Foundations for Growth
Infrastructure Investment in Emerging Markets

Delivering Change
Public-Private Partnerships to the Fore

EXECUTIVE SUMMARY

The Economic Case
Infrastructure: A Force for Good

Global and Regional Requirements
Colossal Needs, Especially in Africa

Delivering Change
Public-Private Partnerships to the Fore

Conclusions

References

Trafigura: Advancing Trade

Russell Jones and Camille Viros
Llewellyn Consulting
Independent Economics

Trafigura
PUBLIC-PRIVATE PARTNERSHIPS TO THE FORE

Greater private sector involvement is vital if emerging market infrastructure is to develop adequately.

• The public sector’s role in the sponsorship and delivery of infrastructure assets is in decline around the world
• Financial constraints and inefficiencies have conspired to encourage greater demand for private participation
• The private sector can offer vast financial resources and much-needed practical expertise
• But emerging-market infrastructure project finance and delivery are especially complex and challenging
• Overcoming the significant obstacles to greater private sector involvement requires a range of policy initiatives
• Only if these are delivered will the full potential of institutional investors and multinational firms be realised
SPREADING THE FINANCIAL NET

Public sector dominance in decline
Infrastructure provision globally, for most of the 19th and 20th centuries, was dominated by the public sector. This was due in large part to a combination of the existence of natural monopolies; governmental desire to control strategic assets such as telecommunications networks; and a lack of private sector financial resources. Infrastructure networks had to be built from scratch, and required huge, and frequently highly risky, investments, especially in their early stages. Even when private funding and involvement started to become more common, governments remained the dominant planners and sponsors of infrastructure and proved determined to exert tight regulatory control over the assets put in place.

Over the past three decades, however, the role of the state in the finance, development, ownership, and management of infrastructure provision has been in conspicuous decline, both in the advanced economies and beyond. This reflects efforts to moderate the financial burden of capital investment on public sector balance sheets, and concerns about the historical inefficiency of public infrastructure provision, an important side effect of which has been the spread of privatisation programmes.

Today, to ease the financial and other costs associated with government infrastructure sponsorship and delivery, yet also address the enduring market failures and potential negative externalities associated with greater private sector involvement, it is widely held that a balance should be struck between public and private infrastructure provision. Only in this way, it is asserted, can the efficient delivery, management, and maintenance of infrastructure assets be guaranteed.

Financial constraints
Emerging-market public finances deteriorated significantly in the wake of the Global Financial Crisis, as real GDP growth slowed sharply and various discretionary fiscal policy stimuli were employed. However, the aggregate budgetary deterioration proved to be rather less than that witnessed in the OECD and, as demonstrated in 25 and 26, there has been some improvement in both budget balances and debt burdens over recent years. Moreover, with demographic (ageing) issues less of an issue in the developing world than in the OECD, these more positive public finance trends are expected to continue.

Nevertheless, given the widespread need to improve social safety nets, and increasingly intense competition for public sector funds as these countries progress, deficits and debt remain active constraints on government spending and infrastructure outlays in the developing world. This is particularly the case in the Middle East and North Africa, and in parts of Latin America. Fiscal policy decisions in Developing Asia and Europe stand to be somewhat less inhibited.

<table>
<thead>
<tr>
<th>BROADLY-DEFINED BUDGET BALANCES</th>
<th>2012</th>
<th>2013</th>
<th>2014 (F)</th>
<th>2015 (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>-3.0</td>
<td>-2.6</td>
<td>-2.8</td>
<td>-2.4</td>
</tr>
<tr>
<td>Europe</td>
<td>-0.8</td>
<td>-1.6</td>
<td>-1.3</td>
<td>-1.3</td>
</tr>
<tr>
<td>LATAM</td>
<td>-2.5</td>
<td>-2.9</td>
<td>-3.2</td>
<td>-2.6</td>
</tr>
<tr>
<td>MENA</td>
<td>-9.1</td>
<td>-9.9</td>
<td>-7.6</td>
<td>-7.8</td>
</tr>
<tr>
<td>G-20 EM</td>
<td>-2.0</td>
<td>-2.3</td>
<td>-2.4</td>
<td>-2.2</td>
</tr>
<tr>
<td>OECD</td>
<td>-6.2</td>
<td>-4.9</td>
<td>-4.3</td>
<td>-3.6</td>
</tr>
</tbody>
</table>

Source: IMF Fiscal Monitor, April 2014
Efficiencies, feasts, and famines
As summarised above, there is also considerable evidence that the public provision of developing economy infrastructure has proved far from optimal. Resources have habitually been misallocated across sectors, across regions, and across time in the face of malign political interference and inadequate governance, if not brazen corruption and extortion, not least in state-owned enterprises in natural resource sectors.

Planning and day-to-day management have frequently been poor, ministerial responsibility for projects and programmes fragmented and poorly co-ordinated, and parliamentary oversight of projects lacking. Meanwhile, rapid urbanisation and decentralisation have tended to increase the onus of responsibility for infrastructure investment on local and municipal governments that have proved singularly ill-equipped to do the job, especially given that fiscal transfers and overall tax revenues have frequently failed to keep pace with designated outlays.

One particular recurring problem is that resource-exporting countries have systematically failed to sustain a coherent counter-cyclical fiscal policy in the face of what are all too often large swings in commodity prices. Rather, fiscal policy has all too often been pro-cyclical. In commodity price upswings, when government revenues are abundant, spending has tended to outrun management capacity, perhaps dramatically, with the result that corruption and extortion multiplied, investment quality suffered and bottlenecks developed, and the costs for government and contractors alike escalated. Conversely, in commodity price downswings, when revenue growth collapsed, the necessity for sudden and dramatic fiscal consolidation would leave many partially-completed projects in limbo, with devastating consequences for contractors and workers alike.

The development of private sector involvement
Private-sector firms have long been involved in the physical delivery of infrastructure assets as contractors to governments, or to support their own businesses. But the widespread constraints on public sector balance sheets and the inefficiencies and shortcomings of public investment management have recently resulted in a growing demand from governments for the broader application of private sector financial resources and practical expertise to infrastructure development.

At the same time, private sector entities themselves have demonstrated a burgeoning willingness to extend their involvement beyond their longstanding narrow contractual obligations or commercial interests.

For financial institutions, infrastructure assets appeal on a number of levels: they offer extended-maturity, stable, monopoly or quasi-monopoly, often inflation-protected and low correlation, returns in what has increasingly become, and many expect to remain, a low yield environment. Hence, they can help to fill pension fund deficits and assist greatly in liability management and duration hedging.

