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An Overview of the Project Finance Market

Project financing is like a chameleon;
it always finds a way to take advantage of changes in the business.[1]

This note provides an introduction to the field of project finance and an overview of the project finance market during the mid to late 1990s. Recent examples of project finance transactions include the $16 billion Channel Tunnel connecting France and the United Kingdom, the $5 billion Iridium global satellite project, and the $4 billion oil and gas refinery in Venezuela known as SINCOR. In 1998, private sector firms invested an estimated $96 billion in deals like these, not counting an additional $10 to 13 billion invested by development agencies and export credit agencies. By way of comparison with other financing mechanisms in the United States in 1998, the global project finance market is smaller than the $280 billion municipal bond market, the $198 billion asset backed security market, and the $180 billion equipment leasing market, but substantially larger than the $35 billion initial public offering (IPO) market and the $12 billion venture capital market.[2]

Project finance has historically been a financing mechanism for the private sector. More recently, however, private firms have begun to finance infrastructure development. According to World Bank estimates, the demand for infrastructure investment is staggering: Asian countries alone, which historically have accounted for only 15% of the project finance market, need to invest $2 trillion in infrastructure over the next decade to maintain their current rate of development.[3] Most studies on economic development, though plagued by the econometric problem of endogeneity, find that infrastructure investment is associated with one-for-one percentage increases in gross domestic product (GDP).[4] Similar country-specific studies of development find that absent or inadequate infrastructure severely hinders economic growth. For example insufficient or irregular power supply reduces GDP by 1-2% in India, Pakistan, and Columbia.[5] Despite the growing demand and opportunities for private sector involvement, private firms still provide only 15% of infrastructure investment. Nevertheless, this note focuses exclusively on private sector activity—private investment in infrastructure and non-infrastructure projects[6]—where the economic motives are clearer.

The note consists of four sections. The first section defines project finance and contrasts it with other well-known financing structures. It does not cover the reasons for or benefits of using project finance which are covered in other sources such as Esty (1999), Finnerty (1996), or Hoffman (1998). To summarize that research, project finance creates value by lowering the costs associated with market imperfections such as taxes, financial distress, and incentive conflicts, and by improving

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risk management. Instead, this note provides some basic facts, trends, and terminology for readers unfamiliar with project finance. The second section describes the evolution of project finance from its origins in the 13th century in the mining industry, to the U.S. electric power industry in the 1970s and 1980s, and to a much wider range of industry applications and geographic locations in the 1990s. The third section provides a statistical overview of the project finance market as it exists today in terms of industry, project, and participant data. The final section discusses current and likely future trends. In addition, there is an appendix that describes sources of industry data and other information on project finance including books, articles, and web sites.

Definition of Project Finance

Finnerty (1996, p. 2) defines project finance as:

> ". . .the raising of funds to finance an economically separable capital investment project in which the providers of the funds look primarily to the cash flow from the project as the source of funds to service their loans and provide the return of and a return on their equity invested in the project."

This definition highlights several important characteristics of project finance. First, the definition centers on the concept of a "project." In the most general sense, a project is a set of legally and economically independent assets with a single industrial use. Bruner and Langohr (1992, p. 2) differentiate between *stock* and *flow-type* projects. In stock-type projects, firms extract resources like oil or copper, sell the output, and use the proceeds to service debt and generate equity returns until the resource is exhausted. In contrast, flow-type projects—highways, pipelines, power plants, and telecommunications systems—rely on asset use to service debt and generate equity returns.

Finnerty also highlights the "financing" aspect of project finance. Because projects are legally independent, creditors have recourse to project cash flows and assets only. Although there may be a period during which lenders have recourse to the sponsors' cash flows and assets, often during construction, project debt must become non-recourse to the sponsors at some point during the project's life. As a result, project finance typically represents a form of *off-balance sheet* finance, meaning that project assets and liabilities do not appear on the sponsor's balance sheet. The exact accounting treatment, however, is a function of the chosen organizational form (corporation vs. partnership, etc.) and the sponsor's fractional interest in the project.

Project finance differs from conventional corporate borrowing and asset-based finance, two forms of *on-balance sheet* finance, because debt repayment is not tied to corporate cash flows or asset values. It also differs from other types of off-balance sheet financing such as securitization. Securitization involves identifying a set of similar assets (typically liquid receivables or some other kind of financial instrument), bundling them into large pools that have reasonably predictable cash flows, placing them in a bankruptcy-remote vehicle, and issuing securities backed by the pool's cash flows. This structure enhances transparency and minimizes incentive conflicts over cash flows, thereby reducing all-in funding costs.[7] In contrast, project finance involves illiquid, industrial assets. That said, one of the exciting new developments in project finance is the securitization of project finance loans (see the final section on future trends).

The shortcomings of this definition become clear when you try to classify various financing activities. For example, leveraged buyouts (LBOs) and privatizations might be construed as project finance since they represent standalone, industrial assets financed by non-recourse debt. And yet by convention, LBOs are not considered project finance because they do not consist of single purpose, industrial assets. Using similar logic, privatizations that involve single purpose, industrial assets are considered project finance. As a result, the privatization of an airport or telecommunications firm is

usually considered project finance whereas the privatization of an administrative body or bank is not. Others exclude LBOs and privatizations under the assumption that projects must have a corporate sponsor, though this criteria is not universally accepted. Two examples illustrate other areas of ambiguity in the definition. Real estate development fits the definition of project finance, but it has historically not been considered project finance because it does not involve industrial assets. Institutionally, real estate and project finance are handled by separate groups in most commercial and investment banks, as well as most law firms. Finally, project holding companies may be considered project finance depending on whether the debt is a holding company or project obligation. The unfortunate result of having an ambiguous definition is that it complicates data collection, a factor that explains the wide discrepancies in published industry data.

History of Project Finance

Most people think of project finance as a relatively recent phenomenon, yet its history goes back hundreds of years. One of the oldest recorded applications of project finance dates back to 1299, when the English Crown enlisted a leading Florentine merchant bank to aid in the development of the Devon silver mines. The bank received a one-year lease for the total output of the mines in exchange for paying all operating costs without recourse to the Crown if the value or amount of the extracted ore was less than expected.[8] Today, this type of loan is known as a production payment loan. Early trading expeditions in the 17th and 18th centuries were also financed on a project basis. Investors provided funds to the Dutch East India Company and the British East India company for voyages to Asia after which they were repaid according to their share of the liquidated cargoes.[9] Over time as other forms of more permanent capital became available, firms curtailed their use of project-specific financing.

