

Institutional Investment in Infrastructure in Developing Countries

Introduction to Potential Models

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Abstract

The link between infrastructure and economic growth is widely acknowledged—as is the infrastructure gap, which can act as a break on growth in emerging markets and developing economies (EMDEs). Since the global economic and financial crisis, the challenges of raising financing for infrastructure projects in EMDEs are also well known. The challenges come from stretched government finances and restrictions on global bank lending. Hence much attention has been focused on the potential for institutional investors as a growing potential source of financing. This paper argues that infrastructure projects can potentially deliver long-term returns, but

investments, particularly in EMDEs need to be carefully structured to meet the needs of both sides. The paper first considers the existing types of institutional investors and their potential for filling the infrastructure financing gap. The challenges of adjusting asset allocations, particularly toward EMDE infrastructure, are discussed and examples of projects where institutional investors have been involved are given. Finally, the paper considers a range of models for the involvement of institutional investors in EMDEs and makes initial proposals for how to determine which model fits best in a particular country context.

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Institutional Investment in Infrastructure in Developing Countries: Introduction to Potential Models

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JEL Classification:

- G15: Financial Economics / General Financial Markets / International Financial Markets
- G18: Financial Economics / General Financial Markets / Government Policy and Regulation
- G23: Financial Economics / Financial Institutions and Services / Non-bank Financial Institutions; Financial Instruments; Institutional Investors
- G28: Financial Economics / Financial Institutions and Services / Government Policy and Regulation
- H54: Public Economics / National Government Expenditures and Related Policies / Infrastructures; Other Public Investment and Capital Stock
- J26: Labor and Demographic Economics / Demand and Supply of Labor / Retirement; Retirement Policies

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I. Background

1. The link between infrastructure and economic growth is well acknowledged¹ – as is the infrastructure gap which can act as a break on growth in emerging markets and developing economies (EMDEs).²
2. Equally the challenges of raising financing for infrastructure projects in EMDEs are also well known. These have become particularly acute since the global financial and economic crisis as government finances have become more stretched and multilateral development banks (MDBs) are reaching their capacity to step in.³ At the same time private sector financing via bank lending (historically the main source of private sector infrastructure financing) is being restricted by market weakness (particularly in syndicated lending in Europe) and tighter regulation.⁴ Alongside, pervasive economic uncertainty has led to a shortening of available maturities. Furthermore, concerns have emerged that the flow of capital to emerging markets will slow or even reverse as interest rates begin to rise again in advanced economies in response to the tapering off of unconventional monetary policy.⁵
3. Sources, including international organizations, academic and industry research have argued that institutional investors – both international and EMDE domestic institutional investors – have the potential to become a significant source of long-term capital for infrastructure investment in developing economies. The match is – in theory at least – a good one; infrastructure can help institutional investors deal with the current low interest rate environment and provide them with a predictable (inflation adjusted) cash flow and a low correlation to existing investment returns.
4. This note argues that infrastructure projects can potentially deliver long-term returns, but investments, particularly in EMDEs need to be carefully structured to meet the needs of both sides. The note first considers the existing types of institutional investors and their potential for filling the infrastructure financing gap. The challenges of adjusting their asset allocations, particularly towards EMDE infrastructure, are discussed and examples of projects where institutional investors have been involved are given. The final section considers a range of models for institutional investor involvement in EMDEs, making initial proposals for how to determine which model fits best in a particular country context.

II. Types of Institutional Investors

5. Actual financial allocations of advanced and emerging market economies' institutional investors in infrastructure remain quite modest, with most such investments concentrated in advanced economies. Institutional investors in OECD-member countries (including pension funds, insurance companies, endowments and sovereign wealth funds, with over USD \$79 trillion in assets under management (AUM)),⁶ have only around 1 percent of their portfolio exposure in infrastructure. Most of this is

¹ For example see (Battacharya et al 2012).

² The figure of an USD \$1 trillion a year is often quoted as the order of magnitude of EMDEs' infrastructure needs.

³ The public sector has traditionally been central to the ownership, financing and delivery of infrastructure services in emerging markets. Public funding of infrastructure – through budget allotments and retained earnings of state owned enterprises - in developing economies accounts for about 70% of total infrastructure. Private financing accounts for approximately 20%, while the rest (10%) is financed by multilateral and bilateral development agencies (Delmon 2011). For a more extensive discussion of developments since the global financial crisis that have impacted the availability of long-term finance, see (G20 2013)

⁴ Including new Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) frameworks, which are part of the evolving Basel III regulations.

⁵ (G20 2013)

⁶ (OECD 2012)

concentrated in equity investments in advanced economies by a few leading institutions in a few countries (notably Australia and Canada). Relatively little of this is in ‘greenfield’ investments. However, some international institutional investors have started to seek out infrastructure investment opportunities in EMDEs, although largely in upper middle income economies.⁷

6. Another potentially important and growing source of long-term capital is the assets of EMDE institutional investors in their domestic economies. Arguments in favor of greater domestic investment in infrastructure by EMDE institutional investors include the contentions that such investment can reduce foreign exchange exposure and risks, are more stable and contribute to economic growth and development not only via infrastructure improvements, but by increasing savings and developing the local financial sector and capital markets. That said – the governance arrangements around such domestic investment needs to be carefully structured to ensure that it is made on a financial basis and that political interference and other conflicts of interest are avoided.⁸
7. These domestic institutional investors come in many forms and the importance of different groups varies by country. Many EMDEs are currently reforming and developing their pension systems to introduce funded pillars. Establishment of mandatory funded pension schemes can often enable rapid growth of assets under management to a large percentage of GDP. Experience of infrastructure investing by pension funds is most widespread in Latin America⁹ but there are also some early examples in Asia and Africa. At present, the bulk of pension assets in EMDEs consist of social security (centrally run by government) and/or public sector pension funds.
8. The assets of insurance systems can also accumulate to a significant percentage of GDP in EMDEs. Examples of domestic insurer infrastructure investments can be found, for example, in investments by South African insurers in the Pan African Infrastructure Development Fund or the South African Infrastructure Fund (Chukun 2010). In their survey of Africa, Irving and Manroth (2009) also found national insurance assets invested in telecoms equity in Cape Verde and telecom bonds in Mozambique. There are other countries with similar investments in domestic infrastructure stocks and bonds.
9. Sovereign Wealth Funds (SWFs), based either in developed economies or EMDEs, are another potentially major source of infrastructure financing. New funds are being set up in natural resource rich countries such as Angola, Nigeria, Gabon, Mauritanian, Chad, Equatorial Guinea and Ghana – often with the specific intention of investing in infrastructure.¹⁰ Chinese funds have also been involved in a large number of ‘infrastructure for resources’ deals brokered in Africa.¹¹
10. Table 1 provides an overview of the current institutional investor assets under management (AUM) in EMDEs. Estimates of their current allocation to EMDE infrastructure are given and some idea of the potential size this could increase to. More work needs to be done in this area, but some sense of how