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014 (F)</th>
<th>2015 (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asia</strong></td>
<td>33.9</td>
<td>31</td>
<td>29</td>
<td>27.6</td>
</tr>
<tr>
<td><strong>Europe</strong></td>
<td>27</td>
<td>27.7</td>
<td>26.1</td>
<td>26.5</td>
</tr>
<tr>
<td><strong>LATAM</strong></td>
<td>52</td>
<td>51.4</td>
<td>52.5</td>
<td>52.6</td>
</tr>
<tr>
<td><strong>MENA</strong></td>
<td>70.5</td>
<td>75.1</td>
<td>76.6</td>
<td>77.5</td>
</tr>
<tr>
<td><strong>G-20 EM</strong></td>
<td>35.1</td>
<td>33</td>
<td>31.8</td>
<td>31</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>108.3</td>
<td>107.1</td>
<td>107.1</td>
<td>106.9</td>
</tr>
</tbody>
</table>

Source: IMF Fiscal Monitor, April 2014
Privatisations of utilities and other public enterprises have served as an active catalyst for this growing private sector financial involvement in the sector. Utilities in particular exhibit generic qualities, not least of which are that they are usually relatively familiar entities and can offer inflation-linked returns from day one.

Although the process of greater private sector financial involvement in infrastructure began in the advanced economies, institutional investors in OECD countries have long been heavily involved in emerging markets, and are beginning to view emerging-market (EM) infrastructure assets as another potentially attractive string to their necessarily diverse bows. Furthermore, EM institutional investors are now themselves beginning to evolve and mature and represent an additional, potentially large, source of long-term capital for the future.

Public Private Partnerships (PPPs) are an increasingly important conduit through which the growing demand for, and supply of, private sector involvement in infrastructure are being expressed. Again these arrangements initially flourished in the developed world, but are now coming more to the fore in the developing economies.

There is also a growing interest in an expanded and more diverse role in infrastructure on the part of multinational corporates which, often with their own interests very much in mind, have long been at the forefront of resource development in the EM world, and can bring with them particular facets of financial and practical expertise.

THE MECHANISMS OF INFRASTRUCTURE FINANCE

Managing evolving project risk
Infrastructure projects typically go through a number of stages. The financial and other risk parameters associated with each stage vary considerably although, particularly in the developing world, macroeconomic and political hazards have tended to be ever-present throughout.

In the first, higher risk, stage of a project, the underlying capital asset for development is selected, planned, and designed. In this phase, the assessment and forecast of expected costs, the identification of the final users of the asset and of the expected returns to the investment are crucial in order to ensure that miscalculations and mistakes do not

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PREPARATION</th>
<th>CONSTRUCTION</th>
<th>OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RISKS</td>
<td>Feasibility studies, Modelling cash flow and finance, Organise contracts with utilities, operators, and construction firms</td>
<td>Building the project, Separate company takes on operation and maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Macroeconomic and political risks, Government finances, Inflation, Exchange rate fluctuations, Corruption, Regulatory barriers, Civil unrest, Nationalisation, Technical risks to project viability, Environmental and planning risks</td>
<td>Macroeconomic and political risks, Construction risks (cost escalation, overrun, and delay)</td>
<td>Macroeconomic and political risks, Lack of demand risk, Operating risks, Policy risks (tariff changes)</td>
</tr>
</tbody>
</table>

THE STAGES OF INFRASTRUCTURE INVESTMENT

create delays and waste precious financial resources. In addition, private sector contractors need to be selected appropriately in order to share the risks among the partners involved, and to ensure that private and wider social interests do not clash unnecessarily.

In the second phase of construction delivery, besides the ubiquitous threat of macroeconomic and political disruption, contractual default and unforeseen delays are the main sources of uncertainty and potential cost overrun.

The third and final stage concerns the operation of the infrastructure asset. This phase, in which another set of contractors are regularly held responsible for delivering on-time services to users of the asset, is usually the least risky phase, and it is only at this juncture that a project typically becomes profitable. However, financial monitoring is important to assess that the cash flows generated by the asset are in line with the initial assessment.

Financing vehicles

Although infrastructure projects can be financed with a number of different instruments of varying complexity, they all belong to the two basic categories: debt and equity. Debt finance includes bank loans and bonds issued either by the sponsoring public sector or by the corporate entities involved in the project. Equity finance can take the form of shareholdings of either listed or unlisted holdings in the companies contracted to deliver the designated infrastructure asset or assets.

Debt allows a project to develop before the underlying asset can earn the funds necessary for its ultimate operation, and without its sponsors having to share ownership or control of the business. However, there are constraints on the ability of any entity – public or private – to borrow. In the private sector, firms will need to provide collateral for any loan (often the infrastructure asset itself fulfils this role) and a company may need to be listed in order to be able to issue debt. Debt repayments will also have to be separated from expected future returns on any project.

Equity financing does not have to be repaid and, for a company, initially keeping its debt-to-equity ratio low may prove helpful when or if at some stage a bigger loan is required. However, equity finance is typically more volatile, and requires companies to cede partial ownership. Raising equity also involves legal, accounting, and investment banking fees, which can account for 3% to 5% of the sum raised.1

Equity finance tends to dominate in the risky, earlier, stages of a project. The actual preliminary capital sum required may be relatively low (between 2% and 5% of the total financing) but fundraising can be problematic because of the high risk profile at this juncture. The initial equity finance typically is raised by the project sponsor or sponsors which, more often than not, is still the government.2

Debt instruments tend to dominate once the project has gone through the planning and procurement phases although, in the later stages, additional resources are frequently raised via investment funds that can specialise in either debt or equity.28

---

**Financing options fall into two broad categories...**

**...debt and equity...**

**...both of which have their pros and cons**

---

[28] THE TYPICAL FINANCING STRUCTURE OF AN INFRASTRUCTURE PROJECT

<table>
<thead>
<tr>
<th></th>
<th>Equity</th>
<th>Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation and development</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>Operation</td>
<td>20%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Source: World Economic Forum (2013b)
Debt-based financing
In total, as much as 90% of the asset value of a large infrastructure project may be debt financed.3

`Greenfield’ sites. With infrastructure networks typically much less expansive and mature, greenfield sites are naturally more prominent in the EM world than in the more developed economies. Because of their credit underwriting and supervision skills, single banks, or syndicates of banks, have historically dominated the provision of financing in this area, while institutional investors have tended to baulk at the higher-risk characteristics of these projects.

However, reflecting the damaging effects of the global financial crisis on balance sheets and a more onerous regulatory environment characterised by the Basel III accords, the global (especially European) banking sector’s ability and willingness to extend long-term loans for so-called ‘project finance’ has diminished over recent years. Furthermore, where such loans have continued to be made, the conditions attached have become more onerous. Not surprisingly, therefore, the volume of global bank-originated project finance fell away after 2008 and has struggled to recover 29.

`Brownfield’ sites. For brownfield sites, bank project finance has again historically played a dominant role. However, long-term bonds issued by the contracted infrastructure construction company, and frequently underwritten by an investment bank, have proved to be a more readily available alternative financing option than is the case for greenfield sites.