The earliest applications of project finance in the United States were in natural resources and real estate. In the 1930s, "wildcat" explorers in Texas and Oklahoma used production payment loans to finance oilfield exploration.[10] Similarly, real estate developers built and financed stand-alone commercial properties through much of the 20th century on a project basis. In both cases, the creditors had recourse to the project's cash flows only.

During the 1970s, project finance began to develop in its modern form, partly in response to several large natural resource discoveries and partly in response to soaring energy prices and the resulting demand for alternative energy sources. British Petroleum raised $945 million on a project basis in the early 1970s to develop the "Forties Field" in the North Sea. At roughly the same time, Freeport Minerals project financed the Ertsberg copper mine in Indonesia and Conzinc Riotionto of Australia project financed the Bougainville copper mine in Papua New Guinea.

The persistence of high energy prices motivated the U.S. Congress to pass the Public Utility Regulatory Policy Act (PURPA) of 1978 as a way to encourage investment in alternative (non-fossil fuel) energy generators. This Act required local utilities to purchase all of the output from qualified power producers under long-term contracts. The need to finance new power plants with long-term power purchase agreements created a natural application for project finance. In fact, more than two-thirds of the projects completed during the 1980s were power projects.[11] For this reason, project finance was essentially synonymous with domestic power finance until the early 1990s. Since then, however, project finance has broadened out into a much wider array of asset types and geographic locations.

A separate, but concurrent, antecedent of modern project finance was the public sector's use of tax-exempt municipal bonds to finance roads, water treatment plants, and other infrastructure projects. Municipalities originally financed these projects using general obligation bonds backed by their full faith and credit. Over time, they began to use revenue bonds backed by profit-specific cash

flows. By the early 1990s, municipal governments with limited funds began to marry project finance with private sector involvement. While the stated objective for private sector involvement was to encourage better management and promote more efficient risk sharing, these public/private structure could also be used to expand investment in the face of limited government budgets.

Public/private partnerships (known by the acronym PPP) have become formalized in many countries. For example, the United Kingdom established the Private Finance Initiative (PFI) in 1992 to involve the private sector in financing and managing infrastructure projects. By 1996, the U.K. had completed numerous PFI projects including the £320 million Rail Link to Heathrow airport along with several hospitals, a few schools, and a prison. Based on its early success, the government has identified over 1,000 other projects for possible inclusion in the PFI program.[12] Many countries, notably Ireland, Italy, Australia, and South Africa, have established similar PFI programs while still others have adopted the concept without formalizing the policy.

The Project Finance Market in the Mid to Late 1990s

This section provides an overview of the project finance market in the mid to late 1990s using data from Capital DATA Limited (a joint venture between Euromoney Publications Plc. and Computasoft Ltd.) and Project Finance International (a division of IFR Publishing), the two leading suppliers of project finance data.[13] One problem with this analysis is that these firms have only recently begun collecting project finance data on a systematic basis. Besides uneven data collection, the absence of a common definition means that published statistics can vary widely, sometimes by as much as an order of magnitude.[14] A final shortcoming with this data is that it focuses on investment rather than financial performance. Because data on financial returns is virtually non-existent, this analysis is meant to be descriptive rather than normative.

Industry Data

In 1998, the global project finance market was $95.9 billion including both debt and equity investments (see **Exhibit 1**). This number represents private-sector investment only and does not include investments made by development and export credit agencies. **Exhibit 12** shows that the total investment by international financial institutions in *private-sector* projects was $28.9 billion in 1997 of which approximately $13 billion came in the form of debt and equity; the rest came in the form of guarantees and insurance. Thus, total project finance investment was approximately $110 billion 1998, and has been growing at a compound annual rate of 35% per year. This growth rate must be interpreted with caution, however, because data collection was incomplete in the early years. The Asian financial crisis caused the total dollar volume to drop by 20% from a high of $119.2 billion in 1997. Despite the overall market decline, one segment, project bonds, increased to a record level of $9.8 billion in 1998. Since Midland Cogeneration Ventures issued the first project bond in 1991, project bonds have become an increasingly important source of funds. In terms of number of deals, 419 projects were financed with bank debt with an average loan size of $135 million; 43 projects were financed with bonds with an average issue size of $228 million (an undisclosed number of projects used both bank and bond finance and are double counted).

Exhibits 2, 3, and 4 show the distribution of bank lending by region, sector, and region/sector, respectively. Over the past four years, almost half of all project finance lending has been in Western Europe and North America (see **Exhibit 2**). The most noticeable changes occurred in 1998 when the market experienced a flight to quality following the Asian crisis: North American volume more than doubled to $17.0 billion while Asia Pacific volume fell by 61% to $4.5 billion and Eastern European volume fell by 70% to $2.1 billion. In terms of sectors, **Exhibit 3** shows that lending is concentrated in power (32%), telecom (26%), and oil and gas (15%) which combined represent

almost three-fourths of the total market. Sector rankings shifted very little in the late 1990s. Interestingly, the volume of power deals during the 1990s still reflects the industry's historical roots in the power sector. **Exhibit 4** shows the distribution of bank lending by both region and sector over the past two years. The most active sector/regions are highlighted: European telecom ($19.0 billion), North and South American power ($14.4 billion), Asia Pacific Power ($11.1 billion), North and South American telecom ($9.9 billion), and North and South American oil and gas ($8.3 billion). These five sector/region pairs account for half of all bank lending in the past two years.

Turning from the bank loan to the bond market, **Exhibit 5** shows that project bond issuance has largely been concentrated in the United States and the United Kingdom—together they account for 49% of the three-year total. However, project bonds have recently been used in a growing number of developing countries including Venezuela, Qatar, and Turkey. Like bank lending, project bonds tend to be used in power deals though they have also been used regularly to finance infrastructure (roads, bridges, etc.), telecom, and oil and gas projects (see **Exhibit 6**).

Exhibit 7 shows the distribution of Standard & Poor's (S&P) ratings for project bonds over the last four years. Most project bonds receive low investment grade ratings (BBB-), at least at issuance. One limitation on the ratings, though it does not appear in the exhibit, is the fact that project bonds are effectively capped at the sovereign rating for the country in which the project is domiciled, a phenomena known as the "sovereign ceiling." **Exhibit 7** also shows the overall decline in credit quality of project bonds through time. Between 1996 and 1998, the percentage of bonds with investment grade ratings decreased from 83% to 63%, another manifestation of the Asian financial crisis and the associated concerns about emerging markets.

