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Misperception of Risk and Return in Low Income Countries

Innovative Finance Serving Infrastructure Development: a Win-Win Deal

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Executive Summary

Despite rapid development of Low Income Countries ('LICs') and Middle Income Countries ('MICs'), perception of their economic growth still lags reality. While concerns regarding the current global financial crisis top the headlines, LICs and MICs have found their own path for growth though with some hiccups. However, in order to sustain this economic growth, infrastructure, now more than ever, is desperately needed.

During its most recent meeting in Cannes in November 2011, the G20 recognized that the most severe bottleneck for economic growth and social development in LICs and MICs is the lack of effective infrastructure. Because it is a need that must be addressed at the highest levels of power, the G20 requested that we explore innovative methods to boost infrastructure investments with a focus on LICs. This task is an honor and a privilege for us.

We understand that as a consequence of the current economic crisis government spending in developed countries will be restrained in coming years. Thus, the private sector, namely Sovereign Wealth Funds and national private sector banks, needs to take on a more active role to meet the infrastructure needs of LICs. But due to lack of information and risk misperception, many investors are not completely aware of the dynamics at work in LICs and Lower MICs, still considering them unsafe places for investment.

Thankfully the situation shows signs of improvement. For the last five years some major financial institutions including investment banks, consultancy firms and rating agencies do consider LICs as the next investment frontier. During the last decade, a large number of tools have appeared to objectively assess the growth and the risks associated with investing in LICs.

The aim of this report is to provide evidence, including an overview of the drivers fueling LICs' growth, of the still existing gap between the view held by investors of investing in LICs and reality.

Growth in LICs and MICs is sustained by solid foundations. Thanks to a soaring population that is increasingly urban and educated, as well as the growth of the middle class, the internal market will expand in coming years. Increasing investments and higher productivity will further drive development. External demand, driven by a higher level of exports and Foreign Direct Investments ('FDI'), will additionally boost growth.

To continue that path of growth, infrastructure development is key. And there project finance is a specific financial asset that suits institutional investors, while meeting LICs infrastructure needs. It is designed to build critical long-term assets for the development of the economy. Its characteristics attract private sector actors, such as pension funds and insurance companies, who seek a diversified portfolio of assets to match their long-term liabilities. Because investing in developing countries now involves lower risks than ever for investors, it is time to take advantage of new project finance tools to boost LICS development. A better risk perception means lower hedging costs.

For that concept we would like to pay tribute to the High Level Panel on Infrastructure Investment that outlined that the real risk of infrastructure projects in LICs and MICs is lower than what foreign investors perceive. Our report follows in its footsteps since we think that an improvement of risk perception should lead to a new way of financing infrastructure in developing countries.

And on that respect, we strongly believe that financial institutions should expand their existing financing tools to share and mitigate risk whereas Multilateral Development Banks ('MDBs') should evolve from a 'lending' culture to an 'enabling' culture by giving comfort to the private sector and assisting it with their accumulated expertise in the field.

Even though, finance has been accused of provoking a major recession in the world in 2008, it still has a role play to play in the development of LICs and MICs. Finance is indeed primarily designed to cover the risk of investments that make sense.

Finance serving development and green growth, an exciting challenge for this decade…

Introduction

Investor risk perception is critically important in every investment decision. However, when it comes to investing in developing countries, private investors apply old ideas regarding risk, ignoring the reality that these countries have changed dramatically in the last decade. Today, Low Income Countries and Lower Middle Income Countries should no longer be considered remote and unknown places where it is far too risky to invest. Times where we did not have the information to understand their growth and assess their risk have vanished. Objective indicators are soaring as a growing number of these countries are entering into capital markets. Sovereign credit ratings and Credit Default Swaps ('CDS') are becoming widespread in Latin America, Asia and Africa and can provide a more in-depth assessment of risk.

In the aftermath of the global financial crisis and of the euro zone crisis, the perception of the sovereign risk in OECD countries, especially in Europe, has grown. Indeed, investing in European countries has become much riskier today than compared to 2007. Whereas developed economies' growth is slowing down and there is even an economic decline in OECD countries, economic activity is now partly shifting towards LICs and lower MICs as was the case with the BRIC countries (Brazil, Russia, India and China). African countries in particular are today becoming relatively more attractive.

It seems only logical, therefore, that the perception of risk of investing in LICs and Lower MICs also evolves, considering the trends for improvement shown in these countries over the last decade. They are especially now more attractive destinations for capital that had previously been invested in OECD countries. Why not use financing tools available to share and mitigate the risk when investing in these areas?

Using innovative financing tools to build vital infrastructure projects was a major challenge that the BRIC countries were able to successfully overcome. Now, few years later, the time has come to apply the same toolbox to LICs and Lower MICs. Infrastructure projects will be crucial if these countries are to reach the 7% annual growth needed to eradicate poverty and achieve the Millennium Development Goals ('MDG').

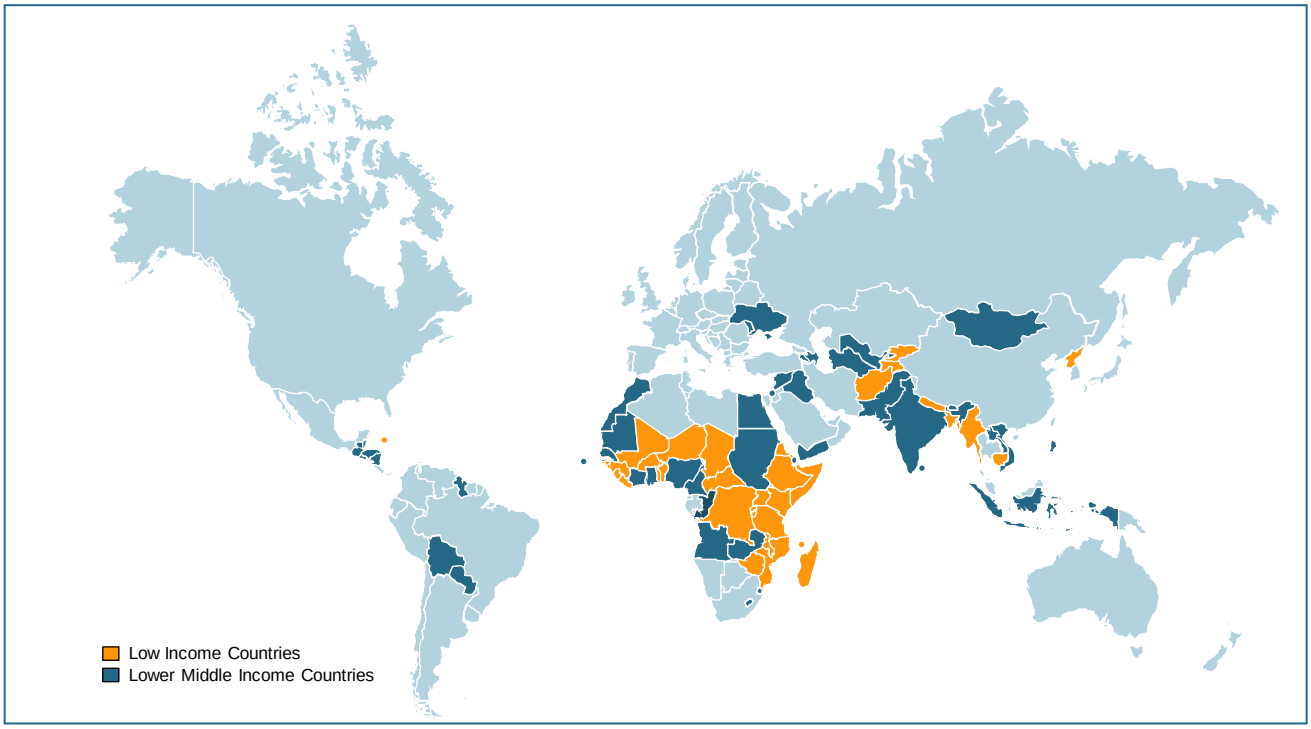
I. An assessment of the risk perception by financial markets

A. Brief overview of Low Income Countries and Middle Income Countries

1. LICs are mostly African, but the majority of LICs' population lives in Asia

According to the World Bank, There are 35 countries that are considered LICs with a 2010 Gross National Income (GNI)[1] per capita equal or less than USD 1,005. Their 2011 average GDP per capita is about USD 650. The majority of LICs are in Africa (26 out of 35 or 74%). Their total population is estimated at about 800 million people (55% are in Asia).

World map of LICs and Lower MICs



Source : World Bank

2. Middle Income Countries

108 countries are considered Middle Income countries ('MICs'): they are divided into two groups: the lower and the upper MICs. There are 56 Lower MICs, where the GNI per capita is between USD 1,005 and USD 3,975 and the 2011 average GDP per capita is USD 2,300. There are 52[2] Upper MICs, where the GNI per capita is between USD 3,976 and USD 12,275 and the 2011 average GDP per capita reaches USD 8,500.

[1] The GNI is similar to the gross national product (GNP), except that in measuring the GNP one does not deduct the indirect business taxes.

[2] Excluding Mayotte and American Samoa

B. Misperceiving the misperception?

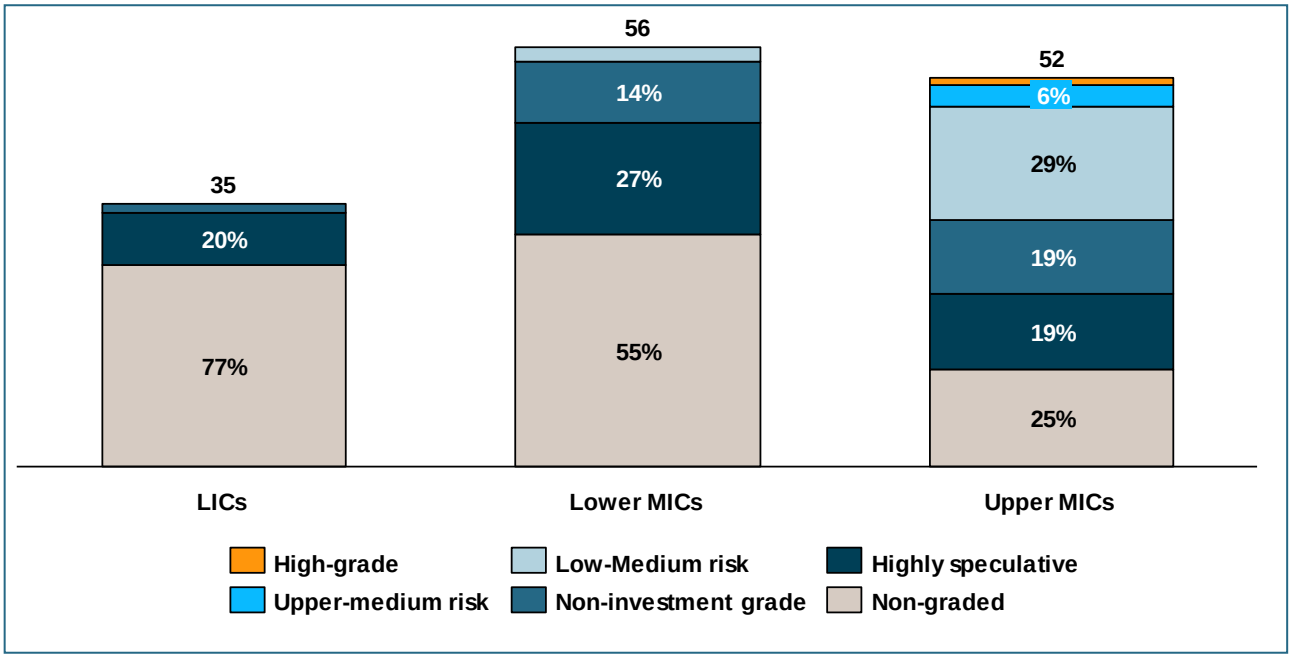
Investors assess the sovereign risk in LICs and Lower MICs as risky because they often believe that was is far away from them is riskier. This report is essential to correct that misperception by getting accurate and deep knowledge of these markets. Investors forget that these countries made their entry into capital markets and that we now have enough tools to follow them, including sovereign credit ratings, CDS and yields of sovereign international bonds. And more than ever, we observe that the risk perception of LICs and MICs' is in motion. The next BRICs are just around the corner at a moment where the knowledge of financial markets is improving at a steady pace. There are even MICs that investors perceive as safer than OECD countries.

1. Snapshot of the current market perception

Sovereign credit ratings are a benchmark reflecting investor market opinion of the capacity of the State to refund its lenders. For a country, being graded is crucial to access global financial markets and to gain investor confidence. It further enhances private sector's access to capital markets and attracts Foreign Direct Investments (FDI). As a result several African LICs and MICs such as Ghana and Gabon in 2007, Senegal in 2009 and Nigeria and Namibia in 2011 have issued international sovereign bonds and others are planning to do so in the coming years: Zambia and Angola in 2012 and Kenya, Tanzania and Uganda by 2013.

In 2012, however, nearly 75% of LICs are still not graded by any rating agency, whereas, by comparison, most MICs are now graded. Among them, 37% of upper MICs are rated 'investment grade'. In addition, 21 countries are rated above BB- the same grade as many developed countries and that 19 have a BB rating.

LICs and MICs Sovereign Credit Rating[3] in 2012



Source : S&P

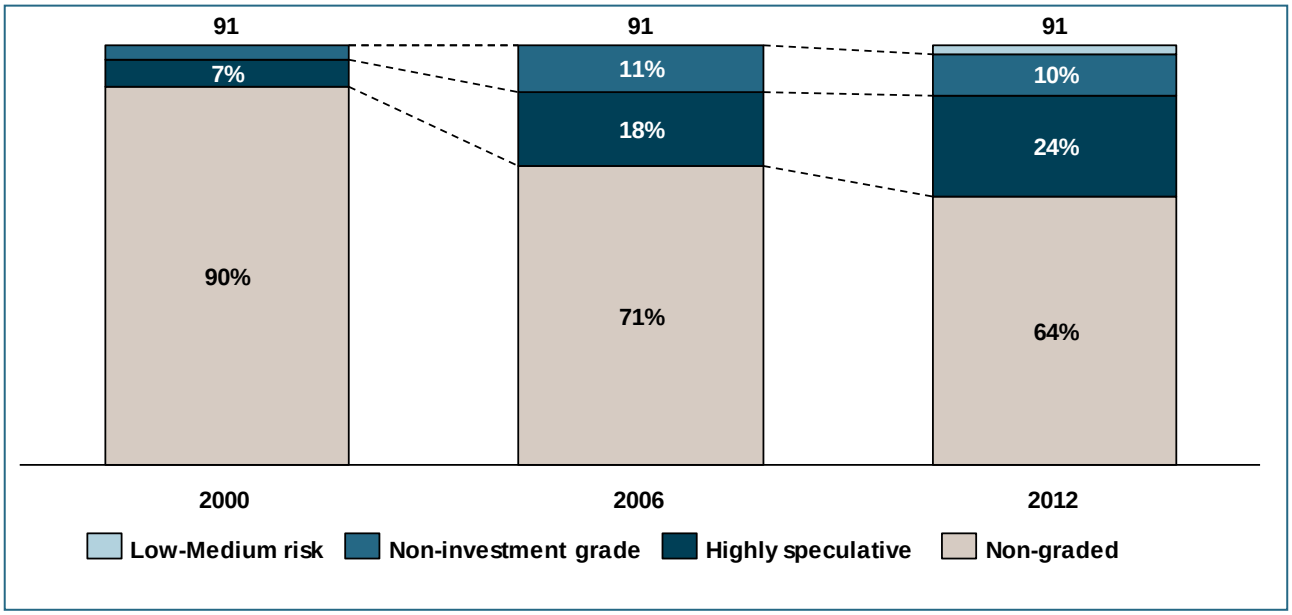
[3] High-grade are countries which grades are AA; Upper-medium risk are A grades; Low-Medium risk are BBB grades; Non-investment grade are countries which grades are BB; Highly speculative are countries below B+

2. Evolution of rating notes for LICs and MICs

Sovereign credit ratings requested by countries with a reform agenda and not by the market, are steadily increasing for LICs and lower MICs. The increase in graded LICs and lower MICs is an indicator of these countries' desire to access financial markets. The evolution of rating notes of LICs and lower MICs between 2000 and 2012 shows that an increased number of countries are obtaining better grades.