Such debt issues can vary considerably in seniority, and the associated credit-rating may be enhanced by some sort of insurance to guarantee repayment of the bonds. Project-finance bond issuance also declined in the wake of the crisis, not least because of the demise of the ‘Monoline insurers’ that regularly used to perform this guarantee function. Latterly, however, governments and the multilateral development banks (MDBs) have increasingly stepped in to offer this service, and there have been signs of recovery.

Moreover, institutional investors are apparently becoming more adventurous where infrastructure is concerned. Globally, investment funds specialising in infrastructure debt have risen in prominence, and banks have actively sought to sell bundles of project loans to these entities as part of their deleveraging activities.

The expansion of the EM markets for government infrastructure or corporate project bonds – including, where possible, in connection with greenfield projects – is seen as a major requirement for EMs to attract the necessary additional private sector financing.

Chile has been issuing project bonds since 1998, and they are also issued by South Africa, Panama, and Mexico.
**Equity-based financing**
Equity-based infrastructure financing options fall into four categories:

**Direct unlisted equity investments**
These do not make use of a fund manager, and require in-house resources and the capability to source assets. There are few such firms in the market – perhaps 20-odd.4

**Unlisted equity funds**
Institutional investors operate as limited partners in projects. Funds are managed by a general partner – often an investment bank or investment manager. Unlisted funds have been the most popular equity vehicle for institutional investors to access core infrastructure assets.

**Listed infrastructure funds**
These are similar to unlisted funds in that an external manager invests on behalf of investors into infrastructure assets. The fund is listed, but the assets may not be. They are often criticised for their use of complex financial structures, over-paying for assets, and inflated fees.

**Listed infrastructure indexed funds**
These are found in well-established stock markets; and hence it is possible to track the performance of listed infrastructure firms.

**Public Private Partnerships and their challenges**
Notwithstanding a setback in the wake of the global financial crisis, Public Private Partnerships (PPPs) have blossomed over recent decades, and these hybrid structures are now an important conduit for private sector involvement in infrastructure.

Historically, the greater part of the private sector’s infrastructure investment tended to be made directly by utility and transport companies. Since the 1990s, however, many countries have sought to broaden private sector involvement, especially in new projects, via PPPs that marry private sector capacity and public resources to deliver publicly-specified infrastructure projects.

In assembling a PPP, the government typically stipulates the quantity and quality of the service it requires from the private partners, which are coalesced into a consortium to do the job. This entity in turn capitalises a Special Purpose Vehicle (SPV) with recourse variously to equity and debt.

The consortium is tasked with the design, construction, financing, operation, and management of the infrastructure asset, as well as the delivery of the resulting service. The group may benefit from some initial public sector equity contribution or guarantees, but it will also subsequently receive either a stream of payments from the government or charges levied on end-users.

Utility and transport projects – roads, railways, airports and seaports – have proved most popular, but PPPs have also been extended to social infrastructure. In the EM world over the past 10 years or so, private capital has contributed some 10-15% of total investment. PPPs were implemented in 134 countries between 2002 and 2011, but outside the OECD countries they are most regularly to be found in the middle-income economies.5
PPPs often prove complex and challenging in advanced economies, let alone emerging nations. They are therefore certainly no panacea for infrastructure shortfalls.

The intricacies involved include the need to dovetail with development strategy, including national infrastructure and budget plans. The project assets are also typically specific and illiquid, and have little value if the project fails. They require a transparent, competitive, bidding process, and legal and regulatory frameworks that provide adequate protection for all parties. They also need political buy-in and support across different levels of government departments, together with appropriate risk allocation between the public and private sector participants. The reality is that private sector participants still usually shoulder significant risks – and therefore feel obliged to charge high risk premia.

PPPs can be expensive to prepare and require stable long-term finance throughout. Historically, the typical financing arrangements have heavily utilised bonds or senior debt (for large projects) and bank loans (for smaller projects), secured against project cash flows. EM PPPs may require credit rating enhancement to secure investment-grade debt status. PPPs remunerated by private sector tolls involve a higher equity stake and private risk. PPPs remunerated by payments by government involve lower equity stake and private risk. A key constraint in EMs is the lack of experience and skills of governments in structuring deals that can both entice in the private sector and protect taxpayers and consumers.

The role that project bonds can play in infrastructure finance, especially where ‘brownfield’ sites are concerned, has been outlined above. Project bonds issued by the Special Purpose Vehicle (SPV) associated with a specific PPP certainly offer a number of attractions for both EM infrastructure providers and institutional investors. They are a mechanism to remove some of the financial burden of infrastructure development from the public sector, while the potential impact of a project on a company’s balance sheet can be more easily isolated. At the same time, they allow project risks to be identified more clearly, and economic viability to be more easily assessed. They also typically provide a significant yield pickup over sovereign debt.

However, they are not without drawbacks. In particular, issuing project bonds requires that the risks, costs, and expected revenues of the underlying project are well estimated from the very beginning, in order to reduce default risks. (see: 30 )

---

**SUCCESSFUL PPPS REQUIRE A COMBINATION OF GOOD ECONOMICS, SUPPORTIVE POLITICS, AND ASTUTE EXECUTION. A NUMBER OF THE KEY ELEMENTS ARE LISTED BELOW.**

**ECONOMICS**
- Ensure sound fundamentals – PPPs cannot create economic miracles
- Structure a partnership that optimises cost, quality, and investor return

**POLITICS**
- Secure political champions
- Build stakeholder support
- Assess and manage social and environmental impact
- Foster a stable and supportive regulatory environment

**EXECUTION**
- Use a disciplined approach – time and complexity are pitfalls
- Secure the right mix of global and local expertise
- Support a transparent, competitive bid process
- Plan for ongoing monitoring and review
THE FUTURE ROLE OF INSTITUTIONAL INVESTORS

A largely untapped source of infrastructure funding

Institutional investors offer attractive alternative sources of infrastructure funding, especially as there is considerable scope for their expansion into EMs.

The global non-bank financial sector is extremely large and diverse, extending to pension funds; insurance companies; mutual funds; family offices; sovereign wealth funds (SWFs); and public pension and social security reserve funds (PPRFs). Institutional investors hold almost $80 trillion in assets in the OECD economies alone. 31

Institutional asset allocation is focused in particular on the two main asset classes: bonds (both sovereign and corporate) and listed equities. Total allocations to other, ‘alternative’, assets are relatively modest – typically between 20% and 30% of the total, and rarely in excess of 40%.

