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Transportation Finance

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A. Transportation Infrastructure Finance Overview

An infrastructure investment fund is an entity by which large investors (generally institutional investors such as insurance companies and pension funds) pool their resources and rely on experienced managers to find viable infrastructure projects to invest equity into. Such projects can be existing infrastructure that is being privatized (called "brownfield" projects) or new infrastructure that must be financed before it can be put into operation (called "greenfield" projects).

During 2013 investors worldwide put $33.6 billion into infrastructure investment funds, a five-year high, according to *Infrastructure Investor.* Infrastructure finance continued to recover from the credit markets crunch of 2008–09. In the peak year of 2007, such funds raised $39.7 billion, but the following year investors added only $24.7 billion. This market bottomed out in 2009, when only $10.7 billion was raised. A recovery began in 2010, with $19 billion raised, followed by annual increases since then. Pension funds continued to increase their participation in infrastructure funds, seeing a good match between infrastructure assets that provide reasonably steady long-term income flows and the funds' long-term liabilities.

A mid-2013 survey by Probitas Partners found that 59% of institutional investors (of all types) now have a separate portfolio allocation for infrastructure. A June 8, 2013 *Wall Street Journal* article noted that a number of large mutual fund families now offer individual investors an opportunity to invest in infrastructure via specialized funds, such as T. Rowe Price Global Infrastructure Fund, Nuveen Global Infrastructure Fund and Macquarie Global Infrastructure Total Return Fund.

Since 2013, a significant trend has been the launch of debt funds targeted to infrastructure. These funds seek to fill a niche largely vacated by major banks since the Great Recession, supplementing the debt provided by revenue bonds. And here and there, some banks are beginning to return to infrastructure loans, most notably Canadian Imperial Bank of Commerce.

B. Infrastructure Investment Funds in Transportation Infrastructure Finance

In its December 2013 issue, *Infrastructure Investor* released its fourth annual ranking of global infrastructure funds, the "Infrastructure Investor 30." Over the most recent five-year period, these 30 large funds alone have raised a total of $148 billion (see Table 1). There is no definitive estimate of the total raised by all such funds during this period, but that sum likely exceeds $200 billion. Equity funds such as these typically provide between 20% and 33% of an infrastructure project's cost, with the balance raised as various forms of debt (bank loans, revenue bonds, etc.). At a conservative leverage multiple of four times the equity amount, the equity available from the top-30 funds alone would finance $592 billion worth of projects. Others have estimated that over the full decade ending in 2013, infrastructure equity funds have raised something like $300 billion, which could support projects worth $1.2 trillion.

Table 1: The 30 Largest Infrastructure Equity Funds, 2013

Rank	Name of Investor	Headquarters	Five-Year Total Raised ($B)
1	Macquarie Infrastructure and Real Assets	Australia	$23.34
2	Brookfield Asset Management	Canada	18.48
3	Global Infrastructure Partners	United States	16.47
4	Borealis Infrastructure (OMERS)	Canada	6.78
5	IFM Investors	Australia	5.85
6	Alinda Capital Partners	United States	5.48
7	Caixa Economica Federal*	Brazil	5.20
8	Korea Infrastructure Investments*	South Korea	4.61
9	EQT*	Sweden	4.18
10	SteelRiver Infrastructure Partners	United States	4.16
11	Morgan Stanley Infrastructure	United States	4.00
12	ArcLight Capital Partners	United States	3.91
13	InfraRed Capital Partners*	United Kingdom	3.85
14	JP Morgan Asset Management	United States	3.48
15	Citi Infrastructure Investors	United States	3.40
16	Goldman Sachs Principal Investment Area	United States	3.38
17	Ardian	France	3.16
18	Meridiam Infrastructure*	France	2.88
19	Infracapital*	United Kingdom	2.68
20	Kohlberg Kravis Roberts	United States	2.41
21	AMP Capital Investors	Australia	2.37
22	UBS Global Asset Management	Switzerland	2.16
23	Hunt Power*	United States	2.13
24	DIF*	Netherlands	2.00
25	Highstar Capital	United States	2.00
26	CPG Capital Partners*	Singapore	2.00
27	Innisfree*	United Kingdom	1.97
28	BTS Group*	Thailand	1.96
29	Hastings Funds Management*	Australia	1.92
30	Suzhou International Development Venture Capital Holding Co.*	China	1.77

Source: *Infrastructure Investor*, December 2013, p. 30

*indicates a fund new to the top-30 list in 2013

As for the type of investment, some funds prefer long-established, low-risk acquisitions ("brownfield") while others prefer higher-risk new projects ("greenfield"), but the largest fraction of funds seek a mix. Probitas Partners' annual survey of infrastructure investors in summer 2013 yielded current preferences among the responding investors, as shown in Table 2.

