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Sector Development**

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**Abstract**

Investment in infrastructure for increasing trade and connectivity in South Asia and Southeast Asia has been impacted by a reduction in commercial bank participation in project financing, which has significantly increased the role of multilateral financial institutions and export credit agencies. The financing model needs to change to more sustainable local market and local currency financing by harnessing domestic savings, and this will be crucial if the region is to procure investments of an estimated \$3.6 trillion by 2020 for financing of its infrastructure and connectivity projects. Increased connectivity between South and Southeast Asia can play an important role in improving efficiency and productivity by having more efficient industries based on comparative advantage, enlarging the overall market size, and increasing market access. However, such economic integration faces a multitude of challenges relating to cross-border infrastructure links, weak trade facilitation, shortages of infrastructure financing, non-tariff barriers, restrictions on foreign direct investment, and weak institutional coordination. Improvement in these issues would require large-scale public and private sector investment, supplemented by commercially viable credit.

This study analyzes the means and constraints in funding cross-border connectivity projects. Using the most recent data from sources including the World Bank, ADB, and other financing and research institutions, barriers in financing cross-border projects are explored and analyzed with the help of case studies. This research brings to the fore the potential benefits of regional funding platforms and the role of multilaterals in resolving such barriers.

**JEL Classification:** G15, G21, G23, H44, H54, H87

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## 1. OVERVIEW

In the backdrop of the financial crisis that affected Europe and the United States (US) over the later part of the last decade, Asian economies have been trying to shed their overreliance on the financial resources of the West and find financing solutions in local and regional financial markets. At the same time, the global growth engine was largely driven by Asia during this period, fueled by expanding regional production networks, integration with the global economy, foreign direct investment (FDI), falling trade and investment barriers, a commodity boom, and heightened demand from a rising Asian middle class.

However, integration of trade and investment between South and Southeast Asia, while making progress, has been relatively limited, hindered by various bottlenecks and gaps in trade infrastructure, trade barriers, and limited regional cooperation. Increased connectivity between South and Southeast Asia can play an important role in improving efficiency and productivity by having more efficient industries based on comparative advantage, enlarging the overall market size, and increasing market access.

Policy interest has been increasing in favor of cross-regional integration and improvement of economic relationships between South and Southeast Asia. The implementation of the ASEAN–India free trade agreement (FTA) has facilitated intra-regional trade and investment liberalization. However, such economic integration faces a multitude of challenges relating to cross-border infrastructure links, weak trade facilitation, shortage of infrastructure financing, non-tariff barriers (NTBs), several restrictions on FDI, and weak institutional coordination.

With the above observations, and realizing the need for policy and financial intervention in the region for attaining the full potential of regional cooperation and integration, a team comprising consultants and staff of the Asian Development Bank (ADB) and the Asian Development Bank Institute (ADBI) has undertaken a study to identify the key issues in relation to improving connectivity between South and Southeast Asia. This study seeks to identify the financing needs and issues governing cross-border infrastructure projects connecting the two subregions. It makes an attempt at identifying the emerging trends in project finance in the region, assessing the capacity and the level of development of the regional financial markets, and reviewing the financing sources that could play a significant role in funding the proposed projects.

In the course of such an exercise, an attempt has been made to analyze the depth and capabilities of the local region's credit and equity capital markets for financing infrastructure projects and the supplementary source of capital that could augment both the quantum and tenor of the local financial resources. The paper also make an attempt to delve into the financial market and policy related issues that need to be addressed to free up the flow of local and foreign capital into connectivity infrastructure projects, and proposes capacity building solutions for increasing sustainability of local level equity and credit market financing. In demonstrating the potential impact of such initiatives, case studies have been enunciated to highlight the criticality of regional cooperation, project documentation and transaction structuring in making a project commercially bankable and attractive for financing. The report also seeks to recognize the institutional models and initiatives introduced in the region and comments on the success stories, while drawing analogy with similar models existing in other parts of the world. In doing so, the study seeks to assess the relative merits of investment finance funding methods, including public, private, public-private partnerships (PPP), and international infrastructure funds and their applicability in the current context. Finally, the study seeks to discuss some framework structures suitable for financing various

types of projects in the port, power transmission, and road sectors.

## **2. RATIONAL FOR IMPROVED FINANCE BETWEEN SOUTH ASIA AND SOUTHEAST ASIA**

ADB estimates that South Asia and Southeast Asia will need at least \$3.6 trillion over the period 2010-2020 in infrastructure investment if they are to meet the needs of their growing populations (Bhattacharyay 2012). However, the underlying issue is not about a shortage of money: according to data from the International Monetary Fund (see Cameron [2012]), in all of Asia, savers put away \$1.3 trillion in 2011 alone, and there is enough excess liquidity in Western financial markets looking for reliable long-term returns to meet a significant part of this financing requirement. The problem, on the other hand, is that the framework and instruments needed to bridge the gap are in their infancy of development. Governments, the traditional providers of funds for essential public infrastructure, are facing increasing budget pressures, making private funding crucial for development funding and financing of infrastructure projects. Bank finance, South and Southeast Asia's traditional source of capital, though more available in the region than in other regions, is becoming both more scarce and more expensive, and bond markets are still a work in progress in most of the region.

Although growth rates in the region are high by Western standards, other data show that if infrastructure bottlenecks could be eliminated, growth would be much faster. For example, India is the world's second-largest producer of fresh fruit and vegetables, but is battling food-price inflation as 40% of the crop rots before it gets to market because of its crumbling road system and a shortage of refrigerated rail cars; 38% of Indonesians still have no access to electricity; there is no east–west rail link running all the way across Southeast Asia; all of which hamper growth in the region (Cameron 2012).

Much of the funding problem stems from the immaturity of South and Southeast Asia's capital markets. The region has traditionally relied on bank loans for expansion, which are a finite pool of liquidity, and bond market investors—especially in times of turmoil—tend to prefer plain vanilla investments, preferably with solid ratings attached. As the market is not sophisticated and contract performance risks are not appropriately backstopped, traditional project financing structures invariably procure sub-investment grade ratings, particularly when seeking financing on a non-recourse basis, thus forcing risk averse household savings away. Additionally, illiquidity in the regional bond markets, lack of market making and a reliable long-term yield curve, and low reliability of financial reporting by corporates keep retail investors away even from corporate bonds that could finance developers' equity in projects. Instead, these savings get traditionally channelized to apparently more attractive investment options in physical assets like gold, real estate, and financial assets of the West.

In a study published in 2009, ADB found that in value terms, only 1%–5% of the intra-regional trade between South Asia and Southeast Asia was conducted with neighboring countries, compared with a global average of 25%, mostly because of infrastructure shortfalls. The reasons for the bottlenecks were largely on account of the immaturity of regional financial markets. Infrastructure funding in the region has traditionally been dominated by large European and US banks. However, after the financial crisis of the last 4 years, the traditional sources have started drying up due to financial problems in US and Europe. The resultant financial crisis in Asia and investment slowdown between 2012 and 2014 was attributable mainly to regional countries' increasing dependence on foreign capital and bank loans, owing to their

relatively underdeveloped financial markets, maturity mismatches between long-term assets and short-term liabilities, and several other factors.

This has created a strong need to develop regional financing capabilities, which will help insulate regional infrastructure growth from shocks from developed markets. Countries in the region need to enhance their own financing and risk management abilities in order to prevent and resolve any future financial crises. Strengthening of regional financial cooperation—together with support from international financial organizations, including the International Monetary Fund (IMF), and from advanced countries—will be critical in attaining this objective.

Changes are taking place in the region, albeit at a slow pace with uneven distribution. For example, certain more mature regional banking networks, such as in Singapore, have demonstrated an appetite for longer-term infrastructure financing products across the region. The available amount of liquidity for longer-term financing for local infrastructure projects has gone up in countries like Thailand and Philippines with local banks increasing funding to long term infrastructure projects, especially in local currencies. Malaysia has shown the way for tapping local and regional capital markets for refinancing projects once they have been built or risks have been mitigated, thus freeing up bank funding for new projects. Feeding into this, ADB has put together a credit enhancement scheme in India for market-listed debt securities, together with the state-owned India Infrastructure Finance Company, offering credit default guarantees of up to 40% to domestic infrastructure projects that have completed 3 years of operations.

There are also signs of greater flexibility in transnational financing. In 2011, HSBC arranged the financing for a \$1.95 billion power plant currently being built in northern Viet Nam. The 1,240 MW Mong Duong 2 project set many new benchmarks: at \$1.46 billion, it represents the largest amount of debt ever raised in Viet Nam; the longest debt tenor (18 years); and the first large-scale involvement of Republic of Korea export credit agencies in Viet Nam (Cameron 2012). Such structured deals need to be promoted in the region, and governments can use loan guarantees to encourage commercial participation.

### **3. FINANCIAL SECTOR AND MARKET ASSESSMENT**

#### **3.1 Asian Credit Market**

Asian financial markets have been characterized by the predominance of banks. Banking systems have steadily evolved with efficient systems and strong capital bases. Furthermore, Asian financial systems are generally very “loan-centric,” with underdeveloped bond markets forcing the vast majority of credit onto banks and other credit intermediaries. Across the region, the growth of total credit and of bank loans has exceeded nominal gross domestic product (GDP) growth rates for many years. Equivalently, total credit and loans relative to GDP have risen, so that many Asian countries now appear to be well leveraged.

The development of debt capital markets across the region (except Singapore, and to some extent, Thailand and Malaysia) has been slow. There have been restrictions on cross-border investments due to various factors such as exchange rate risks, lack of market depth, and legal and regulatory hurdles, all contributing to markets being largely isolated from each other and making the credit market excessively reliant on bank loans. While in such highly loan-centric systems, banks will feel vulnerable to a shift of total credit from banks toward capital market instruments, and developing-country



systems with large bond markets may have greater potential for continued rapid loan growth than their credit and GDP suggest.

The early steps toward development of a regional debt capital market, even if evolving slowly, have been encouraging. Some of these include:

- Creation of a more inclusive and open capital market environment with better disclosure
- Improvements in legal framework
- Better corporate governance
- Stronger regulatory and supervisory frameworks
- Increasing adoption of international standards and best practices

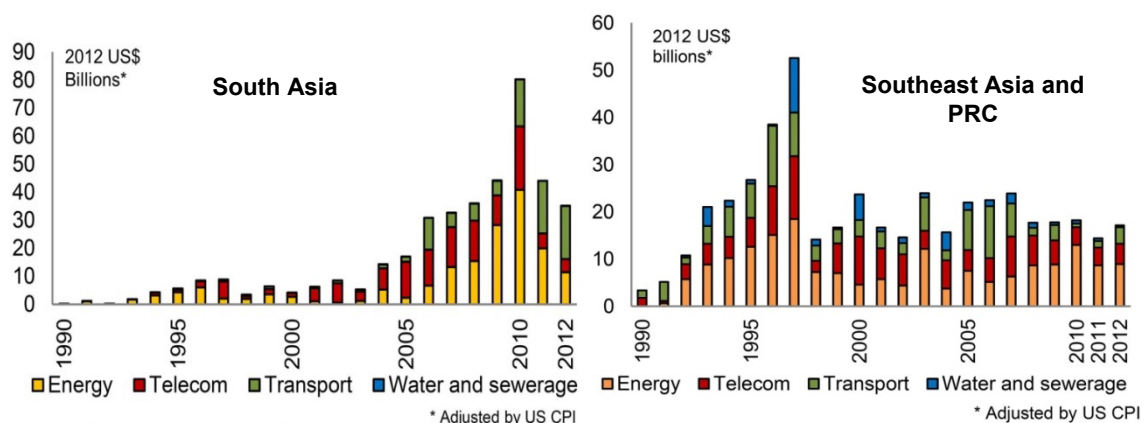
### **3.2 Project Financing**

Traditional, non-recourse project financing in Asia has been largely impacted by a combination of three credit market situations:

- (a) Lack of a mature and liquid debt capital market creating an excessive reliance on financing of projects with bank loans;
- (b) The generally high rate of inflation in the region has left interest rates high;
- (c) The traditional banking model in Asia—asset heavy, focused on net interest income, and relatively light on fee income—while being resilient across the region, has rendered banks largely inflexible to innovate on structured financing schemes, unlike their Western counterparts.

Unlike in the US and to a lesser extent in Europe, in Asia and the Pacific, non-bank institutions have failed to emerge as a significant alternative to banks. Non-bank institutions have been relegated largely to the role of creators of financial products and derivatives. Banks continue to retain a pivotal role. As a result, private sector infrastructure project finance in most countries has been viewed as an offshoot of corporate finance, seeking to apply similar covenants of off-balance sheet collaterals, fixed repayment, and very low moratorium.

Nevertheless, core infrastructure, such as regulated assets in the energy sector and lower-risk transport assets, have constituted the bulk of demand for bank financing with partial or no recourse. According to the World Bank reports “Infrastructure Policy Unit 2012 PPI Data Update” (World Bank 2013a,c), in 2012, 128 new private sector infrastructure projects achieved financial closure in South Asia and 64 in Southeast Asia, which included a total of 108 energy projects and 68 transportation sectors projects. Total investment commitment in the infrastructure sector during the year was in the order of \$52.2 billion, out of which \$20.3 billion was invested in energy projects, and \$22.4 billion in transportation (Figure 1).

**Figure 1: Private Infrastructure Investment in Asia**

CPI = consumer price index, PRC = People's Republic of China, US = United States.

Source: World Bank (2013a,c).

### 3.3 Private Participation in Infrastructure

In South Asia, India has historically witnessed the largest volume of capital flow in the region, targeted at privately developed infrastructure projects, even though most of these private developers have largely been dependent for project financing loans on state-owned banks. Because of high leverage structures and a combination of market forces and policy uncertainties, the sector has become highly indebted and several projects have been under stress to meet their debt servicing obligations. With worsening credit quality and peaked exposure limits, most banks are showing reluctance to participate in further credit expansion in the sector. Additionally, with depreciation of the Indian rupee by almost 35% against most major currencies in the last 2 years, foreign debt service obligations have also come under stress.

However, the infrastructure deficit in the country remains a critical development challenge, which implies that, with the decline in bank credit, other sources of finance will be needed to drive the expansion of infrastructure investments, that is, 8 percentage points more than in the previous plan period. Tools to meet this demand will require highly reduced bank loans to be largely supplemented by export credit agency (ECA) financing, project bond solutions, and infrastructure debt funds, as well as improvements to the enabling environment and an increasing role for development banks.