Developed-economy pension, insurance, and mutual funds dominate global institutional investment flows. SWFs, private equity, and hedge funds are much smaller players. To date, allocations to infrastructure, and in particular direct investments in infrastructure, although growing, have been limited – perhaps in the region of 3% of the overall total. And although many institutions have considerable experience in investing in the developing world, their exposures to EM infrastructure are very much in the minority. 32

Institutional investors have huge resources …

…but little exposure to EM infrastructure

### ASSETS UNDER MANAGEMENT ($TN)

<table>
<thead>
<tr>
<th>Source: TheCityUK (2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hedge Funds</strong></td>
</tr>
<tr>
<td><strong>Private Equity</strong></td>
</tr>
<tr>
<td><strong>Sovereign Wealth Funds</strong></td>
</tr>
<tr>
<td><strong>Mutual Funds</strong></td>
</tr>
<tr>
<td><strong>Insurance Funds</strong></td>
</tr>
<tr>
<td><strong>Pension Funds</strong></td>
</tr>
</tbody>
</table>

### INSTITUTIONAL INVESTOR ALLOCATIONS TO EM INFRASTRUCTURE

<table>
<thead>
<tr>
<th>INSTITUTIONAL INVESTOR</th>
<th>ASSETS UNDER MANAGEMENT</th>
<th>EXPOSURE TO EM INFRASTRUCTURE</th>
<th>POTENTIAL EXPOSURE TO EM INFRASTRUCTURE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD</td>
<td>$79tn plus</td>
<td>&lt;1% in total; Leading investors c10%,</td>
<td>1% of assets = $750bn</td>
<td>Allocation of AUM to long-term capital = $6.5tn</td>
</tr>
<tr>
<td>Emerging Market</td>
<td>$4.5tn EM pension fund assets estimated to rise from $2.5tn to $17.4tn by 2050</td>
<td>Significantly less than 1%; Chilean pension funds 1.5%</td>
<td>1% of assets = c$50bn</td>
<td>This target could be higher as many EM institutions can only invest domestically</td>
</tr>
<tr>
<td>Sovereign wealth funds</td>
<td>$4tn</td>
<td>0-5%</td>
<td>c5% of assets = c$250bn</td>
<td>Some new EM SWFs set up to invest specifically in domestic infrastructure</td>
</tr>
<tr>
<td>EM pension reserve and social security funds</td>
<td>$1tn</td>
<td>Limited – ad hoc examples up to 10%</td>
<td>10% of assets = c$100bn</td>
<td>High target as these funds are often largest single source of capital</td>
</tr>
</tbody>
</table>

Source: World Bank (2014d)
However, what this also means is that there is enormous potential for diversification. To expect additional flows into EM infrastructure of around $1 trillion, cumulating over several years, would not be unreasonable, and still larger flows are possible. Though insufficient to fill the huge EM infrastructure gap outlined in Chapter 2, it would certainly amount to an important additional source of capital.

On the other hand, infrastructure’s share is growing. And, of course, OECD pension funds and insurers are already major investors in overseas markets and the developing world.

**The fledgling EM institutional sector**

EM financial systems are typically much less developed and more conservative than their OECD counterparts. Most are largely commercial bank-based, with many disproportionately dependent on foreign banks, although there are some exceptions, including Brazil and South Africa.

The assets of EM pension funds are usually very small as a proportion of GDP, and they are compelled to invest domestically. On the other hand, this means that again there is plenty of room for this investor community to expand and diversify.

A number of middle-income EMs are currently reforming and developing their pension systems to introduce mandatory funded pillars, the establishment of which should greatly accelerate the growth of assets under management, ultimately to the sorts of large percentages of GDP seen in the OECD. There, figures of 60 or 70% are not uncommon.

So far, the experience of infrastructure investing by EM pension funds is most widespread in Latin America, where such institutions are most mature; but there are also early examples in Asia and Africa, and the demonstration effect is likely to strengthen.

As regards EM insurance systems, their assets under management are also likely only to grow as these economies mature. Total insurance company assets amount to more than 100% of GDP in some of the world’s largest countries, and average more than 60% of GDP across the OECD countries.  

<table>
<thead>
<tr>
<th>Are there institutional investors (pension/social security funds, insurers, SWFs) with investment funds?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are there substantial limits/constraints?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are there infrastructure assets to invest in?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are there working capital markets (equities/bonds/derivatives?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is the bank intermediation working?</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is there a favourable macro environment (political, law, institutions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

---

**EM financial systems remain bank-based**

The investment community is set to expand

---

**Creating the Conditions for EM Institutional Investment in Infrastructure**

Source: World Bank (2014d)
Sovereign wealth and public pension reserve funds
Sovereign wealth funds (SWFs) and public pension reserve funds (PPRFs) represent another large and growing pool of savings, especially in the natural-resource-exporting countries. Indeed, in 2011 they accounted for some $10 trillion in assets. Their asset allocations vary widely, although most experienced entities’ investments largely mirror those of large-scale institutional investors in the OECD economies.7 34 35

SWFs are already major investors in developing economies, and are expressing a rising interest in international infrastructure. A number of EM SWFs have domestic investment mandates, and a survey of 60 SWFs suggests that domestic holdings accounted for some 16% of their total holdings. As of 2012, more than 50% of SWFs held some assets in infrastructure, suggesting that they are developing important appraisal skills.8

Joint investment ventures between SWFs, other sources of institutional capital, and MDBs could prove to be a powerful catalyst for infrastructure expansion in the emerging world, although such is the financial firepower of these entities that there would need to be close co-ordination with macro policy regimes and public investment plans to guard against excessive pressure on resources.

PPRFs,9 for their part, enjoy a relative certainty of asset base and are less inclined to seek short-term returns than are many institutional investors. Some PPRFs have already increased their allocations to non-traditional asset classes, and have begun to invest in infrastructure, mainly through listed and unlisted equity. Perhaps the biggest concern with these institutions is that historically they have proven vulnerable to political pressure.10

THE BARRIERS TO EM INFRASTRUCTURE INVESTMENT
The barriers to EM infrastructure investment should not be underestimated. They are significantly greater than in the OECD economies, and fall into three main categories:

Investment opportunities and issues of government support
- High political and sovereign risks, ranging from fiscal and monetary incontinence to war, poor governance, corruption, and expropriation
- The associated difficulties of achieving an investment-grade credit rating for debt finance
- The limited number and sporadic nature of suitable projects – in particular, too many ‘greenfield’ schemes
- Inadequate government guarantees to mitigate private sector risk and ‘crowd in’ investment
- Lack of political commitment to particular projects over the long-term
- Regulatory instability and fragmentation of responsibility across government
- Lack of appropriate financing vehicles – e.g. specified infrastructure funds

Investor capability
- Lack of expertise in the sector, and dependency on third-party due diligence
- Size of institutional investor funds – smaller funds face particular issues
- Regulatory barriers and investor short-termism

