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Moving MPAC Forward: Strengthening Public-Private Partnership, Improving Project Portfolio and in Search of Practical Financing Schemes

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Abstract: *Infrastructure investment has high economic returns, especially in ASEAN economies where enhanced connectivity is critical for their continued prosperity. Each member government needs to ensure infrastructure gaps are narrowed through both the government's own funding and public-private partnership (PPP) arrangements. With regard to PPP projects, the best way to attract private participants is to make projects commercially viable through: (i) careful project development carried out (or advised) by high caliber experts; (ii) adequate spending on project development; and (iii) improvements in the PPP-readiness of member countries in terms of legal, regulatory and institutional environment. We propose that a center of excellence for PPP-related investments be established advising each government and its PPP-units on project selection and development—and carrying out project development for cross-border PPP projects. The center should be staffed with private sector experts or those with private business experience and consider ASEAN regional priorities. Donors should help substantially—given the high growth and poverty reduction impact that infrastructure development has. Too much focus on the funding aspect alone could be counterproductive. However, recognizing the increased risk aversion of the capital markets around the world as a result of the international financial crisis of 2008-09 and the introduction of Basel III, we propose that a new financial instrument be considered that reduces the perceived risk of PPP projects. There should be some lessons to be learnt from the initiatives of project bond credit enhancement started by the European Investment Bank (EIB), which has been received positively by the market.*

Keywords: Private participation in infrastructure development, Public Private Partnership (PPP), PPP Center of Excellence, PPP project development, and risk allocation

JEL Classification: G11, H43, H54, H63, R10, and R40

1. Introduction and Summary

Infrastructure facilities are important for both supporting growth and alleviating poverty. It has been well recognized that improved infrastructure contributes to economic growth, job creation and, thus, to social cohesion and poverty alleviation. Across ASEAN economies, high quality infrastructure has played a key role in economic development promoting growth by connecting countries within the region and with the rest of the world, enhancing an economy's external competitiveness, and supporting and crowding in private investment.[1] Growth is also known to be the greatest poverty reducer, as the experience of Asian and other economies has amply proven. Infrastructure development has no doubt contributed to the ASEAN members' enviable economic development records.

The demand for quality infrastructure remains particularly strong in ASEAN countries where economic growth has been robust. It is projected that ASEAN economies need to invest over $ 60 billion a year in infrastructure until 2020 to support and maintain the region's high economic growth.[2] While the region has successfully come out of the global financial crisis of 2008-09 and has been a key growth center supporting global recovery, this growth performance has also highlighted the region's need for further investment in infrastructure (Table 1).

Table 1: Global Comparison in Infrastructure Coverage (2008)

Item	Roads (km)	Rail (km)	Phones (number)	Electrification	Clean Water
	Per 1,000 people			Percentage	
ASEAN	10.51	0.27	3.53	71.69	86.39
Asia	12.83	0.53	3.47	77.71	87.72
OECD	211.68	5.21	13.87	99.80	99.63
Latin America	14.32	2.48	6.11	92.70	91.37
Africa	n.a.	0.95	1.42	28.50	58.36

Note: ASEAN= Association of Southeast Asian Nations, km=kilometer, OECD = Organisation for Economic Co-operation and Development.
Source: ADB, UNDP and UNESCAP, 2010.

Yet, infrastructure supply in ASEAN economies remains low relative to the needs. Infrastructure investment has traditionally been funded with fiscal resources and other sources backed by user fees or supplemented by foreign aid. These traditional sources are now seen to be inadequate. This is especially true recently; many governments' fiscal space has narrowed after they implemented expansionary stimulus packages to offset the impact of the latest global financial crisis. Their fiscal space is unlikely to recover in the coming years. In addition, official development aid (ODA) will likely decline for many countries that have achieved medium income status. Furthermore, donors' priorities seem to have shifted more to the social sectors and projects with direct poverty alleviation impact than the infrastructure sector. With the rapidly rising demand, therefore, the infrastructure deficit is expected to widen in each of the member countries.

Public Private Partnership (PPP) has thus attracted renewed attention of ASEAN leaders.[3] PPP provides alternative schemes in which the private sector offers

substantial financing, construction, and operation and maintenance of infrastructure. The private sector also brings management expertize. Asian leaders have thus started to regard PPP as panacea for solving many of their problems. In particular, PPPs are seen to relax the short-term fiscal constraint by having the private sector fund the bulky initial construction of infrastructural facilities. Similarly some governments also hope that PPPs would permit them to keep certain infrastructure investments off their balance sheet and exclude them from public sector debt sustainability considerations. Both of these hopes, if they become primary reasons to pursue PPPs, would be problematic.

Actual use of the PPP approach in ASEAN countries has been limited. PPPs have failed to play the important role that was expected of them in enhancing the supply of infrastructure services. Policy makers often attribute this to inadequate financing, and seek to identify innovative financing regimes. But the real cause for slow PPP investments appears to be limited efforts/capacity to develop projects. Poor project development skills or saving on the project development costs have often led to the preparation of "unbankable" projects—these projects are often not structured well and risks are not allocated efficiently.

At the same time, it is true that a number of financing sources dried up in the wake of the recent international financial crisis—especially wrapped bonds issued by monolines are unlikely to return any time soon, if ever. The introduction of Basel III is also reducing the banking sector's liquidity. Reduced liquidity in the market has highlighted more than ever the underlying tension between the private and public

sector players: the former wishes that the government should take major risks and guarantee private participants reasonable revenue flows while the government would like the private sector to take these risks so that fiscal sustainability not be jeopardized.[4]

This paper makes mainly three arguments. First, proper project development is crucial for attracting private resources. Private investors will invest only when they perceive that the projects are commercially viable. The high risks associated with the long-tenor of investments must be dealt with through proper project development and risk allocation. Insufficient policy clarity and limited public sector capacity are also impeding proper project development in some countries. To address these issues, more human resources need to be developed and higher amounts of financial resources need to be deployed for project development. For this purpose, we propose that a professionally staffed center of PPP excellence be established for ASEAN countries. The center should advise each member authority on PPP issues and develop cross-border PPP projects. Second, each member country should enhance PPP readiness in legal and regulatory areas. Finally, the reduced liquidity in the capital market and higher risk aversion of private players, post crisis, need to be dealt with. In this regard, there appear to be lessons to be learnt from the EIB's recent initiatives on project bond credit enhancement.

The paper first reviews merits of PPPs and the status of PPP implementation in ASEAN economies (Section 2). Section 3 reviews elements that have historically led to successes in PPPs around the world, and Section 4 attempts to identify which

of the elements of successes are lacking in ASEAN economies. Section 5 concludes with recommended actions and measures that ASEAN governments could consider taking to further promote PPP investment in the region.

