



# Retooling In-House Investment Teams Inside Institutional Investors: Three Perspectives on the Shift Towards Direct Infrastructure Investment

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### 1. Introduction

Since the global financial crisis, one of the most significant trends in infrastructure investment is the shift from indirect to direct investment by institutional investors. A number of factors are influential in shaping this trend, including greater scrutiny on the value for money from management fees, greater familiarity with infrastructure deal-making, and a more direct approach to managing risk. This shift has important implications for the management practices of in-house investment teams inside institutional investors. Specifically, it places greater pressure on in-house investment teams to become principal managers of construction and business risk. Secondly, it makes talent management – and, in particular, hiring expertise with direct experience in infrastructure development and management – an important strategic priority. Infrastructure is often characterized as a predictable asset class, yet individual assets can have the operational and budget complexity of some S&P 500 companies. To be successful in this changing market, institutional investors need to learn how to in-source the skills of effective infrastructure management and governance.

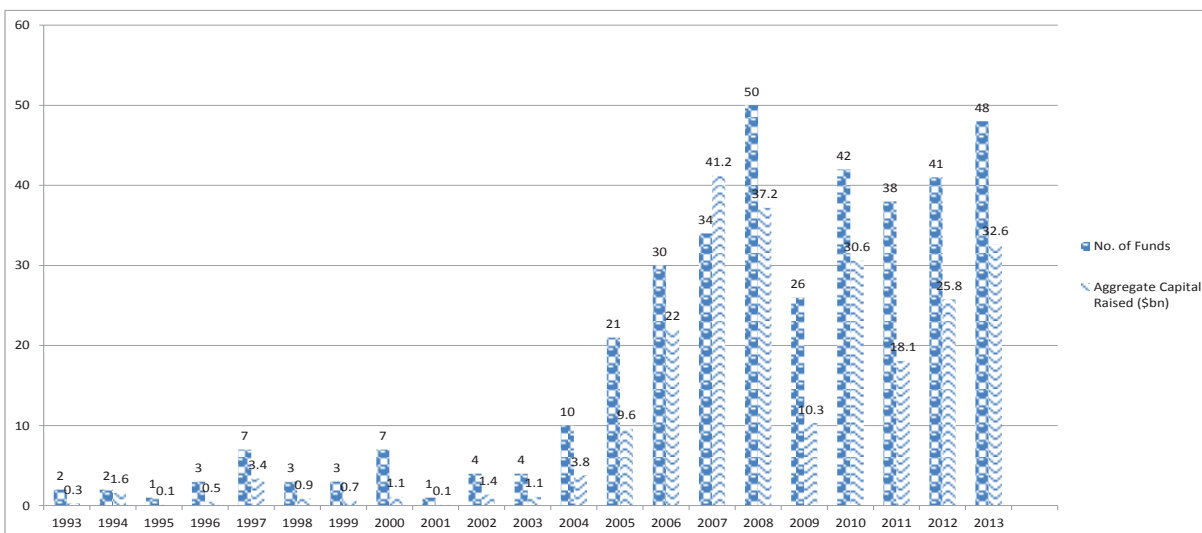
Drawing on extensive in-depth interviews with investors, lawyers, and project managers active in infrastructure investment in North America, Europe, and Australasia, we present findings on how direct infrastructure investment is changing the management responsibilities of in-house investment teams inside institutional investors. We report our findings through the perspective of three key players in infrastructure deal-making: government, in-house infrastructure teams,

and investment partners. We examine the implications with respect to the need for the investor community to be more strategic in how it builds long-term operational partnerships with government and co-investors, and outline the changes to talent search and management inside in-house investment teams.

### 2. The shift to direct investment in infrastructure

Over the last decade, institutional investors have changed how they invest in this asset class (Clark et al., 2009, Clark and Monk, 2013a). Historically, most institutional investment in infrastructure was channelled through listed products (utility stocks or ETFs) and more recently through private equity-style unlisted managed funds (see Exhibit 1 for growth in the unlisted fund market since 1993).