It is important to note that most of these bonds have "negotiated" ratings which means the sponsors adjust leverage, covenants, and structure until the projects achieve an investment grade rating, at least at issuance. The reason for targeting an investment grade rating is that the largest advantage in pricing and volume occurs at the BBB- threshold due to institutional restrictions against investing in sub-investment grade securities. For this reason, the general rule of thumb is that bonds must be investment grade in order to sell in the market. As a result, sponsors with projects in emerging markets may find it prohibitively expensive, if not impossible, to use project bonds.

Project Data

Capital DATA's database, which contains information on almost 3,000 deals signed between 1994 and 1998, permits detailed analysis of project size, leverage, and contractual maturities. This analysis reveals three prominent characteristics: the deals are often very large (greater than $500 million), highly leveraged (greater than 60% debt-to-total capital), and long term (project lives exceeding 20 years). **Exhibit 8** shows the size distribution of projects by year and by sector. When broken down by the number of projects, **Exhibit 8A** shows that 29% of the projects are less than $50 million in size and approximately 90% of the projects are under $500 million in size. Although there are very few large projects, those greater than $500 million in size represent 55% of total lending volume and in some years account for as much as 68% of total volume (see **Exhibit 8B**). According to the sector breakdown in **Exhibits 8C** and **8D**, the biggest deals are in the telecommunications and oil and gas sectors. In fact, both have approximately 50% of total volume in deals greater than $1 billion in size.

Exhibit 9 analyzes project leverage ratios. The mean (median) debt-to-value ratio over the past five years is 63% (66%) though the ratios vary over time as a function of the mix of projects in any given year. These leverage ratios, which are stated in terms of book values, are only slightly lower than the typical leveraged-buyout in the 1990s. For example, 25% of the deals have leverage ratios exceeding 80% while a full 12% have leverage ratios exceeding 90%. The most noticeable finding is that leverage ratios vary by project sector: the median power deal has a leverage ratio of

74% compared to 57% for telecommunications deals and 54% for manufacturing firms (see **Exhibit 9B**). Other sectors fall somewhere in between.

Exhibit 10 analyzes the length of various project contracts. Despite a limited number of observations—not all variables are reported for each deal—the data yield some interesting results. **Exhibit 10A** shows the distribution of off-take agreements in years (the number of years with output purchases under contract). The mean and median numbers are both approximately 20 years. **Exhibit 10B** shows the distribution of concession agreements in years (the number of years a project sponsor will operate a given project). Concession agreements typically run for 25-30 years although there is a difference between projects in low-rated countries and projects based in high-rated countries. The concession agreements are longer in higher rated countries. Debt maturities provide a third way to measure project lives. **Exhibit 10C** shows that banks provide shorter-term financing (over 60% of bank loans mature in less than 10 years) while bonds provide longer-term financing (over 75% of bonds mature in more than 10 years).

Participant Data

Exhibit 11 provides "league tables" showing the major participants in four areas of the project finance market: arrangers, managers, advisors, and lawyers. In the 1998 Global Lead Arrangers category (the institution responsible for bank financing, see **Exhibit 11A**), Chase remained in the top spot for the third year in a row. Bank of America, due to its merger with Nationsbank, rose to the number two position. Four of the top 10 banks did not appear in the top 10 last year, which shows the fluidity in the market. One reason for dramatic changes in ranks is the withdrawal of Asian banks in general, and the Japanese banks in particular, from project finance lending. In previous years, they accounted for as much as 30-40% of the market.[15] The league tables also provide an example of where the various data sources differ. In contrast to the IFR rankings in **Exhibit 11A**, *ProjectFinance* magazine ranks Citibank/Salomon Smith Barney, Bank of America, Chase, Barclays Capital, and Deutsche Bank as the top five Global Arrangers in 1998 (in descending order).[16] Whereas the ordinal ranks differ somewhat among the top 10, the set of institutions in the top 10 is approximately the same.

Exhibit 11B shows the league table for lead managers (the institutions responsible for bond financing). CS First Boston tops the list in 1998 with 20% share of volume, almost twice the level at Chase, the number two ranked institution. Morgan Stanley, DLJ (Donaldson, Lufkin, & Jenrette), and Citibank round out the top five. There were also five new entrants to the top 10 in 1998.

Exhibit 11C ranks firms based on advisory mandates, defined as paid contracts for advisory services, won in 1998. PricewaterhouseCoopers and Deutsche Bank have garnered the top two spots in the Global Advisory Mandates league table for the past two years and hold commanding leads (see **Exhibit 11C**). It is important to note, however, that this exhibit ranks firms by the *number* of mandates, not the dollar value or profitability of specific mandates.

Finally, in the legal advisory role in terms of money raised, the top three firms are Millbank, Tweed, Hadley & McCloy; Shearman & Sterling, and Clifford Chance (see **Exhibit 11D**). What is most striking about the law firm league table is that all of the top ten law firms are from either the United States or the United Kingdom. Whereas German, French, and Dutch firms play prominent roles in the arranger market, they are less of a factor in the manager and legal advisory markets.

Exhibit 12 identifies the major international financial institutions (IFI) and details their investment in private sector projects from 1991 to 1997. There are two types of IFIs: development finance institutions (DFIs) and export credit agencies (ECAs). The objective of the former is to spur economic development while the objective of the latter is to help domestic firms export their goods and services into international markets. According to data from the International Finance Corporation (IFC, 1998), these institutions invested $28.9 billion in *private*-sector projects around the

world in 1997. Of this amount, medium to long-term loans and equity accounted for approximately $10-13 billion while guarantees and insurance products accounted for the remaining $16-19 billion.

Current and Future Trends

There are several trends in the project finance market that are either underway or likely to emerge in the near future. First and foremost, the expansion of project finance into new applications and new geographic regions is likely to continue. Japan recently completed its first project finance transaction—the $129 million Nakayama Kyodo Haatsuden power project—which is somewhat surprising given the country's precarious financial condition. Perhaps even more surprising is the fact that it took so long for project finance to reach Japan since Japanese banks have been major players in the arranger market for years. Like Japan, many other countries that have not used project finance historically are likely to do so in the coming years. As markets integrate and firms become more global, the practical and economic scale of projects is likely to increase making it more likely we will see a greater number of billion dollar projects. In fact, **Exhibit 8B** shows that the dollar value of deals over $1 billion has increased from an average of 24% of the market in 1994-95 to an average of 39% between 1997-98.