2. Merits of PPPs and Status of ASEAN PPP Projects

2.1. PPP Merits and Wrong Attitudes

There are substantial merits to using PPPs for building and managing infrastructure facilities. Fiscally, the approach makes projects affordable and raises budgetary certainty—by spreading the initial investment cost over the life cycle of the project. At the same time, the project's life-cycle risk is either transferred to or shared with the private sector. In fact, risks are allocated to the party best able to manage or absorb them. The approach can help provide infrastructure services on time and to budget. In addition, the quality and quantity of services should improve with private sector skills. Also, PPPs can shift governments' attention from construction (inputs) to provision of life-time services (outputs), and allows them to focus on value for money. Successful projects mean lower overall cost to customers and to the government over the project's life time. On the other hand, the cost of failures would be high for both private and public sectors.

The Australian experience confirms these. ACG/University of Melbourne compared samples of 21 PPP and 33 traditional projects (Table 2).[5] It can be seen that PPPs are not necessarily fiscally cheaper than traditional financing. PPP projects

tend to take more time to prepare and initial cost estimates tend to be higher. But PPPs are more likely to be delivered within budget. As the table makes it clear, cost overruns over the contractual amounts are only 1.2 percent with PPPs, whereas with the traditional projects the overruns are 14.8 percent. This is because cost tends to be underestimated significantly in traditional financing, particularly at the time of initial approval (by line ministries). The lower cost overruns also indicate that PPPs tend to be delivered more on time than the traditional investments. The latter suffer from over-optimism in the estimates of construction time as well. Annex 1 compares merits of PPPs and traditional projects more in detail.

Table 2: Cost Comparisons of PPP and Traditional Projects (in AUD million)

	Initial Cost Estimates	**Contractual Commitments**	**Cost Overruns**	**Final Actual Cost**
Traditional Projects	3082.0	4532.6	672.5	5205.1
PPPs	4484.4	4946.1	57.6	5003.7

Source: Infrastructure Partnership Australia, 2007.

All too often governments pursue PPPs for reasons other than efficiency gains. They often consider PPPs only as a means to relax the government's short-term fiscal constraint and/or to avoid expenses from being on the government balance sheet.[6] Governments with these attitudes are unlikely to realize efficiency gains that PPP projects could potentially allow them to have. Similarly, governments that expect PPP investments will easily follow whenever financing is available are also unlikely

to benefit from efficiency gains.

2.2. PPP Implementation Status

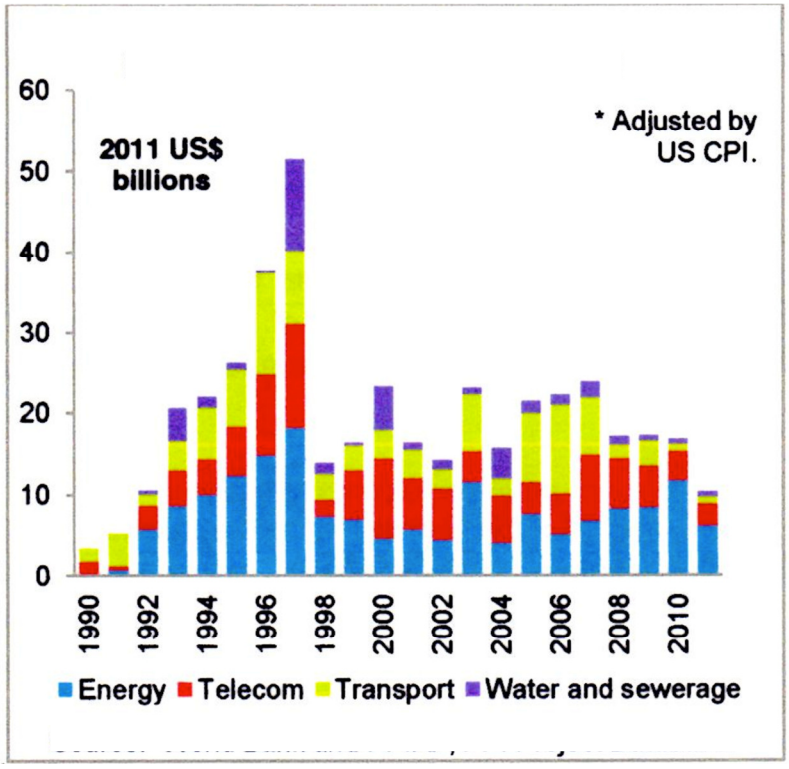
In the ASEAN region, the level of PPP implementation differs by each country's development stage, depth of financial and capital markets, and the public sector capacity. Malaysia and the Philippines have accumulated most experience within ASEAN members. Thailand has also implemented certain types of PPPs since the early 1990s, while trying to improve its regulatory and institutional settings. Indonesia and Singapore started to adopt the system during the last decade. Vietnam and Brunei are newcomers in PPPs, although the former appears more aggressive in pursuing PPPs. Cambodia, Laos, and Myanmar have yet to develop their PPP system.

Relatively advanced members have established their own PPP implementation frameworks. Most have expressed their commitment to PPPs; put in place a legal and regulatory framework; established dedicated units for PPP preparation and implementation; and taken into account PPP options in their development plans. However, they still suffer from shortcomings, which differ by the country, as discussed in Section 4 below.

Other countries are also trying to put in place an effective PPP framework. But since PPP systems are complex and require competencies that may not be readily available, these countries may need quality technical assistance in order to benefit from the efficiency gains associated with PPPs relatively in a short time.

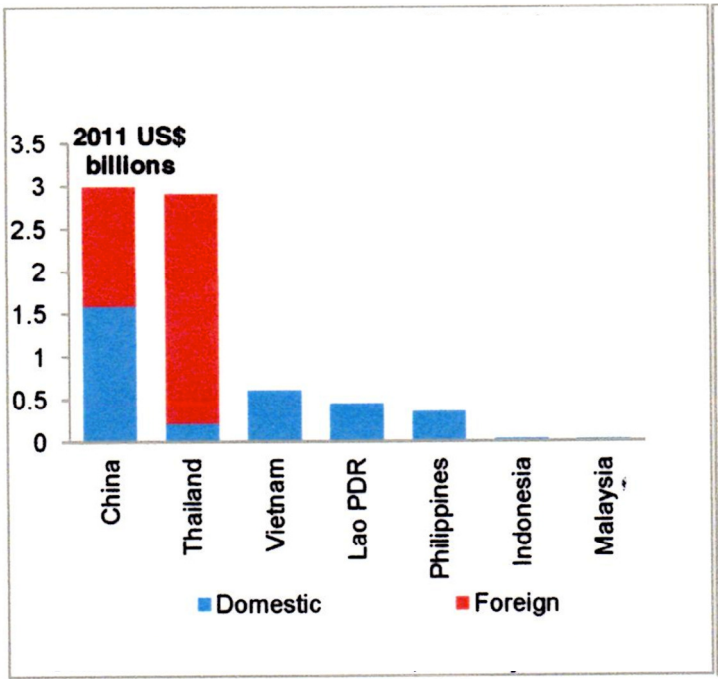
But, the rate of PPP implementation remains slow in Asia and, in particular, in ASEAN countries. The dollar amount of PPP infrastructure projects that came to financial close, in fact, declined significantly after the Asian crisis and has not recovered (Figure 1). In 1997, private participation in infrastructure in the East Asia and Pacific Region amounted to US$50 billion.[7] With the crisis, the amount fell to a little over $10 billion in 1998. Although it recovered to US$20 billion by 2000, the amount has since been fluctuating between $10-20 billion. The most recent figure was $10 billion for 2011—down from $18 billion in 2010 (although the number of projects that came to financial close increased). A large part of this was investment in China and Thailand (both about $3 billion). Two power plants in Thailand with foreign participation stand out. Vietnam, Lao PDR, and the Philippines each had $0.3-0.5 billion (Figure 2).

