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INTERNATIONAL FINANCING SOURCES IN SUPPORT OF “PRO-POOR/PRO-GROWTH” INFRASTRUCTURE DEVELOPMENT¹

Margaret E. Osius
and Cathryn Carlson
MEO Associates Inc.

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Overview and Purpose of the Study

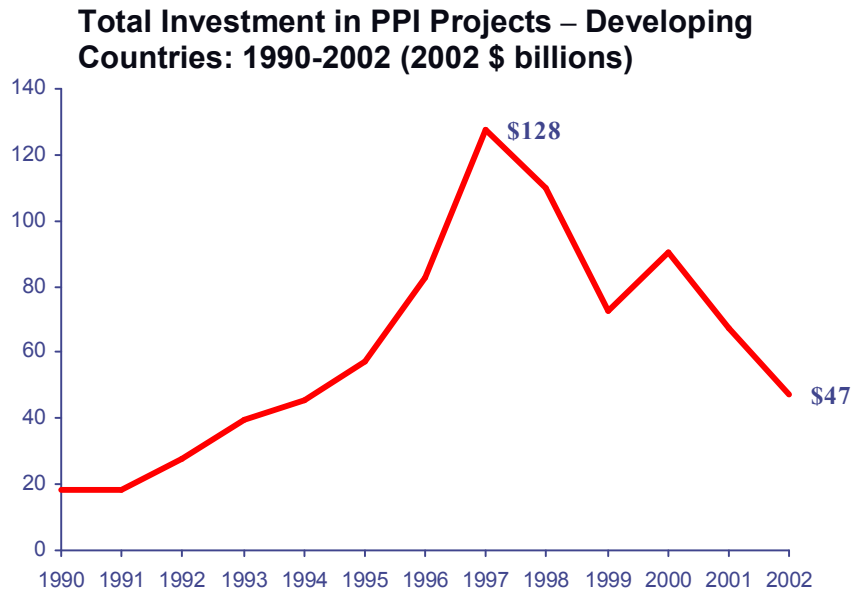
This study, divided into two chapters, provides a partial analysis of some of the reasons for the current global downturn in infrastructure financing – especially when such services are directed towards the very poor. In parallel it considers how donors and governments of emerging countries can in the future focus more closely on activities that seek to address identifiable financing obstacles that loom particularly large today.

Chapter 1

This chapter describes how international sources of private funding for new infrastructure projects have declined dramatically worldwide since their highpoints of 1997 and 1998. In those years new private investment in infrastructure projects in developing economies from external sources grew to a high of 128 billion US dollars per year, whereas by 2002 annual investment was less than 47 billion US dollars.

¹ Portions of this paper have appeared in “PPIAF and the Future of Infrastructure Privatization” a report prepared by José A. Gómez-Ibáñez and Meg Osius of the Technical Advisory Panel for the Public-Private Infrastructure Advisory Facility, Washington DC, 2003.

Figure 1



(Source: Public Private Infrastructure Advancement Fund, PPIAF)²

As of this writing only a few regions and sectors have to some degree defied this trend. There are observable pockets of activity in the Middle East across sectors, in China, and in Russia. But the need for infrastructure has not declined. It is still thought to be a key bottleneck to human and economic development. When governments of developing countries lack financial resources to meet their perceived needs private participation holds out the promise of both access to incremental capital and improvement in operating efficiencies. It is important therefore to understand the reasons for the drop off in private involvement. Some barriers to private sector participation are non-financial in nature, emerging from gaps in the policy, legal, regulatory and administrative framework under which privately-owned infrastructure projects are developed, processed and implemented. But numerous financial obstacles also prevent or limit the ability of developers to achieve financial closure for their projects.

Chapter 1 therefore looks closely at the often formidable financial barriers to deeper and more sustainable private sector participation in various sectors including power, telecommunications, transport, water and sanitation as well as means through which donors and others may be able to help in attracting international private foreign parties back to such investments. It also contains an examination of available sources of domestic financing for infrastructure services although overall, growth in local banking capacity as well as capital markets in most emerging countries has

² These figures are from the Public Private Infrastructure (PPI) database created by the World Bank.

been slow. Some positive trends do emerge however. And it will be important for donors to continue to promote this process in innovative and sustainable ways.

Finally it addresses the financing gaps that are especially prominent in smaller and pro-poor projects. Few creditors, either international or domestic, focus on financing pro-poor projects, often undertaken at a sub sovereign level and located in urban and rural areas. As a consequence, little innovation has been directed toward the development of financial instruments that might be made available at such a level. Considerable thought, and possibly experimentation, is clearly needed to determine how best to address smaller pro-poor projects within emerging markets.

Chapter 2

As Chapter 1 maintains, different approaches will be needed for financing pro-poor projects if they are to be sponsored by private developers. A good model that may have some applications in this context was created in the United States to finance municipal infrastructure projects. Thus this chapter focuses upon prospects for similar forms of municipal or sub-sovereign finance in emerging markets. Of course, significant issues constrain emerging markets municipal authorities and donors, but examples of innovative approaches to funds mobilization in these categories do exist. Therefore Chapter 2 includes suggestions for action and program interventions to address some of these issues.

Additionally, this chapter looks at the prospect for reform and development of local equity markets in middle and low income countries along with the role that international donors can continue to play in this respect.

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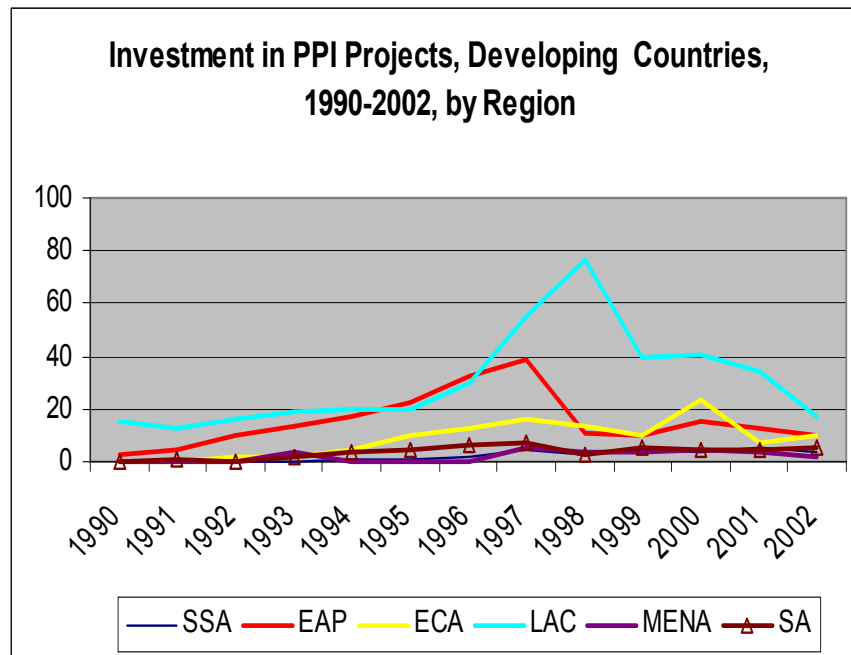
Chapter 1

A. Trends in International Investment Flows by Sector

Beginning in the late 1980s, governments in many developing countries, disappointed by their large public utilities, experimented with new policies to attract private operators and investors into their power, telecommunications, transport, and water and sanitation sectors. In many instances, convinced that the private sector could deliver higher quality services at lesser prices, sweeping programs for private sector involvement were implemented. These ranged from bidding out service contracts to implementing lease arrangements, introducing mechanisms such as concession contracts or build-own-operate transfer (BOT), and build-own-operate (BOO) as well as wholesale privatization of infrastructure.

This moment of enthusiasm for private partnership in emerging economies coincided with a period in which the need for further investment in infrastructure in mature markets like the U.S. and Europe was lessening. As a result foreign utilities, international developers, equipment suppliers and others, supported initially by banks and other private debt and equity investors, were particularly poised to pursue growth prospects in such markets and became a major source of incremental funding for such services; in the process plugging financing gaps that existed for governments previously reliant on limited tax resources, or that had already borrowed to capacity from international donors or private capital markets.

Figure 2:



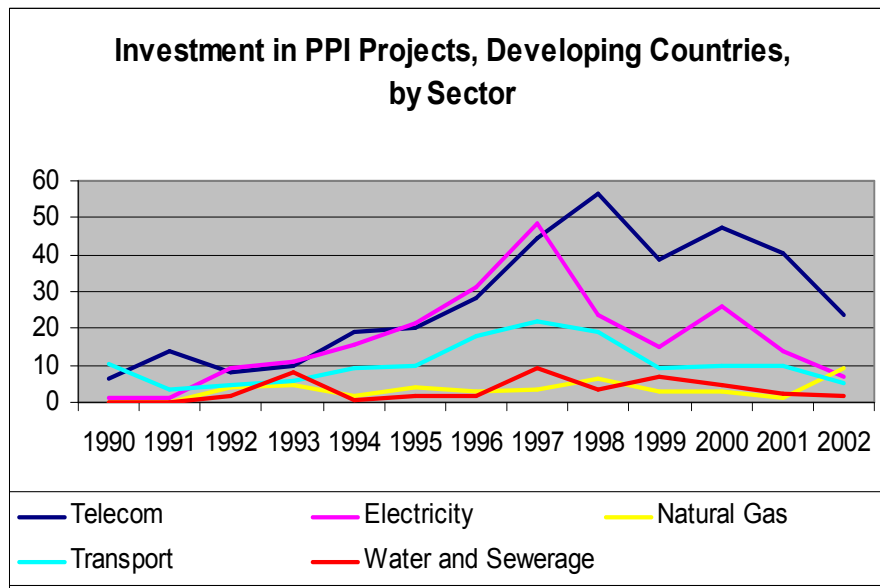
(Source: PPIAF³)

As captured in Figure 1, above, from negligible levels in the mid 1980s new private investment in developing economies from external sources grew to a high of 128 billion US dollars per year in the peak years of 1997 and 1998. Figure 2 reveals that Latin America benefited most from foreign investment flows in the 90s, followed by East Asia and the Pacific, Europe and Central Asia, and finally South Asia and the Middle East. Sub-Saharan Africa trailed all other geographies.