Numerous LICs and lower MICs have obtained a sovereign rating since 2000, whereas, for instance, none of the LICs was graded at that time. At a steady pace, an increasing amount of LICs and MICs are obtaining a grade each year. In fact, the number of rated LICs and lower MICs has more than tripled in 12 years. Whereas only 11% of LICs and lower MICs were graded in 2000, an encouraging 36% of them are rated today. In addition, 34 LICs and lower MICs have a BB grade[4] today, against only 9 in 2000. This regular trend over more than a decade reflects the constant improvement path that LICs and MICs have started following from the beginning of this century.

Evolution of LICs and Lower MICs Sovereign Credit Rating[5] since 2000



Source: S&P

There is still, however, a lack of financial information for private infrastructure projects, since grades are not required. As a result potential private investors have been basing their risk assessment only on the sovereign risk, even though some business sectors are independent from the sovereign risk. Credit ratings on private projects would improve financiers' perception of the real business risk. There is here a gap that should be filled and more grades on infrastructure projects should be requested in order to improve potential investors' information.

[4] The S&P BB grade corresponds to 'non-investment grade' in the graphic

[5] Low-Medium risk are BBB grades; Non-investment grade are countries which grades are BB; Highly speculative are countries below B+

3. Evolution of spreads for selected MICs vs. selected developed countries

The current crisis has created dramatic changes for both developed and emerging countries.

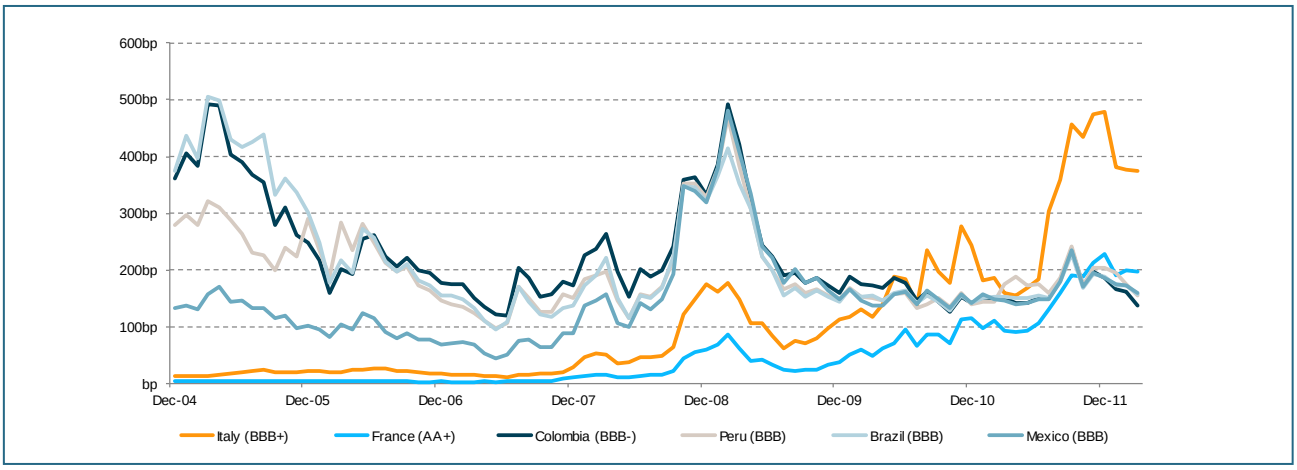
When it comes to analyzing how precisely financial markets assess every day the risk of MICs, reality is much better than what their sovereign credit rating reflects. Today, most upper MICs have even won the same level of confidence from investors as BRICs, including MICs that already defaulted in the last century. In Peru, Colombia, Philippines and Indonesia international sovereign bonds have been trading at similar levels to Brazil since mid-2009.

Due to the global financial crisis, which began in 2008, the gap between the spreads of OECD countries and less developed countries has been narrowing and even disappearing in the last years.

Even though it has a better rating, Italy's Credit Default Swaps ('CDS') are higher than four Latin American MICs. This situation is not only due to the recent turmoil in the euro zone since Italy's CDS are above Latin American MICs since May 2010.

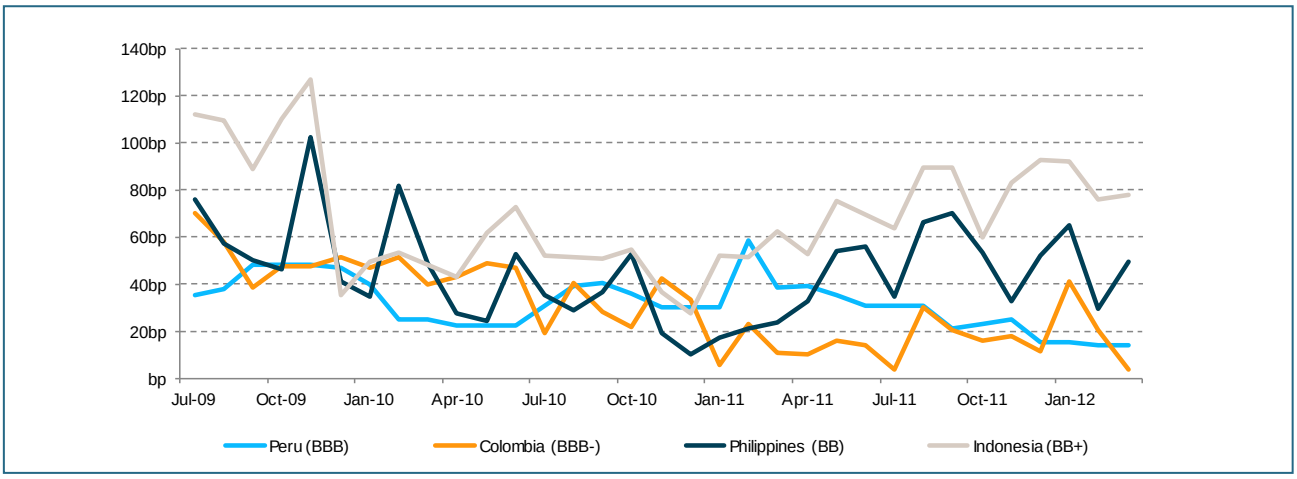
In the bond market, we observe a flight-to-quality from riskier euro zone countries to safer countries. In addition to German bunds and US treasury notes, MICs are also benefiting from this capital flight. At the same time that this sharp shift is happening, information regarding emerging markets has improved attracting investors. Financial markets consider Spain and Morocco to be equally risky since the spreads of international bonds between Morocco and Spain are close to zero after hitting about 500 basis points in December 2008. In addition, with the exception of the beginning of the subprime crisis, Latin American MICs have remained stable since 2006.

Evolution of 10 years CDS of selected MICs vs. Italy and France



Source: Bloomberg 15/04/2012

Evolution of spreads of 10 years USD-denominated sovereign bonds of selected MICs and Brazil (BBB)



Source: Bloomberg 15/04/2012

Evolution of spreads of 10 years euro-denominated sovereign bonds of Spain and Morocco

Source: Bloomberg 15/04/2012

4. Assessment of the risk misperception

We believe that there is a disconnect between the sovereign risk captured by the financial markets and the business risk in LICs and Lower MICs.

One potential way to assess the cost of this risk misperception is by measuring the gap between the cost of capital required by private investors and the effective level of nonperforming loans (NPLs) or loans not likely to be repaid.

The level of NPLs of major commercial banks operating in Africa is indeed much lower than the cost of capital required by investors. The percent of NPLs[6] is about 8% whereas the cost of capital[7] generally accepted for Africa reaches about 15%.

According to available data from the World Bank and the IMF, the shortfall for Africa corresponding to the level of new loans issued in 2011 is around 1% of Africa's GDP or about USD 16 billion. These new loans are indeed priced at about 15% instead of about 8%.

C. A historical risk misperception: the telecom sector in LICs 15 years ago

1. A niche market concentrated in the cities

In the late 1990s, the telecommunications sector in LICs and MICs, especially in Africa, was considered too risky, too small and, mainly, a niche market exclusively focused on high-end urban consumers, with a too low return on investment. There were asymmetries of information between investors who overlooked the market and the ones who knew the business opportunity was huge, and consequently engaged in it and made a fortune. Indeed, the telecom market later boomed from the 2000s, mostly thanks to the use of prepaid subscriptions. As an example, Benin and Tanzania went through dramatic rise in mobile phone penetration from respectively 2% and 5% in 2001 to 87% and 51% in 2011. This sector received 64% of investment flows to sub-Saharan Africa's infrastructure sectors from 1990 to 2004[8].

Today, in retrospect and given the great impact of mobile phone use on economic growth, underestimating the telecom market in Africa has been a huge mistake by private investors. The contribution to growth has been impressive: a 10% growth in mobile phone penetration leads to 1.2% GDP growth in sub-Saharan countries[9], because telecommunications serve as substitutes for failing utilities infrastructure, such as, above all, transport infrastructure. The market failed to anticipate the fundamental impact that infrastructure has as a long-term driver of development to trigger the virtuous circle of economic growth. And so the market today is failing again to address infrastructure needs in the developing world, threatening a highly necessary development.

[6] Excluding the interbank rate

[7] Excluding the risk free rate and with a beta of 1.0

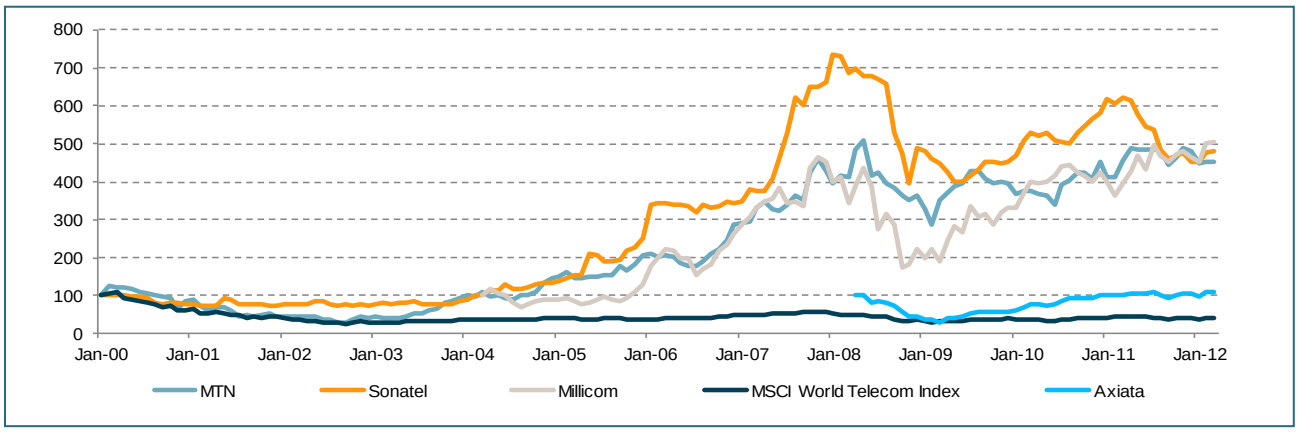
[8] Private Participation in Infrastructure (PPI) Project Database

[9] GSM Association Report 'Global mobile tax review 2006-2007

2. Financial market assessment LICs telecom companies

The evolution of the share prices of telecom companies in LICs is a clear example of how our risk misperception can be wrong. While the dot-com bubble crashed in developed countries in March 2000, LICs telecom companies were about to take off. During the last decade, the gap between the MSCI telecom Index and emerging telecom companies has widened substantially. With the listing of the Malaysian company, Global Ventures Holdings, the world's No.3 palm plantation operator is about to become the 2nd largest IPO in 2012 behind Facebook.

Share prices evolution of Axiata[10], MTN[11], Millicom[12], Sonatel[13] vs. MSCI Telecom World since 2000 (base 100)



Source: Bloomberg 15/04/2012

[10] Axiata (market cap. of USD15.0bn) is present in Bangladesh, Cambodia, Sri Lanka, Indonesia and Malaysia

[11] MTN (market cap. of USD32bn) has GSM licenses in 21 countries (South Africa, Swaziland, Zambia, Uganda, Rwanda, Botswana, Nigeria, Ghana, Cameroon, Congo-Brazzaville, Côte d'Ivoire, Benin, Guinea-Bissau, Sudan, Guinea Conakry, Liberia, Iran, Syria, Afghanistan, Yemen and Cyprus)

[12] Millicom (market cap. of USD11bn) is operating in 15 countries (Guatemala, El Salvador, Nicaragua, Costa Rica, Honduras, Bolivia, Paraguay, Colombia, Senegal, Chad, Rwanda, Mauritius, Tanzania, Ghana and Democratic Republic of Congo)

[13] Sonatel (market cap. of USD2.3bn) is operating in Senegal, Mali, Guinea Bissau and Guinea Conakry

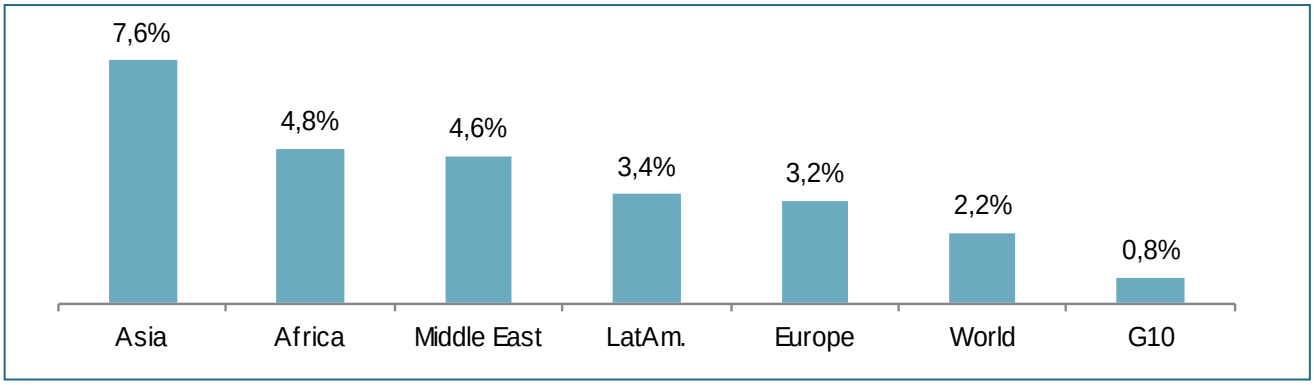
II. Taking-off… and flying: the LICs' perspective

A. LICs' growth is strong and resilient

1. It has outperformed developed countries…

The perception of LICs, especially for those from Africa, has not changed much since the 1980s even though economic indicators are encouraging. Indeed, with regards to growth rates, Asia and Africa have outperformed other geographical areas since the 2000s.

Real GDP growth 2005-2010



Source: IMF

Despite the crisis since 2008, developing Asia showed a great resilience with average GDP growth of 6% in 2011. Africa did too with average GDP growth of 5% in 2010 and 6% in 2011.

2. …It will continue in the future

In the next 5 years, LICs' growth is expected to further continue at a significant pace. According to the IMF, growth among African countries is expected to increase by about 4% compared with 1.5% for Europe.