Figure 1: Investment Commitments in Infrastructure Projects in East Asia and the Pacific (EAP), by Sector, 1990-2011



Source: World Bank and PPIAF, PPI Project Database.

Figure 2: Investment Commitments in Infrastructure Projects in East Asia and the Pacific, Share of Foreign versus Domestic Developers by Country, 2011



Source: World Bank and PPIAF, PPI Project Database.

Relative to the infrastructure funding requirements, these amounts are far from adequate. Individual government programs call for significantly higher PPP investments in infrastructure. Malaysia announced that it required $5 billion of PPP investments a year for 2011-15, Vietnam $6.5 billion a year for 2011-20, Indonesia $4.2 billion a year for 2011-25, and Thailand $1.6 billion a year for 2009-12.[8] Thai requirements have since increased significantly due in particular to recent flood damage. Of course, it remains a paradox why there is such a wide infrastructure financing gap in spite of the significant surplus in savings both globally and in ASEAN economies (Box 1); an issue that this paper tries to address in to some extent.

Box 1: Infrastructure Financing Paradox

- The World Bank estimates that approximately US $800 billion is being invested annually in infrastructure in developing countries (of which 40 percent goes to East Asia and Pacific), with about US $600 billion/year financed from government budgets; the remainder comes from the multilateral development banks (MDBs) (about US $40 billion) and from private sector investments (about US $160 billion/year).
- To maintain annual economic growth at 5 percent, the current annual infrastructure investment will need to double over the next 10 years.
- The Bank estimates a 'gap' of roughly US $1 trillion/year by year 2020. This is the gap that cannot be met by government budgets or by the MDBs.
- At the same time, there are massive supplies of surplus capital --global savings currently amount to US $17 trillion -- with investors looking for long-term stable returns: this is the 'infrastructure paradox'. A similar paradox exists in ASEAN countries, too, where both savings rates and foreign reserves are high.
- Could PPPs help address the paradox?

3. Ingredients of PPP Successes

To find out reasons for low PPP performance in Asia, we review ingredients that are known to contribute to successful implementation of PPP projects around the globe, especially in Europe, Australia and Canada, PPP-advanced economies. Here success is defined as provision of adequate quantity of quality infrastructure services with reasonable cost over the project's life cycle through private participation. Foremost among the reasons are proper project development, government commitment and the public sector capacity. More specifically, the following six elements have been critical for PPP successes.[9]

3.1. Strong Government Commitment

The government needs to make strong commitment to and support the PPP framework. PPPs are long-term contracts between the government and private players involving significant financial commitment from the latter. The private sector could not get engaged in PPP arrangements unless they are certain that the government is committed to PPP processes for a long haul. The public sector's role remains important over the full life cycle of projects. In particular, the government's issuing a clear PPP policy statement has helped reduce uncertainties and risks perceived by the private sector. In addition, it is shown that it helps to establish a dedicated PPP unit, which selects, negotiates, and manages PPP projects, at the center of the government (e.g., Prime Minister's Office or the Ministry of Finance) rather than in a line ministry.

Governments are often asked to show their commitment and encourage private sector participation by providing sufficient subsidies and guarantees. Governments need to consider these requests seriously especially when projects are seen to have high economic returns but are not immediately commercially viable. In doing so, governments in PPP advanced areas have depended on quality feasibility analyses and high-caliber professional advice so that their eventual decisions balance the need to benefit from efficiency gains PPP can accord them and the need to maintain fiscal sustainability. International organizations have also attempted to address the gap between economic and commercial returns (see section 5). Finally, the system of shadow tolls, started in the UK, sets an upper limit to such subsidies, and also provides the transparency required in making political decisions.[10]

3.2. High public sector capacity

The public sector needs to have the capacity to select, develop, and manage PPP projects. A successful partnership between the public and private sectors depends on the quality of people involved on both sides. Public officials involved in project development and negotiations should have good business skills/experience and understanding of fiscal impacts of various PPP arrangements. Equivalently, they should have access to expert advice and, at the same time, receive quality training so that they can make best use of expert advice. Lack of appropriate skills has in the past led not only to delays but also to inefficiencies and even failures.

3.3. Enabling Environment

The government needs to have enabling environment with appropriate legal, regulatory, and institutional frameworks. To successfully promote PPP activities, it is crucial that a relevant legal framework is in place that enables and enforces open and competitive bidding and supports market based risk-reward principles. Also a regulatory framework that allows proper project evaluation, selection, and compliance supervision is equally important. In addition, sector reforms that make the business climate investor friendly are a critical prerequisite.

Institutions such as PPP units need to have the necessary authority required for moving projects forward on their own. These units should be established in the government's decision center rather than the periphery, and related public sector bodies should have well defined and consistent roles to enable quality planning and oversight.

3.4. Good Economics

Projects need to have good underlying economics. A most fundamental issue that can often be overseen is that any project should have high socio-economic returns. Unless projects have good underlying economics and contribute to the future welfare of the public, there is absolutely no moving forward. In this regard, good pre-feasibility analyses (and eventually detailed feasibility studies) are a prerequisite.

3.5. Strong Project Development

Projects need to be developed and structured well so that risks are allocated properly. The public sector needs to prepare and structure projects well—defining the need and projecting the demand for services; discussing the results of feasibility analyses; assessing options for public/private participation; and evaluating project finance options. Risks should be allocated to those best able to manage them, and commercial and legal structures need to be determined. And finally, there is the transactions phase–a critical process that translates plans into action. The process involves finalizing project financing and legal structuring as well as documenting all financial and engineering agreements and issues of procurement.

PPP development is a time consuming and costly process, but it does not pay to cut corners. Experience of PPP advanced economies shows that they need professional financial, legal, technical, transactions and other advice. The advice is expensive, but attempts to save on these costs have led them to suffer from inferior project designs and much higher project life-cycle cost, if not failures.

3.6. Capable Private Sponsors and Access to Finance

We need capable private sector partners and sponsors. It would be wrong to regard identification of financing as the key factor of PPP success; quality private sponsors and investors are attracted to projects that are developed carefully and structured to be commercially viable. An approach focused only on raising of finances has largely failed to properly identify and allocate project risks resulting in high-cost—or even failed—projects. That said, the authorities in Europe are taking

into account higher risk aversion of the capital market following the recent international financial crisis and the increased capital requirements introduced by Basel III.