These new markets will contain opportunities to finance not only larger projects, but also different kinds of projects. Even the traditional bastions of project finance will provide opportunities to finance old assets in new ways. Rather than finance independent power producers (IPPs), power plants with long-term power purchase agreements, sponsors will finance merchant power plants (MPPs) which lack power purchase agreements. This transition to merchant plants began in Chile and has spread to Argentina and the U.K.; it has only recently hit the US. A second example of financing old assets in new ways is the U.K.'s Private Finance Initiative that demonstrated the private sector's ability to finance infrastructure projects. As long as the assets in question are economically separable, they are candidates for project finance.

The biggest changes in the coming years, however, are likely to occur in the capital markets. First, the project bond market should continue to develop rapidly. From an issuer's perspective, project bonds are attractive because they have longer maturities, have fewer covenants, and represent a deeper market. Finding new sources of funds is especially important given the withdrawal of the Asian banks from the project finance market and the consolidation of the U.S. banking industry. Chris Beale, Global Head of Project Finance at Citibank Salomon Smith Barney, describes the problem with U.S. bank consolidation this way:

> "When two banks merge, where each would have held $30 million in a transaction, the new bank isn't going to hold $60 million. The new bank is going to hold—guess what—$30 million!"[17]

As the supply of bonds increases, there should be a corresponding increase in the demand side of the market from investors such as life insurance companies and pension funds looking for long duration yields. Project bonds appeal to these investors as a way to match their long-term liabilities.

Relatedly, the issuance of sub-investment grade and Euro-denominated (non-US dollar denominated) bonds will become more common. Just as the corporate bond market grew to accept sub-investment grade bonds (known as "junk" or high-yield bonds), so too will the project finance bond market. No longer will the investment-grade threshold keep sponsors out of the market. In fact, Standard & Poor's already sees an emergence of a second threshold at the BB level that distinguishes the higher-rated speculative bonds from the truly speculative bonds.[18] At the same time, European Monetary Union and the creation of the Euro should facilitate bond issuance by European projects. To date, most project bonds have been denominated in U.S. dollars because of

their U.S. dollar revenues and the depth of the U.S. bond market. For European or other projects with Euro-denominated cash flows, access to long-term, fixed-rate bonds without the threat of foreign exchange exposure will be extremely attractive. Innovation in the Euro-debt market is already happening as the market has shown it can absorb both large bond offerings as well as sub-investment grade issues.[19]

Fourth, the securitization of project loans will occur with greater frequency as a means of asset management. Collaterilized loan obligations (CLOs) and collateralized bond obligations (CBOs) are diversified pools of project loans like other asset-backed securities. CS First Boston issued one of the first CLOs called Project Funding Corporation I in March 1998, which *Global Finance* named "Deal of the Year." This pool contains 41 loans worth $615 million—all but two of these loans were from U.S. power plants. More recently, CS First Boston announced its second fund, totaling $2.6 billion, which includes more international projects as well as some unfinished projects. Notwithstanding these offerings, standardization remains a major impediment to securitization. Issuers face the inevitable trade-off between standardizing the loans put into the pool, like the underwriting guidelines on residential mortgages included in mortgage pools, and the flexibility needed to tailor financial packages to the idiosyncrasies of specific projects. As this market develops, we are likely to see the creation and sale of open-end project funds (i.e. pools of money not yet earmarked for specific projects.)

Finally, the combination of increased supply and greater investor demand should lead to the development of a secondary market for project debt. CS First Boston is actively involved in this market: its dedicated project finance trading desk executed 560 trades worth almost $4 billion in 1997.[20] As the volume of project bonds increases (see **Exhibit 7**), trading will increase commensurately.

At the same time, there are going to be innovations in the equity capital markets. Both sponsors and financial advisors are forming pools of dedicated capital to invest in projects. For example, Houston-based Enron Corporation created a NYSE-listed firm known as Azurix in 1998 to own and operate water-infrastructure projects. The big advantage of having dedicated pools of debt and equity is that they can be used to finance deals on short notice thereby eliminating the possibility of losing deals because markets have turned "cold."

These developments may take longer than originally expected given the current state of the capital markets. The Asian and Russian financial crises have driven liquidity out of the project bond and loan markets leaving a greater demand for political risk insurers, multilateral and bilateral development agencies, and export credit agencies. As the demand for their assistance picks up, there is bound to be innovation in the structures they use. For example, international financial institutions are considering local currency credit enhancement in lieu of US dollar-based credit enhancement for projects in emerging markets.

In conclusion, the project finance market has a history of evolution and change that will continue into the future. Despite the temporary slowdown, sponsors continue to structure new projects including the $5.9 billion Australian Inland Rail project for railway between Melbourne and Darwin; the $10-12 billion oilfield development of the Azeri section of the Caspian Sea, and the $4.4 billion Berlin-Brandenburg International Airport. As long as globalization, deregulation, and economic development continue, the use of project finance will continue to grow for the indefinite future.

Exhibit 1 Project Finance Investment

	Amount of Investment (US$ billion)					
	1994	1995	1996	1997	1998	4-Year CAGR
Bank loans	13.68	23.33	42.83	67.45	56.65	43%
Bonds	3.99	3.79	4.79	7.50	9.79	25
Total Project Lending	17.66	27.11	47.62	74.95	66.44	39
Year-to-Year Change in Lending		53%	76%	57%	-11%	
Total Private Sector Investment[a] (including both debt and equity)	$28.49	$45.96	$76.81	$119.15	$95.88	35%

	Percent of Project Type of Lending				
	1994	1995	1996	1997	1998
Bank loans	77%	86%	90%	90%	85%
Bonds	23	14	10	10	15
Total	100%	100%	100%	100%	100%

	Number of Projects and Average Amount of Debt				
	1994	1995	1996	1997	1998
Number of projects:					
with bank loan financing	NA	NA	341	407	419
with bond financing	NA	22	19	25	43
Average amount of debt per project:					
projects with bank loans ($ millions):	NA	NA	$126	$166	$135
projects with bonds ($ millions):	NA	$172	$252	$300	$228

Source: Adapted from Project Finance International (IFR Publishing, London, United Kingdom), January 27, 1999; January 28, 1998; January 29, 1997; February 28, 1996; and March 2, 1995.