⁷ For further details see OECD’s annual survey of pension funds (OECD 2013).

⁸ These considerations are behind the on-going debates around sovereign wealth funds (SWFs). There are different views as to whether SWFs should invest domestically or abroad, and if they do invest domestically, whether this should be undertaken via the budget process. These are important issues but beyond the scope of this current paper.

⁹ See (BBVA 2010 +2011) and World Bank (2012).

¹⁰ Infrastructure deals have so far been limited to the major funds. For example, the Libyan Investment Authority was previously active in African projects, including frontier markets such as Somalia or Sudan. Given the commercial risk of such investments, they would appear to have been largely politically motivated. Lin and Doemeland (2012) note that the Qatar Investment Authority plans to invest US\$400 million in infrastructure in South Africa. These funds differ from traditional SWFs that attempt to serve a domestic development mandate in addition to a financial mandate and therefore invest in domestic infrastructure.

¹¹ Lin and Doemeland (2012) cite the examples of the China-Africa Development Fund, an equity fund that invests in Chinese enterprises with operations in Africa, which reportedly invested nearly US\$540 million in 27 projects in Africa that were expected to lead to total investments of US\$3.6 billion in 2010. See also Orr and Kennedy, (2008).

much of the EMDE infrastructure gap institutional investors might realistically be able to fill can be gleaned. Expecting flows of around USD \$1 trillion building over several years would not be unreasonable. Though not sufficient to solve the problem alone, this could certainly prove an important source of new capital to help fill in the EMDE infrastructure financing gap.

Table 1: Current and Potential Allocation of EM Institutional Investors to EM Infrastructure

Institutional Investors	AUM USD \$	Current Investment in EMDE Infrastructure	Potential Investment in EMDE Infrastructure	Comments
OECD Institutional Investors	79 trillion +	<1% = total leading investors c10% most in domestic markets	1% assets = \$750 billion	WEF (2011) breakdown of institutional investors AUM to truly long-term capital = \$6.5 trillion Around 1% of this implies c\$50 billion target ¹²
Emerging Market Institutional Investors	4.5 trillion NB growth potential – e.g. EM pension funds currently \$2.5 trillion AUM estimated to rise to \$17.4 trillion by 2050	Even more limited than leading OECD investors Chilean pension funds 1.5%	1% assets = c\$50 billion	This target could be much higher as many EM institutions can only invest in domestic markets
Sovereign Wealth Funds	4 trillion	0-5% ¹³	c5% assets = c\$250 billion	Many of new EM SWF being set up to specifically invest in domestic infrastructure
EM pension reserve and social security funds	1 trillion	Limited – ad hoc examples (up to 10%)	10% assets = c\$100 billion	High target as these funds are often the largest single source of capital in a developing country

Source: authors (from references)

¹² (TUAC 2012) contains an interesting exercise in estimating the potential flows from institutional investors to finance climate change related investments – though the numbers could equally be applied to emerging market infrastructure. The AUM of large OECD DB pension funds and pension reserve funds is estimated at \$15 trillion. Total portfolio growth is estimated at 2.5% year nominal 2013-2050. AUM. An allocation to infrastructure funds is assumed at 0.2% year 2013-2025 and 0.1% 2025-2050 – giving a total exposure remains below 5% Allocation to infrastructure bonds is estimated at 0.75% initially, falling gradually to 0.1% year, to give a total exposure of around 10%. This gives flows in the order of \$150bn tapering off in subsequent years. Total flows amount to around \$2 trillion out to 2030 then add a further USD\$3-4 trillion.

¹³ 56 percent of SWFs invest in infrastructure, according to Preqin (an infrastructure database) with investment volumes of about US\$55bn between 2005-2012 implying asset allocations around 1 percent (TheCityUK 2013). Between 2007 and mid-2012, about US\$ 26bn were invested by SWFs in foreign infrastructure assets, with Europe being by far the most popular destination (US\$ 16bn). The picture is mixed in terms of sectors and preferred vehicles (Barbary 2013).

III. Challenges to Institutional Investing in EMDE Infrastructure

11. Despite this potential, there are still many impediments to increasing institutional investors' asset allocations to infrastructure. As the OECD, among others, has argued, these barriers exist to investment in developed country infrastructure, let alone to EMDE infrastructure projects. These impediments range from political related risks, to a lack of knowledge and experience among institutional investors in making infrastructure investments (particularly in EMDEs), to (sometimes unintended) regulatory restrictions. In addition, the availability of good quality, financially viable projects is also a major constraint. Often the problem is not a lack of capital but a lack of suitable infrastructure projects in which to invest.

