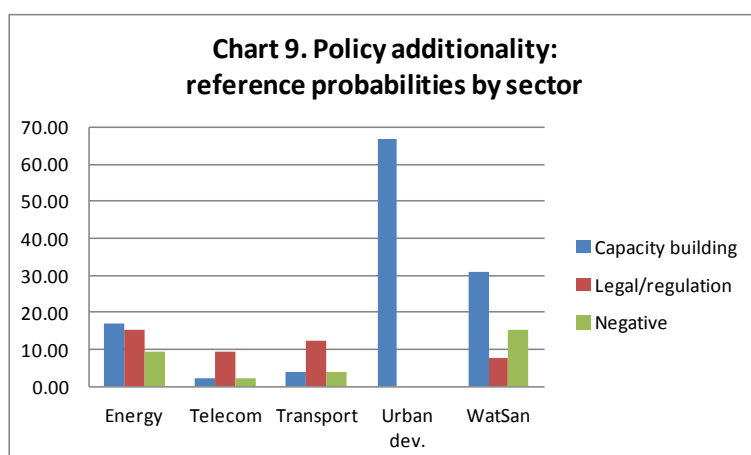


Chart 9 breaks down policy interventions by sector. Here we see capacity building as the most important in urban development¹²⁷ and water and sanitation.

This category is also the most important in the energy sector, but is closely followed by policy interventions

focused on the legal or regulatory framework, which is the most important category in telecommunications and transport. Negative references were most likely in water and sanitation, followed by energy.

8.1.2 Policy additionality findings

The first point to make is that references in this category are much lower than for either design or financial additionality. In large part this reflects the focus of DFIs – for example, while the IFC does provide advice to policy-makers, this is more associated with other parts of the World Bank Group. What we find is DFIs engaging with policy on a needs basis in relation to the requirements of a particular project.

In both the capacity building and legal/regulatory categories, most interventions relate to privatisations or PPP/PPIs. In order to implement either successfully, a certain level of knowledge and experience is required. Much of this entails the translation of international best practice, drawing upon the experience of many countries. As well as general upgrading, some interventions are highly specific. For example, drawing up appropriate legal documents for PPP/PPI contracts is a highly skilled task, and one which is essential if the full developmental benefits of the project are to be realised.

As well as project-level interventions, DFIs may be involved in the formation of regulatory frameworks in new sectors. Particularly for fund-of-fund investors, interventions to shape the regulation of new financial sectors is an important function, where the goal is to identify those aspects of regulation that really matter for financial and development performance, and ensure that these are implemented effectively.

Interestingly, it is in basic interventions that problems seem more likely. Particularly during privatisations, it is often necessary to train managers in basic private sector management principles. This is not always as successful as would be expected, as managers may be hostile to the process of privatisation, or paid such a low salary that they are not motivated. The lesson here is that capacity building may need to go

¹²⁷ As pointed out previously, however, the very small number of projects in this category requires us to treat this with caution.

beyond the immediate requirements of the job into broader areas that could affect performance.

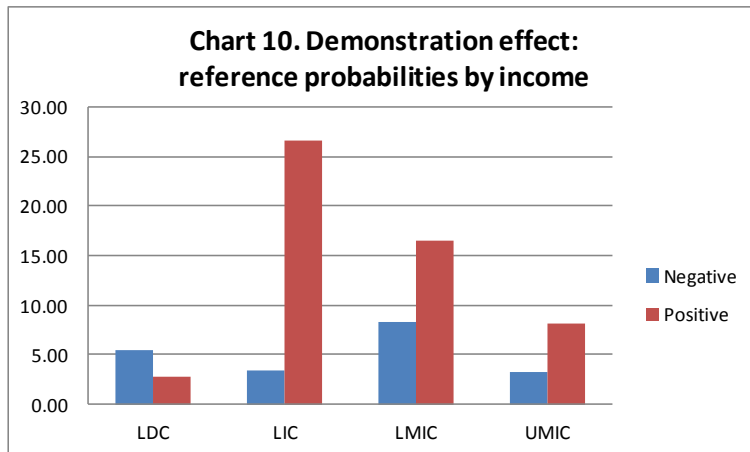
Negative policy outcomes are likely where there is a divergence in incentives between government and DFI. For example, a DFI may wish to create a level regulatory playing field for the new market entrant that it is supporting. Where the government owns, or part-owns, an incumbent firm, however, there may not be a similar desire on the part of government. Interestingly, where government has access to revenues from natural resources (or multilateral donors where conditions are not attached), there can be less pressure on the need to reform.

8.3 Demonstration effects

Table 18. Demonstration effects – unweighted coded references								
	<i>Negative</i>	<i>Positive</i>		<i>Negative</i>	<i>Positive</i>		<i>Negative</i>	<i>Positive</i>
LDC	2	1	Africa	2	4	Energy	6	9
LIC	1	8	Asia	5	8	Telecoms	1	4
LMIC	6	12	Europe	1	1	Transport	1	7
UMIC	2	5	LAC	3	13	Urban dev.	0	1
						WatSan	0	2
Total	11	26	Total	11	26	Total	8	23

The unweighted data on demonstration effects are not particularly illuminating. What they show is that (a) references to demonstration effects are relatively rare, and (b) positive references outnumber negative references more than two to one.

8.3.1 Income effects



References to positive demonstration effects are heavily concentrated in LICs and LMICs.

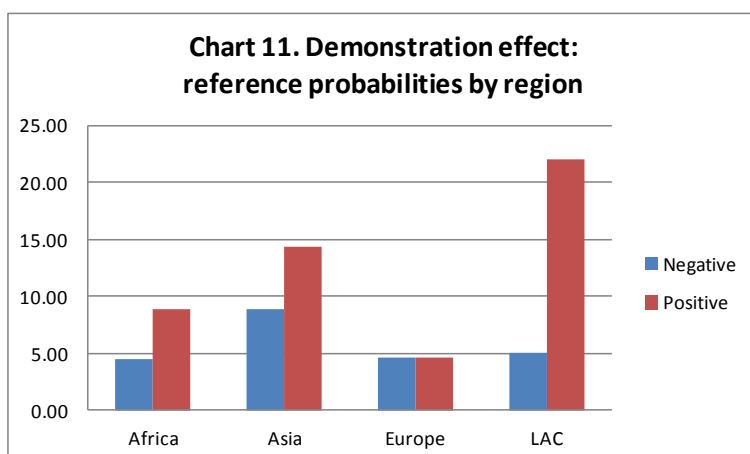
Achieving successful PPP infrastructure projects appears to be particularly difficult in LDCs. This is not especially surprising: infrastructure projects are more likely to

succeed with a strong and effective regulatory regime and a solid institutional foundation. This is more likely to be in place in countries with higher levels of income, hence the domination of LICs/LMICs.

At the other end of the scale, demonstration effects are also less likely in UMICs, presumably as there is likely to be more acceptance of the business case for investing in such markets in the first place – i.e. there is less need for a demonstration effect to attract investors.

While there is the highest probability of a negative demonstration effect in LMICs, it is only in LDCs where this is greater than the likelihood of achieving a positive effect. This supports the point that achieving a successful infrastructure PPP is considerably more difficult in LDCs than in countries with higher levels of income.

8.3.2 Regional effects

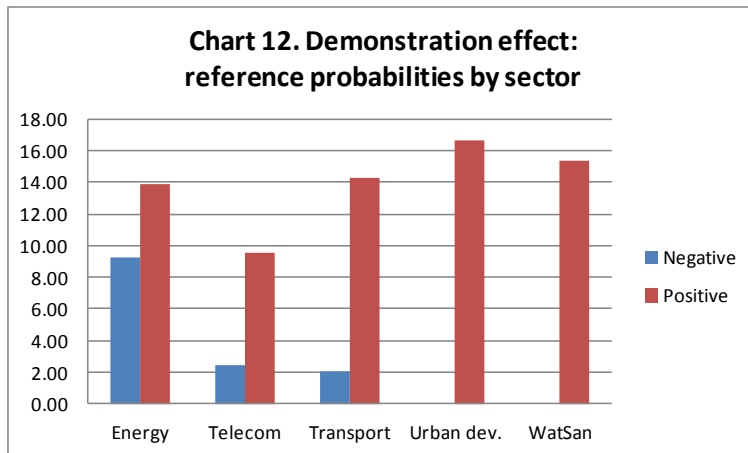


Regionally, we can see that positive demonstration effects are most likely in Latin America, followed by Asia and Africa.

In Europe there is a less than 5% chance of a positive reference, which is the same probability as obtaining a negative score.

The likelihood of a negative demonstration effect is also around 5% in Africa and Latin America, but almost twice as likely in Asia.

8.3.3 Sectoral effects



The sectoral information on demonstration effects shows a relatively equal likelihood of positive effects across all sectors except for telecoms.

Negative effects are concentrated in the energy sector, with a much smaller probability in transport and telecoms. Neither urban

development nor water and sanitation were associated with negative demonstration effects.

8.3.4 Demonstration effect findings

The first point to make is that there are many different types of demonstration effect that may be sought:

- (a) On the host government (to do more privatisations or PPP/PPIs);
- (b) On other governments (to do privatisation or PPP/PPI work with DFIs);
- (c) On host or other governments (of the economic/commercial potential of a particular sector or asset class)
- (d) On private investors (of the commercial viability of sector/business model and/or type/maturity of financing and/or country);
- (e) On entrepreneurs (to start similar businesses/that the necessary technology works);
- (f) On other DFIs (of the appropriateness of a particular financing structure in a given context).

While there will be cases where all of these effects are relevant, this is unlikely to be the case in general. The project categories described above may provide a guide here.

Table 19. Project categorisation					
<i>Project category</i>	i	ii	iii	iv	v
<i>Potential demonstration effect</i>	c d e	a c d e	a b c d e	a b d e	e

Table 19 links forms of demonstration effect with project categories. We can also relate this to types of DFI. For example, fund-of-fund investors are likely to focus upon category (i) and (ii)-type projects, and demonstration effects (d), (c) and – indirectly – (e). DFIs undertaking direct investment may target any or all of these effects, but will have a different emphasis depending upon the country and sector.

For example, where state ownership has been the historical norm, and tentative steps on a process of privatisation are being taken, effects (a) and (b) are likely to be the most important. Where the role of the private sector is more accepted, effects (c), (d) and (e) may be more important.