Table 2: Types of Infrastructure Preferred by Investors, 2013 vs 2012

	2013 Results	2012 Results
Both greenfield and brownfield	37%	48%
Brownfield only	27%	20%
Debt only	12%	1%
Greenfield only	11%	9%
Flexible	9%	15%
Renewable energy	4%	7%

Source: Probitas Partners, *Infrastructure Survey and Trends*, Summer 2013

The most striking change is the increased interest in debt funds, which was almost insignificant in 2012 (discussed in Section D, below).

This same set of infrastructure investors expressed a significantly increased interest in transportation infrastructure in the 2013 survey, ranking it second only to energy and power. The latter was an interest for 72% of the institutions, followed by transportation (64%), water and waste management (62%), and renewable energy (47%).[1]

In the United States, concerns are still heard about "foreign takeovers" of infrastructure. It is therefore worthwhile to compare the nationality of the funds providing equity for infrastructure projects with the nationality of the concession companies that are implementing the projects. Table 3 is based on *Infrastructure Investor*'s latest analysis of the 30 largest investors. As can be seen, 34% of the capital comes from U.S.-based institutions, with Australia's share at 23%. When you add Canada to the U.S. share, the total of North American investors is over 51%. European institutions constitute 15.5% of the capital. Newcomers Asia (7%) and South America (3.5%) account for the balance.

Table 3: Nationality of Top 30 Infrastructure Funds, 2013

Country or Region	Capital Raised ($B)	Percentage of Capital
United States	$50.83	34.3%
Australia	$33.49	22.6%
Canada	$25.26	17.1%
Europe	$22.98	14.5%
Asia	$10.34	7.0%
South America	$ 5.20	3.5%

Source: *Infrastructure Investor*, December 2013

Statistics on global PPP infrastructure projects have been maintained in a database since 1991 by *Public Works Financing*, the newsletter of record in this industry. The *PWF* database also includes figures on the world's leading PPP transportation companies as of 2013, ranked by the number of projects under construction or in operation as well as active proposals. For these data, shown in Table 4, the project types include airports, highways, ports and rail infrastructure.

Table 4: Top PPP Transportation Infrastructure Companies, 2013

Rank	Company	HQ Country	# Projects in Construction or Operation	#Active Prospects
1	ACS Group/Hochtief	Spain	56	55
2	Global Via/FCC/Bankia	Spain	45	3
3	Macquarie Group	Australia	44	16
4	Abertis	Spain	41	0
5	Vinci/Cofiroute	France	38	17
6	Hutchison Whampoa	China	34	0
7	Ferrovial/Cintra	Spain	32	30
8	NWS Holdings	China	27	1
9	Egis Projects	France	25	14
10	Bouygues	France	24	13
11	Sacyr	Spain	23	8
12	IL & FS	India	18	10
13	Atlantia	Italy	18	1
14	Meridiam	France	18	13
15	Acciona	Spain	16	16
16	John Laing	United Kingdom	16	7
17	Alstom	France	15	4
18	Road King	China	15	0
19	SNC-Lavalin	Canada	15	8
20	Camarga Correa	Brazil	14	6
21	Bilfinger Berger	Germany	13	2
22	Andrade Guitierrez	Brazil	13	12
23	Odebrecht	Brazil	13	16
24	Reliance	India	13	0
25	Empresas ICA	Mexico	12	2
26	Strabag	Austria	11	11
27	Transurban	Australia	10	0
28	Eiffage	France	10	3
29	IRB Infrastructure	India	9	4
30	Balfour Beatty	United Kingdom	9	5
31	Fluor	United States	9	4
32	BRISA	Portugal	8	0
33	Impreglio	Italy	8	11
34	Skanska	Sweden	8	5
35	Isolux Corsan	Spain	8	7

Source: *Public Works Financing* 2013 Survey of Public-Private Partnerships, October 2013

As can be seen from a quick perusal of Table 4, the large majority of project experience is European, which should not be surprising given the long history of PPP concessions in France, Italy and Spain in particular. Of the top 10 companies, seven are from Europe, one from Australia and two from China. Of the top 20 companies, 13 are from Europe, three from China, and one each from Australia, Brazil, India and Mexico. A U.S. firm does not show up until position 31. Thus, by comparing Tables 3 and 4, we can see that while the large majority of infrastructure development and operational expertise currently resides with European firms, the majority of the capital is coming from North American and Australian investment funds. Those who raise political concerns about foreigners "buying our toll roads" seem to have missed the difference between those who are building and operating these infrastructure projects and those who are financing them. The fact is that more than half of all the equity investment is coming from North American funds.