Table 2: Barriers to Institutional Investors Infrastructure Allocation

Issues with government support for infrastructure projects	<ul style="list-style-type: none"> • Lack of political commitment over the long-term • Lack of infrastructure project pipeline • Fragmentation of the market among different levels of government • Regulatory instability • High bidding costs
Lack of investor capability	<ul style="list-style-type: none"> • Lack of expertise in the infrastructure sector • Problem of scale of pension funds • Regulatory barriers • Short-termism of investors
Issues with investment conditions	<ul style="list-style-type: none"> • Negative perception of the value of infrastructure investments • Lack of transparency in the infrastructure sector • Mis-alignment of interests between infrastructure funds and pension funds • Shortage of data on infrastructure projects

Source: OECD (della Croce 2011)

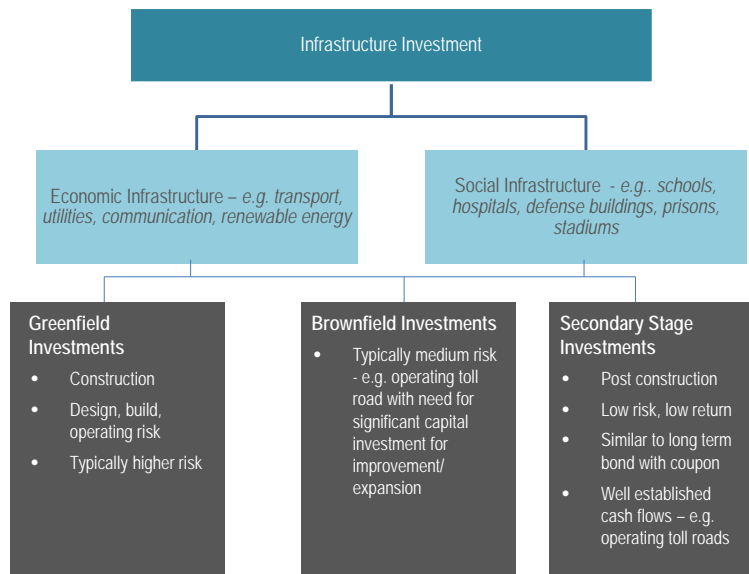
12. There are several issues that are particularly challenging in EMDEs – ranging from sovereign risk to regulatory uncertainty - with social returns often exceeding market returns due to externalities and market failures. Foreign investors may have concerns ranging from war and conflict to expropriation risks and poor governance.¹⁴ For EMDEs, even those with more developed domestic capital markets and stable legal and regulatory systems, achieving the threshold investment grade rating required by most institutional investors is often a challenge. Studies have shown that political economy concerns can drive up borrowing costs between 2 and 6 percent depending on the country and region.¹⁵
13. In addition to challenges related to fulfilling enabling conditions, the infrastructure projects in EMDEs that institutional investors are willing to back may not reflect the same developmental priorities as those of the countries themselves. While private-sector supported projects may have some development impacts, to the extent that they require public participation they also have the potential to crowd out financing for more developmentally impactful projects.
14. Figure 1 gives an overview on the main infrastructure categories by (economic and social) sector and project stage (i.e. greenfield, brownfield, secondary). Institutional investors generally look for steady,

¹⁴ See Shendy, Kaplan and Mousley (2011)

¹⁵ MIGA 'Project Finance Year Book 2006/2007' http://www.miga.org/documents/eur3929_miga.pdf

inflation-adjusted income streams. This means that they will be primarily interested in mature, operating assets with proven, predictable cash flow. While some of the larger, more sophisticated institutional investors are able and willing to invest at the riskier end of the spectrum (i.e. greenfield projects, untested technologies, etc.), it is unlikely that this will constitute more than a small percentage of their portfolios.

Figure 1: Types of Infrastructure Investment



Source: World Bank

15. However, the main source of demand from EMDEs tends to be for greenfield investment, often large-scale in nature. From an economic and social development perspective, mobilizing financing for greenfield investments holds the greatest potential. This is different from the operational phase investments in already up and running projects delivering steady cash flows which institutional investors have mostly been making to date.
16. From a growth and development standpoint, facilitating institutional investment in mature, low risk infrastructure is not a public-policy objective in and of itself, unless the resources freed up can be expected to be rolled over into new projects. Hence commercial banks will continue to play an important role in infrastructure financing, particularly for greenfield projects, which require strong credit underwriting and supervision skills that many international institutional investors do not have. With European banks continuing to adapt to fallout from the global financial crisis and the implementation of tighter regulatory standards, they have moved away from infrastructure finance in EMDEs. The challenge is therefore to explore the potential for local commercial banks in emerging markets to become more involved in such deals. How to encourage debt-to-bond rollovers between banks (and other sources such as private equity infrastructure funds) and institutional investors - which have so far been disappointing - is a topic worthy of further attention.

The Role of the Public Sector in Attracting Private Sector Finance to Infrastructure

17. Overcoming many of the above challenges to private (including institutional) investment in EMDE projects may require the development of new and additional financing mechanisms, using public resources complemented by legislative and institutional provisions supportive of private financing of infrastructure. This role is becoming more important since the demise of the monoline insurance companies.¹⁶ Multilateral development banks can play a particularly important role in mobilizing private sector sources of financing not only through their risk-sharing instruments, but also by bringing advisory and technical standards and well understood standards and safeguards to projects, thereby raising confidence and reducing the investment risk premium in EMDE infrastructure projects for private sector investors, including institutional investors—(See Box 1).
18. The structuring of infrastructure financing investment vehicles is particularly important. Institutional investors are not looking for risk-free investments but they are only willing to take on certain types of and amounts of risk. The key to the successful involvement of institutional investors in infrastructure projects in EMDEs is isolating and packaging risks so that the players which can best take them on are able to. Well-designed infrastructure financing vehicles can help achieve this goal.