The findings on demonstration effect here are broadly similar to those in P1, where we identified three forms of demonstration effects:

- First, some projects may demonstrate that the risk-return ratio is better than perceived;
- Second, risk-return ratios may improve as a result of DFI activities;
- Third, innovative and replicable models may be successfully used.

Examples of all three forms were found in this study, but we would add that different forms of DFI are more likely to do some than others. For example, fund-of-fund DFIs are not in the business of changing risk-return ratios, but of demonstrating they are more favourable than had been assumed. They may use new financial instruments or approaches to do this, but the aim is to shine a light on pre-existing realities.

DFIs that directly invest may also do this, but they also have the capacity to improve risk-return ratios by leveraging their advantages as DFIs, including employing concessional finance. Here, as stressed in P1, we run up against the limits of the demonstration effect. To the extent that DFIs can enable projects to succeed because of their status as DFIs, a purely private sector demonstration effect is not possible.

As in P1, examples of negative demonstration effects were found in the following areas:

- Perceptions of risk-return ratio increased (due to high profile failures);
- Necessity of having a supportive enabling environment (which may not exist);
- Unsuccessful projects generate hostility towards PPI within governments;
- Problems with commercial viability of particular sectors, where the FRR earned is not sufficient to attract private investors.

Where social returns (i.e. SRR) are high but FRR low, there is a case for using non-commercial finance to ensure the project proceeds. Pushing ahead with a fully commercial model where this is inappropriate is likely to create a negative demonstration effect.

As with the other aspects of additionality considered, many problems – including the failure to fulfil development potential – are the result of inappropriate project selection. In the first phase of this research the issue of selection was emphasised. Phase 2 has confirmed the importance of this issue, which we consider in detail in the next section.

8.4 Selection additionality

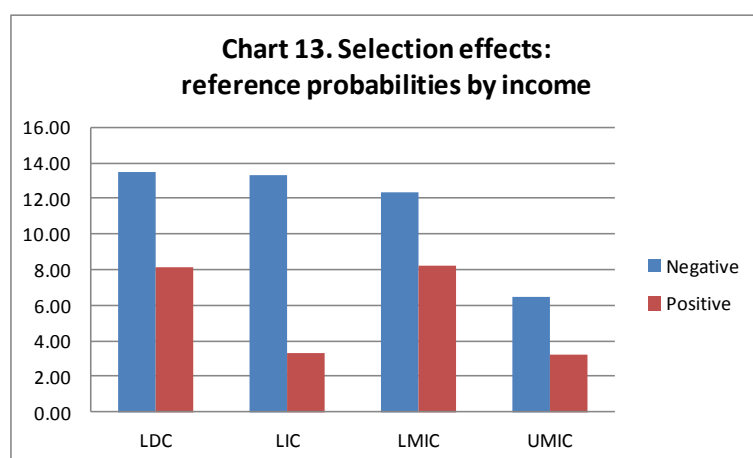
Table 20. Selection additionality

	Negative	Positive		Negative	Positive		Negative	Positive
LDC	5	3	Africa	4	3	Energy	5	7
LIC	4	1	Asia	12	4	Telecoms	3	1
LMIC	9	6	Europe	3	1	Transport	5	1
UMIC	4	2	LAC	2	4	Urban dev.	0	1
						WatSan	3	2
Total	22	12	Total	21	12	Total	16	12

The previous categories examined instances where DFIs have attracted additional finance, initiated positive design or policy changes, or created a demonstration effect. In each case, however, the ‘raw material’ to be worked with – i.e. the project – was taken as a given.

Here we take a step back and look at the reasons why projects were selected in the first place. References were coded as positive where selection was based on a clear intention to maximise developmental benefits, while selections that appear to have been made for other reasons were coded as negative. Table 20 gives unweighted data in this regard. The most striking aspect is a reversal of the previous trends, where positive references outweighed negative ones, often many times over. For selection effects, in contrast, the opposite is true: here negative references are twice as frequent as positive.

8.4.1 Income effects



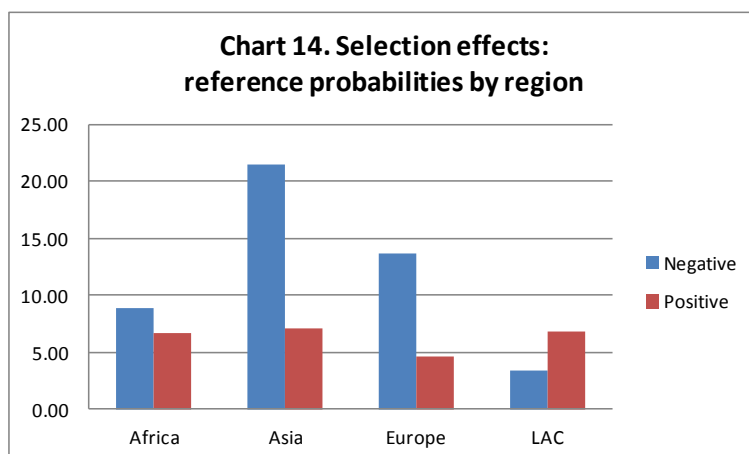
In Chart 13 we see that negative selection effects predominate in all income groups. They are most likely in LDCs and LICs, becoming progressively less likely as incomes rise.

Our analysis highlights a number of common selection rationales that diverge from the

principle of maximising development benefits (or generating the highest possible Social Rate of Return [SRR]). This first chart suggests that the likelihood of

selections on this basis is higher at lower levels of income. In contrast, positive references display no clear pattern.

8.4.2 Regional effects



Regionally, we can see that negative selection effects are significantly more likely in Asia than in other regions, with a probability of more than 20%.

The region with the next most pronounced negative effects is Europe, followed by Africa. Latin America has

the lowest probability of a negative selection effect, and is the only region where a positive effect is more likely than a negative one. Positive effects display no clear pattern, with probabilities in each region being a little more or less than 5%.

8.4.3 Sectoral effects

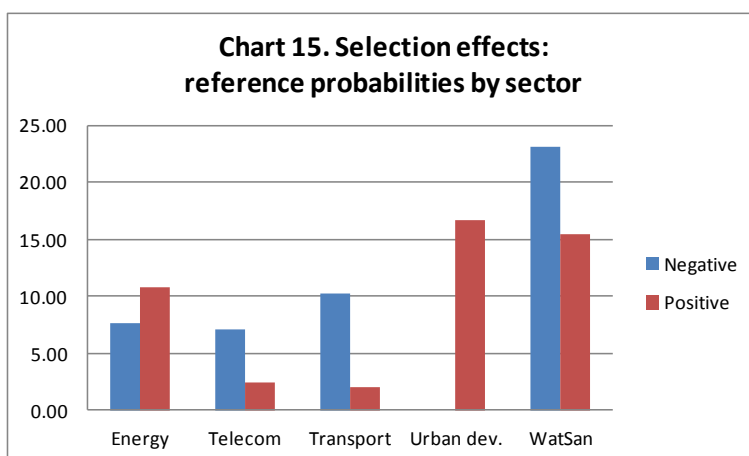


Chart 15 breaks down the selection data by sector. As we can see, water and sanitation has the greatest probability of negative selection effect, followed by transport, energy and telecoms.

Positive references were most likely in urban development and water

and sanitation, followed by energy. At around 2%, telecoms and transport have a very low likelihood of a positive selection effect.

8.4.4 Selection effects findings

The most obvious determinants of DFI project selection are the mandates under which they operate¹²⁸. The majority of bilateral and multilateral institutions have a general mandate to invest and leverage investment into developing countries. Regional institutions obviously narrow this on a geographical basis. Some DFIs restrict this further, stipulating a certain proportion of investments should be in LDCs, or LICs, for example.

¹²⁸ See Annex A for a detailed breakdown of DFI mandates.

Sectorally, most DFIs have an open mandate with a bias towards the most developmentally important sectors. Given the importance of infrastructure to the process of development, it is thus unsurprising that it holds a prominent place in many portfolios. PIDG has taken this logic furthest, being dedicated to financing infrastructure in lower-income DAC countries.

DFIs also use different investment techniques, which influence selection. Most invest directly in projects, partnering with private institutions and/or other DFIs. Investments may be loans, or equity stakes or various hybrid structures. Many also provide Technical Assistance (TA), and some institutions provide guarantees. Fund-of-fund investors adopt an arms-length, portfolio approach, investing in fund managers who allocate their assets according to predetermined criteria. The concept of 'selection' is thus quite different. Direct investors select projects, while indirect DFIs select the fund managers who select projects.

Although we contend that the selection process needs to be approached in a more systematic way, it is important not to unnecessarily complicate this. In the course of this research, numerous examples of positive selection were found. In many cases it is obvious what forms of infrastructure are needed in countries, particularly very low-income countries where such facilities may be scarce. It does not require sophisticated analysis to determine that a country with a limited supply of power would benefit from greater installed capacity. Similarly, access to clean water is something all people should expect to have.

Where genuine needs are many but resources limited, however, allocation decisions need to be taken. If the actual question facing a DFI is whether to finance a power station *or* a water treatment plant in a particular country, where should resources be devoted? Alternatively, if the question is whether to finance a power station in country A or country B, which should be chosen and why? These are first-order decisions, which should precede considerations of financing mechanisms, design features or the policy context.

We have suggested that the appropriate criteria for DFIs when facing decisions of this kind is to select the project with the greatest development impact, or the highest social rate of return (SRR). While this might seem obvious, it is often not the reason why projects are selected in practice. There are two classes of explanation for this.

First, it is very difficult to calculate development impacts in a holistic way. For example, to be comparable across projects, economic, social and environmental factors need to be translated into a common unit of account so that total development impacts can be compared. What this means in practice is that traded goods are valued with market prices, but many social and environmental benefits are valued using proxies and shadow prices, as market prices do not exist¹²⁹. Disagreements over the best ways of valuing non-traded goods, combined with a greater uncertainty compared to observable market prices, creates the potential for considerable disagreement over valuations.

¹²⁹ The UK Treasury recently published an excellent addendum to its Green Book (used for project appraisal), which reviews the literature on valuation techniques for social cost-benefit analysis. http://www.hm-treasury.gov.uk/d/green_book_valuationtechniques_250711.pdf

As well as being difficult, it is very time and resource-intensive to accurately forecast total development impacts. DFIs are understandably reluctant to commit significant finance to this task, which would reduce their investable funds, and there is simply not the time to undertake full social cost-benefit analyses of all potential projects.

