The $60 trillion infrastructure gap

Infrastructure needs around the world are vast. An estimated $57 trillion of infrastructure investment is required between now and 2030 just to keep pace with global GDP growth, the McKinsey Global Institute stated last year.

Similarly, the OECD predicts an “infrastructure gap” of more than $60 trillion by 2030 – $53 trillion between 2010 and 2030 to pay for road, rail, telecoms, electricity and water and another $11 trillion to cover the cost of airports, ports and oil and gas.

Yet both sets of figures actually understate the true scale of infrastructure challenges facing mature and emerging markets. Neither considers current backlogs or inadequate maintenance and renewal programmes, and both focus purely on economic infrastructure – transport, power, water and telecommunications – and exclude social infrastructure such as schools and hospitals, which could also prove extremely costly.

“Whoever you believe, the investment needed by the infrastructure industry is a massive sum. The key question is, how is it going to be delivered?” says Paul Knowles, Divisional Managing Director of the Construction Real Estate and Risk Practice Division at JLT Specialty.

Public projects, private risk

Key to addressing these investment needs will be greater private sector involvement. The emergence of infrastructure as an asset class in its own right has given hope that institutional investors, such as pension funds, could join specialist infrastructure investment funds to help fill the gap left by stretched government budgets. Institutional investors could be persuaded to invest up to $200 billion in global infrastructure annually, estimates ratings agency Standard and Poor’s.

Even in markets where investment has been hit by austerity, opportunities abound, according to David Marshall, Fund Manager of the John Laing Infrastructure Fund. The fund invests in projects post-construction, during their operational timeframe, and has grown from being a £270 million fund in 2010 to more than £900 million today.

“Whether it is 3 or 4 per cent matters, as that extra 1 per cent can be the difference between profit and loss.”

Risk management is central to the success of infrastructure projects – and to securing the involvement of contractors, operators and investors. “Private investor groups will only build a project if they get their money back plus their required margin,” Roberts notes.

To do so, they must carefully manage both construction and operational risks. These risks are familiar in some respects – for example, construction risks for infrastructure are similar to those contractors face on other projects. “Public–private partnership (PPP) deals include fixed-priced, date-certain construction contracts. These may include

Controlling costs

Although usually only constituting a fraction of a percentage point of a project’s overall value, insurance costs can sometimes make or break an infrastructure scheme. For example, insurance for offshore wind power projects can represent as much as 3 to 4 per cent of costs over the project life cycle, says Hamish Roberts, Sales and Marketing Director at JLT Specialty.

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some additional risk transfer, but are essentially just design and build contracts,” says Simon Beauchamp, Development Director at Skanska Infrastructure Development.

Skanska Infrastructure Development is involved in schools, hospitals, highways and other PPP projects in the UK (including the M25 design, build, finance and operate contract), the Nordic nations, Central and Eastern Europe and the US, which represents the biggest growth market for PPPs. “The underlying principles on the projects in different jurisdictions are not that different,” Beauchamp says. “But the risk transfer can be very different between projects, particularly between market risk and availability payment projects.”

There is increasing standardisation of contracts for the UK’s private finance initiative (PFI) and other international PPP arrangements, which see private sector groups construct and maintain/operate the facilities, and make them available to the public sector for a fixed fee (an availability payment that covers the cost of financing the construction and the ongoing cost of operations). That helps clarify responsibilities, which is one of the benefits of the model, according to Marshall. “In publicly procured projects, if something goes wrong there’s a lot of arguing over whose responsibility it is, but with PFI it is very clear in the agreement,” he says. “All the pain is up front in the contract negotiation.”

While the operational risks are largely well understood for availability deals,
Beauchamp says demand and performance risk has increased over time as more complex sectors, such as waste, are delivered by PFI. The omission of soft facilities management from the later accommodation deals, for instance in the Priority School Building Programme, has also introduced another interface risk.

The risks remain significant in other areas, too. For construction, margins are still tight and contractors face significant liquidated damages and penalties in the event of overruns. The potential impact is clearly demonstrated by well-publicised problems, such as those experienced by Australian contractor Leighton Holdings with the Brisbane Airport Link and the Victorian desalination plant, which have resulted in significant profit downgrades and losses in the past couple of years.

Operational risks, meanwhile, must be assessed over long-term horizons, 25–30 years on average, making it very important for all parties to understand fully the operational implications before entering into an agreement. Similarly, errors in the performance of a building and unanticipated major maintenance, for example, have significant potential to hit profitability. “When we first started out with PFI, there was very little experience or records of how buildings behaved over the long term,” explains Beauchamp. That has improved enormously over the past 15 years but there are still uncertainties, he adds. “There are still no PFI hospitals or schools in the UK that have reached the end of their concessions.”

Pushing the envelope
Infrastructure risks are also evolving, with the technology used constantly changing. “We are seeing increasing dependence on technology and accelerating pace of advancement,” says Ian Thompson, Partner in the Transport, Engineering and Utilities Practice at JLT Specialty.

This has been the case for a long time in power generation and is now proving particularly true in rail, where demand for cyber insurance products to respond to first-party business interruption risks and third-party liability risks will inevitably increase.

