THE 'NEW MARKET' FOR EMERGING MARKETS INFRASTRUCTURE: CHINA, OTHER NEW PLAYERS AND REVISED GAME RULES

Jeremy R. Kennedy
Ryan J. Orr

Working Paper #32

April, 2007

CRGP | Collaboratory for Research on Global Projects

The Collaboratory for Research on Global Projects at Stanford University is a multidisciplinary center that supports research, education and industry outreach to improve the sustainability of large infrastructure investment projects that involve participants from multiple institutional backgrounds. Its studies have examined public-private partnerships, infrastructure investment funds, stakeholder mapping and engagement strategies, comparative forms of project governance, and social, political, and institutional risk management.

The Collaboratory, established in September 2002, also supports a global network of scholars and practitioners—based on five continents—with expertise in a broad range of academic disciplines and in the power, transportation, water, telecommunications and natural resource sectors.

Collaboratory for Research on Global Projects
Yang & Yamazaki Energy & Environment (Y2E2) Bldg
473 Via Ortega, Suite 242
Stanford, CA 94305-4020

http://crgp.stanford.edu

About the Authors[1]

Jeremy Kennedy is a Texas admitted attorney currently practicing with DLA Piper in the firm's Houston office. His practice primarily focuses on international energy transactions and cross-border mergers and acquisitions, with an emphasis on upstream and mid-stream oil and gas projects. Mr. Kennedy also has experience in a wide range of other core legal disciplines, including domestic and international transportation and logistics, maritime law, project development and finance. He holds a B.B.A. from the University of Texas at Austin and a J.D. summa cum laude from the University of Texas Tech School of Law. He was also the Editor in Chief of the Texas Tech Law Review, Volume 34 and is a member of the Order of the Coif.

Ryan J. Orr is executive director at the Collaboratory for Research on Global Projects and teaches Global Project Finance to engineering, law school and MBA students. He also serves on the editorial review board of the *Journal of Structured Finance*, *Public Works Management and Policy*, and the *Journal of International Business Studies*. Dr. Orr has recently been involved in strategic planning for a new city in northern India, policy formation for a US$300[2] billion program of infrastructure renewal in California, and portfolio construction for a $500 million globally diversified infrastructure fund of funds. Dr. Orr holds a PhD in Engineering from Stanford University and was advised by Nobel Laureate, Economics, Douglass North.

[1] Proceedings of the 3rd General Counsels' Roundtable on Emerging Markets' Infrastructure, 27-28 April, 2007, Stanford University, California.

[2] Unless otherwise indicated, all values are in US dollars.

INTRODUCTION

The Third General Counsels' Roundtable was held on April 27 and 28, 2007 at Stanford University, hosted by the Collaboratory for Research on Global Projects (CRGP). The Roundtable was co-chaired by Professor Thomas C. Heller of the Stanford Law School and Barry Metzger, a senior partner of the law firm Baker & McKenzie.

The subject matter of the Third Roundtable was a bit of a departure from the previous two events.[1] Both the First Roundtable and the Second Roundtables highlighted the dismal performance of long-term infrastructure investment contracts and discussed the experience of legal-contractual failure when infrastructure projects have become distressed, and through the discussions attempted to draw lessons from such experiences to inform future public policy and project design. The Third Roundtable took a more forward looking approach and turned from looking backwards to looking at the future of international infrastructure development.

The Third Roundtable brought together project sponsors, institutional investors, professional advisors, regulators, financiers and the academic community to share experiences and exploratory research results. The Roundtable sessions were designed to probe and share information about a number of "new players" that have entered the market for international infrastructure in the period since the July 1997 financial crisis—i.e. private infrastructure funds, Chinese investors and contractors in Africa, public institutions within emerging countries that finance infrastructure in other emerging countries, local and regional project sponsors, and national oil companies. Ten years after the stumble of the 'tiger economies,' geopolitical and economic conditions are robust and investment is strong, but the participants to this activity and the game rules are clearly changing.

Throughout the discussions a number of key trends were identified and commented on. These trends included the following.

- Currently, government policies around the globe and the world's capital markets are more enthusiastic about emerging markets infrastructure; therefore, new sources of funding are rapidly being attracted to drive investment and development growth.

- In particular, more governments are placing greater emphasis on the development of infrastructure projects and there is greater enthusiasm for private sector involvement and public private partnerships in recognition of the unprecedented level of capital needed to meet growth objectives.

- And yet, from the private sector perspective, the flow of public private partnership deals is so inconsistent and constrained by politics in most markets, that it is difficult to build long-term businesses around the hope that this opportunity will materialize.

---

[1] A collection of background papers and proceedings documents that were developed in conjunction with the 1st and 2nd Roundtables was published as a special issue of *Transnational Dispute Management,* Vol. 4, Iss. 2, April 2007, under title "The Legacy and Lessons of Distressed and Failed Infrastructure Investments During the 1990s". The collection is also available for download at: http://crgp.stanford.edu/events/general_counsels_roundtable.html

- Some emerging market host countries are becoming project sponsors and this is especially evident in China, India, the Middle East and Malaysia. An important thread of the two days of discussion was on the growing role of Chinese investors and the Chinese government on infrastructure investment in Africa and other parts of the emerging world.

- Robust capital market activity and low interest rates have driven growth in private infrastructure investment funds; and yet the sheer number of new funds has led to extreme competition for assets, rising prices, and talk of a bubble.

- At the same time, emerging country public financial institutions are providing new sources of funding as well, particularly the Ex-Im Banks in the BRIC countries.

- Traditional multilateral agencies are "soul searching" as they try to re-establish their relevance and role in a period of new competition from young new financial institutions within the emerging markets.

- The availability of local currency financing in many of the emerging markets is at an all time high.

- The Equator Principles have arisen as a new set of voluntary policies that have transformed the way in which social and environmental safeguards are applied to project finance transactions globally.

- Finally, growing concern related to security of supply for energy sources has led to some competition between governments and private sector interests and the energy sector is experiencing particularly robust growth in the development of assets.

Thus the Roundtable identified a sampling of trends that highlight the shifting nature of the global dynamic for infrastructure investment. The Roundtable grappled with the relative importance of each of these trends and tried to discern how the global infrastructure investment game will evolve in the next round.

Participation in the Roundtable was by invitation only, with carefully selected representation from relevant sectors of the industry, and from multiple geographic regions, with a particular emphasis on maximizing the diversity of viewpoints at the table. Numbers were limited to a small and select few to encourage real discussion and debate. All discussion during the Roundtable was not for attribution.

NEW SPONSORS – INFRASTRUCTURE FUNDS

The executive director of the Collaboratory, Ryan J. Orr, outlines the results of a study that he and his research assistants have conducted to map and profile the full universe of new infrastructure funds founded over the past 18 months.

The role of a rapidly growing category of sponsors of infrastructure projects—the private infrastructure funds—was the focus of the first session of the program.

Private Infrastructure Investment during the 1990s

In the 1990s, there were two key developments with respect to private infrastructure investment:

1. Significant growth in private investment in developed country infrastructure following the PFI initiative in the UK in 2001 and in the emerging markets from 1990 to 1997 across a wide variety of sectors including telecommunications, energy, transportation, water and sewage, estimated to approach U.S. $140 billion.

2. Rise of a set of pioneering private infrastructure funds including Emerging Markets Partnership, the Hastings Fund, Barclays Private Equity and Macquarie. Today, Macquarie has almost $22 billion under management, which demonstrates the market share growth possible of infrastructure funds.

Studies show that much of the progress in Asia following the 1997 financial crisis froze, but there appears to be a thaw underway.

Current Trends in Emerging Markets Infrastructure

Rise of Dual Firms: quasi-government, quasi-private firms that own and operate infrastructure rather than full privatization in many emerging markets after stalled reforms.[2]

Rise of South-South Investors: infrastructure investors from within developing countries investing in local and regional projects resulting in a more local currency financing.[3]

Rise of BRIC Country Ex-Im Banks: public financial institutions situated in Brazil, Russia, India and China are rapidly expanding their trade and investment promotion functions.[4]

Rise of Petrodollars: the national oil companies, pushed forward by supply-demand imbalances, have become key investors in energy infrastructure and ancillary infrastructure along the extraction supply chain.[5]

Rise of the Sleeping Giant: the United States has a need for $1.6 trillion in infrastructure development over the next five years and this need has driven the development of dozens of new

---

[2] Woodhouse, Erik J. "A Political Economy of International Infrastructure Contracting: Lessons from the IPP Experience." *Program on Energy and Sustainable Development Working Paper Series*, 2005.

[3] Yanosek, K.; Keever, G.; Orr, R.J. "Emerging-market Infrastructure Investors: New Trends for a New Era." *Journal of Structured Finance*, Winter 2007, pg. 1-12.

[4] Caspary, Georg "A power shift in the financing of capital projects in developing countries? The Emergence of 'BRICS'-Export Finance: Evidence and Potential Implications" *Evian Group Policy Brief*, May 2007. http://www.eviangroup.org/p/1516.pdf

[5] Really Big Oil. *Economist Magazine.* August 10th, 2006.

private infrastructure funds which have raised about $40 billion to date that is allocated to US infrastructure, but much more is needed.[6]

The Rise of New Infrastructure Funds

The collaboratory has conducted direct telephone survey of managing directors of the newer funds and provisional findings were shared with Roundtable participants.[7] Key findings included:

- There are more than 72 new funds worth US$122 billion
- The average fund has a target size of about $1.7 billion
- Focus is primarily on U.S. and European brownfield infrastructure
- For funds focused on US and Western Europe, average number of investments planned is between eight and 15 and average deal size is contemplated to be about $150 to 300 million in equity contribution. The investment period is anticipated to be three to 14 years
- Leverage rates hover between 60 to 80 percent
- Most funds are willing to make minority investments
- Team size ranges from six to 19 people, except for the largest funds

These funds and their plans are in sharp contrast to those in India and the Middle East where the size is smaller and the average deal size is much smaller (between US$5 and 10 million), but the anticipated number of investments is much greater (between 20 to 25).

Long Term Sustainability of the New Fund Sponsors

In the provisional study findings, managing directors had some over-arching concerns:

- Crowding — too many funds
- Scarcity of desirable assets and shortage of Greenfield developers
- High prices as a function of crowding
- Downward pressure on yields

These concerns are most likely short-term. Demand for infrastructure development is very high; there is plenty of room for market growth for those funds that stay the course. But staying the course will be the key, as project development cycles are often three to five years, or more.