As a result of these difficulties and uncertainties, there is an understandable tendency to focus on that which is readily measurable. With regard to our three rates of return discussed above, the FRR is the easiest to measure, followed by the ERR, with the SRR being most difficult. As we have seen, however, the FRR is not the same as the SRR in many instances. Selecting projects on the basis of potential FRRs is therefore unlikely to be the route to maximising development impact.

The second class of explanation was introduced earlier in this study. There are a number of powerful reasons why projects may be selected, which differ from the framework described above:

- The development need is very high;
- The project fits with the strategic priorities of the DFI;
- The project may generate high financial returns;
- There is an excessive general enthusiasm for privatisations, or PPP/PPI projects.

Materials reviewed for both phases of this study found numerous examples of selection on the basis of these factors. Often, these were quite reasonable and the logic used to justify the project convincing. Such projects can also be highly successful developmentally. Here we are concerned with increasing the probability that this will be the case, however, and there are reasons in each case to think that selecting projects on these criteria will not lead to the best possible development outcomes. These are outlined below for each of the listed selection rationales.

First, although the most compelling reason to select a project is developmental need, this is only one side of the equation and cannot be the sole basis for selection. The other crucial components are the means to resolve the issue effectively and a context which makes this possible. In a number of cases, we see projects pushed through where needs are very high, but the levels of institutional development and political support are not sufficient for the project to succeed. As well as the immediate damage of project failure, a negative demonstration effect is likely, jeopardising future projects that might have yielded solid development results.

A second rationale is the fit with the strategic priorities of a DFI. This may seem a very good basis upon which to select projects, as the priorities of DFIs overlap considerably with what might be considered developmentally optimal. The overlap is higher than the project level, however, which is where the potential difficulties arise. For example, an emphasis on a particular group of countries – by geography or income level – or a particular sector makes sense in terms of strategic focus. Narrowing the investable universe in this way, however, creates a risk of choosing particular projects because they fit the strategy rather than because of an objective assessment of their potential development returns. This needs to be particularly

guarded against where a change in strategy necessitates a rebalancing of a DFI's portfolio within a specified time period¹³⁰.

While these first two rationales are quite similar, the third is rather different. In both phases of the research, examples emerged of financial returns outweighing other considerations, particularly environmental or social. As discussed in detail in P1, it is understandable that DFIs will be attracted by projects with high financial returns, particularly where they are required to be self-funding. Also, in many cases a high FRR is associated with high ERR/SRRs. This is not always the case, however. Where there is a conflict between potential financial returns and environmental or social impacts, it does not automatically follow that pushing ahead with the project will yield large development impacts. Indeed, if the resulting environmental or social damage is large enough, the ultimate SRR of a project with a high FRR could be negative.

The fourth risk concerns the relationship between belief and evidence. Many DFI practitioners display a commendable enthusiasm for their work, and for the developmental benefits that private investment can create. While this is both understandable (i.e. why would they work in this sector if they were not enthusiastic?) and generally positive, the risk is that the answer to a development challenge can become predetermined. As described throughout this study, there will be projects with relatively low FRRs but high SRRs, and more generally we can think of a spectrum from fully commercially viable projects to those that should be publicly funded.

Unquestioning enthusiasm for pure private sector solutions may obscure the fact that some measure of non-commercial finance is necessary to achieve development goals – and also to deliver sufficient commercial returns. This is not restricted to DFIs of course. Precisely the same point could be made about institutions focusing on public sector approaches. In many instances a purely public or a purely private sector solution may be optimal, but this cannot be true of all cases. Organising institutions to focus on one or the other, however, is likely to lead to projects being allocated to one such box, when a more blended solution could have led to better outcomes.

These project selection rationales are entirely understandable. It would be surprising if they did not occur. Furthermore, projects selected for one or more of these reasons may well yield significant development benefits. This is not the aim, however. The goal is to *maximise* these benefits, and to use donor funds optimally to this end. That is, to leverage maximum development impact for every pound, dollar or euro of public funds channelled through the DFI sector.

For this to happen, a more systematic approach to *ex ante* project selection is needed. For such an approach to deliver the desired outcomes, it needs to be coupled with an effective process of *ex post* evaluation to progressively improve the selection framework. To be feasible for DFIs working in the real world, however, this framework needs to combine rigour with simplicity, effectiveness with ease and

¹³⁰ In 2011, for example, the CDC reduced its geographical focus to sub-Saharan Africa and south Asia, where it will focus on LICs and LMICs, and also avoid sectors that are relatively attractive to commercial investors, such as the oil and gas sectors. The goal is to rebalance the portfolio by 2015.

speed of use. Finally, the framework should be sector specific. Our concern here is with infrastructure, which has specific channels of development impact. Any framework should be designed for these sector realities from the start, rather than adapted from another use.

9 Limitations

9.1 *Limitations intrinsic to the subject of enquiry*

As we have seen throughout this review, establishing cause and effect in the infrastructure sector is difficult. Although there is a consensus in the literature that infrastructure is vital for growth and poverty reduction, maximising these effects is dependent on a range of factors relating to both project design and the policy context within which the project occurs. As a result, it is very difficult to assign impacts to particular projects with any degree of certainty.

As well as the importance of context, there is the perennial issue of endogeneity (i.e. causality). Simply put, does more infrastructure make people less poor, or do less poor people require more infrastructure, which they are better able to afford. This problem is far from being unique to infrastructure. As in other sectors, there is likely to be some causality in both directions, but it is clear that providing high quality infrastructure (power, transport, water) that is both accessible and affordable for the poor will have a significant effect, even if we cannot be precise about its magnitude.

Where infrastructure does differ from some other sectors is in timescales. The size of many projects means it can be many years from the signing of contracts to the opening of doors. Similarly, it can be many more years before macro effects such as on economic growth appear and can be measured. We will therefore simply not know what the long-term effects of many projects underway today will be for many years.

When attempting to judge the additionality of DFIs, it is essential to keep these uncertainties in mind. Donors, and DFIs themselves, want to be able to demonstrate the impact they have on development. While this is fully understandable, it needs to be kept in perspective. Both infrastructure and development are long-term games, which are ill-suited to a frame of mind that needs short-term results.

9.2 *Limitations related to institutional factors*

As well as the difficulties created by the infrastructure sector, there are those specific to DFIs. For example, the desire to demonstrate impact has not been matched by a long-term commitment to measuring impact. More often, we found institutions attempting to retrospectively build attribution systems into historical projects. Although this is changing significantly, further progress is required. Again, this is a long-term process, where the aim should be to consider what we will need to know in ten years, as well as next year, and to build in stable monitoring systems to ensure this information is generated.

A related issue is consistency, both within and between DFIs. As things stand, different DFIs take rather different approaches to the measurement of impact and each is working hard to develop a coherent system, often in isolation. The impression created is of lots of relatively isolated attempts to invent the wheel, with insufficient attention paid to existing work on Monitoring and Evaluation (M&E) in other fields,

and far too little co-operation between DFIs. In an ideal world, DFIs would operate according to an agreed framework for impact assessment, which would greatly facilitate their working together as it would provide a common way of determining priorities and assessing success. While it is understandable that bilateral DFIs need to tailor their approach to fit their own national circumstances, this should not obscure the fact that, in the end, their goals are the same: sustainable growth and poverty reduction. Some progress has been made towards meeting this objective; a DFI working group on development results indicators harmonisation was set up in May 2009 and a core set of 20 indicators/definitions has been established.

The final DFI-related limitation is transparency. Unlike infrastructure projects undertaken in the public sector – and funded by the World Bank, for example – very little information is available on the activities of DFIs. The primary reason for this appears to be concerns over commercial confidentiality, where contracts are constructed with the private sector that precludes the release of information that would be commonplace in the public sector. It is far from clear how much this information is genuinely sensitive in a commercial sense, and how much the lack of transparency is just a cultural aspect of the sector that has evolved, and is retained because of inertia as much as anything else.

What is clear, however, is that the inability to scrutinise project evaluations (both in-house and independent) for PPIs makes it impossible to compare outcomes with those from publicly funded infrastructure projects. This is very strange. Proponents of both PPI and publicly funded projects routinely claim their approach delivers the best outcomes, but without an equal level of transparency across the possible approaches it is not possible to substantiate these claims.

Early on in this project it was recognised that this would undermine the purposes of the review. Only project evaluations that DFIs chose to make public were available, creating an obvious selection bias, where both DFIs and private sector partners have a strong incentive to showcase the most successful projects.

To address this problem, the review team negotiated access to internal documents with five major DFIs and conducted a second phase of the review, which addressed the same questions using internal, confidential material. The hope is that this establishes a precedent, and opens the door to essential moves towards greater transparency.

10 Conclusions and recommendations

10.1 Conclusions

This review has aimed to answer the following questions:

What is the evidence of the impact of DFI support (including PIDG support) for PPI, on economic growth and poverty reduction? What conclusions can be drawn from this evidence to help DFIs better target their investment to maximise their impact on economic growth and poverty reduction?

We approached the first of these questions by decomposing DFI's 'impact' into a 'causal chain' with a number of 'links'. Each of these 'links' described a particular form of 'additionality' that DFIs could potentially create, which taken together amount to DFIs' total impact on growth and poverty reduction. The forms of additionality identified are: selection, financial, design, policy and demonstration.

Selection additionality is where DFIs proactively aim to select projects with the greatest potential development impacts, relative to the possible alternatives; financial additionality is simply the extent to which DFIs are able to bring more private investment to the infrastructure sector than would have been the case without their interventions; design additionality is the extent to which DFIs influence project design so as to create more growth and/or a greater impact upon poverty; policy additionality is the extent to which DFIs influence the policy context within which projects occur to improve the same outcomes; demonstration additionality (or effect) is the extent to which DFI supported projects provide a positive example, thereby leading to an increase in subsequent private sector projects that do not require DFI participation.

We attempt to provide answers to the second question in this section of the review.

The first conclusion that can be drawn is that actual evidence is very limited. Firstly, DFIs do not appear to have a systematic approach to project selection that is designed to maximise development impact – economic, social and environmental. A number of approaches have been developed in recent years – particularly Economic Rate of Return and Social Cost Benefit Analysis – but they are too time- and resource-intensive to be feasibly applied to all potential projects. What is required is a close approximation that captures the main development impacts, but in a way that is not too onerous in terms of administration.