The expectation is, that the state-owned infrastructure investment vehicle, India Infrastructure Finance Company (IIFCL), will play a central role, as there are over 300 projects in the pipeline having a total value of \$90 billion. It is anticipated that the Infrastructure project pipeline of IIFCL will increase by more than 40 projects every year between 2014 and 2019 (World Bank 2013c). In order to facilitate direct project lending, ADB is planning to loan \$700 million to IIFCL. An additional \$750 million is under discussion with a consortium of the European Investment Bank, the Japan International Cooperation Agency (JICA), and the French Development Agency. Together with IIFCL, ADB has also built an enabling structure for infrastructure bonds. ADB and IIFCL have jointly structured a partial credit default cover for projects having minimum of 3 years of operation since commissioning. Furthermore, the government has authorized IIFCL to issue \$2 billion in tax free bonds. Investment priorities include roads, power production and boosting transportation in an increasingly urbanized environment. In the other countries of the subregion, the local financial market,

including the banking system, is very shallow compared to the infrastructure financing needs of these countries. Bangladesh is seeking financial assistance for a number of projects in power generation, water, sanitation, and transportation services, which are mostly being supported by the Asian ECAs, JICA, ADB, and the International Finance Corporation. Given the limited options in public financing and lack of depth in local financial markets, Pakistan has no choice but to turn to the private sector for financing its vast infrastructure funding gap. The IFC is working with the government to help make the financing market attractive for private participation. Nepal is trying to address the wide-ranging international perception of local political risks and seeking to develop enabling legislature and contractual provisions to attract debt financing for its large number of hydro power projects in various stages of development. Institutions with active interest in Nepal include the IFC, ADB, Netherlands Development Finance Company (FMO), Proparco, KfW, JICA, and the Overseas Private Investment Corporation (OPIC). In Sri Lanka, policy creation is in progress to invite international developers to participate in its vast wind power potential. The financing for the same is largely expected to come under the ECA route and from local banks. This apart, the transportation and thermal power projects being built in the island country are mostly seeking financing under bilateral arrangements.

However, there have been some initiatives for cross-border connectivity in the South Asia in recent times, with India playing a pivotal role in most of these projects in the power generation, power transmission, and transportation sectors. As a step in this direction, there is a bilateral arrangement between the governments of India and Bhutan for constructing 10,800 MW of hydropower projects at pre-identified sites in Bhutan, of which almost the entire generation will be sold to India under a long-term, bilateral PPA or through the cross-border power trading route. The terms of the bilateral arrangement provide direct access to over 14,000 gigawatt-hours (GWh) of free electricity annually to the Government of Bhutan for trading in India and Bangladesh.

**Table 1: Bilateral Hydro power Projects between India and Bhutan**

Project Name	Capacity (MW)	Financing Plan (loan–grant ratio)	Expected COD Year	Total GWh Generation	Free GWh for Bhutan
Punatsangchhu-I	1,200	Government of India (60:40)	2016	5,671	1,960
Punatsangchhu-II	1,020	Government of India (70:30)	2017	4,357	1,506
Mangedechu	720	Government of India (70:30)	2018	2,924	1,010
Sankosh	2,560	Government of India (70:30)	2019	6,267	2,166
Amochhu	540	Government of India (70:30)	2020	1,835	634
Kuri Gongri	2,640	Government of India (70:30)	2023	10,056	3,475
Chamkarchhu-I	770	Joint venture (70:30) (NHPC)	2021	3,253	1,124
Bunakha	180	Joint venture (70:30) (THDC)	2020	1,669	577
Wangchu	570	Joint venture (70:30) (SJVN)	2020	2,526	873
Kholongchu	600	Joint venture (70:30) (SJVN)	2018	2,593	896
<b>Total</b>	<b>10,800</b>			<b>41,151</b>	<b>14,222</b>

GWh = gigawatt-hour, NHPC = National Hydro Power Corporation (a Government of India undertaking), SJVN = Sutej Jal Vidyut Nigam (a Government of India joint venture), THDC = Tehri Hydro Development Company (a Government of India joint venture).

Source: Finnacle Capital Research (2013).

Similarly, in Nepal, there are nearly 20,165 MW of bilateral hydropower projects and another 6,449 MW of private sector hydropower projects for cross-border power trade from Nepal to India (Central Electricity Authority 2014), through five dedicated 400 kV, double circuit cross-border transmission corridors connecting Dhalkebar–Muzaffarpur, Butwal–Gorakhpur, Duhabi–Purnea, Duhabi–Siliguri, and Lamki–Bareilly between Nepal and India respectively (World Bank 2011, 2014). Out of these, the Dhalkebar–Muzaffarpur line is in the implementation phase, the Butwal–Gorakhpur line is in the financing phase, and the remaining three lines are in various stages of planning and feasibility study. All of these transmission lines are being developed in project-specific joint ventures between the Nepal Electricity Authority and the Power Grid Corporation of India, supported by loans and additional equity from private sector developers and the World Bank, the IFC, and ADB.

Between India and Bangladesh, a 400 kV cross-border transmission project, connecting through a 500 MW high voltage direct current (HVDC) substation in Bangladesh, was commissioned in 2013 (ADB 2013), initiating trade of power from India to Bangladesh under a bilateral power trade agreement for the sale of 250 MW of electricity by the power trading arm of NTPC (India's largest power utility) to the Bangladesh Power Development Board. ADB helped finance the \$199 million interconnection facilities in Bangladesh with a \$112 million loan. The Power Grid Corporation of India built and financed the infrastructure in India.

Apart from the above bilateral initiative, there are about 30 projects with a total capital outlay of \$5,365 million in the South Asia Subregional Economic Cooperation (SASEC) region, which are already approved and have either been implemented or are in advanced stages of implementation.<sup>1</sup> These include 21 transportation projects, 7 energy projects, and 1 project each in trade facilitation and information and communication technology. ADB, serving as the secretariat to the SASEC program, assists the SASEC countries to strengthen domestic ties for growth and facilitates cooperation providing monetary and technical support for enhancing connectivity, bolstering institutions and trade links, and expanding human capital.

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<sup>1</sup> The SASEC program, set up in 2001, brings together Bangladesh, Bhutan, India, the Maldives, Nepal, and Sri Lanka in a project-based partnership to promote regional prosperity by improving cross-border connectivity, boosting trade among member countries. SASEC helps countries strengthen road, rail, and air links, and create the conditions necessary to provide reliable energy and boost intraregional trade in South Asia to cater to the needs of the region's growing economies.

**Table 2: South Asia Subregional Economic Cooperation Projects**

Country/ Region	Project Name	Sector	Project Cost (\$ million)
India	SASEC Road Connectivity Investment Program	Transport	425
India	North Eastern State Roads Investment	Transport	157
Bhutan	Green Power Development Project	Energy	40
Bangladesh	SASEC Bangladesh–India Grid Interconnection Project	Energy	40
Nepal	Project Preparatory Facility for Energy	Energy	26
Nepal	SASEC Road Connectivity Project	Transport/Road	97
Bangladesh	SASEC Road Connectivity Project	Transport/Road	315
Regional	SASEC Trade Facilitation Program	Trade	48
Bhutan	Air Transport Connectivity Enhancement Project	Transport/Air	8
Bangladesh	Dhaka–Chittagong Expressway PPP Design Project	Transport/Road	13
Nepal	Electricity Transmission Expansion & Supply Improvement	Energy	128
Bangladesh	Railway Sector Investment Program–Tranche 2	Transport/Rail	165
India	Railway Sector Investment Program–Tranche 1	Transport/Rail	343
India	North Eastern State Roads Investment	Transport/Road	110
Bangladesh	Bangladesh–India Electrical Grid Interconnection	Energy	159
Nepal	Subregional Transport Enhancement Project	Transport/Road	76
Nepal	Energy Access and Efficiency Improvement Project	Energy	94
Nepal	Air Transport Capacity Enhancement Project	Transport/Air	92
India	National Highway Corridor (Sector) I Supplementary	Transport/Road	339
Bhutan	Road Network Project II	Transport/Road	39
Bhutan	Green Power Development Project	Energy	151
Bangladesh	Railway Sector Investment Project (Subproject 1)	Transport/Rail	163
SASEC	SASEC Information Highway Project	ICT	26
Bhutan	Road Network Project	Transport/Road	34
Bangladesh	Chittagong Port Trade Facilitation	Transport/Ports	42
India	National Highway Sector II Project	Transport/Road	671
Nepal	Subregional Transport Facilitation Project	Transport/Road	27
India	National Highway Corridor (Sector) I	Transport/Road	760
India	West Bengal Corridor Development	Transport/Road	133
India	East–West Corridor	Transport/Road	644

ICT = information and communication technology, SASEC = South Asia Subregional Economic Cooperation, PPP = public-private partnership.

Source: SASEC website, <http://sasec.asia/>.

Southeast Asia has witnessed even more outbound FDI in the subregion and better historic inter-governmental coordination. Between 1990 and 2013, Malaysia was the largest contributor of private investment in infrastructure in the region, having provided financing of the order of \$79.4 billion (26%) out of total Southeast Asia region financing of \$306 billion (CPI adjusted), followed by the Philippines (24%, \$74.7 billion), Indonesia (23%, \$69.9 billion), and Thailand (17%, \$51.6 billion) (World Bank 2013a).

In the October 2013 update of the Infrastructure Policy Unit of the World Bank on private participation in infrastructure in the Asia and Pacific region (World Bank 2013), regional economies such as Malaysia, the Philippines, Indonesia, Thailand, Viet Nam, Cambodia, and the Lao PDR were observed to emerge with increased economic influence in the region, registering high cumulative infrastructure demand of around \$60 billion per year, driven by urbanization and high rates of growth, leading to a significant degree of regional cooperation with movement of capital between these countries.

For the period of 2008–2012, the region has committed accumulated investment of \$85 billion for private infrastructure projects, in which the largest contribution was made by the Philippines (\$17.8 billion), followed by Indonesia (\$17.4 billion), the PRC (\$16.3 billion), Malaysia (\$9.8 billion), Thailand (\$9 billion), the Lao PDR (\$6.1 billion), and Viet Nam (7%, \$5.6 billion). The main driver for this change in the region was the deepening of private sector engagement in energy (Viet Nam, the Lao PDR, Cambodia, Philippines, Thailand), and the telecoms (Indonesia and Malaysia) sectors (World Bank

2013).

Furthermore, in the coming years, financing needs for energy in the region are expected to be supplemented by such needs for projects in the transportation and urbanization sectors, as well as those in the regional integration scope, leading to enhanced connectivity through transport, electricity transmission, and natural gas pipelines. Several initiatives have been taken up by the ASEAN member countries in favor of this objective which includes the Master Plan on ASEAN Connectivity (MPAC), the ASEAN Infrastructure Fund (AIF). Private sector is expected a large role in these initiatives in the form of capital source and technical expertise in developing sustainable projects.

## 4. INVESTMENT FINANCE FUNDING METHODS— ASSESSMENT OF OPTIONS

### 4.1 Background

Historically, traditional infrastructure financing models have been over-reliant on a leverage structure supported by development financial institutions, government institutions, multilateral institutions, and export credit agencies, even while seeking to optimize on private sector capabilities in project execution, cost optimization, and operational efficiencies. With an almost unwavering, monopolistic revenue model of such projects, largely sponsored by state-owned developers and executed by competitively bid private sector counterparties, leverage was sustainable and largely risk adjusted.

**Table 3: Infrastructure Financing Options**

Type	Domestic Sources	External Sources
<b>Equity</b>	Domestic investors	Foreign investors
	Public utility	Equipment suppliers (in collaboration with domestic and international developers)
	Dedicated government funds	Dedicated infrastructure funds
	Institutional investors	Other international equity investors
<b>Debt</b>	Domestic commercial bank	International commercial banks
	Domestic term lending institutions	Export credit agencies
	Domestic bond markets	International bond markets
	Specialized infrastructure financing options such as infrastructure debt funds	Multilateral agencies (financing with development perspectives and in long tenors)

Source: Finnacle Capital Research (2013).

Subsequently, with the entry of the private sector into developing and sponsoring projects, there was a conscious focus on breaking monopolies, leading to revenues being largely determined by market forces and the lease cost bidding model, making financing on high leverage a relatively risky proposition. On the other hand, for projects that still operate like regional monopolies, like roads, airports, or ports, the financing

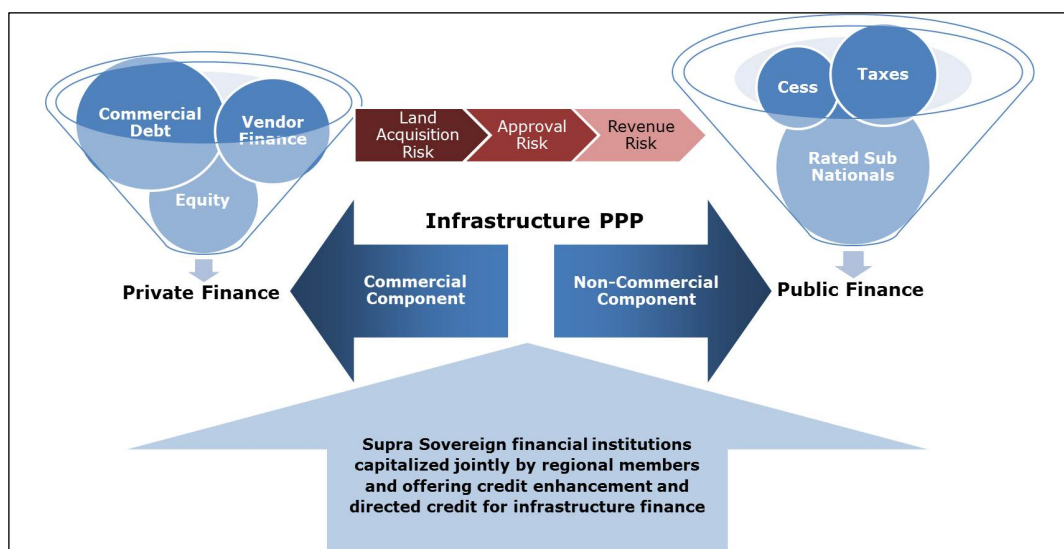
and execution risk was largely transferred to private-sector players whose own abilities to raise financing was limited because of their over-reliance on the banking system. As a result, the traditional financing models envisaged raising 70%–80% of project-specific financing requirements from the banking system, which itself was largely driven by objectives of asset backed portfolio collateralization instead of taking positions on projected cash flows, and thus being able to operate in a narrow asset class ranging from corporate debt to partial recourse project finance facilities.