A more serious concern for these funds is that their expected rates of return are largely based on financial structuring. These funds are dependent on the historical persistence of low interest rates. Globally, interest rates are at a cyclical low, but they will move upward. Cash flows may deteriorate long-term.

---

[6] Infrastructure 2007: A Global Perspective. The Urban Land Institute and Ernst & Young LLP, pg. 1-69. http://www.ey.com/global/content.nsf/International/Real_Estate_Library_Infrastructure_2007

[7] Orr, R.J. The Rise of Private Infra Funds. *Project Finance International*, pg. 2-12, June, 2007.

An additional concern is the nature of infrastructure investment which is enormously complex with many political, technical and legal aspects that many of the newly formed fund managers may not be anticipating. Unlike financial assets which can be managed passively, an active and strategic role may be required to achieve success, which not all teams are equipped to provide.

This final concern will be a factor, in particular, for those funds planning to invest in emerging markets. Pervasive characteristics of the emerging market landscape have always been high political risks, a lack of rule of law, and a lack of fiscal responsibility and control in some governments.

A senior executive who works with pension fund investments followed the presentation and provided some commentary from the perspective of institutional investors. She pointed out that institutional investors do not necessarily think about infrastructure investment as an asset class. The emphasis, rather, is on diversification and rate of return. Also, the perspective of institutional investors is most often long-term, so some of the concerns raised may not be overly onerous.

The deciding factor for this type of investor will be on the quality of the project. Factors such as valuation of the project, stability of the environment and, in some cases, social issues at work intrinsic to the project.

One lawyer commented on the growing trend toward in the US to public private partnerships. He referenced recent events in Texas related to toll roads and the Texas Department of Transportation and rising concern over the potential for private interests to make too much money developing infrastructure such as toll roads. He also mentioned that in most case in the U.S., thus far, projects have really been developed publicly, and then turned over for private management under a concession arrangement.

Finally, he commented that the energy industry has a great deal of successful experience investing in emerging markets' infrastructure. There are notorious exceptions such as the seizing of assets and personnel; however, in general, the industry has been successful in managing geopolitical risks and obtaining attractive returns, so there may be much to learn from that industry in the development and financing of public works projects.

Another lawyer present commented further that the key question for project developers and investors is whether or not the lessons to be learned from the failures and problems of projects in the developing and developed world in the 1990s have been assimilated and institutionalized. This lawyer was concerned that many of these new private infrastructure funds have not assimilated these lessons.

Discussion among Roundtable participants then focused on the longer term perspective of equity investors such as funds in contrast to commercial banks. Infrastructure assets have often been sold off quite cheaply by the banks and subsequent investors may have done very well, so it may be that the funds will fare better as investors and developers as a function of their timing.

The high level of risk associated with developing markets relative to developed markets was also challenged. Banks often conclude that they have poorer rates of return in developed, rather than emerging markets since high risk is not built into the project's structure. Participants concluded that the U.S. might be considered a developing country with respect to public private partnerships for infrastructure. The U.S. has conflicting regulatory regimes—local, state and federal—as well as shifting political winds and fierce public opposition to private involvement in infrastructure projects in some locations. In comparison to what is now playing out in Texas with the two-year moratorium on new PPPs, the political risks in many emerging markets locations look relatively minor!

NEW SPONSORS – LOCAL & REGIONAL FIRMS FROM EMERGING MARKETS

A World Bank executive outlines the results of an analytical study conducted by a Bank research team. The study is twofold, and consists of (i) a statistical overview of the involvement of local and regional sponsors from emerging markets in infrastructure projects in these markets based on data from the Bank's PPI database[8]*, and (ii) a qualitative profiling of a representative sampling of these sponsors (on-going).*

International investors felt that they had reached their risk exposure limits during the 1997-98 economic crises in Latin America and Asia. International investor's disenchantment with both regions may have been greatly beneficial to local and regional investors, as they were able to seize this opportunity to fill in the room left by foreign investors, buying distressed projects, acting as catalysts in the development of local capital markets, and leveraging their intimate knowledge of the socio-political environment, thereby reinforcing their stronghold.

The statistical study shows that the relative share of emerging country sponsors has been quite significant – if very unevenly distributed – following the downturn of private investment in infrastructure in developing countries in the late 1990s. The data show that during the recovery period 1998-2004 analyzed by the study, local and regional sponsors accounted for about 42 percent of investment volumes, and tended to become increasingly involved in telecom and transport,, but less so in water and energy.

The data suggested that emerging country sponsors investing abroad represent about one third of investment volumes mobilized by emerging country sponsors overall (i.e. 13 out of the 42 percent refered to above). This sub-group tends to favor ventures in regions neighboring their own, leading to a clustering effect and the use of regional cultural advantage over foreign competition.

The speaker did caution the audience that it would be wrong to think of this shift as a dramatic one: while there are undeniable signs that local sponsors are gaining momentum, the territory they have conquered, so-to-speak, in the sample drawn for the purpose of this study showed just a small increase in the overall investment volume accounted for.

---

[8] See: Ettinger, et. al, "Developing Country Investors and Operators in Infrastructure," *Trends and Policy Options series, n. 3,* PPIAF, Washington DC, 2005; See also: Michael Schur, et. al. "The role of developing country firms in infrastructure" *Gridlines: World Bank Public-Private Infrastructure Facility (PPIAF)* April 2006.

Local and regional sponsor involvement was presented by sector, project type and region. Across sectors, in the period from 1998-2004, local and regional sponsors accounted for a large portion of private investment in transportation (56%) and telecom (46%), but much less in energy (27%) and water (19%). Across types of projects, local and regional sponsors tend to provide almost half of all investment for concessions (54%) and Greenfield projects (44%), and significantly less investment for management contracts, lease contracts or divestitures (30%). Thus, there are limits to the types of projects where these changing dynamics are at work at all. In addition, investments accounted for by emerging market sponsors were not divided evenly across regions. South Asia, as well as East Asia and the Pacific region stand out with larger than 50% shares, while Eastern Europe and Central Asia, as well and the Middle East and North Africa lag behind other markets in terms of local sponsor dynamism. The study also shows that over the period analyzed, the number of projects has increased in which emerging market companies have assumed the role of lead sponsor.

The second, qualitative phase of the study (not yet completed) was jointly run with a large international consulting firm, and took the form of a survey, a format carrying both its specific advantages (depth of information collected) and drawbacks (possibly strong respondent bias).

A preliminary look at the data suggests that the number of projects per sponsor has gone up sharply over the time interval covered. A deeper analysis showed that fairness and competition have become more common, since 54% of the projects undertaken by the respondents of the survey had been awarded through a bidding process rather than through a direct Government award (24%) or some other method.

One of the more revealing preliminary conclusions of this second phase of the study was a list established by the research group of the main investment criteria driving the local sponsors who participated in the survey:

1) Sustained "economic growth in a local, well-known environment"

2) "Familiarity with cultural, ethnic, social and economic environment"; and

3) Understanding of government contracts.

Overall, it was clear that political risk was thought as more critical to the success of a given project than business or even financial and market risks.

A short statistical profile of the respondents included the following highlights: (i) a significant proportion (42%) of the respondents are listed, (ii) that most such sponsors have a preference for small-to-medium undertakings, (iii) that their average debt-to-equity ratio stands at around 50% to 75%, (iv) that they remain eager to expand their operations, since 65% say they plan to invest further in existing projects and 47% claim to be willing to bid for other projects in adjacent regions.

In the resulting discussion at the roundtable following the study summary, many questions and comments arose. Some of the more striking comments were as follows:

- It may prove difficult to make a meaningful direct comparison of the rise of local project sponsors by type since transport, energy, telecom, water businesses are conceptually not very similar;

- The developments shown by the study may be short-lived, as the high funding levels made available to project finance sponsors in recent years may soon not be as plentiful as a function of significant economic shifts; and

- For U.S. project sponsors and financiers, current tax regime changes, coupled with increasing globalization of the project infrastructure industry, may be damaging to the U.S. economy as the best opportunities will decidedly go abroad.

NEW FINANCIERS – AN OVERVIEW

In this session, a senior vice president at a rating agency provided an overview of the rating agency perspective on the presence of new financiers and trends in global project finance markets.

The audience was reminded that project finance, in the capital markets, is a relatively new method of getting funding for public infrastructure. The first rating for a public project finance transaction wasn't until 1991, and that was for a co-gen power plant in Michigan. And the first cross border, non-US transaction rating wasn't until 1994. So, the history is relatively short, and project finance, as a financing tool or methodology is still in its infancy when you compare it to public finance in the United States, or when you compare it to corporate finance.

If you look at the industry, it is in constant evolution and there are different players that come at it from different perspectives. The need for infrastructure drives the long history of municipal and public sector finance. Participation in infrastructure on the part of the private sector brings in the methods of corporate finance. And then recently you add to that the structural techniques that have been borrowed from structured finance.

The applications of project finance as a financing method, or approach, have grown tremendously. In the 1960s and 1970s, it was applied primarily to mining and natural resource transactions. In the 1980s it was used extensively for power transactions in the US market. In the 1990s, it was applied to a very wide range of types of sectors under the Private Finance Initiative in the UK—including traditional power, airports, toll roads, health care and now it's even being applied to justice centers, government buildings, and the UK equivalent of the Pentagon. The approach can be used for anything that provides a service that generates some kind of revenue stream that can be used to repay the lenders who financed the project.

The speaker made the following observations about current financing trends:

- The notion that "new financiers" dominate infrastructure project finance today would be misleading. *Actually, 70-80% of all project finance deals are still funded by commercial banks, although rated deals funded by the capital markets are increasingly being used as a substitute.*

- In terms of regional activity for rated project finance transactions, approximately half of the transactions for the 1994-2006 period were in the US, although traditional rivals, such as Latin America, Europe and Middle East – and, to a lesser extent, other regions - are gaining speed.

- Most of the ratings for projects tend to fall in the lowest investment grade category, BAA3, with a persistent spike at the highest, AAA level, which are the transactions with a monoline insurance guarantee. And the reason why the largest number of projects are rated BAA3, is that's where the project sponsors want the transaction to reside. Because that balances the greatest reward to the sponsor with enough protections so that investors will be confident that they'll be repaid in full and on time. So, if you provide more kickers, or more enhancements to the transaction, you end up with a higher rating, but the sponsor gets less profit.

- The ranking of target sectors has slowly evolved. In the early days, it was largely power projects, but today toll roads are well established as the most popular asset for financing via the international capital markets.