Conditions for investment
- Negative perception of the value of infrastructure
- Lack of transparency in the sector and shortage of adequate data

Addressing the barriers to EM infrastructure investment requires a range of mutually-reinforcing policy initiatives. The delivery of greater macroeconomic, fiscal, and political stability would appear to be paramount. However, it would also make sense for individual governments, if not groups of countries, to establish a stable, long-term...
### 34. Sovereign Wealth Funds and Public Pension Reserve Fund Assets

<table>
<thead>
<tr>
<th>Country</th>
<th>Name</th>
<th>Assets ($Bn)</th>
<th>Start Date</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>Government Pension Fund</td>
<td>664.3</td>
<td>1990</td>
<td>Oil</td>
</tr>
<tr>
<td>UAE – Abu Dhabi</td>
<td>Abu Dhabi Investment Authority</td>
<td>627</td>
<td>1976</td>
<td>Oil</td>
</tr>
<tr>
<td>China</td>
<td>SAFE Investment Company</td>
<td>567.9</td>
<td>1997</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>SAMA Foreign Holdings</td>
<td>532.8</td>
<td>n/a</td>
<td>Oil</td>
</tr>
<tr>
<td>China</td>
<td>CIC China Investment Corporation</td>
<td>482</td>
<td>2007</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>China-Hong Kong</td>
<td>HKMA Investment Portfolio</td>
<td>298.7</td>
<td>1993</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Kuwait</td>
<td>Kuwait Investment Authority</td>
<td>296</td>
<td>1953</td>
<td>Oil</td>
</tr>
<tr>
<td>Singapore</td>
<td>Govt. of Singapore Investment Corp</td>
<td>247.5</td>
<td>1981</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Singapore</td>
<td>Temasek Holdings</td>
<td>157.7</td>
<td>1974</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Russia</td>
<td>National Wealth Fund</td>
<td>149.7</td>
<td>2008</td>
<td>Oil</td>
</tr>
<tr>
<td>China</td>
<td>National Social Security Fund</td>
<td>134.5</td>
<td>2000</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Qatar</td>
<td>Qatar Investment Authority</td>
<td>115</td>
<td>2005</td>
<td>Oil</td>
</tr>
<tr>
<td>Australia</td>
<td>Australian Future Fund</td>
<td>83</td>
<td>2006</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>UAE – Dubai</td>
<td>Investment Corporation of Dubai</td>
<td>70</td>
<td>2006</td>
<td>Oil</td>
</tr>
<tr>
<td>UAE – Abu Dhabi</td>
<td>International Petroleum Investment Co</td>
<td>65.3</td>
<td>1984</td>
<td>Oil</td>
</tr>
<tr>
<td>Libya</td>
<td>Libyan Investment Authority</td>
<td>65</td>
<td>2006</td>
<td>Oil</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Kazan National Fund</td>
<td>61.8</td>
<td>2000</td>
<td>Oil, gas, metals</td>
</tr>
<tr>
<td>Algeria</td>
<td>Revenue Regulation Fund</td>
<td>56.7</td>
<td>2000</td>
<td>Oil</td>
</tr>
<tr>
<td>UAE – Abu Dhabi</td>
<td>Mubadala Development Company</td>
<td>53.1</td>
<td>2002</td>
<td>Oil</td>
</tr>
<tr>
<td>South Korea</td>
<td>Korea Investment Company</td>
<td>43</td>
<td>2005</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>US – Alaska</td>
<td>Alaska Permanent Fund</td>
<td>42.8</td>
<td>1976</td>
<td>Oil</td>
</tr>
<tr>
<td>Iran</td>
<td>National Development Fund of Iran</td>
<td>40</td>
<td>2011</td>
<td>Oil &amp; gas</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Khazanah Nasional</td>
<td>34</td>
<td>1993</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>State Oil Fund</td>
<td>32.7</td>
<td>1999</td>
<td>Oil</td>
</tr>
<tr>
<td>Brunei</td>
<td>Brunei Investment Agency</td>
<td>30</td>
<td>1983</td>
<td>Oil</td>
</tr>
<tr>
<td>France</td>
<td>Strategic Investment Fund</td>
<td>25.5</td>
<td>2008</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>US – Texas</td>
<td>Texas Permanent School Fund</td>
<td>25.5</td>
<td>1854</td>
<td>Oil &amp; other</td>
</tr>
<tr>
<td>Ireland</td>
<td>National Pensions Reserve Fund</td>
<td>18</td>
<td>2001</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Superannuation Fund</td>
<td>16.6</td>
<td>2003</td>
<td>Non-commodity</td>
</tr>
<tr>
<td>Canada</td>
<td>Alberta Heritage Fund</td>
<td>16.4</td>
<td>1976</td>
<td>Oil</td>
</tr>
</tbody>
</table>

Source: OECD (2013)

### 35. Sovereign Wealth Funds and EM Infrastructure Investments

<table>
<thead>
<tr>
<th>Country</th>
<th>Fund</th>
<th>Established</th>
<th>Asset Value ($Bn)</th>
<th>Infrastructure Focus?</th>
<th>Domestic Allocation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>Fudo Soberano de Angola</td>
<td>2012</td>
<td>5</td>
<td>Implicit</td>
<td>n.a.</td>
</tr>
<tr>
<td>Bahrain</td>
<td>Mumtalakat</td>
<td>2006</td>
<td>13.5</td>
<td>Implicit</td>
<td>n.a.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>Samruk-Kazyna</td>
<td>2008</td>
<td>47.4</td>
<td>Explicit</td>
<td>n.a.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Kazanah</td>
<td>2003</td>
<td>34.4</td>
<td>Explicit</td>
<td>n.a.</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Nigeria Infrastructure Fund</td>
<td>2011</td>
<td>1</td>
<td>Explicit</td>
<td>100</td>
</tr>
<tr>
<td>Palestine</td>
<td>Palestine Investment Fund</td>
<td>2003</td>
<td>0.9</td>
<td>Explicit</td>
<td>80</td>
</tr>
<tr>
<td>South Africa</td>
<td>Public Investment Corporation</td>
<td>1911</td>
<td>114.6</td>
<td>Explicit</td>
<td>n.a.</td>
</tr>
<tr>
<td>UAE</td>
<td>Mubadala</td>
<td>2002</td>
<td>641</td>
<td>Explicit</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: World Bank (2014e)
and accessible programme of infrastructure investment, extending to national and regional project pipelines, perhaps under the aegis of a national or regional infrastructure agency or bank.

There must, furthermore, be greater regulatory stability, and efforts warrant being made to put in place guarantees that encourage the appropriate transfer of risk, establish new debt and equity financing vehicles, and develop deeper and more diverse domestic debt capital markets.