## 4.2 Public Sector Financing Options

The experiment with private sector development and financing of infrastructure, particularly involving private capital from within the region, has yielded mixed results. To a large extent, the high asset value of infrastructure, long gestation periods, lumpiness of capital, and high financing costs have deterred, and will continue to deter, private sector investment in development stage projects, particularly where crucial issues relating to land acquisition, rehabilitation and resettlement, environmental approval and infrastructure connectivity have not been resolved, requiring either direct funding by the governments or some type of bankable risk cover guarantee by government entities.

Moreover, a number public infrastructure projects, by their very nature, have commercial and non-commercial components, making it unattractive for the private sector to invest in a bundled transaction. In such cases, the non-commercial components are required to be unbundled for government funding through budgetary allocations, supported and supplemented by financing from development finance institutions (DFIs) and under government-to-government (G-to-G) programs (Figure 2).

**Figure 2: Public and Private Financing of Infrastructure**



Cess = taxes earmarked for special purposes, PPP = public-private partnership.

Source: Author's illustration.

The role of government institutions and parastatals in infrastructure financing will necessarily have to be supplemented by multilateral development banks (MDBs), such as the World Bank and the ADB. The MDBs have an important role to play in narrowing the funding gap in national and cross-border infrastructure projects, as well as in influencing the policy environment, impacting procurement processes and providing risk cover to private sector developers. MDB support can take the form of augmenting

or supplementing national budgets through sovereign lending, leveraging private sector participation through guarantees covering political and credit risk, financing feasibility studies through technical assistance, and providing project-structuring support. In an increasingly complex financing and political risk environment, the MDBs are also expected to play a critical role in improving the regulatory environment, supporting transfer and diffusion of technology, and improving business and governance practices, particularly in emerging economies such as those in ASEAN. As non-conflicted transaction facilitators, MDBs can play the key roles of coordinator among multiple stakeholders for regional integration.

Except for some limited efforts by the Reserve Bank of India, the central banks of the South and Southeast Asian countries have remained largely detached from the financing of infrastructure projects, even as they continue to invest large portions of the sovereign foreign exchange reserves in safe but low yielding US Treasury Bills, gold, and other forms of conservative external saving propositions, guided mostly by the prevailing domestic investment regulations governing the use of these reserves. More recently, many South and Southeast Asian countries' foreign exchange reserves have come to exceed central banks' minimum requirement for maintaining exchange rate stability and hence part of those reserves have been channeled into sovereign wealth funds (SWFs). South and Southeast Asia has several SWFs and they are allowed to invest in foreign assets that offer reasonable returns under central bank investment guidelines.<sup>2</sup> SWFs can play an important role in funding projects spanning multiple countries where it is difficult to establish how much each country is benefitting and should therefore contribute.

Lastly, the role of the ECAs is expected to be crucial in the coming years, financing a large number of projects in the region, driven largely by their sovereign mandates to provide financing thrust to their respective countries' GDP-boosting equipment and project exports. In the current regime of global slowdown in industrial demand, governments around the world are now targeting energy and infrastructure projects as vital conduits to exporting high-value machinery, labor, expertise, and technology packaged as project engineering, procurement and construction (EPC), and ECAs are proving a vital tool for supporting these policies. Global ECA lending activity in commercial project finance transactions has increased threefold from less than \$10 billion in 2009 to more than \$30 billion projected in 2013. Liquidity-rich Asian ECAs are closing the largest number of ECA-backed deals, with the Japan Bank for International Cooperation (JBIC) emerging as the global leader over last 5 years, having financed 56 projects for \$35.9 billion, followed by the Export-Import Bank of the United States (27 projects, \$18.5 billion), the Export-Import Bank of Korea (KEXIM) (37 projects, \$11.6 billion), and the Export-Import Bank of China (18 projects, \$8.4 billion) (Baker and McKenzie Report and Infrastructure Journal 2013). During the same period, Export Development Canada (EDC) was the volume leader, having financed 67 ECA-backed deals.

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<sup>2</sup> The Government Investment Unit of Indonesia, State Capital Investment Corporation of Viet Nam, Government Investment Corporation and Temasek Holdings of Singapore, and Khazanah Nasional of Malaysia are fairly active in the regional cross-border investment space.



**Table 4: Export Credit Agency League Table, 2008–2013**

<b>Export Credit Agency</b>	<b>Value (\$ million)</b>	<b>Number of Deals</b>
Japan Bank for International Cooperation	35,938	56
Export-Import Bank of the United States	18,519	27
Export-Import Bank of Korea	11,574	37
Export-Import Bank of China	8,394	18
Export Development Canada	8,034	67

Source: Baker and McKenzie Report and Infrastructure Journal (2013).

PRC institutions are particularly active and are increasingly willing to work with other international finance providers as opposed to going it alone as they have done in the past. Over the last few years, the PRC government has been encouraging its vendors to seek export finance while at the same time encouraging commercial banks to lend in Southeast Asia, backed by the Sinasure guarantee. However, it remains to be seen how the tightening of the PRC's monetary policy in recent years affects the strong positioning of PRC financing backed project and equipment exports.

Likewise, the Government of the Republic of Korea is also encouraging local banks to lend more internationally. To support this aim, KEXIM created a new project finance structure under which the commercial banks issue loans of shorter maturity than that of KEXIM loans, thus effectively positioning KEXIM as a structurally subordinated lender, a model which has been well received by domestic commercial banks as a stepping stone for them in gaining experience in international project finance transactions.

### **4.3 Private Sector Financing Options**

Asia has huge savings surpluses. Most of these are invested in real estate, precious metals listed securities, and liquid investments in US Treasuries. To channel these savings into “bankable” infrastructure investments and attract private investment, there is a need to develop domestic financial markets, in particular to develop a strong bond market, along with appropriate financial instruments.

In South Asia and Southeast Asian, the household savings rate has generally been extremely high and has continued to increase over the past few decades. This is a result of policy environments and favorable demographics, which either persuade or force households to save a large portion of their incomes. Also, the fraction of household savings that are kept in the bank as deposits remains exceptionally high across most of Asia.

Household savings rates are expected to remain high for the next several years, benefitting the overall banking system in Asia, which has potentially vulnerable funding bases. However, owing largely to a prolonged financial repression in the banking system and availability of more attractive investment options, the composition of household financial assets is expected to shift away from deposits and toward a broad variety of “professionally managed” financial assets, creating the biggest single disruptive threat facing banks over the next decade or more. A lot of savings from physical assets like gold and real estate are also expected to move to these financial products, which could largely be channelized into financing of infrastructure with appropriate credit enhancements and loan guarantees. Taking into consideration that the overall infrastructure financing need of the region is of the order of \$8 trillion over a 10-year period, at approximately \$730 billion per year, it is significant to note that an

effective channelizing of only a part of the regional savings could finance the entire investment program.

**Table 5: Financing Requirements and Savings**

Country/Region	Investment Requirement up to 2020 (\$ million)	Annual Savings, 2012 (\$ million)
Cambodia <sup>a</sup>	13,364	503
Indonesia	450,304	280,974
Lao PDR	11,375	1,906
Malaysia	188,084	97,610
Myanmar	21,698	NA
Thailand	172,907	109,790
Philippines	127,122	38,280
Viet Nam	109,761	49,862
<b>Southeast Asia</b>	<b>1,094,615</b>	<b>578,925</b>
Bangladesh	144,903	43,051
Bhutan	886	705
India	2,172,469	626,181
Pakistan	178,558	15,757
Sri Lanka	37,908	14,262
Nepal	14,330	7,775
<b>South Asia</b>	<b>2,549,054</b>	<b>707,731</b>
<b>Total (South Asia + Southeast Asia)</b>	<b>3,643,669</b>	<b>1,286,656</b>

Lao PDR = Lao People's Democratic Republic.

<sup>a</sup> Pertains to 2011 data.

Source: Bhattacharyay (2012); World Bank World Development Indicators database.

Thus, annual savings of \$1.3 trillion are generated in the region, which is nearly 3.5 times the average investment need of \$365 billion every year needed by South Asia and Southeast Asia until 2020. Currently, most of the Asian savings in financial assets are parked in banks as deposits, pension funds, and insurance.

The regional commercial banks, even while capable of large leverage due to a buoyant deposit base, tend to either stay away or have an ultra-conservative perspective while faced with non-recourse project finance proposals of infrastructure entities. The concern arises from risk concentration, peaking exposure norms, low asset yield, high moratorium, and high payback periods of loans, all of which are a deterrent to financing, particularly in the light of these banks' inability to augment the low net interest margin (NIM) by accessing fee-based income through sophisticated structuring and transaction advisory services. This has become particularly evident after the global financial crisis of 2008, as commercial banks hold back from lending opportunities in infrastructure project finance in the face of conservative risk profiles, lack of financing track record, imposed constraints on lending limits, and asset liability mismatches.

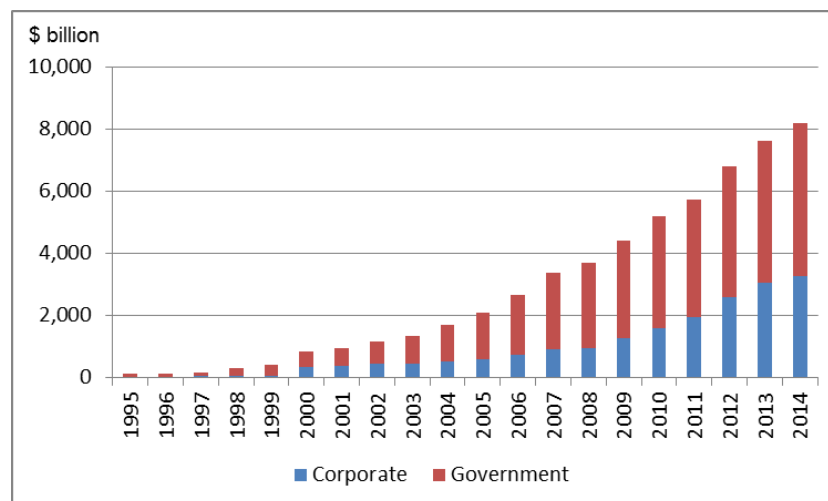
The insurance and pension funds, on the other hand, are affected by statutory constraints restricting these funds from investing in infrastructure assets, being allowed to invest only in instruments having an investment grade rating, which is impossible for a project financing asset class to achieve, particularly in the absence of appropriate commercial credit guarantee mechanisms in the region.

## 4.4 Bond Market

Asia needs a robust bond market that can match the financing needs of the large infrastructure projects in the region and the growing appetite for long-term assets among local pension and insurance companies. However, worldwide, project finance is seen as one of the riskiest bond investment classes. As a result it is often talked about and seldom acted upon. But faced with rapidly diminishing returns from investment grade corporate bonds and Treasury bills, demand from institutional investors like pension and insurance funds—which need long-term returns to match their long-term liabilities—has created a lot of interest in privately placed infrastructure bonds.

Following the financial crisis of 2008 and the sovereign debt crisis in the eurozone, debt reduction swept the West as stringent Basel III guidelines on risk weightage and capital adequacy caused many financial institutions, particularly the large European banks, to scale back lending. This liquidity gap was filled to some extent by local and regional banks of Asia, even though their lending focus continued to remain limited to less risky corporate debt and high yield retail loans. As stiffer banking regulations and covenants made bank financing of infrastructure projects limited, there was an attempt by credible infrastructure developers with strong track records to explore the regional bond markets. Overall bond issuance has maintained steady growth across the region (Figure 3). Since 2007, local currency (LCY) bond markets across Asia have more than doubled, reaching over \$8 trillion in 2014, out of which 40% was accounted for by corporate bonds (Figure 3).

**Figure 3: The Local Currency Bond Market in Asia**



Note: Data is for the Indonesia, Japan, Republic of Korea, Malaysia, Philippines, Singapore, Thailand, and Viet Nam markets.

Source: Asian Bonds Online Database.

A major reason for the slow uptake of infrastructure project bonds is the lack of clarity among project sponsors regarding the feasibility of bond finance relative to the proven, traditional route of bank debt financing, multilateral/ECA finance, and capital contributions. However, refinance bond structures of the type created by ADB and IIFCL in India have invoked deep interest among several infrastructure companies to explore the publicly listed bond market. Another traditional impediment, construction risk, is increasingly being mitigated by targeted credit enhancements, either by being priced in or by being covered under robust EPC contracts with strong balance sheet support. In addition, construction risk might not be completely new for investors if the project sponsor has a proven track record of project implementation.

### Box 1: Asian Bond Market Initiative

Established in 2003, the objective of the Asian Bond Market Initiative (ABMI) is to promote regional financial cooperation to prevent resurgence of Asian financial crisis and develop efficient and liquid bond markets in Asia, which would enable better utilization of regional savings for regional investments.

#### Recent Outcomes under the ABMI

- Asian Bonds Online (ABO) established in 2004 in cooperation with ADB to provide the latest information on bond markets in the region
- The Credit Guarantee and Investment Facility (CGIF) established in 2010 with initial capital of \$700 million to support issuance of local currency corporate bonds in the region by providing credit enhancement to allow eligible issuers to access local bond markets
- ASEAN+3 Bond Market Forum (ABMF) established in 2010, as a common platform for standardization of market practices and harmonization of regulations relating to cross-border bond transactions in the region

Source: IFR Asia (2015).

No dominant project bond model has yet emerged, and local conditions will always vary. While the specific deal structure for each market is likely to remain dynamic, the financing source for infrastructure is likely to increasingly transition from bank debt to institutional investors. A logical infrastructure project debt market would use short-term bank debt for construction finance (which can even be in the form of a suppliers' credit with a take-out finance underwriting) and refinancing the same in the long-term institutional markets, as seen increasingly in the regulated infrastructure utilities and leveraged infrastructure acquisition domain. The key risk with this model is what refinancing risk arises in terms of projects operations, regulation, interest and exchange rate and who is the ultimate bearer of such risk. A natural mitigation of such project-specific risks can be found in the securitized debt market, where banks can package a bundle of project finance loans and sell them as securitized debt in the institutional markets, thus obviating the need for institutions to invest/lend directly to the projects themselves.

In order for institutional markets to have a sustained interest in the long-term, single asset cash flow-backed bonds, it is absolutely necessary to have:

- (a) capital outside of the banking system;
- (b) sufficient governance and transparency in financial reporting;
- (c) balanced tax and commercial policies; and
- (d) project specific credit support/credit enhancement.