Box 1: Role of MDBs in Supporting Infrastructure Investment in Developing Economies

Multilateral Development Banks (MDBs) can attract additional financing from the private sector in a number of ways:

Financial additionality: MDBs contribute their own funding, building confidence in projects and markets and thereby attracting commercial funding. This can be done by bringing financing partners into specific deals (though syndications or cofinancing), sometimes improving partners' creditor status. Investment project loans with longer maturities and grace periods than those commercially available, as well as equity investments and risk guarantees, can all be used. The latter are particularly important for attracting private capital into high-risk, inexperienced markets, and protecting financial viable projects from non-commercial risks. For example, the Multilateral Investment Guarantee Agency (MIGA), which is part of the World Bank Group, provides insurance against political risks such as expropriation or civil disturbance, whilst partial risk guarantees cover government non-payments. Foreign exchange risk mitigation is another important tool. Partial credit guarantees, which can reduce the spread on project bonds or infrastructure finance funds, can also play an important role.

Design additionality: MDBs also play an important role in contributing technical expertise to projects by ensuring adherence to accepted standards in project design. For example, investments by the International Finance Corporation (IFC – part of the World Bank Group) adhere to environmental and social sustainability, governance, integrity, due diligence and funding terms consistent with best market practice

¹⁶ Monolines are insurance companies providing a particular type of insurance, usually bond insurance. Bonds insured by these companies are sometimes said to be 'wrapped' by the insurer as they gained credit enhancement from the strong credit ratings of the insurance company. In addition to providing such credit enhancement, the monolines also provided an important project analysis and screening role. These institutions were victims of the sub-prime fall out and the financial crisis. Indeed the World Bank is one of the last AAA providers of such products in the market – though does not provide coverage for construction phase risk which institutional investors often seek. Some interest has been expressed by MDBs and private sector players in the establishment of such EM-dedicated as well as sub-AAA monolines.

Policy additionality: MDBs can assist the host nation to improve the policy and regulatory environment for investment, which are often the biggest investment barriers in emerging markets, via advisory services and technical assistance provided to borrowers.

Demonstration additionality: MDBs can demonstrate feasibility by backing projects that show the possibilities for successful investment in untested frontier markets.

Selection additionality: MDBs can support government entities in better project selection and preparation, thereby helping to prioritize projects with greater development, growth or climate impact. –.

Other incidental roles MDBs can play include advice on policy frameworks, advisory programs on building domestic capital markets and cross-border investment promotion.

Source: (Chelsky, Morel, Kabir 2013) and authors

IV. Examples of Institutional Investing in EMDE Infrastructure

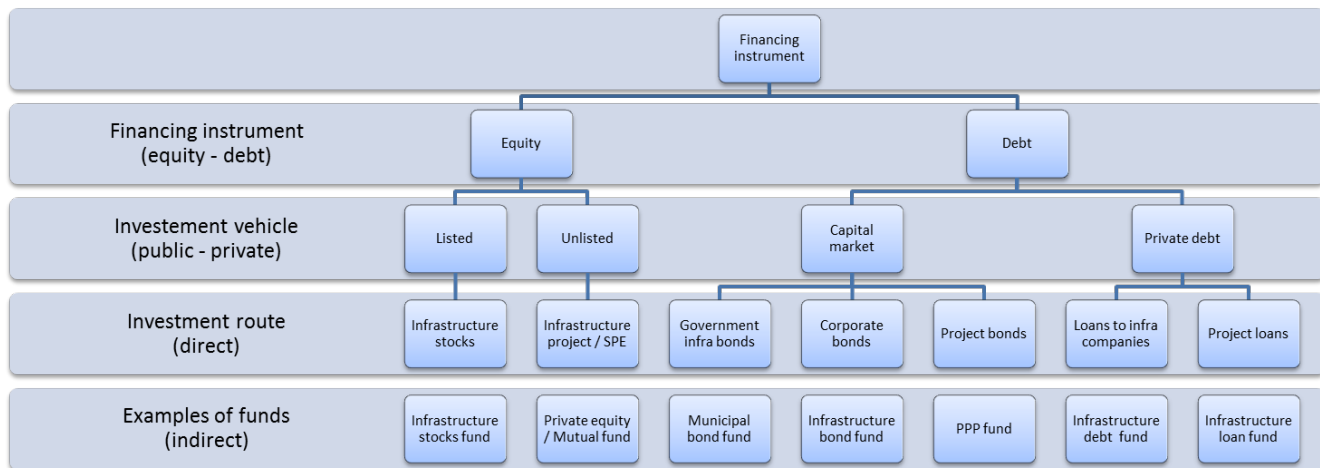
19. Private finance for infrastructure in advanced economies can come in different forms and vehicles. Figure 2 gives an overview of the main financing instruments (equity and debt), investment vehicles (publicly listed and private/unlisted), as well as of the various direct investment routes such as infrastructure stocks or private participation, corporate bonds or project bonds, direct loans, etc. It also gives examples of the indirect route via fund structures.¹⁷

20. Infrastructure ‘investment’ is a very broad term. In this paper, the main focus is on unlisted investments (i.e. investments in infrastructure debt or directly in project equity). Raising this form of capital (rather than by investing through the shares of listed construction, utility, and telecom companies) is the key to plugging the infrastructure financing gap.¹⁸ In addition, unlisted investments can offer low correlations to other asset classes and illiquidity premiums with long-term pay-offs, which make them attractive to institutional investors.

¹⁷ It should be noted that this is a stylized representation. Capital substitutes that some investors are increasing willing to provide (such as insurance products, guarantees, credit enhancement etc.) are an important part of the picture, which need to be considered in addition to and combined with these basic instruments.

¹⁸ Investments in *listed equities* of infrastructure companies are quite common not only in advanced but also in EMDEs. They include shares of large quoted utility and telecom companies that may have been (partly or fully) privatized, e.g. in Chile. Such stocks are typically a typical part of the mainstream equities allocation rather than a specific ‘infrastructure asset class’ (Inderst 2010, OECD 2013). They often also constitute a large part of pension funds’ investments in infrastructure overall, e.g. in Latin America (BBVA 2010, 2011). Similarly to listed equities, *corporate bond* investments are often popular with local investors in many EMDEs. They include bonds of large quoted utility and telecom companies that may have been (partly or fully) privatized. They can be rated and traded, and are normally allowed in institutional investor portfolios. Such bonds are typically a part of the mainstream bond allocation. They often also constitute a large part of pension funds’ investments in infrastructure overall, e.g. in Latin America or Asian countries with relatively well-developed capital markets, e.g. Malaysia, Thailand and Korea. They are used by pension funds in Kenya and other African countries.