4. Constraints to PPP Activities in ASEAN Countries.

We now identify which of the ingredients of success, identified in the previous section, need to be enhanced in ASEAN economies where PPP projects are still too few. Our analyses, based on literature reviews and interviews of market participants, show that the following need particular attention:

A. Efforts to achieve good project development must be increased;
B. Public sector capacity needs to be strengthened;
C. Legal and institutional environment needs improvement; and
D. Financing options need to be reviewed as the capital markets are increasingly risk averse.

4.1. Insufficient Project Development Efforts

There is a consensus that the most serious constraint to PPP investments in ASEAN economies is that projects are not developed well; not enough human and financial resources have been employed for selecting and structuring projects. Only with much more intensive efforts with significant expert inputs, projects can be developed with proper risk allocation.

Human Resources: Human resources devoted to project development are not adequate. PPP projects are selected, developed, and negotiated by individual government PPP units (or their equivalents) of individual governments. These units are staffed with technocrats often without business or private sector skills. However capable they are as bureaucrats, their limited private expertize is a serious bottleneck in structuring, negotiating and managing PPPs. High caliber financial sector expertise needs to be employed especially for negotiating efficient risk allocation—to allocate risks to parties best able to manage them. Poor risk allocation keeps projects from being attractive to the private sector (see Annex 3 for a list of typical PPP project risks). Inadequate private financial sector expertize is aggravated by equally few fiscal risk analysts involved in PPP negotiations. It is easy for the private sector to request subsidies and guarantees to make projects viable for them. But on the part of the public sector, serious analyses of resulting fiscal liabilities, both direct and contingent, are required. Without the analyses, the situation could end up jeopardizing fiscal sustainability or in a stalemate as two sides fail to reach an agreement. Finally, limited business/private skills of PPP unit staff can be addressed by experience—when staff members accumulate enough experience occasionally receiving training. But high staff turnovers (due often to member governments' civil service transfer rules) make such skills accumulation a hard feat to achieve. Also, poor information sharing and communication among different ministries in a country and even within each ministry are impeding effectiveness.

Financial Resources: Too little money is spent on project development. Typically, PPP projects in ASEAN countries use around 1-2 percent of the total project cost or less for project development. In contrast, PPP projects in UK and other countries that are considered PPP-advanced have allocated about 5 percent of the total cost for project development or more. The Commonwealth Secretariat (Yong, 2010) recommends that 5-10 percent of total project cost be spent for receiving advice from technical, financial and legal experts for project development. Employing high caliber expertise is expensive, but, as stated above, saving on expert advice could quite often prevent projects, which are potentially commercially viable, from being implemented due to poor project design.

4.2. Weak Public Sector Capacity

PPP projects are often selected, developed, and negotiated by individual government PPP units (or their equivalents). These units' capacity to negotiate PPP projects tends to be weak, as discussed above, because staffs most often do not have private sector skills and business experience that PPP preparation and negotiations require. Projects thus prepared can often end up being less commercially viable than justified, and inordinately limit attractiveness to private participants. The situation is aggravated by the contractual structure of large infrastructure projects that is quite often highly complex for public sector units with limited experience. Staff capacity needs to be strengthened through careful recruitment, training, and utilizing external advisors.

In addition, these units do not often have the authority to decide on risk allocation and the budgetary burden making the decision-making process slower, less transparent and more ambiguous.

Finally, since existing PPP units (and equivalents) are all national entities, they cannot take into account ASEAN region's priorities effectively into the project selection and development process. They cannot deal with cross-border projects, either.

4.3. Inadequate Legal and Institutional Environment

Despite their strong rhetoric, the ASEAN authorities are slow in putting in place business environment friendly to PPP participants. Box 2 summarizes the recent study by Economic Intelligence Unit, funded by ADB, on how ready Asian governments are to receive PPP investments. Clearly, ASEAN countries have relatively low scores.[11] While Australia scores near 100 percent (best score), and Korea and India score high, ASEAN economies fall behind. Of the fifteen countries and a sub-national state evaluated, the Philippines' #8 is the highest among the ASEAN members. Indonesia and Thailand rank 9th and 10th respectively. The lowest ASEAN nation is Vietnam, which is the 14th; only Mongolia and Papua New Guinea come below Vietnam. It is also a concern that Vietnam's institutional development is ranked lowest among all. Clearly, ASEAN governments still have a lot to do in the area of legal and regulatory framework and streamline institutions to clarify each institution's responsibilities.

Malaysia and Singapore need to be mentioned even though they are not included in the EIU rating. Malaysia established its PPP units under Prime Minister's Department in 2009. This is the continuation of efforts started in 1983 with the privatization act and followed by the Private Finance Initiative in 2006. PPP financing is provided by various funds including Employment Funds and Pension Funds. In Singapore, the strong public sector and ample government funds support PPP implementation, started in 2004.

Part of the problem in a number of governments is their unclear commitment to PPP processes, which increases uncertainties perceived by the private sector. The government's active role is crucial, but many governments still feel PPP projects are largely private activities and take a costly hands-off approach. This misconception has also kept some governments from issuing clear PPP policy statements and PPP laws. Without the direction and certainty the statements and laws (and associated positive attitudes of the public sector) could provide, private investors see significant risks in PPP projects.

BOX 2: PPP-Readiness of Selected ASEAN Countries

(I) **Indonesia** (Overall index 46.1, rank 9 out of 16 countries): Despite recent improvements, there is still a lack of cohesion in PPP regulation and the institutional structure. Selection and decision-making are not robust as there is no standardized or legally binding system in place. There is no framework to govern division of responsibilities. Disputes are resolved case-by-case. Long-term financing is limited.

(II) **The Philippines** (Overall index 47.1, rank 8/16): Has a long history of PPP and benefits from a good legal framework. But, compensation is dealt case-by-case, and there are institutional weaknesses and limitations on dispute-resolution. Weak fiscal position and underdeveloped bond market are problems. The PPP Center suffers from high staff turn-over.

(III) **Thailand** (Overall index 45.3, rank 10/16) Political instability, and an unsystematic framework, in which it is not always clear which agency is in charge, create an atmosphere of uncertainty. The existing act does not deal with risk allocation. New regulations, however, are likely to improve matters.

(IV) **Vietnam** (Overall index 26.3, rank 14/16): The government shows strong interest in PPP. Yet, there is no provision of risk allocation in the new decree and also there is a general lack of experience as regards PPPs and an underdeveloped regulatory and, in particular, institutional framework.

For information (non-ASEAN economies)

(V) **Korea** (Overall index 71.3, rank 3/16): One of the region's most advanced countries in PPP. Processes are fair and transparent. The PPP-body has well-trained staff.

(VI) **India** (Overall index 64.8, rank 5/16): A high level of interest and experience in PPP as well as maturing processes and the institutional framework.

Source: Economist Intelligence Unit and Asian Development Bank (2011).

4.4. Financing Issues

PPPs have become increasingly popular in the ASEAN region since early 1990s because they are perceived as capable of filling the infrastructure gap widened by limited fiscal and donor resources.[12] This section reviews the three funding sources (fiscal, donor, and private resources) and confirms that fiscal space is limited, donor resources are not rising, if not shrinking, and private sources are not expanding in the near future especially with the adverse impact of the recent global financial crisis and the slow overall capital market development in the ASEAN region.