B. A resilient business model paving the way for sustainable growth

Despite the persistence of factors that still put the burden of development on LICs and lower MICs, such as, for example, widespread poverty, lack of well-trained and productive human resources and lack of a well-established middle class, and corruption, LICs and lower MICs are now poised for sustainable growth. The strong growth prospects for these countries are fuelled by both internal an external factors, which are solid foundations to further economic expansion.

1. Why are LICs showing a strong and sustainable growth?

The main drivers for economic growth are increasingly available in most LICs and MICs. Domestic demand is fuelled by a growing population, increasing investment and higher productivity fuel domestic demand, whereas increased exports and FDIs boost external demand.

a. Domestic demand

The three main growth drivers of internal demand are traditionally considered to be internal consumption, investment and productivity. In the context of LICs and lower MICs, mainly in Africa and Asia but also in Latin America, internal consumption is driven by an increasing population, soaring urbanization and the emergence of a middle class. Investment is driven by the development of an internal market, higher saving rates and high company margins, which allow them to further finance their development, compensating for the lack of efficient financial markets in the least developed countries. Productivity increases are the result of infrastructure development, adequate training of the population and productive investment. The drivers highlighted above lead to the creation of a domestic market.

✓ The demographic dividend and improved education standards for the new generations

Commonly population growth in less developed countries is seen as a misfortune, for these countries are already dealing with high poverty rate. The view is that additional population growth could hinder sustainable economic development. And yet, now, this view has been called into question. Thanks to the developing transition, LICs and MICs will very soon benefit from the 'demographic dividend,[14] or in other words the decrease of the dependency rate,[15] which is defined as the ratio between the active and inactive population. Indeed, whereas in the 1980s and 1990 the dependency rate in Africa was the highest in the world – less than a working person for a dependant person (elderly or child) – it is now beginning to decrease with declining fertility rates, and will continue to do so for the next forty years. By 2050, the dependency rate in Africa will be identical to that which enabled the Asian 'economic miracle' in the 1980s.

As a result the fast increase LICs and MICs' population is laying the foundations for the development of a strong internal market. Most LICs and MICs are starting the first phase of the demographic transition, where mortality rates fall while birth rate is still stagnating or increasing. While some countries such as Tunisia or Vietnam already have finished their demographic transition, the majority of LICs and MICs are about to begin it. For instance, in Niger there was an average of 7 children per woman in 2011, whereas in Tunisia and Vietnam the average women only had 2 children. To a lesser extent, Pakistan and Bangladesh still have a high birth rate with respectively 4.0 and 2.4 children per woman. The mortality rate[16] is still high in Niger: 12 deaths per 1,000 inhabitants in a year, compared to 6 in Tunisia, Bangladesh or Bolivia.

The demographic dividend will positively impact LICs and MICs' long-term growth since an improving demography means new consumers, active workers and city dwellers, middle class expansion and a decreasing dependency ratio.

For instance, the African population, which is already the youngest in the world,[17] has doubled between 1980 and 2010 and by 2040 will have the highest working age population[18] in the world with 1,200 million people.

[14] The demographic 'dividend' or 'bonus' refers to the economic benefits from the stage of demographic transition characterized by a low dependency ratio

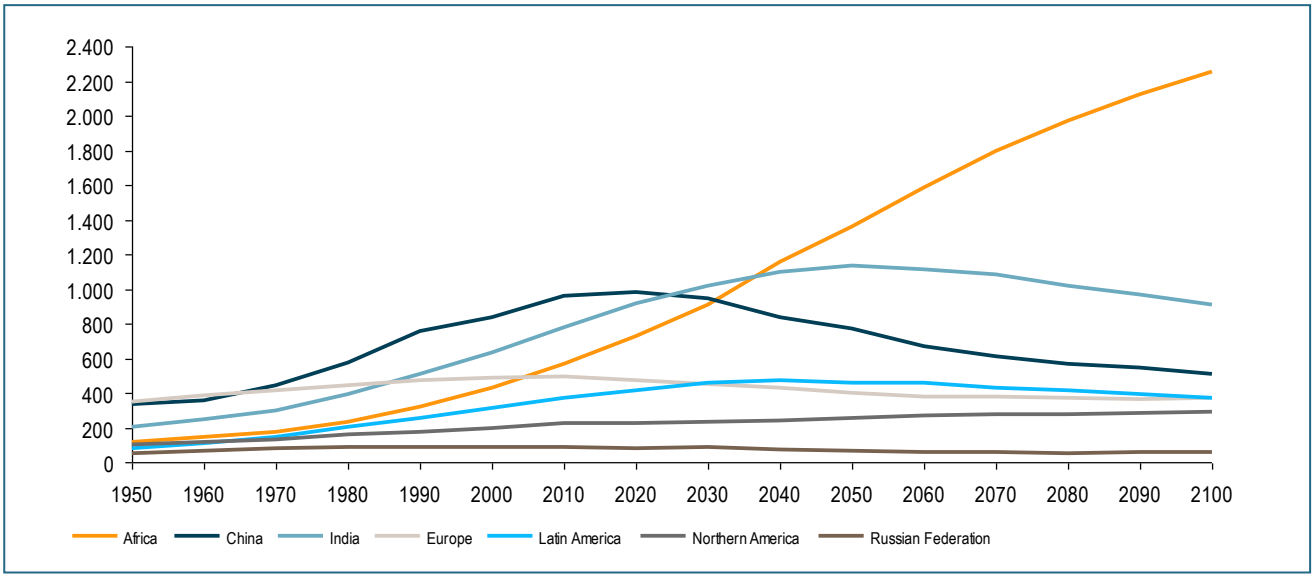
[15] The dependency ratio of a population reflects the number of young (under 15) and the number of elderly (over 64) who depend on income produced by the active population (between 15 and 64)

[16] Number of deaths per year related to the number of people

[17] In many African countries, the median age is under 20, compared with just under 30 in Asia and under 40 in Europe.

[18] Population aged from 15 to 64 years old

Evolution of Labor force (population age from 15 to 64 years old) by region



Source: United Nations World Population Prospects

A young and growing population that is increasingly educated and qualified is positive for the economic outlook of LICs and MICs. And yet, this situation can threaten the stability of the country if this ever rising mass of educated young people remains unemployed. Bearing in mind that one of the main triggers of the Arab Spring in December 2011 was youth unemployment, it is crucial to prevent labor market imbalances by tackling the job creation issue. Swollen infrastructure investments and maintenance expenses, as well as greener investments oriented towards more sustainable growth could effectivily contribute to that target.

✓ Soaring urbanization

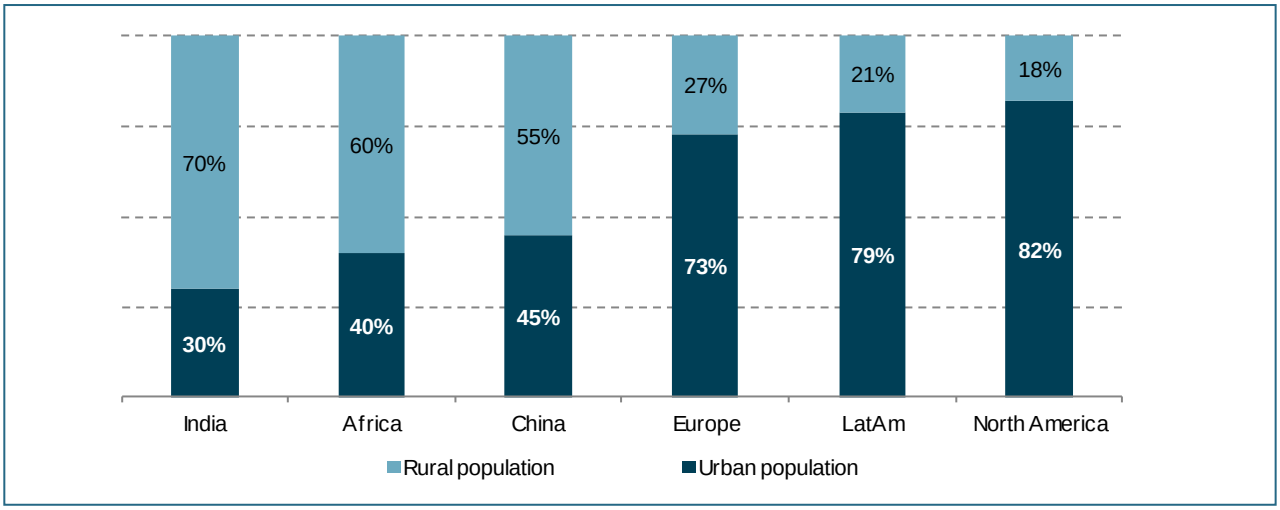
Because cities enable mass consumption, urbanization is a major driver of economic expansion. Rising urbanization in LICs and MICs therefore augurs well for a future economic boom. The urban population in LICs and MICs is expected to quadruple between 2012 and 2050, from 234 to 860 million people[19]. Half of the total population of these countries will be composed of city dwellers in 2050. In Africa in general, the urban population will increase from 414 million to over 1.2 billion by 2050 while that of Asia will soar from 1.9 billion to 3.3 billion[20]. Indonesia, one Asian Lower MIC, is expected to have one of the world's largest increases in urban population: over the next four decades, it will add another 92 million city dwellers. Thus, cities are multiplying and flourishing at a steady pace. Asia, which includes today 13 megacities,[21] will gain another 9 in the near future. Rapid urbanization is also creating higher consumer density and fostering the development of companies' retail networks.

[19] United Nations, World Urbanization Prospects 2011

[20] United Nations, World Urbanization Prospects 2011

[21] Cities of at least 10 million inhabitants (UN definition)

Urban vs. rural population by world regions in 2010



Source: United Nations

✓ Emergence of a middle class

In general, the middle class[22] is commonly viewed as the engine of growth, a source of demand and a critical support to political stability and democracy. Whereas in developed countries the middle class seems to be in jeopardy, threatened by rising inequalities, middle-class consumers in the developing world are expanding. In developing countries – not just in the fast-growing BRIC countries – the middle class already includes 2 billion people, who spend a total of USD6.9 trillion annually and are expected to spend USD20 trillion in the next decade.

After sharp growth in terms of percentage share, absolute size and purchasing power since 1990, developing Asia today concentrates 28% of the global middle class or 525 million people. By 2030, 66% of the global middle class is expected to live in developing Asia and will comprise 59% of global middle class's consumption[23].

The African Development Bank (AfDB) estimates that the African middle class now has 313 million people[24], representing 34% of its population or larger than the entire population of the United States and on a par with India's middle class. Each year, Africa is gaining 5 million of these new consumers.[25] In volume, spending by African households, which topped USD 840 billion in 2008, is already higher than in India. The rapid emergence of the new consumer class in Africa is already attracting companies: more than 70% of the top global consumer goods companies are tapping this rapidly expanding consumer market and 20% of the companies' top 50 achieve more than 5% of their global sales in Africa. For instance the alcohol retailer Diageo's has 14% of its global sales in Africa.

[22] Population whose daily expenditure is between USD 2 and USD 20 per day (at 2005 purchase power parity) and whose yearly salary is higher than USD 700 (AfDB's definition)

[23] Asian Development Bank (AsDB), 2011

[24] Between 300 and 500 million people, according to the AfDB

[25] AfDB

✓ Progress with political stability and governance

For the private sector to consider participation in infrastructure projects and for enhanced economic country performance in general, political stability is key.[26]. Better institutional capacity, reflected in rule of law and lower corruption levels, contributes to faster growth through increased certainty for private investors.[27]

Among LICs and Lower MICs, African countries were the most affected by political instability and civil violence. In the distant and recent past, Africa has been the scene of around a hundred coups since 1952. However, today, it is entering a phase of political stability, facilitated by economic growth. Despite recent events in Guinea-Bissau and Mali, several democratic presidential elections were held in 2010 with no major hiccups, in Burkina Faso and Togo for example. In 2011, more than a dozen elections were held. There were peaceful handovers of power in Senegal and Zambia reflecting more mature populations and mentalities. The Arab Spring may have disrupted political stability in several North African countries in 2011, but mostly for a move towards more democracy, leaving hope for better governance in the future. Moreover, when conflicts nonetheless arouse recently, they have been increasingly dealt with by African countries themselves and not by the international community. Concerning recent events in Mali and Guinea-Bissau, the West African Economic and Monetary Union (WEAMU) has proved very intransigent about political instability in its Member States.[28] In May 2012, it took strong measures to avoid the splitting of Mali and to restore the process of democracy in Guinea-Bissau. In Mali, the WEAMU deployed a mission of 3,000 men and imposed a global embargo over the country, while in Guinea-Bissau, it sent a 629-men force to support the restoration of constitutional order.

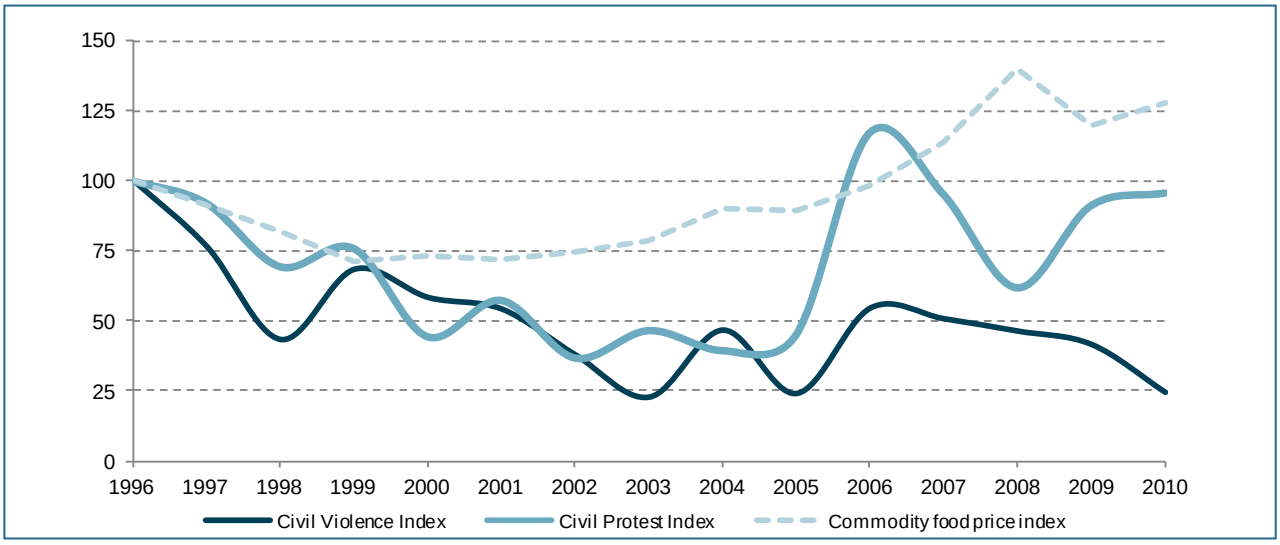
Violence by non-government actors is decreasing at a regular pace in African countries. Meanwhile civil protests and strikes intensified, highlighting increased social pressure and civil societies' capacity to mobilize. This combination of decreasing violence and increasing public protests points to a positive trend towards more peaceful and democratic expression and bodes well for Africa's development. The expression of public dissent through strikes and demonstrations in order to claim improved public services, better living conditions or social change can be a substantial driver of development.

[26] See, for example, Alesina et al. (1992), Mauro (1996), and Barro (1997).