While Table 4 ranked firms by numbers of projects, Table 5 lists the 10 largest transportation PPP firms by *total investments* in projects since 1985. Except for Australia-based Macquarie, all the rest of the top 10 are based in Europe. In aggregate, these 10 firms have financed transportation projects worth $411 billion since 1985.

Table 5: Top 10 PPP Transportation Firms by Invested Capital

Company	Country	Transportation P3 Investment ($B)
Ferrovial/Cintra	Spain	$73.5
ACS Group/Hochtief	Spain	$72.0
Vinci/Cofiroute	France	$70.7
Macquarie	Australia	$48.2
Bouygues	France	$38.6
Egis Projects	France	$26.6
Sacyr	Spain	$21.8
John Laing	United Kingdom	$21.4
Global Via	Spain	$19.8
OHL	Spain	$18.2

Source: *Public Works Financing* 2013 Survey of Public-Private Partnerships, October 2013

C. The Growing Role of Pension Funds in Transportation Infrastructure Finance

Two of the top 10 infrastructure funds in Table 1 are pension funds, accounting for nearly $13 billion of the $148 billion raised by the top 30 funds. This trend began with pension funds in Australia and Canada, and two of the largest funds in Table 1 are Canada's Borealis Infrastructure (owned by the Ontario Municipal Employees Retirement System) and Australia's Industry Funds Management (owned by 30 Australian public-sector pension funds). These funds have been making global infrastructure investments for nearly two decades.

Very large public pension funds (or groups of funds in the case of IFM) that have developed expertise in infrastructure generally make *direct* investments, assembling a portfolio of infrastructure projects, both brownfield and greenfield. Smaller pension funds (and large ones just getting into this category of investment) will more commonly invest via one or more of the infrastructure investment funds, such as those in Table 1. America's largest public-sector pension fund, CalPERS, in 2010 made a direct investment in London's Gatwick airport and has continued with mostly direct investments. By contrast, the California teachers' pension fund, CalSTRS, in 2012 committed $500 million to IFM and $100 million to Meridiam's North America Fund. Other state pension funds investing via established infrastructure funds include those of Florida, Rhode Island, Virginia and Washington State. A recent study by Harvard University and Hastings Fund Management identified growing interest in infrastructure investment by the $14 trillion U.S. pension sector. Infrastructure investment was a key topic at an October 2013 conference of state treasurers, meeting in Asheville, North Carolina. And a study by the Center for American Progress ("Using Pension Funds to Build Infrastructure to Put Americans to Work," March 2013) estimated that $60 billion per year in infrastructure improvements could be financed with private capital, particularly in the transport sector.

The pioneering role of Australian and Canadian pension fund investments in infrastructure was the subject of a study by the Organization for Economic Cooperation and Development (OECD). "Pension Fund Investment in Infrastructure: A Comparison between Australia and Canada," by Georg Inderst and Raffaele Della Croce, identified similarities and differences in the evolution of pension fund investment. In both cases, the pension funds allocate about 5% of their portfolios to infrastructure, the highest in the world. And while about 50% of Australian investment has been domestic, in Canada the majority of such investment has been overseas. Both tend to be direct investors, in contrast with the large reliance on infrastructure investment funds in Europe and the United States. And the most recent OECD annual survey of large pension funds worldwide found that, over all, such funds are investing only 0.9% of their portfolios in infrastructure (excluding their traditional investments in publicly traded utilities such as electricity and water companies).

Several key overseas transactions illustrate the dynamics of pension fund investments in infrastructure. Australia's Future Fund, set up by its national government in 2006 to assist future governments in meeting their pension obligations, made a $2 billion direct investment, purchasing a portfolio of airport investments from transport infrastructure fund AIX. The package includes part-interests in nine Australian airports plus 40% of the equity in the former Hochtief Airport Capital, including stakes in the airports of Athens, Düsseldorf, Hamburg and Sydney. The large U.K. pension fund USS (Universities Superannuation Scheme) made two direct investments in aviation infrastructure in 2013, buying an 8.65% stake in London Heathrow Airport for $636 million, and acquiring 21% of UK air navigation service provider NATS for $229 million. And the Manchester Pension Fund, teamed with two commercial partners, committed $1.28 billion to the Manchester Airport City development project.

Historically, U.S. pension funds, to the extent they invested in infrastructure, generally focused on investor-owned utilities (electricity, gas, water). But with the emergence of public-private partnerships (PPPs) for such traditionally government-run assets as airports and highways, U.S. pension funds gained an additional opportunity for equity investments. Some public employee unions have raised concerns about their pension funds investing in infrastructure, due to their ideological opposition to PPPs. Because these pension funds are tax-exempt, they typically do not buy tax-exempt bonds, such as those typically issued by public-sector airports and toll roads. And since there is no equity in state-owned infrastructure, the only way to invest *equity* in infrastructure is with investor-owned infrastructure.