However, since the global financial crisis, very large institutional investors have moved to become direct investors in infrastructure. Clark and colleagues estimate that there are approximately twenty large direct investors in infrastructure worldwide, consisting of large pension funds, sovereign wealth funds, and insurance service companies (Clark et al., 2013). They note that smaller investors still rely on the expertise of fund managers in order to access infrastructure investments. This shift to direct investment has significant implications for the management risks that these investors take on, as well as how they procure in-house or out-sourced talent to manage these risks.



**Exhibit 1: Growth in the Unlisted Fund Market**  
Source: Preqin 2013

Transaction cost economics tells us something about how firms make trade-off decisions to either in-source capabilities or out-source these services to the market (Santos and Eisenhardt, 2009, Williamson, 2008). Firms seek to minimize the cost of governing activities by paying attention to three considerations (Ellram et al., 2008). First, managers consider the frequency of transactions. Firms facing repeated transactions seek to in-source those activities to avoid management costs (Mcivor, 2009, Crook et al., 2013).

Second, managers consider the uncertainty attached to the required service. Where a task or service is clearly specified and easily described, firms prefer to out-source the function rather than in-source to reduce cost. Where there is technological uncertainty – for example, in providing expert building skills, or strategic consulting – firms prefer to out-source these to market (Judge and Dooley, 2006, Williamson, 2008). An exception to this is when supply relationships are characterized by behavioral uncertainty, in which case firms will find new partners or resources internally. Third, managers pay regard to vertical integration. Transactions or relationships that are highly integrated or interdependent may be managed internally to avoid misaligned incentives (Kalu, 2013, Clark and Monk, 2013b).

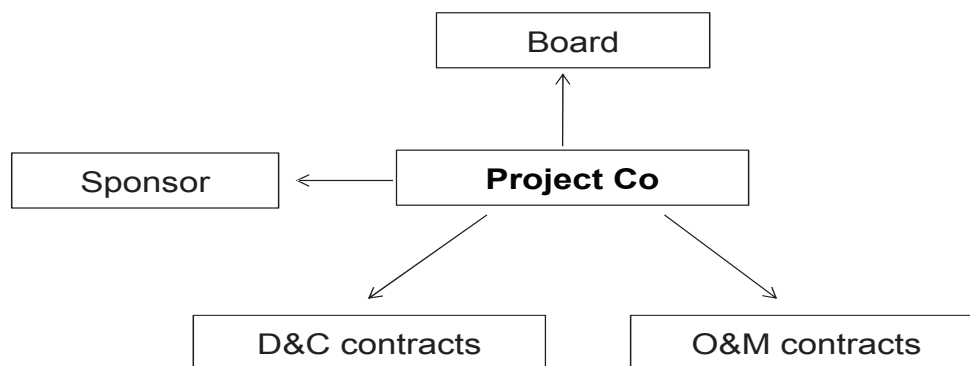
These three principles explain why the industrial firm and infrastructure megaprojects face different management challenges. Industrial firms face higher levels of complexity, and, therefore, seek extensive in-house capabilities. For example, industrial firms have a high frequency of transactions, and high levels of uncertainty as firms seek to respond to customer demand on a dynamic basis. Infrastructure projects, by contrast, take years to execute with relatively little change to the

project plans (Salet et al., 2012). This should mean that industrial firms should have larger in-sourced capabilities compared with infrastructure projects, which can outsource well-specified tasks.

While infrastructure projects may be simpler to manage than industrial firms, the operational issues are still more complex than the traditional domain of investment companies. Indeed, as institutional investors move from being shareholders in infrastructure funds to being direct (or, in some case, sole) investors in infrastructure assets, they take over principal responsibility for the hiring and firing decisions of senior management and board-level appointments.

Exhibit 2 below depicts the key management roles inside infrastructure projects. Design and Construct (D&C) contractors design, build, and test the plans for the project and are engaged during the construction phase. These contracts take on the majority of the capital expenditure in the project and manage the complex relationships between suppliers, project managers, construction workers, and architects, among others. Once the construction phase is completed, Operate and Manage (O&M) contractors are hired to maintain the asset and collect revenues. For example, in a toll road, O&M contractors operate the toll booths and collect revenues.