At the most basic level, robust *ex ante* assessments are needed to ensure that only net positive projects are undertaken. They are also needed to allow comparability across project options, which would enable the identification of projects with the greatest impact. If the task is to maximise the ‘returns’ from DFIs’ scarce resources, and to guard against the biases identified in this report, there would appear to be no alternative. To be an effective asset allocation tool, however, such approaches would need to take full account of measure distributional factors – by over-weighting the impacts of the poor, for example – and measure environmental impacts fully and accurately.

The first, and perhaps most important, recommendation is therefore that DFIs should develop better techniques for selecting projects according to their potential development impact, and this should be linked to and validated by an *ex post* impact assessment system.

The main conclusions on the other four types of additionality are provided below.

10.1.1 Financial additionality

Both the evidence and coded text suggests that DFIs are creating financial additionality through a number of channels. Principally, *to a much greater extent than private sector investors*, they: (a) provide finance on better terms, (b) mitigate project risk, and (c) invest countercyclically. This is possible, first and foremost, because DFIs are backed by developed country governments, both politically and financially. This enables them to access finance on favourable terms (by enhancing their creditworthiness) reduces the risks of borrowers defaulting on loans from them (by amplifying the consequences of doing so), and so enables them to hold riskier portfolios than private institutions would be able to hold. These factors enable them to (profitably) invest where private actors might not, to absorb the higher risk components of deals, and to provide long-term finance where it is unavailable. Their particular status also allows them to provide a ‘political umbrella’ for co-investors from the private sector, so that DFIs can bring real commercial and real political benefits to deals, enabling them to leverage significant private sector finance.

The evidence suggests that DFI projects create financial additionality more often than not. There is very little evidence of crowding out (which is perhaps not surprising as the review has focused on lower-income countries where crowding out is improbable). However, there are also multiple cases – more than one third of the evidence samples – in which DFI financial additionality is questionable, i.e. it seems likely that the project would have gone ahead without DFI involvement. Both income and sector seem to matter: the higher the level of income in a country, and the more commercially attractive the sector, the more likely it is that DFIs will not be additional. Furthermore, as pointed out above, there is little attempt to systematically forecast development impact before projects are undertaken, so that even where additionality can be demonstrated, this does not mean that greater additionality could not have been achieved through a different project.

In order to ensure additionality, therefore, a more thorough process of project selection and asset allocation is necessary and worthwhile, as is an improved understanding of the factors likely to result in financial (non)additionality.

10.1.2 Design and policy additionality for growth

There is a good range of material to support the view that DFI activity in infrastructure supports economic growth. Important channels through which project design features can do this include:

- Targeting bottlenecks to productivity and international trade;
- Generating employment and government fiscal revenues;
- Generating knowledge and technology transfer;
- Private sector development, including improving environmental, social and governance performance; and
- Mobilising investment in green energy and energy efficiency.

In each of these cases, we found evidence (or supporting material) to suggest that DFIs are actively seeking to influence project design (including in the selection of projects, though this is not done systematically using a standardised methodology) to boost economic growth. However, several cases were also identified of negative or no design additionality, often as a result of unexpected resistance from governments or public sector entities to greater private sector involvement.

A greater weight of evidence and supportive material has been found that DFIs seek to influence project design than policy features to boost growth. This is perhaps not surprising, as most bilateral DFIs do not have a mandate to influence legal and regulatory frameworks or build capacity in the public sector. Nevertheless, most DFIs aim to encourage such results, albeit indirectly, so this outcome could be seen as disappointing. We recognise, however, that this may also partly reflect the difficulty of measuring policy outcomes and, particularly, attributing them to DFI activities.

Where policy additionality for growth was found, it tended to focus on changes to the legal and regulatory framework or on public sector capacity building. Several cases were also found of negative or no policy additionality, often where governments made commitments to policy reform that were not fulfilled, or DFIs' mandates prevented activities (to influence the enabling environment, for example), although the project would have benefitted from such interventions.

Where outcomes for design and policy additionality for growth were disappointing, a common factor was an inadequate understanding of the policy or political context before committing to a project. Again, this supports the case for devoting greater resources to screening and appraisal.

10.1.3 Design and policy additionality for poverty reduction

A key finding from both phases of the research is that there is very little evidence that DFIs actively seek to influence project design or policy to improve *direct* poverty outcomes. This suggests one of two things. First that DFIs are not prioritising these kinds of outcomes; or second, that within the constraints of their current mandates and operating practices, it is very difficult to generate *additional direct poverty reduction outcomes*. Given that many DFIs are explicitly charged with reducing poverty, we strongly suspect that the second of these explanations is correct, which is supported by expressions of regret that better results were not achieved in these areas. In this respect, many DFIs appear surprisingly passive, bemoaning the lack of progress in certain areas, while not seeming to make efforts to further these goals.

Interestingly, the few projects in which this type of additionality was found were all partly financed on non-commercial terms, which suggest that the real difficulty lies in generating this kind of additionality on *purely commercial terms*.

In the process of the review, the research team developed a set of proxies for design and policy additionality for poverty reduction from the literature. These are listed below:

Design:

1. Influence governments or investors to provide improved access/affordability for the poor.
2. Generate pro-poor employment during or after construction.
3. Enable the poor to participate in project planning.
4. Make explicit efforts to reduce exclusion of women and people with disabilities.
5. Enhance local supply chain linkages.

Policy:

6. Encourage pro-poor institutional and regulatory reform.
7. Support the engagement of poor and vulnerable stakeholders during project planning.

Of these seven proxies, it is only 'encouraging pro-poor institutional and regulatory' that appears beyond the scope of most DFIs. There is no obvious reason why DFIs should not make greater efforts to encourage their partners to engage in the other six activities. It is understandable that private investors may not prioritise these activities, many of which may add to costs (e.g. extending physical access to poor areas), or reduce returns (e.g. ensuring tariffs are low enough to be afforded by the poor), or simply create delays. However, as we have seen, private investors often obtain significant benefits from partnering with DFIs, and there seems to be no reason why some of these interventions should not form part of the social 'price' they pay in exchange.

It seems likely that the tensions between DFIs' commercial and developmental mandates are an important factor in DFIs' non-engagement in these activities. DFI staff incentives tend to be aligned with commercial indicators such as the volume of deals and profitability. One approach to incentivising staff to engage in the above activities would be a re-alignment of incentives to balance developmental and commercial outcomes.

10.1.4 Demonstration additionality

Evidence that DFIs create demonstration effects is scarce. It is clearly the case that ‘proving’ causality in a highly complex and rapidly changing environment, with a multitude of potential explanatory variables, is extremely difficult. Despite these difficulties, however, greater efforts to understand and prove demonstration effects are warranted, particularly as this is a key element of DFIs’ mission¹³¹.

Non-evidence based claims indicate that the following forms of positive demonstration are important:

- Improving investors’ perceptions of risk and returns in LIC infrastructure sectors.
- Improving the reality of risk-return ratios – by mitigating risks, for example.
- Showcasing the success of innovative and replicable business models, or the use of internationally accepted standards for the first time.
- Conversely, other claims indicate that the following forms of negative demonstration are important:
 - Perception of the risk-return ratio deteriorated as the result of a project.
 - Projects demonstrated the lack of an (essential) supportive enabling environment.
 - Unsuccessful projects generated hostility towards PPI within host country governments, particularly where PPI was attempted in less commercially viable sectors.

It is also important to think about what type of demonstration effect is being aimed for, which is discussed at length in Section 8. Without wishing to reiterate these arguments, an important point to make is that demonstration effects will only be successfully achieved when projects have been well structured and designed, and operate in (relatively) benign policy context. If these things are not in place, obtaining a positive demonstration effect may well be impossible: the best – indeed the only – basis for a successful demonstration effect is well selected, financed and designed projects operating in a supporting policy environment.

Even if this is achieved, however, a key finding to emerge from this review is that there are hard limits to the demonstration effect. In many cases DFIs are able to mobilise finance precisely because they are DFIs backed by states. As a result, it is simply not possible in many instances for the private sector to replicate what they have done.

10.1.5 *Towards a categorisation of projects by commercial viability*

An important conclusion of this review is that it is possible and helpful to classify DFI projects in the infrastructure sector according to their underlying commercial viability. If developed and refined, this categorisation has the potential to provide guidance on the different types of additionality that DFIs could create in different settings, enabling them to focus their efforts accordingly. Categorising projects in this way also provides guidance on the most appropriate types of financing instruments and structures. If used in conjunction with the *ex ante* project selection techniques discussed above, this would help to ensure that (a) projects with the greatest development potential are engaged in, and (b) DFIs’ activities are instrumental in seeing this potential fulfilled (i.e. additionality). These approaches could have implications for DFI’s mandates.

¹³¹ The IFC’s recently commissioned report Evaluation of the Demonstration Effect of IFC’s Involvement in Infrastructure in Africa (Castalia – forthcoming) is an example of such an effort.

The five project categories are described in the table below:

<i>Category</i>	i	ii	iii	iv	v
<i>Category description</i>	Fully commercially viable	Commercially viable if political risks addressed	Commercially viable if finance structured in a particular way	Only commercially viable if concessional finance used	Not commercially viable
<i>Type of finance</i>	Commercial funding	Commercial + DFI political risk insurance	Commercial + DFI risk assumption*	Commercial + concessional	Public funding

We would argue that there is a fundamental difference between category (i)-(iii) projects and category (iv) projects, but DFIs tend to operate as if this was not the case. Category (iv) projects will not be attractive to private investors unless their returns are boosted by the use of concessional finance, but they are also the projects that are most likely to have direct poverty reduction and/or positive environmental outcomes. Unless this is recognised, these kind of projects will be squeezed in favour of categories (i)-(iii), not least because DFIs' mandates and financing structures naturally pull them towards the most commercially viable projects.

To avoid this bias, two things may be needed. First, projects should be assessed and selected on the basis of their potential development impact, regardless of their commercial viability. Once selected, they could be assigned to one of the five categories in table 21, with financing and DFI inputs structured accordingly. Second, even if this system were in place, it would remain difficult for DFIs to engage in such projects to a significant degree, as they tend to be pulled towards projects with high financial returns. If they wish to undertake 'high (development) impact/low (financial) return projects', some structural reform may be required.

Tension between commercial and developmental mandates of DFIs

The shortage of evidence of direct poverty reduction outcomes can be understood in the context of the tensions between DFIs' commercial and developmental mandates. The founding principal of DFIs is that it is possible to generate high commercial returns and developmental outcomes. This review finds that this is certainly true if development outcomes are defined in terms of growth, which may lead to trickle-down poverty reduction. It is also the case that additional infrastructure – almost by definition – provides access to services for some that was not previously available, and so has a positive development effect. Where the evidence grows very thin, however, is that this relationship holds for *additional* poverty reduction outcomes, above and beyond these effects.