However, the responses to these obstacles must necessarily go further. To promote the development of the EM institutional investor community, pension fund governance must be improved, collaborative strategies and resource pooling be encouraged, the interests of institutional investors and the infrastructure industry be brought more conspicuously into line, and prudential and regulatory frameworks adjusted towards long-term investment.

This in turn will require regulatory, supervisory, and tax frameworks that encourage institutional investors to develop the necessary expertise and professionalism; improvements in pension trustee composition and knowledge; bank syndication and consortia; the consolidation of smaller institutional investors; transparency in business models; the adjustment of pension accounting rules to address funding gaps, and the easing of quantitative investment restrictions.

Furthermore, the broader investment environment would benefit from independent and objective data collection and the establishment of common performance measures for the asset class; greater involvement of existing pockets of expertise in universities, research bodies, and MDBs; the creation of an independent association of infrastructure investors; and a platform for dialogue between institutional investors, the financial industry, and governments.

Many of these latter objectives could be pursued by a national or regional infrastructure agency or bank.

The role of multilateral development banks

Multilateral Development Banks can play a pivotal role in the development of EM infrastructure, both by providing direct financing and by putting in place the institutional architecture to mobilise and ‘crowd in’ private sector funds. The private sector will not invest in the dark. The MDBs can provide the additional light to turn it into an asset class in its own right.

MDBs are in a central position to contribute their own direct funding to infrastructure projects via both equity investments and project loans, often with longer than commercially available maturities and grace periods.

However, they can also attract and enhance private sector financing by catalysing syndications or other co-financing mechanisms (in which they may themselves play a central part); and enhancing investment partners’ creditor status through risk guarantees and project insurance against risks such as civil disturbance or non-government payment.

In this way they can enhance confidence and lower risk premia for EM infrastructure projects. Clearly, their contribution can be especially important in frontier markets.

The role of the MDBs can however go far beyond funding and risk sharing. They can help in project preparation, which can be demanding for EM economies where institutional, legal, social, environmental, financial, regulatory, and engineering knowledge are in short supply. After all, for complex PPPs, preparation costs can amount to 5-10% of the total project.11

The MDBs can also help to develop ‘transformational regional projects’, rendering them attractive for both private and public sectors. For example, cross-border power networks, fibre-optic links, international road corridors, flood controls that protect downstream areas, and ports designed to service land-locked regions can offer huge benefits to two or more countries, yet they may require very large human resources and financial sums for preparation.
MDBs can also help to develop an infrastructure marketplace – a venue for capital providers to meet project sponsors at a time when EM infrastructure is characterised by limited investment vehicles, a shortage of able local financial intermediaries, market fragmentation, information asymmetries, and high transaction costs – especially in Africa.

MDBs can assist too in the collation and improvement of data on the sector as a whole, so that projects and programmes can be better evaluated and prioritised, and benchmarks developed. Data are currently especially short in areas that include service access, prices and costs, efficiency parameters, and the quality of infrastructure.

Finally, the MDBs can help to tackle corruption. Anything between 10% and 30% of an EM infrastructure project's value can be 'lost' in the construction phase.12

The role of the multinational corporate sector

Multinational corporates have long played a central part in the provision of EM infrastructure, especially where the resource sector is concerned. They have acted both as keynote contractors for government-sponsored projects, as well as putting in place their own transport and logistical networks to enable the cost-effective exportation of primary materials. However, their activities have often provoked controversy, the sense being that many of these companies were disproportionately motivated by their own profitability and relatively unconcerned with broader issues of poverty, inequality, overall development, or the environment.

Not all companies, however, can be tarred with this unfortunate brush. Moreover, there is today generally a greater awareness of the multinational corporate sector's wider responsibilities to populations of the developing world, and the longer-term benefits that a wider, more enlightened, view can bring to its own bottom line, both in terms of the future business opportunities this may encourage and their wider reputation as responsible global citizens.

Equally, in EM governments and beyond, there is a sense that the long-standing experience and capabilities of the multinational entities have hitherto not been fully tapped, not least where the provision of much-needed financial and practical on-the-ground expertise are concerned.

Multinational companies are adept at assembling complex project financing structures beyond the ken of most EM governments or corporates. They can usually borrow in domestic or international capital markets at interest rates, and under conditions, that are much less onerous than those imposed upon domestic companies. Indeed, they can often borrow under conditions that are superior to those available to the domestic sovereign.

Multinational companies will also sub-contract elements of the work they are tasked with to domestic entities, in the process providing jobs, income, and training and experience to the local workforce.

More important still, the capital assets they put in place – e.g. roads, railway, and port installations – can subsequently be utilised by a wide range of domestic entities, ranging from other companies to individuals. In this way they can be a source of, and catalyst for, additional competition, helping to dislodge inefficient monopoly or quasi-monopoly infrastructure providers.

Under the appropriate conditions, and in particular with the right financial and other incentives, in addition to being encouraged to deliver more much-needed infrastructure assets that can directly contribute to a nation's wealth and well-being, multinational firms are being viewed as alternative providers of the supervisory roles previously undertaken either by the banks or the now largely defunct 'monoline' insurers.

However, it must be stressed that maximising these broader potential benefits requires co-operation with the government authorities, and a rational and coherent approach to pricing, subsidy and supply strategies, not least to ensure suitable access and affordability for the poor.
This sort of private sector involvement can also lend itself to the formation of ‘expanded PPPs’ that could, for example, involve complementary roles for the domestic public sector, multinational corporates, domestic private sector firms, MDBs, SWFs, and institutional investors.

Some multinationals have already delivered essential projects, the Trafigura Group amongst them. For some examples, see BOXES 4, 5, and 6 on pages 17-22.

---

1 OECD, 2013.
3 European Investment Bank, 2013.
4 OECD, 2013.
5 OECD, 2013.
6 World Bank, 2014d.
7 World Bank, 2014c.
8 European Investment Bank, 2013.
9 Public pension reserve funds are publicly run entities that manage assets built up in the process of pre-funding future pension liabilities. The most common form is the partially funded, defined benefit scheme. These are often found in younger countries, where pension schemes are still immature, as in Francophone Africa and some parts of Middle East and East Asia. A second type is the centrally-managed, defined contribution arrangement or provident fund. These are mostly found in the former colonies of Africa and Asia.
10 World Bank, 2014c.
11 World Bank, 2014c.
12 World Bank, 2014c.
INFRASTRUCTURE AND LOGISTICS IN COLOMBIA

Colombia’s economy has grown robustly in recent years; yet at the same time this performance falls short of the potential offered by the abundance of its natural resources. Economic growth averaged 4% per year between 2009 and 2013 – and it seems possible that it will even grow slightly faster over the coming several years: the economy is very much open both to international trade (free trade agreements are in place with approximately 50 countries) and inflows of foreign capital.