But as pictured, after 1997 this trend reversed course even though reliable electricity, efficient transport, modern telecommunications and safe drinking water remain essential to achieving long term growth in emerging economies. Indeed the World Bank estimates of future demand for these services anticipate annual investment requirements of USD 120 billion in electricity in emerging markets from 2001 to 2010 and USD 49 billion in water and sanitation until 2015. China's infrastructure requirements remain massive estimated at about USD 2 trillion over the next ten years. Iraq too will require substantial future investment to rebuild its civilian infrastructure. Thus the need for substantial investment continues to be acute.

But why has investment in infrastructure declined so massively over the past few years in developing economies? The answer to this question lies in the interplay of many factors, among them the macroeconomic shocks of the late 90s. Most infrastructure is domestically oriented, with revenues typically generated in local currency. Long ramp-up periods for projects may also mean that longer-term funding is required. Domestic banks in such markets can rarely provide more than short term finance and local capital markets are often weak or non-existent. Thus few large projects in emerging markets were funded with local currency, with acute negative results during periodic currency crises.

Figure 3



(Source: PPIAF)

Additionally specific events within sectors, especially global electricity and telecommunications have affected the development of these industries in emerging economies. We will begin by discussing the decline in enthusiasm for such investments since the 90s, differentiating by sector.

1. **Global Power Finance: Private Capital Funding Sources Retrench**

In the early and mid-90s, the notion of private sector participation and competition in the electricity sector captured the imagination and appeared to address the objectives of policymakers, in developed and developing nations alike. Emerging countries, plagued by acute and immediate needs for basic electrical service, encouraged investment in generating capacity based upon competitive bidding for long term power purchase contracts (PPAs). International utilities, power project developers, equipment suppliers all bid to contribute technical skills and private capital to construct and operate electricity generating assets. But usually state, municipal, or other local enterprises retained monopoly control over electricity transmission and distribution infrastructure. Frequently under PPA arrangements, the local parties were also asked to guarantee a tariff indexed to the dollar or other hard currencies over the contract's life; sometimes back-stopped by further government guarantees.

The fragility of such undertakings became apparent when in 1997 the Asian crisis provoked massive currency devaluations, and a year later distress in the Russian Federation was followed by similar downward currency adjustments in other transitional economies. Governments and utilities, unable to pass along massive increases in the cost of power to local users sought to renegotiate terms, or simply defaulted, wiping out investment and provoking rescheduling as well as huge write-offs among bank lenders and bondholders. In this calamitous economic environment international power project developers, banks and other investors withdrew from emerging power markets en masse. In retrospect it is also clear that peak international investment levels were partly attained through the sale to foreign players of many public power and transmission assets. This was especially true in Latin America. As government assets available for privatization dwindled, such high levels of inward investment would have been difficult to sustain under any conditions. However a catalogue of events further plagued private power infrastructure investment, including developments in the United States.

Following the troubles within emerging markets many players turned towards America. In part enthusiasm for U.S. investment was driven by changes in regulation that appeared to convert the power generation sector into a more lightly regulated and competitive business, unbundling not only

the structurally competitive elements of generation as in emerging markets, but also supply. Long term PPAs, deemed inefficient, were suspended in states like California, where it was reasoned that power was a tradable liquid commodity that could be hedged. New “merchant” facilities were financed to produce power for competitive markets to be sold at prices well above the marginal cost of production, taking advantage of short term market imbalances. Additionally, California’s energy shortages in 2000-2001 persuaded many that profits in a deregulated sector could be spectacular and a great deal of construction of new plant, especially that fueled by natural gas therefore generating lower cost more environmentally friendly power, was undertaken.

Assumptions that regulated markets would transition quickly to open competition ultimately proved highly optimistic. With liquidity in the trading market confined to a few players, the belief that companies could hedge their risks through trading was discredited when a rash of players suffered credit down-grades, beginning with Enron. Moreover, unprecedented volumes of new highly efficient gas-fired generation capacity grew greatly in excess of demand driving down electricity prices. By 2002 many utilities and power companies that had invested in new merchant plants to be deployed in the competitive power and gas markets were filing for bankruptcy, including major generators. Other power companies continued operations but in greatly weakened states.

The default of major players left banks and bondholders with billions of dollars of distressed credit and little hope of substantial recovery, profoundly affecting confidence in power markets globally. In the wake of such disappointment and the withdrawal of key players, relatively few power projects have been seriously assessed elsewhere in the world since.

2. **Telecommunications: An Industry in Crisis or Promise for Emerging Markets?**

Like power, policy changes triggered a boom in telecommunications infrastructure investment in the 90s. In 1991 telecommunication services in 150 countries were state-owned. By 2003 the number had fallen to 79. And the number of regulators (usually an indicator of the entry of private participants) had risen from 12 to 123.³ Commensurate technological advances also contributed to what was ultimately an unprecedented build-out in the history of telecommunications between 1995 and 2000 when available global capacity grew more than 200 times. In the year 2000 alone the telecoms industry invested more than US 200 billion dollars worldwide. In emerging markets investment kept pace, although in regions like Asia it

³ Dailami, Mansoor, "The Challenge of Financing Infrastructure in Developing Countries". *Global Development Finance*. The World Bank. 128.

suffered serious setbacks when massive currency devaluations in the late 90s caused many new users to abandon telephone service as tariffs linked to dollars grew to unsupportable levels.

In developed markets breakneck funding of expansion anticipated enormous increases in demand for telecom and data transmission services. Indeed between 1995 and the year 2000 internet usage increased rapidly – but still less than imagined. In 2001 the “dot-com bubble” burst taking with it the telecoms boom as well. In the U.S. in particular, many big players whose activities had been underwritten in high yield bond markets plunged into bankruptcy. In Europe licenses to provide third-generation mobile services were valued in terms of billions of dollars at the height of the boom in 2000. By 2001 and 2002 they could hardly be given away. Mountainous debt – much of it incurred in the overzealous pursuit of licenses – threatened the survival of many global operators. As they restructured and shed assets, further investment in emerging markets became a distant priority.

Looking back, the reaction of financial markets suggests an industry in crisis. But actual performance has not been as bad as that. Global connections of new fixed line subscribers fell by a third, and new mobile subscribers by a fifth, in 2001. But in both cases results were better than in 1999. And internet usage continues to grow, if at a slower pace than the most optimistic estimates. In retrospect 2000 may have been such a boom year for the industry that it was hard to maintain momentum and a part of the perceived slow-down was simply the result of the scale of past successes as many parts of the world approached saturation in fixed-line and mobile users.

This may well be positive news for emerging markets. There remain vast geographical mismatches between supply and demand. Across the Atlantic a glut of submarine fiber is available at rock-bottom prices, while in many developing regions of the world there is a true paucity in capacity, especially for mobile traffic and internet. But there are growing signs that investment may be shifting away from developed economies with positive implications for the developing world. In 2001 China accounted for more than half of all new fixed-line and a quarter of new mobile subscribers in the world. Africa too has added more subscribers since the start of 2000 than in decades before the turn of the millennium. There is also some recognition that the competition to reach the last 5 percent of potential users who do not have telecoms in the developed economies may be less rewarding than addressing the 50 percent or so in the developing world still unserved. In fact in 2001 eighteen developing countries grew their mobile networks by more than 200 percent. And thirteen of these were African countries, the fastest growing Nigeria.

3. Transportation: Poor Traffic Estimates and Faulty Contractual Design

Substantial amounts of private finance were channeled to transport infrastructure between 1990 and 1997 although the total was only a small percentage of that needed, and significantly less than in power and telecoms. Private involvement in this sector has frequently gone smoothly, but there have also been many well-publicized failures. In East Asia, for example, early high-profile controversies included the Thai government's seizure of an elevated private expressway in Bangkok in 1993. In Latin America, roughly two dozen private toll roads in Mexico went bankrupt after the devaluation of the peso in late 1994. Developed countries were not immune either. The calamitous performance in 2001 of Railtrack, a private company that had bought Britain's entire railway infrastructure, was equally sobering to private investors. Consequently the flow of new private investment into this type of infrastructure has fallen off sharply, first in East Asia in the late 90s and then in Latin America. In 2002, levels of new private investment were close to those experienced in the early 1990s.

The emerging consensus is that the main obstacles to successful private investment in transportation have been overly optimistic traffic forecasts coupled with foreign financing that imposes currency risks on projects with only limited ability to generate such funds. Indeed, Standard and Poor's studied 32 toll roads worldwide and found that traffic forecasts were too high in 28 cases, and that actual traffic volumes averaged only 73% of the forecast.⁴ Such forecasting errors for toll roads usually come from inaccurate or inappropriate assumptions regarding users' willingness to pay high tariffs, income elasticity effects of recession or economic downturn, future land-use scenarios for development, etc. Overly optimistic forecasts have also characterized railways where competition posed by trucks and waterborne freight has commonly been underestimated.

An additional feature of the failures in this sector has been poor concession design. Over 90 percent of all transport infrastructure finance has been in the form of concessions, in which governments typically retained ownership while private entities supplied capital investment and operated facilities. In Latin America alone, about 55 percent of transport concession contracts were renegotiated, many within the first 3 years of the contract. The renegotiations were usually due to shortfalls in project performance – especially demand. But in addition, tariff adjustments have often been delayed or cancelled, and

⁴ José Luis Guasch, "Concessions of Infrastructure Services: Incidence and Determination of Renegotiations—An Empirical Evaluation and Guidelines for Optimal Concession Design", manuscript, World Bank, May 2002.

some government guarantees have not been fulfilled. In response, sponsors have slowed or halted investment programs.