[27] IMF, Regional Economic Outlook, *Sub-Saharan Africa : sustaining Growth amid Global Uncertainty*, April 2012

[28] 15 WAEMU Member States: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo

Public protests, public violence and food price indices (base year 1996 = 100) in Africa



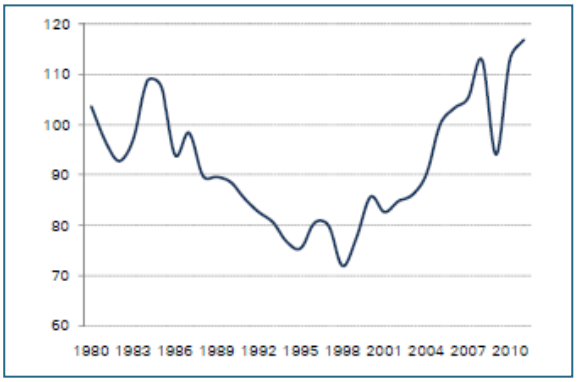
Source: OECD African Economic Outlook 2011

b. External demand

✓ An improvement of the terms of trade: when the South benefits from the South

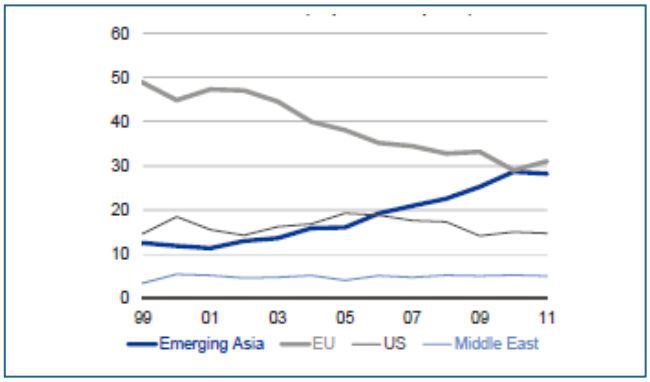
The growth of emerging markets and the resulting commodities' boom has helped to support growth in LICs even when demand from developed markets has slowed. As a result terms of trade are at an all time high. LICs are indeed benefiting from higher commodity prices and cheaper capital goods from South Eastern Asia that are used for vital sectors of their economy. In other words, today, LICs can buy more tractors than in the 1980s by selling the same quantity of cotton. Thus, farmers will improve the yield of their land, boosting productivity.

Evolution of terms of trade in SSA



Source: IMF

% of total SSA trade (exports + imports)



Source: IMF

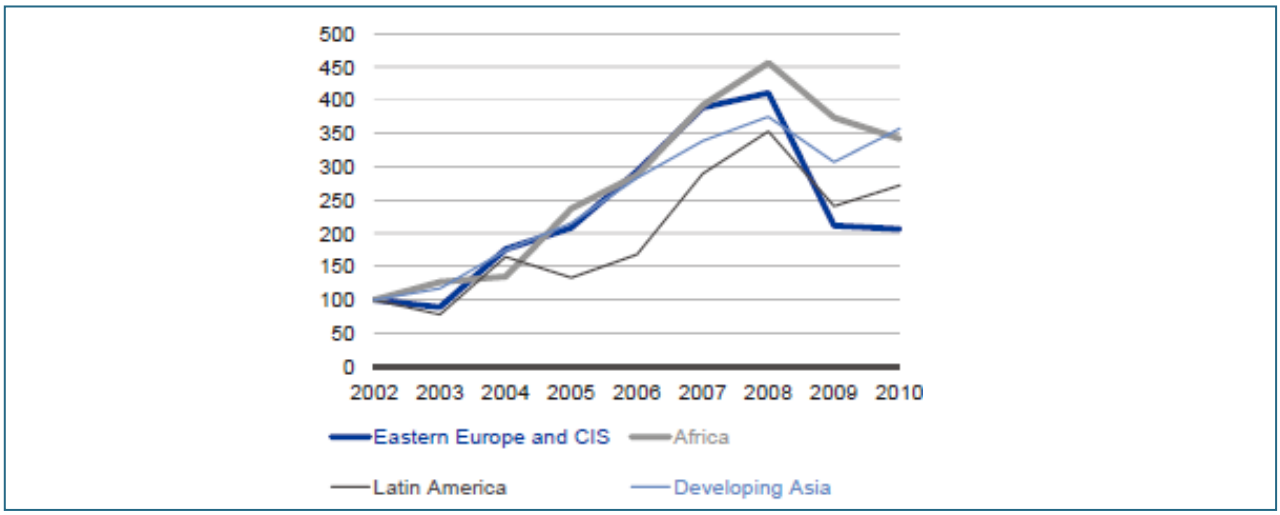
On the other hand several predominantly agricultural exporters and oil importers, such as Kenya and Tunisia, saw deterioration in their terms of trade.

✓ Increased appetite of main emerging economies

China's and Brazil's appetite is mainly for commodities and oil, especially in Angola, whereas India is mostly interested in phosphate and the telecom sector.

Financial linkages with China and other rapidly growing emerging markets have added impetus to neighboring Asian LICs and Lower MICs including Bangladesh, Cambodia, Myanmar and Vietnam and sub-Saharan African LICs. For instance, almost half of sub-Saharan African exports now go to emerging and developing markets compared with less than one-quarter in 1990. China alone accounts for about 17% of the region's trade, with Brazil and India together accounting for an additional 9%. Africa's reorientation towards faster growing emerging markets has helped to insulate it from the worst of the global downturn.

Evolution of FDIs since 2002 rebased to 100



Source: IMF

The past decade has witnessed an unprecedented increase in FDIs to LICs, with an annual growth rate of 15% from 2001 to 2010, to reach USD 24 billion by 2010, compared with USD 7 billion in 2001. In Asia, LICs have substantially benefited from the increase in FDI inflows' over the decade. In Cambodia for instance, they have multiplied by 5 times, rising from USD 149 million in 2001 to USD 738 million in 2010.[29] Likewise, in Bangladesh, FDI inflows rose from USD 355 million in 2001 to USD 971 million (x2.7).[30]

The surge in inflows has been attributed to ample global liquidity and rising commodity prices, coupled with better economic fundamentals and market-oriented reforms in many LICs.

The global financial crisis changed this pattern slightly since flows from emerging markets only partially to offset the decrease from developed countries.

✓ Remittances from emigrants: a great source of revenues

[29] United Nation Conference on Trade and Development, *Foreign Direct Investment in Least Developed Countries (LDCs): Lessons Learned from the Decade 2001-2012 and the Way Forward*, 2011

[30] United Nation Conference on Trade and Development, *Foreign Direct Investment in Least Developed Countries (LDCs): Lessons Learned from the Decade 2001-2012 and the Way Forward*, 2011

In LICs and MICs remittances from emigrants in developed countries support household spending and local currencies. They are a great source of revenues since they represent almost 10% of GDP in many developing countries. Since they are sent in hard currency such as euros and dollars instead of local currency, they bring substantial currency reserves to destination countries, which is an added advantage.

In 2009, remittances were nearly three times the amount of official aid and almost as large as FDIs to developing countries. Remittances represent, for example, 35% of GDP in Tajikistan, 23% in Nepal and 15% of Haiti. Remittance flows to LICs and MICs remained resilient during the global financial crisis and are their highest level ever- USD 351 billion in 2011. After falling slightly by 5.5% in 2009, they grew by 6% in 2010 and 8% in 2011.

c. Investment capacity

The investment capacity is driven by numerous factors including a strong internal market, high margins of local companies', substantial saving levels and efficient financial markets to transform those savings into long-term productive investment, and sustained FDI and ODA flows.

✓ High saving rates compared to developed world

Gross domestic savings in developing countries are higher than OECD countries -27% in East Asia & Pacific, 23% in South America and 16% in sub-Saharan Africa compared with 16% in the OECD countries.

✓ Turning savings into deposits fuels the economic growth

LICs' financial systems are small both in absolute and relative terms, with a limited coverage only in cities and very expensive with high interest spreads and margins.. The banking penetration rate in LICs stands at 15% and is especially low in oil-exporting countries. However, many LICs have not only seen economic growth pick up in recent years, but financial deepening and broadening as well. Since 2002 for instance, African banks registered an average annual growth rate of 42% for their balance sheets.

This growth is partly driven by demand and partly by international capital flows from remittances and FDIs and an improvement of the regulatory and institutional framework. Even if these amounts go to specific sectors such as natural resources extraction, the development of the banking system is one step towards the necessary diversification of many oil-exporting countries.

The development of banking system in Morocco is a clear example of the virtuous circle of the monetization of emerging economies. The banking rate increased from 25% in the early 2000s to 50% today. Transforming deposits into long-term loans, with adequate maturities for long-term investments and for specific capital intensive sectors catalyzes economic development. Strong macroeconomic prospects coupled with a steady growth of the urban population and a contained inflation fuel increasing needs of banking products.

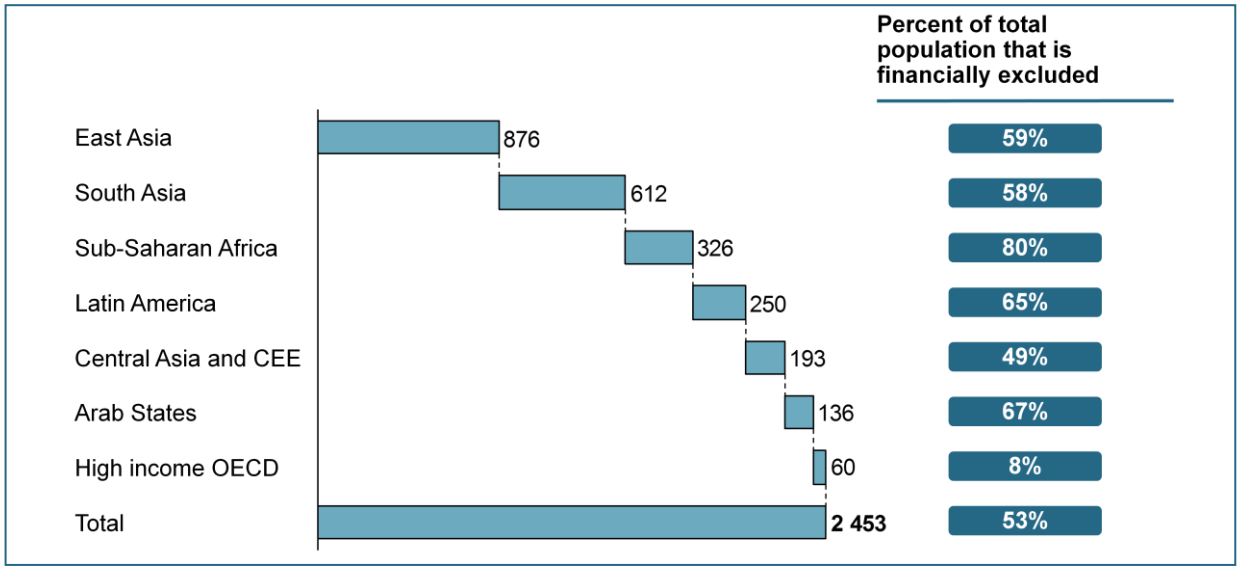
LICs can even accelerate their growth by capitalizing on the success stories of other countries from the South. Many banks such as Standard Bank[31], Ecobank[32] or Attijariwafa Bank[33] are

[31] Present in 23 African countries in Central, East and Southern Africa

[32] Present in 32 African countries in West, Central, East and Southern Africa

present in more than 10 countries in Africa. They replicate their successful domestic business model in the countries with similar challenges and development trends to where they expand. Foreign banks foster governance, they can bring in much-needed technology and experience for other parts of the region.

Adults who do not use formal financial services (Millions of adults)



Source: Financial Access Initiative, 2009

✓ Improving public finance management

Moreover, since debt cancellation in the 1990s, the Debt/GDP ratio is steadily decreasing in LICs and MICs. LICs in particular went through the most dramatic debt burden decrease from 81% of the GDP in 2000 to 37% of the GDP in 2010. Thanks to the Heavily Indebted Poor Country (HIPC) Initiative launched in 1996 and the Multilateral Debt Relief Initiative (MDRI) launched in 2005 by the IMF and the World Bank, the most indebted countries have been able to use the funds made available for their development. In this regard, a tribute should be paid to the multilateral and Paris Club[34] creditors who bore the largest shares of the total costs of the initiatives, as well as commercial creditors of the London Club.[35] Today, there is actually room for these countries to take on more debt under well-defined conditions, such as contained in the IMF New Debt Sustainability Framework (DSF) which has been tailored in 2005 to guide borrowing decisions of LICs in a way that matches their needs for funds with their current and prospective ability to service debt[36].

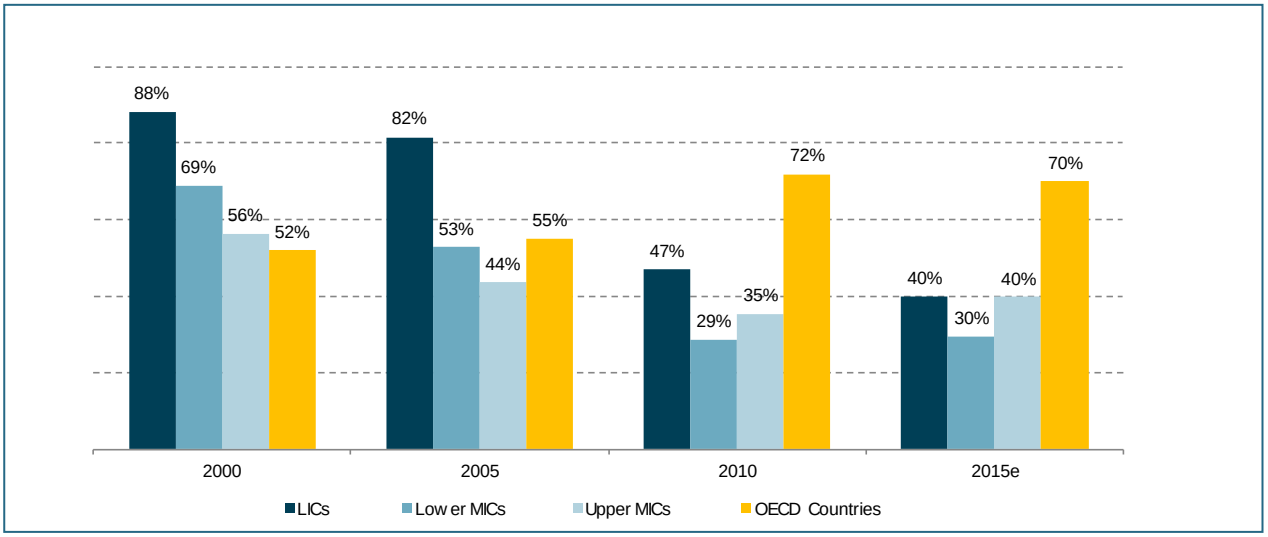
[33] Present in 11 African countries especially in North and West Africa

[34] The Paris Club is an informal group of financial officials from 19 of some of the world's biggest economies (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Russia, Spain, Sweden, Switzerland, United Kingdom, United Sates)

[35] The London Club is an informal group of commercial of commercial banks that join together to negotiate their claim against a sovereign debtor