For country-level assessment in the region, Malaysia in particular has a vibrant bond market, which contributed approximately half of the country's private infrastructure investments during 1993–2006. The Government of Malaysia took some notable steps to spur this market, including mandating the use of credit ratings for corporate bonds as of 1992. Indonesia's bond market has grown significantly following the Asian financial crisis of 1998. New fiscal policies, a resources boom, and strong regional economic growth in Indonesia have led to a decrease in the debt-to-GDP ratio from 110% in 1999 to about 24% in 2012 (Standard and Poor's 2014). High-yield bond offerings from

Indonesia have maintained year-on-year stability by issues, although issuance values sank from \$8.4 billion in the first half of 2012 (44% of the value for Asia and the Pacific) to \$5.6 billion during the same period in 2013 (18%). Likewise, the Philippines maintained momentum from 2012, with issuances close to \$3.0 billion in the first half of 2013, from \$2.5 billion during the same period in 2012. Other regionally significant corporate bond markets include the PRC and Thailand.

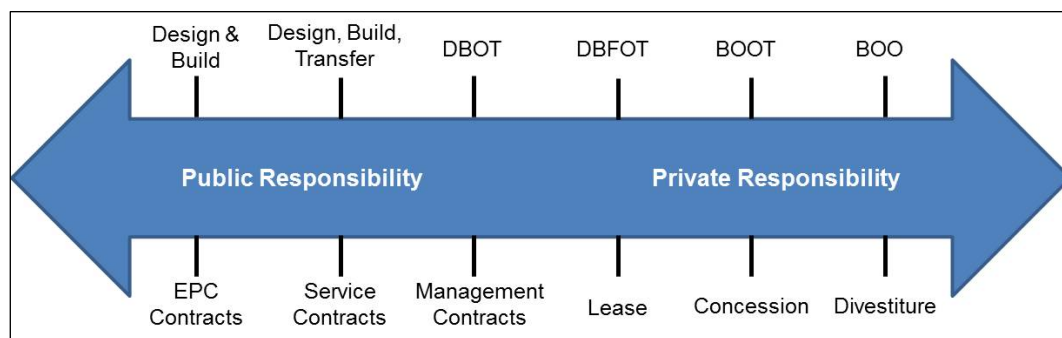
## **4.5 Public–Private Partnerships**

Over more than 3 decades, public–private partnerships (PPP) have emerged as an often preferred tool in South Asia and Southeast Asia to complement sovereign efforts in developing infrastructure and providing related services. During this period, India has emerged as the world’s largest PPP market and the Government of India has used the PPP model with reasonable success in the transportation and electricity transmission sectors. As a general observation, PPPs in Asia and the Pacific have been successful.

However, parallel to the success stories are several disappointing experiences. These have arisen as a result of inadequate pre-investment work, insufficient project planning, absence of proper feasibility studies, flawed project evaluations, absence of competitive tendering, poor contract design, complexities in land acquisition, and inaccurate estimation of demand. Lack of transparent governance mechanisms have further complicated project situations, leading to conflicted regulatory structure, arbitrary and populist government interference, lack of judicial independence, and lack of strong legal framework defining the rights and obligations of private investors, which have impacted the overall levels of private sector support for PPP in Southeast Asia in the last decade. Failed PPP not only hurts the economy and the people by not creating the infrastructure that was envisaged—or creating substandard infrastructure—but also by having to fund large government bailouts of failed projects through taxes.

In the post-2008 financial crisis scenario, with commercial banks seeking to stay away from infrastructure finance, regional bond markets still being in their infancy, and multilateral procurement requirements being too complex for many governments, the PPP development model is undergoing a change and the private sector participants are becoming very particular about minimizing developmental and execution risks, asking the governments to present better structured, readily financeable, and ready-to-construct project propositions for competitive bidding.

Over the years, the developers and the financiers have matured to understand the risks that the private sector can and cannot manage. As a result, there is increasing emphasis from developers and financiers to being awarded permitted, pre-construction projects, instead of concessions with unsettled land acquisition, permitting, resource linkage, and environmental clearance issues. There is also an emphasis on unbundling operational risks and allocating external risks to project entities, internal risks to project sponsors, and residual risks to government shareholders (Figure 4).

**Figure 4: The Changing Face of the Public–Private Partnership Model**

BOO = build–own–operate, BOOT = build–own–operate–transfer, DBFOT = design–build–finance–operate–transfer, DBOT = design–build–operate–transfer, EPC = engineering, procurement and construction.

Source: Finnacle Capital Research.

Going forward, and in order for the PPP model to have a better success rate, four specific improvements are imperative:

- (a) adopting global best practices to ensure transparency and accountability by fully disclosing bid criteria and making criteria easily available for public scrutiny;
- (b) development of PPP units in the region based on international best practices, such that these units are designed to facilitate the PPP procurement and delivery process before contracts are signed, enabling all linkages, permits, and approvals, and having a transparent interface with the authorities that approve or deny projects;
- (c) creation of an independent, non-conflicted regulatory environment which is capable of monitoring project progress, commissioning, and operation, as well as implementation of a reward and penalty structure through market mechanisms; and
- (d) investment in human resources for PPP to improve skills and knowledge across a broad spectrum of specialties, from institutional to technical to financial, by partnering with experienced countries (UNESCAP 2012).

Additionally, foreign exchange predictability, central bank backed foreign exchange support, and institutional credit enhancement options can help in attracting foreign investors. However, even if the foreign exchange risk allocation issue is resolved, the capacity of central and local governments to implement a transition to a full cost-recovery mechanism remains inadequate. The PPPs of the future may witness governments and public entities being more involved partners during the entire project life with appropriate risk sharing and/or risk mitigating contributions.

## 4.6 Cross-border Public–Private Partnership

Financing cross-border infrastructure projects through the PPP route presents even larger challenges as such projects are designed for substantial spillover benefits and countries involved may have different financial constraints in terms of financial capacity. Countries with less developed financial markets not only face funding gaps, but even a gross deficiency in the institutional infrastructure for supporting PPPs. Domestic politics in each country also hinders the development of such projects as the tenure is often very long with few immediate tangible benefits in the short term. In such an

environment, multilateral institutions like ADB can play multiple facilitating roles.

Cross-border projects are often more complex than national projects and involve building infrastructure in less-developed border areas with benefits that are spread over a long tenure and not easy to capture. Such projects do not lend themselves easily to the PPP model. Hence, there is a need to adequately identify and analyze potential projects in order to decide which suit private investment and which can only be implemented using public funds, grants, etc. Also, the views of the countries involved often differ in terms of identification of costs and benefits to each. In such a situation a third party honest broker is required to reach a consensus. Financing is complicated further since costs and benefits are not evenly distributed between countries participating in cross-border projects. The complexities involved in the development, approval, preparation, evaluation, implementation, management, operation, and maintenance of cross-border projects makes their financing very challenging and often undoable without some form of government guarantee.

The key challenges in implementing cross-border infrastructure projects through the PPP route include:

- (a) incongruent cross-border economic regulations between countries;
- (b) lack of capital market coordination and variance in sovereign risk and rating of the participating countries reduce investor exit options for the entire project;
- (c) lack of integration between regional financial markets affects ability to procure long-term infrastructure finance;
- (d) multiple currency revenues lead to unpredictability in income and debt service estimation; and
- (e) lack of coordination between countries.

The need for multilaterals is further strengthened by the fact that such projects usually involve complicated project management, and commercial and sovereign risk management, which lengthen the preparation time and time required for raising funds. The involvement of a technically competent, neutral third party honest broker and the availability of considerable concessional financing are often crucial.

Some of the immediate steps that could be considered for promoting cross-border PPPs could be:

- (a) creating regional funds along the lines of the ASEAN Infrastructure Fund;
- (b) creating non-discriminatory measures for managing currency risk, e.g., innovative swap instruments;
- (c) creating a strong sovereign guarantee mechanism; and
- (d) increasing effort spent in identification and development of projects to make them bankable.

Over a longer term, additional and more sustainable measures can be pursued to:

- (e) establish strong legal, institutional, and regulatory framework;
- (f) create strong FDI policies to support PPPs;
- (g) improve dissemination of information in order to promote competition;
- (h) deepen financial markets;

- (i) negotiate and procure non-discriminatory investment protection treaties for greater private investment and FDI; and
- (j) integrate national markets and create regional bond/equity markets, etc.

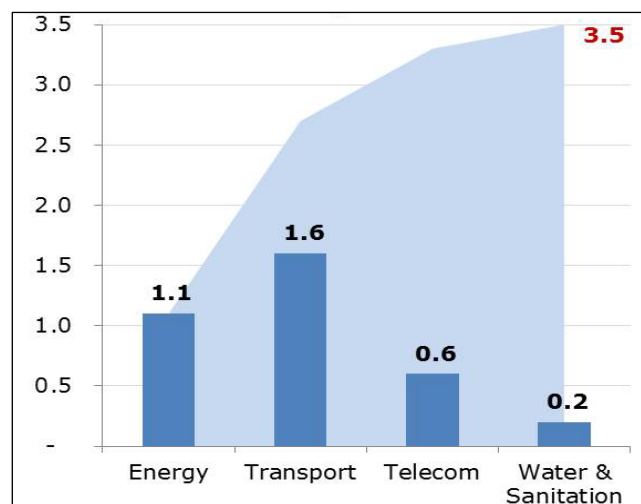
In the near term though, owing to the complexities involved in cross border projects, the public sector will necessarily continue to play a dominant role in financing such projects. However, given the size of the funding gap, government spending will have to be supplemented by private sector investment. The PPP model does not lend itself easily to financing cross-border projects, as evidenced by having very few success stories worldwide. There is a need for large-scale regulatory and legal reform in order to invite strong private sector interest. Such changes can only happen over a long period of time and with sustained regional support and cooperation.

## 4.7 International Infrastructure Funds

Over 90% of the total estimated \$3.6 trillion demand for infrastructure investment in South Asia and Southeast Asia in the period 2010–2020 will come from energy and transport, the sectors most critical for growth in the region and for triggering investment in other areas (Figure 5).

**Figure 5: South and Southeast Asia Investment Needs 2010–2020**

(\$ trillion)



Source: Bhattacharyay (2012).

Among the South and Southeast Asian countries, there are only a few like the PRC and Malaysia that can finance their financing needs in the domestic private-capital markets. Other countries in the region, including India and Thailand, need to create an enabling environment and incentives for attracting precious foreign capital to fund their infrastructure needs. Foreign investors entering these markets with long-hold FDI commitments are increasingly getting weary with issues like policy uncertainties and ad hoc changes in laws governing investment and business (for e.g., coal investment in Indonesia and power sector investment in India), availability of credit to finance 70%–80% of the project cost and development challenges in respect to land acquisition, rights of way, rehabilitation and resettlement, access and connectivity, permitting delays, and environmental challenges. Many governments have ill-defined PPP policies that, because of their vagueness, inhibit private participation, while capital controls or unavailability of foreign exchange deter investors who worry that they may



not be able to repatriate their capital and profits. Weak regulatory or legal systems intensify the risk, and shallow or illiquid capital markets complicate exit strategies.

In spite of improvement in investment, procurement, and regulatory environment, the obstacles are too many, creating urgent intervention needs through multilateral sponsored project development funds, such as InfraCo Asia.<sup>3</sup> In many cases, infrastructure will be needed alongside the development it supports, but the funding streams (public and private) that contribute to the cost will not flow until after the development is completed. Regional development funds can help fund early stage development and project construction involving multiple countries, especially where there is economic disparity among the participating countries and their ratings. It is especially helpful where it is difficult to ascertain benefits to the countries and hence allocate responsibilities.

Regional Infrastructure Fund (RIF) facilitate timely availability of capital to regional infrastructure projects which deliver significant benefits to the social/economic growth of the region. RIFs can be efficient vehicle for delivering funds into large regional infrastructure projects which cannot be adequately funded through traditional means of private or public funding. They need to be tailored to the specific requirements and priorities of the region it operates in keeping in mind the priorities of the said region. RIFs can prove effective in fine tuning projects from outline proposals to customized solutions with robust financial and economic merits. RIFs can also be structured as regional companies which invest and manage regional sector-specific projects. Major Asian countries could invest in these companies or the RIF itself as a financial entity (for example, the Asian Infrastructure Investment Bank), initially at the sovereign level to nurture project development, and thus create a platform for larger private sector participation at a later stage. Subsequently, once operational, the project companies could raise funds in the capital markets through equity or infrastructure bonds by monetizing predictable annuity payments. The sale of public shares throughout the region would help deepen equity markets and provide a needed outlet for household savings and institutions' investment funds.

The way an RIF normally adds value to infrastructure financing needs is by:

- (a) being a flexible vehicle or instrument providing development and early stage financing support for infrastructure development;
- (b) helping economies to focus on local and cross-border priorities by making optimal and efficient use of public resources;
- (c) creating project level investment attractiveness for private sector participation infrastructure development and financing;
- (d) creating infrastructure development projects as a commercial venture, backed by a thorough business plan and techno-commercial viability, while procuring cooperation and coordination at the regional, subregional, and local levels for infrastructure planning and delivery;
- (e) creating a risk mitigation structure by cross-pooling sovereign support of the regional economies; and
- (f) introducing a mechanism for sovereign support, transparent formulation of user charges, and tariff escalation, leading to a pronounced impact through regional infrastructure funding.

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<sup>3</sup> InfraCo Asia Development is a donor funded infrastructure development company. It is a part of the InfraCo group funded by the Private Infrastructure Development Group.

RIFs can have tremendous value addition if they can become vehicles for attracting private resources into such projects. RIFs can be used to attract borrowings from the public and private sectors. However, for the same to be possible, RIFs will need to minimize project and counterparty risks to acceptable levels. The same can be achieved by a diversified portfolio of projects, sovereign support against first loss liability and other such measures. This could help attract funding from DFIs, multilaterals, utilities, and direct financing institutions.

Local infrastructure investment trusts (LIIT) could be another instrument for cross-border equity financing, investment in long-term equity positions in local utility corporations, and for raising resources through equity, quasi-equity, and debt issues on the domestic and international market. An LIIT would buy equity positions in local utility companies from first-round investors, including infrastructure private equity funds, and would sell its shares and issue bonds to institutional investors, insurance companies, and pension funds. Such a vehicle can provide benefits of guarantees to projects in the absence of formal project guarantee mechanisms and project insurance.