Tensions between commercial and developmental mandates identified in this review include that:

- Many DFIs are required to be self-financing, so maintaining profitability is a priority;

- DFIs must maintain their high credit rating and are thus incentivised to engage in high-return, low-risk projects¹³²;
- Many activities required to enhance a project's developmental outcomes are costly and time-consuming, and may erode their competitiveness vis-à-vis the private sector;
- Most DFIs employ investment managers drawn from the private financial sector, creating a potential clash of cultures with the more developmental mandates of DFIs;
- DFIs' mandates may constrain them in other ways, for example if they are tied to national interests, or if they do not oblige the DFI to invest in low-income/high-risk countries.

DFIs, and particularly the donors that support them, need to acknowledge these tensions more explicitly. At present, donors are asking more and more of DFIs, particularly with respect to their poverty impacts. But in many ways DFIs were established to focus on growth, with poverty effects assumed to 'trickle down' as a consequence. If they are expected to deliver more in terms of direct poverty effects, they need to be mandated, financed and staffed in way that is compatible with this.

¹³² However, there are questions over whether engaging in more high-risk projects would in fact prejudice DFIs' high credit ratings; see te Velde & Warner (2007).

10.2 Recommendations

Selection issues

- DFIs should develop rigorous but administratively feasible project appraisal tools, which enable them to identify projects with the greatest potential development impacts – economic, social and environmental. The aim should be to approximate the capture of the key impact channels of measures such as Social Cost Benefit Analysis or Social Rate of Return (SRR), but in ways that is not overly resource intensive.
- As well as project specific criteria (i.e. maximising SRR), the selection process needs to consider portfolio-level factors which could affect development impacts. Supporting complementary projects at different points of the supply chain, for example, or involving local financial institutions as co-investors, thus achieving financial sector development (FSD) as well as private sector development (PSD).
- In principle, the same point holds at the level of the DFI community. That is, the more DFIs can coordinate their activities, supporting complementary activities, the more the total development impact can be increased. To be feasible, however, this requires further harmonisation¹³³ in terms of project selection criteria: for different DFIs to see two projects as complementary, for example, they need to be assessing their potential impacts in similar ways.
- In addition to these project- and portfolio-level considerations, it is important to take full account of 'enabling environment' factors (e.g. basic levels of political support). If these factors are not sufficiently in place, projects are unlikely to deliver the anticipated benefits, regardless of their potential in this regard.
- Finally DFI type will influence selection:
 - Fund-of-fund investors aim to demonstrate the profitability of particular sectors/countries. Given the nature of their engagement, they are particularly well suited to positively affect governance, and so should focus on companies that can potentially earn high financial rates of return (FRR) and are amenable to improvements in governance, while not generating significant environmental and social risks.
 - DFIs that invest directly are better able to address social and environmental risks so as to maximise the full developmental benefits of projects. Accordingly, they should aim to maximise social rates of return (SRR), and can invest in projects even where FRRs are considerably less than the full social, environmental and economic benefits – i.e. the SRR.

¹³³ This could be developed from the on going work to harmonise DFI development indicators.

Post-selection categorisation issues

- Once selected, it is necessary to categorise projects to identify how to structure them so as to maximise DFI additionality.
- Table 21 above provides a framework in this regard, where different categories of projects require different forms of DFI support.
- As a result of selection stage considerations, different forms of DFI will be focused on different types of support:
 - Fund-of-fund investors should primarily concentrate on categories (i) and (ii), occasionally undertaking category (iii) projects as first movers into new asset classes, for example.
 - DFIs making direct investments should be focused on categories (ii), (iii) and (iv).
- Once selected and categorised, DFIs need to identify the potential development 'returns' from the projects in terms of design features. For example:
 - Ensure access and affordability to infrastructure services;
 - Pay taxes;
 - Provide local employment, training and career development;
 - Transfer knowledge and technology;
 - Build supply chain linkages with local SMEs.
- And policy features:
 - Pro-poor project consultation and inputs;
 - Pro-poor regulation and capacity building;
 - Policy-level capacity building on project design and structuring (i.e. as described above, the options are not restricted to straight public or straight private financing models¹³⁴.)
- The category of project should then determine how these returns are realised:
 - For category (i)-(iii) projects, identified development returns are the 'price' paid to DFIs for providing the services that made the project possible.
 - For category (iv) projects, development returns are directly delivered through the use of non-commercial financial support.
- As described in Section 8, there are a number of different demonstration effects that may result from projects:

¹³⁴ The increasing availability and diversity of international finance for climate change mitigation activities such as renewable energy infrastructure is a relevant consideration here.

- a) On the host government (to do more privatisations or PPP/PPIs);
- b) On other governments (to do privatisation or PPP/PPI work with DFIs);
- c) On host or other governments (of the economic/commercial potential of a particular sector or asset class);
- d) On private investors (of the commercial viability of sector/business model and/or type/maturity of financing and/or country);
- e) On entrepreneurs (to start similar businesses/that the necessary technology works);
- f) On other DFIs (of the forms of development impacts that can be achieved, and the appropriateness of a particular financing structure to deliver this).

Table 22. Project categorisation					
<i>Project category</i>	i	ii	iii	iv	v
<i>Potential demonstration effect</i>	c d e	a c d e	a b c d e	a b d e f	f

- Table 22 relates these demonstration effects to the categorisation process described above. In a number of instances, the failure to achieve a positive demonstration effect was the result of inappropriate project selection. In others, it was because of attempts to shoehorn a project into the wrong 'category' (e.g. assuming a project that was never commercially viable was). In others, it was because the full potential range of development impacts was not fulfilled.

Perhaps surprisingly, the final recommendation is for DFIs not to worry so much about creating a demonstration effect. While it is perhaps the most important function of DFI activities, the best way to maximise the right kind of demonstration effect is to get the other aspects of the project right. This does not mean that strenuous efforts should not be made to showcase successful projects to potential investors, but this will only work properly if every effort has been made to ensure the 'product' being sold is as attractive as it can be. All the recommendations here, from project selection and categorisation, to financing and design, are geared towards this purpose.

11 Commentary on M&E and impact assessment

Recent years have seen an increasing emphasis on monitoring and evaluation (M&E) and impact assessment, as part of the drive to ‘manage for results’¹³⁵. DFIs have responded by developing more sophisticated assessment frameworks, which generally include elements of both M&E and impact assessment.

These have distinct purposes, and thus distinct approaches are required:

- Monitoring presents what has been delivered and evaluation answers the question “what has happened as a result of the intervention?”
- Impact evaluation is a particular aspect of evaluation, focusing on the ultimate benefits of an intervention. (IFC/GTZ/DFID, 2008, p.21)

An in-depth review and comparison of the M&E and impact assessment approaches of the many DFIs included in this report would be a valuable exercise, but is beyond the scope of this study. Rather, this section:

- a) Explores what DFIs should be measuring and considers approaches to measuring the outcomes and impacts of DFIs’ activities;
- b) Identifies key trade-offs in DFI M&E and impact assessment;
- c) Makes recommendations for improved M&E and impact assessment on the basis of (a) and (b).

A brief description of PIDG’s M&E framework is provided in Annex C by way of example. We focus on the way DFIs measure development outcomes as opposed to factors such as return on investment, internal organisational or institutional performance.

11.1 What should DFIs be measuring and how can they measure it?

The objectives of DFIs working in infrastructure are summarised in PIDG’s mission statement:

“...our aim is to help mobilise private investment in the infrastructure sector that is needed to increase service provision for the poor, boost economic growth and alleviate poverty in developing countries”. (PIDG website)

This mission statement encompasses three objectives: (1) to mobilise private sector investment in the infrastructure sector in developing countries *and thus*; (2) to promote economic growth; (3) to reduce poverty. ‘What to measure’ is discussed for each of these objectives in turn below.

At present, most DFIs measure objective (1) by calculating the quantity of finance that they are able to leverage per unit of currency they invest. This is an important figure which is relatively easy to obtain, and should certainly continue to feature in DFI reporting. However, a comprehensive understanding of the extent to which DFIs are achieving the mobilisation of private sector investment would require the measurement of four additional indicators:

¹³⁵ In 2002, at the International Conference on Financing for Development in Monterrey, development partners agreed to focus on managing for development results; an aspiration which was later included in the 2005 Paris Declaration on Aid Effectiveness.

1. **Ex ante development impact (i.e. ‘selection additionality’)**: the first question is whether the proposed project is net positive from a development perspective, with impact being comprised of economic, social and environmental elements and potentially weighted in favour of impacts on the poor. Building on techniques such as Economic Rates of Return and Social Cost Benefit Analysis, this would also enable projects with the greatest returns to be prioritised, maximising the total development impacts of DFI resources.
2. **Financial additionality**: regardless of the net development benefit, however, if the project would have gone ahead without the involvement of the DFI (as found in a number of cases during this research), the DFI cannot be said to have created any additionality.
3. **Demonstration additionality**: if (1) and (2) are met, and the project has directly resulted in further private sector investment without DFI involvement, the DFI can be seen as having played an important role in leveraging this finance.
4. **Attribution**: there are cases in which more than one DFI is involved in a project but all DFIs claim the finance leveraged as attributable to their role, leading to double (or triple) counting. This is discussed further below.

Measuring all forms of additionality can be challenging. One of the recommendations of this report is that DFIs develop standardised methods for measuring additionality.

Measuring impact in relation to objectives (2) and (3) is more complex. As we have seen, many questions remain about the mechanisms through which infrastructure leads to economic growth and poverty reduction. An independent evaluation of the Facilities supported by DFID (DFID, 2008), for example, finds that this relationship has not have been sufficiently interrogated by the DFIs.

Whether *ex ante* or *ex post*, four possible approaches to measuring growth and poverty impacts *at the project level* are identified below¹³⁶. The approaches given here are not mutually exclusive; some or all may be adopted. In general, the methods increase in cost, complexity and sophistication reading down the list.

1. Identify and track simple **output indicators**, where the outputs are believed to be essential preconditions for achieving the growth and poverty reduction outcomes of infrastructure development¹³⁷. At present, PIDG (and several other DFIs) measure:
 - Access: number of people with new connections or access to improved quality of service;
 - Government revenue (subsidies avoided, revenue from up-front fees and on-going tax payments);
 - Direct job creation.