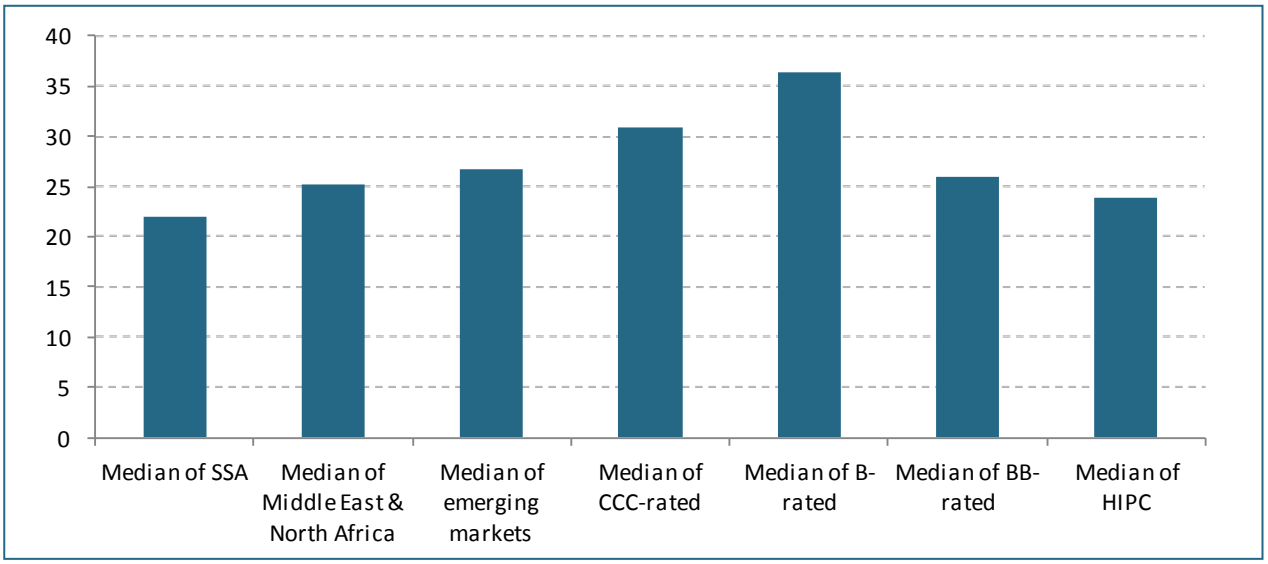
[36] IMF

Debt/GDP (%)



Source: IMF

Gross external debt/ GDP (%)



Source: Economist Intelligent Unit, April 2012

2. The virtuous circle toward a sustainable growth

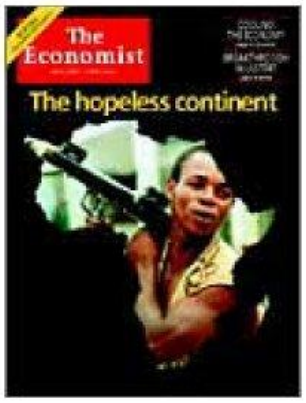
LICs and Lower MICs seem to be on track thanks to strong demographic and macroeconomic fundamentals and close linkage to globalization. An increasing number of countries have made the voluntary choice of developing a greener economy to ensure sustainable growth and avoid eroding their natural resources. Green growth focuses mainly on the quality of growth by promoting eco-efficiency and balancing the three pillars of sustainable development -economic, social and environmental development.

The abundance of natural resources in some African countries makes them an obvious beneficiary of this super cycle. But growth has also been strong in African countries that do not depend so heavily on commodity exports such as Tanzania and Uganda.

Clear evidence of the new paradigm is that Africa is now finally financing its growth by the rest of the world. Africa indeed was financing the world during the last century since massive dividends and loan repayments were not compensated by the remittances from emigrants and FDIs.

The growing monetization of economies and growing banking penetration are helping to allow countries to dedicate more important flows to finance domestic companies.

3. The example of Africa reversing the downward trend



Whereas Asia is the continent where poverty reaches a larger share of the population, we believe that its economic growth is stimulated by China, Japan and the Tigers. In the contrary, Africa has always been considered as 'the hopeless continent'.

As illustrated by two covers of the British magazine *The Economist* in May 2000 and December 2011, the view of Africa has starkly transformed from gloomy to encouraging. And whereas the perspectives of Africa look brighter now, foreign private investors continue to misperceive it. A closer look at Africa's economic history from the time of the independency wave shows that it has not been always grim.

- ✓ From 1950 to 1970: During the first years of Africa States' independence, in context of global growth, economic growth was important: average annual GDP growth rate of 4% between 1960 and 1973.
- ✓ From1970 to1980 ('The economy of debt'): After the 1973 oil price shock, accelerating public debt in Africa was balanced until the late 1970s by abundant Official Development Flows (ODA) flows and export revenues ;
- ✓ 1980-1990 ('The economic recession'): A decrease of commodity prices leads to the fall of exports while higher interest rates lowered the government's capacity to pay their lenders. IMF structural adjustments to liberalize economies had serious consequences in the 1990s: rising unemployment, growing poverty, rising inequalities, malnutrition, increasing corruption and violence.
- ✓ From 2000 ('When Africa arises'): Beginning in 1996, developed countries took steps to cancel debts owed by the world's poorest countries. In total, nearly USD 110 billion worth of debt has been canceled, USD 93 billion of which was in sub-Saharan African countries.

That relief helped to turn over a new leaf for this starting century. Since then, Africa is benefiting from strong fundamentals with average annual growth reaching 5% between 2005 and 2010, and higher governance standards.

C. How to fly higher?

1. Deepening regional integration

As Nobel prize winning economist Paul Krugman points out in his theory of Economic Geography[37], regional integration is crucial for growth and it is achieved, to a large extent, through the reduction of transportation costs, economies of scale and by building interregional physical infrastructure networks such as telecommunications, energy and transport. In Africa for instance, there are few cross-border interconnections in favor of the regional energy trade, despite the fact that many countries are too small to profitably produce their own electricity.

African LICs and Lower MICs are the most affected by the lack of regional integration since Africa, the world's third-largest continent after Asia and America, is the least integrated economically. However, the lack of energy and transport infrastructure is partially behind this situation. Today, this level is considerably lower: foreign trade between African countries only reaches 10% compared with 50% for Asia. Africa is also the most fragmented continent –15 landlocked countries have no access to sea for their exports - and further needs to build economic markets with critical mass.

2. Education improvement: on the way to endogenous growth

In the least developed countries, only 58% of the population is literate[38] meaning that there is still work to be done to improve education.

In 2010, Africa's labor force reached 414 million, an increase of 33% since 2000 or an average growth rate of 3% per year. The population aged between 15 and 64 accounts for nearly 56% of the total population. In recent decades, Africa has made great strides in the development of its human capital, benefiting from improved services in education.

Still more should be done. Even if literacy rate stands at 65% today compared with 38% in 1980, it is worth noting that only 5% of students in sub-Saharan Africa reaches university. Encouraging the return of African graduates living abroad to their country of origin could be an appropriate way to partially meet this challenge.

3. LICs' growing demand for infrastructure

✓ An crucial lack of infrastructure in LICs

Today, LICs still have a sizeable deficit in infrastructure, and it is obviously taking a heavy toll on economic growth and sustainable development. Two main drivers for expected

[37] Paul Krugman, *Increasing Returns and Economic Geography*, Journal of Political Economy, University of Chicago, 1991, vol. 99, N°3

[38] United Nations, UNESCO Institute for Statistics (UIS), 2010

infrastructure demand going forward are the growth in per capita income and rapid urbanization.

- ✓ Sub-Saharan LICs infrastructure assets are the least developed worldwide.

Among LICs and lower MICs, sub-Saharan African countries are the most deficient in terms of access to basic needs provided by large-scaled infrastructure. For example, only 30% of the population has access to electricity compared to 62% in South Asia[39] and 93% in Latin America and Caribbean. Only 60% of the African population has access to improved water sources compared with 88% in Eastern and South Asia and 95% in the Europe and Central Asia.[40]In the ICT sector, despite the telecom success in Africa, still 44% of the population is not covered by mobile cellular networks compared with 90% of the population in other developing countries.[41]

The region's infrastructure funding gap has been estimated at USD 31 billion per year, with additional systemic inefficiencies draining some USD 17 billion per year[42]. This infrastructure deficit cuts per capita growth by 2% annually.[43]

[39] International Energy Agency 2010

[40] World Bank, World Development Indicators

[41] World Bank, Little Data Book on ICT

[42] World Bank, Infrastructure Strategy Update FY2012-2015

[43] World Bank, Infrastructure Strategy Update FY2012-2015

Status of infrastructure Needs and Financing by Region

		Sub-Saharan Africa	East Asia and Pacific	Eastern and Central Asia	Latin America and the Caribbean	Middle East and North Africa	Southeast Asia Region
Annual investment and maintenance needs (USD Billion)		93.3	406.7	N/A	81.2	78.5	191.1
Annual infrastructure spending	USD Billion	45.3	207.0	N/A	43.5	43.8	46.0
	% of GDP	7.1	7.2	N/A	1.9	6.9	4.6
Private participation in infrastructure investment (USD Billion)		12.5	17.6	32.5	46.8	7.8	34.8
Of which: energy (%of total PPI)		5.9	40.7	41.0	33.9	7.2	49.6
Water and Sanitation (% of total PPI)		0.3	6.5	1.5	0.9	10.7	0.2
Telecom (% of PPI)		88.8	32.2	50.6	38.5	64.9	35.7
Transport (% of total PPI)		5.0	20.7	6.9	16.7	17.1	14.5

Source: World Bank Group, Strategy update 2012-2015

- ✓ Asia has a concentration of poverty and people without access to infrastructure

The East Asia and Pacific region has 59% of the world's population[44] and 66% of the world's Poor (900 million people).

Number of people without access to infrastructure in the East Asia and Pacific Region

Infrastructure Sector	Number of people
Water and Sanitation	900 million
Electricity	800 million
Roads	1.2 billion
Internet	80% of Asia

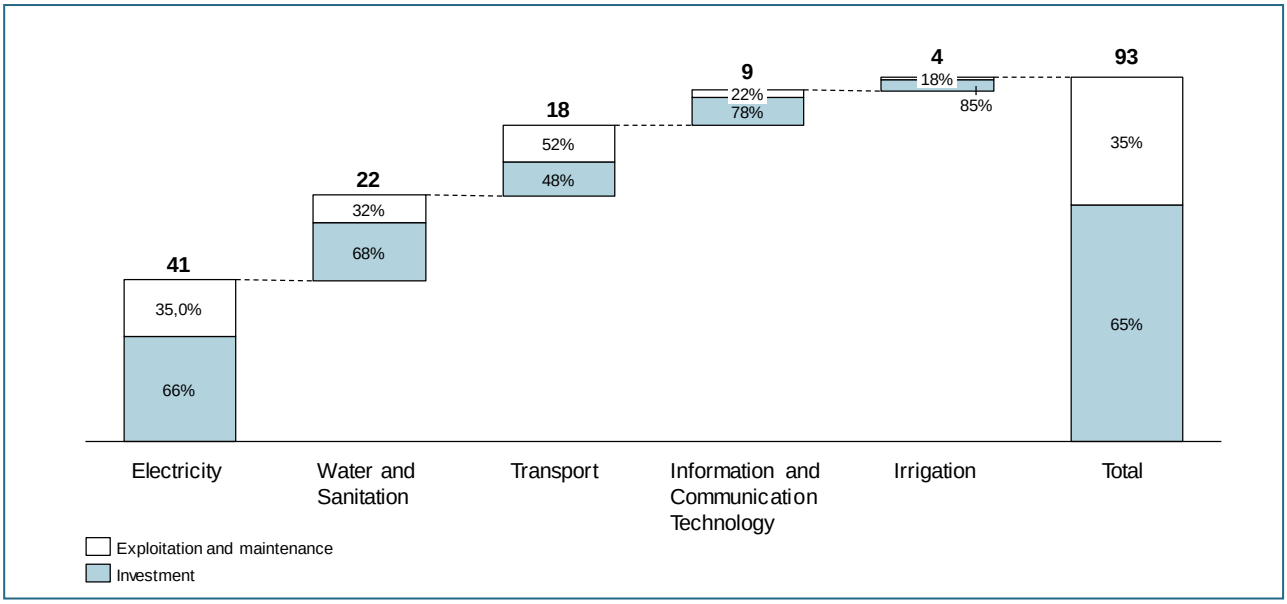
Source: Asian Development Bank

- ✓ Infrastructure investments are mostly needed in electricity

[44] World Bank

With 70% of the SSA population and 38% of the South Asia region's population lacking access to electricity [45], energy investments in LICs and MICs are today the most needed. Sub-Saharan Africa, for instance, needs 7,000 MW of new power generation capacity each year but has been installing only 1,000 MW in recent years[46] Given this major deficit of energy, about 44% of infrastructure spending needs in SSA are related to electricity. More generally, the estimated need for basic investments totals USD 93 billion per year or 15% of the region's GDP, about a third of which is used for maintenance, spanning electricity and sanitation, roads, healthcare, education and telecommunications.

Infrastructure investment needed in the future by sector in SSA (USD billion per year)



Source: Banerjee, Wodon and coll., 2008; Carruthers, Krishnamani and Murray, 2008; Mayer and coll., 2008

In LICs and MICs in general, private investment remains very low compared to public sector involvement. Today, an important part of infrastructure in SSA is financed by national resources with the budget of central governments being the primary driver of investment. Some 40% of the region's infrastructure investment has come from the public sector.[47] Private finance has remained largely restricted to the ICT sector, although there is some willingness to invest in power plants, container terminals and airports.[48]

[45] International Energy Agency 2010

[46] World Bank and International Energy Agency 2010

[47] World Bank, Infrastructure Strategy Update FY2012-2015

[48] World Bank, Infrastructure Strategy Update FY2012-2015

Breakdown of infrastructure expenses in SSA in 2008 (USDbillion per year)

			Exploitation and maintenance		Investment spending	
Infrastructure sector	Total expenditures	Public sector	Public sector	***Public sector share (%)***	Private sector	Total
ICT	9.0	2.0	1.3	***19***	5.7	7.0
Electricity	11.6	7	4.1	***89***	0.5	4.6
Transport	16.2	7.8	2.4	***22***	1.1	10.9
Water and sewerage	7.6	3.1	0.7	***15***	2.1	4.6
Irrigation	0.9	0.6	0.1	***33***	-	0.3
Total	45.3	20.4	9.4	***34***	9.4	27.4

Source: Briceno-Garmendia, Smits and Foster, 2008

In the least developed countries, infrastructure is considered the main constraint of business in the country, lowering business productivity by 40%.[49] Likewise, more than 20% of the firms operating in LICs and lower MICs identify transportation as a major constraint in doing business.[50] For instance, it takes two days to transport a container from the Kenyan port of Mombasa to Nairobi, which is almost as much as time needed to transport this same container from Singapore to Mombasa.[51] In terms of costs, transporting a container from Tokyo to Mombasa costs USD 750, whereas it costs USD 2,100, almost three times as much, to transport it from Mombasa to Kigali. Given the ever larger role of supply chains in a country's growth, opportunities and the importance for a national economy to be well-integrated into the world supply chain, infrastructure, from transport to ICT, are playing a considerable role. As a result, the lack of infrastructure is bearing responsibility for a wide range of ripple effects on the economy, from lower agricultural productivity to weak regional integration.

More than half of the gain in growth in LICs is due to infrastructure and its contribution to growth could be even more important in the future. From 1999 and 2005, infrastructure, across African countries, brought 99 basis points to per capita economic growth, against 68 basis points for the other structural policies.[52] Still in sub-Saharan Africa the price of infrastructure services is double than LICs in other developing regions.
Above all energy is by far the more restrictive factor. In Africa for instance, deterioration of the quantity and quality of energy infrastructure between 1990 and 2006 removed 11 basis points from per capita growth.[53] Moreover, simulations suggest that if all African countries caught up with Mauritius, the regional leader in infrastructure, GDP per capita growth could increase by 2.2 %.