At the same time, however, the growth of the economy is constrained, not least by its poor transport network. For example only 15% of its roads are paved, compared with the OECD average of 75%. Hindered by its challenging topography, the quality of Colombia’s transport infrastructure1 ranked 117 out of 148 countries in the World Economic Forum Global Competitiveness Report 2013-14. More generally, Colombia’s overall infrastructure – inclusive of transport, electricity and telephone infrastructure – ranks a slightly higher 92 out of 148. In the latest Logistics Performance Index compiled by the World Bank, Colombia scored 2.64 out of a possible 5.3

If Colombia can alleviate some of its most important economic constraints, including importantly transport, it could well become a ‘breakout’ economy – and indeed has been identified as such, for example by Sharma (2012).3

THE MAGDALENA ARTERY

Colombia’s main river – the Magdalena – offers particular opportunities to improve the country’s transport network. The Magdalena currently acts as a conduit for a mere 5% of the country’s total cargo throughput, but it has the potential to become the nation’s primary logistical artery. The government has recently taken a significant step in this direction by approving $1.2 billion in projects to improve the river’s navigation. These initiatives are likely to provide multiple benefits, not least greater distributive efficiency and significantly lower transport costs. For example, to export 1.3 million barrels of crude oil in a month, approximately 2,000 trucks are currently required. By contrast, just six convoys of six barges each can move the same amount by river.

The use of the river for cargo shipments is expected to increase. Production of crude is projected to rise by 30%, from 1m barrels per day in 2013 to around 1.3 million in 2019.4 But with a pipeline capacity of only 1.05 million barrels per day, alternative transportation options will increasingly be required and river transport is the most obvious alternative.

IMPALA TERMINALS’ MAGDALENA RIVER PROJECT

Impala Terminals, a Trafigura company, has indicated that it intends to spend nearly $1 billion – almost as much as the government – to develop transit on the Magdalena River. This multi-modal project involves the creation of new trading hubs; improved road transport links; port developments; and the encouragement of barge transport. Impala Terminals says that the project comprises the following investments:

• More than $400 million in fluvial equipment;
• Construction of a new fluvial terminal at Barrancabermeja;
• Development of a trucking network (trucks, etc); and
• Potential terminal in Barranquilla.

BOX 4

IMPALA TERMINALS: THE MAGDALENA RIVER, COLOMBIA
The positive effects of the Magdalena River projects on both domestic and international trade stand to be considerable. The river basin and surrounding areas comprise 726 towns; accommodates 28 million Colombians, or nearly 80% of the population, and it is already the source of over 85% of Colombia’s GDP.

It is also expected that there will be important social benefits. For example, the project employs local labour and fosters engagement with local communities; including via specialised training programmes and environmental workshops, and projects specifically designed for artisan miners and fishermen. At least 1,500 new jobs stand to be created directly or indirectly.

1 This includes quality of roads, railroads, ports, and airports, and a measure of available airline seats.
4 Business Monitor – Colombia Oil & Gas Report Q3 2014.
BRAZILIAN PORT INFRASTRUCTURE

Brazil’s rapid growth and development over recent decades has put enormous pressure on the country’s infrastructure, not least its seaport capacity. Increased demand for consumer and investment goods, as well as the expansion of its natural resource production, has led to a surge in both imports and exports, and thereby in container traffic. Overall, container-port throughput has more than tripled over the past decade, and many of the country’s main ports are now at, or near, capacity. Cargo movements are often delayed, and logistical constraints are adversely affecting productivity and adding to industry’s costs.

Developing an efficient and well-functioning supply chain is vital if competitiveness is to be maintained and growth potential maximised. Increasing port capacity and removing related supply bottlenecks is therefore an urgent priority.

There are a number of infrastructure initiatives in planning, or in development. Many involve both public and private sectors. One of the largest projects is the development of the Port of Santos, the country’s predominant container hub.

SANTOS CONTAINER TERMINAL

Maersk, the Danish shipping group, is centrally involved in the construction of a new $1 billion, state of the art, container terminal in Santos. It is expected that the new container terminal, Brazil Terminal Portuario (BTP), will increase container capacity by up to 40%, and raise berth productivity by more than 10%.

Maersk has stated that the increased trade potential of the terminal is worth up to $15.3 billion. The company also expects the project to create:

- 3,000 jobs during the construction phase;
- 1,500 jobs during the operation phase, and;
- 9,000 indirect jobs once the terminal is fully up and running.

Nevertheless, to realise and possibly enhance these trade and employment benefits, there is a need to improve the road infrastructure around the port and to address onshore transport bottlenecks. Such need for accompanying infrastructure is not unique to Santos – other port projects require to be multi-modal in scope, encompassing door-to-door logistics. Maersk and other companies are also involved in these types of infrastructure investments.

---

SANTOS Brazil Terminal Portuario (BTP)

Berth productivity raised by more than 10%+

Container increased capacity up to 40%+

$1bn+ new container terminal
**BOX 6**

*RIO TINTO: SIMANDOU, REPUBLIC OF GUINEA*

**SIMANDOU IRON ORE PROJECT**

A mining and infrastructure agreement recently entered into by the Republic of Guinea, one of the largest such projects in the whole of Africa, could result in a doubling or thereabouts of the country’s GDP.

In May 2014, the Republic of Guinea and Simfer – a company jointly owned by Rio Tinto, Aluminium Corporation of China (“Chinalco”), the World Bank’s International Finance Corporation, and the Guinean state – signed a framework agreement for the Simandou iron ore project. This agreement was subsequently ratified by the National Assembly of Guinea in June.

The project, which is the largest combined iron ore and infrastructure project ever developed in Africa, comprises the three following elements:

* The development of high-grade iron ore resources: the phased development of the Oueleba and Pic de Fon mining areas;
* A new railway: a multi-user trans-Guinean bulk railway extending to approximately 650 kilometres in length, linking south-east Guinea with the coast; and
* A new port: a new dedicated port to be located in Forécariah province on the Morebaya River, which will be the first in Guinea to provide access to large cargo ships.

**DIRECT AND INDIRECT BENEFITS**

Once fully operational, the mine project will be one of the most important iron-ore-producing assets in the world, producing around 100 million tonnes per year for a period in excess of 40 years. The infrastructure scheme, meanwhile, one of the most significant ‘greenfield’ infrastructure projects currently planned in Africa, is likely to produce significant secondary effects especially perhaps around Forécariah, as a result of the new port.

Both aspects of the project are likely to encourage considerable local job creation (an estimated 45,000 jobs will be created), but more important will likely be the medium-to longer-term knock-on effects, which can be expected to spread to other more geographically wide-spread businesses and non-mining activities. These benefits seem likely to include:

* Improved passenger and light freight railway services;
* Strengthened non-mining activities such as agriculture, stock-breeding, forestry, and trade;
* Efficiency increases for the improved communication systems;
* Increased construction activities, as a result of upgraded roads; and
* Substantial urban developments (housing, roads, electricity, social infrastructure, etc.).