Notes: [a] Equity information is estimated using the average leverage ratios contained in **Exhibit 9** because Project Finance International provides information on debt finance only.

Exhibit 2 Project Finance Lending by Region

	Amount of Project Lending by Region (US$ billion)										
	1995		1996		1997		1998		Total		3-Year
	$B	%	$B	%	$B	%	$B	%	1995-98	%	CAGR
Western Europe	$ 5.62	21%	$16.94	36%	$19.78	26%	$16.00	24%	$ 58.34	27%	42%
North America	8.29	31	7.14	15	8.13	11	17.01	26	40.58	19	27
Central and South America	3.12	11	3.25	7	12.48	17	15.07	23	33.92	16	69
Asia Pacific	5.58	21	8.05	17	11.47	15	4.46	7	29.55	14	(7)
Australia	3.76	14	4.35	9	8.43	11	6.57	10	23.11	11	20
Middle East	0.27	1	6.27	13	5.69	8	2.72	4	14.95	7	116
Eastern Europe	0.41	2	1.63	3	7.03	9	2.13	3	11.20	5	73
Africa	0.07	0	—	0	1.93	3	2.49	4	4.48	2	237
Total	$27.11	100%	$47.62	100%	$74.95	100%	$66.44	100%	$216.12	100%	35%

Exhibit 3 Project Finance Lending by Sector

	Amount of Project Lending by Sector (US$ billion)										
	1995[a]		1996		1997		1998		Total		3-Year
	$B	%	$B	%	$B	%	$B	%	1995-98	%	CAGR
Power	$ 8.74	37%	$18.26	38%	$18.72	25%	$21.66	33%	$ 67.39	32%	35%
Telecoms	5.49	24	13.30	28	19.86	27	16.28	24	54.93	26	44
Oil and gas	2.40	10	3.42	7	15.39	21	10.67	16	31.87	15	64
Infrastructure	1.99	9	5.03	11	6.68	9	9.01	14	22.71	11	65
Petrochemicals	0.92	4	4.10	9	4.60	6	3.13	5	12.76	6	50
Mining	1.14	5	1.23	3	6.31	8	2.69	4	11.37	5	33
Industrial	1.49	6	1.96	4	2.17	3	2.64	4	8.26	4	21
Leisure	0.73	3	0.29	1	0.47	1	0.37	1	1.86	1	(20)
Other	0.42	2	0.03	0	0.76	1	—	0	1.20	1	(100)
Total	$23.33	100%	$47.62	100%	$74.95	100%	$66.44	100%	$212.34	100%	42%

Source: Adapted from Project Finance International (IFR Publishing, London, United Kingdom), January 27, 1999; January 28, 1998; January 29, 1997; and February 28, 1996.

[a]Note: 1995 data includes project loans only.

Exhibit 4 1997-1998 Project Finance Bank Loans by Sector and Region (US$ billion)[a]

Sector	Europe	Americas	Asia Pacific	Middle East and Africa	Total	Percent
Power	$7.35	$14.39	$11.12	$ 1.16	$ 34.02	27.4%
Telecoms	19.00	9.92	1.59	2.17	32.68	26.3
Oil and gas	6.76	8.25	6.40	2.32	23.72	19.1
Infrastructure[b]	8.24	0.22	3.16	0.34	11.97	9.6
Petrochemicals	0.00	1.32	0.50	5.92	7.73	6.2
Mining	0.26	4.52	2.60	0.21	7.59	6.1
Industrial	0.88	1.21	2.31	0.41	4.81	3.9
Leisure	0.03	0.80	0.00	0.00	0.83	0.7
Other	0.00	0.00	0.76	0.00	0.76	0.6
Total	$42.53	$40.62	$28.43	$12.53	$124.10	100.0%
Percent	34.3%	32.7%	22.9%	10.1%		

Source: Adapted from Project Finance International (IFR Publishing, London, United Kingdom), January 27, 1999; January 28, 1998; and January 29, 1997.

Notes: [a] Shaded boxes show the most active market segments.

[b] Infrastructure refers to roads, bridges, and other transportation.

Exhibit 5 1996-1998 Project Finance Bonds by Country

Country	1996	1997	1998	1996-1998 Total	Percent of Total
United States	$1,142	$2,551	$4,018	$7,711	34.9%
United Kingdom	1,230	936	1,034	3,200	14.5
Venezuela	0	1,000	850	1,850	8.4
Australia	0	680	1,160	1,840	8.3
Qatar	1,350	0	0	1,350	6.1
Argentina	0	610	513	1,123	5.1
Mexico	0	309	770	1,079	4.9
Indonesia	651	400	0	1,051	4.8
Chile	162	0	362	524	2.4
Columbia	171	265	0	436	2.0
Canada	0	0	335	335	1.5
Philippines	85	215	40	340	1.5
Belgium	0	0	300	300	1.4
Turkey	0	0	300	300	1.4
Other	0	531	110	641	2.9
Total	$4,791	$7,497	$9,792	$22,080	100%

Source: Adapted from Project Finance International (IFR Publishing, London, United Kingdom), January 27, 1999; January 28, 1998; and January 29, 1997.

Exhibit 6 1996-1998 Project Finance Bonds by Sector

Country	1996	1997	1998	1996-1998 Total	Percent of Total
Power	$2,595	$1,906	$4,458	$8,959	40.6%
Infrastructure	791	2,411	1,307	4,509	20.4
Telecoms	0	1,250	2,212	3,462	15.7
Oil and gas	0	1,000	1,330	2,330	10.6
Petrochemical	1,405	0	0	1,405	6.4
Mining	0	930	485	1,415	6.4
Total	$4,791	$7,497	$9,792	$22,080	100%

Source: Adapted from Project Finance International (IFR Publishing, London, United Kingdom), January 27, 1999; January 28, 1998; and January 29, 1997.

Exhibit 7 Standard & Poor's Rated Project Debt Distribution: 1996-1999

	Percent of Total Ratings by Number of Bonds			
S&P Rating	June 1996	June 1997	August 1998	August 1999
AAA	2%	1%	2%	7%
AA	4	4	2	4
A	7	5	4	6
A-	9	6	8	7
BBB+	4	5	4	3
BBB	7	14	11	12
BBB-	51	41	31	29
BB+	2	4	5	6
BB	7	6	11	14
BB-	5	9	11	5
B+	0	1	2	1
B	1	1	2	2
B-	0	1	2	1
CCC and below	2	1	4	4
Total	**100%**	**100%**	**100%**	**100%**
Total rated volume (in $billions)	$19.6	$27.6	$37.5	$50.4
Number of bonds	57	78	113	152
Percent investment grade bonds	83%	77%	63%	67%

Source: Adapted from Standard & Poor's Infrastructure Finance: Criteria and Commentary, September 1998 and 1999; Global Project Finance, July 1996, casewriter estimates.