- The greatest demand for infrastructure projects is clearly coming from developing countries, where the largest number of projects is needed. For example, India was cited as needing some US $300 billion in investments over the near term.

- Governments, particularly in the United States, and even in Canada, are recognizing the potential pay-off for privatization. In the case of a Chicago Skyway type of transaction, the governmental entity gets a lump sum payment up front in return for a leasing of the asset.

- In the United State, the TIFIA program, which provide sort of subsidy loans to project financings up to about $150 million or some set amount, are intended to stimulate interest in these types of project finance approaches.

- There is increasing interest at the multilaterals in coming up with new types of guarantee programs, partial guarantees, initial guarantees, all sorts of things to stimulate the growth in this market.

- A point that cannot be emphasized enough is the globalization of the infrastructure industry, which results in increased competition. For example, Cintra is a major player in this market, a Spanish company with extensive investments in Chile, other parts of Latin America, and now in the United States, as well as the 407 in Canada. This leads to a more rapid sharing of technology, a more rapid sharing of experience, as well as a broader access to global funding sources.

- There is a growing interest on the part of the monoline insurers in project finance, because they see it as a very lucrative area for monoline insurance.

- The appearance of new financiers, while not as substantive a percentage of the whole, has promoted growth and competition which will most likely benefit project development in emerging markets.

Returning to the fundamentals of the discipline, the speaker then shared her definition of Project Finance with the audience: *Project Finance, at this state of its evolution, can be best depicted as a financing technique used for creating, upgrading or renovating single assets (or small, homogeneous and coherent portfolios) of assets. For that purpose, debt is issued and the debt repayment is serviced by the cash flows generated by the assets.*

Critical structural elements reinforce this simplistic model. For example, incoming cash flows are kept in a trusted account and, typically, no dividend is paid before the debt investors are repaid on time, and – perhaps most importantly, only very limited recourse is granted to the project sponsors.

Factors deemed of highest importance for structuring a financing package, to the eyes of a rating agency included: i) construction risk; ii) political risks, and, iii) lack of transparency of sponsor risks.

Construction risk includes a number of considerations that relate to whether or not the construction will be completed on time and on budget. Included in this calculation are technical complexities related to the nature and novelty of the project and contractor expertise and credit worthiness. Construction risk should be allocated, and the contractual clauses designed to mitigate them should be very carefully considered (liquidated damages, insurance of payments, retainage of payment etc.).

The relative likelihood of political risk is also considered a vital aspect of any large infrastructure project transaction rating. Risk can take many forms ranging from interference in tariff setting to non-delivery of the right of way to abusive changes to concession terms and conditions to early termination. Political risk has been especially pernicious for project financings in China.

The ongoing and high quality disclosure of operating and financial performance and material events are critical to maintain investor confidence. What happened in the four or five Chinese toll roads that were rated back in the mid 1990's was that there was no transparency, there was no information. Companies had to be chased, many, many, many times. And the quality of the information that they provided was very weak. And that does not serve to install investor confidence in a project, or in the sector as a whole.

Nearing the end of the presentation, the speaker came back to the question of, "Are there new players?" The answer offered, "I don't know. In my view there aren't any. Who are the players? They're the same ones that have been there since the '90's. Sponsors, construction companies, banks, pension funds, monoline insurers, multilaterals, infrastructure investment funds, governments, etcetera, etcetera. I think I would agree that there are more companies, more funds, more money chasing the transactions. But that's not necessarily a positive."

The speaker's view is that the growth that is happening now is explained by a combination of key factors, some of which are capital markets focused. In the speaker's own words:

> This is a period of unbelievable low interest rates. Not too many years ago, when toll roads were first rated in Chile, interest rates were 8%, 9%, 10%. A recent transaction rated there was under 4%, reflecting the long term fixed rate interest rates in Chile. So, there is incredible development in terms of lower interest rates. There are very low interest rates, there's high liquidity in most markets, so there are more capital markets financings. There's a search for yield and profitability, and project finance is a sector that has yield and profitability higher than municipal finance, higher than corporate finance on the whole, because of it's complexity. There's an acknowledgement promulgated by the Macquaries of the world that infrastructure and project finance focuses on essential long term valued assets. That they provide stable cash flows, and that they have fundamental value. And so that's creating this drive toward infrastructure and project finance. Furthermore, as noted, there's a globalization of the industry which brings more players onto certain markets, and there's a very strong interest on the part of the monoline insurance companies. And if the monoline insurance company, with their triple A rating are willing to insure these transactions, that opens up even more the wealth of investors that can and want to invest in these projects. And in order to get the Triple A insurance, what they need to do is get the underlying BAA3 rating which says that this project is investment grade. So you have BAA3 underlying, and then you have AAA insurance, which says under all circumstances, once that insurance is provided, the bondholder will be repaid on time. So, I think that those are some of the things that spurring this interest. But in terms of the players, there may be more players, but I'm not so sure that they're any different than, perhaps, ten years ago."

And then finally, what do investors want? And why are they converging on these markets? Investors are willing to take risks. The speaker then referenced a quote from a talk given to the United Nations on the aftermath of the Chinese experience in toll roads:

> Investors are willing to take risks, as long as they fully understand that risk and duly compensated for it. Debt investors are keenly aware that credit risk is a sum zero gain. If somebody gained something somebody's got to lose. They're not necessarily adverse to risk. They do, however, want these risks identified.

The speaker closed by advancing the idea that the only way one can identify risks, and that the only way this market is going to develop, is if there is greater transparency, if there are more frequent flows of information on the financial and operating performance of the assets. Of course, the benefit of financing projects through the capital markets as opposed to the commercial banks is that the rating process tends to force the sponsors to provide information that is consistent and comparable, so that a toll road in Chile becomes more comparable to a toll road in China. So over time, as this new method of project financing through the capital markets matures, it should be beneficial for the development of a more transparent track record for the entire project finance industry, which is what investors want to see.

NEW GEOPOLITICAL STRATEGIC INVESTORS – CHINESE INFRASTRUCTURE IN AFRICA/ASIA

In China today both trade and foreign investment is growing. Trade has doubled, while foreign investment is growing by a factor of eight. Trade flow between China and Africa in particular is growing dramatically.

Much of the growth is being driven by petroleum and mineral resource development. Trade can be a reason for developing infrastructure, but infrastructure development can also be a result of the economic growth provided by trade. Extractive infrastructure such as mines and drilling sites, combined with roads to ports for export of these commodities, is a large part of the infrastructure under development in Africa.

CRGP has conducted an exhaustive study of Chinese construction in Africa. Much of the discussion for this session was sparked by the findings of the study, coupled with remarks made by an executive with a Chinese engineering and construction firm.

The CRGP study is composed of: i) a database of Chinese financed projects in Africa, ii) the findings of interviews with 32 contractors and some financial institutions in China, iii) a case study from a road project in Ethiopia, and iv) analysis of the implications of the China and Africa trade and investment phenomenon.

In this session, Ray Levitt, who is a Professor and the Director of the CRGP, welcomed participants and described the study's key preliminary findings.

Key Findings

Over-Arching Economic Data:

- Chinese investment is very heavily weighted toward Angola and Sudan.
- Investment spans all kinds of projects including water and sanitation, transportation, as well as energy and mineral-related projects.
- Chinese contractors now win about 28% of World Bank and 33% of the African Development Bank's procurements for construction services.

Contractor Survey:

- Surveyed 50 percent of all Chinese contractors and 100% of the largest ones.
- There is activity in almost every single African country, with more than 10 African countries each having more than 7 Chinese contractors.

- 49% of work is coming from international bidding for World Bank and African Development Bank projects, 40% bidding between Chinese contractors for China Ex-Im Bank financed projects, and a much smaller percentage of sole source negotiation directly with African governments.

- The Chinese contractors are opening branch offices and moving in to stay rather than setting up joint ventures and limited local office investment as European contractors have done in the past.

- Construction loans, guarantees and bonds are provided by the Bank of China. The bank is opening branches across Africa.

- Debt instruments are provided primarily by the China EXIM Bank.

- 50 percent of the labor employed is Chinese, while the other half of the workforce is locally drawn. Unskilled labor is completely local; most of the management and technical staff is Chinese.

- The competitive landscape is other Chinese firms, not international companies headquartered elsewhere, as the Chinese have created a very aggressive pricing structure that causes contractors from other regions to exit the market.

How the Investments Are Working

Henry Chan outlined the specifics of what the study has uncovered about Chinese investments in Africa. Mr. Chan is a research assistant with the CRGP. He outlined the preliminary findings of the analysis of investment structures.

In 1994 the China EXIM Bank and China Development Bank were formed. In 2001, Signosure, which provides export credit insurance, was formed. The rate of activity in recent years has been truly explosive. A new mode of investment is being devised called the Angola mode which began in that country about three years ago. Essentially, under the Angola model, African nations can pay for infrastructure by swapping resources with China.

The Angola Mode

1. Secure a senior level of agreement for cooperation between the Chinese government and the host government

2. Locate a Chinese contractor willing to take on an infrastructure project

3. Identify a Chinese resource company willing to make repayments in exchange for oil or mineral rights

4. Coordinate with China Ex-Im Bank to act between the parties and move the payments from the resource company to the contractor

What makes this mode new is that (a) China is bundling in a single transaction ODA type aid with commercial type trade finance, and (b) the money from China Ex-Im bank never passes through the government of the African nation—the money from sale of the resource goes directly to China Ex-Im Bank who in turn pays the Chinese contractor for provision of the infrastructure.. This may be viewed as a safeguard against corruption and political instability in the host country and allows China to work in very difficult places such as Sudan, Angola and the Congo without concerns of expropriation or freezing of bank accounts.

While this mechanism is new, there is some similarity between the Chinese focus on ODA to resource-rich countries and the correlation of U.S. foreign aid levels into and oil export levels out of sub-Saharan countries by the United States. A parallel was also drawn to Japan making war reparations to South East Asian neighbors in the form of ships built in Japanese shipyards. The conclusion is that direct investment or foreign aid is not altruistic and there is a form of barter in place in every historical context. The Chinese relationship with African nations, while structured in a slightly new manner, is not really a new or sinister phenomenon.

The next section of discussion and analysis was provided by Vishnu Sridharan who is a first year Stanford University law school student and a research assistant at the CRPG. Mr. Sridharan summarized the risk and reward considerations for China, Africa and the global community, including the United States.