**Table 6: Successful Investment Fund Models**

Asian Infrastructure Fund/ AIF Capital	ASEAN Infrastructure Fund	InfraCo Asia
<ul style="list-style-type: none"> <li>Hong Kong, China domiciled fund with \$750 million closed in 1994 with a fund life of 10 years; current assets under management in excess of \$2 billion</li> <li>Pan-Asian approach to investing in infrastructure projects engaged in power generation, transmission and distribution; gas production and distribution; transportation; telecoms; water supply; and waste management</li> <li>Co-sponsored by Frank Russell Company with initial investors from ADB, the International Finance Corporation, and Asian Infrastructure Development</li> <li>Early investments in project finance included the first independent power producer (IPP) in India, IPP business in Taipei, China and the PRC, fixed line telecoms in the Philippines, and container terminals and warehousing in Hong Kong, China</li> </ul>	<ul style="list-style-type: none"> <li>An innovative regional co-op and integration initiative for funding the region's large unfunded infrastructure requirements</li> <li>Formed in 2012 with ADB support and domiciled in Malaysia with a corpus of \$485 million; investments from Brunei Darussalam, Cambodia, Indonesia, the Lao PDR, and Malaysia</li> <li>Objective to provide financial assistance of up to \$300 million annually to ASEAN infrastructure projects, contributing to poverty reduction, inclusive growth, environmental sustainability, and regional integration</li> <li>Current investment of a \$25 million loan for a T-network expansion project in Indonesia</li> </ul>	<ul style="list-style-type: none"> <li>The Asian fund was raised in 2010 under InfraCo group with support from the Private Infrastructure Development Group (PIDG) and the Department for UK International Development (DFID)</li> <li>Creates viable infrastructure investment in Asia that balances the interests of host governments, the private sector, and debt providers</li> <li>Acts as principal, by participating in early stage development and brings development expertise through its team</li> <li>Priority for situations with strong host country support and conditions supporting private sector participation</li> <li>Current investments in gas power in Bangladesh, hydropower in Nepal and Viet Nam, storage facilities in India, wind power in Pakistan, and waste-to-energy in Sri Lanka</li> </ul>

AIF = ASEAN Infrastructure Fund, ASEAN = Association of Southeast Asian Nations, PRC = People's Republic of China, UK = United Kingdom.

Source: Finnacle Capital Research.

## 4.8 Investment Case Studies: Global Cross-border and Plan Pueblo Panama Projects

### The Mesoamerica Project/Plan Pueblo Panama

The Mesoamerica Project was originally planned as a set of development programs for

promoting regional integration and development in the Mesoamerican region.<sup>4</sup> Launched in April 2001, the then Plan Pueblo Panama was seen as a method to establish infrastructure after Hurricane Mitch devastated the area in 1998, costing over \$5 billion in damages. Later, it became an initiative for the development of regional economic corridors and infrastructure and transportation networks among the participating nations for better investment and trade facilitation (Fung et al. 2008).

In its current form, the Mesoamerica Project, is an Inter-American Development Bank (IDB)-supported dialogue, coordination, and cooperation mechanism, serving as the operational tool for furthering the integration of 10 countries: Belize, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, and the Dominican Republic.

The project was strongly supported by local governments, MDBs, and bilateral institutions, with 35% of total financing coming from national governments in the region, 24% from IDB, 15% from the private sector, 7.5% from the Central American Bank for Economic Integration (BCIE), 5% from the World Bank and 13.5% from other sources (Fung, et al 2008). The financiers have backed initiatives aligned with the Aid-for-Trade (AFT) Initiative to enhance the region's position in the global marketplace, including:

- (a) Reduction in average freight travel from 8 days to just 2.25 days by 2015 through development of better road infrastructure
- (b) Reduction in average border crossing time from 60 minutes to 8 minutes through better coordinated customs procedures to reduce average times
- (c) Reduction in power generation costs of up to 20% by delivering improved power grid infrastructure and an integrated, regional electricity market
- (d) Increased competition and better quality delivery in broadband services by developing an integrated regional telecommunications infrastructure (OECD and WTO 2011).

The main problem the Mesoamerica Project has encountered was reluctance from some government agencies to adopt the organizational and infrastructure framework necessary to operate at a supranational level. Eventually, these were overcome and the current success in attaining the regional integration can be attributed to: (a) evolution of strong and high-level political commitment; and (b) the rich institutional network and capabilities of the region and strong external support from MDBs and the private sector. The key finding was that regional projects are often based on a need for collective action not registered by markets or governments, which can be largely orchestrated by credible and sophisticated regional institutions. In the developing world, however, such institutions, if they do exist, tend to be under-funded and their mandates limited to secretarial roles of intergovernmental coordination (OECD and WTO 2011).

### **Trade and Transport Facilitation in Southeast Europe**

Established in 1999, the Trade and Transport Facilitation in Southeast Europe Program (TTFSE) was promoted under the umbrella of the Stability Pact for Southeastern Europe and involved eight countries: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Moldova, Romania, and Serbia and Montenegro. These countries

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<sup>4</sup> The Mesoamerican region is a trans-national economic region in the Americas, recognized by the OECD and other economic and development organizations, comprising the economies of the seven countries in Central America: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama, plus nine southeastern states of Mexico: Campeche, Chiapas, Guerrero, Oaxaca, Puebla, Quintana Roo, Tabasco, Veracruz, and Yucatan.

share 35 border crossing points and 8 inland terminals.

Due to the disintegration of former Yugoslavia into smaller countries, there was a need for integrated planning on regional transport framework to be done jointly by the countries. The main concern initially was the need for improvement in cooperation to meet the requirements for accession to the European Union (EU), following which two goals were identified:

- Reduction of non-tariff and transport costs
- Removal of smuggling and corruption at borders

Four primary action areas were identified to achieve these goals:

- Border-crossing infrastructure
- Improvement in customs procedures
- Modernization of customs information systems

Measures were chosen to facilitate trade by educating all stakeholders in best practices and methods to improve logistics, trade, and international freight transport. The TTFSE program is governed by the Regional Steering Committee (RSC) which comprises the customs administration heads of the eight countries, who meet on a regular basis to exchange information and views and share experiences. Additionally, public–private partnership committees took the initiative to remove barriers to trade, thereby increasing business and investment. There was also assistance in the areas of revenue collection, risk analysis, and enforcement.

The World Bank lent support to the programme in terms of both funding and management. Each country in the programme has a unique project appraisal document (PAD) and respective credit or loan agreement. \$76 million was provided by the World Bank, \$32 million by national governments, and \$12 million by USAID. Phase II of the TTFSE included two more countries, Kosovo and Turkey. The more ambitious Phase II aims to add to the initial program by focusing on EU transport corridors, intermodal transport and interagency coordination. The final aim of the program was to improve trade competitiveness by improving the logistic services connecting the countries in the area, and the rest of the world. The evaluations of the TTFSE program showed that the program had been successful in achieving the goals of reduction in non-tariff costs in the area and creation of new infrastructure, as well as a reduction in corruption and smuggling, although this could not be verified objectively.

### **Second Stage Cipularang Tollway Project, Indonesia**

The 41-kilometer toll road project was conceptualized to reduce traffic congestion along the Puncak route and Purwakarta area, the main alternative routes between Jakarta and Bandung. In 1994, the Government of Indonesia appointed PT. Citra Ganesha Marga Nusantara, a local private company, as the main investor and contractor. The company formed a joint venture with other companies for the project. However, due to the financial crisis in 1997, the project was reevaluated and subsequently suspended as no significant progress had been made. The project was revived in 2000 for a built cost of \$184 million, appointing state-owned PT. Jasa Marga as the main developer. In order to expedite the project, Jasa Marga divided the project into nine packages, accelerated the construction process, and selected nine local contractors through a tendering process (Alfen et al 2009).

Given the constraints on construction time and limited availability of capital, the Indonesian government, represented Jasa Marga, sought financing under the novel Contractor's Pre-finance (CPF) program, with a view to ensuring financial security and

maintaining healthy cash flows. Under the CPF, a consortium of banks made a commitment to Jasa Marga to finance the project by providing loans to all nine contractors, with fixed interest rates during the entire loan period. This was on the back of a guarantee from Jasa Marga that the project would be completed and would not be suspended at any time during the construction phase. The guarantee agreement was formulated as a letter of comfort, which was used by the contractors to seek loans from the banks.

Under the CPF system, as opposed to build, operate and transfer (BOT) or conventional project financing, the project did not need an investor to finance the project equity and project owners were not in debt to the banks that provided the loans during the construction phase because the contractors borrowed the money directly from the bank. The debts were only acknowledged by the project owner after the project was completed and handed over to the owner. In the construction phase, the full responsibility of the debt was with the contractor. After project completion, the project owner had the responsibility of repaying the loans procured by the contractors within a certain period as agreed upon previously by the owner and the banks (Alfen et al 2009).

At present, income from Cipularang Toll Road has reached Rp1.2 billion (around \$100,000) per day, a 100% increase compared to the income during the toll road's first operation in 2005.

### **Nepal–India Electricity Transmission and Trade Project**

The Nepal–India Electricity Transmission and Trade Project, conceived bilaterally and being financed by the International Development Association (IDA) and multilateral development banks (MDBs), envisages a 130-kilometer transmission corridor of 400 kV double circuit line, connecting Dhalkebar in Nepal with Muzaffarpur in India. The broad objectives of the project are: (a) to establish cross-border transmission capacity between India and Nepal of about 1,000 MW to facilitate electricity trade between the two countries; and (b) to increase the supply of electricity in Nepal by the sustainable import of at least 100 MW (World Bank 2011, 2014).

The project has three components:

- (a) design, construction, and operation of two connecting 400 kV double circuit transmission corridors across the border, namely (i) 90 km of transmission line on the Indian side between Muzaffarpur and Sursand on the Indian border and (ii) 40 km of transmission line on the Nepal side between Dhalkebar and Bhattamod on the Nepal border;
- (b) construction of the Hetauda–Dhalkebar–Duhabi transmission line, grid synchronization, and installation of properly tuned power system stabilizers in the major power generating stations and other measures in Nepal in order to synchronize its power system with that of India; and
- (c) providing technical advisory services to the Nepal Electricity Authority (NEA) for the preparation of a transmission system master plan for future transmission system development in Nepal and for development of additional cross-border interconnections.

On the Nepal side, the project will be implemented by the NEA with IDA assistance of \$99 million. On the Indian side, the project will be implemented by a joint venture special purpose vehicle formed by Infrastructure Leasing and Financial Services (IL&FS) Energy Development Company, Power Grid Corporation of India, and Sutej Jal Vidyut Nigam (SJVN). The total project cost is \$182.3 million.

The project, which has already attained financial closure, is currently in the implementation stage. It was originally scheduled for commissioning on 31 December 2016 and is as of this writing running a delay of 7 months.

## **4.9 Lessons Learnt**

The review of the case studies of cross-border energy and infrastructure projects indicates that the main problems encountered were non-economic and primarily related to reluctance from government agencies in adopting the organizational and infrastructure framework necessary to operate at a supranational level.

Eventually, these were overcome by: (a) evolution of strong and high-level political commitment; and (b) strong institutional network and capabilities and strong external support from MDBs and the private sector.

The key learning outcome was that regional projects are often based on a need for collective action not registered by markets or governments, which can be largely orchestrated by credible and sophisticated regional institutions. In the developing world, however, such institutions, if they do exist, tend to be underfunded and their mandates limited to secretarial roles of intergovernmental coordination.

# **5. IDENTIFICATION OF INSTITUTIONAL AND REGULATORY CONSTRAINTS**

## **5.1 Regulatory and Statutory Issues**

The regulatory environment of the region with respect to FDI in infrastructure is vastly divergent, with individual countries promoting different incentive structures for FDI, even while they compete to attract foreign capital. However, generally speaking, the big challenges can be identified and classified in a few broad categories.

Financial institutions face several regulatory and institutional problems that constrain their participation in infrastructure projects. Restrictive government policies and regulatory guidelines have further constrained the participation of insurance companies and pension funds in infrastructure. Secondly, an enabling fiscal environment is a prerequisite for attracting private sector players to inherently high risk ventures. The incentives need to be transparent, covered under change-in-law immunities and uniformly applicable, not only at the time of the inflow of investment, but also with respect to capital and profit repatriation. Another area of concern is the reluctance of the sovereign system in rationalizing user charges and creating a market making environment, with respect to which the host government often uses the existing regulatory framework to impose its agenda and thus create a conflicted regulatory environment, deterring private sector investments. Lastly, there is substantial disconnect between policy and implementation in most countries, making the private investor often pursue multiple, tedious and time consuming approval processes even when the policy framework promises single-window clearances and automatic route for investment.

In consideration of the above, the key areas of regulatory concern or ineffective interface creating impediments to private sector participation and FDI in infrastructure in the region are as follows:

- Commercial banks are impaired by the possibilities of asset-liability mismatch, exposure caps, and stringent provisioning norms, restricting expansion of bank lending for infrastructure projects.
- Long-term savings in insurance and pension funds are difficult to route to infrastructure financing as they are subject to stringent guidelines with respect to the credit ratings of the facilities they invest in.
- FDI limitations in some countries, and the inability of the developer to exit fully developed projects by selling to a more conservative but deep-pocket utility-scale private investor, constrain project capitalization for construction financing.
- Pricing of user charges by a regulator is often conflicted and governed by political motives, without taking into consideration the real cost of infrastructure services and the market pricing of the associated risks.
- In the typical high risk, low return infrastructure investment model, host country regulations need to permit combinations of fiscal subsidy by way of exemptions from taxes and duties, revenue subsidies to supplement user charges, and bankable credit enhancement for lowering risk pricing—all of which are absent in the regulatory framework of most countries.
- In certain countries, lack of depth in the foreign exchange market constrains the procurement of foreign currency not only for repatriation of capital and profits, but also for payments for overseas EPC costs, creating investor frustration and project delays.
- There are also situations of central banks of countries exercising autocratic powers beyond the existing regulations, by using discretion in approving foreign exchange remittances for costs, fees repayments, and repatriation, even when sectoral regulations do not require procurement of such approvals.
- For bankability of cross-border projects, it is extremely crucial to have a multi-party project implementation agreement having participation of all host nations, identifying the roles, responsibilities, obligations, and liabilities of each host nation, a framework relating to which has still not been developed.
- Several countries have different forms of tariff and non-tariff barriers, which discourage private investment by either imposing price restrictions on export of resources or localization requirements for EPC and services.
- PPP projects promoted in host country environments where the regulatory framework is not fully developed potentially create impeding situations where the government role is not underpinned to specific non-performance liabilities, the regulatory dispute resolution mechanism is often conflicted, and the government parastatals do not have the ability to infuse enough equity commensurate with its role in the project.
- The provision of a termination payment in the event of a counterparty default or a political force majeure is virtually nonexistent, or grossly inadequate in the very few situations where they exist.