Sitting above these two contractors is typically a small executive management team in charge of managing the overall project and contractual relationships, referred to here as ‘ProjectCo’ (Hayford, 2013). ProjectCo typically reports up to a board of non-executive directors (hereafter, ‘the Board’). The Board has representatives from the equity investor side (here, institutional investors), as well as the project sponsor (in most cases, gov-



**Exhibit 2:** Infrastructure Project Finance and Management Team  
Source: Author

ernment). Most infrastructure assets have remarkably small executive management teams (typically between 5-10 full-time employees). This is much less than the teams formed in industrial companies that might have budgets of a comparable size.

On one hand, this discrepancy can be explained by transaction cost theory, as complex work is out-sourced to contractors (Gil, 2009, Gil and Beckman, 2009). On the other hand, this places a greater premium on ProjectCo and the Board to manage contractors effectively and ensure that projects run on time, on budget, and on schedule. This is especially important in the absence of the type of deep executive teams that are present in S&P 500 firms. Recent research suggests that these management deliverables are hard to achieve, as the majority of major projects tend to miss key milestones (Berg and Marques, 2011, Clegg, 2008).

Between 2010 and 2014, we interviewed 50 investors, lawyers, and managers intimately connected in syndicating institutional investment in infrastructure. We asked them a series of questions around institutional investment in infrastructure, how direct investment was syndicated and managed, and the implications for talent strategies. We structure our findings around how the perspectives of government, project management executives, and co-investor partnerships are changing, and highlight the major implications for the in-house infrastructure teams that are situated inside institutional investors.

### 3. Role of government

The move to direct investment has placed greater emphasis on institutional investors to form strong working relationships directly with governments around new deal ideas. Many respondents noted that the limiting factor on deal-making was not a lack of available capital, but a scarcity of attractive projects. Many of the key terms that make infrastructure projects financially attractive may not be accepted by the project sponsor, which in most cases is a government. This means that institutional investors seeking to do direct investment need a globally networked investment team that can skillfully do due diligence on sovereign risk, as well as on-the-ground relationships to manage local contingencies.

For this reason, respondents cited the difficulty with doing infrastructure deals in developing countries de-

spite the high infrastructure demand: “Developing countries can be risky because there could be changes to regulation overnight, and these investments are for 30 years plus.” Developed countries also had sovereign risk, especially around brownfield infrastructure. These are projects that require redevelopment of an existing site. Respondents noted that the market had reached a saturation point where too much capital was chasing a small number of deals, driving the prices of assets up, and making the opportunity less attractive for institutional investors.

Governments typically form the over-arching sponsor for infrastructure projects. This means they have formal oversight over issues such as environmental approvals, planning permits, and design requirements, all of which have a material impact on budget and building schedules. This places a premium on investors being able to work with governments as day-to-day partners in operational issues rather than as passive investors as might be possible in index funds. As one lawyer noted: “government is ultimately responsible because it is managing this stuff in the public interest. If the toll road doesn’t open, the government can’t go to the public and say that it’s not ready. It has to make sure this infrastructure is working.”

The role of government as project sponsor complicates the management issues facing institutional investors because their incentives were not always aligned. For example, respondents noted that government might push for changes to a project that enhances public interest at the expense of return on investment. On the other hand, government was often willing to step in and support difficult projects in order to avoid public fall out. In order to manage this complicated relationship with government, respondents emphasized aligning early on what the investment role government sought to play. Respondents noted options that sat at alternate ends of the spectrum.

One model is to have the government as owner and operator. In this case, institutional investors provide debt financing to projects, whereas governments retain 100% of equity. This is a capital intensive approach for government to adopt, but works for long-term strategic assets. For example, respondents mentioned several real estate and port developments where this model had been pursued.

An alternative model is for institutional investors to provide both debt and equity investment, and for government to take demand risk. This reduces capital intensity for government, while giving investors certainty of future cash flows. This model is effective in projects facing high demand volatility, such as toll roads. During the global financial crisis, respondents noted that several privatized toll roads collapsed with little investment return to equity holders. This was because toll revenues did not meet expectation, forcing the project into a restructuring. As one infrastructure investor noted: “Toll roads have high volatility of revenues which is why you have seen the government come in with an availability fee. Now there is no market for greenfield traffic risk.”