Note: Bonds rated BBB- or better are considered investment grade.

Exhibit 8 Size Distribution (includes project debt and equity)

Exhibit 8A Size Distribution by Year (Number of Projects)

Size	1994	1995	1996	1997	1998	Total
<$50 million	7%	34%	38%	21%	24%	29%
$50-$100	3	24	19	17	20	19
$100-$500	77	34	36	40	45	40
$500-$1 billion	9	5	5	12	8	7
>$1 billion	4	3	2	9	4	4
Total	100%	100%	100%	100%	100%	100%

Exhibit 8B Size Distribution by Year (Value of Projects)

Size	1994	1995	1996	1997	1998	Total
<$50 million	1%	5%	6%	2%	2%	3%
$50-$100	1	10	8	4	5	6
$100-$500	57	40	43	26	38	37
$500-$1 billion	20	19	20	25	20	22
>$1 billion	21	27	25	43	34	33
Total	100%	100%	100%	100%	100%	100%

Exhibit 8C Size Distribution by Sector (Number of Projects, includes all 1994-1998 projects)

Size	Power	Telecom.	Manufacturing	Commercial Property	Oil and Gas	Mining	Total
<$50 million	19%	11%	56%	46%	16%	38%	29%
$50-$100	19	15	18	18	13	24	19
$100-$500	50	47	24	30	52	29	40
$500-$1 billion	7	14	2	5	11	7	7
>$1 billion	5	12	0	1	9	2	4
Total	100%	100%	100%	100%	100%	100%	100%

Exhibit 8D Size Distribution by Sector (Value of Projects, includes all 1994-1998 projects)

Size	Power	Telecom.	Manufacturing	Commercial Property	Oil and Gas	Mining	Total
<$50 million	2%	1%	14%	9%	1%	6%	3%
$50-$100	6	2	13	9	3	11	6
$100-$500	43	24	60	43	31	35	37
$500-$1 billion	19	21	12	25	19	31	20
>$1 billion	30	52	0	14	46	18	37
Total	100%	100%	100%	100%	100%	100%	100%
Mean Size	$254	$439	$91	$128	$354	$159	
Median Size	$138	$200	$40	$ 51	$160	$ 69	

Source: Calculated using the Capital DATA, Ltd., ProjectWare database; casewriter estimates.

Exhibit 9 Projec Leverage (Debt-to-Value Ratios)

Exhibit 9A Distribution of Initial Debt-to-Value Ratios by Year

Debt/Value	1994 %	1995 %	1996 %	1997 %	1998 %	Total %
<50%	20%	35%	26%	25%	17%	25%
50%-59%	26	7	17	16	10	14
60%-69%	17	19	16	17	13	16
70%-79%	14	23	21	17	25	21
80%-89%	17	9	9	13	18	13
>90%	6	7	12	11	16	12
Total	100%	100%	100%	100%	100%	100%
Mean D/V	62%	59%	62%	63%	69%	63%
Median D/V	63%	66%	65%	65%	72%	66%

Exhibit 9B Distribution of Initial Debt-to-Value Ratios by Sector (1994-1998 data)

Debt/Value	Power	Telecom.	Oil	Manufacturing	Mining	Commercial Property	Miscellaneous	Total Number	Total Percent
<50%	16%	34%	38%	42%	19%	27%	23%	192	25%
50%-59%	7	22	9	14	31	20	15	111	14
60%-69%	14	16	16	23	14	7	17	124	16
70%-79%	33	7	13	5	24	5	22	161	21
80%-89%	16	7	11	8	10	15	14	100	13
>90%	14	13	13	9	2	27	9	91	12
Total	100%	100%	100%	100%	100%	100%	100%		100%
Mean D/V	69%	59%	57%	54%	61%	67%	64%		
Median D/V	74%	57%	60%	54%	60%	63%	68%		
Total Number	210	82	45	66	42	41	293	779	
Percent by number	27%	11%	6%	8%	5%	5%	38%	100%	

Sources: Calculated using the Capital DATA, Ltd., ProjectWare database, and casewriter estimates.

Exhibit 10 Offtake, Concession, and Debt Maturities (1994-1998 data)

Exhibit 10A Distribution of Offtake Agreements by Number of Years

	Number of Years							
	≤ 5	6 to 10	11 to 15	15 to 20	21 to 25	> 25	Mean	Median
Number	2	3	7	20	6	4	19.0	20.0
Percent	5%	7%	17%	48%	14%	10%		

Note: The offtake period is the number of years with contracted purchase of output.

Exhibit 10B Distribution of Concession Agreements by Number of Years

	Number of Years							
	≤10	11 to 20	21 to 30	31 to 40	41 to 50	>50	Mean	Median
Number	9	41	79	13	11	12	31.7	26.0
Percent	5%	25%	48%	8%	7%	7%		
Projects in A to AAA rated countries	5%	16%	49%	11%	12%	7%	34.8	30.0
Projects in B to BBB rated countries	6%	34%	46%	5%	1%	8%	31.4	25.0

Note: The concession period is the number of years the project sponsor will operate a given project.

Exhibit 10C Distribution of Debt Instrument Maturities by Number of Years (1998 data only)

	Number of Years							
	< 5	5 to 9.9	10 to 14.9	15 to 19.9	20 to 24.9	≥ 25	Mean	Median
Bank Loans	16%	47%	18%	11%	4%	4%	9.4	8.0
Bonds	6%	18%	44%	9%	21%	3%	13.6	13.3
# of deals	25	72	41	19	13	6		

Source: Calculated using the Capital DATA, Ltd., ProjectWare database; casewriter estimates.