It also needs to be taken into account that in current times, equity markets are not favorable for financing projects because of uncertainties in the global economy and due to the existing regulatory requirements and market conditions limiting exit options,

which hinders equity infusion, especially of the private equity type. In light of this, it is extremely crucial for the regional countries to take a more liberal view in creating an enabling FDI environment and open their doors to FDI from all credible and sanitized sources. Unfortunately, most of the countries in South and Southeast Asia lag behind in allowing private sector participation in infrastructure, both in terms of domestic and international participation.

**Table 7: Private Sector Participation and FDI Restrictions in Asian Investment Markets**

(%)

Sector	India	Indonesia	Viet Nam	Thailand	Philippines
Power	100 [100]	100 [95]	100 [100]	100 [100]	100 [100]
Airports	100 [74]	100 [49]	0 [0]	100 [100]	100 [40]
Ports	100 [100]	100 [49]	100 [49]	100 [100]	100 [40]
Roads	100 [100]	100 [95]	100 [49]	100 [100]	100 [100]
Railways	100 [100] <sup>a</sup>	100 [55]	100 [49]	100 [100]	100 [100] <sup>c</sup>
Telecom	100 [74]	100 [49] <sup>b</sup>	49 [49]	100 [100]	100 [40]
Water	0 [0]	100 [95]	49 [0]	100 [100]	100 [100]

<sup>a</sup> Only in railway infrastructure.

<sup>b</sup> In fixed line telephony; 65% in mobile telephony.

<sup>c</sup> One-hundred per cent in greenfield projects only; 40% in brownfield projects.

Note: Figures in brackets are FDI restrictions.

Source: Tahilyani, Tamhane, and Tan (2011).

Several Asian countries do not allow equity investment by foreign companies in certain infrastructure sectors. As a result, the local private sector, with their much smaller balance sheets and pre-existing high leverage, remain constrained to optimally participate in the investment opportunities, thus creating an overall situation of low capital availability. Also, in certain situations, policies and regulations relating to FDI and investment incentives are impacted by host country central bank imperatives in striking a balance between the country's fiscal and monetary policies.

In the above context, the ASEAN Comprehensive Investment Agreement (ACIA) has the potential to emerge as an enabling legislation. ACIA, having liberalization, protection, facilitation, and promotion as its four pillars as an enabling support system, is an ASEAN instrument that aims to enhance the attractiveness of the ASEAN region as a single investment destination. It is expected to result in a more conducive business environment, encourage investors who are not yet in ASEAN to do business in the region, provide greater confidence among current investors in the region to continue and expand their investments, and increase intra-ASEAN investment.

Becoming a single market and production base with free flow of goods, services, investment, labor, and capital is one of the four main objectives of the coming ASEAN Economic Community. On 29 March 2012, the ASEAN Comprehensive Investment Agreement (ACIA) came into effect. The ACIA was aimed at boosting ASEAN investment by establishment of a free, transparent, open, and integrated investment regime for domestic and international investors throughout the ASEAN member states supporting regional economic integration before and after the ASEAN Economic



Community integration in 2015. The *ACIA Guidebook*, which was published by the ASEAN Secretariat in 2013, features the strengths and advantages of the agreement for potential investors.

The ACIA database allows users to quickly search for reservations made by the ASEAN member states (AMS) under the ACIA. These are reservations maintained by member states on the sectors covered for liberalization, namely: manufacturing, agriculture, fishery, forestry, mining and quarrying, and services incidental to these sectors. Reservations are measures that individual AMS maintain at the central or regional level of government, which do not conform to their National Treatment and Senior Management and Board of Directors obligations under the ACIA. The National Treatment obligation means that investors from other ASEAN member states and their investments will not be discriminated vis-à-vis the domestic/local investors and their investments unless specified in their reservation lists. The Senior Management and Board of Directors obligation means a member state shall not impose any specific nationality requirement for senior management positions unless specified in their reservation lists.

## 5.2 Institutional Constraints

The constraints faced by institutions in financing infrastructure projects are at various levels, be it at the regulatory level with restrictions based on asset rating and capital adequacy, or at the statutory level, in qualifying specific asset classes as adequately fiscally incentivized for institutional participation.

Public insurance and pension fund companies are inherently very risk averse. They invest mostly in government securities and in publicly listed, highly rated infrastructure companies in order to meet their mandated minimum infrastructure and social sector requirements rather than funding infrastructure projects as a business. The safest way for these institutions to participate in the creation of new infrastructure capacity could be through “take-out financing.”<sup>5</sup> The regulatory authorities could support the enabling environment by permitting the insurance and pension funds to subscribe to post commissioning projects after 2 or 3 years of commercial operations, having appropriate credit enhancement against credit default guarantee (e.g., the structure conceived by the IIFCL and ADB in India), and an investment grade credit rating in the local market. This will largely free up project finance debt raised from banks and DFIs and make them available for subsequent greenfield projects.

The low level of stand-alone ratings achieved by infrastructure projects restricts the flow of foreign non-bank financing in the debt of these entities. In India, it has often been noted by several infrastructure developers that there is a need to introduce a separate format for the infrastructure rating framework, particularly in regions where bank financing has been predominated with external recourse-based, collateral-backed structures creating credit enhancements. The current rating framework in South Asia is broadly in line with corporate finance, which essentially rates an entity and the underlying asset class based on its historic cash flow. For an infrastructure project seeking to raise financing on non-recourse basis, there is neither an existing cash flow stream to refer to nor a sponsor cash flow to underpin the risk on. In such a situation, the underlying asset class will always have a sub-investment grade rating under the current rating framework, irrespective of the contractual arrangement securing the projected cash flows from the project. An infrastructure rating essentially needs to

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<sup>5</sup> Take-out financing refers to a structured refinancing of an existing debt through a pre-committed loan buyout by another lender upon attainment of certain pre-agreed milestones.

assess contract provisions, enforceability, adequacy, and bankability to determine the predictability of project cash flows and accordingly rate the underlying financial product on an infrastructure rating scale.

In South Asia, the slow pace of reforms and evolution of the commercial debt capital markets have also been impediments for infrastructure companies in selling structured solutions in the listed securities market. Liquidity for debt has become further constrained with the introduction of more stringent compliance, capital adequacy, and provisioning norms for commercial banks, which earlier used to be the largest provider of project finance facilities for infrastructure projects in the region.

In India, which has nearly 60% of the total infrastructure financing needs of South and Southeast Asia, it is being increasingly felt that together with reforms to insurance and pension sector asset allocation and the credit rating framework, there is also an urgent need to add depth and liquidity in the debt capital markets by introducing deep pocket, balance sheet backed market making, which can provide cost effective exits to investors in debt instruments and derivatives before the full term of the underlying assets. This, with an objective credit rating, will go a long way to attracting retail and household savings in these financial products.

One way to facilitate debt capital market investment by the retail and household sectors in the early days could be to offer fiscal incentives to such investments in the form of tax rebates or tax credits, as has been done in India. The result of this has been quite well observed in the project finance institutions' track records in attracting substantial retail and household investments in their tax free bonds, which often offer rates almost comparable to or slightly higher than time deposit interest rates of commercial banks. Additionally, a lot of these infrastructure bonds have defined repurchase options, which provide the investors with a visibility to early exit, without waiting for the full term of the bond.

This also brings out the issue of designing structured products for the market, which is largely an investment banking role. With Asian banks being mostly focused on fund-based businesses, investment banking is conflicted in their attempt to sell their own credit products, with very little effort at exploring possibilities to create market friendly credit solutions for project finance.

As has been shown in a recent Standard Chartered Bank study, fee-based income constitutes less than one-third of the total income of commercial banks in Asia, as compared to nearly 70% in the developed markets of the West. Out of this, a large component of fee income is booked by treasury, and by collecting part of the fund based income upfront in the form of processing charges. Market intermediaries, like capital market advisors and investment banks, need to create more penetrative solutions for attracting private retail and household investment in infrastructure through the promotion of credit products by using credit enhancement and take-out options.

Another area that requires strong institutional intervention is creating hedging solutions against interest and currency related risks. Foreign exchange hedging is not available for long tenures, especially for a period of more than 8 years, and even if available, attracts high premiums. Likewise, the inherent asset liability mismatch of banks arising out of long-term deployment of funds, creates interest rate risk for projects borrowing on floating rates. Unless there is a fiscal provision to backstop such foreign exchange and interest rate variations, or a provision of pass-through in user charges, long gestation infrastructure projects may often become unviable in situations of high volatility in interest and currency markets. One effective way of backstopping the currency risk could be through an effective central bank intervention enabling foreign banks and ECAs to lend in local currency from their overseas resources. The

Reserve Bank of India has taken steps in this regard through discussions with the JBIC and JICA to provide currency hedging to Japanese banks willing to lend to Indian PPP projects, facilitating project level procurement of long-term foreign currency loans at a small mark-up to official Japanese interest rates.

PPP agreements are often poorly structured and drafted due to a lack of skills or experience in government departments. Additionally, investors need to guard against the possibility of continuing political, legal, and regulatory uncertainty with respect to foreign ownership restrictions, capital controls, and partnership terms. After the 1997 Asian financial crisis, several countries gradually imposed stringent capital controls, which in some cases were only lifted many years later.

There is a need for global investors to innovate and find ways to participate in capital markets that lack sophisticated financial instruments and depth for minimizing risks. For example, for many South and Southeast Asian currencies, the foreign exchange (FX) markets might not be liquid enough, exposing the investors to currency risk. Offshore products or structures domiciled in financial centers like Singapore and Hong Kong, China could be a solution when local currencies are illiquid.

One particular area of concern for a number of foreign investors seeking opportunities in Asia relates to the high risk in several countries in South and Southeast Asia in areas of contract enforcement. In the “Ease of Doing Business” ranking of 189 economies for 2014 investments by the World Bank, several South and Southeast Asian economies rank in the bottom fifth percentile with respect to contract enforcement risk. This makes a crucial case for rapid judicial reforms to bring in transparency in litigation processes, and fast track resolution of conflicts and firm enforcement of contracts under local laws.

**Table 8: Doing Business Ranking**

<b>Economy</b>	<b>Doing Business Rank</b>	<b>Construction Permitting Rank</b>	<b>Contract Enforcement Rank</b>
<b>Southeast Asia</b>			
PRC	158	185	19
Cambodia	137	161	162
Indonesia	120	88	147
Lao PDR	159	96	104
Malaysia	6	43	30
Myanmar	182	150	188
Thailand	18	14	22
Philippines	108	99	114
Viet Nam	99	29	46
<b>South Asia</b>			
Bangladesh	130	93	185
Bhutan	141	132	37
India	134	182	186
Pakistan	110	109	158
Sri Lanka	85	108	135
Nepal	105	105	139

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Doing Business, World Bank (2014).

Finally, an area of institutional reform that requires direct sovereign level support relates to the provisioning of credit enhancement. Most host country governments in South and Southeast Asia do not subscribe to the view that infrastructure projects need sovereign support in the form of default guarantees, even while partially recognizing the requirement for fiscal incentives. Countries like India do not even permit multilateral institutions like MIGA to provide political risk cover, in their conviction that the local political risk is bankable on a stand-alone basis, and does not require any mitigation. What needs to be realized by several host country governments in the region is that change in law is a crucial component of political risk and with most local governments being inclined to take politically motivated, ad hoc populist decisions during their regime, which hardly ever have long term economic merit, it is extremely important for project developers to have recourse under sovereign guarantee to terminate a project and exit by recovering a termination payment if such changes become untenable for project ownership, construction and/or operation. There also needs to be a realization that since several parastatals and state-owned entities are credit deficient and constrained of liquidity to execute a bankable counterparty contract with project companies, there is a deep requirement for reforming these counterparties and providing contract default guarantees at the sovereign level until the structural reforms render independent contractual bankability.

## **6. INFRASTRUCTURE FINANCING FRAMEWORK: POLICY PROPOSALS TO EASE CONSTRAINTS**

The broad policy initiatives which are crucial for facilitating infrastructure financing in the region have been discussed in detail in the earlier sections and can be summarized as below:

- (a) Create policy enablers for insurance and pension funds to lend in debt refinancing of post-construction infrastructure projects
- (b) Liberate FDI limits in non-strategic infrastructure businesses to create a larger investment pool
- (c) Facilitate the policy environment for bank financing of promoter buyout of financial investors in profitable operational projects
- (d) Undertake sector reforms to levy market-determined user charges, indexation, and pass through provisions without being conflicted and governed by political compulsions
- (e) Permit well directed fiscal and revenue subsidies to reduce project payback and attract investment
- (f) Procure measures for debt market reforms by incentivizing market making in debt securities
- (g) Create policy interventions to provide sovereign level support for mitigating currency and interest rate risks
- (h) Encourage rating institutions for creating an infrastructure rating framework, enabling well-structured projects with bankable contracts to access funds in debt capital markets
- (i) Promote an environment of transparent documentation, project allocation, and

contract enforcement to instill confidence in private participants

- (j) Support regional cooperation mechanisms for cross-border projects by identifying the roles, responsibilities, obligations, and liabilities of each host economy
- (k) Promote transparent policies for cross-border and international trade in capital equipment and services by lowering non-tariff barriers
- (l) Implement judicial reforms for better contract enforcement and faster disposal of legal disputes
- (m) Develop a mature regulatory framework for PPP projects, clearly identifying the roles, responsibilities, and overall accountability of the government counterpart
- (n) Consider project specific sovereign support towards credit enhancement, including provisions of termination payment on account of default by a state entity or in situation of political force majeure

Most importantly and at the highest level, it is critical to align regional connectivity initiatives with national projects to facilitate resource mobilization. More often than not, regional projects are given less importance than national projects by domestic policymakers resulting in lower budgetary support. There is a need to educate all stakeholders that development of regional infrastructure has a positive bearing on national connective infrastructure and vice versa. Governments should be encouraged to support much needed cross-border projects. The MDBs need to play a crucial role here by budgeting larger resources for technical assistance in order to generate adequate pre-development documentation that can create a threshold level of interest in alignment of government objectives.