The Rewards and Risks for China

Chinese investment in Africa has been in place since the 1950s and the nation has long had geopolitical reasons for garnering favor with African nations through infrastructure investment. Such reasons include concerns over U.S. policy, motivations to sway the balance of power in the United Nations Security Council, and a desire to isolate Taiwan.

Today, in addition to geopolitical drivers, Africa is a viable market for Chinese exports. Asian exports to Africa have grown more than 18 percent in the past five years. The projects being developed in Africa play an important role in employment levels as well. Unlike the 1950s, the explosive development of trade between China and Africa in recent years has a strong economic, as well as geopolitical, benefit.

The risks to China as a nation and to Chinese companies in Africa include security risks to people and property, risk of sudden political shifts that endanger project timetables or completion, and risk of abrupt nationalization of assets. These risks are shared with any nation choosing to invest in an emerging market.

A new and emerging risk for China as a world citizen is the risk of political sanctions as a result of inattentiveness to environmental, health and safety concerns with infrastructure projects being developed by Chinese contractors and resource companies. A mine explosion in Zambia in which 46 workers were killed as a function of poor safety standards was cited as a key example of the risks posed.

The Rewards and Risks for Africa

The major benefit to the work being done by Chinese contractors is that much of the infrastructure will directly benefit the people of these emerging markets. Expanded health facilities, reliable and widespread access to electricity, as well as proper roads, port development and improved water and sanitation facilities are key benefits. A potential long-term benefit is greater widespread education and the development over time of a more skilled workforce.

Transaction and transportation costs in Africa have been a key barrier to as they are unusually high. The boom in infrastructure may well address much of the transportation barriers to fuel more rapid and cost-effective development within the region.

Over time it would be very desirable to diversify African economies away from natural resource exploitation and into truly diversified industrial economies with manufacturing, technology and tourism bases. Technology and skill transfer is critical to Africa reaping the full benefits of Chinese or any other country's direct investment in these emerging nations. Not achieving the benefits of investment and infrastructure development is perhaps Africa's greatest risk.

The Angola mode seems to side-step one of the most common problems for the people of developing nations —the risk that money and assets will fall into the hands of just a few people and/or a corrupt regime. But the Angola mode is not able to eliminate the risk of civil uprising, war or terrorism, as the Zambia mine example highlights so vividly. Another key risk is that natural resources will be rapidly or irresponsibly exploited leaving some of the nations in a worse-off position. Finally, there is a risk that African nations will not develop domestic companies and that long-term prospects for employment and attainment of skills will not be available to the people, if Chinese firms continue to import a large proportion of their management staff and skilled workers from China instead of developing local talent.

Global Opportunities and Risks

Opportunities presented by the current level of trade and development between China and Africa is the productive development and use of untapped natural resources, the beginning of true economic development for some of the sub-Saharan nations, and the involvement of China as a key stakeholder in important global issues such as climate change.

For the U.S. the key risk today is that this nation is less able to exert influence over Africa. Depending on your political perspective, this is a risk or a benefit. In addition, China's state centric approach to outbound investment gives that country and its companies a strong competitive advantage over US and European nation, as well as the construction, resource and infrastructure development companies that have been active there since colonial times.

A participant who is an executive with a Chinese engineering and construction firm made several comments from a Chinese contractor perspective to the group that addressed the issues of favorable wage rates for skilled Chinese labor in terms of engineers and other members of management. He reminded the group that the cost of Chinese labor is climbing steeply and that there is, in fact, a shortage of skilled workers in Africa making the import of Chinese a necessity.

Further, the increasing sophistication of mobile workers, coupled with scarcity, is beginning to erode the underlying cost advantage that Chinese contractors enjoyed just a few years ago.

In terms of the Chinese government's growth plans, this participant reminded the audience that the government would like to double the trade between China and Africa by the year 2010. Shortage of skilled workers to meet this demand for project development could be a key barrier for the Chinese government.

A lawyer pointed out that in some ways China is being forced into a high level of investment in Africa because it is late to the table in other regions and efforts at direct investment in some countries has been rebuffed. The thwarted acquisition of Unocal in the U.S. was a key example cited by the speaker.

He also echoed concerns that the Chinese be very careful about the environmental, health, safety and human rights aspects of their investment activity. A few projects that were off limits to Western firms because of such concerns have begun and there may be political repercussions to China if these matters are handled poorly. He referenced a project underway in which 50,000 people will be displaced from the Nile Valley into dry desert conditions.

Finally, he commented that over time the Chinese will change and become more cautious and he referenced conversations with the China EXIM Bank that support the conclusion that there is growing awareness that the impact of projects on environments, people and real property will need to be monitored more carefully in future projects.

Another lawyer commented that the Angola mode is simply barter and has been around in some form for a long time in project development. He referenced the financing of an LNG project in East Kalimantan, Indonesia and the procurement of Boeing jets by Algeria in the 1980s. He also commented that while barter does impede graft and corruption to some extent, money changing hands does occur and it is best to be realistic that this mode does not really preclude corruption.

A participant asked the presenters to explain the types of financing structures being used by the Chinese banks. Because the contracts are barter, the commercial structures and considerations are not yet well known or understood. The roundtable returned to this issue several times, but although compiled, research by World Bank into the terms of the contracts is not yet available for release.

The roundtable returned to the importance of corporate social responsibility and the importance of considering the needs of the local community where a project is sited. It was observed that sometimes, for project developers, building soccer fields, hospitals, schools, etc., while demonstrating corporate social responsibility, puts the developer at odds with or in competition with the formal government structure locally or regionally and there can be a downside to this perception. It was also noted that a major problem for multinational companies that have worked for years in places like the Nigerian river delta is that over time they start to take on the role of local government, in providing infrastructure, healthcare, and education, which is not a business that they necessarily want to be in.

A late arriving roundtable participant from Nigeria who works for the United Nations Population Fund, had a different perception of some of the issues discussed. He suggested that it would be helpful to the Roundtable to have more officials from African governments represented among the participants.

Also, he felt that some modest investment in local resources as an added social responsibility was a very wise investment for infrastructure developers and resource companies. He felt that such shows of good faith would go a long way to curb local opposition to projects. He also stressed that the U.N. model of winning local hearts and minds and demonstrating the benefit of a program before commencement was the right model for developers of infrastructure projects. The benefits of a project should be clearly communicated and developers need to strive to orchestrate a win-win situation with communities impacted by a particular project.

NEW GEOPOLITICAL STRATEGIC INVESTORS – NATIONAL OIL COMPANIES

This session was led by Tom Heller, Stanford University School of Law professor who is studying the behavior, structure and strategic differentiation of the national oil companies.

With high oil prices, the national oil companies have become a bulwark of capital reserves. This session focused on providing insight into this little-understood class of organizations, as context for understanding how they are playing an increasingly important role in energy and transportation infrastructure development in many emerging economies.

Even the largest international oil company, ExxonMobil, only ranks 14th in the world in terms of proven oil reserves. The first 13 companies ranked are all national oil companies. The situation regarding natural gas reserves is not much different with ten national oil companies ahead of ExxonMobil.

The oil and gas business globally is changing quite rapidly as the independent oil companies deal with higher political risks and physical reserves are more expensive in that they are located in less hospitable terrains which take more effort and time to locate and commercialize. There is also a greater emphasis on natural gas and gas reserves pose different problems from oil reserves.

Hydrocarbon exploration and production has also become a more complex business with more fragmentation, characterized by outsourcing to specialized consultants, state of the art equipment and complex venture structures to spread geopolitical and geophysical risks.

In Africa today most of the bids being won for new oil fields are being won by national oil companies, particularly Chinese and Indian companies who are in close competition to secure supply. Development of new fields is an extraordinarily capital intensive process. International oil companies and national oil companies have very different structures, objectives and costs of capital.

Fifty years ago very few national oil companies existed. Today there are many and a national oil company is defined in the study as one in which the controlling stock is held by the state. The Chinese National Petroleum Company (CNPC), for example, is owned 100 percent by the state.

International oil companies do not operate for the same functions as national oil companies which are expected by the state to fuel economic growth through employment and investment in local communities.

The study organizes the national oil companies, as the states in question vary dramatically in terms of size, wealth and political direction, in terms of strategic direction —how are they investing their money and what kind of organization do they have. The study has found that there are several categories of strategic direction and attendant structure:

> 1) Bank Structure: no operations, simply collection of money – example, National Nigerian Petroleum Company;
>
> 2) Operator Structure: operate exploration, production and refining facilities worldwide—example, Saudi Aramco; and,
>
> 3) Commercial Company Structure: expand internationally as a key stakeholder and sell expertise to others —example, Petrobras.

Comparisons between national oil companies can be made regarding regulatory structure, differing terms of contracts, competitive stance and mission. Many have to dedicate a substantial portion of their production to local markets despite the existence of a more lucrative market for the same reserves in other countries. Finally, there are significant variations in terms of how the national oil companies are internally organized.

Geology has defined much of what the national oil companies have achieved and what competencies they have developed. The speaker drew a sharp contrast between countries where oil and gas reserves have been found quickly, easily and plentifully and the case of Brazil where oil was anticipated in the Amazon, but not found. Brazil finally did find oil offshore and has become a world-class deepwater competitor, but the journey has been longer term and harder won. He also cited the familiarity of CNPC with harsh tundra conditions that have given them a competitive advantage in offshore investment in Kazakhstan over other bidders and explorers.

Nationalization of oil and gas operations was popular in the 60s and 70s and was a natural outgrowth of statism, the rise of OPEC and the principal agent problem. By 1975 most of the nationalized oil companies were located in easy or low risk oil locales. By 1995 things had changed considerably as a function of the depletion of readily available reserves coupled with low commodity prices. National oil companies could no longer support large budgets with dwindling returns from low cost oil. There was a move to commercialization and privatization to stay competitive and find new sources of capital. Today, sustained high prices have bolstered the national oil companies again and there is readily available funding for even greater activity.

Petrobras in Brazil has continued in its path toward liberalization and the company is now a major operator. Pemex, the national oil company of Mexico, is quite a different situation. The Mexican treasury rate is dependent on Pemex and the company is forced to produce more and more oil, yet not reap the profits that could be obtained outside the country. PDVSA of

Venezuela had become quite liberalized in the 1990s, but has retrenched under Chavez. CNPC has become a very viable international enterprise.