Some variations on this include:

- The IFC and some other DFIs are starting to measure GHG emissions reduced or avoided;
- Norfund measures the proportion of women employed.

¹³⁶ Measurement of impact at the organisational level can be achieved by aggregating project level data, but will also include measures such as the proportion of DFI activity carried out in low-income and/ or high-risk countries.

¹³⁷ In traditional donor-funded infrastructure projects this type of indicator would normally be measured in a logframe. However, the logframe approach is not seen as appropriate for DFIs as their principal role is leveraging finance from private providers, and they thus have far less control over project outcomes than donors would in fully (or largely) donor-funded projects.

2. Measure **design and policy additionality**. An important part of DFI additionality is the extent to which they influence project design and policy characteristics to generate enhanced growth and poverty reduction outcomes. At present few DFIs attempt to measure this, although the PIDG is starting to do so. The proxies for design and policy additionality identified in this report could support the development of indicators to measure these forms of additionality. Again, this is not a direct measure of growth and poverty *outcomes*, but a measure of the *output* mechanisms through which it is believed DFIs can enhance such outcomes.
3. Measure **economic and social rates of return**. A project's financial rate of return (FROR)¹³⁸ is an important indicator for DFIs, but does not capture the full important economic, social benefits created by the investment. Measuring economic and social rates of return is becoming increasingly common in international development, and new techniques have been developed that enable relatively rapid and inexpensive measurement of these indicators.¹³⁹ While this type of study will not provide the level of detail and contextualisation of a full impact assessment (described below), they would support an improved understanding of the myriad social and economic costs and benefits of an infrastructure project, how these costs and benefits are distributed between different groups in society, and thus the project's growth and poverty reduction impacts.
4. **Independent impact assessments**. Impact assessments aim to identify the ultimate growth and poverty reduction impacts of infrastructure investments (measuring these outcomes directly as far as is possible, rather than via proxy indicators), and contextualise project outcomes. In order to be objective they must be carried out by an organisation that has full independence from the organisation responsible for project implementation. There are several approaches to carrying out impact assessments. The most common is simply a study carried out by expert independent consultants (or an independent evaluation department in the case of MDBs and RDBs) a period of time after project completion, including field visits, interviews with key stakeholders, desk study, etc. More scientific approaches include experimental and quasi-experimental field experiments¹⁴⁰. DFIs are not commissioning these types of evaluations at project level to date (reasons for this are discussed below), although many have commissioned independent evaluations of the organisation as a whole.

¹³⁸ The key differences between calculations of FROR and economic and social ROR are that the latter takes into account: (1) any taxes, depreciation or finance charges, and attempts to calculate the full cost to the economy over the project's lifetime; and (2) the social and environmental costs and benefits of the project to society, including opportunity costs, increased productivity and non-economic costs and benefits.

¹³⁹ For example, PIDG recently commissioned a study on the economic and social rate of return of four InfraCo projects which was carried out in the space of a month. In reality this was insufficient time to perform a full study, but such studies are not hugely time consuming, particularly once some consensus has developed over appropriate proxies.

¹⁴⁰ In an experimental (or 'randomised') experiment, a study sample is divided into two groups: one will benefit from an intervention (the treatment group) and the other will not (the control group). The outcome measured can then be compared in the two groups. Randomisation in this context means that the evaluator ensures that no pattern exists between the assignment of families into groups and any characteristics of those subjects. When the selection of beneficiaries cannot be done randomly, evaluations can rely on groups similar to those benefiting from a treatment (quasi-experimental approaches). The data is then processed using econometric techniques such as regression discontinuity, matching techniques, difference in differences and regression discontinuities which best approximate the results of a randomised approach. (Estache, 2010).

11.2 Trade-offs in DFI M&E and impact assessment

DFIs face multiple trade-offs when making decisions on M&E and impact assessment frameworks.

11.2.1 Accurate, detailed and contextualised identification of outcomes vs simplicity and economy

In order to provide detailed information on project performance, and thus an understanding of how future performance could be improved, M&E and impact assessment would objectively and accurately identify and contextualise the ultimate growth, poverty reduction, gender and environmental impacts of DFI activities. Fully achieving this would require the on-going commissioning of project-level independent impact assessments across a variety of contexts and sectors, which would be costly and time-consuming.

Achieving comprehensive impact assessment is particularly challenging in infrastructure projects due to the long and unpredictable time-lags between project completion and the manifestation of developmental outcomes. Accurate impact assessment is therefore a long-term undertaking. Some would also argue that the 'value for money' of infrastructure impact assessments is less clearly demonstrable than for other types of interventions because infrastructure projects are often not divisible; i.e. it is difficult to run a small pilot project and then scale up, incorporating lessons learnt (unlike health projects, for example). Finally, to gain an accurate understanding of impacts, it is important to combine macro-economic and social indicators with micro data that goes down to the level of the household or the firm. This enables the evaluator to understand the micro mechanisms through which infrastructure effects economic activity.

There is thus a trade-off with DFIs' need to keep their overheads to a minimum in order to be competitive with the private sector, and to concentrate resources on delivering outcomes 'on the ground'. At present, most DFIs are very far from carrying out the type of comprehensive impact assessment described above – for example, many do not disaggregate by income level and gender even for relatively simple data collection in areas such as access. An improved understanding of the long-term developmental impacts of the investment mobilised by DFIs would facilitate the implementation of investment strategies with greater developmental outcomes per dollar invested. Carrying out or commissioning in-depth impact assessments would appear to be a worthwhile activity.

A further trade-off is that DFIs aim to generate data which is easy for donors and the public to understand, whereas impact assessments are complex and emphasise the contextual conditionality of outcomes. For those seeking *an* answer, 'it depends...' is rarely acceptable, unless the evaluation is able to provide clear guidance as to the factors upon which the benefits depend.

Finally, detailed project evaluation is more challenging for DFIs than traditional donors as they have a more 'hands-off' role – their focus has been on leveraging finance rather than project implementation. Project level data is collected by clients rather than by DFIs, and carrying out detailed impact assessment is thus more difficult, particularly given the issues of commercial confidentiality that have been discussed in this report. However, commissioning impact assessments from consultancies or academic institutions with the requisite experience remains a relatively straightforward (if somewhat costly) option.

11.2.2 Assess performance on both commercial and development objectives

This is not precisely a 'trade-off' since all DFIs measure both commercial (principally profitability and volume of deals) and development performance. However, DFIs face challenges in balancing and (it could be argued) distinguishing the measurement of these two sets of objectives.

11.2.3 Standardisation vs organisational control over approach to measuring results

Organisational benchmarking and sharing of data would be greatly facilitated by the standardisation of M&E and impact assessment frameworks across DFIs. The trade-off is that individual organisations would then lose the ability to develop an approach tailored to its unique way of working, and DFIs' principal donor(s) would have less say in the methods adopted.

11.2.4 Accurate attribution vs difficulty of coming to agreement over attribution

DFIs have acknowledged that there are cases in which more than one DFI is involved in a project but all DFIs claim the finance leveraged as attributable to their role, leading to double (or triple) counting. Coming to an agreement over how attribution can be 'split' would be difficult or impossible. However, it is essential that DFIs agree on an approach to this issue in order to avoid inaccurate reporting.

11.2.5 Transparency and accountability vs commercial confidentiality

The increasing emphasis on measuring for results has gone hand-in-hand with a drive for increased transparency in reporting outcomes and impacts. Transparency has two main aims: to facilitate learning and improved development effectiveness beyond the organisation in question, and to enhance accountability to donors, the public and aid recipients. However, most DFIs are not able to make evaluation results public due to commercial confidentiality agreements with clients.

11.3 Recommendations

1. **Measure impact ex ante**, and allocate DFI resources so as to maximise development impact.
2. **Measure additionality**. The extent to which DFIs generate financial, design, policy and demonstration additionality is a measure of the extent to which they play a different (and more developmental) role than purely private sector financiers. Measuring additionality is therefore critical to understanding the extent to which DFIs are fulfilling their role, and the areas in which there is room for improvement. Approaches to measuring additionality have been developed by PIDG, but would be enhanced by further consultation and collaboration between DFIs and between DFIs and researchers.
3. **Reconsider the ways in which key indicators are measured**. Indicators measured vary between DFIs. Taking the three basic indicators measured by PIDG and the IFC, broad recommendations are as follows:
 - a. **Access**: In order to more accurately record the developmental impacts of access to infrastructure services, wherever possible:
 - Disaggregate access data by income level and gender;
 - Measure not only access, but affordability (for example, proportion of monthly income of the poorest quintile spent on

the service) and quality (for example, water quality, consistency of electricity supply, etc).

- b. *Fiscal contribution*: The measure of subsidies avoided should be combined with a measure of whether the cost of the service has increased as a result. A further desirable step is to compliment this indicator with a measure of the extent to which the increased revenue has been spent on pro-poor programmes.
 - c. *Job creation*: If we consider 'number of direct jobs created per US\$ invested', infrastructure investment is clearly not an efficient way to generate employment. Those DFIs measuring direct job creation generally produce figures in the tens or hundreds for each project. The economic (and poverty reduction) impact of creating this number of jobs is tiny considering the quantity of money invested. The usefulness of direct job creation as an indicator in infrastructure is therefore questionable. Measuring indirect job creation (i.e. the number of jobs created as a result of the long-term developmental impacts of the infrastructure investment) would be far more important, but is also more challenging to measure.
 - d. *GHG emissions avoided*: Considering the growing importance of the climate change agenda, measuring GHG emissions reduced or avoided is important and will only become more so.
 - e. Finally, DFIs may wish to consider measuring these key indicators *per unit of currency invested*, since DFIs' comparative advantage over traditional donors is their ability to leverage private finance.
4. **Ensure there is a clear and accurate separation between indicators measuring commercial performance and those measuring developmental outcomes.** While it is important for DFIs to measure both types of outcomes, it is vital to clearly distinguish between them so that: (a) developmental outcomes are properly understood; (b) an accurate understanding can be developed of the extent to which there may be trade-offs between commercial and development outcomes.
5. **Combine measurement of output indicators and additionality with evaluations of social and economic rate of return and/or independent impact assessments for a (random) sample of projects.** The importance of DFIs among organisations working to lessen the infrastructure funding gap in the developing world is growing, yet in-depth evaluations of the long-term developmental impacts of DFI projects are in short supply. MDBs and RDBs, which are generally better resourced, commission some impact evaluations of their private sector operations projects, but this is rare among bilateral DFIs. Commissioning such evaluations would have three positive outcomes:
- Demonstrate the long-term poverty reduction impacts of projects via the indirect route of economic growth;
 - Improve the development effectiveness of DFIs working in the infrastructure sector by providing objective, accurate, detailed and contextualised information on long-term growth and poverty reduction outcomes of their activities;
 - Create a valuable informational public good, as impact assessments are rarer in the infrastructure sector than in education or health, for example (Estache, 2010). Demonstration of the poverty reduction and growth impacts of private sector operations are in particularly short supply, and an expansion of PPI is very likely to require a solid evidence base that it works in order to garner support.