4. Water and Sanitation: Political Sensitivities

Before 1990 the water sector in emerging markets relied almost entirely upon government financing to meet operating costs and investment needs. As late as the mid-1990s, 65-70 percent of water and sanitation projects were financed by the public sector; 5 percent by the domestic public sector; 10-15 percent by international donors; and 10-15 percent by international private companies.⁵

The introduction of various forms of public-private partnerships in project design, development finance, production, and service provision, caused private participation in water and sanitation to grow somewhat between 1990 and 2001. In those years the private sector invested US dollars 40 billion in 203 water and sanitation projects in developing countries. But many such investments met with very mixed results. Water is often perceived as a “public good”, and consumers can be reluctant to pay for its provision. Moreover, suspension of such services risks provoking health crises. Therefore water remains an unusually highly regulated and vigorously political sector.

Also, with the exception of retail concessions to sell water to consumers, state, municipal, or other local enterprises tend to retain monopoly control over water distribution. Frequently long term contracts are entered into between governmental and private sector parties. The latter agree to construct and operate water facilities so that the state can resell it. Off-take agreements, generally part of overall concession arrangements, are usually central elements to project structures. At times they also mandate initial substantial price increases in the cost of the services with prices continuing to rise over time to recover capital costs, meet debt service obligations and generate satisfactory investment returns for the private players. When this is the case the risk of regulatory interference during the concession term proves to be extremely high. Moreover, because concession authorities are not usually part of the central government, but local authorities or municipalities, their income often proves insufficient to cover tariff payments.

Additionally, where domestic bank or capital markets have been thin or nonexistent, foreign currency funding has generally been required to cover most capital costs. Thus local parties have often been asked to guarantee water tariffs indexed to the dollar or other convertible currencies to mitigate the risks of asset liability mismatch. In some instances, when unable to pass along massive increases in the cost of water to local users, utilities simply

⁵ Dailami, p 129.

default. Typical of such failed projects is Maynilad Water, undertaken in the Philippines when water distribution was privatized in 1997. As the exchange rate between the Philippine peso and the US dollar depreciated following the Asian crisis, the project's foreign currency loans became increasingly expensive; changes in the foreign exchange rate could not be passed on to end-consumers. At the same time, the project company was unable to stem losses of income from non-revenue water (taken illegally from pipes).

Apart from the risks posed by local utilities, and aggravated by foreign exchange movements, tariffs can be especially politically sensitive to collection in local communities. That was made abundantly clear with the seizure of a water concession in Tucumán, Argentina in 1996, violent rioting that stopped planned water and electricity privatizations in Cochabamba, Bolivia and Arequipa, Peru, and most recently Argentina's suspension of utility tariff revisions in the wake of the government's default and devaluation in 2002.⁶

Indeed, in recent months the three largest global water companies, Suez, owner of the former Lyonnaise des Eaux, Veolia Environnement spun out of Vivendi in 2002, and Thames Water have signaled their intent to exit from most involvement in emerging market undertakings beyond contracting to provide services under short term operating contracts. Why are these firms pulling back? They explain that even hinting at further investment in emerging markets can drive down their share prices.

B. International Banks and Bondholders

An intuitive response to problems like currency mismatches as cited above would be to encourage participation by local institutions in financing infrastructure and other projects. Encouragingly, in some regions, particularly the Middle East and Asia, local debt and equity is employed increasingly in project finance for infrastructure as discussed further below. But the trend has yet to take hold in lower income countries and therefore international sources of funds will continue to play a very significant role in the financing of much infrastructure in the developing world.

However, today, as compared to the last decade, international banks appear to have far less appetite for transactions in poorer countries. Many have new strict limits on the amount of cross border exposure they may absorb in non-industrialized countries with relatively poor credit ratings. As only about forty countries possess investment grade ratings, such constraints can be extremely limiting. Additionally international

⁶ Some of the most severe and best known conflicts in Latin America, included the cancellations of water concessions in Tucumán, Argentina and Cochabamba, Bolivia and an electricity concession in Arequipa, Peru. For an account of the Tucumán dispute see Jorge Carlos Rais, María Esther Esquivel, and Sergio Sour, "Estudio de Caso: La Concesión de los Servicios de Agua Potable y Alcantarillado Sanitario en Tucumán, Republica Argentina", report prepared for the Public-Private Infrastructure Advisory Facility, Washington, DC, no date.

banks often have internal limits by size or confine themselves to participating in transactions above some threshold (like US 50 million dollars). This is in no small part driven by the fact that international investors, both public and private, must choose their projects as a function of the return and associated recognition they receive. It takes just as much time and effort, indeed sometimes more of both, to successfully structure, approve, and realize a US 10 million dollar project as it does a US 500 million deal. Therefore, international providers of funding prefer to allocate their resources to larger projects that will earn significantly more income and more industry prestige for similar amounts of effort than will small scale transactions. Furthermore, large scale projects often involve “marquee” international or domestic sponsors appearing to present greater opportunities for future business than local companies likely to be involved in smaller scale projects. Thus it is relatively rare to find a large international bank present in the financing of a small or medium sized project.

Nor will the new Basel 2 accords, slowly winding their way towards adoption, benefit this process (see Annex 1 for more detailed information). These “capital adequacy guidelines” have been developed by the US Federal Reserve Bank in collaboration with the Bank for International Settlements (BIS) to ensure that U.S. and European banks do not become overly exposed to middle- and low-income developing countries either in aggregate or on a country-by-country basis. When finalized the guidelines will in most instances mandate stricter “risk weighting” for loans and commitments extended by banks to borrowers within emerging markets. This means banks will be required to maintain increased levels of capital and reserves to offset such risk. The result is already exacerbating anxieties with respect to capital usage and the all important measure of return on equity, or ROE. “Covered” or guaranteed exposure, that arises when a bank employs political risk insurance or guarantees from highly credit-worthy third parties – especially Multilateral Agencies (MLAs) like the World Bank, or Export Credit Agencies (ECAs) - is however deemed less risky by regulatory authorities, therefore requiring a reduced amount of capital or reserves. So to the extent that banks are prepared to lend to infrastructure projects at all such support is often required. (See sections E-G below for further discussion.)

In some emerged markets like the United States, as banks have retreated, other non-bank institutional investors have become more important. However, these players are not homogeneous, nor have they demonstrated particular interest in project or other developing market assets.

C. Domestic Banks and Capital Markets

In the long run local bank involvement and private capital hold the most promise for continued development in most infrastructure sectors. Not only will they increase the potential pool of capital, but local banks are also in a good position to source loans for infrastructure projects, especially for smaller scale projects, given their

extensive branch networks and sometimes decentralized structures. Local institutional involvement can also help to strengthen popular support for private control of infrastructure facilities.

But developing suitable markets will be a major challenge. Banking regulation has historically been weak in many emerging markets. The impact of Basel 2 capital adequacy regulations remains to be determined in the case of emerging market banks. But restrictions designed to prevent financial institutions from concentrating too much risk on particular projects or in particular sectors will likely constrain smaller banks further from participating in many larger infrastructure projects. This may mean however that such players can fill gaps left by international players at the smaller end of the scale.

On the other hand deposit bases of emerging market banks are typically of very short duration. Nor do long- or even medium- term currency swap markets exist in any middle or lower income countries to help reduce cross currency risk. But the most significant constraint to local financing is probably the shortage of qualified, trained personnel and lack of adequate risk assessment, financial structuring capabilities, and credit procedures for providing financing. Lending decisions in such markets often appear to be based less on objective risk assessment than on directives by government or personal connections with potential borrowers.

Nor do bond markets in developing countries often evidence sufficient professionalism to attract many investors or contribute significantly to capital pools available for infrastructure. Rarely do such markets offer satisfactory disclosure, or ensure that laws and regulations governing the issuance of securities are enforced. Neither is there usually a long-term government bond market to create a yield curve or serve as a pricing benchmark for the issuance of long-term debt by private concerns. Regulations may even inhibit investment by institutional investors, such as insurance companies or pension funds. Encouragingly however, despite the obstacles enumerated above, some middle and lower income regions display evidence of nascent local bank and capital market activity.

1. Middle East

Today in the Middle East over 50% of the funding of Middle East infrastructure projects is expected to come from regional banks. A limitation is that these parties, both lenders and equity investors, frequently lack expertise or suitable track records to allow them to proceed prudently, or to give other participants confidence and attract complementary financing.

2. Asia and Russia

In Asia project finance generated a great deal of interest through the 80s and 90s with foreign legal and financial professionals, as well as all the major developers, heavily represented in the region. But following the Asian crisis,

along with international investors, local financial institutions with mounting bad debts denominated in foreign currencies retreated along with foreign lenders.

Today deal flow in Asia has not however completely ground to a halt, although markets expected to grow are not attracting much investment as had been hoped. None-the-less there is some evidence that local currency financing is becoming a more important source of credit in certain regions. In Taiwan power projects have become eligible for low interest rate loans from the government in local currency. A highly liquid local bond market is developing and domestic banks are increasingly competitive.

Malaysia too has come to rely almost entirely on domestic capital markets for many projects rather than international funds or even local bank financing. The bond pool, driven by historically low interest rates and developing pension business, is very deep. In South Korea domestic lenders have proved active in private participation in infrastructure (PPI) schemes. The Thai baht has also proven to have significant liquidity.

China, growing much faster than most other parts of the world, is pushing existing infrastructure to the limits. However, recent power sector and other infrastructure reforms have added a great deal of uncertainty to the prospects for foreign involvement. Pressures to use Chinese law to govern financing documents add to the anxieties of foreign lenders, as does the emergence of Chinese construction companies whose quality and reliability as turnkey contractors is still unknown. Thus foreign involvement in project financing in China has recently been mostly limited to the petrochemical sector. Chinese banks, flush with local currency as well as US dollars, are expected to provide the majority of funding in this area, but the absence of foreign bank participation may come to represent an unfortunate loss in terms of expertise and legal discipline.