---

PORT AT FORÉCARIAH PROVINCE

Trans-Guinean Corridor

SOUTH EAST GUINEA

Delivering Change

UPGRADED ROADS

NEW PORT

NEW RAILWAY

Access to cargo ships for the first time

100bn+ tonnes per year iron-ore production

PORT AT FORÉCARIAH PROVINCE

45,000+ Estimated local jobs created

JOB POTENTIAL

100bn+ Access  

100bn+ Access
Infrastructure spending is hugely important to the emerging world, first as a key component of aggregate demand management, but more importantly as a means to enhance supply-side potential, foster development, and address the issues of poverty, inequality, and climate change.

To meet the development requirements for infrastructure, it is estimated that annual spending in the EM countries needs to double — from just under $1 trillion to around $2 trillion by 2020. The current shortfall in Africa is particularly egregious.

Public-sector sponsorship and financing of infrastructure will continue to play a key role in infrastructural development, but is constrained by the breadth of the competing demands on public purses, the need to contain levels of debt, and by governments’ capacity to deliver the appropriate assets in an efficient manner.

Private sector financing — whether through the traditional route of the commercial banks or through PPPs, institutional investors, or an enhanced direct role for the multinational corporate sector — will therefore have to take up the slack if the financing gap is to be closed and projects delivered more cost effectively.

There are significant barriers to infrastructure investment, both on the supply side (political and macroeconomic risk, regulatory uncertainty, availability of financing structures), and on the demand side (investor scale, lack of expertise, available data). But these obstacles could be overcome with an enlightened approach on all sides. And the potential rates of return are high for all concerned.

Major international companies may increasingly place themselves at the centre of the solution. They have strong organisational and delivery capabilities compared with those of many governments, especially governments in many emerging market economies. They may also have access to financing on a more competitive basis than that available to some governments.

A further way in which major international companies may increasingly become involved is through a cooperative arrangement with governments whereby elements of the infrastructure development which are desired for social or related reasons by the government might be separately funded from the pure commercial development. For example, a railway line between a mine and a port might be extended to loop through, or link to, a town — that additional cost being met from the public purse.

To the extent that this happens, it could open up a potentially important new strand for some international companies’ business models.
Transport containers, Yangtze River, China
REFERENCES

Works that have informed this Study, and which have in most cases been explicitly cited, include:


Estache, A. and Garsous, G., April 2012. The Impact of Infrastructure on Growth in Developing Countries. IFC Economics Notes no. 1.


KPMG, 2013. Infrastructure in Myanmar.


McKinsey, 2013a. Infrastructure Productivity: How to Save $1 trillion a Year.


TRAFIGURA: ADVANCING TRADE

Stretching across six continents with 65 offices in 36 countries and a group revenue of $127.6 billion in 2014, in just over two decades the Trafigura Group has become one of the most successful independent commodity traders and logistics houses. The group identifies and acts on imbalances worldwide between supply and demand, moving oil and petroleum products and metals and minerals from places where they are plentiful to where they are in short supply – in a reliable, efficient and responsible manner. Its marketing and distribution capabilities combined with its ongoing infrastructure investments have helped transform the marketplace for international physical commodities by increasing efficiencies and seamlessly connecting producers and end users around the globe.

Trafigura builds and develops new logistics and infrastructure where required in order to ensure that supply meets demand, connecting new producers to global markets and ensuring reliable supply to meet the world’s increasing demand for energy and industrial raw materials. It brings to the task world-class trading and risk management capabilities and deep financial resources. Trafigura’s core physical trading and logistics business is supported by industrial and financial assets including global oil products distribution company Puma Energy; joint venture company DT Group; global terminals operator Impala Terminals; Trafigura’s Mining Group and Galena Asset Management.

www.trafigura.com

SOME EXAMPLES OF TRAFIGURA GROUP INFRASTRUCTURE ASSETS

The Trafigura Group is engaged in multiple infrastructure projects across the globe focused on facilitating trade flows as part of our multi-billion dollar capital investment programme.

1 | Callao, Peru
Impala Terminals’ $80 million investment in the first stage of an expansion to the Port of Callao has made it the largest export site for the Peruvian mining sector employing over 340 people and providing specialised logistics services to producers and traders for storage, loading, unloading and blending of ferrous and non-ferrous concentrates and refined metals. The facility has over 2.8 million metric tonnes of throughput capacity and provides 175,000 m² of warehousing.

2 | Porto Sudeste, Brazil
Impala Terminals co-owns and operates the brand new $2 billion port facility for iron ore exporters in Ilha da Madeira, Itaguai, Brazil. The strategically positioned facility employs over 320 people and provides Brazil’s iron ore miners with rapid, effective and reliable access to international markets. It will handle 50 million tonnes of iron ore per annum when fully operational, with the potential to increase capacity to 100 million tonnes.

www.trafigura.com
Impala Terminals owns and operates a network of over 25 terminals in 20 countries which provides port, warehousing and multi-modal logistics services to support Trafigura and third-party clients in the movement of essential commodities.

Trafigura is a 48.8% shareholder in Puma Energy, a global oil and petroleum products distribution company. It handles over 34 million m³ of oil products annually with a network of 79 bulk storage terminals, 41 airports and more than 1,800 service stations in 45 countries.

DT Group is a joint venture between Trafigura and Cochan focused on Angola with interests spanning trading, shipping infrastructure, asset management, logistics and mining.

Trafigurra’s Mining Group manages mining operations, develops projects, conducts technical audits of existing and potential partner projects, and provides advisory and support services to Galena Asset Management, Trafigura’s trading desks and trading partners.

Galena Asset Management is a wholly owned subsidiary of Trafigura with over $2.2 billion in managed assets. Galena Asset Management provides investors focused on the commodities sector with specialised alternative investment solutions.

Puma Energy acquired Namibia’s Walvis Bay depot in 2011. The depot, which is at Namibia’s only deepwater port and handles a growing proportion of the country’s oil imports, was rebuilt to international standards with an increased capacity to further improve its operational performance. The company has invested $20 million in the terminal’s upgrade, which will provide 110,000m³ of fuel storage.

Impala Terminals’ facilities in Ndola, Zambia and Lubumbashi in the Democratic Republic of Congo support copper producers in both countries providing over 10,000m² of warehousing and on site blending to international or customer-specific specifications. Combined, both facilities represent an investment of $55 million and employ over 210 employees.

In July 2012 Puma Energy started to work on the construction of two new storage tanks along with all associated pumps and pipework at its Dar es Salaam storage facility in Tanzania. With well over 80,000m³ of new storage capacity, Puma Energy is helping to develop Dar es Salaam as the port of choice on Africa’s eastern seaboard.