Figure 2: Infrastructure financing instruments and investment vehicles



Source: Authors

21. Examples of these different types of investments can be found in many EMDEs (see Annex 1 for further details). Although there is some variety, some are more popular than others. For example, there are not many *direct, private equity* holdings by institutional investors (the leading Canadian pension funds aside). As with equity, direct project finance loans by institutional investors are unusual in developing countries, although some examples can be found in Malaysia and South Africa.
22. The menu of forms and vehicles currently being used in EMDEs is narrower, reflecting a variety of factors, including, less well development domestic capital markets, weak regulatory standards, poor standards of governance and the limited investor capacity and knowledge. Infrastructure bonds are more common in EMDEs.¹⁹ Project finance and PPPs are also used in several developing countries. There are a number of interesting experiences of pension funds with *project bonds* or similar debt structures, especially in Latin American countries such as Chile, Peru and Colombia.²⁰
23. There are some examples of *government bonds* ‘earmarked’ for infrastructure investments, as in Kenya, Senegal and Ghana. It is not always clear to what extent the ‘infrastructure label’ leads to actual investment. *Sub-sovereign bonds* have been issued by some African countries, such as the Russian regional bond market, municipal bonds in South Africa or bonds issued by Nigerian states.²¹
24. There is a broad range of examples of the indirect or fund route in developing countries, offering exposure to more than one project (thereby diversifying risk). An array of *commercial funds* exists in many countries and regions, but also as global emerging market infrastructure funds. They are typically in the form of private-equity funds, mutual funds or infrastructure trusts, often listed on the large stock exchanges such as London, New York or Sydney.²²

¹⁹ Sawant (2010) analyses 59 EM ‘infrastructure bonds’, mostly of corporate bonds of energy and power companies.

²⁰ (Cheikhrouhou et al. 2007)

²¹ (Platz 2009).


²² Orr and Kennedy (2008) noted the large number of private infrastructure funds which were launched before the financial crisis, driven by robust capital market activity and low interest rates, which indeed has led to competition for assets, rising prices and talk of a bubble. Today, there are many funds of different kinds on the market that invest in emerging markets’ infrastructure. There are also a number of infrastructure funds and fund managers based in developing countries (that does not amount to the same thing). Over US\$ 50 billion has been channeled through unlisted infrastructure funds in emerging markets to date, with the figure growing year by year. Where exactly these funds are invested, in what kind of infrastructure project and whether institutional investors are involved deserves further investigation.

25. Other funds are in some form sponsored by *governments or national agencies* (such as in India), foreign countries (e.g. the EAIIF) or *multilateral development banks* such as the IFC, ADB (e.g. ASEAN fund, ALAC fund). Often, there is a combined public and private involvement in such funds.
26. There are other interesting examples of co-investments. One of them is a *fund jointly owned* by multiple pension funds, i.e. the South African PAIDF. Mexico and Peru found their own way of engaging pension funds in infrastructure through dedicated *trust funds* and *structured products*.
27. Many emerging markets are too small to develop markets for infrastructure assets and products of any substantial size. Therefore, investing in a range of *regional infrastructure funds* holds promise, as undertaken for example by Ghana's social security fund.
28. Current experience seems to show that some financing structures are more suited to institutional investors and to EMDE conditions than others due to the higher and greater range of risks often inherent in these projects, low levels of capital market development, and the lack of experienced local institutional investors. Lower risk instruments are generally preferred, with bonds being used more often than equity, and with risks mitigated by exposure to a range of projects through a diversified infrastructure fund.

V. Models for Infrastructure Investing in EMDEs

29. An interesting question arising from this survey is whether one particular mode of investing is better suited to the particular circumstances in an EMDE context than others. Some countries have a strong institutional investor base at home while others perhaps wish to attract regional or international investors. Other countries may have a relatively well-developed capital market while others have not. Some states are willing to privatize infrastructure assets while others prefer alternative ways of raising finance, e.g. in PPPs. Of course, the specific situation of every country and region depends on a whole range of economic, financial, political, social, and other factors.
30. The stylized table below shows how country context, level of market development and nature of the institutional investor base determine what sort of investment vehicle is best suited to a particular country. For example, in a country or region with relatively developed capital markets, and a number of institutional investors, such as pension funds, it may be possible to issue project bonds or to structure other securitized instruments which can meet these institutions' needs (i.e. for investment grade instruments). This has proven to be the case in Latin American countries. However, in a situation where the sovereign has lower credit ratings, where it is more difficult to use credit enhancement to create investment grade products, and with a smaller number of more centralized investors, a fund structure may be more appropriate. This more centralized route has been popular in Asia, where the large social security funds are partnering with governments and MDBs to establish infrastructure funds or facilities, rather than opting for capital market solutions. In regions with very limited capital markets and investors, governments and MDB's have had to be the issuers or backers of instruments to provide the necessary investment quality both in terms of credit levels and providing other investors with the confidence to join them.