Where detailed impact assessments are unfeasible, more rapid evaluations of a project's economic and social rate of return could be an alternative, less expensive option, although these would not provide the valuable, fine-grained information made available by an impact assessment.

6. **Negotiate with clients to facilitate greater transparency in results measurement, and design contracts to ensure this.** Greater transparency is vital to improving development effectiveness and enhancing accountability to donors, the public and recipient country stakeholders.
7. **Depending on the type of project being undertaken, consider how best to align staff incentives with market based and developmental outcomes.** Since DFIs are designed to achieve both commercial and development outcomes, it would seem advisable to align staff incentives with the achievement of both.
8. **Enhance standardisation of M&E and impact assessment frameworks across organisations to enable benchmarking and facilitate cross-organisational learning.** A related option that would achieve the desired outcome is a supra-national organisation that would carry out standardised, independent assessments of the DFIs¹⁴¹. (The feasibility of funding such an organisation from DFIs' M&E budgets would need to be considered.)
9. **Develop an approach to sharing attribution where more than one DFI is involved in a project.** To avoid inaccurate and inflated reporting, DFIs must come to an agreement as to how to share attribution. Reaching an agreement on 'splitting' attribution would be difficult or impossible. An alternative option would be for DFIs to report separately on projects in which multiple DFIs were involved and clearly state that attribution is shared, albeit without specifying the division of attribution.

¹⁴¹ Suggested by Laurence Carter of the IFC at the PIDG Annual Meeting, 10th & 11th May 2011, Berlin.

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Annex A. Organisations for which documents were studied during the Review: mission, country and sector focus and activities

	Mission	Country/regional focus	Infrastructure sectors	Activities
IFC	<p>IFC's Purpose is to create opportunity for people to escape poverty and improve their lives by</p> <ul style="list-style-type: none"> • Promoting open and competitive markets in developing countries • Supporting companies and other private sector partners where there is a gap • Helping generate productive jobs and deliver essential services to the underserved • Catalysing and mobilising other sources of finance for private enterprise development 	All developing countries, although increasing focus in recent years on 'frontier countries'	No particular sector focus	Loans Equity Advisory services /TA Project development
MIGA	To spur developmentally sustainable foreign direct investment to help create jobs, promote economic growth, and reduce poverty in its developing member countries	All developing countries	No particular sector focus	Political risk guarantees
EBRD	To help our countries make the transition towards well-functioning market economies	Countries transitioning from a command economy to a market economy: "our region of operations stretches from central Europe and the Western Balkans to central Asia"	No strict sector focus, although urban infrastructure is a priority	Loans Equity Guarantees Advisory services /TA (esp. enabling environment)

	Mission	Country/regional focus	Infrastructure sectors	Activities
EIB	To further the objectives of the European Union by making long-term finance available for sound investment	Mostly Europe. Otherwise includes pre-accession countries of South-East Europe, Mediterranean partner countries, the African, Caribbean and Pacific countries, Asia and Latin America, and Russia and other neighbours to the East	No strict sector focus	Loans Guarantees Advisory services /TA
ADB	To help its developing member countries reduce poverty and improve the quality of life of their people	Asia	ADB's Private Sector Operations Department (PSOD) is focused on the following core sectors of operation [in infrastructure]: energy, transport, telecoms, water (e.g. water supply and waste treatment) and urban infrastructure	Loans Equity Guarantees Advisory services /TA
AfDB	To contribute to the sustainable economic development and social progress of its regional members, individually and jointly	Africa	No particular sector focus	Loans Guarantees Equity Advisory services /TA
IADB	[To] support efforts by Latin America and the Caribbean countries to reduce poverty and inequality	Latin America and the Caribbean	No particular sector focus	Loans Guarantees Advisory services /TA Project development

	Mission	Country/regional focus	Infrastructure sectors	Activities
DEG (Germany)	Promotes private business structures to contribute to sustainable growth and improved living conditions	Africa, Asia, Latin America, Eastern Europe	No particular sector focus.	Loans Guarantees Equity Project development
FMO (Netherlands)	Our vision is that a thriving private sector will help create long-term, sustainable development impact. Our mission is to provide capital, share knowledge and create partnerships. Via the Infrastructure Development Fund, FMO supports the development and improvement of social-economic infrastructure in developing countries. FMO aims to stimulate private investors to invest in private or public-private infrastructure projects in these countries	Africa, Asia, Eastern Europe and Latin America	Infrastructure development funding is available for infrastructure projects that contribute to the development and/or improvement of social-economic infrastructure (power, telecoms, water, transport, environmental or social infrastructure). ”	Loans Guarantees Equity Advisory services /TA
NorFund	To develop and establish profitable and sustainable enterprises in poor countries. The objective is to promote business development and contribute to economic growth and poverty alleviation	East and southern Africa, in addition to Central America and selected countries in South-East Asia. “geographical concentration on selected, very poor countries”	Focus on renewable energy.	Loans Guarantees Equity Project development
Swedfund	To promote the sustainable economic development of the	Africa, Asia and Latin America, as well as the non-EU countries of Eastern Europe	Agriculture, renewable energy, ICT, industrial,	Loans Equity

	Mission	Country/regional focus	Infrastructure sectors	Activities
	countries in which we invest		infrastructure	
BIO (Belgium)	To support the private sector in developing and emerging countries to enable them to gain access to growth and sustainable development	BIO can invest in the 109 countries classified by the OECD as “Least Developed Countries”, “Low Income Countries” and “Lower Middle Income Countries”, also known as the DAC-list, and puts a specific focus on the partner countries of the Belgian Development Cooperation and on less developed countries Africa is the largest beneficiary of BIO’s funding operations and accounts for 34% of the total portfolio, followed by Asia and Latin America	Historically just SMEs, but broadened scope to include infrastructure in 2010: access to energy and water, telecoms and transport infrastructure where the main purpose is to support the local private sector	Loans Guarantees Equity Advisory services /TA Project development
IFU (Denmark)	To enhance global economic growth, development and more equitable income distribution through increased global flow of socially responsible and environmentally productive investments making optimal use of comparative advantages [in collaboration with Danish trade and industry]	Host countries of investments must be on the OECD’s DAC list of development aid recipients, and their 2009 GNI capita income may not exceed USD 6,098 (2011). A general exemption from this limit has been granted to South Africa, Botswana and Namibia	No particular sector focus	Loans Guarantees Equity Project development
CDC (UK)	To invest in a commercially sustainable manner in the poorer countries of the developing world	[Since 2009] CDC will make more than 75% of new investments in low-income countries (those with an annual	Fund-of-funds. No particular sector focus	Invests capital with fund managers in the

	Mission	Country/regional focus	Infrastructure sectors	Activities
	and to attract other investors by demonstrating success	gross national income (GNI) per capita of less than US\$905 in 2006); CDC will invest more than 50% of its funds in sub-Saharan Africa		developing world
PIDG	To help mobilise private investment in the infrastructure that is needed to increase service provision for the poor, boost economic growth and alleviate poverty in developing countries. Our other key aims in these countries include: capacity building; adding value to existing development efforts; and achieving sustainable growth and value-for-money	Only those countries included in the lower income categories of the DAC List of ODA Recipients are eligible for PIDG support	The infrastructure sectors that our Facilities and programmes are permitted to focus on are: energy and power; transportation; telecoms; gas-related infrastructure; agribusiness; housing; industrial; mining; urban infrastructure; and water and sanitation.	Loans Guarantees Equity Advisory services /TA Project development

	Regional or multilateral development bank based in the developed world
	Regional development bank based in the developing world
	Bilateral DFI (developed world)
	Multilateral DFI (developed world)

Annex B. Analysis of evidence: additionality frequencies and crosstabs
86 Priority Documents

Financial additionality

Positive	18
None	10
Not possible due to circumstances (mainly weak enabling environment, also organisation does not offer suitable products)	8

Design additionality

Growth	14
Poverty reduction	6
Failed, none or room for improvement	6

Design additionality – growth

Targets bottlenecks	8
Employment	5
Fiscal contribution	5
Promotes competition	1
Technology transfer	1
Private sector development	1

Design additionality – poverty reduction

Affordable for the poor	2
Physically reach poor	3
Labour standards	1

Design additionality – failed, none or room for improvement

Not affordable for poor or poorest	2
Does not physically reach poor or poorest	2
Negative impact on private sector development	1
Not financially sustainable	1
Fiscal revenue far lower than expected	1
Poor or negative impact on employment	1

Policy additionality

Improved legal/regulatory framework	4
Failed, none or room for improvement	1

Demonstration additionality

Positive	5
Negative or failed attempt	3

Crosstabs

(Note: for 'vs organisation' the number refers to number of documents, whereas for the other categories, the number refers to number of cases)

Financial additionality vs organisation

	Positive	Crowd out or none	Not possible due to circumstances
ADB	4	0	3
EIB	0	1	1
FMO	1	2	0
IFC	8	0	3
MIGA	6	1	1
Norad	1	3	0
NorFund	0	1	0
SIDA	1	1	0
SwedFund	1	0	0
IFU	0	1	0
BIO	1	0	0

Design additionality vs organisation

	Growth	Poverty reduction	Failed, none or room for improvement
ADB	6	0	0
EIB	1	0	0
FMO	1	1	1
IFC	3	1	2
MIGA	1	0	3
Norad	1	2	0
NorFund	0	0	1
SIDA	0	1	0
SwedFund	1	0	0
IFU	0	0	1
DEG	1	0	0

Policy additionality vs organisation

	Growth	Failed, none or room for improvement
ADB	0	1
IFC	3	0
MIGA	1	0
Norad	1	0

Demonstration additionality vs organisation

	Positive	Negative or failed attempt
ADB	3	2
IFC	2	4
Norad & Norfund	1	0

Financial additionality vs country income level

	Positive	Crowd out or none	Not possible due to circumstances
Least developed	11	7	1
Other low-income	3	0	0
Lower middle-income	4	2	6
Upper middle- income	0	1	0
Developed	0	1	0