Furthermore, for infrastructure projects in areas with less economic activity and less advocacy groups, governments would be better placed to make arrangements for concessional financing from external sources. Also, for such projects, implementing agencies need to focus on making the project attractive to the private sector. Often, an implementing agency is found to secure the initial contractual arrangement for project implementation (e.g., for land and concession agreements), but subsequently fail in developing an appropriate project counterparty structure that can attract optimum financing, driven largely by its own conflicted roles in project execution. This may delay the process of fund raising as well as involve high transaction and restructuring costs. One way to overcome this is to prepare quality documentation (like feasibility studies and financial models) before award of project and allocate reasonably developed projects through an auction route or by way of bidding on user charges or an entry fee.

As per ADB estimates (Das and James 2013), project development costs are generally around 5% of total project cost and may need about \$2 million–\$3 million toward transaction advisory support. The European Union was able to promote PPPs by allocating a significant amount of resources to develop regional projects. There were also funds put in place to attract private capital, including through the European Bank for Reconstruction and Development.

Developing regional infrastructure is a long-term process that requires a strong coordination mechanism. Also, as returns from cross-border infrastructure development only accrue in the long term, the level of risk may limit the interest of the private sector in such projects. Therefore, countries need to establish an appropriate coordination mechanism, and create bankable project development documentation and transparent legal and institutional frameworks that can improve the

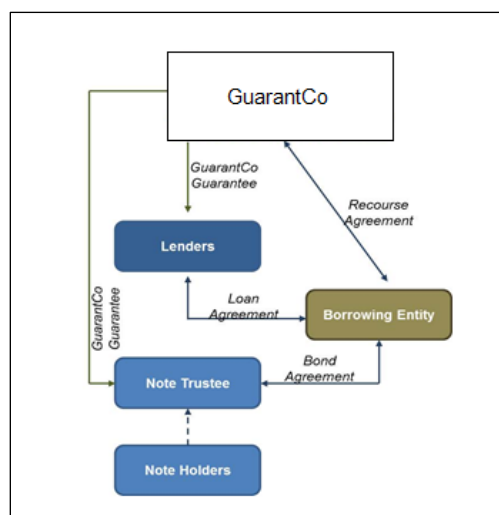
acceptability of such projects among private sector counterparties as well as promote competition and improve regulatory frameworks that protect public interests.

## 6.1 Loan Guarantee Mechanisms

Credit guarantee is an inherent need of infrastructure projects, particularly those with high execution, payment, and perceived political risks. While the construction and operational risks can be largely backstopped through guarantees from relevant project stakeholders, sovereign entity performance impacting project execution (for example, delays in land acquisition in a PPP, environmental clearance, retrospective legal changes, etc.) revenue and related force majeure events need credit default backstops. Even if some of the host country governments are willing to offer sovereign guarantees, their financial capacity to deliver on such commitments is in doubt and often untenable as a security backstop. Additionally, there is a strong demand for guarantees against breach of contract by sub-sovereign authorities. While ADB and MIGA largely perform this function in Asia through their partial risk guarantee programs, the need for a specialized guarantee institution is well felt in the region.

In this context, GuarantCo, a guarantee fund promoted by the donor agencies of four AAA-rated European governments, has been reasonably active in the Asian markets, offering guarantees against credit default risks (full or partial) and political risks to infrastructure projects in lower income countries (Figure 6). GuarantCo has a total committed equity of \$300 million, with sponsor support for callable equity, and can extend guarantees in excess of \$1.5 billion.

**Figure 6: The GuarantCo Model**



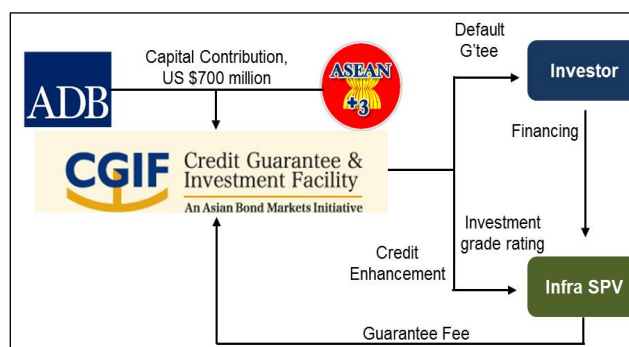
Source: Finnacle Capital Research.

However, GuarantCo only guarantees local currency loans and bonds. This makes the effective cost of borrowing in the guaranteed structure high as the best price that local debt markets can offer will be their local cost of funds, irrespective of the rating of the structured obligation being superior to even the sovereign rating of most host countries. Because Asian interest rates are higher than Europe's, the effective cost to the borrower, after including the guarantee premium, becomes much higher in respect of the project's internal rate of return (IRR). Also, a number of domestic debt markets and banks in South and Southeast Asia do not have the depth or balance sheet to assume large single obligor limits, making local currency borrowing very difficult in spite of the GuarantCo guarantee.

Asia needs to have its own version of GuarantCo with the variation that the guarantee should be applicable to foreign currency borrowing. However, in order for such an entity to be bankable, the sponsor profile will be crucial as—unlike in the case of GuarantCo—AAA sovereign sponsors are non-existent in South and Southeast Asia, which may necessitate not only a high capitalization for obtaining strong investment grade rating, but also incorporation of backstop mechanisms through a larger reinsurance entity as callable capital from shareholders may not be dependable. ADB will have to play a crucial role in anchoring this entity and bringing in other multilaterals active in the region (JICA, Proparco, IFC Commonwealth Development Corporation and Netherlands Development Finance Company or FMO) together with well-rated countries like Malaysia, Singapore, and the PRC. The credit default guarantee structure can be bundled with a foreign exchange liquidity facility (FELF), which aims to separate currency from operational risk guarantee.

The Credit Guarantee and Investment Facility (CGIF) is a near similar facility, which was established in November 2010 as a trust fund of ADB, with initial capital of \$700 million from ADB and ASEAN+3 countries. As a key component of the Asian Bond Markets Initiative, CGIF was established to develop and strengthen local currency and regional bond markets in the ASEAN+3 region. CGIF seeks to support the issuance of corporate bonds in ASEAN+3 by providing credit enhancement, mainly in local currencies, to allow eligible issuers in the ASEAN+3 region to access local currency bond markets. CGIF commenced its guarantee operations on 1 May 2012 and issued its first guarantee in December 2013 (Figure 7).

**Figure 7: CGIF Guarantee Structure**



ASEAN +3 = 10 ASEAN member countries plus the People's Republic of China, Japan, and the Republic of Korea; CGIF = Credit Guarantee and Investment Facility; Infra = infrastructure; SPV = special purpose vehicle.

Source: CGIF (2013)

**Table 9: CGIF Credit Rating**

Agency	Scale	Rating
Standard and Poor's	Global LT/ST	AA+/A-1+
Standard and Poor's	ASEAN	axAAA
RAM Ratings	Global / ASEAN / Local	gAAA / seaAAA / AAA
MARC	Local	AAA

ASEAN = Association of Southeast Asian Nations, CGIF = Credit Guarantee and Investment Facility.

Source: Standard and Poor's, RAM Ratings, MARC

CGIF's aim is to help companies in the ASEAN+3 region that would otherwise have difficulty tapping local bond markets to secure longer-term financing, addressing

currency and maturity mismatches and lessening their dependency on short term foreign currency borrowing. Increase in local currency bond issuance will help provide much needed depth and stability to the ASEAN region's bond markets.

In December 2013, it issued its first guaranteed bond transaction in Indonesia in favor of PT BCA Finance (BCAF). BCAF, a core subsidiary of the largest private commercial bank in Indonesia, PT Bank Central Asia Tbk, is a licensed financial institution engaged in consumer financing of four-wheel vehicles. Domiciled and having its head office in Jakarta, BCAF operates 53 branch offices and has been ranked as one of the top consumer financing companies in Indonesia.

With CGIF's guarantee, BCAF priced at 8.20%, Rp300 billion, three-year Medium Term Note issuance in Indonesian local currency bond market with the participation of Daiichi Life Insurance Company. By leveraging the CGIF's financial strength and high international ratings, the BCAF was able to access a Japanese institutional investor for the first time as an Indonesian corporate issuer, marking a significant milestone for the ASEAN+3 region. CGIF's credit enhancement enabled the BCAF to diversify its funding sources and achieve more favorable issuing terms.<sup>6</sup>

## 6.2 Infrastructure Funds

A lot has been discussed about regional infrastructure funds in the previous section and how the AIF is expected to play a crucial role in catalyzing infrastructure investments in the region. However, while the AIF is a helpful source for financing of economically viable regional infrastructure projects, the fund is not sufficiently large to cater to all the infrastructure needs of South and Southeast Asia. If the fund could be enlarged into a pan-South and Southeast Asia infrastructure fund through participation of the "Plus Three" countries (the PRC, Republic of Korea, Japan), it could go a long way in funding the financing gap. Options also need to be explored for fiscally incentivized domestic funds, in which respect host country governments may need to adopt some policy changes. There could be a very attractive solution for tax free mezzanine debt funds, which provide equity type support to projects, but have a self-liquidating structure for investment exit. Options also need to be explored for creation of foreign exchange denominated local sovereign funds created by leveraging a first loss sovereign liability carved out of the host country's foreign exchange reserves.

## 6.3 Multilateral Development Banks

Historically, MDBs such as ADB and the World Bank Group have played a crucial role in financing and sustaining infrastructure activities in South and Southeast Asia. The impact of the global financial crises, between 2008 and 2009, and the subsequent eurozone crisis, was strongly felt in the global lending market. It brought about a long-lasting retrenchment in global bank lending and a temporary but sharp contraction in long-term international debt flows. In view of these developments in the conventional credit market, the MDBs need to play a much bigger role by providing additional resources more effectively and flexibly to support growth through infrastructure development.

Without the engagement of the public sector, private financing for social sector investments remains inadequate, even in normal times. The private sector is often reluctant to invest due to market failure or lack of experience with such types of

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<sup>6</sup> Asia Bonds Online [http://asianbondsonline.adb.org/documents/cgif\\_1st\\_guarantee\\_indonesia.pdf](http://asianbondsonline.adb.org/documents/cgif_1st_guarantee_indonesia.pdf)



investments. In order to attract private finance, the viability gap needs to be plugged by public resources in addition to institutional and legislative improvements. MDBs can play an important role in such scenarios by playing the role of a catalyst and a shield from market cyclicity. MDBs and bilateral organizations can thus help address financing gaps by mobilizing long-term funds through capital markets, co-financing, and stimulating market activities through the issuance of prime credit papers and local currency bonds.

MDB involvement helps attract private financing due to a host of advantages such as:

- strong financial position;
- favored lender status;
- strong technical knowledge;
- judicious risk management policies; and
- adherence to globally accepted standards of product design, execution, and corporate governance.

MDBs can also give their own funding in the early stage of the project, either by way of capital contribution or as technical assistance. They can also help attract commercial funding through a wide range of financing and mobilization instruments.

In the context of cross-border connectivity and regional infrastructure projects, MDBs can facilitate regional cooperation for the provision of regional public goods, promote greater transparency and information dissemination, and contribute to policy dialogue. They can also play a catalytic role in financial market reforms and assist in enhancing the flow of private savings and capital into infrastructure investments through (i) development of bankable projects; (ii) designing suitable innovative financial instruments; (iii) assisting countries to improve their knowledge and technical capacity (iv) improving the depth, efficiency, and liquidity of financial market and adhering to international and regional best practices; and (iv) fostering further financial integration within South and Southeast Asia.

In the post financial crisis scenario, the MDBs are expected to play multiple roles, acting as money banks, by providing loans and guarantees and catalyzing private sector participation; knowledge banks, by providing policy and technical advice; as progress evaluators and capacity builders for legal regulatory, policy, and procedural components; and as honest brokers, by coordinating with multiple stakeholders. They can play a crucial role, through early stage project participation, in improving the investment climate of the region and as involved counterparties with the host government in creating project development framework. They can also help eliminate currency and maturing risks by providing long-term local currency loans and strengthen local-currency infrastructure bond markets by issuing local currency bonds with long-term maturities.

## **6.4 Promote Financial Sector Development**

Any financial sector development strategy in the region cannot ignore the fact that a significant portion of the region's households live in poverty and do not have access to even elementary level banking and financial services. They rely upon the informal banking channels like NGOs, village banks, micro finance institutions, NBFCs, and trade credit. The role of such informal credit markets must be articulated clearly in any financial sector development strategy aimed at inclusive economic growth and stability.

The ADB members differ widely in their income levels, population sizes and densities, and levels of development of financial markets, leading to different priorities and needs for financial sector development in each of these countries. Accordingly, ADB has identified five common strategic agendas to focus on for its financial sector operations.

- (a) Support developing public debt markets, strengthen central banking, and establish basic infrastructure that can be a foundation for building public confidence in the financial system
- (b) Promote enhanced financial access for traditionally underserved households and SME sectors
- (c) Develop capital markets and an institutional investor base that generate long-term finance and risk capital by way of supporting the development of capital markets, including subnational debt markets and enhancement of access to long-term finances
- (d) Promote and support improvement of macro and micro-prudential regulation and supervision of financial institutions and markets with a view to enhancing accountability and transparency
- (e) Facilitate integration of the region's financial sector for channeling of savings from savings surplus to savings deficit economies by being involved in regional initiatives in liberalizing capital accounts and FDI in the financial sector

As part of an effort to develop and strengthen the regional financial sector, multilateral institutions may also participate in the capital structure of local DFIs by making contributions to tier-two capital and making investments in long term, subordinated infrastructure bonds, which can form part of the core capital of these institutions for leveraging their balance sheet and overcoming single obligor or sectoral caps while financing large domestic and regional infrastructure projects.

The capital support of MDBs shall also equip smaller institutions with greater reach to effectively support financing of small and local infrastructure and connectivity projects (e.g., in Nepal, Bangladesh, Sri Lanka, Myanmar, Viet Nam, and Cambodia) in power generation, transmission, water, and transportation sectors, which could not have been directly taken up for financing by the MDBs. The MDBs can play a significant role by catalyzing complex capital market solutions and other innovative approaches to financing challenges, including the emerging structured finance and securitization market.

One key initiative in favor of integration has been the move to create a regional stock market linking the main exchanges of ASEAN. Investors finance infrastructure projects in two ways: directly through investment in assets, or indirectly through purchasing stakes in companies developing such assets. In order to encourage indirect investments through stakes in companies there is a need to reduce transaction costs. The linking of key exchanges within ASEAN will help reduce the cost of transactions by creating a one-point access to pan ASEAN assets. It will also allow companies in the region access to a wider pool of capital. A three-way link between Singapore, Thailand, and Malaysia's stock exchanges has been created under the first phase of the project,

The vulnerability of the region to sudden reversal of capital inflows, which are particularly risky for long-term investments, came to light first in the 1997–1998 Asian financial crisis, prompting most central banks in the region to create poison pills for such capital flight through fiscal and monetary policies, while at the same time emphasizing on the creation of a more resilient financial system. In the years that followed, ASEAN+3 strove to reinforce the stability of the financial system in the region

by deepening local currency bond markets in order to lessen capital flight and for mobilizing domestic savings for long-term investment. The consequent reduction in foreign currency risk for borrowers will help attract infrastructure investments. It will also help in reducing maturity and currency mismatches.