Petrobras and CNPC behave very much like commercial companies and the difference has been their ability to expand internationally. Saudi Aramco is very commercial in its stance as well, but it is still somewhat limited by the fact that it is completely controlled by the royal family. The preliminary findings of the study are that where there is a high level of regulatory capacity, you have the potential to drive commercial behavior. Where regulatory capacity is low for a sustained period, you end up with a banking model for the national oil company.

Commentary was then provided by a retired official from a foreign investment guarantee agency who is now in academia instructing in the fields of international business and diplomacy.

The speaker commented that there is quite a variation among the national oil companies and it is difficult to extrapolate similarities and differences. Regardless of the similarities and differences, these companies control 70 to 80 percent of the world's proved oil and gas reserves. They are pivotal players in energy supply. Their policies and behaviors are very important to the future of global energy supply and demand balances.

Also, there is a tremendous need for investment in new energy exploration, production and distribution infrastructure to meet forecasted global demand. Much of that demand will come from emerging markets. Comentators agree that $2.2 trillion of investment is needed to meet energy demand over the next 30 years. Politically, many countries, despite having plentiful reserves, have prohibited private investment. Even under conditions where plentiful capital is available to fuel growth, the political will is not there to do so. This will have serious implications for the future.

There is also no question that national oil companies have a lower cost of capital than international oil companies. They are not under the same scrutiny and they do not need to make their operations so transparent. Also, it has been shown that, in many cases, they do not exploit reserves with the same level of efficiency as the international oil companies. This too has serious implications for global energy supply. The national oil companies may need to learn to monetize assets as efficiently as the international oil companies and reliable energy supply may well depend on a larger percentage of the national oil companies behaving in a truly commercial manner or forming alliances with commercial energy companies.

One participant, a director of a foreign economic zone, commented on the Qatar experience and pointed out that when national oil companies see their reserves decline, they must invite the international oil companies to come in and help them develop some of their most difficult reserves. He pointed out that this is an economic necessity and that Qatar has achieved quite a success story with this model.

A lawyer agreed and pointed out that the international oil companies have readily accepted the reality of who controls reserves and become adept at adjusting to this reality. He concluded that enlightened state oil companies recognize that they have to be in partnership with multi-nationals in some manner. He pointed out that the international oil companies, in terms of control *in situ*, probably have a larger share of reserves than pure ownership demonstrates. The international oil companies are learning to make money as middle men.

A participant asked what the attitude of the national oil companies was to investment in renewable energy and alternative fuel sources. A small business man involved with solar initiatives, was called upon to share his experience. As a manufacturer of silicon wafers and ingots to produce wattage, he has extensive experience with government subsidies to fuel research and development. For small companies developing alternative technologies and solutions, the marketplace is already global. His company's technology would eliminate the need for much infrastructure in terms of wires and transformers for delivering electricity to the end user. He pointed out that small companies effectively develop solutions that are then commercialized by energy companies. In a national oil company environment, it is not clear if such a dynamic would take place.

A professor returned to the lawyer's point that international energy companies are becoming middle men. He pointed out that the companies do not want a contract price. They want a share of the upside risk. He also pointed out that the issue of punitive tax regimes must be dealt with in order for future relationships between national oil company states and international oil companies to flourish.

Several participants agreed that there will be new partnerships forged despite the challenges, but that the relationships may be shorter in duration and more limited in scope. For international oil companies, risk management is pivotal.

Also, the professor talked about the role of national oil companies in alternative fuels. He referenced Petrobras and its role in bio-fuels, but he pointed out that the only ones actually achieving results were others like Petrobras who behaved in a very commercial manner.

Development of alternative energy sources and use of renewable fuels, regardless of the geographic location, is essentially a policy issue. Larger companies have greater success influencing policy, so commercialization of renewable and alternative fuels and the infrastructure to support them will eventually rest with policy makers and companies with enough clout to have influence over them.

The group again returned to the issue that some national oil companies are able to tackle or renew projects that simply can not be touched by international oil companies as a function of the bad press such an investment would be to wider stakeholders than a sovereign state. The experience of Talisman in the Sudan was cited specifically.

One participant made the point that there is only so much a private investor can be expected to do to demonstrate corporate social responsibility. Companies can not replace governments.

In the near term, there is significant tension between national oil companies and international oil companies as developers and the interests of non-governmental organizations with environmental, social responsibility and transparency agendas. This may be a good thing;

however, short of political sanctions, the national oil companies are advantaged in this perceived struggle.

EQUATOR PRINCIPLES – NEW GAME RULES

The remarkable story of the Equator Principles was presented as a dinner keynote talk. The two speakers, both executives at commercial banks, were intimately familiar with the Equator Principles and told of their creation, diffusion and present-day implementation at more than 50 financial institutions globally.

The problem that the Equator Principles address is simple. Large infrastructure and resource projects can have significant environmental and social impacts on local communities. In developed countries, there are strong environmental and social regulatory structures to minimize such impacts. But many emerging market countries lack these structures or for whatever reason choose not to enforce them. But, if impacts are not managed appropriately, country and community suffer, projects eventually fail, and banks face major financial and reputational risk.

To address this problem, the Equator Principles were creates as a framework for financial institutions to manage environmental and social issues in project finance. The principles are based on IFC's environmental and social policies and guidelines. They are purely voluntary and each financial institution puts in place their own implementation procedures.

Equator Principles History

Over the past two decades, commercial banks that participate in project finance transactions have incurred financial loss, reputation damage and shareholder activism as a result of organized campaigns by non-governmental organizations (NGOs) "Citi lives richly, while the earth pays" was one slogan used by Rainforest Action Network in a campaign against Citigroup. Partly as a result of such pressure, banks have realized that they need to demonstrate leadership, sound environmental management, and social responsibility; that this is no longer some else's problem.

The Equator Principles arose out of the need for collective action at the banks. In October 2002, ABN AMRO asked IFC to convene a meeting. In that first meeting, the bankers that attended went from denial to acceptance in just a few short hours. Then four banks—ABN AMRO, Barclays, Citigroup, WestLB—formed a working group to seek neutral, international and universally accepted standards. They recognized a need for application to all industries. Following extensive consultations with clients and NGOs, 10 banks adopted the first version of the Equator Principles in June 2003.

Today the Equator Principles have global coverage. There are now 54 Equator Principle financial institutions including banks, ECAs, development agencies, and insurance companies. There is now increased emphasis on engagement of developing country banks in Brazil, Argentina, and South Africa. This represents 80%+ of the global project finance market and more banks are joining on a monthly basis. No major project is likely to be financed today without the application of the Equator Principles!

Equator Principles Application

Application principles apply to project finance and advisory work on project finance, for all projects with a total capital cost of US$10 million or more, in all industries. The environmental risk categorization and industry standards apply globally. The performance standards apply to low and middle income countries. The Equator Principles have been revised—and will continue to be revised—to reflect changes in IFC's policies and implementation experience of the banks.

More than just principles, the Equator framework also includes a set of process steps to ensure appropriate application within the context of the project. Process steps to ensure appropriate application within the context of the project: Social & Environmental Assessment, Action Plan, Disclosure and Community Engagement, and Environmental Covenants, Ongoing Project Monitoring.

Challenges of Equator Implementation

A speaker from a Japanese bank that had adopted the Equator Principles early on, shared several challenges that they had to overcome in the implementation process. First, they lacked in-depth knowledge of the IFC policies/guidelines on which the Equator Principles are based. So there first mission was to fully understand what they had signed-up for. Second, although the bank had a code of conduct covering environmental awareness, they had never incorporated sustainability covenants into their lending agreements. Third, since they worked closely with the Japan Bank for International Cooperation (JBIC) on many transactions, and since JBIC had its own guidelines for social and environmental due diligence, it at first seemed onerous to comply with both standards simultaneously. Next, there was some competition with other EPFIs in assessing each project, and in setting standards for development of an EP assessment report and other documentation. Finally, the bank had little prior experience in engaging with NGOs and as such had no department specified as a point of contact with NGOs. All of these challenges were dealt with in due course, and today this bank is serving in the prestigious role as the secretariat of the Equator Principles.

Equator Principles Benefits

Benefits of the Equator Principles have proven to be multi dimensional. They provide a global standard for project finance and they save borrowers time and money by identifying and managing risks up-front. They improve environmental and social outcomes globally. "Loan-shopping" based on environmental and social criteria is reduced. And consensus-reaching among banks in large loan syndications is expedited. Unexpected benefits include unprecedented cooperation amongst financial institutions and NGOs to promote best practice; and the broader understanding and integration of transparency and sustainability into corporate business models. At many banks, the Equator Principles have led to an array of follow-on sustainability initiatives and in some cases even the creation of entire "Sustainability Departments".

INTRODUCTION AND KICK-OFF OF DAY TWO

The second day of the Roundtable was designed to probe the trends explored on the first day and ask about the implications of these trends from the perspectives of the different firms represented at the Roundtable.

It was observed that the first day's discussions demonstrated that the most unique aspect of today's business environment is the increased availability of low-cost funds – both equity capital and debt financing – for private infrastructure development. This is a time of unprecedented opportunity for projects.

How projects will be chosen and why is the interesting question today. In other words, in an industry where many projects fail and are perceived, in retrospect, as ill-conceived, have any lessons been learned? Will markets take advantage of the current economic boom to move the very best projects forward? The most obvious lesson is that proper governance on the public sector side seems to be the key to making the private infrastructure investments succeed.

IMPLICATIONS AND NEW STRATEGIES

The Project Sponsor Perspective

One participant spoke who is involved in an independent power project that involves a cross-border provision of power. The project's goal was to be a low cost producer of electricity. The speaker was new to the power industry but had studied the failures of independent power producers such as NRG and Calpine. His business partner was far more familiar with the unique aspects of Mexican independent power projects. In most projects the equity partner is caught in a very difficult position between the banks and the government entities. What this speaker has tried to do is create a new business model.

Key lessons learned:

1) Be aware of the political situation and be realistic about the dynamics
2) Understand the cultural, institutional, and regulatory differences
3) Understand how the government or governments involved actually work
4) Understand the host country's legal system and work within that legal system very carefully
5) If you want to avoid corruption, you have to move slowly and allow plenty of time for your project to come to fruition—if you engage in corruption to get things done quickly you will forever be on the run

As of 2007, the speaker has funding from a European bank and is in negotiation with three equity partners. He hopes to secure final contracts and begin to build a 500 megawatt combined cycle plant. The benefit of the project is to help a transmission constrained region of one country and a power-constrained region of another to experience economic growth.