Cost of infrastructure in Africa compared to other developing regions

[49] Escribano, Guasch and Pena, 2008

[50] World Bank, Enterprise Firm Surveys, Enterprise Analysis Unit

[51] Les Afriques N°198, 19th-25th April 2012, *Kenya : un méga-port pour acheminer le pétrole du Sud-Soudan*

[52] Calderon, 2008

[53] Calderon, 2008

Infrastructure sector	Sub-Saharan Africa	Other developing regions
Electricity tariffs (USD/KW)	0.02 – 0.46	0.05 – 0.10
Water alimentation tariffs (USD/sq. meter)	0.86 – 6.56	0.03 – 0.60
Rate/tariff of road freight (USD/tonne-Km)	0.04 – 0.14	0.01 – 0.04
Mobile telephony (USD/month offer)	2.60 – 21.00	9.90
International telephony (USD/ 3-minute call to the US)	0.44 – 12.50	2.00
Internet service by phone line (USD/month)	6.70 – 148.00	11.00

Source: AFD/World Bank

In conclusion, LICs are still facing huge infrastructure challenges on their path of rapid growth. Better infrastructure would boost productivity and growth, facilitate domestic and international trade and improve access to education and health services.

Roland Berger
Strategy Consultants

III. Financing infrastructure in LICs: not so risky, high return, good coverage

A. Dealing with the Greenfield risk in project finance

1. Infrastructure characteristics

Infrastructure assets have some strong characteristics that differentiate them from other financial assets.

Inelastic demand: Infrastructure assets provide essential services that support the functioning of society and the economy, such as power, water and basic transportation. Their indispensable nature results in their demand being relatively inelastic to price changes and economic downturns.

Monopolistic Market Positions: More often than not, infrastructure assets and businesses are natural monopolies with high barriers to entry such as ports.

Regulated entities: Given the monopolistic nature of such infrastructure assets, governments or government-sponsored agencies typically regulate their activities and pricing to preclude undue monopolistic practices and extra-market returns at the expense of the consumer.

Capital intensive, low operating costs: While infrastructure assets are capital intensive to set up such as airports, bridges and tunnels, once established, they generally have relatively low operating costs, which create strong operating margins. This attribute, combined with their long projected service lives, supports high levels of leverage.

Low volatility of operating cash flow: In most instances, infrastructure investment revenue streams are relatively stable and predictable, often resulting from either a captive customer base, or from long-term contracts, or regulated pricing schedules, and limited competition or licensing.

Resilience to economic downturn: Due to their essential role in the economy, infrastructure businesses, once operational, are less likely to suffer from significant permanent declines in demand/traffic/patronage compared with businesses in other industries. They are expected to face downturns better with the possible exception of cases where inappropriate capital structures have been used to finance their development such as too much leverage or when demand forecasts have been grossly inaccurate.

Minimal technology risk: The objective is generally to build an asset for a mature industry that is not susceptible to technology obsolescence risk.

Long-term horizons: Infrastructure assets have long useful economic lives of often more than 30 years. They produce stable revenues with relatively stable cash flows.

Inflation Indexed Cash Flows: Infrastructure assets may have contractual or regulatory revenue structures that are adjusted for changes in inflation metrics, such as the Consumer Price Index, thus making for an effective inflation hedge. Their long-term inflation linked cash flow characteristics are attractive duration hedges for long-term liabilities.

2. Project finance is a key tool for financing infrastructure

Project financing consists of assembling a pool of investors, lenders and other participants to undertake infrastructure projects in an industry using a mature technology that would be too large for individual investors to underwrite.

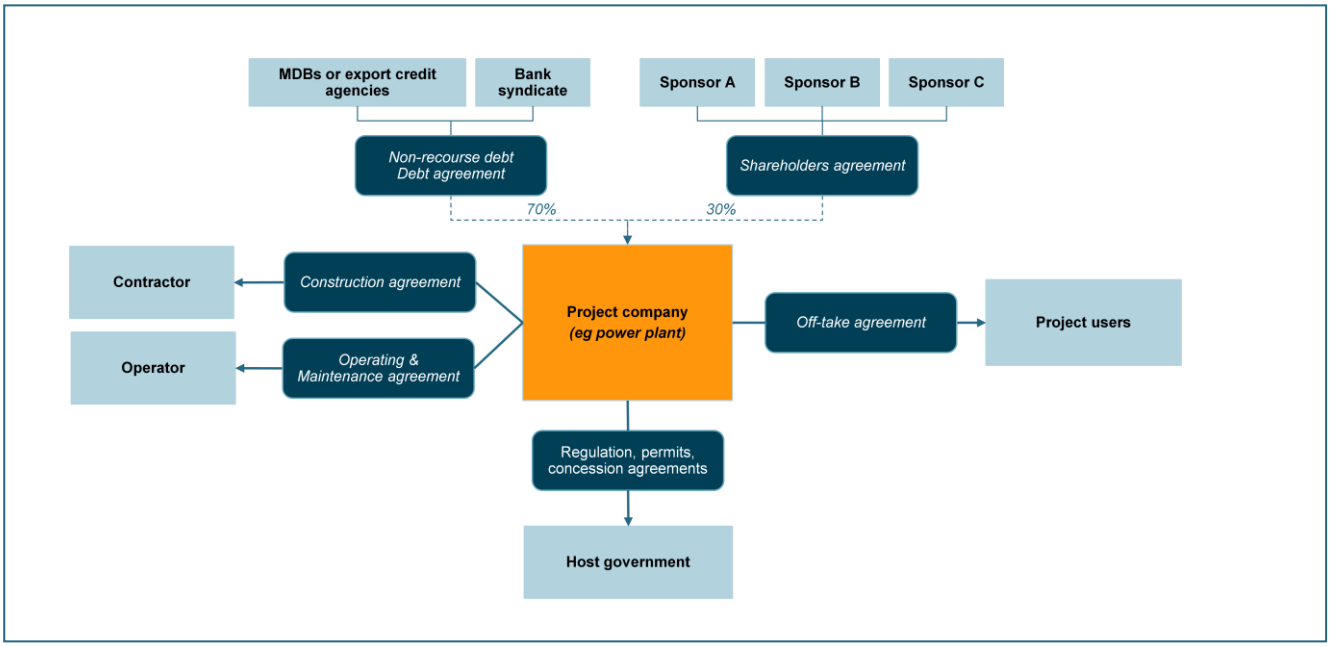
Lenders base their decision to extend such financing on an assessment of the project itself rather than the borrower, and on the projected cash flows generated by the project that will repay the credit. They rely on the project's asset as collateral for the debt.

The use of nonrecourse or limited-recourse financing is essential in project finance for two reasons:

- Lenders are repaid only from the cash flow generated by the project or, in the event of complete failure, from the value of the project's assets
- Lenders may also have limited recourse to the assets of a parent company sponsoring a project

3. Parties involved

Typical project finance structure



Source: Roland Berger analysis

Government: Though local governments generally participate only indirectly in projects, their role is often the most influential as they are often responsible for the approval of the project, granting the concession, supply guarantees among other duties.

Project sponsors and investors: The sponsors are generally the project owners with an equity stake of about 30% of project costs. Because project finance uses the project company as the financing vehicle and raises nonrecourse debt, the project sponsors do not put their corporate balance sheets directly at risk in these projects.

Lenders: The needed finance is generally raised in the form of debt from a group of banks[54] that represent the primary source of funds for project financings. In arranging these large loans, the banks often form syndicates to sell-down their interests. The syndicate is important not only for raising the large amounts of capital required, but also for de facto political insurance.

Project company: The project company is an entity created solely for the purpose of executing the project. The single-purpose entity is the center of the project through its contractual arrangements with operators, contractors, suppliers and customers.

[54] A syndicate of banks might be chosen from as wide a range of countries as possible to discourage the host government from taking action to expropriate or otherwise interfere with the project and thus jeopardize its economic relations with those countries

Contractor (EPC): The contractor is responsible for constructing the project to the technical specifications outlined in the contract with the project company.

Operators (O&M): Operators are responsible for maintaining the quality of the project's assets and operating the power plant, pipeline and other mechanisms at maximum efficiency.

Supplier: The supplier provides critical input to the project.

Customer: The customer is the party who is willing to purchase the project's output, whether the output is a product such as electrical power or a service such as electrical power transmission or pipeline distribution. The goal for the project company is to engage customers who are willing to sign long-term, off take agreements.

In developing countries and more specifically in LICs, the role of the following participants is essential:

Multilateral agencies: The World Bank, the International Finance Corporation, the European Bank for Reconstruction and Development, the European Investment Bank and other bilateral agencies such as the French Development Agency, Proparco, the Netherlands Development Finance Company (FMO) or the Development Working Group, often act as lenders or co-financers to important infrastructure projects in developing countries. These institutions may lend funds directly or guarantee the loans extended by the other banks.

Export facilitating agencies: The Export-Import Bank[55] in the United States, Coface in France, Euler in Germany or Sace in Italy underwrite both the commercial and the financial risks arising on the project.

4. Three main steps involving different symmetric risks

The risks on large projects arise during three quite distinct stages:

- Project set up
- Construction
- Operations

Risks arise as soon as the project is in the planning stage. Analyzing a major project can take years and requires numerous technical and financial feasibility studies. At this stage, no one is sure that the project will actually materialize.

But of course, the greatest risk occurs during construction, since any loss can only be recouped once the facilities are up and running.

Some of the main risks incurred during the construction phase are:

- **Cost overruns or delays:** Can be covered by specific insurance in the case of a lack of income subject to exchange of the payment of additional premiums. Any claims benefits are paid directly to the lenders of the funds, or to both borrowers and lenders. Another way is for the contractor to cover all or part of any cost overruns and to pay an indemnity in the event of delayed delivery. In exchange, the contractor may be paid a premium for early completion.
- **Non-completion of work**: Covered by performance bonds and contract guarantees, which unconditionally guarantee that the industrial unit will be built on schedule and with the required output capacity and production quality.

[55] Ex-Im Bank

Exposure to risk is highest between the end of construction and the start of operations. At this point, all funds have been released, but the activity that will generate the flows to repay them has not yet begun.

Moreover, a new risk emerges when the installations are delivered to the client, since they must be shown to comply with the client's specifications. Since the client may refuse to accept the installations, an independent arbitrator validates that the work delivered is in conformity with the specifications made.

Once the plant has come online, anticipated returns may be affected by:

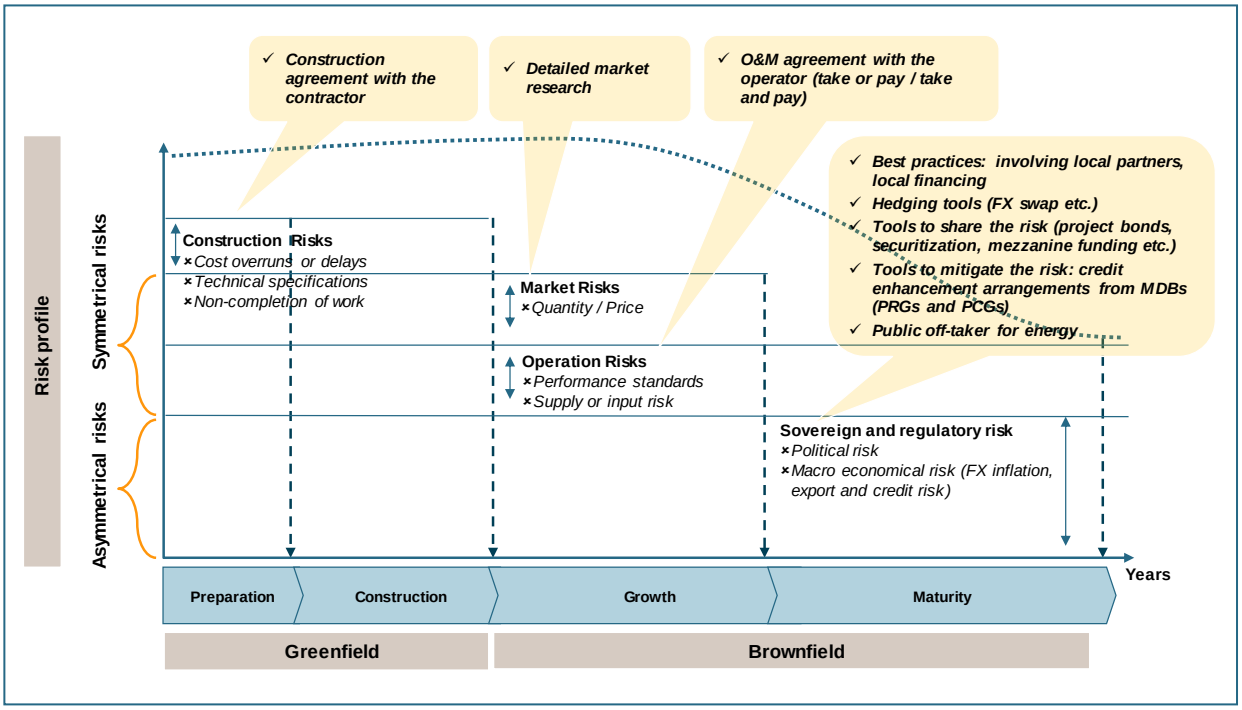
- Operating risks like faulty design of the facilities and rising procurement costs. When this occurs, actual profits and losses diverge from the business plan presented to creditors initially used to convince them to extend financing. Lenders can hedge against this risk by requiring long-term sales contract, such as:
    - Take or pay: these contracts link the owner of the facilities, typically for the extraction and/or transformation of energy products, and the future user whose need for it is more or less urgent. The user agrees to pay a certain amount that will cover both interest and principal payments, regardless of whether the product is delivered
    - *Take and pay:* far less restrictive than take or pay since clients simply agree to delivery of the products or to use the installations if they have been delivered and are in perfect operating condition

The effect of these contracts is to ensure that each risk is borne by the party that is best able to measure and control it.

Contractors and operators are usually ready to take the risk because projects involve an established technology and there is relatively little chance of unpleasant surprises.

- Market risks: these risks may arise when the company faces adverse market conditions. They can be contained, although never completely eliminated, by careful study of the sales contracts as well as detailed market research.

Risk profile of infrastructure project at each stage



Source: Roland Berger analysis

B. How does it work today?

1. The less profitable it is, the more public sector is involved

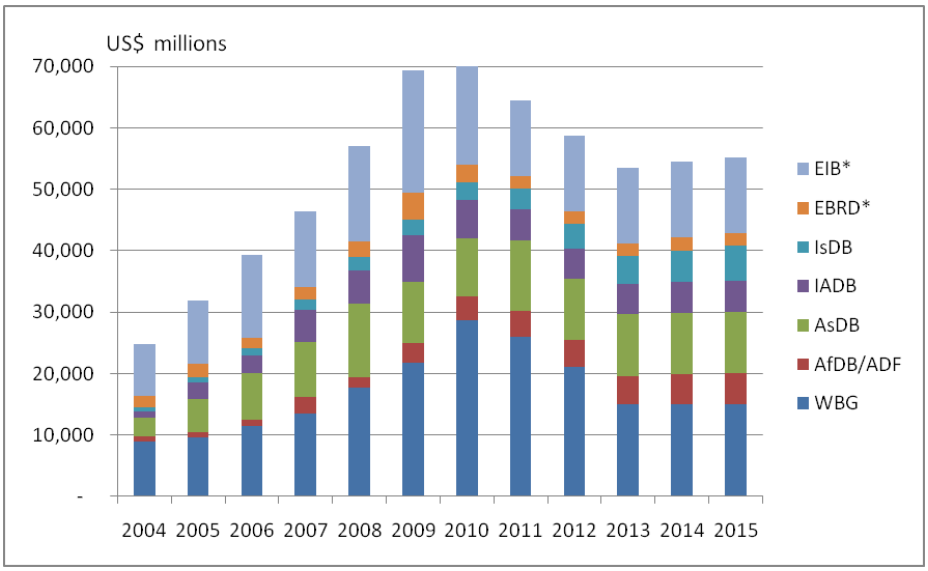
Infrastructure lending is facing many constraints today. For one the private sector tends to only invest in the most profitable sectors. For instance, in sub-Saharan Africa the private sector is financing 80% of the investment made in wireless telecommunication infrastructure compared with 10% in electricity and transport.