Exhibit 11 Project Finance 1998 League Tables

Exhibit 11A Global Lead Arrangers—Bank Loans (US$ million)

1998 Rank	Name	1997 Rank	Amount Underwritten in 1998	Percent of Total in 1998
1	Chase	1	$4,984	8.8%
2	Bank of America	6	3,603	6.4
3	Deutsche Bank	4	3,031	5.4
4	Barclays Capital	12	2,564	4.5
5	Citibank	8	2,514	4.4
6	ABN Amro	3	2,350	4.1
7	Societe General	27	1,998	3.5
8	Credit Lyonnais	9	1,972	3.5
9	Greenwich NatWest	30	1,970	3.5
10	CS First Boston	23	1,920	3.4
		Total Market	56,651	100.0%

Exhibit 11B Lead Managers—Bonds (US$ million)

1998 Rank	Name	1997 Rank	Number of Issues in 1998	Amount in 1998	Percent of Total in 1998
1	CS First Boston	2	4	$1,945	19.9%
2	Chase	3	4	989	10.1
3	Morgan Stanley Dean Witter	12	3	882	9.0
4	Donaldson Lufkin & Jenrette	na	2	870	8.9
5	Citibank	1	4	834	8.5
6	BT Alex Brown	na	4	812	8.3
7	Barclays Capital	10	3	550	5.6
8	Lehman Brothers	5	2	548	5.6
9	Bank of America	na	3	540	5.5
10	Goldman Sachs	na	2	337	3.4
		Total Market		$9,792	100.0%

Exhibit 11C Global Advisory Mandates Won in 1998

1998 Rank	Name	Total Mandates Won in 1998	Percent Won	Total Mandates in 1998	Percent of Total in 1998
1	Pricewaterhouse Coopers	81	9.2%	174	12.0%
2	Deutsche Bank	76	8.6	124	8.6
3	Macquarie	52	5.9	73	5.1
4	Fieldstone	49	5.5	89	6.2
5	ABN Amro	47	5.3	57	3.9
6	Chase	36	4.1	61	4.2
7	Bank of America	36	4.1	49	3.4
8	Societe General	36	4.1	48	3.3
9	KPMG	33	3.7	79	5.5
10	Taylor Dejongh	26	2.9	48	3.3
	Total for all firms	885		1,444	

Source: Adapted from Project Finance International (IFR Publishing, London, United Kingdom), January 27, 1999.

Exhibit 11 (continued) Project Finance 1998 League Tables (continued)

Exhibit 11D Law Firms

1998 Rank	Law Firm Name	Location	Number of Financings Closed	Money Raised Worldwide (Millions)
1	Millbank, Tweed, Hadley & McCloy	US	55	$22,422
2	Shearman & Sterling	UK	38	15,478
3	Clifford Chance	UK	44	14,985
4	Allen & Overy	UK	35	14,724
5	Skadden, Arps	US	37	14,591
6	Freshfields	UK	19	13,192
7	Norton Rose	UK	33	12,235
8	Latham & Watkins	US	25	10,320
9	Herbert Smith	UK	12	8,938
10	White & Case	UK	25	8,240

Source: Adapted from Project Finance International (June 1999, and the correction from The American Lawyer).

Exhibit 12 Private Sector Investment Volume in Developing Countries (Medium/Long-Term Loans, Equity, Guarantees, and Full Commercial Insurance) in $US millions

Type	Name	Acronym	Country	1991	1995	1996	1997
Multinational Development Agencies							
	Asian Development Bank	ADB	Regional, based in Manila	$ 174	$ 174	$ 263	$ 119
	African Development Bank	AFDB	Regional, based in Abidjan	8	13	24	50
	European Bank for Reconstruction and Development	EBRD	Regional, based in London	47	1,865	1,938	1,942
	European Investment Bank	EIB	Regional, based in Luxembourg	408	781	461	737
	Inter-American Development Bank	IDB	Regional, based in Washington, DC	0	146	198	320
	The Inter-American Investment Corporation	IIC	Regional, based in Washington, DC	102	37	72	150
	Nordic Investment Bank	NIB	Regional, based in Helsinki	0	73	118	67
	Subtotal			739	3,069	3,074	3,384
Bilateral Development Agencies							
	Agence Francaise de Development	AFD	France	254	420	329	278
	Commonwealth Development Corporation	CDC	United Kingdom	185	384	476	465
	Deutsche Entwicklunge Gesellschaft	DEG	Germany	189	329	446	404
	Finnish Fund for Industrial Cooperation Ltd.	Finnfund	Finland	9	21	14	25
	The Netherlands Development Finance Company	FMO	Netherlands	162	406	433	363
	The Industrialization Fund for Developing Countries	IFU	Denmark	16	54	52	48
	The Investment Fund for Central and Eastern Europe	IO	Denmark	4	53	54	58
	Kreditanstalt fur Wiederaufbau (fin. coop. only)	KfW	Germany	35	153	299	172
	Overseas Economic Cooperation Fund	OECF	Japan	88	190	60	4
	Overseas Private Investment Corporation	OPIC	United States	290	1,911	2,255	709
	Swedfund International AB	Swedfund	Sweden	11	9	40	31
	Subtotal			1,243	3,930	4,457	2,558
	International Finance Corporation	IFC	International, based in Washington, DC	1,300	2,112	2,398	2,699
	Total for Development Agencies			**3,282**	**9,131**	**9,929**	**8,641**
Export Credit Agencies/Export Financing Institutions							
	The Export-Import Bank of the United States	USEXIM	United States	500	2,179	2,932	3,193
	The Export-Import Bank of Japan	JEXIM	Japan	424	2,109	3,099	3,894
	Compagnie Francaise d'Assurance pour le Commerce Exterieur	COFACE	France	373	2,519	1,480	1,405
	Export Credits Guarantee Department	ECGD	United Kingdom	300	600	700	729
	Export Development Corporation	EDC	Canada	300	700	808	1,130
	Hermes Kraditvorsicharungs-AGS	Hermes	Germany	3,122	5,388	5,404	6,831
	The Export-Import Bank of Japan	JEXIM	Japan				
	Kreditanstalt fur Wiederaufbau (w/out fin. coop.)	KIW	Germany	500	500	833	1,826
	Sezaine Speciale per l'Assicurazione del Credito all'Esportazione	SACE	Italy	0	121	183	1,272
	Total for Export Financing Institutions			**5,519**	**14,116**	**15,439**	**20,280**
	Grand Total			**8,801**	**23,247**	**23,368**	**28,922**

Source: Adapted from *The Private Sector Financing Activities of International Financial Institutions: 1991-1997*, International Finance Corporation, Washington, DC (1998), **Appendix A.**

Appendix

Project Finance Data Sources

A) Trade Magazines and Journals

1) *ProjectFinance*: a monthly magazine published by Euromoney
   Annual publication: Project Finance Yearbook
   Weekly publication: Project Finance News
   Web site: http://www.projectfinancenews.com