4.4.1. Fiscal Space

It has been a major concern of ASEAN members that infrastructure needs far exceed their fiscal capacity—in spite of the region's high saving propensity and substantial foreign exchange reserves. Many countries would like to increase fiscal spending on infrastructure facilities but are unlikely to be able to do so for various reasons as pointed out by the IMF. Its recent consultation reports on ASEAN economies where governments are eager to implement PPPs are summarized in Annex 4. Malaysia and Vietnam need to tighten after a period of substantial stimulus packages implemented following the global financial crisis. As a result, both countries have prepared a national development plan that includes PPP investments amounting to $5-6 billion a year each (for Vietnam, this amounts to 40 percent of their annual infrastructure investment needs). Thailand is in a similar boat. In the wake of the devastating floods, the government reduced tax collection and increased floods prevention expenditures and guaranteed rice prices—all of which have

squeezed space for other public investment. The Philippines continues to suffer from low fiscal revenues as a share of GDP which has always constrained their capacity to directly finance infrastructure investment. In Indonesia, there is some optimism that the government maybe able to expand infrastructure spending without jeopardizing sustainability. The government is trying to do so through, for example, establishment of Indonesia Infrastructure Guarantee Fund—but the implementation issue appears to be a major constraint in the country.

4.4.2. Donor Resources

The governments' limited fiscal resources could in principle be supplemented by foreign aid, but the total amount of donor resources available for ASEAN economies is modest relative to what these countries need. Donor resources that help PPP-type investments are even more limited. In addition, given the tight fiscal situation donor countries are in, aid is not expected to increase in the coming years—especially for ASEAN countries that have largely achieved the medium-income status.

Donor aid made available for ASEAN infrastructure has been estimated as, on average, $ 5-6 billion a year over the last several years. The total ADB lending for infrastructure was $11.02 billion in 2009 for all of Asia that includes South and Central Asia. The World Bank's lending allocation is about $ 6-7 billion per year for East Asia for all sectors. Typically, the infrastructure sector receives about a third of the World Bank lending or $ 2-3billion a year. World Bank resources, however, assist PPP activities mostly through technical assistance. IFC can take an

equity position in private firms with its country-specific private sector development facilities. But its equity participation in infrastructure has so far been limited. It has also focused more on technical assistance. Japan is the major bilateral donor for ASEAN countries, but its assistance to the Association members has been tilted towards lower income countries, and financing of PPP types of infrastructure investment is limited to activities of the Japan Bank for International Cooperation (JBIC), which focuses on the power sector. See Annex 5 for a typical PPP structure in the power sector.

Finally, efforts to combine member governments' fiscal resources and donor aid have given birth to ASEAN Infrastructure Fund (AIF), established to address the region's infrastructure needs. It can also assist PPP investments by helping mitigate the perceived risk on long-term infrastructure investment. The fund was established by contribution of nine ASEAN member countries and the Asian Development Bank (ADB). The initial fund size is about $500 million (with ADB contributing $150 million), and it is expected that the total lending from the Fund will amount to $4 billion by 2020. With ADB cofinancing, the scheme could generate funding of up to $13 billion. If this fund finances PPP projects, the total size of infrastructure funding could even be higher due to private sector contribution. But there are concerns: the total size is a very small portion of the region's infrastructure needs, and the current state of AIF disbursements does not give much room for optimism. The fiscal situation of member countries also raises concern as to whether remaining member commitments will in fact be forthcoming.

4.4.3. Private Resources

The private sector can raise financing using the projected income stream (either guaranteed/paid by governments or paid by users) from a concession as collateral (Ketkar and Ratha, 2009). But, the capital market has turned highly risk averse in the wake of the global financial crisis of 2008-09 as well as the introduction of Basel III. No viable capital market solution has emerged to replace the monolines that had taken part in PPP activities in the form of wrapped bonds. Given the reduced availability of long term financing, building contractors, facility managers and equity providers all want an exit strategy so that they can quickly realize gains through refinancing or through secondary sales. Commercial banks have changed their terms because of the increased financing cost and the collapse of capital markets. They have become much more conservative and are asking for more selectivity on their side. They are also looking for an exit strategy after a reasonable period. It is unlikely that those willing to finance long term will soon re-emerge. The capital market now often requires mini-perm arrangements whereby they require refinancing after construction and a short period of operation. This effectively separates the period of high risk activities such as construction and initial operation (in which the demand forecast is tested) and a more stable period of operation. ASEAN PPP units may need to respond to these evolving demand from the capital market.

5. Recommendations

We recommend quick and strong actions be taken to address the constraints discussed in Section 4. Foremost among the constraints is the serious need to enhance the process of project development—while addressing technical and human resource weaknesses in the public sector (especially PPP units of individual authorities). ASEAN-level perspectives and priorities need to be incorporated into project selection and development to move forward MPAC (Master Plan for ASEAN Connectivity). The governments could also improve on the PPP enabling environment. Finally, the evolving capital market and the market's increasing risk aversion need to be taken into account. Our recommendations are as follows:

5.1. Establishment of Center of PPP Excellence

To strengthen PPP units and its equivalents in ASEAN countries, and enhance regional coordination, we propose that a center of PPP excellence be established within the ASEAN community that will: disseminate information on best PPP practices; give advice to country authorities on PPP policies, project development, structuring, contract designs, and financing; and actually select and prepare cross-border projects based on ASEAN regional priorities.

This center should be staffed with high caliber private experts with extensive finance and other business experience. It would also need fewer, but equally capable, fiscal analysts. These experts should offer advice on project selection and structure (including the best risk allocation patterns) as well as transactions. One example of an organization that has a strong talent mix appropriate for PPP

preparation, negotiation, and management is the Infrastructure and Leasing and Financial Services (IL&FS) of India. There may be lessons that can be learnt from its human resource policy and the resulting talent mix.[13]

More specifically, the center will:

(i) Disseminate best practice and other lessons of global and ASEAN PPP experience, both successes and failures;

(ii) Coordinate activities of and provide assistance to individual country authorities. Advice should focus on project selection and development, especially on risk analyses and allocation;

(iii) Select and manage cross-border projects[14] as the PPP unit for the ASEAN Region based on ASEAN perspectives and priorities;

(iv) Give advice on the method and pattern of financing consistent with the state of capital market;

(v) Give advice to country authorities on how PPP-readiness (legal, regulatory and institutional arrangements) can be enhanced. See Recommendation 5 below;

(vi) Discuss with the potential private partners on the constraints they face and on their preferences in approaches and financing as well as the constraints they face; and

In addition, coordinating with member government authorities, the center could provide or arrange to provide strong technical assistance and practical training programs to staffs of member country PPP units. It needs to make sure training provided is effective—such as, for example, secondment programs to/from PPP advanced countries, rather than short seminars and study tours.