No. of samples impossible to code due to lack of transparency: 12
(IFC: 4, SIDA: 1, MIGA: 4, FMO:1, NorFund: 1, EIB: 1)

Design additionality vs country income level

	Growth	Poverty reduction	Failed, none or room for improvement
Least developed	12	5	4
Other low-income	4	0	1
Lower middle-income	5	1	1
Upper middle-income	0	2	0

No. of samples impossible to code due to lack of transparency: 5
(EIB: 1, IFC:3, MIGA:1)

Policy additionality vs country income level

	Growth	Failed, none or room for improvement
Least developed	3	0
Low-income	2	0
Lower middle-income	0	1
Upper middle-income	1	0

No. of samples impossible to code due to lack of transparency: 1 (IFC)

Demonstration additionality vs country income level

	Positive	Failed, none or room for improvement
Least developed	3	2
Low-income	1	2
Lower middle-income	2	2

No. of samples impossible to code due to lack of transparency: 1 (ADB)

Detailed crosstabs for design additionality

(Note: for 'vs organisation' the number refers to number of documents, whereas for the other categories, the number refers to number of cases)

DFI

Design additionality: growth vs organisation

	Employment	Fiscal contribution	Promotes competition	Targets bottlenecks	Technology transfer	Private sector development
ADB	2	2	1	3	0	1
EIB	1	0	0	0	0	0
FMO	1	0	0	1	0	0
IFC	0	1	0	2	0	0
MIGA	0	1	0	0	0	0
Norad	1	1	0	1	1	0
SwedFund	0	1	0	0	0	0

Design additionality: poverty reduction vs organisation

	Affordable for the poor	Physically reach poor	Labour standards
FMO	0	1	0
IFC	1	0	1

Norad	1	1	0
SIDA	0	1	0

Design additionality: failed attempt, no attempt or room for improvement vs organisation

	Not affordable for poor or poorest	Does not physically reach poor or poorest	Negative impact on private sector development	Not financially sustainable	Disappointing fiscal revenue	Poor or negative impact on employment
FMO	1	1	0	0	0	0
IFC	0	0	1	1	1	0
MIGA	1	0	1	1	1	0
NorFund	0	0	0	0	0	1
IFU	0	1	0	0	0	0

COUNTRY INCOME LEVEL

Design additionality: growth vs country income level

	Employment	Fiscal contribution	Promotes competition	Targets bottlenecks	Technology transfer	Private sector development
Least developed	5	2	0	7	1	0
Other low-income	1	1	1	1	0	0
Lower middle-income	2	1	0	3	0	1

Design additionality: poverty reduction vs country income level

	Affordable for the poor	Physically reach poor	Labour standards
Least developed	0	4	0
Lower middle-income	1	0	0
Upper middle-income	1	0	1

7

Design additionality: failed attempt, no attempt or room for improvement vs country income level

	Not affordable for poor or poorest	Does not physically reach poor or poorest	Negative impact on private sector development	Not financially sustainable	Disappointing fiscal revenue	Poor or negative impact on employment
Least developed	2	2	0	0	0	1
Low-income	0	0	0	1	0	0
Lower middle-income	0	0	0	1	0	0

REGION

Design additionality: growth vs region

	Employment	Fiscal contribution	Promotes competition	Targets bottlenecks	Technology transfer	Private sector development
Africa	2	1	0	4	0	0
Asia	4	3	1	8	1	1

Design additionality: poverty reduction vs region

	Affordable for the poor	Physically reach poor	Labour standards
Africa	1	2	0
Asia	1	1	0
LAC	0	0	1

Design additionality: failed attempt, no attempt or room for improvement vs region

	Not affordable for poor or poorest	Does not physically reach poor or poorest	Negative impact on private sector development	Not financially sustainable	Disappointing fiscal revenue	Poor or negative impact on employment
Africa	1	1	0	0	0	1
Asia	0	0	0	2	0	0

SECTOR

Design additionality: growth vs sector

	Employment	Fiscal contribution	Promotes competition	Targets bottlenecks	Technology transfer	Private sector development
Energy	2	2	0	7	0	0
Industry	2	0	1	1	1	0
Transport	1	2	0	0	0	1
WatSan	1	0	0	3	0	0
Telecoms	2	1	0	1	0	0

Design additionality: poverty reduction vs sector

	Affordable for the poor	Physically reach poor	Labour standards
WatSan	1	1	0
Energy	1	0	0
Telecoms	0	2	0

Design additionality: failed attempt, no attempt or room for improvement vs sector

	Not affordable for poor or poorest	Does not physically reach poor or poorest	Negative impact on private sector development	Not financially sustainable	Disappointing fiscal revenue	Poor or negative impact on employment
Energy	0	0	0	1	0	0
Transport	0	0	1	0	1	0
WatSan	1	0	0	0	0	0
Industry	0	1	0	0	0	0

71 EBRD documents

Additionality frequencies

Financial additionality		Developmental outcomes			Policy additionality			Demonstration effect	
Positive	None	Growth	Poverty	Negative or room to improve	Capacity	Legal and reg framework	Negative or room to improve	Positive	Negative
6	2	2	0	0	3	5	2	1	0

Crosstabs

(Note: only results for 'vs sector' are of interest. Results for 'vs country income level' were not found to be of interest; many documents could not be classified, and most of those that could were 'developed'.

For the 'vs region' results, all classifiable outcomes were in Europe

Financial additionality vs sector

	Positive	Crowd out or none
Energy	2	0
Transport	1	0

Urban development	1	0
WatSan	2	1

Design additionality vs sector

	Growth	Poverty reduction	Failed, none or room for improvement
Energy	0	0	0
Industry	1	0	0
Transport	0	0	0
WatSan	0	0	0
Telecoms	0	0	0

Policy additionality vs sector

	Growth	Failed, none or room for improvement
Energy	4	1
Transport	2	1
Urban development	1	0
WatSan	1	0

Demonstration additionality vs sector

	Positive	Negative or failed attempt
Urban development	1	0
WatSan	1	0

Twelve 'other' studies

Additionality frequencies

Financial additionality

Positive	2
None	1

Design additionality

Growth	4
Failed, none or room for improvement	3

Policy additionality

Improved legal/regulatory framework	1
Failed, none or room for improvement	1

Demonstration additionality: no evidence

Crosstabs

(Note: results for 'vs country income level' and 'vs Region' were not found to be of interest due to the lack of data)

Financial additionality vs DFI

	Positive	Crowd out or none
EIB	2	1

Design additionality vs DFI

	Positive	Failed, none or room for improvement
BIO	3	
EIB	1	3

Policy additionality vs DFI

	Positive	Failed, none or room for improvement
EIB	1	1

Financial additionality vs sector

	Positive	Crowd out or none
Solid waste	2	1

Design additionality vs sector: almost all multiple sectors

Policy additionality vs sector

	Growth	Failed, none or room for improvement
Transport	1	1

Annex C. PIDG's M&E and impact assessment framework

PIDG is a relatively young organisation and its M&E and impact assessment framework has evolved considerably since it was founded in 2002, informed in part by experiences of other, older DFIs. This section provides an overview of the assessment framework as a basis for making recommendations in the following section (most of the information here is taken from the draft framework presented at DFI impact assessment workshop held at DFID's offices in November 2010).

PIDG monitors the results and development impact of each of its Facilities at two levels: (1) on an overall programme basis; and (2) on a project specific basis.

In addition, an independent evaluation is conducted every three years to assess overall performance.

Overall PIDG programme basis:

A logical framework ('logframe') is used to provide a systematic basis for linking each PIDG supported Facility's objectives and outputs to specific, objectively verifiable indicators. The logframe is prepared annually and covers a three-year period. The objectives and outputs are defined in accordance with the approved business plan of the company. Each output has clearly defined and verifiable indicator(s). The baseline is established based on most recent year's actual performance and targets are set out for each subsequent year over the next three years.

On an annual basis, the logframe is reviewed to assess performance against target and to update and roll forward the logframe to cover the next three years, taking into account any changes to the approved business plan and/or changes to the external environment.

The principal indicators for DevCo are given below. Indicators for the other Facilities involved in financing and project development are broadly similar.

- Increase in private investment in infrastructure.
- Increase in private investment in DAC I and II countries.
- Increase in availability of services in poorer developing countries.
- Fiscal impact.
- Number of projects bid out and in the pipeline.
- Number of projects for which impact has been monitored.

PIDG facility wise project basis:

At the commencement of development of each project each Facility is required to quantify the key development indicators for the project (these are often best estimates based on the information available at the time) and submit these to the PIDG PMU in the form of a project level 'results monitoring sheet'. This template, designed by the PIDG Development Advisor for the PMU, is uniform for all PIDG supported facilities. The data supplied for each project is entered onto an Access database managed and updated by the PMU.

The key development indicators monitored through the PIDG results monitoring system include:

- Increase in private sector investment for infrastructure;
- Improved access to infrastructure services (both in terms of additional connections and improvement in existing services);

- Fiscal impact (in terms of government subsidies avoided, revenue from upfront fees and on-going tax payments);
- Direct job creation;
- Alignment of investments with national development plans of the country where the project is located;

And most recently (since mid 2010):

- Additionality impacts; and
- Demonstration effects.

On an annual basis and at the time the project reaches financial close, the project's development impact indicators are reviewed and updated.

Progress on each project is reported as part of the company's quarterly and six-monthly reports submitted to the PIDG PMU, as highlighted above.

Project post-completion monitoring

As described above, the PIDG group of Facilities has been systematically tracking, *ex ante*, expected impact data since 2007 and this has now been completed for all PIDG supported projects and is easily accessible from a customised Access PIDG M&E database.

Since mid-2009, the PMU has initiated a comprehensive, post-completion¹⁴² impact monitoring exercise to quantify *ex post*, realised impact data. The aim is to conduct a monitoring exercise, not an evaluation, thus to continue tracking and verifying what PIDG already tracks, rather than introducing any new dimensions.

The 'actual' impact information of completed projects is focused on the three PIDG key results monitoring indicators, namely:

- Private investment mobilised;
- Fiscal impact to the host government;
- Number of beneficiaries

¹⁴² Post-completion refers to those projects that (i) reached financial close at least two years ago and (ii) are delivering outputs on the ground.