At the InfraAmericas U.S. P3 Forum in June 2012, AFL-CIO Director of Policy Damon Silvers said its members are supportive of investing a portion of pension fund assets in U.S. infrastructure—but only if such investment creates jobs. To him that means greenfield (new construction) projects, not brownfield leases. That would rule out investing in privatized airports (such as CalPERS's equity stake in privately owned Gatwick Airport). But even for greenfield projects, Silvers said public employee pension funds should only invest in deals in which the facility is owned and operated by the public sector. That would exclude nearly all toll concessions, such as the LBJ and NTE projects in Dallas and Fort Worth, in which the local police and fire unions' pension fund has made a direct investment, and Florida's I-595 highway concession with its major investment by TIAA-CREF. There seems to be a disconnect between the AFL-CIO's position and the actual decisions being made by public employee pension funds, in the best interests of their retirees.

D. The Emergence of Infrastructure Debt Funds in Transportation Finance

Until very recently, nearly all infrastructure investment firms were created to invest equity in various infrastructure businesses or projects. Most such projects are financed by a mix of debt and equity, just as a house is usually financed by a cash down payment (equity) and a mortgage (debt). As with houses, debt generally constitutes the large majority of the total project cost. Traditionally, either banks or the bond market provided the debt for infrastructure financing. But among the consequences of the financial markets debacle in the late 2000s were the near disappearance of bank loans for infrastructure and a far less robust bond market, with the loss of nearly all bond insurance that investors had relied on.

In response, infrastructure debt funds began to appear in 2011, and more appeared in 2012. But since the last quarter of 2012 that sector has taken off. "Compared to a year ago, there really is the beginning of a market now," the head of infrastructure debt at Allianz Global Investors told *Infrastructure Investor* late in 2013. Here are a few snapshots of some of the new players.

- November 2012 saw the launch of infrastructure debt funds by BlackRock and Macquarie.
- In December 2012, *Infrastructure Investor* estimated that there were nearly 200 debt funds seeking to raise $124 billion.
- March 2013 saw the launch of a major debt fund by Swiss banking giant UBS.
- June saw French insurer AXA announce a €10 billion ($13.5 billion) infrastructure debt allocation.
- And August brought news that Australian fund manager AMP was one-third of the way toward its $1 billion target for its *second* infrastructure debt fund.

Another development that attracted a lot of attention was the announcement in September 2013 that the Canadian Imperial Bank of Commerce (CIBC) was launching a global infrastructure investment business, to be headed by PPP veteran Laurie Mahon. While CIBC never stopped investing in Canadian PPPs, the September announcement concerned expanding its scope to Europe, the United States, Latin America, Asia and Australia, with teams to be set up for each. In a September 9, 2013 article about the CIBC announcement, Angus Melville of *Inspiratia Infrastructure* suggested that the number of lenders for infrastructure has increased to the point where competition is likely to exert downward pressure on pricing of such debt. Melville also named a number of banks moving back into this sector, including BBVA, Credit Agricole, Deutsche Bank, ING, Nord LB, RBS, SMBC and Unicredit, among others.

About the Author

Robert Poole is Director of Transportation Policy and the Searle Freedom Trust Transportation Fellow at Reason Foundation. He co-founded Reason Foundation with Manny Klausner and Tibor Machan in 1978, and served as its president and CEO from then until the end of 2000. He was a member of the Bush-Cheney transition team in 2000. Over the years, he has advised the Reagan, George H.W. Bush, Clinton and George W. Bush administrations on privatization and transportation policy.

Poole is credited as the first person to use the term “privatization” to refer to the contracting-out of public services and is the author of the first-ever book on privatization, *Cutting Back City Hall*, published by Universe Books in 1980. He is also editor of the books *Instead of Regulation: Alternatives to Federal Regulatory Agencies* (Lexington Books, 1981), *Defending a Free Society* (Lexington Books, 1984), and *Unnatural Monopolies* (Lexington Books, 1985). He also co-edited the book *Free Minds & Free Markets: 25 Years of Reason* (Pacific Research Institute, 1993).

Poole has written hundreds of articles, papers and policy studies on privatization and transportation issues. His popular writings have appeared in national newspapers, including *The New York Times, The Wall Street Journal, USA Today, Forbes* and numerous other publications. He has also been a guest on network television programs such as Good Morning America, NBC's Nightly News, ABC's World News Tonight, and the CBS Evening News. Poole writes a monthly column on transportation issues for *Public Works Financing*.

Endnote

[1] Probitas Partners, *Infrastructure Survey and Trends*, Summer 2013.