In areas like bio waste and waste-to-energy projects, where the technology is still relatively young, design risk has come to the fore. But this is actually a factor in all parts of the industry where the failure of equipment or technology to perform as expected carries a real risk for the operator.

“Equipment manufacturers are forever pushing the envelope on technology. New materials and manufacturing or repair techniques inevitably provide a challenge for both the construction and operational insurance markets,” explains Kevin Seakins, Partner of the Construction Division at JLT Specialty.

Consequently, insurers typically manage their exposure to development risk by utilising design exclusions in policies either to eliminate entirely or restrict the indemnity payable as a result of physical damage due to defects in design workmanship or materials, attempting to ensure that risk of loss stays with the manufacturer. Inevitably, though, this can result in gaps in cover for the owner, particularly to address the reduction in revenue that stems from the defect and any resultant damage.
Similar, there is little cover for cases where equipment fails to deliver the performance promised – for example, if an 80 megawatt generator only produces 72 megawatts. “The insurance industry has almost unanimously failed to insure efficacy,” Roberts says. “Operators are consequently left to look to warranties from the equipment manufacturers or to self-insure.”

**Political intervention**

These issues are compounded by the continuing effects of the financial crisis. As the home markets of some contractors and suppliers have slowed, less-established companies have sought to compete more vigorously in overseas markets.

“This increased competition has helped to drive costs down, an important consideration when margins are tight,” warns Seakins.

Even more important is governments’ changing approach to infrastructure and development of political and regulatory risk – even in developed markets. One of the by-products of the financial crisis has been that governments are now more likely to intervene in various sectors, which could include the infrastructure sector, says Matthew Strong, Partner in the Credit, Political and Security Risks Division at JLT Specialty. “Governments are now far more likely to get involved in certain industries, such as infrastructure, and impose stringent regulation.”

This has important consequences, says Beauchamp. “Policy changes can have significant impact on investors’ confidence,” he says, citing the example of the alterations to the feed-in tariff for renewable energy sources, such as solar power, in Spain. “That decimated the industry overnight,” he says.

Pressure on budgets and changing government attitudes add to the uncertainty, says Beauchamp. “Even in the UK, projects are increasingly cancelled after procurement and selection of the preferred bidder. It used to be the case that if a tender was released for a project, you could expect the project to happen. That is no longer as certain.”

**Firm foundations**

For project sponsors to navigate and minimise these risks, they must appreciate the breadth and complexity of infrastructure projects and the need for advice that extends across the different disciplinary risks, says Knowles. “Infrastructure is incredibly wide-ranging – it touches so many different parts.”

Project sponsors should also begin considering their risks and the best approach to mitigating them as early as possible. “You should talk to your broker while you are still talking to the banks,” says Roberts.

This helps companies to negotiate more successfully – retaining the risks they need to, while passing on those that are more efficiently placed with insurers, says Roberts. “Companies need to get involved as soon as they can – it needs to be under way before shovel hits soil.”

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**Political and credit risk considerations**

The impact of the Minerals Resource Rent Tax on iron ore and coal mining operations in Australia – resulting in billions in investment being delayed or cancelled – showed that political and regulatory risk are constants in developed as well as emerging markets, says Matthew Strong, Partner in the Credit, Political and Security Risks Division at JLT Specialty.

“Even the UK government has a history of nationalising assets and changing policy – just think of Gordon Brown’s windfall tax on North Sea oil,” says Strong.

Project sponsors must remember that political and country risk is nuanced. “We are frequently asked which countries are uninsurable, but frankly – bar sanctions – nowhere is uninsurable,” he says. “The question should be about which projects are uninsurable.”

Well-managed projects that address a region’s risks and engage all stakeholders will always be better placed to find insurance. Yet emerging markets often do present challenges. First, there are often additional security risks, such as political violence, strikes and riots, civil war and terrorism. Other key risks include: expropriation, confiscation and nationalisation; convertibility risk or transfer risk if looking at moving funds in and out of a country; concession and licence issues; and contractual risk, since most infrastructure projects involve some sort of contractual element – usually with central or local government.

Buyers often face the choice of either private insurance or using the export credit agencies and multinationals, such as the World Bank and its Multilateral Investment Guarantee Agency (MIGA).

Both options have advantages and weaknesses, says Strong. Commercial policies can be more flexible, avoiding some of the restrictions of the alternatives. For instance, MIGA covers against expropriation, currency and convertibility, political violence, and breach of contract, but a claim for the last requires an arbitration award. Conversely, public sector solutions are often better for longer-term projects in the more risky frontier markets (often their primary purposes), and bring the benefit of having a government or multilateral entity on your side of the table.

“It is often said you don’t buy a MIGA policy to pay a claim but to stop you getting a claim to begin with, because if a host government starts interfering you have the World Bank on your side,” says Strong. “That’s a fairly powerful negotiating tool.”

At the same time, the private commercial market can also offer considerable benefits in terms of flexibility, speed of response and pricing. It should be noted that the public and private sectors, while competing, also work alongside each other, whether it be on a reinsurance or co-insurance basis.