Indonesian and Indian markets appear to be slowly restructuring and liberalizing. However, the perception of risk to private investment is still very high in both regions and memories of failed projects are discouraging the rapid return of foreign investment. Nor are local sources of capital emerging yet as viable funding alternatives. India has put in place medium-term programs to improve the efficiencies of the debt market, until recent years, driven primarily by Bank of India's Statutory Liquidity Requirement, a system that required Indian banks to invest a specified percentage of their liabilities in government-designated instruments. But the debt market has developed more slowly than India's market for equities and has not yet become a major source of finance for the private sector. The Financial Institutions Reform and Expansion (FIRE-II) project sponsored by US Agency for International Development (USAID) is however supporting the Indian government's efforts to deepen the debt market and provide funding

for municipal water, wastewater and sewerage projects. Debt instruments are presently being designed to appeal to investors.

In Russia the US 10 billion Sakhalin II oil and gas development deal may well be the world's largest project financing yet. But local banks are often poorly capitalized and domestic financing sources are few in the Former Soviet Union and Central Asia. Progress towards developing a viable local market is slow.

3. Latin America

In recent years Latin American conditions have mostly worsened across all sectors, although by varying degree by country. Short term liquidity became a concern in Chile in 2002 and 2003. Utilities in Brazil struggled with the lasting effects of a drought in 2001 that resulted in unprecedented and continuing energy conservation among consumers and drastically suppressed demand. Banco Nacional de Desenvolvimentao Economicao (BNDES) has lately announced a budget to be used to finance up to 50% of a power distributor's short-term debt in local currency, but overall financing prospects for infrastructure are not positive.

In Argentina many public-service providers defaulted and openly questioned the commercial viability of their enterprises in the absence of sustainable, systemic sovereign reform. Venezuela suffered the aftershocks of the general strikes of late 2002 and 2003; capital controls were imposed. Tariffs that should have been reviewed every six months were frozen by government decree. Only in Mexico has the outlook been somewhat brighter as the government has slowly opened the water and power sectors to outside players.

To sum, if infrastructure investment is to be sharply increased in emerging markets it will be critical that local credit and capital markets be opened and broadened with tenors of available local currency credit lengthened. In this context, privatization may play an important role. When foreign banks purchase significant stakes in domestic banks they can at times alleviate liquidity constraints, but more importantly often succeed in transferring knowledge and processes to the local market. This is happening to some degree in China, Thailand, Korea, and Indonesia although not yet in many smaller, less developed countries.

D. International Private Sector Equity Capital

Perhaps as disturbing as the current lack of global credit, is the current global shortage of equity. Aside from power deals associated with integrated upstream oil and gas operations that attract oil companies, there is a notable dearth of potential project sponsors with suitable track records for project development. European

players are looking at promising projects, as are the Japanese, but the gap left by big US players following the problems of Enron and the US power groups is acute. Additionally recent statistics indicate a considerable fall off in investment said to be caused by fears of terrorist activity in Asia. Even in the Middle East, where in spite of the tense political situation substantial local banking interest in independent water and power projects has been demonstrated, it is unclear that there will be sufficient qualified equity participants to provide enough competition in the tendering process for all projects in the pipeline.

Thus regional and local equity investors and sponsors are destined to play an increasing role in the provision of large and small scale infrastructure in emerging markets. This is particularly apparent in Asia where regional energy firms now account for over 12 percent of Indonesia's daily output due to the acquisitions of Repsol-YPF and Devon in 2002 by the Chinese state companies China National Offshore Oil Corporation (CNOOC) and Petrochina. Harbin has supplied equipment to the Bote Koshi hydropower project in Nepal. Other examples include investments in the power sector in Laos by Thai companies including Italian-Thai Development PCL and Electricity Generating PCL in the Nam Theun II hydropower project. Notably, in addition to investing in other emerging markets, developing country sponsors are also increasing their investment in industrialized countries. In Asia, this trend is illustrated by recent investments by Malaysian (YTL and Genting) and Indian companies (the Oswald Group in Burrup Fertilizer) in Australia in power and fertilizer plants respectively as well as by Chinese interest in the Australian coal sector.

In the long run however the more important volume is hopefully to be generated from domestic players in their own markets. And there has in fact been significant investment by privately owned domestic companies in roads, power, oil and gas, telecoms and, to a lesser degree, water in the Philippines, Indonesia, Thailand, China, and India. Often these represent equity positions taken in partnership with foreign companies.

But such investment is not without risk. Major infrastructure projects normally entail significant cash outlays and may stretch local companies to the limits of their financial capacity. At times their interest must be contributed in kind or even carried by their international partner. Additionally as there are only a small number of local investors in each market, if overcommitted they can fail. All too often they become aligned with a particular local political party or personae. Should that party or individual(s) fall into disfavor, accusations of corruption often follow. This was highlighted in Indonesia in the late 90s when the Suharto family members and cronies were driven from positions of power and influence. The new administration reopened and scrutinized all investments with such participation for signs of influence peddling. Moreover, privately held local companies rarely make their accounts available or sufficiently transparent for adequately thorough due diligence.

E. Credit Enhancement from Multilateral Agencies (MLAs)

As mentioned above, through their credit enhancement programs Multilateral Agencies (MLAs) or development banks, public and private bilateral development institutions, and export credit agencies can be critical to making a project or investment a “good” one in the eyes of international financiers as well as helping with Basel 2 guidelines. Such support is only useful however where a project or deal structure makes sense otherwise.

A “good deal” is one undertaken in an environment where the country policy framework and legal system is modern and transparent, enforceability of laws is practical, and where the project or investment makes sense from an economic standpoint without dependence upon government subsidies. It should perhaps be emphasized here that there is an inherent and well-founded belief, upheld by the experience of the last ten years among private investors and lenders that projects involving subsidies in any form may not ultimately be commercially viable and should not be undertaken on a strictly private basis. This viewpoint is understandable. Government subsidies can fall away due to political change or public rebellion. One only need think of the experiences with power purchase agreements, toll road tariffing permits, or perhaps most acutely the violence associated with the water sector in Venezuela.

But additionally a satisfactory project structure includes first class reputable sponsors, employs proven technology involving reputable equipment suppliers, has a contractual structure that is clear and enforceable, and ever more commonly today, anticipates and fully mitigates currency risks. Indeed, lately a very few transactions demonstrating such characteristics, as well as employing MLA guarantees or insurance cover, have been accepted in the marketplace and even oversubscribed.

One such recent transaction was the 720 MW Phu My 3 project undertaken in previously uncharted Viet Nam where creditors received support from the Asian Development Bank through a partial risk guarantee – described below. For the first time it was used without a counter-guarantee from the sovereign. Political risk insurance was also supplied by the World Bank’s political risk insurer Multilateral Investment Guarantee agency (MIGA) to address interest rate hedging concerns. Additionally, and as importantly, the World Bank helped the government of Viet Nam obtain extensive assistance in designing contracts and creating a suitable enabling environment for such a transaction. The latter undertaking was partially financed by the Public Private Infrastructure Advancement Fund (PPIAF) described more fully below.

Perhaps the best way to understand the role of the multilateral and bilateral development agencies is to outline the sorts and forms of credit enhancement that they most commonly provide. These come in a few related forms:

1. Guarantees, usually issued in “partial” form;
2. Insurance, typically for some combination of political risks;
3. Co-financing schemes, such as IFC’s A/B loan program;
4. On-lending;
5. Equity or Equity Insurance;
6. Local to Hard Currency Swaps;
7. Advisory services.

The development banks have also seeded infrastructure funds intended to catalyze and comfort additional outside private investors.

1. Guarantees - Usually Issued in “Partial” Form

During the 1990s the World Bank, or International Bank for Reconstruction and Development (IBRD), developed two “partial” guarantees for use in privately sponsored infrastructure projects. Their structures have been much imitated by other MLAs and Bi-lateral Agencies, including the Inter-American Development Bank (IADB), the Asian Development Bank (ADB), FMO the Dutch bi-lateral agency, and even the private sector arm of the World Bank, the International Finance Corp. (IFC) among others.

The first of the guarantees is a partial risk guarantee (PRG). Under its terms the World Bank agrees to reimburse lenders if there is a loan default attributable to certain defined political risks, including breach of contract by a sovereign, foreign exchange transfer risk etc. The second guarantee is a partial credit guarantee (PCG). It provides comprehensive cover for a portion of debt service payments typically assuring repayment of later maturities of an extended term loan or bond. The PCG can be used either to cover international or local currency extensions of credit.

Both guarantees must by charter be supported by a counter-guarantee of the sovereign – either the Ministry of Finance or the Central Bank – when used by the World Bank. Other providers do not necessarily face that constraint. Neither guarantee has however been used for small transactions. IFC has also experimented with the partial credit guarantee structure in order to credit enhance local currency bond issuance. By charter IFC may not ask for a counter-guarantee of the host country, making the structure more suitable in many ways for private infrastructure. And by policy, though not exclusively, IFC is also intended to participate in the financing of small- and medium-sized infrastructure businesses, including infrastructure facilities. It is unclear

how effective the institution is in this regard, but it has at times underwritten financing for smaller transactions.

2. Political Risk Insurance

MIGA provides political risk insurance (PRI). Its insurance for private foreign investors covers what is often referred to as the “big three” political risks, i.e. confiscation, expropriation and nationalization risks, war and civil strife, and foreign exchange availability and transferability. The cover differs however from that of the World Bank (as well as IADB and ADB) in several ways. Most importantly MIGA does not require a host country counter-guarantee. Also, cover may be used to insure equity and shareholder loans as well as bank debt or bonds. Additionally MIGA’s insurance for breach of contract with a sovereign entity is provided only on a limited basis -- in instances where contracts with governments require offshore arbitration to resolve disputes. Should, for example, off-shore arbitration be sought, a judgment rendered and the private sector then finds it impossible to collect its award, MIGA will pay the judgment amount.

Also, coverage is limited to US 200 million dollars per project, whereas IBRD instruments do not have an upper limit. However, while MIGA may not insure the entirety of a loan or equity investment due to coverage limits, even with a relatively low level of support its multilateral status and participation in a transaction can increase investor confidence that contractual rights with the government will be respected.