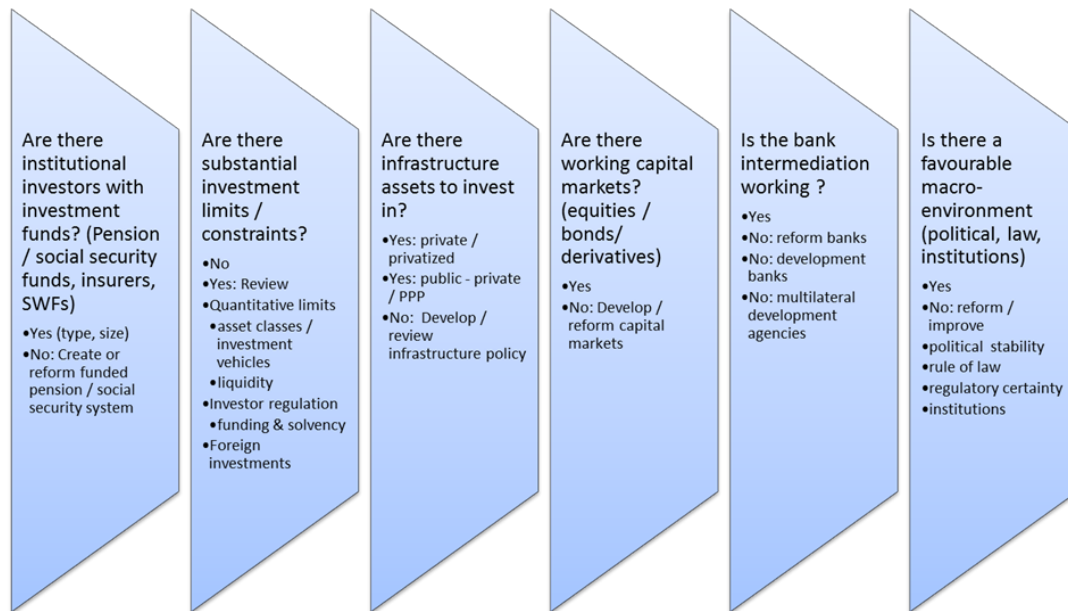
Table 3: Environment for Institutional Infrastructure Investment



	<i>Country A</i>	<i>Country B</i>	<i>Country C</i>
<i>Sovereign credit rating</i>	<i>At / close to investment grade</i>	<i>Below investment grade</i>	<i>No rating</i>
<i>Size pension fund AUM (%GDP)</i>	<i>> 10%</i>	<i>1-5%</i>	<i>Minimal</i>
<i>No. pension funds</i>	<i>10s or 100s</i>	<i>A few main funds</i>	<i>Dominant social security fund</i>
<i>Quality of pension system</i> <i>e.g. Mercer Global Pensions Index</i>	<i>D</i>	<i>C</i>	<i>E</i>
<i>Insurance penetration % GDP</i>	<i>High</i>	<i>Medium</i>	<i>Minimal</i>
<i>SWF</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>
<i>Development Fund or Bank</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>
<i>Level financial sector</i> <i>- bank assets % GDP</i> <i>- private credit % GDP</i>	<i>Medium</i>	<i>Low</i>	<i>Fledgling</i>
<i>Level capital market</i> <i>- Stock market cap % GDP</i>	<i>High</i>	<i>Medium</i>	<i>Low</i>
<i>Business conditions</i> <i>e.g. IFC Doing Business ranking</i>	<i>Good</i>	<i>Average</i>	<i>Difficult</i>
<i>Infrastructure investment conditions</i> <i>e.g. EC Harris Global Infrastructure Investment Index</i> <i>e.g. Nabarro Infrastructure Index</i>	<i>Good</i>	<i>Average</i>	<i>Poor</i>

31. Figure 3 and Table 4 illustrate some of the factors (e.g., legal/ regulatory reform, capacity building, project preparation and credit enhancement / structuring of investment vehicles) that support different financing models. Such a framework can help countries assess their situation and identify the best combination of policies to help mobilize institutional investment.

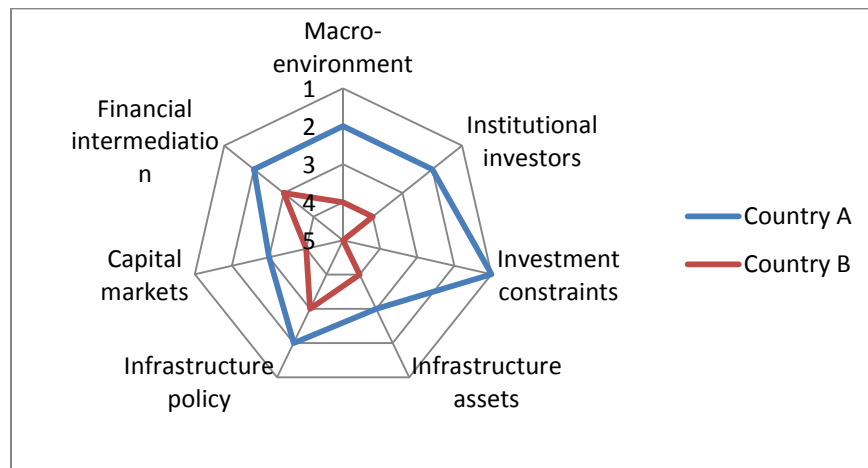
Figure 3: Pre-conditions for institutional infrastructure investment



Source: Authors

32. Alternatively, analysts could assess a country based on such preconditions to ascertain how well established these conditions are, and establish a specific country profile (Figure 4).

Figure 4: Country Assessment for Institutional Infrastructure Investment



Assessment (1 – 5, 1 = best)

Source: Authors

Table 4: Financial Sector Factors Influencing Choice of Infrastructure Investment