2) *Project Finance International*: a bi-weekly magazine published by IFR Publishing
   Annual publication: Project Finance International Yearbook
   Publications: http://www.pf-international.com/
   Data: http://www.secdata.co.uk

3) *The Journal of Project Finance*: a quarterly journal published by Institutional Investor

B) Books

1) Beenhakker, Herri L., 1997, Risk Management in Project Finance and Implementation, Quorum Books (Westport, CT).
2) Davis, Henry, 1996, Project Finance: Practical Case Studies, Euromoney Books (London, U.K.).
3) Finnerty, John D., 1996, Project Finance: Asset-Based Financial Engineering, (John Wiley & Sons, New York, N.Y.).
4) Hoffman, Scott L., 1998, The Law and Business of International Project Finance, (Kluwer Law International, London, U.K.).
5) International Finance Corporation, 1999, Project Finance in Developing Countries, Lessons of Experience Number 7, (Washington, DC).
6) Moran, Theodore H., 1998, Managing International Political Risk (Blackwell Business, Malden, Mass.).
7) Nevitt, Peter, 1983, Project Financing, Euromoney Publications (London, U.K.).

C) Rating Agency information

1) Moody's: *Project Finance Sourcebook*, October 1998
   Web site: http://www.moodys.com/
2) Standard and Poor's: *Infrastructure Finance*, September 1998
   Web site: http://www.standardandpoors.com/ratings/
3) Duff and Phelps Credit Rating Company, *Global Project Finance*, October 1998
   Web site: http://www.dcrco.com/

D) Articles, Notes, and Chapters

1) Brealey, R.A., I. A. Cooper, and M.A. Habib, 1996, Using project finance to fund infrastructure investments, *Journal of Applied Corporate Finance* 9:3, pp. 25-38.
2) Bruner, R.F., and H. Langohr, 1992, Project financing: An economic overview, Darden/Insead Note #295-026-6.
3) Clifford Chance, 1991, *Project Finance*, London, U.K. (February).
4) Esty, B.C., 1999, Petrozuata: A case study on the effective use of project finance, *Journal of Applied Corporate Finance*, Fall.
5) Kensinger, J.W., and J.D. Martin, 1988, Project finance: Raising money the old-fashioned way, *Journal of Applied Corporate Finance*, Fall, pp. 69-81.
6) Smith, Roy C. and Ingo Walter, *Global Financial Services: Strategies for Building Competitive Strengths in International Commercial and Investment Banking* (New York: Harper Business, 1990), chapter 9, pp. 214-219.
7) International Finance Corporation, 1998, *The Private Sector Financing Activities of International Financial Institutions: 1991-1997*, Washington, DC.

E) Web Sites for Project Finance Data:

1) Institute of International Project Financing: general data
   http://members.aol.com/ProjectFin/intro.html
2) Loan Pricing Corporation: project finance loan data, Deal Scan Database
   http://www.loanpricing.com/products.html
3) The PRS Group: providing country and political risk analysis
   http://www.prsgroup.com
4) IFC Emerging Markets Database: stock market data from emerging markets
   http://www.ifc.org/EMDB/EMDBHOME.HTM
5) Morgan Stanley Country Index: stock market data from developing markets
   http://www.ms.com/msci.html
6) Brady bond trading information: current bond pricing data
   http://www.bradynet.com/
7) Professor Campbell Harvey's web site (at the Fuqua School at Duke University) International Cost of Capital and Country Risk Analysis
   http://www.duke.edu/~charvey/
8) Institutional Investor Magazine: provides country risk ratings:
   http://www.iimagazine.com/
9) CapitalDATA Ltd.: provides project specific data and league tables
   http://www.capitaldata.com/

Endnotes

[1] Kenneth McCue, first vice president and co-head of global project finance at Dresdner Kleinwort Benson in New York, as cited in Sara Khalili, "Adapting to a New Environment," *Institutional Investor* (September 1998), p. S1.

[2] Municipal bond volume is from Securities Data Corporation (SDC); asset-backed security volume data is from The Bond Market Association (*Research*, February 1999); leasing volume data is from the Equipment Leasing Association web site (http://elaonline.com/); IPO volume is from SDC; and venture capital volume data is from the Venture One web site (http://www.b1.com/research/). All figures are for 1998.

[3] Boey Klt Yin, 1998, "Reality bites—A quieter PF horizon," *PFI Asia Pacific Review: News and Comment*, pp. 2-3.

[4] The World Bank, 1994, World Development Report: *Infrastructure for Development*, Oxford University Press (New York, NY), pp. 2-4. The endogenous nature of investment creates an econometric problem: does increased infrastructure result in economic growth or does economic growth result in increased infrastructure spending? Other studies note very high rates of return from infrastructure investments (see pp. 13-16).

[5] International Finance Corporation, 1996, *Lessons of Experience #4: Financing Private Infrastructure*, The World Bank, (Washinton, DC). pp. 43-44.

[6] Infrastructure includes investments in water, transport, electricity, natural gas, and telecommunications projects.

[7] J. A. Rosenthal, and J. M. Ocampo, 1988, Analyzing the economic benefits of securitized credit, *Journal of Applied Corporate Finance* 1, pp. 32-44; or S. L. Schwarcz, 1994, The alchemy of asset securitization, *The Financier: ACMT*, vol. 1, no. 5, pp. 53-64.

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[9] David K. Eiteman, Arthur I. Stonehill and Michael H. Moffett, *Multinational Business Finance*, 8th edition (Addison-Wesley Publishing Company, 1998), pp. 606-607.

[10] Smith and Walter (see Appendix section D on articles), p. 192.

[11] A. H., Chen, J. W. Kensinger, and J. D. Martin, 1989, Project financing as a means of preserving financial flexibility, University of Texas working paper, (as cited in Finnerty, 1996, p. 1).

[12] R. A. Brealy, I. A. Cooper and M A. Habib, 1996, Using project finance to fund infrastructure investments, *Journal of Applied Corporate Finance* (Fall), p. 25.

[13] We would like to thank both organizations, particularly to Capital Data Ltd., for providing access to their software and their friendly and knowledgeable support staff.

[14] One example of a difference between the two is that PFI considers bonds issued by project holding companies like Edison Mission Energy and AES Corporation as project finance debt whereas Capital Data considers it as corporate debt.