In addition public sector investment is not enough. LICs need to spend 7.5% of GDP on infrastructure investment and maintenance, but spend only less than 2.5%. The financing is even well below the USD 750 billion[56] required per year of investments in infrastructure in LICs since the private sector provides USD 20 billion per year, the public sector USD 27 billion and MDBs USD 20 billion. It is also hard to mobilize long-term funding in local financial markets, especially in Asia and Africa. The number of bankable projects is further hindered by a lack of feasibility reports.

Therefore, as a consequence of the current global financial crisis, lending for MDBs is expected to decrease slightly over the next 5 years from USD 70 billion in 2010 to about USD 55 billion by 2015.

[56] AsDB

MDBs sovereign lending to infrastructure: actual 2004-10 and projected 2011-15



Source: World Bank

* Since no projections were provided by EBRD and EIB, it was assumed that lending would revert to pre-crisis (2007) levels.

2. PPP as way of increasing the involvement of the private sector

Infrastructure has traditionally been under the control of governmental bodies even among the more advanced developing countries because of its public interest importance. Between 75% and 80% of infrastructure projects worldwide are run by the state, according to the World Bank. Yet for several reasons, there has been global widespread historical under-investment in such projects, resulting in degradation of existing assets with simultaneous failure to add new capacity.

As this issue is unlikely to reverse course soon, forward thinking countries and government entities have sought to encourage convergence of public and private sector activity. Formal contracting structures through active Public-Private Partnerships ('PPPs') supported by recent government initiatives and MDBs have made progress in encouraging private capital investment in infrastructure.

Various types of financial investors are interested in investing in infrastructure at the asset level in LICs. The long-term infrastructure financing market sits more comfortably with natural long-term institutional investors such as pension funds and insurance companies, who seek a diversified portfolio of assets to match their long-term liabilities. Endowments, sovereign wealth investment funds (SWFs) and ultra-high net worth family offices, but also infrastructure funds formed by banks and private sponsors are also other potential financial investors.

C. There's a room for growth for financial institutions in LICs

Major institutions, like Goldman Sachs,[57] Deutsche Bank,[58] McKinsey & Company[59] the Boston Consulting Group[60] or ourselves[61] share the belief regarding Africa's take-off, and that the time has come to provide LICs with more capital. With the changing market perception, momentum has increased to address specific LICs' risks with the adequate financing tools. Here the private sector can rely on a crucial partner: the MDBs, which have a major role to play in boosting private sector involvement in infrastructure projects.

With their evolution from 'lending' banks to 'enabling' banks, they give comfort to the private sector and assist it with their accumulated expertise in the field. MDBs can use this expertise and know-how of financing infrastructure projects in developing countries to operate as credit enhancers to alleviate bondholders' aversion to such projects and enable lower interest rates.

1. How to invest safely in developing countries?

In addition to the traditional symmetrical risks of project financing highlighted above, investing in developing countries and more specifically in LICs involve some asymmetrical risks that can be mitigated.

a. Political risk

Political risk in developing countries is a key consideration because the assets are integral to the local economy, they have long shelf life and they cannot be moved, which makes them vulnerable to expropriation.

Political risk takes various forms, including changes in a government's authority, legislation, and budget, which could lead to changes in the host country's position on a vital element of an agreement.

Before starting the project, there are many ways to lower that risk. Most common is involving prominent local partners, including government institutions themselves, before the start of the project to provide comfort to other stakeholders. Investing with export credit agencies and multilateral banks as financiers ameliorates country risk, since any lack of compliance with these institutions may affect not only the project, but the creditworthiness of the country as a whole. Another frequent practice is to submit certain contracts associated with the project to the jurisdiction of courts in developed countries in order to reduce the risk associated with the legal and institutional instability.

The next step is to use existing guarantees to mitigate the political risk. Issued by bilateral and multilateral organizations, such as for example, MIGA[62], which has a special political insurance service, and private insurance companies, Political Risk Insurance ('PRI') covers sovereign/corporate entity default only if the reason of the loss is political risk such as currency inconvertibility and transfer restriction, expropriation, war and civil disturbance. The better credit rating of the issuing institution is leveraged with no direct costs.

[57] See 'A Small Price to Pay: Financing Africa's Infrastructure Bill' of October 14, 2008 and 'How Exciting is Africa's Potential?', October 14, 2010

[58] See 'Africa's frontier markets: growing up' , November 11, 2011

[59] See 'Lions on the move', June 2010

[60] See ' The African Challengers: Global Competitors Emerge from the Overlooked Continent' , June 2010

[61] See 'Inside Africa', January 2012

[62] The Multilateral Investment Guarantee Agency, a member of the World Bank Group

Partial Risk Guarantees ('PRG') cover commercial lenders in private projects for contractually specified risks. These may include the same traditional political risks that also apply for PRI instruments, but also for government termination of contractual payments obligations, change of law on specific rules, non-allowance for agreed tariff adjustment formula, non-honoring of a supply agreement with a public counterpart. PRGs offer full coverage and may involve an indemnity agreement between the MDB and the country, whereby the government will indemnify the MDB in the event that the MDB makes payments under the PRG; if the government refuses to pay, then the MDBs payments are suspended.

b. Currency risk

Project finance usually involves generating revenues in one currency and repaying debt in a different currency. This risk is lower in monetary unions with an exchange rate fixed to a more stable currency, such as the CFA zone, which includes 14 LICs. In such unions there is always a long-term devaluation risk. The use of off-shore dollar/euro-denominated accounts can help also to avoid this mismatch of currency.

Traditional hedging tools in developed countries can be applied:

- Currency swaps allowing the SPV to convert debt into a more stable currency especially for LICs with a strong currency. Ecobank has been offering that service for 22 African sovereign local currencies[63] since 2011
- Using a real-exchange rate liquidity (REX) facility, which addresses the risk of a devaluation of the local currency

Increasing long-term local funding especially for infrastructure generates revenues in local currencies. Especially if there are an increasing number of local banks ready to provide loans such as Oceanic Bank, Standard Bank and Nedbank.

There is also another relevant currency risk: transfer risk, which refers to the impossibility of converting local flows into hard currency or of remitting cash flows abroad. Transfer risk can be transferred to private insurers and government sponsored insurance institutions.

c. Inflation risk

This risk is not applicable to monetary unions with a fixed-exchange rate and low inflation due to economic convergence mechanisms. But for other cases maximizing the proportion of cash flows in strong currencies to be channeled through off-shore accounts can mitigate inflation.

In the case of projects with regulated prices, exchange and inflation risks are best ameliorated by indexing tariffs. However, this option is quite sensitive to political risk, a topic addressed above.

d. Export risk

Export credit guarantees cover losses for exporters/lenders exporting goods and services such as failure of the importer to pay, to developing countries. Export Credit Guarantees ('ECG') are mainly provided by national agencies, which also provide other kinds of guarantees: Coface, Herme and African Trade Insurance (ATI).

[63] Including bonds from, among others, Benin, Côte d'Ivoire, Senegal, Togo, Ghana, Kenya and Nigeria

e. Credit risk

Regardless of the cause of the default whether political or commercial risk, credit guarantees cover losses in the event of a debt service default. The coverage can be partial with only a share of the service default covered Partial Credit Guarantees, or comprehensive with wrap guarantees. PCGs are mainly provided by MDBs including the WB, IFC and regional banks. They cover private lenders to governments and public entities, but mainly in developing countries. Credit guarantees can also be offered to private lenders, which support SSA SMEs. (cf. AFD's ARIZ[64])

2. Expanding existing financial tools in LICs

As we have seen earlier, LICs and MICs' growth can be strengthened by crucial infrastructure projects. Finance has a major role to play as it did in the United States in the 1860s with the construction of the First Transcontinental Railroad[65] that linked the East Coast of the country to the Far West.

The first step of this road map would be to start by investing in Brownfield projects or an asset that already exists. This approach is safer than investing in a Greenfield asset that still needs be build. Because Brownfield projects typically include a current cash flow component from the currently operating facilities, together with some operating and usage history, they are less risky than Greenfield projects.

Expanding financial tools that were already successfully used in some emerging countries to similar LICs frees up public funds, which can then be redeployed to strengthen Greenfield projects.

Finally, a system of staff incentives should be introduced and implemented in MDBs to encourage the banks to grant guarantees, which multiplies funds by 'crowding in' of numerous private investors. Today, for MDB staff, creditor status is seen as more rewarding and prestigious, encouraging staff to grant credits rather than guarantees. In order to change this situation, incentives to grant more guarantees, in terms of remuneration, bonus and seniority, should be set up. Moreover, communication regarding the proper role of MDBs should be made toward official governments, which, as shareholders, will push MDBs toward an improved 'enabling culture.'[66]

a. Credit enhancing arrangements

By acting as credit enhancers, MDBs could attract higher volumes of long-term flows to LICs. At the same time, they would also benefit by 'leveraging' their existing capital since for every dollar of their own balance sheet deployed, they should be able to mobilize more from the private sector.

By providing guarantees they can attract private investors to lend money. However, conservative accounting for guarantees by MDBs limits this tool.[67] We understand that there

[64] Guarantee mechanism available in the countries in which AFD operates

[65] Originally known as the 'Pacific Railroad', the transcontinental railroad has been built between 1863 and 1869 and connected the Atlantic and Pacific coasts of the U.S. by rail for the first time

[66] 'Contingent liability' IMF method

[67] This does not apply to IDA and AFD accounting

are pros and cons regarding whether guarantees should be considered as loans or less in the balance sheet. But, we strongly believe that the better risks are perceived, the easier it will be for regulators including auditors and credit agencies and MDBs to ease their position and start considering a guarantee instead of a loan.

b. Issuing different bonds at each stage of the project

Alternative lending options can include issuing project bonds at different stages of the project and offering different maturities.

Project bonds offer a wide-range of advantages, including widening the pool of available capital and investors such as insurance companies and pension funds. Because they are also available for longer maturities, 17-20 years compared with 10 years for banks, at fixed rates, they increase operating flexibility compared with loan covenant packages. Therefore, project bonds can also be used to refinance existing bank debt.

Credit guarantees from MDBs' are traditionally a prerequisite for private investors. By acting as monoline insurers, MDBs enable the debt to be sold to the bond market.

The Peruvian local bond market, for example, supported two Greenfield project bond financings in 2010. In the Huascacocha water derivation PPP, Brazil's OAS issued a 321 million nuevos soles (USD 116 million) bond through its Peruvian subsidiary for an 18-year term, and in Taboada, ACS issued 942 million nuevos soles (USD 340 million) bonds through subsidiaries for 18 and 22-year terms to finance the construction of a waste water treatment plant.

The Latin American example could be copied in Africa since its yearly funding gap is estimated at USD 50 billion, which represents only less than 3% of the sovereign European debt capital market.

c. Asset-back securities

Securitizing Brownfield project loans or MIC project loans, a suggestion from Goldman Sachs,[68] provides another option to share the risk among a broader pool of participants. Collateralized debt obligations as well as open-ended funds could then be launched to attract higher liquidity to project finance, which is not yet the case today.

By refinancing a commercial bank's project finance loan or pool of such loans, the ability of the bank to originate and provide project finance commitments and loans is restored.

Asset-back securities were widely criticized for their role during the subprime crisis. Securitization enabled banks to share the risk among a wider range of participants and to maximize their leverage by taking out their loan balance. Increasingly complex and opaque financial products, inadequate risk assessment by rating agencies, and consequent excessive leverage combined to make the system collapse.

However, in project finance, risks can be assessed more accurately since their conditions and their structure are clear. Additionally in comparison to the market for mortgages it is unlikely that all LICs will be subject to political instability and violence at the same time.

[68] See 'A Small Price to Pay: Financing Africa's Infrastructure Bill' of October 14, 2008 and 'How Exciting is Africa's Potential?', October 14, 2010

d. Long-term financing tools

High yield bonds pay higher yields than investment grade bonds because they have a higher risk of default and are rated below investment grade, making them more attractive to investors. Today, these bonds are finding investors since German and US bonds are providing historically low yields that are even lower than inflation.

Another financing tool, mezzanine funding, which starts off as debt and is later converted to equity, could also be attractive to private investors.

Conclusion

There are huge infrastructure needs to be met in LICs. Good infrastructure facilitates the growth of businesses, promotes trade, and strengthens economic growth by improving access to vital resources. This, in turn, generates demand for new developments in infrastructure.

We must urgently identify new sources of finance to enable these positive effects of investment. Private sector concerns about risk are the main factor standing in the way of investments in LICs.

However, as we have seen in this report, the risks associated with LICs have been misunderstood. Financial institutions today are able to better assess these risks than in the 1990s. Even Jim O'Neill, the Goldman Sachs Chief Economist who launched the BRICs concept, believes that the price to finance infrastructure in sub-Saharan Africa is not as costly as we think.

A renovated perception of the risk would entail new financing tools and a new approach by the different parties involved.

Finance can indeed benefit LICs. Financial institutions have to go one step further: they should extend traditional financing tools used in developed countries and in the lower MICs to LICs. The range of projects presented above provides clear evidence that this is possible and happening.

MDBs could also accelerate their shift from a 'lending' to an 'enabling' culture to boost private sector investments. MDBs' shareholders have a critical role to play in influencing this shift.

A model of inclusive growth with a focus on green development would make the world more stable, more prosperous and more sustainable.

Roland Berger
Strategy Consultants

IV. Recommendations

The following recommendations have been based on an active dialogue with a range of stakeholders, including commercial banks, non-governmental organizations, the African Development Bank and the private sector.

A. Better information for private investors willing to invest in infrastructure projects in LICs

We believe that one major reason why private investors have a high perception of risk of investing in LIC infrastructure projects is that there is a substantial lack of information. That is why we strongly support the two proposals made by the MDBs in their Action Plan presented in November 2011 to G20 leaders. In particular we support the "Sokoni Africa Infrastructure Marketplace," the expansion of the Africa Infrastructure Country Diagnostic (AICD) to other regions and the scaling up of the Construction Sector Transparency (CoST) Initiative. Information marketplaces, such as the Sokoni platform will empower project sponsors and development officials to advertise projects and enable donor governments and private investors to more easily identify African projects.

Moreover, we welcome the expansion of the Africa Infrastructure Country Diagnostic (AICD) to other regions. This benchmarking infrastructure development initiative has already proved itself efficient, providing data on the status of infrastructure by sector and country in sub-Saharan Africa.

Furthermore, we support road shows that allow different players to engage as soon as possible in a direct exchange with new investors, in order to remove misperceptions from private investors' minds.

As previously underlined in this report, we think that the actual risk of infrastructure projects in LICs and lower MICs is frequently lower than the perception of risk among foreign providers of capital. As mentioned by the HLP in its report, initiatives to share and disseminate the track record of successful past projects need to be pursued (see part V of the report).

Finally, credit rating agencies that could be potentially paid by MDBs should be encouraged to rate more companies in order to get a more accurate assessment of the real risk on developing countries.

B. Increasing the use of innovative financial tools to develop infrastructure projects in LICs

By using innovative financial instruments to finance vital infrastructure projects in LICs and lower MICs, finance can also serve development. Studies conducted by the AfDB are already available to assess the impact of the development of financial markets for LICs and lower MICs products.