The speaker feels that it is very difficult for project developers to do too much that has a social benefit or concession feel locally without impacting the return to private equity investors who are looking for a return of 30% or higher. The project described is 25 percent funded by private equity with the balance being debt financing.

The next speaker was a director of a foreign economic zone. He began with some comments about the previous day's discussions. He noted that there is a gap in perception between various stakeholders that leads to some project challenges or failures. He also observed that corruption has no nationality. The things that happen in developing countries are not all bad and not all that different from what happen in developed countries, it is just a difference in form not kind.

He has been involved in energy infrastructure development in Qatar and is now involved in a new economic zone project. In the 1980s Qatar was bankrupt. It had tremendous gas reserves, however, and entered into some agreements that were not in their best interests. In the 1990s the country's leadership began to make some very advantageous decisions:

- Opening up the opportunity for production sharing agreements
- Building trust with Eastern buyers of gas such as Japan and Korea realizing that security of supply was an over-arching concern for these countries more than price
- Building the right infrastructure to support growth in the form of LNG ports

To develop gas reserves you have to provide financial incentives for investors that are trusted. The GDP of Qatar has grown from $1 billion to more than $40 billion and the GDP per capita is now $50,000. Those international oil companies who supported Qatar in their time of need have been rewarded by the country's success. Qatar understood that the government is not always the best developer or operator and that the government's role is to find the right partners with terms that permit the country to grow and participate in the development. Today Qatar has an excellent education system and the economic zone project is designed to diversity the country's economy.

The Construction and Engineering Firm Perspective

A participant who is a principal vice president with an international contracting firm next addressed the Roundtable. He noted that it was extremely appropriate to go home the previous night and note an article in Business Week touting the sale of the Brooklyn Bridge given the previous day's discussion. He noted the following trends:

International

- Government emphasis is moving from public sector infrastructure to private sector infrastructure. Both models can work, but with the new liquidity from private players; the pendulum is swinging toward the private sector.
- Regime changes and a lack of consistency in policy and leadership from a government perspective make project development very difficult and companies lose patience and exit investments. His company has had some frustration and some success in Eastern Europe for these reasons.

- Another successful project has been his company's piece of the revamping of the UK London underground. That project was done with a private equity fund investment and that is definitely a trend.

United States

- The various state legislatures can be as difficult to deal with as a developing nation's governmental leadership as there are changes in perceptions and difficulties in gaining consistent direction and vision.

- The U.S. market has become very fragmented in terms of infrastructure development and some states are very difficult to deal with. This is an important consideration for international players who make come to the US market expecting very streamlined processes and procedures. The reality is that the US PPP market is like 50 independent developing countries.

In terms of private infrastructure funds, it was not clear to speakers how much investment is really going into new projects as opposed to brownfield investment. The issues raised about interest rates and economic downturns were also referenced by the contractors as key considerations and events to watch closely.

Finally, from the contractor perspective, it is very important that marginal projects not go forward in boom times. International and local financial markets must not lose discipline around selecting projects that make sense from the outset and long-term under differing conditions. Contractors have learned from experience that the existence of several unsuccessful, economically disastrous or publicly challenged projects in a marketplace can prevent even the most economically advantaged project from gaining approval and support down the road.

Specifically, relative to China, the contractor perspective is that Chinese contractors can be both a partner and a competitor. Today the Chinese contractors' share of international work is in the teens and is dwarfed by the larger international contractors. They will, however, become formidable competitors and the dynamic is changing fast. Much of what the Chinese firms are specializing in is transportation projects and basic civil infrastructure construction. There is presently only one Chinese contractor in the US market. Many of the international construction majors focus on energy and power.

Sustainable development and social responsibility are a much clearer business dynamic for the international contractors because their home governments demand compliance. The Chinese firms, in order to grow, will need to have a business model that converges with other international players. Safety is a huge baseline expectation that the Chinese firms have to demonstrate as part of their business model. Examples of industries where this is critical include nuclear power plant projects. Even in China, an international firm would be more likely to be selected.

A vice president with another contracting firm was the next speaker. He focused on three areas: i) public private partnerships; ii) private finance initiatives; and iii) engineering, procurement and construction issues. He began his discussion with the broad observation that international construction is a business that deals with a tremendous amount of political, public and environmental risk in every country, including the US and those in Europe. The business is never as straight forward as expected.

The PPP Market

His company got involved in this market in the U.S. some ten years ago as a contractor developer utilizing tax-exempt financing opportunities. This involved turning over the asset to the state when the project was completed and this worked pretty well as long as there were not serious start-up delays. What states are not comfortable with is selling off assets to the private sector and giving up control.

There are a number of PPP-style projects underway in Europe, too. The lessons to be learned are the following:

- Get political support for the project well in advance.
- Get the public support (local, regional, national) for the project well in advance.
- Get the environmental clearance well in advance.

Finally, it was observed that you really need a steady project flow so that the lessons learned can be leveraged repeatedly. The learning curve takes time and once in place, the smart developer uses that as an advantage. For any project there has to be a risk-reward balance.

Infrastructure Funds

Right now there is too much emphasis on investing in existing assets. What really needs to be encouraged is greenfield development. That segment is falling back on the shoulders of contractors. The investment funds want to do a deal in a few months. It can take three to five years to set up a complex project to be closed and financed with public and political support. You have to establish a presence before you can build in a market and understand the wage rates, equipment challenges, etc. A chain of unsuccessful projects or very early exit by private funds due to impatience will not be good for the industry as a whole.

Engineering, Procurement and Construction

The international construction companies have had a challenging time working in Africa and the challenges are, in particular, working with the various African states. The Chinese may be doing a much better job. How you get paid and how you deal with fair treatment if costs grow outside your control are difficult issues with these governments.

China itself is a major supplier of goods and services. Global sourcing is the wave of how big projects get done and China is now an extremely important part of that supply chain. Steel procurement is a very key example. There was a time when contractors were cautious about coming to China for supply but there is now a clear market shift. The wave of the future—and perhaps one of the biggest opportunities for Western contractors—is one of collaboration with Chinese suppliers.

A recurring theme of the roundtable is that you do not have to own assets to make money on them, but that you do have to have productive collaboration to bring projects to fruition. Five years from now we will be doing business quite differently than today. Much of that difference will focus on how risks are managed and/or spread in a project.

Outsourcing and underlying costs in China versus other markets was also discussed with an example given of how, even for a sole residential project, fabrication of reinforcing bar cages was more cost-effective in China, even after taking into account the very high costs of shipping steel and air. Another example was given of a Chinese company that had prepared—but did not submit due to a lack of clarity on how to deal with legal and environmental risks—a bid for the Bay Bridge project in San Francisco. At $400,000, the Chinese company's bid was approximately 1/3 the value of the bid submitted by the winning bidder.

In terms of project risk, a financial participant commented that the important thing is that risks are understood and accounted for rather than the specifics of who bears the risks. Most projects lose momentum because politics change or the politics are not sorted out properly at the outset.

In the U.S. where political and regulatory fragmentation is emerging again as a serious problem, it was asked if the federal government could play a role in creating a standard platform for the development of PPP structures. Several participants talked about federal efforts but noted that it is difficult to force or legislate a uniform approach to project structure and administration given the strength of the individual state powers and traditions.

One participant noted that among the competitive advantages of the US construction and engineering companies versus foreign competitors that might enter the US market is a long history of dealing with this fragmentation. Most foreigners have a very difficult time even understanding, let alone navigating this "laboratory of states" environment.

The Pension Fund Perspective

A Roundtable participant who has been involved for a number of years in providing education to public pension funds noted two key characteristics of pension funds that could have an influence on the broader project finance market, as more pension fund money is attracted into public infrastructure through private infrastructure funds and through direct investments by public pension funds such as Ontario Teachers.

Public pension funds are not only mindful about getting rates of return, but they're also extremely sensitive to constituents' interests. For example, CaLPERS and CaLSTRS both have publicly elected boards. Elected trustees tend to draw on different constituencies' interests, and they are mindful of those constituencies' interests. CalPERS also has something called the Permissible Countries/permissible investment list that they refer to; China is not on that list as of now. One implication of this sensitivity to shareholder approval is that there could be a growing interest within the pension fund community in projects that are built on principles of sustainability.

The second characteristic of public pension funds, is that they are very quick to step forward if they see what they interpret as misguided corporate management. They'll step forward and make their views very well known; they take their shareholder interests very seriously. As pension funds getting more involved in the field of infrastructure financing and infrastructure projects, this kind of shareholder expression that we now see in the public equities markets may become more common and it may drive more consistency and transparency in reporting, as compared to the days when project finance was purely a commercial banking function.

The Micro Lenders Perspective

One Roundtable participant who was intimately familiar with the micro lending business highlighted the potential of using micro lending to finance micro infrastructure, with the possibilities of creating a whole new model of development. He started by explaining the concept of micro lending:

> The concept of micro lending is $100 to $200 loans to the world's poorest of the poor, people with $1 a day income, it's about a third of the world's population. The rate of defaults on micro loans is less than AAA credits to the finest lenders in the United States banking community and AAA borrowers such as Bechtel and so on. It's in the 98.9% returns. It is also loans that are made at market rates. And the loans are made principally to women, because they're the most reliable in terms of repayment. The model is an ideal one, because in the implementation of the microloans, we bypass, the state governmental structure, and we go right in to the people themselves. And we set up little local banks. They're not chartered. They're not authorized. They're not regulated. But in a good training program, you get collateral support from the community itself, and this is what makes it so very, very effective. Interesting enough, when the World Bank was set up, that was the concept it was originally set up under. And we're sort of coming back to reinvent the wheel, and I see some very significant changes starting to take place in this overall lending program. This is how you will get water purified on a local basis.

Another Roundtable participant, who strongly agreed with the concept, jumped in to the discussion to add another element:

> And if I can maybe follow-up, with the concept of micro-infrastructure. For many of the poorest people in the world, infrastructure is not large – is not the electrical grid, or a large dam, or large irrigation project. They live on rain-fed fields, far away from the electrical grid. And there are ideas that make business sense to improve water supply, irrigation, sometimes even energy, access to energy, for such rural communities. There are now drip irrigation sets that come at the price of $1 per plot, developed by a US-based group, International Development Enterprises. There are rainwater harvesting structures, there are treadle pumps which don't need any other energy than humans can provide, that make economic sense, but which have a very high transaction cost to popularize.

So the big idea, is that if there are technologies out there on a distributed basis that are both appropriate for the rural poor and if there are financing models out there that are already functioning. Then we would hope that they would spread and diffuse quickly, but it may not be so simple, it may take some work to find a match between an appropriate financing system and appropriate technologies. This is an area where the existing multilaterals and foundations like Gates could provide some meaningful support.