3. Co-financing Programs and On-Lending

International Finance Corp (IFC) and other donors lend to private sector entities in low and medium income countries. The IFC “A/B Loan” program, much emulated, is the largest part of its portfolio. Under this scheme IFC funds the A loan, but subsequently syndicates a portion to participating financial institutions. This portion of the transaction is called the “B-Loan”. IFC remains the lender of record however for both the A and B tranches thereby sharing its preferred lender status with private sector B-loan banks. The advantages to private bank lenders are several: 1) they may not need to dip into scarce country risk limits; 2) in many countries loan provisioning is not required; and 3) withholding taxes may also be avoided in some cases.

Lately however the B loan scheme has undergone some pressure. It does not provide participating banks with explicit guarantees, merely conferring “implicit” support. The perception of the degree of protection afforded when co-lending with IFC declined radically following substantial losses under such facilities in both Asia and Argentina after the year 2000.

4. On –Lending Facilities

Many donors also participate in on-lending facilities. That is, they make loans – usually in hard currencies - to domestic private or public institutions that further “on-lend” the money to customers or specific projects. A mechanism widely used in development financing, on-lending provides a chosen domestic financial institution with funds to expand its portfolio and allows it the opportunity to further develop its lending expertise. At the same time, the provider of funds is taking a more general risk – that the financial institution to which it lends may default – as opposed to risk of default of individual loans to the end recipients of funds. This mechanism also allows the donor to leverage local knowledge and expertise of the domestic financial institution in order to make a larger number of smaller loans than would normally be possible if it were to rely solely on its own staff.

5. Equity Investments

Some MLAs, like IFC, ADB and IADB, as well as some bilateral agencies make equity, as well as quasi-equity - e.g. subordinated loans or convertible debt investments – available to companies, financial institutions, and other types of project vehicles. Typically such investments do not exceed 25 percent of total capitalization however. They may also seed investment funds.

6. Swaps

A recent groundbreaking initiative in the field of infrastructure finance has come from the Asian Development Bank. Under a new program ADB addresses the problem of unhedgeable local currency exposure by providing additional funding in local currency that commercial lenders are unable to source themselves. For example, in the Philippines ADB initiated a US 200 million dollar cross-currency financing facility. Under the facility, ADB swaps foreign convertible currencies (US dollar, euro and the yen) with the Philippine government for pesos, which are then lent to banks for relending to selected business sectors. International banks with a long-term credit rating of BBB or better can borrow up to US 75 million dollars equivalent each under the facility, while local banks' maximum borrowing limit is the equivalent of US 10 million dollars each. Re-lending is allowed to businesses in sectors involved in infrastructure development, manufacturing, small and medium enterprises, housing and retailing. The multilateral agency will also allow loans for restructuring infrastructure projects. 17 local and foreign banks are eligible to participate in the 15-year loan facility.

The first arrangement of its kind in the region, it may be replicated in other countries such as Indonesia, Bangladesh, Vietnam and Pakistan.

F. Credit Enhancement with Bi-lateral Agencies

Bilateral agencies including national development banks, sometimes referred to as investment promotion agencies, are often active in financing global infrastructure. Typically they are intended to assist in mobilizing the participation of their own national corporations in the economic and social development of emerging market countries. Depending upon the agency, as with MLAs, programs can include financing projects through loans or loan guarantees, providing political risk insurance for debt and equity, participating in A/B loan schemes like IFC's, or furnishing on-lending facilities to local financial institutions. In recent years these types of institutions have also changed the way they operate to better respond to heightened market demands and perceptions of risk.

For example, two bilateral agencies have mobilized equity funds: the Commonwealth Development Corp (CDC) of the UK and the Overseas Private Investment Corp (OPIC) of the US. In 1996 CDC founded the Commonwealth Africa Fund to provide development finance on concessionary terms to low-income African member countries unable to borrow on the non-concessionary terms of the African Development Bank. CDC also recently established CDC Globaleq to invest in power assets – both existing and greenfield - in emerging market countries. CDC Globaleq plans to increase plant efficiencies by applying a centralized operating concept to its portfolio of plants around the world. Its ultimate goal is to increase the flow of private funds to emerging markets by eventually selling part of its equity to private sector investors. To this end, CDC Globaleq purchased two state-of-the-art Bangladesh energy assets from the troubled US company, AES, the Haripur and Meghnaghat power plants, located close to Dhaka, in transactions valued at US 437 million dollars, including equity and assumed debt. Haripur, a 360-megawatt plant, began generating power in 2001 while Meghnaghat, a 450-megawatt plant, became operational at the end of 2002. Additionally the fund is targeting Africa and Latin American for investment.

OPIC has also sponsored the development of 27 equity funds with combined investment capacity of US 3.3 billion dollars. These funds have invested in more than 300 businesses in 40 countries around the world and play a role in providing capital, technical know how and management assistance in important emerging markets.

The Development Credit Authority (DCA) of the US is also attempting to address the issue of local currency financing (See Annex 2 for more detailed information). In recent years it has begun to issue loan guarantees to private lenders, particularly for local currency loans. These guarantees cover up to 50 percent of the risk in

lending to projects. The guarantee program acknowledges that banks in many developing countries can be very conservative in their lending practices. At times much of their capital is invested in low-risk government bonds. Other times banks make loans only to established customers. And, even in this case, such credit extensions may be subject to collateral requirements of up to 100 to 200 percent. As a result, many creditworthy borrowers are unable to access financing. A DCA loan guarantee can make funding available to specific sectors where the need exists to encourage sustainable local economic growth in keeping with US development objectives.

G. Export Credit Agencies (ECAs)

Export Credit Agencies (ECAs) exist explicitly to promote exports from their home countries. Most commonly this is accomplished either through extending medium- or long-term direct loans at concessionary prices to foreign buyers. Or ECAs may provide guarantees or insurance to banks or other creditors to protect against commercial and /or political risks of financing foreign buyers of their national goods. Other financial tools at their disposal include on-lending facilities, interest make-up schemes and even equity insurance. Normally however the extent of coverage for OECD providers of ECA cover is 85 percent of the value of shipped goods.

Until the early 90s ECAs generally asked for counter-guarantees from host country institutions when extending either loans or guarantees. Since then most have begun to extend their support to project financings in developing countries without sovereign support. Their buyers are now predominantly private as well, whereas ten years ago, they were largely government-owned. There are however, notable drawbacks to ECA programs. To begin with, such support is limited to financing for exports from the home country of the ECA and for many infrastructure projects (like water) capital imports from industrialized countries may be inconsequential.

Also, historical delineations between “commercial” and “political” risk common to ECA political risk insurance policies and some guarantees became sources of much bitterness when projects failed in the 90s as the result of governmental contractual disputes or currency devaluations. Often these events were judged by the ECAs to constitute commercial rather than political risks. This seemed particularly unjust to some creditors in instances where currency devaluations were apparently the result of poor policy decisions taken at the sovereign level.

More recently however ECAs have been focusing on ways of enhancing the quality and coverage of their credit and political risk guarantees. For example since 2000 many have ceased attempting to differentiate between commercial and political risks and have begun to offer comprehensive guarantees to creditors at only nominally higher prices. Other ECAs are also taking on noticeably larger funding risks, and evolving into more commercially minded players, often central to arranging big ticket deals. This marks a substantial divergence from a few years ago when many

observers predicted the marginalization of these players. As an example, JBIC of Japan has recently increased its participation to a maximum of 60 percent of project costs for high profile projects in Asia, whereas the agency used to lend on average only 30-50 percent. Also, the Canadian Export Development Corp (EDC) lately pioneered a multi-product offering while acting as lead arranger to construct a power plant, la Rosita, in Mexico. Perceived as one of the more nimble and flexible ECAs, it both lent to and provided political risk cover for the project.

The reduced availability of long term investment insurance from the private sector has also led to substantially increased reinsurance and co-insurance by ECAs, who offer coverage in excess of the five years that was until recently the normal term of many private providers. The role and importance of the ECAs, as well as the support of development banks, should only be rendered more important by the new Basel 2 Accords.

H. Financing Small-Scale Infrastructure

While major Donors, ECA's, and others play an important role in the mobilization of financing for private infrastructure, it is also true that their financial instruments thus far have been used primarily to assist with large infrastructure projects. With respect to small scale infrastructure, the availability of international funding is a different story, although there are noteworthy exceptions.

1. Medium to Small Scale Infrastructure: Grameen Bank

Grameen Phone in Bangladesh, an initiative of Grameen Bank, an internationally recognized microfinance bank founded by Muhammed Yunus, is an example of a medium scale infrastructure project resulting from cooperation among donor organizations, the Government, and private and public investors. Telenor of Norway is the majority shareholder in Grameen Phone with a 51 percent stake. In 1999, Grameen Phone signed a US 55 million dollar financing package with ADB, IFC, and CDC. The loan and equity agreement provide for US 16.67 million dollar loans and equity investments of US 1.57 million dollars each from the three donors – representing the first instance in which the three international financial institutions have invested in a loan agreement together. This was also one of the largest private sector loans made in Bangladesh.

Grameen Phone has a dual purpose: to receive an economic return on its investments and to contribute to the economic development of Bangladesh where telecommunications can play a critical role. In collaboration with Grameen Bank, the company intends to place one telephone in each rural village with a goal of creating 40,000 village phone ladies. Micro-credit borrowers can take out loans from Grameen Bank to start such telephone businesses.

Grameen Bank, that also received significant donor funding, has created numerous other programs and technology and telecommunications companies. Through cyber kiosks Grameen CyberNet is trying to bring the Internet to rural villages and is today, the largest Internet company in Bangladesh. Grameen Communications, that owns the entire Bangladeshi fiber optic network, expects to join with Hewlett-Packard to create e-healthcare, e-banking and e-education systems to reach rural villages. Already it has begun to provide access to computers and training in some villages. Grameen Software Limited (GSL), the newest program, is working to provide access to employment opportunities. GSL will help develop the Grameen Star Education program to train the unemployed poor in Information and Communications Technology (ICT).

Also in the area of ICT infrastructure, are at least two further examples of innovative schemes undertaken in India by private companies to provide the village poor with access to internet, telephone, digital photography, and other services. Through the construction of kiosks operated by micro-entrepreneurs along much the same lines as Grameen Phone, the poor are able to benefit from technology in many ways including access to government services in far away capital cities or access to real time market prices for goods they produce and sell. Hewlett Packard has provided a number of such kiosks in India on a charitable basis and a private for-profit company is to operate soon in India as well.