Availability payments are used in situations where the equity investors of a project may not be prepared to take on the traffic demand risk associated with a project. Traffic is very difficult to forecast on a new type of facility competing with alternative, parallel conventional infrastructure – a motorway in a dense road network for example, or a high speed rail line in a conventional rail network. In order to attract investors such as pension funds to invest in infrastructure projects, availability payments provide a mechanism for governments to help increase the appetite of these investors. Direct infrastructure investors need to build strong relationships with government agencies in order to gain access to preferential opportunities with favorable risk and return characteristics.

#### 4. Role of management team

Besides managing the relationship with government, institutional investors are exposed to direct management risks due to the small executive oversight typically offered in the ProjectCo. Respondents note that it is easy to underestimate the management challenges associated with infrastructure. On one hand, some respondents argue that small management teams were justified by the relatively simple nature of infrastructure. As one investor noted: “A lot of infrastructure is a really easy business to run because it’s just build it and run it. Take a toll road. Whether you are Albert Einstein or some idiot, you will still get the toll.”

On the other hand, others argue that this underestimates the complexity inherent in managing infrastructure: “people like to think of infrastructure as this thing you build like a Lego block. What they forget is that it is human: it has all the behavioral complexity and uncer-

tainty of any S&P 500 company.”

Three aspects of the management challenge facing investors emerged from the data. First, investors find that the CEO of the ProjectCo often needs to be changed as projects move from the D&C to the O&M phases. In one large infrastructure project, the CEO was sacked after the board formed the view that he lacked the requisite building experience to manage infrastructure construction. He had been hired from a brownfield project that had involved complex stakeholder management. However, this presented different challenges to a greenfield project where the CEO had to be skilled in managing across detailed development and construction risks.

A second issue is the management experience of boards. As in equity investments, the board composition of infrastructure projects typically follows equity ownership, which means that institutional investors have an important say. However, respondents noted that not all institutional investor appointees have deep experience in infrastructure, having been placed there on the basis of broader funds management experience. This means that they are poorly placed to scrutinize the specific issues presented by infrastructure such as looking for budget overruns and handling complex project management tasks. Certain institutional investors have a rigid structure, which limits their ability to make decisions in real time. In some cases, sovereign wealth funds do not have a local nominee on the board, preferring to run complex infrastructure projects entirely from offshore offices. As one investor noted, “It’s hard to know how they have any visibility of what is happening because they are managing this remotely from (an offshore location), and have sacked all the existing resources.”

Third, respondents noted that a lead indicator for skills shortages is when ProjectCo management teams have to outsource critical functions because of lack of resources or expertise. In one case, the ProjectCo had reverted to hiring ‘independent verifiers’ to scrutinize the D&C contractors. These verifiers were responsible for crucial functions such as quality checking, schedule monitoring, and risk assessment. This potentially presented conflicts of interest, as the market for independent verifiers was so small that the verifiers often had closer relationships with the D&C contractors than the institutional investors did. In addition, a number of respondents reported instances in which key risks were deferred to the government rather than the board for

final management. While the government had slack resources to manage strategic issues, it resulted in project delays and poor board oversight of overall risks.

### 5. Role of investment partners

Despite the shift to direct investing for institutional investors, there is still a large proportion of the infrastructure investor universe that must use intermediaries to deploy capital. This emphasises the need to ‘re-configure’ the relationship between institutional investors and their investment partners for making infrastructure investments.

As institutional investment in infrastructure emerged in the early 2000s, institutional investors were happy to invest in projects through infrastructure funds set up by investment management firms and investment banks. However, certain investors have questioned the alignment of interest of their infrastructure fund managers with concerns over time horizon, fee structure, and use of leverage in investments becoming issues of contention between the two parties. Investors that we spoke to explained that management fees and other fund terms and conditions are the greatest concern for investors in the infrastructure asset class. Specifically, fund managers have used a private equity structure in the set-up of their infrastructure funds with a closed-end term of 10 years and an investment holding period of 4-5 years. Similarly, the fee structure has been based on the 2% management fee and a 20% carried interest performance fee that is typically seen in the private equity world. Infrastructure projects, in contrast to private equity investments, are much longer term in nature, often from 15 or 20 years to 30 years or more.