Finally, the establishment of this center will take intense coordination efforts. Collaboration with key donors and international agencies active in the Asia and

Pacific region will be critical. These donors and agencies could provide both financial and technical support for establishing and operating the center. Of course, it is of paramount importance for ASEAN countries themselves to place value on the idea and own the initiatives before cooperation of bilateral donors and international development agencies is sought. It is hoped that the intense discussion on the center of PPP excellence can start soonest among ASEAN countries and also with other Asian economies. Our view is that the 2015 ASEAN Economic Integration will certainly be a major milestone for action.

5.2. Increased Funding of Project Development

Member governments need to be prepared to spend more funds for project development. Project units in PPP-advanced economies spend 5-10 percent of the total project cost for project development especially to receive expert advice—which is costly but essential. ASEAN economies on the other hand regularly spend only 1-2 percent of the total cost or even less for project development. The ASEAN government authorities need to be prepared to spend at least 5 percent, especially to obtain expert advice. To make it easier to receive expert advice, India has empaneled PPP transaction and other experts as advisors—its effectiveness may need to be assessed.

5.3. Simplified PPP Structure

There is a need to allow each PPP unit to gain more experience with projects that have relatively simple structure. One way to achieve this is by way of unbundling

larger projects into smaller and simpler projects so that even governments with limited experience could understand the project structure and underlying risks. For example, PPP units of member governments could gain experience with a 'construct then concession' approach. In this approach, governments could construct infrastructure facilities through conventional methods and ask private players to operate and maintain the facilities through PPP contracts. It does not save the government from the initial bulky investment but will allow them to gain experience. Such an approach would also be consistent with the direction the capital market wishes to move into (see the next paragraph), and may be entertained for the near term future. Even in these simpler projects, the public should gain through management efficiency provided by the private sector.

5.4. Create Financial Instruments that Could Mitigate Project Risks in the Evolving Capital Market

In the wake of the latest global financial crisis, the capital market has lost actors willing to finance long term. The market has lost triple A-rated monolines that helped finance a number of PPP projects by wrapping/guaranteeing long-term bonds in many PPP advanced economies. They are unlikely to come back. Liquidity in the capital market dried up and remaining financiers turned much more risk averse, they have now been demanding to force refinancing at the end of construction (plus a reasonable period of operation long enough to show the track record of cash flows)—called mini-perms. In this framework, risks are separated into those of construction and the initial period of operation (high construction and demand risks),

and lower risks associated with the operation which normally enjoys steady cash flows. This longer-term investment with steady cash flows offers an opportunity to institutional investors such as pension funds to match their long term liabilities with relatively low risk revenue streams.

The construction and demand risks then need to be addressed to attract financing for the initial 4-5 years of projects. European Investment Bank (EIB) has come up with initiatives to enhance credit rating of project bonds of eligible infrastructure projects. One such initiative is the Project Bond Credit Enhancement (PBCE) associated with its Project Bond Initiative. In this initiative, EIB provides senior project bonds with credit enhancement in the form of (i) a subordinated direct loan given to the project company (funded PBCE), or (ii) a contingent letter of credit which can be drawn if the cash flows generated by the project are not sufficient to ensure senior bond debt services or to cover construction costs overruns (unfunded PBCE). Currently, a maximum amount of PBCE is the lower of EUR200 million and 20 percent of senior project bonds at any point of time for one transaction.

Among these options, the unfunded PBCE is expected to attract senior project bond investors like pension funds, because it will effectively mitigate cost overrun risks[15] (part of completion risk) in the construction stage and volume risks (i.e. ridership risk in transportation projects) in the operation stage, which senior project bond investors are unwilling to take. In addition, foreign currency risks can be addressed through local currency swaps, in countries where the market exists.

However, PBCE is applicable to bond-financed projects while bond transactions

need well-developed capital markets that are still developing in ASEAN member countries. The concept would be more immediately applicable if it could encompass credit enhancement for loan-funded projects. One alternative is for an international organization to issue bonds globally and transfer the proceeds to commercial banks in the region so that banks can, in turn, lend the fund to PPP project sponsors.[16] It is recommended that ASEAN governments and financial institutions active in Asia, ADB and World Bank included, discuss options available and/or emerging for application in the region.

5.5. Improve on Enabling Environment for PPPs

Experience points to the importance of a robust legal, regulatory and institutional environment in developing and implementing efficient PPP infrastructure projects. Public sector capacity also has a critical bearing on sustainable PPP successes. ASEAN economies, even those with PPP experiences, still have a lot of room for improvement as discussed in Box 2. These issues identified by the EIU report needs to be addressed, and member countries need to make continuous and sustained efforts toward improvement. In addition, investor friendly business climate is a prerequisite for private investment whether it takes the form of PPP or not. Member governments, in continuous dialogue with the private sector and international organizations that have knowledge on global experience on business climate, need to strive to implement business climate and sector reforms.

5.6. Standardize PPPs' Fiscal Accounting and Reporting

The balance sheet treatment should not be a driver for undertaking PPPs. To prevent this from happening, the content and substance of PPP contracts should be reported regardless of whether they are on the government's balance sheet. Probably, this method of reporting should be agreed with the IMF. This should remove the unhealthy incentive for governments to pursue PPPs only to keep projects off the government's accounts lest they should raise the announced budget deficit or worsen the outcome of public sector debt sustainability analyses. Only the project substance should matter in moving forward with any infrastructure projects. Standardizing all PPP accounts and their reporting would also assist PPP units in calibrating fiscal costs of the agreements.

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Annexes

Annex 1: Comparison of Merits of PPPs and Traditional Projects

Description	PPP	Traditional Procurement			
		Design & Construct	Alliance / Joint Venture	Design, Construct, Maintain	Managing Contractor
Time taken to award Contract	✓	✓✓	✓✓✓	✓✓	✓✓✓
Time to deliver the asset	✓✓✓	✓	✓✓	✓✓	✓✓✓
Transaction costs	✓	✓✓	✓✓✓	✓✓	✓✓
Delivery Cost Certainty	✓✓✓	✓	✓	✓✓✓	✓
Whole of Life Maintenance	✓✓✓	X	X	✓✓✓	X
Budget Certainty	✓✓✓	✓	✓	✓✓	✓
Project Due Diligence	✓✓✓	✓✓	✓	✓✓	✓
Environmental Approval	✓✓	✓✓✓	✓	✓✓	✓
Design Innovation	✓✓✓	✓	✓✓	✓✓	✓✓✓
Construction Innovation	✓✓✓	✓✓	✓✓	✓✓✓	✓✓
Commissioning/Decanting	✓✓✓	✓	✓	✓✓✓	✓✓

Notes: ✓ Poor ✓✓✓ Good **X** Not Covered.
Source: Danniel Graham, UNSW Treasury, 2013.