The Multilateral Perspective

Given the changes in capital markets, and given the changes in growth, highly differentiated around the world, but certainly major growth which has spawned a whole series of new lenders into the infrastructure and into the project finance sectors, the roles of the multilateral lending institutions are evolving and changing. And change is necessary. The role of the multilaterals is not to compete with these actors so much, but to provide something that these other actors are not providing. The role of the multilaterals is to complement what is otherwise available through other government agencies, funds and the increased private markets.

Thus the multilateral lending institutions are now going through a period of “soul searching” as they try to adapt their businesses to the new dynamism in the emerging markets. They are grappling with their missions as they try to adapt their traditional roles to the present international situation. They are in the throes of trying to work out different types of products from what they have done traditionally; different ways to support projects as the markets have evolved, as there are new actors, and as there are new financing forms. This was the perspective shared by several different Roundtable participants who have different windows—either through past or present employment—into the inner workings at ADB, IDB, and World Bank.

The pressures facing the multilaterals are varied. Both China and India, which are major customers of ADB and World Bank on the public sector side, have been significant internal critics – and forces for change within these institutions. Their position is that the institutions still have an important role to play, but that doing business with the banks is too costly and too difficult. They’re not approaching it, at least at this stage, from the perspective of, “well, we’re going to totally stop borrowing from you.” They’re looking to changes in the degree of conditionality, principally, in terms of bank lending.

At the ADB, a lot of the soul-searching has to do with the makeup of the institution, the Chinese and the Indians clearly want to play a bigger role; now the dominant players are Japan and the US. The Indian’s have suggested the creation of a subsidiary of ADB or an IFC-type member of the ADB group, and they have suggested a whole new multilateral specifically for Asia, to be based in Asia.

The point was also raised, that with the growth of the local capital markets, debt is now being issued predominantly in local currency. So the currency risk is no longer a concern, and as this has happened, multilateral support in the area of currency inconvertibility is no longer necessary.

Furthermore, and more broadly, there’s a great deal of pluralism now in different approaches to development. There’s a lot of ferment and different ideas and different approaches, and entities like the Gates Foundation, etc. make for a very healthy atmosphere in terms of letting 100 flowers bloom, to paraphrase an old saying. And while that should be healthy for the development situation in the world, it is uncomfortable for the traditional multilaterals because it provides new sources of competition and new benchmarks of performance.

New Directions at ADB

At the ADB, there are discussions about the new market in Asia, and the changes that ADB will have to consider in its organization to serve the new Asia. A report was published recently called the Eminent Persons Report. It is not adopted or endorsed by ADB, but it does validate a lot of the discussions that have been ongoing in the bank. The report highlights that Asia has changed since ADB was established, and that the role that it had as a development bank channeling excess capital of developed countries into developing countries is no longer probably the role it should play. The report highlights that rather than trying to be a little World Bank, IFC and MIGA all rolled into one in Asia, that the ADB should focus more and leave the more global problems to some of these other institutions. It suggests that the key roles of ADB are in infrastructure development, financial sector development, energy and the environment, regional integration, which is currently a major agenda item for ADB, and then technology development and information and knowledge management. The idea is to pool the knowledge that is created within the region and that ADB helps to develop.

The report offers the following recomendations :

In relation to its role in the infrastructure development, the report suggests that the ADB broaden its scope a little bit further to also include information and communications technology. Currently, infrastructure development at ADB is very much the hard infrastructure, power, water and roads, but this needs to expand.

And also, the ADB ought to have a greater focus on promoting PPPs in private-sector development through legal and regulatory change. The ADB already does a lot of this—through public-sector lending, regulatory reform, law and policy reform—but there is more education of governments that could be done.

The ADB ought to focus more in creation of bankable projects, rather than as a lender to infrastructure projects, which is what ADB has traditionally have done, they should focus more on providing venture capital.

The report also highlights regional integration, which is an important part of the agenda of the current president of ADB, and it will no doubt continue to be very important. Physical connectivity is one area, the creation of cross-national roads, ports and other conduits of trade.

And then there’s a number of global and regional sort of commons, as they’re referred to in the report, like avian flu, water resources, HIV/AIDS. The report suggests that in this area, ADB be a bit more focused and leave these more global issues to WHO, UN, World Bank and others.

Development of regional financial markets is highlighted as key, and that's actually part of the financial sector development focus that, again, is currently part of the current agenda, but according to the report, another area that ADB could focus more on. Now ADB is doing a lot of local currency lending. By trying to finance projects in local currency as much as is possible, they help establish the local capital markets, and in turn they fund themselves through the sale of local bonds. ADB has done bond issues in China, India, Thailand and Indonesia, and they are currently looking at a local bond issue in Kazakhstan.

The other suggestion – and this is very key – is the report says the ADB needs to find ways to utilize Asia's foreign exchange reserves and channel those into regional investments. Asia has about $3.1 trillion of foreign exchange reserves, mainly in India and China. The suggestion is that those monies, rather than being invested in external treasury bonds, which is currently the case, that these be invested within Asia. There are several suggestions that have come up in informal discussions at ADB, for the use of these foreign exchange reserves. One is to create a new multilateral or a regional sort of ADB, but one that doesn't have the control of Japan and the US. Another is to create a subsidiary of ADB like the IFC, to use those reserves and invest them. A further idea is to create funds within ADB that could be managed by ADB, which is what the report is suggesting.

Another suggestion is that ADB make more and better use of credit enhancement facilities. Again, this has been a recent focus of the bank; it has recently issued a strategy and a policy for co-financing operations, where the idea is to bring more money into deals rather than trying to finance the biggest piece of the pie internally, trying to limit ADB exposure to projects as much possible, either through a B program, similar to what IFC has, or by providing more political risk guarantee covers or other credit enhancement.

And then another areas where the report suggests added growth is in financing of clean energy, another focus that, again, ADB has already pursued in the last couple of years. ADB has set up a number of TA funds for technical assistance to projects that have energy efficiency or use clean energy, and they have created their own carbon fund. The report says that ADB should play a greater role in developing, expanding markets for trading carbon emissions.

New Directions at World Bank

Several Roundtable delegates also commented on new directions at the World Bank. One retired official expected that IFC and MIGA would continue on their present course. And that there would not be anything in terms of a reexamination of the kind that the ADB is going through until after Wolfowitz's departure was complete and the top management system was clarified.

Another participant noted that the World Bank is certainly reacting to a changing environment. A couple of years ago, the World Bank decided to put more emphasis, again, on infrastructure, and infrastructure lending has actually increased. But to put this into perspective, with the increasing access of the more evolved countries to financial markets, the World Bank has actually in many middle-income countries experienced a relative decrease in infrastructure lending compared to other commercial sources. And consequently – something that jibes with what ADB is also trying to do – the World Bank is focusing in those countries on a more selective lending program with a lot of emphasis on the non-infrastructure sectors, public sector reform and social sectors. Where the World Bank remains engaged in lending to infrastructure it puts emphasis on, first of all, the reform of public-sector infrastructure, and in making that sector more efficient. And second, the World Bank is putting an emphasis on the development of appropriate frameworks for PPPs along with the institutional backup. And third, the World Bank is putting emphasis on very specific instruments, and not only lending, also credit enhancement instruments through which the World Bank, IFC and MIGA enter into private sector projects. The goal is to use these instruments more, and with more leverage, in order to promote private participation in infrastructure.

Later in the discussion, this same participant noted that he did not see the current situation as a kind of break, where the institution has to go through a total makeover and change in strategy. To support his point, he highlighted cases like Chile, and South Africa:

> There are very typical middle-income countries which, in the case of Chile, where they have very slowly phased out of lending, but where they are still, in certain areas, involved in very good cooperation with the World Bank. But not as borrowers. South Africa has never become a borrower, for reasons that they laid out, and that the World Bank accepted. And there will be – I think in many cases there will be slow changes, where countries will tell the multilateral banks, we don't need much of your money any more, but we want to have you involved in the education sector, for instance. And not in terms of the old style investment lending. And so this is a selectivity which is difficult to capture in one moment and in one completely new strategy.

Ideas from the Roundtable on Future Role of the Multilaterals.

After an hour of discussion on this topic, the moderator raised the question, "Do people who are here around this table think that there is a continuing hole to be filled by multilateral or public institutions of one type or another, or whether – like the IMF, the day has passed? Is it time for the world to move on?" Roundtable participants responded by highlighting several areas where the multilaterals bring a comparative advantage:

Social and Environmental Management. The multilaterals have a deep expertise in the management of environmental and social risk and they maintain an "honest broker" position that allows them to be objective in their initial assessments of social and environmental risk and in their ongoing monitoring. (An example was given of BP's appreciation of ADB's involvement in the Tangguh project in Indonesia, for this very reason).

Political Risk Management. The multilaterals serve in the management of political risk, they provide a buffer between the public and private sector; their involvement in a transaction can help to keep host governments from abusing their sovereign powers. There are a lot of projects in Asia that have excessive levels of political risk, that without a 'B' loan or a political risk guarantee from a multilateral, wouldn't get done. And this is a role where the multilaterals can continue to play an important role; again by serving as an "honest broker".

Project Development. The multilaterals are in a position, with their vast knowledge of the wish list of projects that could be developed in any country, to play a key role in prioritizing winning projects and in providing development support. In Asia there is lots of money, but projects don't get done. (an example was given of a $1.2 billion hydropower project in Nepal, that Chinese banks have expressed an interest in financing, which is a very important project for the country, but for which the sponsor is undercapitalized to take it forward)

Lifelines in Times of Crisis. The ADBs, the World Banks, and even the IMFs have been there in times of crisis for many of these countries, and there may be times in the future when access to these institutions is going to be very important to them, as it has been in the past when other sources of financing have not been available in crisis situations.

Venture Financing of Micro Infrastructure. As a follow-on to the micro lending discussion, the World Bank and other international financial institutions, they have the potential to make early venture investments in and to scale up such small-scale solutions. For many people, infrastructure really means decentralized, small-scale infrastructure; thus, this is a role which would directly contribute to the multilateral mission of poverty alleviation.

Creating Transparent Legal/Regulatory Environments. A very clear role for the multilaterals is in helping countries to create enabling environments, to implement reforms, to create more transparent legal systems that enable private sector development.