2. Bank Rakyat Indonesia (BRI)

In Indonesia, for example, Bank Rakyat Indonesia (BRI) is another example of a partially privatized bank specializing in the area of microfinance. Reportedly BRI is financing the purchase of solar cells from a privately owned company with foreign shareholders to be able to provide electricity to individual households. The loan is backed by a guarantee from an international financial institution illustrating the potential for cooperation between donors, emerging governments, and the private sector in order to provide small scale infrastructure to poor households.

3. Large Scale Projects and SME/Micro Linkages

Another parallel within the field of micro/SME finance is the effort of the IFC and other development finance institutions to develop linkages between large scale infrastructure projects and micro/SME entrepreneurs. Such linkage programs are designed to provide local emerging market companies with financial resources and training in order to enable them to offer necessary goods and services of acceptable quality to very large infrastructure projects. Usually, though not always, such projects are located

in remote areas where oil and gas fields are being developed or large agribusiness projects are being undertaken.

One example of such linkages is the Ford car plant near St. Petersburg in Russia. IFC has teamed up with donors and local consultants to improve the quality of car parts produced by local manufacturing companies so that they will be able to eventually supply at least 50% of inputs used by Ford in the production of cars.

Private companies themselves, such as many of the major oil companies, also appear to be interested in developing partnerships with donors and emerging market governments. They hope to benefit the local communities in which they are active as well as, very importantly, as advance their own interests. The potential benefits for increased rural development are enormous, particularly in the case of countries rich in natural resources such as oil and gas, minerals and precious metals, and water (hydropower).

4. Triodos Renewable Energy for Development Fund

A very recent initiative in the field of small scale renewable energy is the launch of the Triodos Renewable Energy for Development Fund which commenced operations as financier of renewable energy services in developing countries in 2004. The Fund will make investments (loans, guarantees and limited 'seed capital') in the range of Euro 100,000 to Euro 250,000 to private sector enterprises, financial institutions and organizations that facilitate the introduction and widespread access to off-grid renewable energy services to underserved populations. The Renewable Energy Fund will focus its resources on the developing countries of Africa and Asia. Among the sponsors of the Fund are large governmental, bilateral and multilateral institutions (including the World Bank Group), charitable foundations and developmental NGO's. To kick start its activities, Triodos acquired the Solar Development Foundation of the US which, since its founding in 2000, has approved over US 3 million dollars in loans, loan guarantees and grants to more than 45 enterprises in 22 countries, primarily for business planning, pilot testing, working capital and training activities to facilitate more widespread use of solar electric systems in rural areas of developing countries. Many of its clients are among the most successful renewable energy companies in their targeted markets. The Triodos Renewable Energy for Development Fund will continue to build on Solar Development Foundation's network and successful activities and is managed by Triodos International Fund Management BV, part of the European Triodos Bank Group out of its offices in Zeist, the Netherlands.

5. Bundling Small –Scale Projects

A further idea, much discussed but seldom realized, is the possibility of packaging a number of small scale projects all similarly structured into one large financing thus increasing the projects' appeal to international financiers. This formula has the added advantage of mitigating risk by diversifying it over a portfolio of different projects. This kind of bundling idea could be applied to many different types of projects including waste and water treatment and distribution, power generation and distribution, and possibly small ports and airports.

I. Recent Coordinated Donor Activities and PPIAF

In addition to the undertakings described above coordinated donor activity is in much evidence through the Public Private Infrastructure Advancement Fund (PPIAF). This fund provides approximately US 20-24 million dollars annually in technical assistance to emerging market governments in order to encourage private involvement in infrastructure development (transport, power, telecoms and water and sanitation). It also funds efforts to identify and disseminate best practice in this area with a special emphasis on poverty alleviation. Contributors to the fund include the UK, Japan, France, Germany, Sweden, Canada, Norway, the Netherlands, and Switzerland as well as World Bank, Asian Development Bank, UNDP and others.

Since the year 2000 PPIAF has devoted significant resources to these three related projects all of which are intended to uncover and promote means of catalyzing finance for smaller projects as well as encouraging prudent local capital market development in emerging markets.

Descriptions of these undertakings follow:

1. Financing of Private Infrastructure in Africa: A New Approach (EAIF)

The Emerging Africa Infrastructure Fund (EAIF) was established in January 2002. Its purpose is to provide long-term debt finance to commercially viable private-sector infrastructure projects in 44 sub-Saharan African countries (less South Africa and Mauritius). Complementarity is central to EAIF's mandate; the fund will co-finance with other international and regional/local lending institutions to catalyze funding. Extensions of credit are expected to be primarily in US dollars, ranging in size from US 10-30 million dollars. However EAIF may also offer guarantees to local banks to facilitate local currency lending where this is beneficial.

EAIF's portfolio will include senior loans, subordinated debt, guarantees to support third party local currency loans, and non core products such as underwriting, bridging finance, etc. A wide range of opportunities will be

considered including greenfield developments, privatization, refurbishment, upgrades and expansions with particular emphasis on power generation, transmission and distribution, telecommunication, transportation (roads, railways, ports, gas/water pipelines etc.) and water (supply, distribution, treatment/purification, etc.). The undertaking was prompted by a recognition that not only was it difficult to find local bank and other lenders willing or able to provide long term loans for infrastructure development in Africa, but foreign creditors are, if anything, more wary in that part of the world than nearly any other. While natural resources deals, particularly oil and gas, do at times find private sector sponsorship and creditors in Africa, there is a notable dearth of projects in other realms of infrastructure with the possible exception of urban telecommunications.

EAIF was seeded with an equity contribution of about US 100 million dollars from the British donor agency DFID. A similar sum was raised in the form of subordinated debt from several development bank lenders with a final tranche of about USD 150 million envisioned to flow from Senior Bank creditors. EAIF's structure would thus allow the private banks to pool assets, reducing volatility through asset diversification, but most significantly to avoid "first losses" through a senior position in the capital structure. Through a competitive tender a private sector bank was selected to manage the fund. In addition, DFID plans to combine with other European donors to provide additional equity capacity, allowing the fund to grow to around US 450 million dollars on a similar level of gearing.

It is still early to draw definitive conclusions with respect to the final success of EAIF as it has only just begun to operate, but it is a highly visible undertaking in Africa where capital mobilization is particularly challenging. It also spawned two subsequent related PPIAF studies. The first such was the "DevCo" described below.

2. African Infrastructure Development Company (DevCo)

In 2003 Jacobs Consultancy concluded a feasibility study to assess the viability of forming an African Infrastructure Development Company to accelerate the rate of development of infrastructure projects in reforming developing countries. The undertaking was prompted by the recognition that substantial up-front transaction costs, high risk and poor information, all resulted in a paucity of infrastructure projects structured to be attractive to private sector involvement.

Initially envisioned as a 50/50 partnership between the public and private sectors, manned by a staff of private sector project development professionals, the feasibility study recommended instead that the DevCo be a fully donor-funded (owned) vehicle operated initially by the International Finance Corporation (IFC). Staff will be responsible for developing

infrastructure projects to the point where they could be placed with entities like EAIF as well as other private sector players for investment and finance. (DevCo is not meant to take stakes in projects itself.) The report also proposed that the DevCo's geographical mandate be expanded beyond SubSaharan Africa.

The decision with respect to ownership addressed some questions such as how the private sector could be adequately and fairly rewarded for participation in such a vehicle. DevCo was initially expected to earn a hypothetical 6 percent return. But that came to seem ambitious as the study progressed -- particularly at first and if DevCo was also to adopt a small or rural project focus. Now it is envisioned that the entity's operating costs will be recovered through direct fee agreements with government clients.

3. Pre-Feasibility Study for an Asia Private Infrastructure Financing Facility (AsPIFF)

Most recently, a third related pre-feasibility study was undertaken. Its purpose was to review past experience in stimulating private sector investment for projects in Asian countries, as well as EAIF's success and experience, and a survey of findings from PPIAF's own prior work in Asia.

Undertaken by Price Waterhouse Coopers, the study has not yet been finalized. However preliminary conclusions are available in draft form and it is useful to mention some of the recommendations under discussion. A second financial institution, Asia Private Infrastructure Financing Facility (AsPIFF) bearing many similarities to EAIF, is proposed to be formed to play a catalytic role in the development and financing of smaller projects, particularly in the urban poor and rural sectors, in 11 targeted Asian countries (Cambodia, Indonesia, Laos, Philippines, Vietnam, Bangladesh, Nepal, Pakistan, Sri Lanka, China and India). It is envisioned that a competitive process will be used to procure both private management and subscriptions for this new entity.

To be eligible for financing by AsPIFF investments must have a strong "pro-poor" focus, and improve availability of energy, water, telephony and transport in peri-urban and rural areas. (E.g. rural power generation, remote area power supply systems, mini grid power distribution facilities, peri-urban water treatment and supply, wastewater treatment and sewerage, extension of fixed and mobile telephone as well as fiber cable networks into rural areas, etc.). Investments must also improve markets by spreading the impact of trade beyond major cities to more backward, inland areas. Examples of projects that fall into this category are remote area port facilities, river terminals, roads, bus transport facilities, railroad spur extensions, etc.

Projects eligible for support must be at least 51 percent owned by the private sector sponsors and involve either construction of a green-field infrastructure project, financing of an acquisition of a government-owned infrastructure facility, or expansion of an existing facility. All undertakings must meet environmental and resettlement standards imposed by either the country or the World Bank, whichever are more stringent.

Finally, project costs are to fall within the range of US 5-100 million dollars in size, with a target range of US 5-50 million dollars and demonstrate acceptable market fundamentals, including satisfactory revenue streams and appropriate capital structures, i.e. in no case should debt-equity ratios exceed 80:20, or debt service coverage fall below 1.3:1. Also investments must be able to attract at least one other commercial lender, apart from AsPIFF. (Although this condition may be waived in the case of total project loans less than US 15 million dollars.)