The development of securitization tools for infrastructure projects should be promoted to share the risk among a broader range of stakeholders. However, unlike the subprime crisis where opaque financial products made them impossible to assess by credit rating agencies, we believe that project finance CDOs could be assessed more accurately since their conditions and structures are clear and transparent. This would enable MDBs to keep their rating and the confidence of the market.

C. Foster the evolution of MDBs 'from a lending culture to an enabling culture'

As a final recommendation, we support the evolution of MDBs[69] from a lending culture to an enabling one by crowding in more private capital and assisting private investors with their accumulated expertise in the field. It is crucial to create an enabling environment for facilitating project financing in LICs, as the HLP already highlighted it in its report. Therefore MDBs should implement staff incentives to grant more guarantees rather than loans.

We also fully support the African Development Fund (ADF) initiative to implement two new instruments, namely a First Loss Portfolio Guarantee (FLPG) and a Partial Risk Guarantee (PRG), that would leverage its funding in order to promote private sector development in LICs.[70]

The FLPG is a facility that guarantees a share of the first loss of the cumulative operations portfolio. It would guarantee the financial obligations of a reasonable proportion of the underlying credit assets of the emerging new private sector operation portfolio in LICs.

The PRG would mitigate the risks associated with government performance and the participation of a state-owned enterprise in project implementation in order to mobilize private sector financing for development purposes, promote infrastructure development and encourage private participation in public-private partnerships.

[69] High Level Panel on Infrastructure, Recommendations to G20 – Final Report, 26th October 2011

[70] Leveraging ADF Resources for Private Sector Development, ADF-12 Replenishment, Third Meeting, May 2010, Abidjan, Côte d'Ivoire

V. Showcase of successful projects

A. Green projects

In our showcase of examples, we want to highlight some projects involving renewable energies in LICs and lower MICs as well as other existing PPPs where innovative financing tools were used.

1. Lake Turkana Wind Power Project - Kenya

Project Description	• Location: North-western Kenya, near Lake Turkana, where winds move at 11 miles per second • Building the largest wind farm in sub-Saharan Africa with the capacity to produce 300MW of electricity by late 2014 • 7 years of study and funding negotiations • Start of construction: June 2012 • 20-year lifespan • Project cost: € 582 million
Project Rationale	• The project is expected to add an additional 20% to Kenya's current total installed power capacity • Kenya is increasing need for electric energy: according to the Kenyan government's projections through 2029, the country will need additional installed electric energy capacity of 2,396 MW by 2020 and 7,539 MW by 2029 • Reduction of Kenya's reliance on imported energy and fossil fuels to meet its energy needs, Kenya will have to import nearly half the energy for 2020 and more than one-quarter for 2029 Carbon emissions reduction • Cheaper electricity: the lowest in Kenya (60% cheaper than thermal power plants) • During the 32-month construction period, up to 2,500 jobs will be created followed by over 200 full time jobs throughout the period of operations
Identified Risks	• Sovereign risk • Currency risk • Interest rate risk • Insufficient wind capacity, leading to additional penalties • Environment impact: soil erosion, loss of ecology (flora and fauna destruction)
How to deal with risks?	• PRG and PRI from the World Bank and MIGA (subject to government guarantees) • The PPA is in Euros so FX hedging will not be required • Interest rate hedging by the sponsors is still under consideration • Gap analysis report • Environmental and Social Impact Assessment (ESIA) study
Project	• **Special Purpose Vehicle (SPV):** Lake Turkana Wind Power Ltd (LTWP) which is controlled by Kenya Electricity Generating Company (KenGen)

Partners/ Consortium	• **Operator:** Aldwych International Limited • **Equity shareholders**: - KP&P Africa (Dutch company that develops and operates wind energy projects) - Aldwych International - Industrial Development Corporation of South Africa (IDC) - IFU (Industrial Fund for Developing Countries) - Nordfund (Norway Investment Fund for Developing Countries) • **Lenders**: - African Development Bank: lead arranger through the African Financing Partnership facility and one of the guarantors on behalf of the Kenyan government - Co-arrangers: Standard Bank (South Africa) / NedBank Capital (South Africa) • **Constructor**: Vestas Wind Systems: a Danish firm, will supply LTWP with 365 Vestas V52 wind turbines, install them and grid connections facilities • **Off-take purchaser**: Kenya Power during over 20 years • **Regulatory entity**: Kenyan Ministry of Energy through the Energy Regulatory Commission
Financing	• 70% of debt: - 60%: AfDB - 40%: Commercial banks (Nedbank and Standard Bank) • 30% of equity and semi-equity

2. Misicuni Renewable Energy Hydroelectric Project - Bolivia

Project Description	• A large hydroelectric project that will add up to 80 MW of hydroelectric power to Bolivia's national grid • The project will also allot USD5 million to increase water supply for domestic use and irrigation to the Cochabamba valley by constructing a 19.5km long tunnel for water diversion and a pressurized piping system • The USD85 million dam construction on the valley of the Misicuni river has been financed by the government of Italy, the prefecture of Cochabamba, Bolivia's national treasury and the Andean Development Corporation • Project cost: USD 114 million
Project Rationale	• Bolivia's increasing energy demand • Enhanced water management • Reduction of erosion susceptibility • Promotion of soil and water conservation measures
How to deal with risks?	• Construction costs: EDF-CNET and SPV bear the risk : Engineering, Procurement and
Project Partners/ Consortium	• Special Purpose Vehicle (SPV): • Development companies: • Constructor: • Operator: • Off-take purchaser: Empresa Nacional De Electricidad • Government of Bolivia • Financial institutions: Inter-American Development Bank • Other financiers of the project: Government of Italia
Financing	• 70% debt (USD 106 million from the Inter-American Development Bank) • 30% equity (USD 34 million)

3. Polaris Geothermal Power Plant / San Jacinto-Tizate Power Project – Nicaragua

Project Description	• BOT Greenfield project • 10 MW geothermal Power Project • Phase 1: construction of the powerhouse and installation of a 38.8 MW steam turbine at a cost of USD153 million • Phase 2: drilling of additional production and injections wells, building of steamfield infrastructure and installation of an identical 38.8 MW turbine at a total cost of USD177 million • Project cost: USD370 million
Project Rationale	• The project increases Nicaragua's overall power generation capacity and will represent 8% of the Country's total installed capacity • Demonstrates the viability of geothermal energy
Identified Risks	• Cost overrun • Environmental and socio-economic impacts (air quality, noise, seismicity of the region)
How to deal with risks?	• Covenants in the construction contract with main contractor that provide for dust control, proper disposal of wastes (including recycling of lubricants and a municipal permit for use of the town dump), and priority use of local hires from surrounding communities • Environmental damages: Nicaraguan legislation requires that electrical generation projects obtain an environmental permit requiring an Environmental Impact Assessment (EIA)
Project Partners/ Consortium	• Special Purpose Vehicle (SPV): Polaris Energy Nicaragua S.A.(PENSA), a subsidiary of Ram Power Corporation (United States) • Development company: Polaris Geothermal of Canada, Ram Power Corporation and Western GeoPower • Constructors: - Steam turbine supplier: Fuji Electric Corporation (Japan) - Drilling: ThermaSource (US) - Construction: Constructora Queiroz Galvao (Brazil) • Off-taker: Union Fenosa's subsidiaries: Disnorte and Dissur (local privatized power distributors) • Government of Nicaragua and the Ministry of Energy and Mines • Lending consortium - Central American Bank for Economic Integration (CABEI) - Inter-American Development Bank - IFC
Contract type	- 25 year BOT agreement signed in 2001 between Polaris Energy Nicaragua (PENSA) and the Ministry of Energy and Mines (MEM) of Nicaragua (extendable for an additional 10-year term) - PENSA held a generation license that allows it to generate 72 MW for a 30-year-term (2003-2033) - Long term power purchase agreement (PPA) between PENSA and Union Fenosa

Financing	• Main lenders include: - IFC (Loan/USD 31 million), CABEI (Loan/USD 20 million), CABEI (Syndication/USD 10 million), IADB (Loan/USD 40 million), IFC (Quasi-equity / USD 20 million)

B. Other projects

1. The Phu My 2.2 Power Plant - Vietnam

Project Description	• The first Independent Power Producer (IPP) project launched in Vietnam and the largest power plant project • Composed of 5 plants, with a combined capacity of up to 3,900MW that meet 40% of the country's energy needs • BOT (build, operate, transfer) a 20 year project of a coal-fired power plant with a capacity of 1,320 MW (two 660-megawatt boiler turbine generator units) built to supply electricity to the company Electricity of Vietnam (EVN) over a period of 25 years • Location: village of Phu My in Ba Ria-Vung province in the southern part of Vietnam • Plant ordered in 1998 and commissioned in May 2000 • Project cost: USD 480 million
Project Rationale	• Vietnam's GDP growth of 5% leads to a growing demand for electricity particularly in South Vietnam • EVN insufficient investment program to build new capacity of 5000MW • Will to diversify production away from hydroelectric capacity, especially in North Vietnam • Gas availability in the Nam Con Son Basin, near Ho Chi Minh City • Decision in 1997 to use a BOT contract to build the first Vietnam power plant (715MW)
Identified Risks	• Cost overruns • Delay in the commissioning of the plant (unbearable to the authorities because of the 'take or pay' contract signed with BP) • Delay in the establishment of funding which could lead to the cancellation of the contract • Delay in construction leading to penalties payable to EVN • Delay in the construction of energy evacuation lines (risk borne by EVN) • Insufficient plant's capacity, leading to additional penalties • Insufficient plant's output, leading to additional uncompensated costs • Insufficient gas supply by Petrovietnam • Failure to pay by EVN (take-off buyer), since EVN is very dependant on the tariff policy decided by the State • Currency and transfer risk of the Vietnamese currency (Dong) • Sovereign risk
How to deal with risks?	• Construction costs: EDF-CNET and SPV bear the risk: Engineering, Procurement and Construction (EPC) contract with fixed price and date for EDF-CNET ; SPV: provision for contingencies, B debt tranche of USD80 m • Financing completion delay: promoters' equity initially paid and Vietnamese State's 'take or pay' engagement towards BP • Construction delay: contractual penalties paid by EDF-CNET and debt B tranche (USD 80

	million) allow a 8-month delay • Insufficient capacity: EDF-CNET contractual penalties compensate SPV penalties • Insufficient thermal yield: partial compensation with EDF penalties and decrease of the project's profitability • Insufficient gas: termination of the contract allowance guaranteed by the State • Defaulting payment from EVN: State guarantee • Inconvertibility or non-transferability of the Dong: exchange rate guarantee by the State • Sovereign risk: World Bank, AsDB and Coface political risk guarantee to commercial lenders
Project Partners/ Consortium	• **Special Purpose Vehicule (SPV):** Mekong Energy Company Development companies: EDF, TEPCO and Sumimoto • **Constructor:** EDF-CNET • **Input provider:** Petrovietnam • **Operator:** BP • **Off-take purchaser:** EVN • **Equity shareholders:** - EDF: 56% - Sumitomo: 28% - Tepco: 16% • **Lenders:** - Japan Bank for International Cooperation (JPIC) – direct loan: USD100 million - AsDB – direct loan: USD50 million - Proparco – direct loan: USD40 million - Commercial banks: Australia and New Zealand Banking Group (ANZ), Sumimoto Mitsui Banking Corporation (SMBC) and Société Générale – loans with political risk guarantees by World Bank, AsDB and Coface: USD150 million
Contract type	• BOT contract between the SPV and Ministry of Planning: - build, operate and then transfer to the Ministry of Industry a gas combined cycle power station (715 MW) ; - imposed deadline: financial close date, construction start and plant completion ; - guarantee on EVN electricity payment and termination of contract allowance • Electricity sale contract between the SPV and EVN; - 20 year Take or pay contract - 4 payment elements: fixed charge capacity, energy charge (on production basis), additional charge (water, ground), supplemental charge to be paid in the case of regulatory or fiscal change
Financing	• 70% of debt: - 56%: JBIC, ADB and Proparco - 44%: Commercial banks (ANZ, SMBC and Société Générale) • 30% of equity

2. Blaise Diagne International Airport - Senegal

Project Description	• Construction of the Blaise Diagne International Airport (AIBD) with a capacity of 3 million passengers • Location: Diass, 45km east of Dakar • Largest infrastructure project undertaken in Senegal and 3rd Public-Private Partnership (PPP) project in Senegal financed by AfDB • Construction of terminals, facilities and runway catering to 25,000 planes per year, (annual capacity of 3 million passengers and freight capacity of 53,102 tones per year) ; • Project cost: € 525 million
Project Rationale	• Urgent need to construct a new airport in response to: - Growing traffic: project designed to provide a long-term solution to traffic management - Dakar congestion: support the Senegalese government's strategy for decongesting Dakar peninsula and to promote the development of neighboring region through a modern and secure state-of-the-art airport facility - high technical constraints and environmental anomalies caused by the saturated existing Léopold Sédar Senghor International Airport situated 9km from the center of Dakar, built in the 1960 • Cornerstone of the Senegalese government's 'Accelerated Growth Strategy' which includes tourism development and therefore the need for a quality airport infrastructure, and its decentralization strategy
Identified Risks	• Overrun costs • Construction delay • Insufficient traffic which would lower the revenue generation for the government in the form of income taxes and concession fees • Sovereign risk
How to deal with risks?	• AIDB is required by the Concession agreement taken with the Senegalese Government to subscribe a comprehensive and extensive insurance program covering its liabilities and responsibilities as 'constructor' and 'operator' (partially transferred to Saudi Bin-Laden Group, SBG, and Daport) • EPC contract between SBG and AIDB-SA: maximum construction period of 47 months and SBG is to pay each day of delay beyond the scheduled completion date • Airport departure fees (used for loan repayment) collected on the existing and any future airport, which mitigates the late completion and competition risks • Ring fencing of the project and off-shoring airport departure fees • Sound traffic forecast which shows commercial viability under a traffic low case scenario
Project Partners/ Consortium	• **Special Purpose Vehicle (SPV):** Blaise Diagne International Airport (AIBD-SA) owned at 100% by the Senegalese government (concession agreement) • **Constructor/EPC contractor:** Saudi Bin-Laden Group (SBG) • **Operation and Maintenance contractor:** Daport, a subsidiary of Fraport , the Frankfurt airport operator

	• **Lenders:** - AfDB: MLA for the conventional tranche, Senior loan of € 70 m - Islamic Development Bank (IsDB): MLA for the Islamic tranche - AFD - West African Development Bank - Industrial Development Corporation (South Africa) - Infrastructure Crisis Facility (Funded by DFIs) - OPEC Fund for International Development (OFID) - Saudi Fund
Financing	• 72% of debt: € 406 million • 28% quasi-equity: € 119 million

3. Huascacocha project in Peru

Project Description	• Damning Lake Huascacocha, a high-elevation water body in the Andes, and carrying water for there via waterways and tunnels to the river Rimac, and finally to the water treatment facilities owned by Sedapal, the municipal utility of Lima and a hydroelectrical plant of Edegel (Peru's power company) • Location: Huascacocha Lake in the Peruvian provinces of Pasco and Junín • BOT 30-years concession • Start of construction: 2008 • End of construction: Q2-2012 • Project cost: USD 120 million
Project Rationale	• Expected to benefit 2.4 million inhabitants • Enhanced water management
Identified risks	• Construction risk • Currency risk
How to deal with risks?	• 100% local financing with the issuance of USD 116 million project bonds for an 18-year term with the participation of newly formed Peruvian pension infrastructure debt trust (awarded Latin American Project deal of the year in 2010)
Project Partners/ Consortium	• Constructor: Epasa (Peruvian subsidiary of the Brazilian construction firm OAS) • Operator: Agbar (Aguas de Barcelona) • Off-take purchaser: Sedapal, the municipal utility of Lima and Edegel