	CAPITAL MARKETS
Quoted Stock	In a country with well-developed capital markets, the issuance and investment in quoted stocks and corporate bonds of infrastructure companies is relatively straightforward. This is the case in South Africa and several Asian countries. Local investors can invest in s accordance with their prudent investment policies
Infrastructure Project Finance	Countries with longer experience in infrastructure project finance may be able to offer longer-term investment opportunities to institutional investors instead of relying heavily on bank finance. Private equity infrastructure funds can play an important role (passing on to institutional investors via their IPO exits). Development of a working project bond market is an option over a longer period of time.
Debt Finance	Some debt structures may be more feasible in countries with better credit ratings. Such as was the case in Chile where monoline insurance was able to move infrastructure bond ratings up to investment grade
Trust Structure	In order to use trust structures and products, financial companies and capital markets must already be operational in some form, as was the case in Mexico
	FRONTIER MARKETS
Government Bonds	In a situation with many smaller institutions (such as small pension funds) in the market, government issued infrastructure bonds may be the most appropriate investment vehicle for them.
MDB	In frontier markets, where both local and international investors lack experience, the involvement of governments and /or multilateral development banks may be necessary
Lead Investor	Local investors can profit from co-investing alongside international pension funds and asset managers (including private equity infrastructure funds) by learning international best practices in infrastructure investing. Exposure to international competition can also have a positive disciplinary function for national governance systems If there is a large social security fund, then this institution could possibly act as a lead investor, setting up an infrastructure fund for others to join
Regional Funds	Investors in small countries may be particularly interested in regional funds but may be prohibited or discouraged from doing so due to investment regulations confining them to domestic investments

VI. Conclusions

33. The issue of how to encourage further private sector investment into infrastructure is currently at the top of many policy makers' agendas. The potential to tap institutional investors has been recognized, and the barriers to doing so have been much discussed. However, the debate has so far focused mainly on developing countries in terms of both potential investments and investors.
34. A number of key points have already been made by academics, industry and international organizations, including the World Bank. These remain salient and include the following:
- The problem with infrastructure projects is often not a lack of financing but a lack of investable/credible projects;
 - Getting the broader enabling environment right is key;
 - Traditional investment limits or other regulatory constraints may work against longer-term investment in less liquid assets such as infrastructure;
 - Institutional investors should not be forced into these investments - they have to be made on a risk return basis and be mindful of investors' liquidity needs, otherwise capital may be misused and directed towards uneconomic projects;
 - Institutional investors should not be expected to fund all types of infrastructure projects – they will be more involved at the operational / cash flow generating stage. An important role for commercial banks (and other partners such as private equity infrastructure funds) remains and facilitating partnering between these institutions will be important;
 - A capital market development strategy – including a strategy for developing infrastructure financing vehicles – needs to be worked out at the same time as pension fund and other institutional investors' assets under management grow;
 - Getting the financing vehicles right is key - working out what the risks are at the start of the project, which parties are best placed to take on these risks and structure the financing vehicles accordingly is needed for success.
35. This paper attempts to move this discussion into the arena of EMDEs where the greatest infrastructure and development needs are found. The potential for growing domestic pools of capital has been laid out, and the additional challenges to doing so – not least in terms of investment governance - recognized.
36. Experience so far has found that there are not many examples of direct infrastructure investing (equity, bonds or loans) in the form of the 'Canadian model'. In addition, if a privatization route was/is taken, local institutional investors are often happy takers of those stocks, as are international investors.
37. Infrastructure bonds – in the widest use of the term - are popular in EMDEs. When the project finance or PPP route is taken, there are a number of interesting experiences with project bonds or similar debt structures. Some examples of government and subnational bonds can also be found.

38. There is a broad range of possibilities on the indirect or fund route in developing countries. Many commercial funds exist, mainly in the form of private equity funds, mutual funds or listed investment trusts. Other types of funds are often in some form sponsored by governments, national agencies or multilateral development banks, frequently combining public and private involvement. Some other interesting examples of co-investments exist, e.g. funds jointly owned by pension funds, or dedicated trust funds and structured products. Some Asian countries have developed infrastructure “facilities” (a fund, a bank, an ‘assisting’ agency, or legal mechanism) to assist in institutional infrastructure investing.
39. In practice, one can find combinations of the above investment approaches, e.g. funds with both private and government or public bank involvement. There are several infrastructure development banks and financing institutions active in the field. They can act as facilitators or investors, but they also can issue their own bonds. They are often keen to co-operate with institutional investors, and more outreach to facilitate such cooperation may be useful.
40. Mapping these different types of instruments to different EMDE contexts needs further work – with the approach outlined in this paper requiring further development and testing in the EMDE context. When seeking to mobilize institutional investment for infrastructure, each country will clearly influence the mechanisms adopted. The approach will include some combination of:
- Legal/ regulatory reform;
 - Capacity building;
 - Project preparation;
 - Credit enhancement/ packaging/ intermediaries.

An analytical framework should be developed to help countries assess their context and identify the best combination of instruments to help mobilize institutional finance. The framework should then be applied to a limited number of countries to test the thesis and help those countries make the first steps in reformed focused on institutional investors. This implementation phase will be used to verify and inform the analytical framework.