Annex 2: Summary of PPP Implementation in ASEAN Member States

Country	Public Body Responsible for Implementation	Type of Private Sector Participation	Projects/Sector	Background/ Progress
Brunei	Department of Economic Planning and Development	Not yet determined	Housing	Just started in 2010
Cambodia	Not determined	Concessions, BOT (although there are no regulations)	Power, and limited projects in water and transport	Concessions Law issued in 2007. Still no implementing regulations
Indonesia	Line Ministries, Planning Development Agency, MOF	All types of PPP schemes	Transportation, roads, irrigation, drinking water, wastewater, ICT, power, oil and gas.	Under the new regulation: One IPP project waiting for financial closing, 9 other projects in the pipeline

Country	Public Body Responsible for Implementation	Type of Private Sector Participation	Projects/Sector	Background/ Progress
Lao PDR	Line ministries, subnational government	Concessions	Targets: energy, air transport, telecom, roads, railways, other designated activities (water, waste management, insurance, banking)	Limited, projects include energy, transportation, and community market.
Malaysia	UKAS (PPP Unit)	All types of PPP schemes	Any sector fulfilling the criteria	513 projects during 1983-2010 period
Myanmar	N/A	Traditional Procurement	Transportation, energy, water	N/A
Philippines	PPP Center. Approving bodies depend on size of projects and authority level (national or subnational)	Various BOT and contracts, joint venture, concession, lease.	All types including social sectors	Many
Singapore	Ministry of Finance	Variations of DBFO and DBO	Various, including social infrastructure	Introduced since 2004 with Best Sourcing Framework, 8 projects awarded

Country	Public Body Responsible for Implementation	Type of Private Sector Participation	Projects/Sector	Background/ Progress
Thailand	Line ministries submit application to NESDB and MOF then to Council of Ministers	Concessions, service and lease contracts	Various infrastructure types	No data
Vietnam	The Ministry of Planning and Investment (MPI) establishes interdepartmental working group	PPP as special case of BOT and BTO	Roads, railway, urban transport, ports, water supply, hospitals, waste treatment, power, and others decided by the Prime Minister	Regulation on PPP has been issued in 2011

Annex 3: Risks Associated with PPP Investments

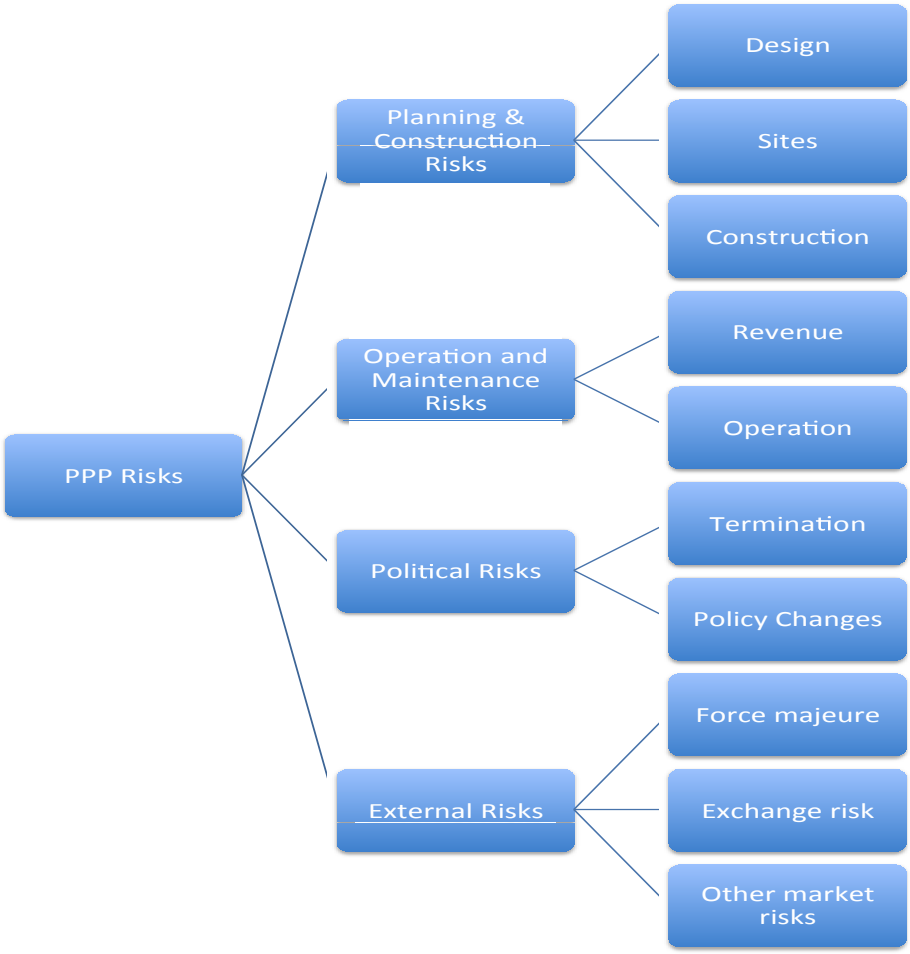
The diagram below is a simplified illustration of types of risks associated with PPP investment.

The risks associated with Planning and Construction stage can be in the forms of prolonged approval process for (i) design: environmental and other regulatory compliance issues; (ii) sites: issues of land acquisition, resettlement, access, security, etc.; and (iii) construction: issues of standards, cost overrun, labor disputes, delays, etc.

In the operational stage, risks can occur due to (i) inadequate revenue caused by: volume risk, supporting elements that underperform (e.g. poor utilities), unfavorable access to the facility, and (ii) operational disturbances: higher costs of maintenance, incorrect cost estimates, changes in supporting technology, and labor related problems, among others.

There can be political events or policy changes that may cause facilities to terminate operations or be trapped in unfavorable situations.

PPP projects are also exposed to unanticipated inflation and exchange rate developments as well as risks that go beyond the investors' and government's control including economic crises and natural disasters.


PPP Risks
Planning & Construction Risks
Design
Sites
Construction
Operation and Maintenance Risks
Revenue
Operation
Political Risks
Termination
Policy Changes
External Risks
Force majeure
Exchange risk
Other market risks

Annex 4: Fiscal Space of Some ASEAN Countries—from IMF Article IV Consultations Reports 2012 and 2013

Indonesia:

If risks are well-managed, fiscal space is expected to rise and the government can facilitate more infrastructure investment, but the issue appears to be execution such as weaknesses in project selection and preparation. The need for public-private partnership (PPP) investment is well recognized. A government guarantee fund for PPPs has been set up, but its capital is low and there is a tendency to provide guarantees beyond the scope of the fund, which poses fiscal risks. As regards purely private infrastructure investment, a critical constraint is land. The land acquisition law approved in 2011 could unlock the bottleneck if/when administrative regulations are finalized to ensure that land titles are clear.

Malaysia:

Fiscal space has shrunk considerably following the global financial crisis. The federal government debt-to-GDP ratio has increased by 12 percentage points since 2008, reflecting both substantial discretionary fiscal stimulus and declining growth and oil prices in the aftermath of the crisis. This debt ratio is elevated compared to countries with similar credit ratings. The structural fiscal position has also deteriorated, as evidenced by the persistent decline in the nonoil primary balance and the current balance. The room for infrastructure investment has shrunk.