Designing Collective Institutions. One role of the multilaterals, is to try and design collective multinational institutions that function effectively and efficiently. (The example was given of the problems that are now facing the carbon trading system, and the comparative advantage that multilaterals with the membership of multiple governments bring to addressing this problem.)

Solving Problems of Debt Relief. A retired official from the World Bank, one who has watched it evolve over many years, highlighted what he thought might be a future role for the Bank in straightening out difficulties that are likely to rise over debt relief. He noted that the new entrants into this market –primarily China, Kuwait, Saudi Arabia, Korea, Brazil, India, Russia – will need to find common ground with traditional entities with respect to issues like debt relief:

> What's going to happen if we fast forward five years?" It's good that African countries who are not particularly creditworthy or able now to repay their debts are getting the benefit of Chinese government support with low-interest loans and other forms of concessional things. Well, five years from now, we've changed 30% of the leadership of an African country, and suddenly some of these debts are due, and where do you go for debt relief? Well, you go – traditional donors go to the Paris Club and work out debt forgiveness, etc. Now, imagine the French, British, US, and others sitting around the Paris Club, looking at how to reschedule their debt to this African country, let's say it's Sudan who has replaced its leadership, and the issue comes up of, oh, yes, there's all this debt owed by the Sudan to China, some of which was given unconditionally and some with minor conditions. I don't see those Paris Club members saying, "Oh, well, we'll just allow the country to completely repay the Chinese, the Indians, etc. while we forgive some of the debt that's due us." So there's going to be an issue of who's blinking first. Is China going to join the Paris Club and work out on that or not? Now, as most of the

> people around the table, I hope, know, one of the hallowed rules of the Paris Club is to link debt relief to satisfactory performance on a host of things, including management of their debt and no further acceptance of additional debt except under certain conditions. So how is that going to work out? And frankly, it's in those settings that I think multilateral institutions can play an important role in helping all the parties, because they do have a reputation of being a good broker on behalf of the developing countries and helping them. So that's the kind of role, to give you a somewhat long-winded response, that I see the World Bank and some of the multilaterals being able to play.

While all of these suggestions sound good on paper, the question was raised, "who's paying for them; what is the business model?" In the past, it has been the multilaterals' sovereign lending businesses that generate the money to pay their salaries and costs. One NGO representative underscored this point:

> In the '90s, when there was a lot of expectations for private-sector involvement in the infrastructure sector, it was Jim Wolfensohn's – the former World Bank President's – idea to become more and more of a knowledge bank, not so much finance hardware, but become a knowledge bank. But then the World Bank realized that it couldn't really keep up, maintain its business model like that, because borrowing countries don't pay the World Bank for its advice. So you've seen more recently a move back into these core lending businesses.

Birthing a New Multilateral Institution

The final exchange in the Roundtable's dialogue of new roles for the multilaterals was between a professor of legal studies and a former World Bank official. The professor of legal studies noted:

> Maybe at the end it comes down to an issue of governance; that the future of these institutions largely depend upon whether they are prepared to accommodate the very strong desire of the emerging superpowers – the BRIC countries, the Chinas, the Indias, the Brazils – whether they're prepared to accommodate their very strong desire to play more of a role in decision-making in those institutions, because if – and this is largely a question of whether the donor institutions, the OECD countries, are prepared to accommodate those desires – because if there isn't an accommodation, both principal borrowers will go elsewhere and create alternative institutions that they believe are more responsive to both their individual and collective needs.

The former World Bank official responded, wisely, as follows:

> With regard to new global multilateral entities, I've got to be very negative, and I would point you to the average gestation period for a new global multilateral entity. And it is in the neighborhood of five to 10 years at a minimum, because you're talking about getting large numbers of governments to agree on something. It's much more likely that you'll see the existing multinational entities, be that at World Bank or the regional development banks, morph into slightly different institutions. And I would submit, if you look at the history of the World Bank, you'll see just that kind of morphing. Now, it may not be fast

enough to suit some purposes, but it likely will be faster than trying to create a new global multilateral entity.

FUTURE RESEARCH DIRECTIONS AT THE COLLABORATORY

The focus of the final session was on the future and an exploration of what areas of research the CRGP should undertake.

Currently, the CRGP is undertaking an NGO and Governance study to try and predict emergent political conflict in large infrastructure investment projects. The focus there is on explaining opposition by international NGOs and local interest groups in a sample of 30 international water and pipeline projects. Water projects tend to involve local issues and conflicts, while pipelines tend to surface national and international conflicts involving trans-national bodies.

The CRGP also has a study going on in Qatar to help conceptualize the overall development plan for a new economic free trade zone. This study uses 4D CAD and GIS technology to visualize the coming together of all of the buildings and infrastructure in the zone over a multi-year period.

The China and Africa study is a third one underway. This will culminate in a book towards the end of the year.

A fourth study is to do case studies of several U.S. public-private partnership transactions and to chronicle the history of infrastructure finance and development in the U.S., and is being done jointly with KPMG.

Finally, a fifth study is in the conceptual phase and involves how firms integrate and capture knowledge as they work globally. Participants and sponsors presently include Globeleq in Houston and Nokia Siemens Networks. The Collaboratory has won three years of funding from internal Stanford sources and has turned to the National Science Foundation for further funds.

In terms of future roundtables there is interest in holding similar sessions in China and India, involving business executives and government officials who have a deep understanding of these markets. In the U.S. there is some enthusiasm for doing a similar Roundtable on US-based PPPs.

Participants brainstormed the following ideas for future focus and study:

- The environmental impacts and consequences of 10 to 12 percent per annum growth and massive urbanization now playing out in China,

- The impact of China's growth on the international capital markets, especially emerging markets, and the new financing structures and models for financing that are emerging,

- A better understanding of the PPP market and a comparison of the PPP models used in the UK, Canada, Australia, Spain and Chile as a basis for understanding the directions that US states might turn in developing PPP programs.

- A follow-on to the National Oil Companies study should be to quantify the extent of their appetite for investment in both energy and non-energy infrastructure and the implications for contractors, law firms, and other businesses that could participate in this market.

- A study of what types of infrastructure that are likely to be developed over the next 10 to 15 years, to really understand the macro-trends.

- A study to look at the full universe of possibilities for micro-infrastructure, and the options for combining such models with already functioning models of micro-finance, to reach the 1/3 of the world that lives on less than $1 per day.

- Another participant suggested that a database of projects and how and what is being financed by public funds versus private funds, for the US market and other markets, etc. would be helpful.

- Interest in expansion of private infrastructure projects in the U.S. is clearly of a lot more interest than anticipated and it was suggested that the Center could provide some evaluation of where this market is headed. The PPP structure is late in coming to the US and foreign developers are coming to the US with false expectations. Issues such as this need to be explored.

- In India and China, a workshop or session on meeting the infrastructure development challenge would be particularly well received.

- An examination of the lessons fully learned 10 years following the Asian financial crisis. It's clear there is recovery, but can it happen again and are there steps being taken to take to mitigate the impact?

CONCLUSION

This Roundtable was about trying to put our collective finger on the next "big thing" in a rapidly transitioning international environment for project finance and infrastructure investment. Although the Roundtable provided few answers, many questions were raised:

Who are the big players that will dominate the market for international infrastructure in the next round? Will it continue to be project sponsors from the West backed by their multilateral and bilateral institutions? Or have we reached an inflection point? With the strengthening of local and regional sponsors in many emerging markets, the spread of local capital markets, and the rapid growth of Ex-Im Banks in the BRIC countries.

Will the rumblings of “soul searching” at the traditional multilateral institutions lead to new new strategies at these institutions? Will there be more dramatic changes in composition and mission statements? Will new multilaterals be born?

Will the rise ultra competitive new players in many emerging countries lead to a loosening of social environmental standards, as competition for the placement of loans grows? Or have the Equator Principles diffused broadly enough, that they will become a market standard for all players, old and new entrants alike?

In this dynamic environment, how will the new private infrastructure funds fare? Will they be successful in this difficult sector, after so many project sponsors in the 1990s failed?

To what extent will China continue its foray into Africa? What will happen in five years, when an African country defaults on its sovereign loans, and all of these new players need to come to an agreement on debt relief?

ROUNDTABLE PARTICIPANTS

- David Altshuler, Nuveen Investments
- Martin Baker, SALANS
- Marie-Anne Birkenm, Asian Development Bank (Manila)
- Joseph Bojnowski, North Branch Resources, LLC
- Frederic Bonnevay, Stanford Dept. of Financial Mathematics
- Peter Bosshard, International Rivers Network
- Henry Chan, Stanford, CRGP
- Pi-Chu Chiu, Stanford, CRGP
- John Cogan, Akin Gump Strauss Hauer & Feld LLP
- Akinyele Dairo, United Nations Population Fund
- Vibeke Dalberg, Det Norske Veritas (Oslo)
- David B. Eppinger, Fluor Corporation
- Mohamed Farghaly, Qatar Economic Zones (Doha)
- Sagar Ghandi, Stanford, CRGP
- Christopher Groobey, Baker & McKenzie LLP
- Thomas Heller, Stanford School of Law
- Chee Mee Hu, Moody's Investor Services
- Jonathan Hutchins, Globeleq (London)
- Erik Jensen, Stanford School of Law
- Annie Jia, Stanford News Service
- Aditi Joshi, Mizuho Corporate Bank, Ltd.
- Gregory Keever, Akin Gump Strauss Hauer & Feld LLP
- Jeremy Kennedy, Akin Gump Strauss Hauer & Feld LLP
- Suellen Lazarus, ABN AMRO
- Charles (Jack) Lester, CJ Lester & Assoc. (recently retired Assured Guaranty officer)
- Raymond E. Levitt, Stanford Dept. of Civil and Environmental Engineering
- Jianzhong Lu, CCCC First Highway Engineering Co.Ltd. (Beijing)
- Bob Medearis, Solaicx
- Barry Metzger, Baker & McKenzie LLP
- Corinne Namblard, Galaxy Fund (Paris)
- Larry O'Bryon, Bechtel Group
- Osamu Odawara, Mizuho Corporate Bank, Ltd. (Tokyo)
- Ryan J. Orr, CRGP, Stanford University
- W.Richard (Dick) Scott, Stanford Dept. of Sociology
- Vishnu Sridharan, Stanford School of Law
- Marsha Vande Berg, Pacific Pension Institute
- Stephan Von Klaudy, The World Bank
- Gerald West, Georgetown University (recently retired MIGA official)
- Amy Javernick Will, Stanford, CRGP