In terms of regulation and governance, the 2008 credit crisis demonstrated the need to clearly articulate the design of a bankruptcy code, and the design of the capital structure of banks/financial institutions to preclude the threat of costly financial distress by creditors and to ensure that liability of the first call to capitalize distressed banks and financial institutions must be with the creditors of the institutions, and not the taxpayers.

**Table 10: Financial Market Influences**

<b>Factors</b>	<b>Manner in which Factors Influence Market Development</b>
Regulatory framework	<ul style="list-style-type: none"> <li>• Corporate governance</li> <li>• Investor protection</li> <li>• Disclosure requirements</li> <li>• Insider trading</li> <li>• Market surveillance</li> <li>• Underwriting standards/bank supervision</li> </ul>
Fiscal and exchange rate policies	<ul style="list-style-type: none"> <li>• Captive (nationalized) banks to hold debt</li> <li>• Auctions to sell sovereign debt—government benchmarks—active primary and secondary government bond markets</li> <li>• Controlled exchange rates</li> </ul>
Legal framework and bankruptcy code	<ul style="list-style-type: none"> <li>• Integrity of contract enforcement</li> <li>• Transparent ownership of assets such as residential and commercial properties</li> <li>• Bankruptcy code that leads to efficient outcome in financial distress and provides correct incentives ex-ante, with significant consequences for the development of corporate bond markets</li> </ul>
Trade patterns	<ul style="list-style-type: none"> <li>• An export-oriented economy has greater incentives to access and develop foreign currency debt instruments</li> <li>• An economy driven by domestic consumption may have innovative and informal credit markets to tap pools of local currency capital</li> </ul>
Infrastructure for trading and intermediation	<ul style="list-style-type: none"> <li>• Developing settlement and clearing systems</li> <li>• National and international standards for accounting/auditing statements</li> <li>• Developing and enforcing standards for investment advisors and other intermediaries</li> </ul>
Access to global issuers and investors	<ul style="list-style-type: none"> <li>• Access to global issuers allows foreign currency markets to develop within the country</li> <li>• Access to global investors generates global portfolio flows to move in and out of the country</li> </ul>
Incentives for financial innovation	<ul style="list-style-type: none"> <li>• “Light touch” regulation tends to promote innovation as well as excessive risk-taking</li> <li>• Tough regulation can lead to stagnant financial markets</li> </ul>

Source: Bank for International Settlements <http://www.bis.org/repofficepubl/arpresearch200908.6.pdf>.

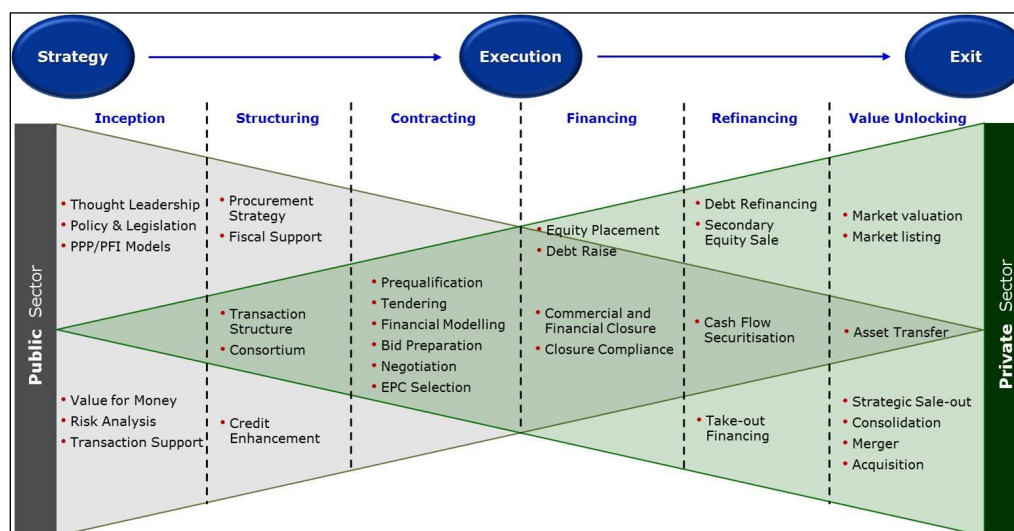
Central banks should put in place permanent institutions and liquidity facilities so that the shadow banking system is also covered by the central bank's facilities. The main goal of financial markets development should be to promote their transparency, while

recognizing that financial markets with differing levels of transparency can co-exist to cater to the differing risk/reward requirements of entrepreneurs and investors (Sundaresan 2009).

## 7. FINANCING SOLUTION FOR REGIONAL PROJECTS

As this paper has addressed in the previous sections, an infrastructure project goes through multiple financing cycles, starting with development stage finance and maturing to financing of investor exit through promoter buyback, merger, acquisition, or public listing (Figure 8).

**Figure 8: Financing Solution for Regional Research**

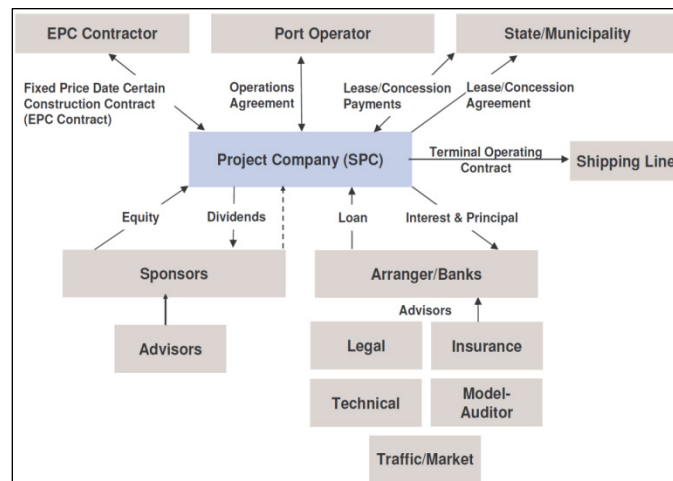


Source: Finnacle Capital Research.

At each stage of the project lifecycle, its financing needs will likely be fulfilled by a provider of credit whose appetite and understanding of risk is in agreement with the risk profile of the project presented at that stage. However, the most difficult stage for a project to raise market financing is in its development phase, dovetailing into the pre-construction phase, which leads to financial closure of the project. Depending on the business economics, nature of government involvement and backstops, and risk mitigation solutions procured in counterparty contracts, a project will need to be structured in a manner that enforces investor and lender confidence for making financing commitments without the comfort of a balance sheet fallback.

### 7.1 Sector-Wise Connectivity Infrastructure Financing: Possible Structures

Figure 9 shows a representative project participation structure for financing port projects. The biggest advantage lies in the large degree of user exclusivity that a port project has, with no direct cross-border revenue bearing component. The project-specific special purpose company (SPC) is the eventual carrier of all rights and duties in connection with the project and its financing. The SPC's credit standing depends on the bankability of the project feasibility. This can be a classical scenario for project recourse financing, with the project risks being structured to be allocated among the involved parties with the best capability to mitigate or absorb those risks.

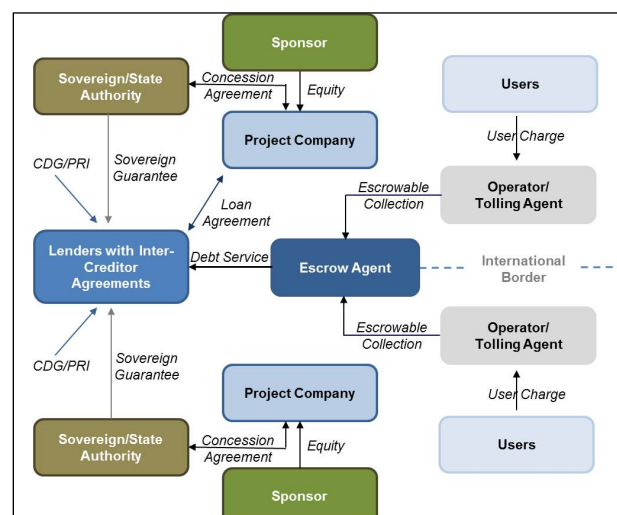
**Figure 9: Financing Issues in Port Projects**

EPC = engineering, procurement, and construction, SPC = special purpose company.

Source: Finnacle Capital Research.

In respect of project development, since land acquisition and environmental clearance are crucial, it may be appropriate to allocate a project through on-market auction of a fully permitted, development risk mitigated, construction-ready opportunity. Credit guarantees and political risk insurance are necessary for risk coverage during the operating phase mainly with respect to changes in law.

Figure 10 shows a representative project participation structure for financing cross-border road and railroad projects. Typically, these projects are more appropriate when structured as a combination of several concessions to reduce financing, sponsor, and operator risk. Each concession can be an SPC, complying with local regulations, funded at the local level and providing for tolling in the local stretch. Financing can be project recourse, i.e., liability is limited to the project, if development risk is mitigated through the auction of fully permitted SPCs. However, coordinated project development and adherence to milestones across borders will be most crucial to fulfil linkage objectives.

**Figure 10: Financing Issues in Road and Railroad Projects**

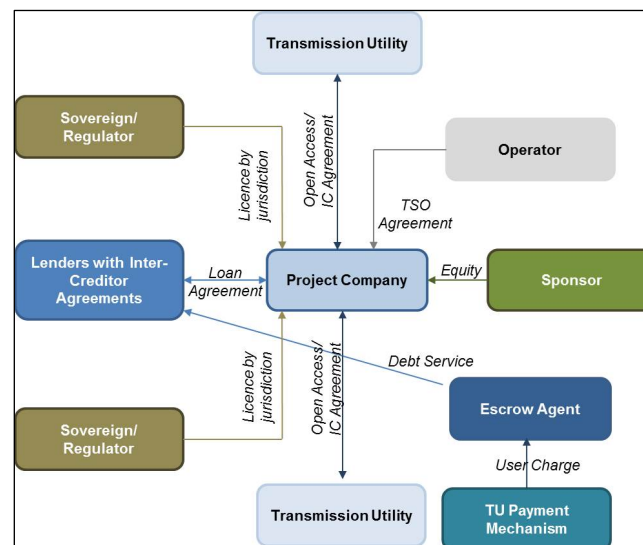
CDG = credit guarantee, PRI = political risk insurance.

Source: Finnacle Capital Research.

Structural solutions may also need to be developed for common currency revenue reporting, depending on the project capital structure and means of finance. Feasibility of each concession will be key to the success of the entire project and timely completion of construction of the entire stretch. Credit guarantees and political risk insurance may be necessary for operating phase risk coverage, including a minimum revenue guarantee in case of a tolling shortfall below the threshold level.

For project participation in the case of cross-border transmission lines, as shown in Figure 11, the underlying contracting documentations are both more evolved and more bankable, with the projects having a high degree of user exclusivity. Determining of tariff is crucial and needs to be evolved through bilateral discussions between the governments of the two host countries. The tariff could be on a regulated basis for bilaterally allocated transmission, in which case the project will evolve more as an annuity without any business risk but lower returns. On the other hand, a project can be developed through a commercial joint venture between private or subnational counterparties, selling capacities to regional generation projects under a negotiated transmission agreement on a merchant basis.

**Figure 11: Financing Issues in Transmission Line Projects**



TSO = transmission service operator, TU = transmission utility.

Source: Finnacle Capital Research.

These projects can be structured so that they can easily access project recourse financing in most situations. However, political risk insurance may still be necessary to cover political risk and change in law backstops. Credentials of the project operator will be crucial for financial closure.

## 8. CONCLUSION

Project finance exists for a purpose. It is an effective financing model that has evolved over time, but essentially offers the same service for investors—leveraging a long-term revenue stream for upfront finance. There may be alternative sources of capital available in the market, but there is no alternative to project finance. It has a low default rate and is still the best funding structure available to manage the complex and unique risks associated with energy and infrastructure finance. However, in the background of the 2008 crisis, and consequently strengthening banking regulations and credit

shrinkage, conventional banks have been steadily reducing their exposure to project finance, creating a deep void for financial intervention and intermediation in respect of financing of long gestation, capital-intensive infrastructure projects on a non-recourse basis.

In this paper, an attempt has been made to identify the various sources, options, and impediments to creating a sustainable alternate financial model for financing infrastructure projects in South Asian and Southeast Asia. It has been discussed at length how at each stage of project maturity, a different category of credit provider finds it most appropriate to participate, based on its risk-return perspective.

Multilateral development banks like ADB are needed to play a multipolar role in a project's financial lifecycle, starting as a provider of development support to the host country parastatal by way of participating in development equity and allocating budget toward technical assistance for project development and documentation. As the project progresses, this role will evolve into that of a policy influencer, technical advisor, and honest broker in ensuring efficient and transparent project allocation and effective private sector participation. Subsequently, at financial closure, the MDBs will be expected to commit capital and debt to the project and leverage their network among other MDBs to take projects to financial closure. And finally, as the project gets commissioned and attains a reasonable track record of successful operation, provide credit enhancement through partial credit and political risk guarantees to enable the project to seek cheaper refinancing in the commercial debt capital market. Simultaneously with this exercise, the MDBs will also need to play an active role in influencing capital market reforms, promoting policy initiatives, and introducing effective risk management tools for deepening of the regional financial markets and ensuring larger private sector participation in financing of domestic and regional infrastructure projects.

This paper has discussed the issues affecting the local financial markets in their present form and the policy initiatives necessary for removing the lacunae. It has also tried to identify the various credit market interventions and credit enhancement mechanisms that are likely to channel contractual and retail savings into infrastructure financial assets.

This study further points to the importance of government involvement in creating enabling policy, environment, and financial infrastructure to ensure larger private participation in cross-border integration projects due to the clear externalities which would not otherwise be reaped. It also points to the importance of coordination for the project to be successful. Finally, the paper seeks to identify some structured finance solutions to some of the envisaged project situations and identify the critical issues influencing the success of those projects.

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\* ADB recognizes China as the People's Republic of China.



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