Philippines:

While the fiscal situation and the debt situation have improved significantly over the last decade, debt-to-GDP ratios are still higher than those of other EMs and fiscal revenues are low. Given this limited fiscal space, IMF explicitly states that PPP-type investments are required for the country to help fill the infrastructure gap of the country.

Thailand:

In percent of GDP, the public sector debt has reversed the downward trend, is expected to move closer to the government's ceiling of 60 percent by 2017. This is

due to low GDP growth and the government's stimulus package on account of the devastating floods that afflicted the country in 2012. The government has lowered rates of corporate income tax and fuel excises, as well as accumulated additional debts for water management and guarantees for SOE borrowing to implement the rice price guarantee scheme. The overall fiscal space has fallen and a larger portion of public investment will now go to flood prevention—these are necessary investments, but the space for other public investments would be further squeezed.

Vietnam:

Fiscal policy should be more supportive of macroeconomic stabilization. The main factor driving up spending, even as public investment is further reduced, is a planned increase in wages and salaries amounting to about 2 percent of GDP. In the medium term, the authorities should ensure that public debt remains on a downward trajectory by limiting net borrowing further. In addition, declining oil and trade revenues would need to be offset by other sources of taxation. While Vietnam's overall public sector debt dynamics are not at immediate risk, continued fiscal consolidation with the aim of reducing the public debt-to-GDP ratio and building up cushions is necessary. Potential contingent liabilities arising from the financial sector and SOEs pose sizable risks to public debt sustainability. The room for expanding public infrastructure spending may not increase.

Annex 5: The Structure of Independent Power Producer Projects[17]

Infrastructure projects include sectors such as power, roads, water, airports, seaports, railways, telecommunication etc. Each sector has specific features. This Annex discusses the structure of Independent Power Producer (IPP) projects as a textbook structure of infrastructure projects. It is a well-established PPP model.

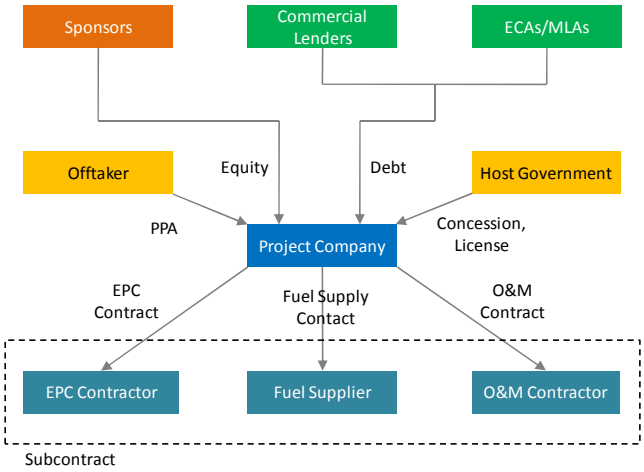
As shown in Figure A5-1, the project company as an electricity generator enters into a long-term offtake contract, known as the Power Purchase Agreement (PPA), with an electricity distribution company as the offtaker which is normally a public electricity authority. One reason PPAs are popular among private investors is that offtakers take most risks, and private participants are relatively free from risk burdens. It should, however, be noted that the creditworthiness of the offtaker is often an issue in PPP arrangements.

The tariff structure set in PPAs payable by the offtaker consists of two parts, (i) a capacity charge (also known as an availability charge) and (ii) an energy charge.

The capacity charge covers costs of capital expenditures encompassing debt service payments, dividends as equity returns for the Sponsors, fixed operation & management (O&M) costs, taxes, etc. The capacity charge is independent of the actual power supply, as long as the plant is available as required in the PPA. The debt service payments and the equity returns are thus secured. The energy charge includes fuel costs, variable O&M costs, among others, and is payable based on actual level of power generation. This way, the risk of fuel price fluctuations is transferred to the offtaker insofar as the project satisfies fuel efficiency agreed in the PPA.

Finally, foreign exchange and inflation adjustments are incorporated in the tariff formula so the offtaker also bears the foreign exchange risk; the capacity charge is fully linked to a funding currency such as the US dollar.

Figure A5-1: IPP Project Structure



Source: Compiled from Yescombe (2007).

ENDNOTES

[1] Gill and Kharas (2007)

[2] In 2009 dollar. Asian Development Bank 2009.

[3] There is no universally accepted definition of a PPP. Most definitions mention participation of public and private sectors coupled to a contract with risk sharing. According to Engel, *et al.* (2008), some defining characteristics of a PPP are (i) bundling of construction and operation, (ii) private but temporary ownership of assets and (iii) inter-temporal risk sharing with the public sector—all in a single long-term contract.

[4] International Monetary Fund (2004, 2007) strongly argues the need to maintain fiscal sustainability and proposes that detailed reporting be made on the accounting of PPP projects regardless of whether the projects are on the government balance sheet or not lest there should be an incentive to pursue PPPs merely to avoid reporting.

[5] Infrastructure Partnership Australia, 2007.

[6] The most significant benefit of PPPs is efficiency gain and not a substitute for fiscal resources. The case in point is that even Singapore, which is not at all fiscally constrained, is now going for PPPs for efficiency gain.

[7] Data are from the World Bank and PPIAF, and uses figures for East Asia and Pacific countries.

[8] Government of Malaysia, *Tenth Malaysia Plan, 2011-15*; Government of Vietnam estimates; Government of Indonesia, *Master Plan for Acceleration and Expansion of Economic Development 2011-25*; Government of Thailand, *Stimulus Package No 2, 2009*. These figures are

quoted in Asian Development Bank (2012).

[9] Yong, (2010) and Delmon (2011)

[10] A shadow toll is the level of, for example, highway toll that should have been had the whole system been determined by the market. Policymakers can discuss how much of the shadow toll the subsidies being requested would finance before they make policy and political decisions.

[11] Fifteen countries and a sub-national state reviewed were Australia, UK, Republic of Korea, Gujarat States, India, Japan, China, the Philippines, Indonesia, Thailand, Bangladesh, Pakistan, Kazakhstan, Vietnam, Mongolia, and Papua New Guinea (in the declining order of the overall score).

[12] One thing PPPs do fiscally is that they shift short-term bulky investment expenditure to long term expenditures over the project life cycle. It is, however, uncertain how much governments are able to save fiscal resources through PPPs in present value terms (Engle, *et al*. 2011).

[13] IL&FS was incorporated in 1987 with the mandates of commercializing infrastructure and setting up value-added financial services. The initial joint venture included Central Bank of India, Unit Trust of India, and the Housing Development Finance Corporation, and has been rated triple-A by Fitch and others. It has acquired a significant talent mix and expertise required for project development, engineering, finance, and risk management in various infrastructure sectors.

[14] Cross boarder projects have higher risks for the private sector than projects within one jurisdiction. Both sovereign risks and currency risks are multiplied in cross-border projects.

[16] This option is discussed within the World Bank.

[17] This annex is extracted from Chapter 3 *Key Issues for Long Term Infrastructure Finance in Asia* (Shintaro Sugiyama) in Zen and Sugiyana (ed), forthcoming.

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