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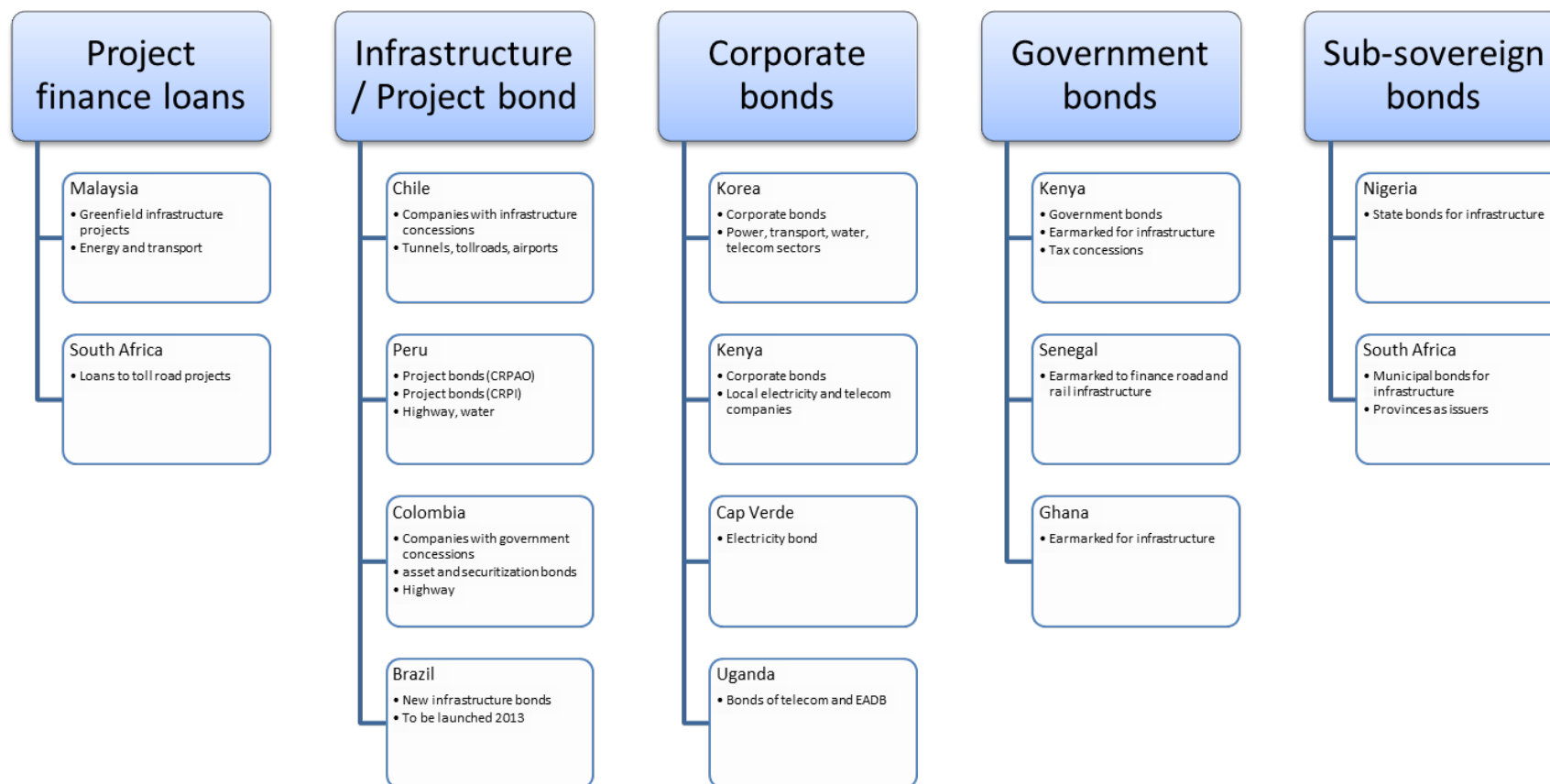
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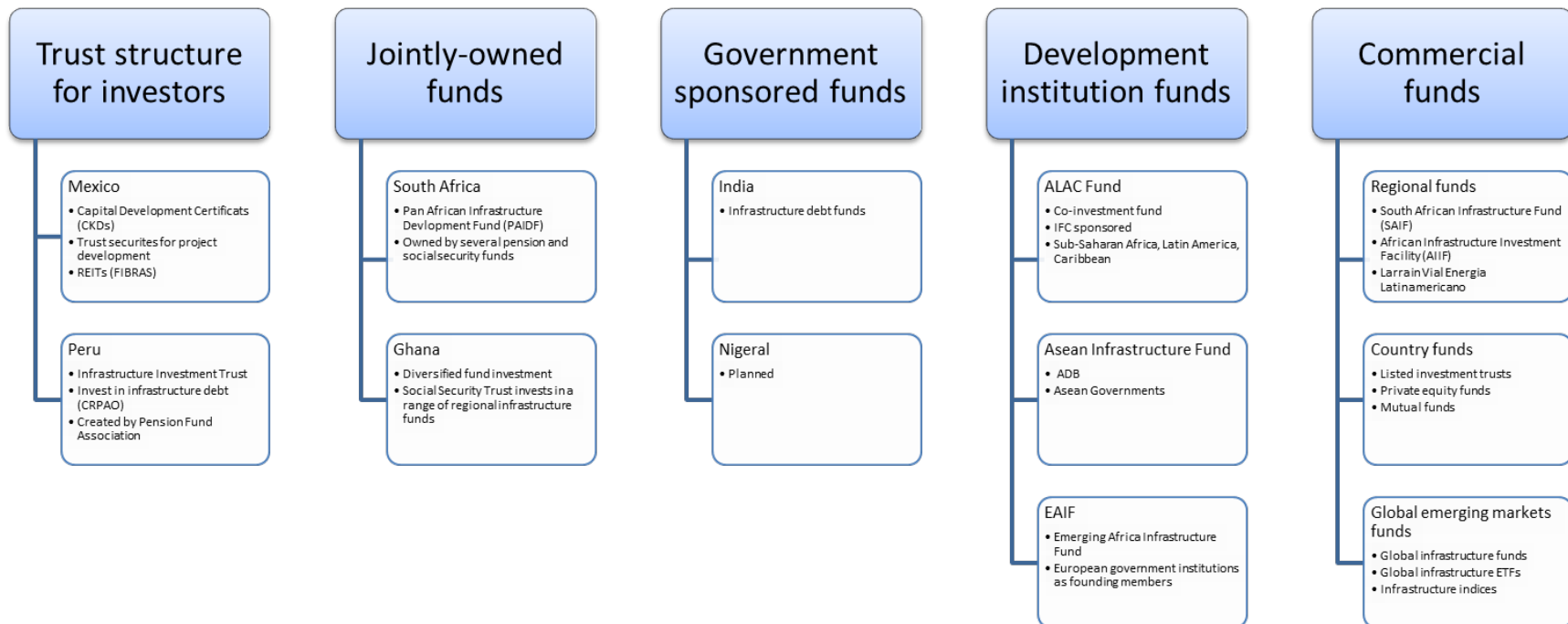
Annex 1: Examples of Institutional Investor Involvement in EMDE Infrastructure Projects

Figure 5: Institutional Investor Involvement in Infrastructure Debt: Some examples



Source: Authors

Figure 6: Institutional Investor Involvement in Infrastructure Funds



Source: Authors