AsPIFF, as conceived, would package and deliver financing solutions from among six financial products. It proposes four in-house facilities, plus two “windows” that would channel the Asian business of DevCo described above and a separate entity GuarantCo, formed and supported by the Private Infrastructure Donor Group (PIDG)⁷.

The six facilities are to include:

- Facility A: a ‘Senior Loan Facility’ with targeted subscriptions of US\$200 million, 75% subscribed by the private sector and 25% by Donors. The Senior Loan Facility will take senior loan positions in Target Investments, denominated in US dollars, ranking at least *pari passu* with other senior obligations. Donor subscriptions within Facility A will rank junior in recovery to those of the Private Sector Lenders;
- Facility B: a ‘Junior Loan Facility’ with targeted subscriptions of US\$100 million, 50% subscribed by the private sector and 50% by the Donors. The Junior Loan Facility will invest in interest-bearing junior debt securities, denominated in US dollars, such as cumulative preferred stock and straight junior–debt, subordinated in rights of repayment to senior loan obligations of

⁷ The Private Infrastructure Donor Group (PIDG) was formed in 2002 by DFID of the U.K., The State Secretariat for Economic Affairs of Switzerland (SECO), Swedish International Development Co-operation Agency (SIDA) and Senter, an agency of the Netherlands. Its purpose is to mobilize private investment in infrastructure for growth and the elimination of poverty. The World Bank has also recently joined PIDG. The first project to be funded through the PIDG Trust was the EAIF (described above). A second PIDG facility was undertaken following a series of studies, to mitigate risks for local currency financing of infrastructure, by local institutional investors. Called “GuarantCo” it is designed to provide partial risk guarantees to local financial institutions to assist with infrastructure projects, particularly at the municipal level, that derive most of their revenues in local currency, making hard currency debt funding inappropriate.

the Targeted Investments. Donor subscriptions within Facility B will rank junior in recovery to those of the Private Sector Lenders;

- Facility C: an ‘Equity Facility’ with targeted subscriptions of US\$50 million to be 100% subscribed by Donors. The Equity Facility will support the operations of the fund until it reaches self sufficiency and will also invest in common stock issued by Target Investments;
- Facility D: a ‘GuarantCo Facility’ through which the PIDG sponsored newly-formed GuarantCo would use AsPIFF as its Asian delivery vehicle for the offer of guarantees to promote local currency financing by commercial banks and/or institutional investors. Target Investments must meet pro poor investment criteria;
- Facility E, a ‘Project Development Facility’ through which DevCo, once it is operational, uses AsPIFF as its Asian delivery vehicle for purposes of making early project development loans to sponsors interested in developing and operating Target Investments that meet the pro poor investment criteria.
- Facility F: a mini-infrastructure ‘Apex Fund’ with a targeted subscription level of US\$100 million, 30% subscribed by the Private Sector Lenders and 70% by Donors. The Apex Fund would lend in tranches of US\$1-5 million to existing SME lenders, micro-finance institutions and/or NGOs with interests in developing new loan programs intended to assist in the financing of green-field mini-infrastructure, community-based infrastructure facilities or consumer access to infrastructure services.⁸

Explicit subordination of donor subscriptions is a very important feature of the envisioned AsPIFF facilities A and B, above. In today’s beleaguered markets these structures can be expected to attract more private sector participant credit and investment than traditional co-lending, or “A and B loan” structures where support is implicit and as mentioned has come to be seen as more problematic. The AsPIFF facilities A and B are more transparent arrangements when compared to many insurance policies and guarantees as well, where the nature or extent of coverage can be murky.

Under AsPIFF facility D guarantees designed to promote local currency financing by commercial banks and/or institutional investors should, if administered properly, be powerful tools with much development potential that squarely address the central issue of currency mismatch for projects in emerging or transitional markets.

It is also worth noting that AsPIFF hopes to build on existing, successful examples of financing for small-scale mini-infrastructure projects through the design and usage of facility F. Indeed, an examination of suitable well-established financial

⁸ From “Proposed Asian Private Infrastructure Financing Facility” Pre-feasibility Study (Draft), Price Waterhouse Cooper, January 5, 2004.

intermediaries in target countries to on-lend to small-scale infrastructure projects or providers has already begun.

J. Conclusions

Since 1997-98 there has been a staggering drop off in foreign and domestic investment in both large and small scale infrastructure in emerging markets. In response donors have undertaken a number of innovative initiatives to recapture at least some of these fund flows. These have included upgrading guarantee and insurance programs, enhancing reinsurance schemes, providing more or longer term funding, promoting new investment funds etc. Many examples of these efforts are cited above to provoke discussion but the list is anything but exhaustive. Moreover, the results have been salutary. Well structured, profitable transactions taking place in the right enabling environments that benefit from credit enhancement of donors or other official players are not only accepted in the marketplace but at times even oversubscribed.

However, as this paper argues, in the long run local bank involvement and private capital hold the most promise for continued development in most infrastructure sectors. Thus while international sources of funds continue to provide the lion's share of financing of large scale infrastructure projects in the developing world regardless of sector – energy, telecommunication, transport, or water – donor programs are focusing increasingly on encouraging local funds providers. On-lending schemes, the new local currency funding program of the Asian Development Bank, partial risk guarantees of IFC, FMO or USAID DCA just as examples, all help local banks and investors undertake longer term investment projects with more confidence. Training and other technical assistance directed towards the domestic banking sector can be equally essential to this process. Finally, in encouraging the privatization of many state-owned commercial banks, donors may find that liquidity constraints are sometimes alleviated. But more importantly, broad-scale transference of knowledge and processes to the local market can result.

The challenges that face small scale infrastructure funding are however far more intransigent. Altogether different models may be needed for attracting private players into smaller pro-poor projects. Some possible paradigms are introduced above such as the experiences with Grameen Phone and related entities in Bangladesh, solar cell finance in Indonesia, and attempts to develop linkages between large scale infrastructure projects and micro/SME entrepreneurs. Additionally Chapter 2 focuses upon the further prospects for municipal or sub-sovereign finance in emerging markets as well as possible approaches to countering the significant hurdles faced by project sponsors in gathering sufficient local equity funds.

K. Summary “Action Plan” for Indonesia

Indonesia provides a particularly pertinent case example, for a number of reasons, of the respective roles that the government and donors can play in increasing the mobilization of funds for pro-poor/pro-growth infrastructure.

First, no country in recent history, let alone one the size of Indonesia (the world’s fourth largest country with a population of about 420 million), has ever suffered such a dramatic reversal of fortune as did Indonesia during the crisis of 1997/98. Within the space of one year, Indonesia saw its currency fall in value by 80 percent, inflation soar to over 50 percent, the economy swing from rapid growth to even more rapid contraction, unemployment climb rapidly, and the stock exchange lose much of its value.⁹ Per capita GNI (according to ADB statistics) fell from US 1110 dollars in 1996 to US 570 dollars in 2000 (it has now recovered slightly but has not yet reached pre-crisis levels). Foreign creditors withdrew and investors retreated. Long-standing shortcomings in governance, earlier camouflaged by rapid growth, became obvious. Unfortunately, the crisis hit when Indonesia was already experiencing its worst drought in fifty years and the international oil price was registering a sharp decline. In the year before the crisis hit, 1996, Indonesia was enjoying its 30th year of virtually uninterrupted rapid growth. Investors were beating a path to its door, inflation was low, foreign exchange reserves plentiful, and the government budget in surplus.

With regard to investment in infrastructure, Indonesia was one of East Asia’s private infrastructure success stories of the 1990s, with over US 24 billion dollars of private funds invested in 62 projects. Indonesia attracted the second highest share (27 percent) of private sector infrastructure investment after the Philippines (28 percent). Its energy and telecom sectors captured the majority of investment, followed by transport and water and sanitation. The peak in annual investment occurred in 1996 with an amount of US 6.5 billion dollars. However, investment plunged following the crisis to only US 1.4 billion dollars in 1998. Subsequent flows have remained low.¹⁰

According to a 2002 survey by the World Economic Forum, Indonesia’s infrastructure is among the most inferior of the 12 Southeast Asian countries. Indonesia ranked 11th in electrification with a rate of only 53.4 percent, ninth in telecommunications at a rate of 3.6 fixed lines and 5.5 cellular lines per 100 people, seventh in clean water access at only 16 percent and eighth in highways at 1.7 km per 100 people. Indonesia’s poor infrastructure has hindered economic activities and lowered the quality of social welfare. In the electricity sector, for example, World Bank estimates show that total annual losses from power shortages in residential, public services, commercial and industrial activities are between US 200 million to US 1.23 billion dollars. A series of focus group discussions held last

⁹ [Indonesia in Crisis: A Macroeconomic Update](#), The World Bank, July 16, 1998, p. 1.

¹⁰ [Indonesia Averting an Infrastructure Crisis: A Framework for Policy and Action](#), The World Bank, June 2004, p. 52.

October by the World Bank with the private sector throughout East Java highlighted infrastructure as one of the main business constraints. Large enterprises identified poor road maintenance, difficult access to industrial estates, insufficient power supply and an expensive yet insufficient water supply as key infrastructure problems while small businesses identified the negative impacts of traffic congestion on distribution and the need to supply their own captive power to compensate for the unreliable electricity supply. The National Development Planning Board (Bappenas) predicts that from 2005-2009, Indonesia needs at least US 72 billion dollars to invest in new infrastructure but that, due to fiscal constraints, the government will be able to provide only US 31 billion dollars.¹¹ The remainder is, therefore, expected to come from the private sector, both domestic and international. Absent improvement in macro and micro-economic conditions supporting investment, it is unlikely this target estimate will be met. With recovery from the late nineties crisis having made significant progress, the GOI needs to consider the design and implementation of a serious step-wise reform agenda that is implemented in concert with the private investing sectors, both domestic and international.