The risk/return profiles of many infrastructure projects are not similar to those of private equity investments, meaning that the fee structure employed should not be the same. Investors have stated that a much lower fee structure is more appropriate for infrastructure investments. The use of excessively high leverage and opaque financing arrangements for infrastructure investments were exposed with disastrous consequences in the wake of the financial crisis (Riskmetrics, 2008). Many investors were adversely affected as a result of the ill-discipline of infrastructure fund managers, further affecting their decision to shy away from similar products in the future.

The smaller institutional investors that still rely on in-

vestment managers are approaching their relationships differently. A shift in power towards investors in the relationship between managers and investors seems to be apparent, as fund managers at times, have struggled to raise capital compared to the period before the financial crisis. Investors are now demanding more favorable terms and conditions for infrastructure funds, such as management fees no greater than 1%, and open-ended, evergreen structures. On top of lower fees and longer time horizons, commensurate with infrastructure assets, investors are also looking at negotiating co-investment rights or separately managed accounts as a condition for investing in infrastructure funds. Investors are bringing more negotiating power to the table when dealing with fund managers. There are indications that the situation is improving, as one fund manager explains, “The industry is starting to consolidate and adjust to address investor concerns. Investors’ understanding of the asset class has developed, making them more sophisticated in manager assessment and selection.”

With many investors not having sufficient size to carry out direct investments, a remodelling of financial intermediaries or ‘re-intermediation’ needs to occur to help facilitate the flow of capital into infrastructure assets.

For the large investors who can resource an in-house investment team, building relationships with other large investors is important. Respondents noted that this enables knowledge sharing and risk diversification. Some co-investment platforms and research clubs have started to emerge, including The Long Term Investors Club (Global), Pension Infrastructure Platform (UK), Global Strategic Investment Alliance (Canada HQ), and Fiduciary Infrastructure Initiative (USA). The importance of special-purpose conferences and collaboration platforms are increasingly being valued by investors as they provide intimate, closed environments for determining how and with whom to partner. This not only relates to the size of the investor, but also to the processes, organizational coherence, and people involved at the organizations (Clark and Monk, 2013b). As one investor mentioned, “You can tell quite quickly just from the personalities involved whether we would do a deal with that partner.”

### 6. Conclusion and implications: the future of direct infrastructure investment

The topic of infrastructure investing is high on public

policy agendas worldwide. With the double dilemma of deteriorating infrastructure stocks and stretched public balance sheets, institutional investors will continue to play a significant role in the financing of infrastructure projects. This article draws on the experiences (and mistakes) of fund managers, institutional investors, and government entities involved in private institutional infrastructure investment over the last two decades.

With a large amount of inherent heterogeneity, the field of infrastructure investment must evolve. The perspectives here indicate that as large investors move towards direct investment relationships, the management and talent strategies of institutional investors will need to change. There is more pressure on building strong relationships based on trust, knowledge, and experience emphasizing the need for special-purpose roundtables and gatherings to enable these relationships to be formed and developed.

We highlight two implications for investment managers in particular. First, the involvement of government will remain significant. What is most crucial in this respect is defining early on, the specific function of the government for the investment as a project procurer, co-investor, or regulator. Clearly defined shareholder property rights should not be infringed upon by the government in order to keep attracting much needed private capital. Institutional investment into infrastructure cannot happen without the approval and sufficient supply of deal flow provided by governments. A transparent pipeline of infrastructure investment opportunities will signal a strong commitment and further enhance investor confidence in this area.

Second, attracting the right skill sets into institutional investor organizations is an increasingly important issue. Direct investment requires a skill set which is very different from traditional portfolio management, and closer to sector expertise and project management. Infrastructure has a large amount of behavioral complexity, requiring skilled managers to control stakeholder concerns while also mitigating development and construction risks. As investors shift their thinking from being passive owners to being operational managers, they minimize unnecessary costs connected to intermediaries with different financial incentives, and acquire better oversight of the underlying risks.

The shift towards direct investing provides an oppor-

tunity for financial intermediaries such as consultants, placement agents, fund of funds, and investment managers to rethink their business models in order to take advantage of a 're-intermediation' as opposed to a 'dis-intermediation' process.

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Rajiv has investment management experience working for venture capital private equity firm Oxford Capital Partners and London-based infrastructure/private equity advisory firm, Campbell Lutyens. Rajiv completed a Bachelor of Commerce and Bachelor of Engineering with first class honours from the University of Auckland.



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