Indonesia continues its transition from an autocratic, centralized state to a democratic, decentralized one. It has successfully regained macroeconomic and political stability, but economic growth remains below 4 percent p.a., poverty reduction remains a challenge, and governance concerns continue to cloud its achievements. Public debt has declined from 100 percent of GDP to 72 percent, inflation is now below 7 percent, and income poverty has fallen from 27 percent in 1999 to 16 percent today. However, 110 million people still live on less than US 2 dollars a day and remain vulnerable to falling back into severe poverty. Indonesia continues to under-perform its neighbors in access to quality health, education and other basic services, as reflected in the MDG indicators. Weak governance institutions are keeping investors away and undermining service provision, especially to the poor. Indonesia has undertaken reforms that could lead to a more effective and accountable government, and a restoration of growth. But sound implementation is now needed to turn promise into reality.¹²

What is sure is that there is ample opportunity for investment in both large and small scale infrastructure in that Indonesia is rich in natural resources and offers an attractive market to investors in terms of size and potential for further economic development. In spite of events which occurred in the aftermath of the 1997/98 crisis including PLN's (the national electricity company) refusal/inability to honor its obligations under various PPAs as the depreciating Rupiah/US dollar exchange rate made power increasingly expensive in local currency, widespread failure of financial institutions and the massive bailout by the Indonesian government, bankruptcies of many corporations and subsequent debt restructuring in which foreign lenders were often disadvantaged, restructuring of the telecom projects concluded under the KSO framework - there has been some recent foreign investment in Indonesia, particularly in the energy sector.

¹¹ [The Jakarta Post, September 1, 2004.](#)

¹² [Indonesia Country Assistance Strategy FY 2004-2007, The World Bank, October 29, 2003, p. i.](#)

Paiton Energy is constructing an additional power generating unit with a capacity of 800 MW which will be integrated with its existing 1,290 MW coal-fired power plant in East Java in order to satisfy growing electricity demand in the country. Construction of the new unit will begin in early 2005 after completion of legally binding contracts and terms with the government. The project is expected to be completed in 2008 and will cost around US 580 million dollars. The new project is expected to produce 8,000 new construction jobs and to make a significant impact on the economy of East Java.¹³

Also, on September 1, BP PLC signed a US 2 billion dollar deal to supply LNG (liquefied natural gas) from its Tangguh LNG project in Papua province to South Korea's power company K Power. A further sales contract is expected to be signed shortly with Sempra Energy of the US. Signing of this fourth sales contract will then allow construction of the US 5 billion dollar project to commence.¹⁴

However, on the negative side, there continue to be legal setbacks that are certainly a deterrent to some potential investors. Recent cases include:

Manulife in which Indonesia's Supreme Court overturned a lower court ruling that had declared the Canadian insurer's Indonesian operations bankrupt although they had turned a profit. After earlier rulings, the company had to close down but has since reopened. Several judges involved with the case may be asked to resign;

Karaha Bodas involving two US investors, Florida Power and Light and Caithness, seeking to recover their investment in a private power project rephased in 1997. After winning a US 260 million Swiss arbitration, they are seeking to enforce the judgment in various jurisdictions by attaching payments to Pertamina. There are various appeals and judgments pending. A Jakarta court declared the judgment invalid. The investors have rejected offers to resume the project;

Thiess Contractors whereby notwithstanding a pending appeal in Jakarta Administrative Court regarding the retrenchment of coal workers following a strike, Indonesia's Manpower Minister obtained a District Court decision allowing a union to seize US 55 million dollars of assets to settle a US 300,000 dollar claim brought by the union against Australian-based Thiess, owner of a coal mine. Thiess is attempting to overturn the decision in other courts;

And the Jakarta Stock Exchange Building case in which a Jakarta court has ruled that a consortium of lenders to the building cannot access an escrow account established after a 1999 restructuring agreement following the owner's default on the \$180 million loan. The building is 80 percent occupied. The owners argued that they needed all available rent income to install security upgrades following a bomb blast. In fact, the court has said that the original loan agreement is invalid.

¹³ [The Jakarta Post, July 10, 2004](#)

¹⁴ [Ibid, September 1, 2004](#)

The following steps to suggested reforms should be commenced more or less simultaneously. GOI and donor support assistance could be applied in different amounts and during different time periods depending on need and urgency of action (for example if the legislature plans on amending portions of the labor laws to facilitate SOE restructuring/divestiture, increased support and attention could be applied, at the same time other reform measures were in, for example, an analysis period etc.). Thus, the listing is not chronological but rather indicative of listing organization.

Step 1 - Implementation of an Adequate Legal System and Regulatory Framework

With regard to a specific action plan, first on the list for both Government and donors should be the implementation of needed reforms for an adequate legal system and regulatory framework which would allow investors, especially international investors, to provide major amounts of funding to large scale infrastructure projects with confidence. The necessity of dramatically reducing the rampant corruption and excess red tape present at every step of the investment process cannot be overemphasized.

The GOI, with donor support, should undertake a number of actions to spur increased investment for infrastructure. Specifically, the GOI should:

- (a) Commission a short and medium term strategy for infrastructure support and expansion. Concomitantly, the GOI would show real commitment by taking affirmative action to publicize removal of administrative and bureaucratic obstacles to several or more projects and facilitate their implementation.
- (b) Consider implementing revisions to Keppres 7/1998 on Public/Private Cooperation in Infrastructure Provision to establish a clear framework for private involvement in infrastructure financing and development.
- (c) Commission assessments of the need to establish/expand regulatory authorities in critical sectors and to identify capacity building needs. This would include training in best-practice regulatory implementation focused, in part, on the balance between competition, pricing, access, coverage, and sustainability of operations.
- (d) Commission a review of methods to reduce and prevent corruption in infrastructure projects.

Step 2 – Restructuring State-owned Enterprises

Restructuring of State-owned enterprises is still necessary despite the political fall-out from privatizations that have been perceived as not being equitable by population sectors. They are very often monopolies in the case of utilities and other types of infrastructure and require reform of the regulatory framework under which they operate. This process has already commenced in the case of the energy sector in particular and should be encouraged to continue with a view to eventually establishing a level playing field for both international and domestic players. Partial privatization of at least some of these state-owned enterprises should be actively planned.

(a) The GOI should review its existing legislation and supporting regulations to determine where modifications are required to more affirmatively support infrastructure restructuring.

(b) The GOI should review its labor policy and supporting legislation/regulations and identify modifications to make labor more skilled, flexible and mobile to support appropriate restructuring, divestiture and increased private investment in productive sectors and increases in "formal" employment. Specific areas for attention include regulations and decrees on dismissal of employees, settlement payments and options, temporary workers, and contract employment.

Step 3 – Resolution of Fuel Subsidies as Part of Ongoing Fiscal Reform

A related problem that has already been addressed to a limited extent is the subsidy on fuel that is particularly onerous to the overall budget at present due to today's unprecedented levels of oil prices. It has been reported that these subsidies, for the most part enjoyed by the relatively rich at the expense of the poor, account for as much as 50% of government spending while healthcare and education together account for less than 10%. This situation must be resolved if the country is to move forward.

Step 4 – Increase Levels of Expertise and Control in the Domestic Banking Sector

With regard to the financial sector, Indonesian banks at present have excess liquidity as do insurance companies and pension funds. Due to past bad experience, banks are reluctant to make loans to corporate customers and instead invest predominantly in government bonds. Perhaps this situation could be reversed if the levels of expertise and control in the banking sector can be brought up to international standards. One approach to doing so is the privatization program currently being undertaken. It can be hoped that, with the introduction of first class foreign banks as major shareholders, domestic financial institutions will improve their lending policies and procedures and

will thus eventually find themselves in a position to successfully finance both large and small scale infrastructure projects to an increasing extent.

(a) The GOI should establish a high level review board to examine investment laws on the books and identify areas which act to constrain lending and divert institutional liquidity away from productive purposes (i.e. to government lending instead of to new fixed capital formation in private enterprises and supporting infrastructure).

(b) Consider revisions to the tax code that would modify withholding tax rates on depreciation, services, and improve the transparency of assessments and audits.

Step 5 Donor Encouragement of Investment in and Financing of Small Scale Infrastructure

With a view to encouraging investment in and financing of small scale infrastructure, donors and the government would perhaps be well advised to follow some of the possible paradigms raised above. As in the case of Grameen Phone in Bangladesh and BRI and the financing of solar cells in Indonesia, the parallels between the development of micro/SME finance and possible innovative solutions to stimulate investment in small scale infrastructure merit further attention. Another parallel with the field of micro/SME finance is the effort of the IFC and other development finance institutions to develop linkages between large scale infrastructure projects and micro/SME entrepreneurs. Donors and EM governments could increase their encouragement and perhaps their provision of monetary and human resources to expand this type of assistance to stimulate and support the provision of small scale infrastructure projects as well. Potential benefits are enormous, particularly in the case of countries such as Indonesia that are rich in natural resources with significant, remote rural populations. Other steps could include:

(a) Streamline regulations for implementing GOI-supported investor service offices.

(b) Modify the investment legislation to move toward equal treatment between domestic and international investors in tax, customs, exchange control, repatriation, directed excess liquidity placement, and investment support incentives for domestic institutional investors.

(c) Create training programs for SME investors and one-stop shopping for investment services for SME entrepreneurs.

Step 6 - Development of National Apex Institutions and Sponsored Training

Finally, another idea to be explored is the development of national apex institutions or possibly even regional apex organizations, as suggested in the context of AsPIFF, designed to efficiently channel donor funding to local institutions best suited to promote both the expansion of micro/SME finance as well as the development and financing of small scale infrastructure projects. Benefits of apex institutions include the elimination of duplication of work efforts by the various donors supporting a specific country or region; an apex organization would employ well-qualified specialists to analyze local institutions to which funds should be channeled for on-lending to small scale infrastructure projects or for training and other capacity building purposes. Also, as elaborated elsewhere in this paper, it is likely to be far easier and more appropriate in many respects to attract domestic investment in small scale infrastructure as opposed to international funding. Therefore, it would seem a good use of donor funds to provide best practices training to local financiers identified by national/regional apex institutions. The scope of this training could also be expanded to cover larger domestic institutions capable of financing larger scale infrastructure projects.